**The impact of General Practitioner Consultations on Outcomes in Low Back Pain; What is Effective Reassurance?**

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**Declaration of Authorship for Co-Authored Work**

If you are presenting partly co-authored work, please indicate below your individual contribution to the thesis.

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*(Here you should indicate, in précis style, the datasets that you gathered, interpreted and discussed; methods that you developed; complete first drafts that you wrote; content that is entirely your own work; etc. It is often appropriate to organise this statement by chapter)*

All work presented in this thesis aside from Chapter Three are entirely my own work. Within Chapter Three, the Introduction is entirely my own work. The remainder of the chapter was co-authored.

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Abstract

Low back pain (LBP) is common and costly, and notoriously difficult to treat when chronic. Reassurance is commonly recommended in primary care LBP management guidelines, although it is poorly defined and its impact on outcomes remains unknown. A systematic review of 16 prospective cohort studies found that emotional (affective) reassurance improved satisfaction, but was associated with poorer outcomes for general patient populations. Cognitive reassurance, which is persuasive and provides information, was linked to improved patient outcomes. Interviews with 23 LBP patients who had recently consulted their GP found three areas which were reassuring to patients: physicians understanding the patient; implicitly reassuring behaviours indicating that the physician wants to help and takes the pain seriously; and explicit explanations of what is wrong and how to manage it. It was only through explicit accounts that concerns were addressed. A patient self-report measure of reassurance during primary care consultations was developed and validated using Rasch modelling, consisting of four subscales: data-gathering; relationship-building; generic reassurance; and cognitive reassurance. Follow-up results from LBP patients with recent consultations (n= 318) indicated that reassurance significantly predicted post-consultation satisfaction and enablement, but failed to predict outcomes 3-months later for all patients. However, for a group of participants with low psychosocial risk scores, those who received more cognitive reassurance experienced less pain and disability at follow-up, while those who indicated more data-gathering and relationship-building were significantly more anxious, indicating a potentially harmful effect of providing too much emotional support to patients who do not require it. Barriers to reassurance were explored through systematic review of literature review papers, and evidence-based solutions to these were considered. Recommendations for how to effectively reassure LBP patients, including persuading patients that they have no serious disease and convincing them that their symptoms are benign are offered.

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Chapter 1: Introduction

# 1.1 Introduction

This PhD study focussed on establishing what constitutes effective reassurance for people with acute low back pain consulting primary care physicians. Low back pain is a major health problem worldwide, and a condition which the majority of people will experience in their lives. For most people, low back pain will improve fairly quickly. But, for a small subset of people with low back pain, high pain levels persist and become a chronic problem. Treatment strategies for chronic low back pain tend to have only small to moderate effects, and so preventing people with low back pain from making the transition to chronicity where possible is important. Early reassurance during primary care consultations aims to address patient concerns and change maladaptive beliefs about low back pain before they have a chance to impact on recovery. However, there is very little known about how to effectively reassure patients with low back pain. In this thesis, the current literature on low back pain, doctor-patient communication, and reassurance was assessed systematically. Interviews with patients with low back pain were conducted to find out what reassurance means to patients in the context of their visits to primary care physicians, and a scale was developed to measure reassurance during primary care consultations. This scale was validated in a sample of patients with low back pain, and was used in prospective cohort analyses to assess whether reassurance impacts on subsequent levels disability and other outcomes. Finally, barriers to delivering effective reassurance were examined through content analysis of existing literature.

In this chapter, the current literature on low back pain, in terms of prevalence, costs, aetiology, prognosis, and treatment will be reviewed.

# 1.2 Low Back Pain

## 1.2.1 Definition

As part of the Global Burden of Disease (GBD) 2005 study, Damian Hoy and his colleagues have attempted to estimate the global prevalence of low back pain ([Hoy, et al., 2010b](#_ENREF_112)). Heterogeneity in definitions of low back pain throughout the literature – in terms of the area of the back being studied, the recall period, and the minimum duration of the episode – have made this task difficult. From the most commonly used of these, Hoy and colleagues set a case definition for use in the GBD study:

“Activity-limiting low back pain (± pain referred into one or both lower limbs) that last for at least 1 day. The ‘low back’ is defined as the area on the posterior aspect of the body from the lower margin of the twelfth ribs to the lower gluteal folds.” ([Hoy, et al., 2010b, pp. 159](#_ENREF_112)).

This definition is in line with Dionne et al.’s ([2008](#_ENREF_51)) minimal definition for low back pain studies, derived from a consensus approach involving 28 low back pain specialists from 12 countries.

Episodes of low back pain tend to be assigned into one of three categories according to the length of the episode ([Dionne, et al., 2008](#_ENREF_51)). Low back pain lasting 6 weeks or less is described as acute; becomes sub-acute between 7 and 12 weeks; and is labelled chronic if it persists for 3 months or more.

## 1.2.2 Epidemiology

Low back pain (LBP) is a common health problem globally, although estimates of the prevalence of LBP are difficult to ascertain. As noted on the previous page, studies show variations in measurement which makes pooling data difficult. In addition, large numbers of cases go unreported. Papageorgiou and Rigby ([1991](#_ENREF_193)) report that comparing population surveys with low back pain consultations recorded by GPs reveals that only about 1 in 4 cases of low back pain result in a consultation. Later data from the South Manchester Back Pain Study found that for men consulting for a low back pain episode the figure is closer to 1 in 10, and for women 1 in 7 ([Papageorgiou, et al., 1996](#_ENREF_192)). Records of consultations, then, cannot be relied upon to provide accurate data on the population prevalence of low back pain. A third problem comes with comparing the *incidence* of low back pain with its *prevalence*. Incidence refers to the number of new cases of a disease in a given time period, whereas prevalence refers to the number of individuals with an existing disease at a given point in time ([Hoy, et al., 2010b](#_ENREF_112)). As will be discussed in section 1.2.5, the course of low back pain tends to be that of a persistent but intermittent problem, with sufferers experiencing periods of symptoms, asymptomatic periods, and recurrences ([Andersson, 1999](#_ENREF_5)). Further to this, low back pain has been reported to first occur as early as 8 years of age ([Majid & Truumees, 2008](#_ENREF_166)) and so it is difficult for incidence studies which include adult participants to catch truly new cases. On the other hand, prevalence studies which assess the number of people in a population with low back pain at a certain time point (e.g. at the time of surveying or within the previous month) risk missing episodes of low back pain which fall outside of the catchment period. They are also open to the possibility of recall bias by relying on self-report of low back pain episodes, which becomes a larger problem the longer back participants are asked to recall. For example, in one Australian prevalence survey ([Walker, Muller, & Grant, 2004](#_ENREF_288)) participants were asked whether they had “ever had low back pain on most days for two weeks”. Asking participants to recall such specific information about their low back pain throughout their entire lifetime may lead to respondents guessing at the answer rather than remembering. It is because of such difficulties of measurement and pooling of data that overall estimates of low back pain prevalence vary so greatly ([e.g. Walker, 2000, estimates a lifetime prevalence between 11% and 84% based on a review of the literature](#_ENREF_287))

In an attempt to produce a reliable estimate of the global burden of low back pain, Hoy et al. ([2012](#_ENREF_110)) used their standardised definition in a systematic review looking at 165 studies spanning 54 countries, which assessed population prevalence of LBP from interview or self-completed questionnaire measures. Estimates of the global prevalence of LBP in this review were hampered by a number of factors. For example, the reviewers assessed all studies for risk of bias on three domains: measurement bias; selection bias; and bias related to the analysis. Many (78%) of the studies were assessed as having a moderate or high risk of bias, and half of the items used to assess bias were shown to have significant effects on the resulting prevalence estimate, with a further three approaching significance, meaning that prevalence estimates may be inaccurate due to study design or analysis flaws in the original studies. Further to this, estimates were significantly affected by: prevalence period measured; sex of participants; age of participants; year of study; and economy of country studied. Because of this, the researchers assessed the evidence from their 165 studies using the GRADE (Grading of Recommendations Assessment, Development and Evaluation) system ([Guyatt, et al., 2008](#_ENREF_90)) which considers the likelihood of future research changing confidence in the prevalence estimate. They found their sample to have a moderate risk, meaning that further research is likely to have an important impact on our confidence in the estimate and may change the estimate. Using a multivariate regression model to control for methodological variation, the mean point prevalence for low back pain globally was conservatively estimated to be 11.9%, with the one-month prevalence estimated to be 23.2%. They present their resulting prevalence estimates, though, with a warning that single summary measures (such as mean prevalence) should be interpreted with caution.

Illustrating the scope of the problem of low back pain, Majid and Truumees ([2008](#_ENREF_166)) provide a review of low back pain prevalence for different groups. They show that low back pain affects children and adolescents as well as adults and the elderly; affects both sexes, although perhaps at different rates during different times of life; and spans the socioeconomic and cultural spectrum. Hoy et al. ([2012](#_ENREF_110)) note that while developing countries tend to show a lower prevalence of low back pain, this may be down to methodological issues such as publication bias favouring English language, difficulty accessing remote groups, or chronic low back pain occurrences being higher in such countries and so skewing the data. Indeed, in their review of 27 low back pain prevalence studies from 10 African countries, Louw, Morris and Grimmer-Somers ([2007](#_ENREF_160)) found that estimates of prevalence among Africans were broadly similar to those in developed nations. With high prevalence rates and people from all walks of life susceptible to being affected, low back pain represents a major health problem worldwide.

## 1.2.3 Costs

Research into the costs of low back pain tends to cover two areas: costs to the sufferer and costs to society (both in terms of cost to the health system and the economy). There are a variety of sources researchers can turn to for information about the costs associated with low back pain, such as third-party payers (e.g. health insurance providers), patient self-report, employer records, disability insurers, or government records ([Dagenais & Haldeman, 2012](#_ENREF_42)). Estimations of cost produced in the literature, though, should be treated as exactly that – estimations. This is because cost calculation, particularly at a national level, is a large and unwieldy task. Added to the number of variables involved in each person’s experience of low back pain (for example which healthcare providers they consult, if any; how the pain affects their ability to work; which medications they take, etc.), researchers tend to have to make a number of extrapolations, for example extrapolating data from a research sample of a few hundred participants to reflect the estimated costs for an entire country. They also at times have to rely on approximated data. For example, Maniadakis and Gray ([2000](#_ENREF_170)) calculate the cost of physiotherapy for back pain in the UK using the figures that about 9% of people with back pain visit physiotherapists, and have 7 sessions (from an average ranging between 6 and 11). Additionally, services will change over time as they are restructured, and so the number of sessions offered and costs involved will not remain stable. While this calculation can be said to give an idea of the cost of physiotherapy for back pain in the UK, caution must be exercised in interpreting such estimations as exact. As we will see, though, even conservative estimates indicate huge costs arising from low back pain.

For each type of associated cost, findings will be presented separately for different countries. This reflects both differences in currency, and differences in the distribution of costs between nations (e.g. private or state-funded healthcare).

Research into the costs encountered by patients themselves is not as prolific as national societal costing studies. Still, there is some evidence that costs to people with low back pain can be high. For example, in France, patients with chronic low back pain could expect to pay out an average of €715.6 over 6 months, with costs arising from medications, physician visits, physical therapy, nurse visits, prescribed examinations, hospitalisations, purchasing massaging chairs, pillows or car seats, or psychologist/physiotherapist visits ([Depont, et al., 2010](#_ENREF_47)). Even in the UK, where healthcare is available through the NHS and so patients can be exempt from costs such as physician visits or examinations, Maniadakis and Gray ([2000](#_ENREF_170)) found that 35% of all direct medical costs associated with low back pain went to services provided in the private sector such as private consultants or physiotherapists. This suggests that “a large portion of the direct cost of back pain is most likely incurred by sufferers and their families” ([Maniadakis & Gray, 2000, pp. 100](#_ENREF_170)). While costs due to lost earnings are obviously highly dependent on each sufferer’s income and time spent off work, and so are hard to average, an Australian study looked into the costs encountered through to early retirement due to low back pain by comparing those who had retired early to their peers ([Schofield, et al., 2012](#_ENREF_242)). They found that the income of low back pain retirees was four times less than their equivalents working full time, which equated to 4.8billion AU$ in lost annual individual earnings – a loss which may not have been incurred had low back pain not brought about early retirement.

Societal costs arise from both medical costs and economic losses due to work absence. Back pain costs the NHS roughly £1067million a year ([Maniadakis & Gray, 2000](#_ENREF_170)). These authors also offer a conservative estimate of £5018million lost due to employment-related costs (with a possible upper estimate of £10668million). This suggests that back pain in the UK has the highest economic burden of any disease for which burden has been estimated. Indeed, in their survey on sickness absence in the UK labour market, the Office for National Statistics found that musculoskeletal problems (including back pain, neck and upper limb problems and other musculoskeletal problems) accounted for the highest number of working days lost in 2011: a total of 35 million – over 7 million more days lost than the second most common reason ([ONS, 2012](#_ENREF_187)). The picture is similar in other countries: €2.6billion direct medical costs, and up to €4,080million in production losses totalling 1.6-2.3% of Switzerland’s Gross Domestic Product ([GDP, Wieser, et al., 2011](#_ENREF_295)); €5665 per chronic pain patient per year, or €5.34billion in total in Ireland ([2.86% GDP, Raftery, et al., 2012](#_ENREF_213)); €4.3billion in 2002 and €3.5billion in 2007 in the Netherlands ([Lambeek, et al., 2011](#_ENREF_143)). Early retirement due to low back pain is estimated to cost Australia 622million AU$ in additional welfare payments, 497million AU$ in lost taxation, and 2.9billion AU$ in lost GDP ([Schofield, et al., 2012](#_ENREF_242)). Indeed, in one German study over half of the costs were attributable to lost work ([Becker, et al., 2010](#_ENREF_16)).

It is worth noting that in Wieser et al.’s ([2011](#_ENREF_295)) study in Switzerland, productivity losses were dominated by presenteeism rather than absenteeism. Presenteeism refers to people with low back pain continuing to attend their jobs, but experiencing reduced levels of productivity because of their pain. The authors suggest that this is because presenteeism is far more common that absenteeism by a factor of 4.5, although this decreases with increasing levels of pain severity. This means that at low levels of pain, people may continue to work, but with reduced productivity (presenteeism), but as pain increases, particularly in the highest pain categories where it becomes unbearable at work, they are more likely to stay at home (absenteeism). In fact, in Wieser et al.’s sample, absenteeism costs were of no importance at lower pain levels, and only replaced presenteeism as the dominant cost factor among the 0.9% of the sample who had unbearable pain. Overall in this study, 10% of participants were responsible for 70% of the direct costs studied in Switzerland, while 48.1% of the sample reported no costs at all ([Wieser, et al., 2011](#_ENREF_295)) and the 10% most expensive sufferers accounted for 42.8% of the costs in and Irish study population ([Raftery, et al., 2012](#_ENREF_213)), suggesting that it is small sub-samples of people with low back pain who are the costliest. For Wieser et al., whose participants were a sub-sample from a larger musculoskeletal health survey who indicated the presence of low back pain, and so may have included acute and chronic sufferers, increases in cost corresponded with increases in pain level. Raftery et al. ([2012](#_ENREF_213)) focussed solely on people with chronic low back pain, and found, again, that higher pain grade predicted higher costs. It is this small sub-sample of people with low back pain, for whom pain can be unbearable and does not improve, who garner the highest costs, and to whom early intervention should be targeted in order to prevent to transition to chronic, disabling, and, as we have seen, expensive pain.

## 1.2.4 Aetiology

When patients consult a primary care physician with low back pain, the physician will use the history-taking portion of the consultation (in which the patient describes their symptoms and any associated issues) to screen for potential serious spinal pathology. There are a number of ‘red flags’ which will alert the physician to the possibility of potential serious spinal pathology, which if present signal a need for further investigation ([Rubinstein & van Tulder, 2008](#_ENREF_232)). These red flags fall under four categories, as follows:

* Age:
  + Presentation under 20 years
  + Onset over 55 years
* History:
  + Violent trauma
  + Past history of cancer
  + Systemic steroid use
  + Drug abuse
  + HIV
* Symptoms:
  + Constant, progressive, non-mechanical pain
  + Neurological symptoms
  + Systemically unwell
  + Weight loss
  + Thoracic pain
* Findings:
  + Persisting severe restriction of lumbar flexion
  + Neurological signs
  + Structural deformity

([Rubinstein & van Tulder, 2008](#_ENREF_232)).

The second step during the physician’s diagnostic triage is to identify subjects with nerve-root pain, which may be indicated through the patient’s pain distribution and pattern, and can be confirmed through clinical examination. In the case where neither red flags nor nerve-root pain are indicated, non-specific low back pain will be diagnosed. During this time, the physician will also assess ‘yellow flags,’ which are psychosocial factors linked to a higher likelihood of on-going disability ([Samanta, Kendall, & Samanta, 2003](#_ENREF_238)). These are discussed in more detail on Page 31. Martin Underwood, in an editorial for the journal Arthritis & Rheumatism, advises caution with the use of red flags when assessing patients with low back pain ([Underwood, 2009](#_ENREF_275)). There is a risk of over-reliance on their use leading to unnecessary investigation, because although a large number (80%) of patients will have one or more red flag symptom, the conditions which they are intended to alert for (e.g. cauda equina syndrome, spinal infections, or ankylosing spondylitis) are very rare. He advises taking account of other aspects of the patient’s history into account to put the red flag markers in context, such as the length of time the patient has been suffering without improvement in their pain, and that decisions on whether further tests (which may be unnecessary and even harmful) are required must “rely on the skills and experience of the treating clinician” ([Underwood, 2009, pp. 2857](#_ENREF_275)).

If there are biological causes behind most non-specific low back pain, they are notoriously hard to pin down. Riihimäki ([1991](#_ENREF_219)) reviews common causes of low back pain, such as degenerative changes in the lumbar spine, herniated disks, and degeneration of the intervertebral disks, but the evidence is inconclusive. For example, it is safe to assume that when a patient has a herniated disk and low back pain, the former causes the latter; however, there are also many documented cases of patients with low back pain without herniated disk, and patients with herniated disks who experience no pain, and so the presence or absence of herniated disk may not be informative as to the cause of low back pain. Abnormalities, as identified by imaging procedures, are found as often in asymptomatic people as in those with low back pain ([Koes, van Tulder, & Thomas, 2006](#_ENREF_137)). Kleinstück and colleagues suggest that:

“the identification of structural alterations such as disc degeneration, disc bulging/protrusion, and high intensity zones in people with LBP may simply be coincidental” ([Kleinstück, Dvorak, & Mannion, 2006, pp. 2250](#_ENREF_134)).

Riihimäki ([1991](#_ENREF_219)) points out that estimates of the proportion of low back pain for which no specific cause can be identified can be as high as 85%. This review was, of course, written in 1991, and imaging techniques have improved since then. However, two recent systematic review articles paint a similar picture. Hancock et al. ([2007](#_ENREF_94)) reviewed 41 studies into tests to identify the disk, sacroilial joint (SIJ) or facet joint as the source of low back pain, and conclude that: clusters of tests increased diagnostic validity over single tests for the SIJ; there is no available clinical test which is informative to both increase and decrease the likelihood of the disk as the source of low back pain; and currently available tests of the facet joint have “limited or no diagnostic validity,” (pp. 1547). These findings highlights the difficulties for clinicians in identifying specific structures in the lower back which may be causing pain. Added to this, Chou, Fu, Carrino and Deyo ([2009](#_ENREF_29)) performed a meta-analysis on six trials comparing immediate, routine lumbar imaging with usual clinical care on low back pain outcomes in patients with no features suggesting serious underlying condition, and found that imaging did not improve outcomes in either the short- or long-term. Indeed, the National Institute for Clinical Excellence’s (NICE) guidelines for the early management of persistent low back pain ([Savigny, Watson, & Underwood, 2009b](#_ENREF_241)) advise against offering X-ray for non-specific low back pain, and recommend considering MRI only when serious spinal problems (such as spinal malignancy, fracture, cauda equina syndrome, etc.) are suspected or when considering referral for spinal fusion. These guidelines were compiled by a team of experts in the assessment and management of low back pain, and were based upon evidence from published randomised controlled trials and systematic reviews of these where available, and by consensus when evidence was found to be sparse. They conclude that the evidence does not support any clinical utility of using X-ray or MRI, except in identifying those patients who may benefit from surgery. It may be that until definitive answers become available on whether non-specific low back pain can be traced unequivocally to physical structures in the back, we need to focus on external causes instead.

A number of demographic factors have been linked to the onset of low back pain, including: general health or physical fitness; genetic predisposition; a sedentary lifestyle; pursuit of strenuous activities; and low educational status ([Balagué, Mannion, Pellisé, & Cedraschi, 2012](#_ENREF_13); [Croft, Papageorgiou, Thomas, Macfarlane, & Silman, 1999](#_ENREF_40); [Hoy, Brooks, Blyth, & Buchbinder, 2010a](#_ENREF_111); [Majid & Truumees, 2008](#_ENREF_166); [Riihimäki, 1991](#_ENREF_219)). However, causal links between low back pain and these factors are hard to determine. Smoking has also been suggested as a risk factor for low back pain, however studies have also often found no association ([Croft, et al., 1999](#_ENREF_40)) and the mechanisms underlying such an association, if it did exist, remain unclear ([Balagué, et al., 2012](#_ENREF_13)). More research is needed to identify whether smoking is any more than a weak risk factor.

Age and gender also feature heavily in the literature on low back pain risk factors. Low back pain risk tends to increase with age until around 60 or 65 years, and then declines ([Hoy, et al., 2010a](#_ENREF_111)). While many studies show no significant gender differences in low back pain occurrence, it may be the case that different risk factors affect men and women differently ([e.g. the association between weight and low back pain in women in Leboeuf-Yde, 2000](#_ENREF_145)) or that women and men are affected differently by low back pain ([e.g. Hoy, et al., 2010a report women taking more time off work and seeking care more due to low back pain](#_ENREF_111)). Neither can be claimed as causal factors, however, as low back pain affects men and women and is present in all age groups.

There is dispute over whether being overweight or obese contributes to low back pain. Shiri et al. ([2010](#_ENREF_248)) report a positive association, particularly with care-seeking for low back pain and chronic pain in their meta-analysis of 33 cross-sectional and cohort studies; Croft et al. ([1999](#_ENREF_40)) found an association between weight and low back pain in women only. However, a systematic review ([Leboeuf-Yde, 2000](#_ENREF_145)) found that only 23% of the 111 associations tested showed a positive link between the two. Results tended to be heavily influenced by sample size, and she found no studies reporting on temporality or reversibility of associations. Leboeuf-Yde concludes that, “The association between body weight and LBP, when present in large general population-based studies, is weak.” ([Leboeuf-Yde, 2000, pp. 234](#_ENREF_145)).

Work-related factors are implicated in low back pain risk. Hoogendoorn et al. ([2000](#_ENREF_107)) found in a study of 861 workers in various professions that higher degrees of trunk flexion, lifting heavy loads, and rotation of the trunk for more than 10% of the day at work were all associated with of the onset of low back pain. Further work-related factors reported by Majid and Truumees ([2008](#_ENREF_166)) and Riihimäki ([1991](#_ENREF_219)) in their reviews are: heavy physical work; prolonged sitting; pushing/pulling; vibration; high workload; and night shifts. A number of different factors are therefore implicated in how employment might affect low back pain, with little agreement upon which are the most important or consistency amongst findings. Given the high prevalence of low back pain, it is likely that correlations will be inflated with various work-related factors, simple because they both exist in large numbers. As described on pages 18-19, low back pain accounts for great financial losses as people are absent from work, are less productive at work, or have to retire from work early ([Schofield, et al., 2012](#_ENREF_242); [Wieser, et al., 2011](#_ENREF_295)), and so improving working conditions to reduce the incidence of low back pain may have the potential to save a lot of money, although two systematic reviews have failed to find convincing evidence yet of any ergonomic interventions effective in significantly reducing low back pain in the workplace ([Brewer, et al., 2006](#_ENREF_21); [Driessen, et al., 2010](#_ENREF_56)).

Psychosocial factors in the workplace are also thought to play a role in the risk of developing low back pain. Hartvigsen, Lings, Leboeuf-Yde and Bakketeig ([2004](#_ENREF_95)) explain that this may be due to increased muscle tension leading to altered spinal loading which affects the nutrition of spinal structures, or to increased plasma cortisol levels associated with stress leaving muscles vulnerable to mechanical loads. Further, if the workplace environment is unsatisfactory, workers may be less tolerant to pain or more inclined to take sick leave. Linton ([2001](#_ENREF_153)) conducted a systematic review of workplace psychological factors in relation to back pain from 21 prospective cohort studies. He found strong evidence (defined in the review as consistent (>75%) evidence from three or more studies) that low job satisfaction, monotonous work, work relations, perceived demand, self-reported stress, and perceived ability to work were all associated with back pain. Moderate evidence (defined as >50% consensus from two or more studies) was also found linking control, pace, belief that work is dangerous, and perceived emotional effort at work to back pain. Contrastingly, Hartvigsen et al. ([2004](#_ENREF_95)) found little evidence of psychosocial workplace factors affecting low back pain in their systematic review of prospective studies. Hartvigsen et al. employed stricter criteria in their assessment of the evidence, applying nine quality criteria to each study which was lacking in Linton’s review. Out of 40 included studies, only 10 were found to be of high quality. They found moderate evidence for no association between perceptions of work and low back pain, and insufficient evidence to draw conclusions about the association between perceptions of work and the consequences of low back pain. There was moderate evidence and strong evidence for no association between organisational aspects of work and low back pain and consequences of low back pain, respectively, and moderate evidence for no association between social support at work and low back pain or its consequences. Evidence was lacking to establish a link between stress at work and low back pain, and there was moderate evidence of no link between stress at work and the consequences of low back pain. These findings highlight a need for high quality prospective cohort studies to clarify if any link does exist between psychosocial workplace factors and low back pain, although the moderate evidence already available suggests not.

The reported risk factors for low back pain are numerous and varied, and the evidence does not always show strong associations. Riihimäki points out that:

“The prevalence of nonspecific low-back pain is high in all populations, and thus there is a good chance of obtaining a relationship between any infrequent health-related characteristic of a population and the prevalence of low-back pain,” ([Riihimäki, 1991, pp. 84](#_ENREF_219))

Psychological factors are also often linked to low back pain, including anxiety disorders, stress/distress, mood, cognitive functioning, pain behaviour, and depressive disorders ([Hoy, et al., 2010a](#_ENREF_111); [Majid & Truumees, 2008](#_ENREF_166); [Riihimäki, 1991](#_ENREF_219)) although it is sometimes unclear what the causal relationship may be as much evidence is cross-sectional. To try and rectify this, Linton ([2005](#_ENREF_154)) employed a mixed cross-sectional and prospective design using a sample of workers who were either pain-free (n = 372) or who had suffered considerable pain (n = 209). Both groups were assessed on background variables, workplace factors, physical function, and psychological variables. The pain-free group was then followed for one year, and the 28 of these who developed a significant pain problem in that time were included in the prospective analysis, using the same outcome variables. Linton found that distress and fear-avoidance variables were significantly related to the presence of back pain in the cross-sectional analysis, with distress increasing the risk of back pain 13-fold. Distress was also a strong predictor of developing back pain in the prospective analysis (odds ratio [OR] 2.24; 95% confidence interval [CI] 0.95-5.27). Of the fear-avoidance variables, pain catastrophising and magnification subscales were significant predictors for back pain. Although depression (defined by Merriam-Webster’s MedlinePlus online dictionary as, “(1)**:** a state of feeling sad (2)**:** a mood disorder marked especially by sadness, inactivity, difficulty with thinking and concentration, a significant increase or decrease in appetite and time spent sleeping, feelings of dejection and hopelessness, and sometimes suicidal thoughts or an attempt to commit suicide”) and anxiety (defined by Merriam-Webster’s MedlinePlus online dictionary as, “an abnormal and overwhelming sense of apprehension and fear often marked by physiological signs (as sweating, tension, and increased pulse), by doubt concerning the reality and nature of the threat, and by self-doubt about one's capacity to cope with it”) have previously been linked to the development of back pain, Linton found no evidence of this in either his cross-sectional or prospective analysis when measured by the Hospital Anxiety and Depression Scale ([HADS, Zigmond & Snaith, 1983](#_ENREF_299)). However, the sample used in the prospective analysis was small, and did not guarantee enough statistical power to allow for multivariate analysis. Future prospective studies with large populations may be required to shed further insight into how psychological variables can predict the onset of low back pain. Additionally, Linton’s sample only included those who had experienced ‘significant pain’. It may be the case that psychological variables play a stronger role for those who experience significant pain than those who experience less intense pain, as psychological factors are known to be important in determining how sufferers cope with their back pain and how well they recover ([Linton & Shaw, 2011, and see section 1.1.5 for a discussion on prognosis in low back pain](#_ENREF_158)). As we have seen, there is often no discernible physical cause for low back pain, and so identifying and tackling psychological factors at early stages may prove key to helping sufferers to manage pain when it arises and prevent the transition from acute to chronic low back pain. When assessing patients with low back pain, it is important that physicians adopt a biopsychosocial approach throughout the consultation in order to fully comprehend the various factors which might be implicated in a person’s pain.

## 1.2.5 Prognosis

The course of low back pain has been well-studied. Henschke et al. ([2008](#_ENREF_101)) conducted a one-year follow up study with 973 patients with acute low back pain in Australia. They found that disability took an average of 31 days to recover, with pain taking 58 days. Overall, there was a 54.9% probability of disability recovering within 6 weeks and 73.3% probability of the same in 3 months (39.9% and 58.2% respectively for pain recovery). A complete recovery, indicating that pain and disability had resolved and the patient had returned to work, took an average of 59 days. A French study by Coste et al. ([1994](#_ENREF_36)) found that recovery was much faster – with a median episode duration for low back pain of just 7 days and 90% of participants recovering within 2 weeks, although their sample was much smaller (103 participants). The general consensus seems, for the majority of patients, to be a pattern of dramatic improvement over the first month, followed by smaller improvements up to 3 months, after which time, recovery tends to level off ([Grotle, et al., 2005](#_ENREF_88); [Pengel, Herbert, Maher, & Refshauge, 2003](#_ENREF_197); [Vingård, et al., 2002](#_ENREF_283); [Von Korff & Saunders, 1996](#_ENREF_286)). Return to work tends to occur at a faster rate than recovery; perhaps as pain and disability begin to ease the sufferer feels able to resume working despite not being fully recovered yet. Henschke et al. ([2008](#_ENREF_101)) report two weeks as median time to return to work in their sample, and Fritz, George and Delitto ([2001](#_ENREF_76)) found a rate of 72% return to work by 4 weeks post-treatment in their analysis of 69 subjects from a randomised trial of people who had developed low back pain due to work-related activities. It is important to note that while most return to work soon after an episode of low back pain, for those who do not do so the chances of ever returning to work decrease with longer time spent not working ([Kent & Keating, 2005](#_ENREF_129)).

While considerable improvement is often noted in people with low back pain by 3 months, low levels of pain and some disability can persist ([Pengel, et al., 2003](#_ENREF_197)). In Henschke et al.’s ([2008](#_ENREF_101)) sample, pain showed the longest recovery time, and a 37.5% chance of not being completely resolved after a year. Complete recovery, which indicated being entirely pain- and disability-free, after one year was only given a 71.8% probability – indicating a 28.2% chance of incomplete recovery, and Von Korff and Saunders ([1996](#_ENREF_286)) estimate from a review of the literature that up to one quarter of sufferers will experience pain 50% of the time over a one year period. It is people in this group, whose pain persists where others’ tends to recover, who are at risk of developing chronic low back pain and for whom early intervention may be vital. Further complicating estimates of recovery is that rates of recurrence tend to be high ([Andersson, 1999](#_ENREF_5)), with estimates of around 60% ([Kent & Keating, 2005](#_ENREF_129)) to 73% ([Pengel, et al., 2003](#_ENREF_197)) of people experiencing repeated episodes of low back pain.

Demographic factors associated with poor recovery from low back pain are: older age ([Grotle, et al., 2005](#_ENREF_88); [Mallen, Peat, Thomas, Dunn, & Croft, 2007](#_ENREF_168); [Thelin, Holmberg, & Thelin, 2008](#_ENREF_267)), smoking ([Grotle, et al., 2005](#_ENREF_88); [Thelin, et al., 2008](#_ENREF_267)), high BMI and lower educational achievement ([Thelin, et al., 2008](#_ENREF_267)), and the presence of comorbidities ([Werner & Côté, 2009](#_ENREF_292)). However, these are factors (possibly with the exception of smoking and BMI) which are beyond the scope of the treating physician. So, while we are aware that, for example, older people may recover from low back pain more slowly, we cannot change a person’s age and so this information is not helpful to improving recovery rates. This information may be useful, though, in allowing physicians to adapt treatment to each patient’s circumstances, and provide a realistic view of how well they can expect to recover.

Baseline characteristics of the current episode have a large impact on prognosis, typically measured as cessation of pain or disability, return to work, or a combination of the three. In a systematic review of 45 studies looking at prognostic factors in musculoskeletal pain, Mallen, et al. ([2007](#_ENREF_168)) found that a number of baseline characteristics related to poorer outcome: higher pain intensity; longer pain duration; multiple site/widespread pain; previous episode; greater movement restriction; and higher disability. The link between baseline pain characteristics and poorer recovery is perhaps unsurprising: those with worse pain and disability take longer to recover than those with less severe conditions.

Work characteristics are also implicated in recovery, most often in terms of return to work rather than pain or disability. Werner and Côté ([2009](#_ENREF_292)) found in their non-systematic review that social support, job control and job demands as perceived by participants predicted length of sick leave absence. However, Steenstra, Verbeek, Heymans and Bongers’ ([2005](#_ENREF_254)) systematic review paints a less confident picture. From 14 studies measuring the effects of 79 prognostic factors on duration of sick leave due to low back pain, the only work-related factors they found strong evidence (consistent findings from high-quality studies) for were heavy work (effect size 1.40, 95% CI 1.26 to 1.56) and receipt of high compensation (effect size not available due to heterogeneity in the original studies). Strong or moderate evidence of no association with duration of sick leave was found for: regularly working more than 8 hour shifts; job satisfaction; occupation; size of industry/company; and union membership. It seems that work-related factors may play a small role at best in predicting recovery from low back pain.

Psychological factors are implicated in the transition from acute to chronic low back pain. Early identification of these, known as ‘yellow flags’ is thought to be important in targeting interventions and modifying sufferers’ maladaptive beliefs as a way to prevent chronicity ([Nicholas, Linton, Watson, & Main, 2011](#_ENREF_179)). It is important, then, that physicians are aware of low back pain patients’ concerns and beliefs about their pain, so that they can be incorporated into management plans. The STarT Back Screening Tool ([Hill, et al., 2008](#_ENREF_103)) was developed to identify prognostic indicators and aid primary care physicians in making decisions concerning targeted treatment options. It is a 9-item tool intended for regular use in primary care consultations, assessing patients by self-report on the domains of bothersomeness, referred leg pain, comorbid pain, disability, catastrophising, fear, anxiety, and depression. Scoring for the tool is produced by summing all items which the patient has answered positively (indicating the existence of a problem on each domain). The psychosocial subscale score is a sum of bothersomeness, fear, catastrophising, anxiety, and depression items. Patients can be stratified based on their scores into low- medium- or high-risk of chronicity. The approach has high quality trial evidence that the combination of stratifying patients according to prognosis and upskilling clinicians to provide matched treatments, leads to significant improvements in patient outcomes such as disability and distress and is cost-effective ([Hill, et al., 2011](#_ENREF_104)). The StarT Back approach has now been adopted by more than 20 healthcare organisations worldwide and this stratified approach to managing low back pain has been integrated into care pathways for many CCGs across the UK ([Helliwell, Mallen, Peat, & Hay, 2014](#_ENREF_99)).

Linton and Shaw ([2011](#_ENREF_158)) provide a detailed review of how psychological processes impact on the experience of pain. Briefly, they implicate attention (hyper-vigilance to the noxious stimuli leads to fear and anxiety); interpretation (how large a threat the pain is perceived to be); beliefs and attitudes (which can set the stage for activity restrictions, leading to long-term disability); expectations (which drive coping behaviour, and when expectations about recovery are not met may generate further negative cognitions and coping strategies); cognitive sets (such as pain catastrophising, in which the sufferer imagines the worst possible result but then accepts it as a given); emotions and emotion regulation (such as depression and anxiety in response to pain); coping strategies (which are learned, incorporating emotional, cognitive and behavioural systems, and can become maladaptive); and pain behaviours (which when they result in less pain are reinforced, and so likely to be repeated with future episodes). All of these factors influence our cognitive, emotional and behavioural response to pain, which in turn affect how well we recover, and so if they are negative (such as pain catastrophising), recovery may be compromised ([Linton & Shaw, 2011](#_ENREF_158)).

Pain can cause anxiety and worry, as it presents a threat to our wellbeing and ability to function as we would like to, and this anxiety can manifest itself as fear of pain. One of the most prolific models in the explanation of how psychological factors impact on the prognosis of low back pain is the fear-avoidance model. The model posits that when sufferers experience catastrophic thoughts and fear of pain, this leads to avoidance behaviours intended to reduce both pain and the related anxiety. This in turn is theorised to lead to disuse, disability and depression. Contrastingly, sufferers without fear-avoidance beliefs confront their pain problems head-on and employ more active coping strategies ([Linton & Shaw, 2011](#_ENREF_158)). Two key papers present evidence relating to the fear-avoidance model in low back pain, but with contrasting conclusions. Leeuw et al. ([2007](#_ENREF_146)) offer a summary of the scientific evidence for the model, and find support for a number of components implicated within in. For example, the link between pain catastrophising and fear is supported; evidence is presented that attention is an important feature in the experience of pain; and avoidance behaviour resulting in suboptimal performance during research tasks (such as behavioural performance tasks and physical tasks) is suggested to provide evidence for the link between fear and avoidance behaviour. However, research linking all of these components together, and showing a causal link to persistent pain or disability, is lacking. In a more rigorous systematic review, conducted with the aim of establishing whether a link does exist between fear-avoidance and poor outcomes in low back pain, Pincus and colleagues ([Pincus, Vogel, Burton, Santos, & Field, 2006](#_ENREF_205)) were able to find only 9 prospective studies which measured factors associated with fear in new episodes (<3months, after an absence of back pain) of low back pain and related these factors to short- or long-term outcomes, 8 of which were assessed as having acceptable quality (assessed on domains of methodological, measurement and statistical quality). They found that the model lacked evidentiary support, and where it was available the effect sizes were small. Pincus, et al. suggest that this may indicate that fear plays a role only in later stages of pain, rather than as a factor at early stages, and propose two alternative models, focussing on beliefs (both cultural and personal health beliefs) or coexisting depression as more important predictors of chronicity.

Depression is frequently linked with low back pain, particularly in the case of chronic pain ([Linton & Shaw, 2011](#_ENREF_158)). In a systematic review ([Mallen, et al., 2007](#_ENREF_168)) of prognostic factors in musculoskeletal pain, 5 prospective studies found a positive link between higher anxiety/depression and poorer overall outcomes. Additionally, a systematic review of prospective cohorts by Pincus, Burton, Vogel and Field ([2002](#_ENREF_201)) found that distress (representing a composite of psychological distress, depressive symptoms and depressive mood) significantly predicted unfavourable outcomes independently of clinical characteristics at baseline. However, Iles, Davidson and Taylor’s systematic review ([2008](#_ENREF_120)) focussing on return to work as an outcome found strong evidence (consistent findings from multiple high quality studies) that depression is not predictive of poor outcome. Linton and Bergbom ([2011](#_ENREF_156)) critically reviewed review articles, clinical studies and prognostic studies on the relationship between depression and pain. They found support for the notion that, while depression does not necessarily trigger pain, it can be viewed as a catalyst for pain problems, in that the presence of depression during the early stages of pain is linked to a higher probability of the development of chronicity. In terms of what mechanisms link the two, Linton and Bergbom identify catastrophising and poor emotion regulation as being present in both depression and chronic pain. Catastrophising is a cognitive distortion in which a stimulus is perceived excessively negatively, and emotion regulation refers to the behavioural coping strategies employed to maintain emotional balance (e.g. up-regulating positive emotions and down-regulating negative emotions). They propose the Örebro Behavioural Emotion Regulation Model ([Linton & Bergbom, 2011](#_ENREF_156)) in which flare-ups of either pain or negative mood reactivate catastrophic worry and enhance the negative affect and perception of pain quality and intensity, thereby straining the emotion regulation system. If successful emotion regulation is not achieved, then negative affect develops which may in turn trigger a relapse of significant depression and pain. This model takes into account the cyclical nature of both depression and pain conditions, and posits that each relapse also acts as a form of conditioning, in which emotion regulation strategies may be abandoned more quickly in the future, as the person has learned that their efforts are unsuccessful anyway.

The beliefs a sufferer holds about their back pain help them to interpret their experience, as well as shaping their responses, and expectations for recovery can have a significant effect on how well a person with low back pain does recover. Linton and Shaw ([2011](#_ENREF_158)) explain that these expectations (about the cause of pain, its management, and how long recovery should take) drive coping behaviour, and when expectations are not met (for example, recovery takes longer than expected) negative cognitions may abound and motivate unhelpful behaviours. A systematic review of 18 prospective cohort studies reporting on psychosocial risk factors for chronicity in low back pain by Ramond and colleagues ([2011](#_ENREF_214)) found that psychosocial predictors were more important in predicting long-term disability than pain characteristics, with expectations of recovery a consistently significant predictor of chronicity. It appears important that health care providers discuss beliefs about low back pain and expectations for recovery with patients who consult for acute low back pain, in order than unrealistic expectations can be challenged and modified early on and prevented from hampering prognosis.

## 1.2.6 Interventions

International guidelines ([collated and summarised in Koes, et al., 2010](#_ENREF_136)) for the treatment of chronic low back pain generally recommend short-term use of medication/manipulation; supervised exercise therapy; cognitive behavioural therapy; and multidisciplinary treatment. However, by the time it reaches chronic stage, low back pain is notoriously hard to treat and therapies often result in little improvement. In a meta-analysis of psychological interventions for chronic low back pain based on evidence from randomised controlled trials (RCTs), Hoffman, Papas, Chatkoff and Kerns ([2007](#_ENREF_105)) found that, when pooled together, psychological interventions either alone or as part of a multidisciplinary intervention are effective compared to control conditions across all outcome domains, but effect sizes were small (d = 0.16, p < 0.05). Additionally, when compared to other active therapies (rather than wait-listed controls), significant effects disappeared. A large systematic review of RCTs assessing the merits of interventions for chronic low back pain also largely failed to find promising results ([van Middelkoop, et al., 2011](#_ENREF_279)). Low- to moderate-quality evidence found no significant effects for exercise therapy, back schools, or multidisciplinary treatments as compared to controls receiving no treatment. Low-quality evidence supported the use of behavioural treatment (versus no treatment) but only for short-term outcomes. None of the significant differences found across all comparisons in this review reached a difference larger than 10%. Finally, a meta-analysis comparing surgical (spinal fusion with or without instrumentation) and non-surgical (physical therapy with or without cognitive therapy) treatments for chronic low back pain in three high-quality RCTs failed to find a significant difference in favour of surgery for short-term outcomes ([Ibrahim, Tleyjeh, & Gabbar, 2008](#_ENREF_119)). With a lack of convincing significant effects of therapy, and such low effect sizes where differences are found, it seems that preventing chronicity, rather than attempting to treat it once it has set in, may be vital in reducing the numbers of people suffering with chronic low back pain.

Treatment recommendations for acute low back pain tend to fall into four categories: medications, exercise, manipulation, and patient education, although other therapies, such as psychological intervention, may be recommended when less intensive treatments have failed and the patient is experiencing high disability and/or distress ([Savigny, et al., 2009a](#_ENREF_240)).

Pharmacological therapy is recommended widely for temporary pain relief ([Ehrlich, 2003](#_ENREF_60)) rather than as a cure for low back pain. Current research advocates the use of Non-Steroidal Anti-Inflammatory Drugs (NSAIDs) such as ibuprofen, and simple analgesics such as paracetamol ([Koes, et al., 2010](#_ENREF_136); [Krismer & van Tulder, 2007](#_ENREF_139); [Macfarlane, Jones, & Hannaford, 2006](#_ENREF_162)), although guidelines recommend that these are used on a time-contingent rather than pain-contingent basis to avoid reliance or overuse. A systematic review of evidence for the use of medications for low back pain treatment found good evidence that acetaminophen, NSAIDS, and skeletal muscle relaxants are effective for short-term pain relief in acute sufferers ([Chou & Huffman, 2007](#_ENREF_30)). Systemic corticosteroids were not recommended for acute low back pain with or without sciatica in this review. They found that, despite including high-quality systematic reviews as well as RCTs in their data pool, little to no evidence was available on either how to choose which medication to use initially, or on long-term use of any of the medications.

Advice to remain active features heavily in the management of low back pain, which incorporates the avoidance of bed rest and maintenance of usual activities, including work, where possible ([Ehrlich, 2003](#_ENREF_60); [Koes, et al., 2010](#_ENREF_136); [Krismer & van Tulder, 2007](#_ENREF_139); [Macfarlane, et al., 2006](#_ENREF_162)). Krismer and van Tulder ([2007](#_ENREF_139)) present a synthesis of evidence and recommendations for low back pain management, with evidence ranked according to its source (with evidence from meta-analysis of RCTs ranked highest, followed by RCTS, etc.). Evidence from meta-analyses of RCTs suggests that fitness programmes can reduce pain, improve or maintain function, and prevent back pain from becoming a chronic problem, although effect sizes are not reported. However, Koes et al. ([2010](#_ENREF_136)) find consensus among guidelines that supervised exercise programmes are not recommended – with a preference for advising patients to resume normal activities instead. A systematic review of conservative interventions for subacute low back pain ([Pengel, Maher, & Refshauge, 2002](#_ENREF_196)) found support for both advice to remain active and exercise, although effect sizes for exercise were small (equating to improvement of less than 2 points on the 24-point Roland-Morris Disability Questionnaire ([Roland & Morris, 1983](#_ENREF_225)) and therefore not meeting the level (4 points) at which true change can be detected).

Manipulation therapy, such as that provided by physiotherapists and other secondary care providers, is sometimes recommended, but not universally ([Koes, et al., 2010](#_ENREF_136)). Ehrlich ([2003](#_ENREF_60)) suggests that this type of treatment is popular with patients, “perhaps because of the time spent and the laying on of hands” (pp. 673-4). However, evidence is as-yet lacking for its efficacy, and Krismer and van Tulder ([2007](#_ENREF_139)) failed to find sufficient support for techniques such as angular joint mobilisation, joint play techniques, or massage as may be used during spinal manipulation therapy. Despite this, though, Chung-Wei et al. ([2011](#_ENREF_31)) found in a systematic review of the cost-effectiveness of GP care for low back pain that involvement of spinal manipulation with GP care was more cost-effective than GP care alone, suggesting that there may be some benefit to spinal manipulation, although the mechanisms behind this are not yet known.

As we saw on page 31, psychological factors (yellow flags) can impact on how well a person with low back pain recovers. Interventions which target yellow flags, then, for example by changing beliefs about the pain or reducing patients’ anxiety, may be indicated in helping patients to cope better and preventing the transition to chronicity ([Linton & Shaw, 2011](#_ENREF_158); [Nicholas, et al., 2011](#_ENREF_179)). The National Institute for Health and Clinical Excellence (NICE) recommends that primary care physicians consider referral to combined physical and psychological treatment for patients with sub-acute low back pain who have already received at least one less intensive treatment and have high disability and/or significant psychological distress ([Savigny, et al., 2009a](#_ENREF_240)), although they found insufficient evidence to recommend any specific format of such combined therapy over another. Nicholas et al. ([2011](#_ENREF_179)) review 18 intervention studies based on management of yellow flags in acute and sub-acute low back pain, and found that targeting psychological risk factors predicted better outcome in some studies but not others. They suggest that this may be because participants in these studies were not selected based on the presence of heightened psychological risk factors – in fact, levels of psychological risk factors tended to be low at baseline in the study populations. Additionally, none of the 7 studies which did not report a positive result from psychological intervention involved a psychologist delivering the intervention. Treatment was instead given by physical therapists. Contrastingly, in most of the studies which reported positive associations, psychologists were used. These two shortcomings highlight important requirements for psychological intervention in low back pain: patients need to be screened for yellow flags in order that psychological treatment be indicated, and clinicians delivering interventions need to be well-trained in the psychological methods being used. Screening instruments such as the StarT Back Screening Tool ([Hill, et al., 2008](#_ENREF_103)) are designed to be quick to administer, and allow physicians to assess whether patients are at high-, medium- or low-risk for chronicity and plan treatment accordingly.

Patient education may also help to inform sufferers about their low back pain, challenge maladaptive beliefs, and equip them with the cognitive tools to cope with the pain. However, Henrotin, Cedraschi, Duplan, Bazin and Duquesnoy ([2006](#_ENREF_100)) conducted a systematic review of RCTs and controlled prospective studies in which patients were provided with information (typically through booklets, although videos, media campaigns, and the internet were also used) and found that although information booklets significantly improved patients’ knowledge, this did not translate into improved outcomes (absenteeism, function, disability, or healthcare use). The most notable decrease in healthcare use was found when patients were provided with an informational package containing email, video tape, and an educational booklet, which the authors suggest implies a need for more specific and individual information provided to patients than can be delivered in a booklet. In the international clinical guidelines summarised by Koes et al. ([2010](#_ENREF_136)), educating patients with low back pain was universally recommended. However, rather than a specific intervention, this tends to take the form of the physician providing information during the consultation. As well as advice to stay active and resume normal activities, physicians are advised to provide information about causes, provoking and risk factors, posture, favourable prognosis, the benign nature of the condition, possibility of recurrence, and self-management, and to emphasise having realistic expectations. The goal of such patient education is to encourage patients to cope better with their low back pain, rather than worrying about disease and avoiding activity, which may contribute to disability in the future. Also emphasised in a number of these guidelines in the concept of reassurance, which in itself may involve providing the patient with information in order to allay their worries. Mayou and Farmer ([2002](#_ENREF_172)) elaborate on this, suggesting that care providers should elicit and address patients’ concerns as part of reassurance, and that “most patients will accept explanations that include psychological and social factors as well as physiological ones as long as the reality of symptoms is accepted,” (pp. 267). According to Linton ([2008](#_ENREF_157)):

“reassurance ‘...removes the fears or doubts of (pain/illness); to comfort’. Reassurance always takes place within the dynamics of the interaction between the caregiver who has the intention to reduce worry, and the patient who is concerned. Ultimately, reassurance is achieved if the patient changes his/her behavior, understanding or thoughts.” ([Linton, et al., 2008, pp. 5](#_ENREF_157))

Through this process of reassurance, then, the patient’s concerns are addressed, their anxiety lessened and their coping behaviour improved. However, what constitutes effective reassurance and how best to deliver it remains a vastly under-researched topic in the study of low back pain. It is to communication between physicians and patients generally, and reassurance in particular, that we turn in chapter two.

Chapter 2: Physician-patient Communication

As described in chapter one, psychological factors such as patients’ concerns, beliefs, anxiety and depression are implicated in how well people with acute low back pain recover. Koes et al. ([2010](#_ENREF_136)) suggest that patient education and reassurance during consultations is beneficial in tackling these risk factors and promoting recovery. In the following chapter, evidence on physician-patient communication during medical consultations will be reviewed, from patient-centred care in general to specific factors such as shared-decision making and reassurance. What effective communication entails, and how it has been linked to beneficial outcomes to patients will be examined. Although this thesis focuses on low back pain, to review only literature on communication during low back pain consultations would exclude large amounts of the available data. This chapter, then, will explore physician-patient communication from a wider perspective, beginning with the concept patient-centredness, allowing the formation of hypotheses regarding which communication behaviours may be of benefit to those suffering with low back pain.

# 2.1 Patient-Centredness

## 2.1.1 Definitions

The concept of patient-centred medicine emerged as an alternative to traditional ‘biomedical’ or ‘illness-centred’ approaches to healthcare ([Levenstein, McCracken, McWhinney, Stewart, & Brown, 1986](#_ENREF_147)). Within each consultation two agenda are represented: the physician’s and the patient’s. The physician’s agenda is to understand the patient’s problems and negotiate management plan(s). The patient’s agenda, however, may be framed in terms of his/her expectations, feelings and fears surrounding the complaint. According to Levenstein and colleagues, the physician’s task is to ascertain the patient’s agenda and reconcile it with his/her own. By understanding the patient’s expectations, fears and feelings, the physician can understand the illness in context, which will help to inform diagnosis and treatment choices. As Epstein puts it: “the fundamental idea is that the process of healing depends on knowing the patient as a person, in addition to accurately diagnosing their disease.” ([Epstein, 2000, pp. 805](#_ENREF_63)).

For Mead and Bower ([2000](#_ENREF_173)) in their conceptual review of patient-centredness, five factors emerge as essential to patient-centred consultations:

1. A biopsychosocial perspective, in which the physician is willing to become involved in any difficulty which the patient presents, not just their biomedical problem.
2. The ‘patient-as-person’, meaning understanding the personal implications of a patient’s illness (in terms of their expectations, feelings and fears).
3. Sharing power and responsibility with the patient. For this, the physician needs to recognise the patient as an expert in their own illness, and provide enough information from their own medical point of view to allow patients to participate in decision making.
4. The therapeutic alliance, or positive personal relationship between physician and patient.
5. The ‘doctor-as-person’. By this they mean acknowledging that the physician’s subjectivity may also impact on the consultation, and attempting to avoid any negative effects of this such as constraining or provoking negative responses in patients.

Mead and Bower posit their model of patient-centredness as a contrast to previous paternalistic and strictly biomedical approaches to patient care. However, the notion that there is a dichotomy between these approaches is questionable. It may be more realistic to conceptualise physicians’ approaches as falling on a spectrum between the two, and to emphasise the importance of context in understanding how physicians choose to relate to particular patients. For example, when meeting a patient with on-going chronic illness, the physician may take more time to explore the personal impact of the problem for the patient, build a therapeutic alliance and work towards a collaborative management plan than they would with a patient who has a short-term viral infection which is expected to resolve on its own. That is not to say that the physician will not treat both patients as unique individuals and explore the context of their illnesses, but to an objective observer, one consultation may appear more patient-centred and the other more illness-centred to an observer. Additionally, this model can fail to take into account the style of care that patients prefer to receive. While patient-centred care holds a collaborative alliance as the highest standard, not all patients can be assumed to want the responsibility which comes with such involvement ([Taylor, 2009](#_ENREF_263)). It must also be acknowledged that primary care providers work within incredibly time-pressured environments, in which large numbers of patients require attention within limited time frames. Whilst the model of patient-centredness outlined by Mead and Bower offers a more personal and involved experience for patients in theory, it must be balanced against what is achievable within real practice settings, in which a physician is responsible for the patients in the waiting room as well as those in the consulting room. Investing a large amount of time into developing patient-centred relationships with each person who consults may not be feasible in the context of the demands of real-life primary care. Finally, while these five dimensions give an overview of the components of patient-centred care, Mead and Bower offer little insight into how to operationalise their ideas (i.e. how they might be put into practice, measured and monitored) or how physicians should balance these components within a consultation (are any more important than others, or should more time be invested in some behaviours than others, for example?) ([Duggan, Geller, Cooper, & Beach, 2006](#_ENREF_58)).

Robinson, Callister, Berry and Dearing ([2008](#_ENREF_224)) pooled together definitions of patient-centred care from public policy, economic, clinical practice and patient perspectives, and concluded that they could be condensed into two concepts: a physician-patient relationship which promotes patient-involvement, and care that individualises patient treatment. As the name suggests, then, it is about putting patients at the centre of the care process, involving them in their care and tailoring treatment recommendations to each individual.

## 2.1.2 Delivering Patient-Centred Care

Following the definitions of patient-centredness, the question arises of how physicians may strive to deliver patient-centred care during their interactions with patients. This has been the focus of much research and a number of review articles.

Asnani ([2009](#_ENREF_9)) advocates for the SEGUE framework for organising consultations into five sections:

1. Set the stage (initiate the session and establish initial rapport)
2. Elicit information
3. Give information
4. Understand the patient’s perspective
5. End the encounter

Within these five stages, the patient-centred method is employed by eliciting and understanding the patient’s perspective, and reconciling this with the information which the physician can provide to them from a medical perspective. Frankel and Stein ([1999](#_ENREF_74)) adopt a similar approach with their Four Habits Model, which recommends the following ‘habits’:

1. Invest in the beginning (create rapport; plan the visit; elicit patient concerns)
2. Elicit the patient’s perspective (assess patient attributions; identify patient requests; explore the impact of the patient’s symptoms on their life)
3. Demonstrate empathy (be open to the patient’s emotions; convey empathy)
4. Invest in the end (deliver diagnostic information; involve the patient in decision-making)

In the UK, GP communication training follows the Calgary-Cambridge guides ([Kurtz, Silverman, & Draper, 1998](#_ENREF_141); [Silverman, Kurtz, & draper, 1998](#_ENREF_249)), consisting of 71 communication techniques organised under the headings: initiating the session; gathering information; providing structure; building relationship; explanation and planning; and closing the session. In an updated version of these guidelines, physical examination has been included between ‘gathering information’ and ‘explanation and planning’, and the authors have emphasised that ‘providing structure’ and ‘building the relationship’ are continuous processes throughout the encounter rather than discrete stages ([Kurtz, Silverman, Benson, & Draper, 2003](#_ENREF_140)). Alternative models for physician-patient communication exist and are summarised in Brown and Bylund ([2010](#_ENREF_22)). These models attempt to build patient-centred approaches into the consultation by focusing on the *process* of communication with patients rather than the *content* of the traditional medical history (e.g. chief complaint, medical/family history, etc.). They all follow similar patterns in which the patient’s account and perspective of the problem and background information is sought, following which information is provided and decisions are made. Additionally, all three models emphasise the importance of the beginning and end of the encounter: first establishing rapport and trust, and finally ensuring that the patient understands and is happy with the outcome of the visit. However, there is some disagreement between the models on which are the most important concepts. For example, the SEGUE framework makes no mention of involving patients in decision-making, while this is a key component in other models. These frameworks allow the patient more opportunity to explain their situation in terms of what is most important to them than a structured medical interview in which the physician has a specific set of questions to answer before providing their professional judgement, allowing the consultation to take a more patient-centred focus. However, these models can still be viewed as somewhat simplistic and prescriptive in dictating how a consultation will run. They do not take into account, for example, patients with multiple complaints, or consultations for on-going problems which may each have a different focus, or those in which the primary aim is to provide test results. These models appear to rely on a presumption that a patient will bring a distinct problem, which will be examined and addressed within a single consultation, which is not always the case. By sticking too rigidly to a specific framework of the consultation, physicians may lose some flexibility in responding to the needs of the patient at that time, although the authors of the Calgary-Cambridge guides stress that, “the guides present a repertoire of skills to be used as required, not a list to be slavishly followed in every encounter” ([Kurtz, et al., 2003, pp. 805](#_ENREF_140)).

What these approaches have in common is the notion that the consultation can be split into sections. In the first, the patient tells their story, the physician asks questions and tries to understand the patient’s perspective. Throughout this thesis, this stage of the consultation will be referred to as ‘data-gathering’, as it is the time when the physician gathers the available information. After this (and after examination, if required), the physician will take their turn providing information on diagnosis, prognosis, and treatment recommendations. The patient will be encouraged to ask questions and offer their thoughts on the information provided, and (ideally) a management strategy will be jointly decided upon. For the purposes of this thesis, this stage of the consultation will be referred to as ‘data-giving’, as it involves the giving of information and advice to the patient.

Haidet and Paterniti ([2003](#_ENREF_91)) offer a narrative review on how to “build” a history with the patient rather than “taking” one in the more typical sense during the data-gathering stage. They suggest question-asking mindfulness (asking focused, but not close-ended, questions so as to still allow the patient to reveal their narrative); organisational multitasking (simultaneously mentally reconciling the patient’s narrative with biomedical knowledge while listening to the patient); and use of conversational devices other than questions (such as orientation statements, paraphrasing, reflections, directions, and silence). The aim here is to elicit the patient’s perspective wholly but efficiently, without requiring a large amount of time. However, as with Frankel and Stein’s ([1999](#_ENREF_74)) model, Haidet and Paterniti lack evidentiary backing that their suggestions are indeed effective tools for communicating with patients.

Three key papers offer their input on what constitute key elements of good communication during medical encounters. The first, by Maguire and Pitcheathly ([2002](#_ENREF_164)), is based on original research studies published between 1992 and 2002. The remaining two represent consensus statements by groups of experts in the field. The Toronto Consensus Statement ([Simpson, et al., 1991](#_ENREF_250)) represents a group of 7 researchers from the UK, USA, Canada and South Africa. The Kalamazoo Consensus Statement ([Makoul, 2001](#_ENREF_167)) represents the expert judgement of 21 leaders and representatives from a variety of medical education centres in North America. While there is some variation in their recommendations, there are some key features which all agree are vital to effective physician-patient communication:

* Eliciting patients’ problems and concerns; understanding the patient’s perspective
* Active listening
* Avoidance of interrupting patients
* Summarising, structuring, and clarifying the patients’ narratives
* Sharing information; giving clear explanations
* Using language patients can understand; checking patients’ understanding
* Sharing decision-making about treatment plans, should the patient wish to do so
* Checking that patients are willing and able to follow agreed plans; checking patients’ attention to compliance.

Other features recommended in either one or two of these papers are: using open and closed questions as appropriate; prioritising information by patients’ needs (based on their concerns/beliefs); establishing and maintaining a personal connection, or relationship; and providing support/empathy.

## 2.1.3 Linking Patient-centredness to Outcomes

Having established the key features of delivering patient-centred communication during consultations, the question remains as to whether it provides any tangible benefit to patients. In fact, there is evidence to suggest that communication during medical consultations can have a real and positive effect on patients’ health. As Taylor ([2009](#_ENREF_263)) puts it:

“Perhaps the most convincing explanation for the shift towards patient participation in the consultation is the growing amount of evidence that it ‘works’.” ([Taylor, 2009, pp. 151](#_ENREF_263)).

In a review of 7 studies of mixed methodologies, including cross-sectional, experimental, and RCT designs, which evaluated Nurse Practitioners’ (NPs) communication styles and their impact on outcomes, Charlton, Dearing, Berry and Johnson ([2008](#_ENREF_28)) found that biopsychosocial communication (contrasted with biomedical only) correlated with improved patient satisfaction, adherence, and health outcomes, lending support to the notion that patient-centred consultations do benefit patients. However, a review of 9 studies researching physicians’ patient-centred communication and patient outcomes in primary care found mixed evidence for the link between patient-centredness and satisfaction, and no clear indication of a link with any other outcomes ([Mead & Bower, 2002](#_ENREF_174)). They noted that their studies, though, included a number of methodological issues, many being vulnerable to both type I and type II errors, as well as fewer than half using multivariate analyses.

A more robust meta-analysis ([Zolnierek & Dimatteo, 2009](#_ENREF_300)) of both cohort studies (106) and RCTs (21) into the effects of physician communication on adherence provides more promising results. Of the cohort studies, they found that better physician communication, either in terms of increased task-oriented or psychosocial communication, predicted patients being 2.16 more likely to adhere to treatment, with non-adherence being 1.47 times more likely if the physician was rated (by patients, other health professionals, or independent raters) as having communicated poorly. The evidence from RCTs tells a similar story: if a physician has been trained in communication skills, patients are 1.62 times more likely to adhere (with non-adherence 1.27 times more likely for non-trained physicians). There is evidence, then, that communicating better with patients will lead to improved outcomes. However, what these studies lack is specificity in terms of *which* communication behaviours in particular are beneficial to patients, and *how* communication affects patient outcomes. It is to more specific analyses of individual communication behaviours that we now turn.

# 2.2 Effects of Specific Communication Behaviours on Patient Outcomes

## 2.2.1 How does Physician-patient Communication Affect Patient Outcomes?

For abstract, communication-based concepts, which have no observable physical effect on the cause of symptoms, such as empathy, information provision or shared decision-making, the pathway to improvement in patients’ symptoms is not instantly clear. The mechanisms linking communication during medical encounters to better patient outcomes are particularly important to understand for conditions such as low back pain, where, as we saw in Chapter One, physical causes are hard to pin down and so are hard to prescribe effective treatment for. Illnesses in which symptoms persist with no discernible physical origin are known under the umbrella term Medically Unexplained Symptoms (MUS). Conditions such as chronic fatigue syndrome, irritable bowel syndrome, and fibromyalgia tend to be grouped under this heading, and the uncertain nature of non-specific low back pain, particularly as it reaches chronic stages, shares similar features to MUS (uncertain aetiology and prognosis; symptoms which cause concern or worry; limited effectiveness of interventions; and a focus on management of symptoms rather than cure). In cases such as these, communication from the physician can play a key role or may even be the main intervention offered ([Main, Buchbinder, Porcheret, & Foster, 2010](#_ENREF_165)).

Salmon ([2006](#_ENREF_233)) offers a narrative review of consultations for patients with symptoms which cannot be attributed to physical disease. He proposes that explanations for symptoms given by physicians during consultations which link symptoms to tangible mechanisms, and are framed in terms of patients’ concerns, have the ability to empower patients by giving them the tools to either self-manage (for example through lifestyle changes, relaxation or stress management) or to accept and tolerate the symptoms. The key here, he suggests, is to change patients’ somatic attributions and fears, thereby reducing anxiety and allowing for management of the problem and improved coping.

Vermeire, Hearnshaw, Van Royen & Denekens ([2001](#_ENREF_282)) present another way in which communication may link to patient outcomes: via its effect on adherence to treatment recommendations. The use of the term ‘adherence’ has replaced the formerly common ‘compliance’ in recent medical literature, as it “reduces attribution of greater power to the doctor in the doctor-patient relationship which the term compliance brings.” ([Vermeire, et al., 2001, pp. 333](#_ENREF_282)), but both broadly refer to the extent to which a patient follows physicians’ advice about a particular treatment plan. By following the advice, the patient experiences the intended therapeutic effect and shows improvement. Vermeire and colleagues review evidence from a comprehensive literature search of review articles and “studies of good methodological quality” (although the authors do not explain on which criteria this is based) on compliance/adherence, physician-patient communication, and patient outcomes. While they summarise that no specific factor consistently and completely predicts adherence, there are some which have been found to enhance it. The key points for physicians to address when discussing management plans with patients are recall and understanding of recommendations, and patients’ knowledge and beliefs about the treatment and how it links to their problem ([Vermeire, et al., 2001](#_ENREF_282)). This suggests a mechanism whereby patients are more likely to adhere to a treatment if they understand how it will help them, believe it will help them, and remember the specific instructions associated with it given by the physician. The physician, then, can aim to ensure that these tasks are accomplished through their discussion with the patient.

A conceptual review by Street, Makoul, Arora and Epstein ([2009](#_ENREF_260)) covers the pathways linking communication to outcomes more comprehensively. They distinguish between direct and indirect pathways linking the two. As an example of direct influence, they suggest that psychosocial talk from the physician can improve psychological well-being, decrease arousal and pain, lessen anxiety and provide comfort. Most communication, though, will have a more indirect effect. For this we need to take into account proximal outcomes (understanding, satisfaction, motivation, etc.), which may impact on health outcomes either directly or via intermediate outcomes (self-management, adherence, social support, etc.). Figure 2.1 is reproduced with permission from Street et al.’s 2009 paper, and displays these pathways and how they link with one another. The authors elaborate further, offering seven specific pathways through which physician-patient communication can contribute to improved health. These are as follows:

1. *Access to care* which is provided or recommended by the physician.
2. *Patient knowledge and shared understanding*. For patients, having knowledge about their illness and treatment will allow for informed decision-making. For physicians, understanding their patient’s perspective will allow tailoring of recommendations.
3. *Enhancing the therapeutic alliance* which includes positive relationships between patient, physician, and other sources of social support. This can promote emotional well-being as well as impacting patient trust in the physician, satisfaction and commitment to treatment plans.
4. *Enhancing patients’ ability to manage emotions* can give them a greater sense of control and ability to manage uncertainty, as well as reducing anxiety and depression and enabling patients to find an improved quality of life.
5. *Improving family and social support* is important in improving emotional well-being and providing patients with instrumental help with managing their problem. Physicians can be a source of social support, as well as discussing with patients their support networks and how to strengthen them.
6. *Enhancing patient empowerment and agency,* allowing them to become more active in managing their own health, cope with complications, and adhere to treatment.
7. *Higher quality decisions* can be made if the patient and physician have effectively shared information – the former about their experience and feelings of the illness, the latter his or her biomedical knowledge and clinical judgement. If decisions are made which both agree on and the patient is able to incorporate into their lifestyle, patients will more likely experience improved health.

As can be seen from these pathways, a number of elements of communication are required, which in many cases inter-link and overlap. For example, achieving higher quality decisions relies on information exchange in which the physician has elicited the patient’s concerns and beliefs. This in itself may not have been possible had a therapeutic alliance not been established, as the patient may not have trusted the physician enough to open up to them. We will now look at the individual elements of effective physician-patient communication in more detail, in an attempt to unravel which communication behaviours are truly beneficial, how to implement them, and how they are related.

## Street 2009 Figure 1.jpg

Figure 2.1 Direct and indirect pathways from communication to health outcomes. Reproduced with permission from Street, et al. (2009).

## 2.2.2 Relationship-building

Studies into physician-patient relationships tend to focus on two main aspects: affiliation and control. Affiliation refers to friendliness and cooperation, whereas control is more concerned with who dominates or takes charge of the interaction ([Kiesler & Auerbach, 2003](#_ENREF_132)). Roter ([2000](#_ENREF_226)) suggests 4 prototypes for such relationships in terms of the power dynamics involved. Traditionally, medical care was paternalistic – physicians were in a position of high power, patients of low power. As a result, the physician occupied a ‘guardian’ role, and was responsible for the decisions made during the consultation. However, since the advent of patient-centred care, patient power in consultations has increased. This can lead to one of two prototypes: consumerism, whereby the patient sets the agenda and the physician acts as little more than a technical consultant; or mutualism, whereby control is shared, goals and agenda are negotiated, and the physician takes on more of an advisory role. The final mode suggested by Roter is that of default, in which neither participant takes control during the encounter, such as when patient and physician are at odds with one another, which makes for frustrating and unproductive consultations for all involved. The optimal relationship, in terms of getting the best from both patient and physician, seems to be mutualistic ([Roter, 2000](#_ENREF_226)). Roter suggests that reaching a partnership in this way can be achieved by physician strategies of enlistment (the active facilitation of patient input) and lowered dominance (the assuming of a less controlling or dominant role). Further to this, Kiesler and Auerbach ([2003](#_ENREF_132)) suggest in their narrative review that there is a level of what they call ‘complementarity’ in the relationship dynamics at play during consultations. Specifically, affiliation behaviours from the physician will elicit comparable affiliation behaviours from the patient, whereas control behaviours tend to work on a system of reciprocity in which dominance in one elicits submission in the other and vice versa. This model, known as the ‘interpersonal circumplex’ is based on research into personality, psychopathology, and psychotherapy, and has been applied more recently to medical interactions. A strength of this model is that it takes into account the patient’s role in interactions, where often research focuses only on the physician’s behaviour. The interpersonal circumplex and the notion of complementarity allow for the fact that physician-patient relationships are two-way interactions in which the behaviour of one will influence the responses of the other, such as a physician adopting a more paternalistic style when meeting a submissive patient, or following the patient’s lead during decision-making when they are more dominant. This suggests a need for physicians to be aware of their control and affiliation behaviours and how they will impact patients’ behaviours during consultations. However, the conceptualisation of physician-patient relationships in terms of affiliation and control is somewhat reductionist, and does not offer insight into the myriad ways in which trust and rapport can be built and maintained. Empathy, social conversation, emotional support, expressions of shared interests, attentiveness, and many more behaviours implicated in fostering a therapeutic alliance (e.g. [Fassaert, van Dulmen, Schellevis, & Bensing, 2007](#_ENREF_69); [Mead, Bower, & Hann, 2002](#_ENREF_175); [Phillips, Leventhal, & Leventhal, 2012](#_ENREF_200); [Shaw, et al., 2011](#_ENREF_246); [van Dulmen & van den Brink-Muinen, 2004](#_ENREF_278)) become subsumed under the heading ‘affiliation behaviours’, and acts such as physicians explaining the available evidence for one or more treatment plan or patients asserting their preferences for certain treatments are considered as simply acts of either participant asserting dominance within the consultation. Studying only these categorisations would inevitably mean that important facets of the way in which patients and physicians interact with one another are lost.

Continuity of care, a longitudinal relationship between patients and their physicians, is a key feature of primary care models ([Saultz, 2003](#_ENREF_239)) and is of particular importance to those with on-going illnesses ([Nutting, Goodwin, Flocke, Zyzanski, & Stange, 2003](#_ENREF_181); [von Bultzingslowen, Eliasson, Sarvimaki, Mattsson, & Hjortdahl, 2006](#_ENREF_284)). In interviews with 14 people with chronic diseases (including low back pain sufferers) in Sweden, von Bultzingslowen, et al. found that the main reason patients expressed strong preferences for seeing the same physician was a sense of security, based upon having increased confidence in care, a trusting relationship, more coherence and improved accessibility. In conditions marked by high levels of uncertainty such as low back pain, a relationship which provides a sense of security may help to reduce anxiety, as patients can feel secure that their physician knows their history and their preferences and is there to support them. Analysis of data from the 2009/10 General Practitioner Patient Survey, with responses from 2,169,718 primary care patients in the UK, found that 62% reported a preference for seeing a particular physician, and that 72% were successful in seeing the physician they preferred ([Aboulghate, et al., 2012](#_ENREF_1)). Success in seeing a preferred physician was higher for males, older patients, those with chronic conditions, white patients and those living in more affluent areas. Patients requesting urgent appointments showed less preference for seeing a particular physician, but were less successful in doing so when they did express a preference than those who made appointments in advance.

In a systematic review of 48 studies examining factors affecting unscheduled use of secondary care (emergency departments), continuity of care as measured by seeing the same family or specialist physician was consistently found to reduce attendance at emergency departments ([Huntley, et al., 2014](#_ENREF_117)). Improved continuity of care was also associated with reduced emergency hospital admissions in this study, although with less consistent findings. Continuity of care was the main feature of primary care that was consistently associated with unscheduled secondary care use. However, the majority of studies in this review were cross-sectional in design, and so a causal link between an inability to see a preferred physician and use of emergency care cannot be drawn. Hsiao and Boult ([2008](#_ENREF_113)) review 14 articles examining the effect of personal aspects of care quality and outcomes in primary care. The results showed that greater continuity, in terms of seeing the same physician at repeated office visits, was associated with reduced hospitalisation, emergency department usage and health care costs. No conclusive link was found with patient health status, however adjustment for baseline morbidity was not reported or not effectively carried out in most of the studies, which may have greatly confounded the results, as recovery patterns are expected to differ between different medical complaints as a matter of course. Additionally, Hsiao and Boult’s studies included mainly populations of people with chronic disease, who would not be expected to ‘recover’ in the same sense as people with acute illnesses. The use of these populations also calls into question the generalisability of their results – chronic disease-management is an ongoing process, for which sufferers generally do have to make repeated consultations and for which continuity is likely to be of greater benefit as the consulting physician will know the patient and their disease more intimately. Continuity may not be as important in the case of acute illness, although fostering a positive therapeutic within each consultation may still be of benefit.

A systematic review of 13 prospective cohort studies in physical rehabilitation found that for patients with musculoskeletal problems (6 studies), alliance between patient and practitioner was associated with improved pain, function, satisfaction, general health status, and perceived effect of treatment. However, this again studied patients with chronic conditions in ongoing treatment programmes and so may not be generalisable to the wider general practice population ([Hall, Ferreira, Maher, Latimer, & Ferreira, 2010](#_ENREF_92)). In a meta-analysis with wider coverage of physician behaviour in medical encounters, Hall, Roter and Katz ([1988](#_ENREF_93)) reviewed 41 studies linking communication to outcomes, 54% of which were based in primary care. They found that partnership-building, defined in terms of enlisting patient input and taking a less dominant role on the part of the physician, showed significant relationships with satisfaction (combined z = 4.19, p<0.0001) and patients’ recall/understanding (combined z = 3.50, p<0.001). In addition, both the Toronto and Kalamazoo consensus statements advocate for building relationships as key consultation skills for physicians ([Makoul, 2001](#_ENREF_167); [Simpson, et al., 1991](#_ENREF_250)), and establishing a therapeutic alliance may be vital to gaining patients’ trust and allowing them to tell their story during the consultation ([Street, et al., 2009](#_ENREF_260)).

## 2.2.3 Eliciting Patients’ Concerns, Beliefs, and Expectations

A large part of patient-centred care is giving patients the time and space to tell the narrative of their illness and its associated meanings for them, including their fears and expectations ([Levenstein, et al., 1986](#_ENREF_147)). By understanding the patient’s view, the physician can tailor the information he or she provides, and attempt to address concerns and correct misconceptions, as well as offering informed management options which are suitable to the patient’s personal as well as medical needs ([Gask & Usherwood, 2002](#_ENREF_78); [Haidet & Paterniti, 2003](#_ENREF_91)). Haidet and Paterniti ([2003](#_ENREF_91)) advocate for ‘building’ a history, rather than ‘taking’ one, emphasising the physician’s role in facilitating patient expression and using guided questioning to allow patients to explore their feelings. To do this, they suggest that physicians must adopt three core practices: question-asking mindfulness (asking appropriate, focused but open-ended questions); organisational multitasking (simultaneously reconciling their biomedical knowledge with the patient’s story while still listening to the patient); and using conversational devices other than questioning (such as orientation statements, paraphrasing, reflecting, directives and silence). Use of these communicative devices will allow for a fuller understanding of the patient’s situation, and will aid the physician later in his or her assessment of how it can best be managed. Another factor which is oft-mentioned is avoiding interrupting patients while they are explaining their problem ([Main, et al., 2010](#_ENREF_165); [Makoul, 2001](#_ENREF_167); [Simpson, et al., 1991](#_ENREF_250)). While interrupting may be seen as a time-saving device by busy physicians who wish to direct patient exposition and ask specific questions about the medical problem, it may in fact cause more problems than it solves. Langewitz et al. ([2002](#_ENREF_144)) measured the length of time 335 patients talked for during consultations at an outpatient clinic when they weren’t interrupted by their doctor. The mean time was 92 seconds, and 78% of patients had finished within 2 minutes. Additionally, in their qualitative analysis of 302 primary care consultations, Robinson and Heritage ([2005](#_ENREF_223)) found that when physicians made attempts to interrupt or foreclose patients’ explanations, the patients tended to orient the conversation back to what they had wanted to say anyway. It seems, then, that being able to tell their story in their own way is important to patients and should be facilitated, rather than hindered, by the physician.

Also important to establish early in the consultation are the patient’s expectations and preferences for the consultation itself. Patients can consult for a number of reasons:

“even a patient with ‘uncomplicated’ back pain may be seeking cure or symptom relief, seeking diagnostic clarification, seeking reassurance, seeking ‘legitimisation’ of symptoms (for a variety of reasons) or even just wishing to express distress, frustration or anger. It is therefore important to identify the patient’s beliefs and clarify his/her expectations of the consultation from the outset.” ([Main, et al., 2010, pp. 221](#_ENREF_165)).

By asking the patient what they are hoping for, the physician can, again, tailor his or her explanations and recommendations. For conditions such as low back pain, where a ‘cure’ is commonly not an option, it may help to relieve some pressure on physicians to know in advance that their patient is not expecting one. Alternatively, if the patient is seeking a cure, the physician can spend more time explaining why this may not be possible. Patients also bring an individual set of preferences to consultations, such as for the amount of information they want, how involved they want to be in decision-making, or the kind of interpersonal behaviours they would like from the physician, although they may not be consciously aware of some of them ([Kiesler & Auerbach, 2006](#_ENREF_133)). There is a suggestion that, rather than rigidly adopting the same consulting style for all patients, physicians could be trained to be flexible in their approach based on what the patient prefers. In this way, physicians’ consulting styles will be ‘matched’ to patients’ preferences. In a review of 23 studies relating to adult patients’ expectations for the consultation, Rao, Weinberger and Kroenke ([2000](#_ENREF_216)) found that primary care physicians are generally not good at recognising patients’ expectations. While patients tend to want information, physicians believed that actions (test-ordering; prescriptions; referrals) were more in demand. Interventions in these studies which provided physicians with patients’ expectations prior to consultations were effective in reducing unmet expectations and improving satisfaction, suggesting that physicians being aware of patients’ preferences can help them to adapt their consulting style accordingly. Further to this, in a systematic review of 69 studies either describing the match between patient preferences and interactions or examining how the degree of preference-match was associated with patient outcomes, it was found that when patients’ preferences for information and interpersonal behaviours matched the care that they actually received, outcomes were significantly improved ([Kiesler & Auerbach, 2006](#_ENREF_133)). The authors suggest options based on this for routine assessment of patients’ preferences, with matching measures in place to align patients’ and physicians’ expectations for consultations. It is important to note that this may, in fact, mean providing more paternalistic care if that is what patients want. Although paternalism flies contrary to the aims of patient-centredness, Taylor suggests that:

“It could be stated then that *truly* patient-centred communication means being aware enough to recognize the preferred style of the patient and adaptive enough to respond accordingly.” ([Taylor, 2009, pp. 152](#_ENREF_263)).

## 2.2.4 Empathy and Affective Behaviours

Linked heavily to building relationships and eliciting patients’ concerns is the notion of empathy. Ong, de Haes, Hoos and Lammes define it as follows:

“empathic doctor-patient relations consist of: eliciting feelings, paraphrasing and reflecting, using silence, listening to what the patient is saying, but also what he is unable to say, encouragements and non-verbal behaviour” ([Ong, de Haes, Hoos, & Lammes, 1995, pp. 904](#_ENREF_185)).

In this definition, the emphasis is again placed on eliciting and understanding the patient’s full range of thoughts and feelings about their problem. A model proposed by Norfolk, Birdi and Walsh ([2007](#_ENREF_180)) takes this further, suggesting that there are four components to developing therapeutic rapport through empathy in clinical consultations. First, the physician must be motivated to empathise. This may arise naturally, through cognitive factors such as curiosity, or affective factors such as innate warmth towards people, or may have to be a conscious effort made in the spirit of professional commitment to the patient. Following this, the physician must possess and utilise empathic skills in order to first attend to clues from the patient about their thoughts, feelings and expectations, and then build perceptions about them. Following this, communication skills are required in order to demonstrate empathy to patients, and assure them that the physician has listened and understood. These skills act first to facilitate the patient’s disclosure of their thoughts and feelings, and secondly to determine whether the doctor has formed accurate empathic perceptions. Finally, empathic understanding may be achieved and employed to provide support to the patient and build a relationship. At any stage in this process, external factors attributable to the doctor, patient or environment may influence the physician’s ability to fulfil his or her empathic role fully, for example physician or patient’s mood, or number of patients waiting at the practice. Norfolk et al. validated their model in qualitative discussions with practitioners (6 GPs and 6 clinical psychologists) who reported that the model was useful to them in helping to articulate their previously held views on the role of empathy in consultations. Empathy is also widely recommended by other authors: as part of the Toronto consensus statement ([Simpson, et al., 1991](#_ENREF_250)); as the third ‘habit’ in Frankel and Stein’s Four Habits Model, for which they recommend conversational devices utilising reflection, legitimation, support, partnership and respect ([Frankel & Stein, 1999](#_ENREF_74)); and as a skill needed to perform key communication skills ([Maguire & Pitceathly, 2002](#_ENREF_164)).

Linking empathy to outcomes is tricky as it encompasses a range of behaviours, many of which are difficult to capture by measurement, and so may be defined differently by different researchers. In their review of doctor-patient communication literature, Ong et al. ([1995](#_ENREF_185)) report on non-verbal expressions of empathy, in the form of physical immediacy, and find evidence that it is associated with improved patient satisfaction and understanding. Touching, however, had the opposite effect, suggesting that physicians may need to balance the desire to express empathy non-verbally with respect for patients’ private space. In another review, Williams, Weinman and Dale ([1998](#_ENREF_296)) found that while expressions of negative affect on the part of the physician reduced patient satisfaction, positive verbal- and partnership-behaviours improved it. Finally, Roter ([2000](#_ENREF_226)) report that physician expressions of support and empathy have been linked to both symptom resolution and reduced psychological distress. However, none of these reviews was systematic nor specifically focused on empathy – rather, they are all narrative reviews of physician-patient communication in general.

A 2013 systematic review defined the core elements of empathy as,

“the competence of a physician to understand the patient’s situation, perspective, and feelings; to communicate that understanding and check its accuracy; and to act on that understanding in a helpful therapeutic way.” ([Derksen, Bensing, & Lagro-Janssen, 2013, pp. 76](#_ENREF_48))

These authors examined 7 studies relating to empathy in general practice, of mixed qualitative and quantitative designs, including 3 RCTs and 1 prospective cohort study. They found that empathy (as rated by patients or observers, or measured by physician self-report) during consultations helped patients to describe and make sense of their problem, improved patient satisfaction and enablement, reduced anxiety (although it is not stated how long after the consultation this was measured), and improved clinical outcomes such as diabetic patients’ blood results and duration of the common cold ([Derksen, et al., 2013](#_ENREF_48)). They conclude that empathy in patient-physician communication in general practice is ‘of unquestionable importance’.

## 2.2.5 Information-giving

Maguire and Pitceathly ([2002](#_ENREF_164)) list giving information as a key skill for physicians. The final, data-giving stage of the consultation (following data-gathering and examination if required) is generally considered to be when physicians report back to patients on their diagnosis, prognosis, and recommendations. While this may sound straightforward, it is important that information is presented to patients in a way which is both understandable and acceptable to them. Maguire and Pitceathly recommend using knowledge of patients’ beliefs and what they would like to know to prioritise which information is given to them. Also emphasised is checking that the patient understands the information, and encouraging any questions they may have about it ([Maguire & Pitceathly, 2002](#_ENREF_164); [Makoul, 2001](#_ENREF_167)). For Epstein ([2006](#_ENREF_64)) the purpose of information is to help patients to cope with uncertainty: addressing the gaps in their knowledge and providing information that is specific to the patient will help to do this.

As discussed on Page 60, physicians are not always good at estimating how much information patients desire ([Rao, et al., 2000](#_ENREF_216)). Coulter, Entwistle and Gilbert ([1999](#_ENREF_38)) conducted focus groups with patients suffering from a variety of conditions (one of the groups consisted of patients with back pain) in which the patients were asked to comment on information materials provided by a number of health and social services. A consistent finding was that patients wanted as much information as possible. In particular, patients wanted to know about the natural history of their disease, side effects and pros and cons of treatments, and the full range of treatment options available to them – information which many felt had not been provided to them by their physicians. In terms of tone, patients preferred facilitative information which gave them a sense of empowerment over didactic or patronising information which gave a sense of ‘doctor knows best’. While this study used information materials as its focus rather than information presented at consultations, its findings may still be used to inform the way in which physicians present information to their patients. Coulter et al. also provide their findings on *why* patients need information:

* To understand what is wrong
* To gain a realistic idea of prognosis
* To make the most of consultations
* To understand the processes and likely outcomes of possible tests and treatments
* To assist in self-care
* To learn about available services and sources of help
* To provide reassurance and help to cope
* To help others understand
* To legitimise seeking help and their concerns
* To learn how to prevent further illness
* To identify further information and self-help groups
* To identify the “best” healthcare providers

([Coulter, et al., 1999](#_ENREF_38))

With such a wide list of reasons, Makoul’s ([2001](#_ENREF_167)) advice to encourage questions and incorporate knowledge of the patient’s concerns and needs may help physicians to save time by addressing patients’ personal reasons for wanting specific information.

Epstein, Alper and Quill ([2004](#_ENREF_65)) conducted a systematic review looking into how to clearly communicate clinical evidence to patients, which can be tricky due to, for example, the different ways in which people interpret risk statistics. They suggest describing benefits and harms in general conceptual terms; incorporating personal information (such as family history) when presenting numerical translations of evidence; using graphical representations to facilitate understanding; and decision-aid programs which can be used in choosing between treatments. However, the evidence presented in this review did not offer links to patient outcomes, so it is still unclear how different presentations of clinical evidence may affect patients. The authors also noted that patient characteristics influenced how they interpreted such information, such as age and educational level, and so tailoring information to individual patients is again recommended.

Provision of information has been linked to positive patient outcomes in many reviews ([improved satisfaction, recall, compliance and health status in Ong, et al., 1995](#_ENREF_185);  [and improvements in satisfaction in Williams, et al., 1998](#_ENREF_296)), and a meta-analysis of 41 communication studies found that information provision improved satisfaction, understanding, and recall ([Hall, et al., 1988](#_ENREF_93)). However, again, these reviews are all studies of general physician-patient communication, rather than focusing on information-giving in itself, and none offer any specificity in what kind of information was provided or how. There is a need for more focused study, to establish the effects of different types and presentations of information on patient outcomes.

## 2.2.6 Shared Decision-making

Decision-making in medical encounters exists on a spectrum, ranging from paternalism to informed choice ([Elwyn, Edwards, & Kinnersley, 1999](#_ENREF_62)). In the former, the decision is made by the physician, and in the latter by the patient. Between the two lies shared decision-making, in which both participants have an input, and a decision is reached through negotiation and agreement. Elwyn et al. define shared decision-making by the following characteristics:

“

* Shared decision-making involves at least two participants – the doctor and the patient – and often many more (their respective networks of family or professional colleagues).
* Both parties (doctors and patients) take steps to participate in the process of treatment decision-making.
* Information sharing is a prerequisite to shared decision-making.
* A treatment decision (which may be to do nothing) is made, and both parties agree to the decision.”  
  ([Elwyn, et al., 1999, pp. 478](#_ENREF_62)).

Components of shared decision-making include providing information, questions from the patient, willingness to share decisions, and agreement about the problem and the plan. According to Epstein and Peters ([2009](#_ENREF_67)) preferences for treatment options can be constructed with patients during consultations, as opposed to always being present in the patient from the start. There is a chance that physicians might adopt a process of ‘libertarian paternalism’ in which they influence patients’ preferences while leaving the ultimate decision to the individual. Epstein and Peters suggest that physicians must “balance sins of commission (unduly influencing patients’ decisions) and sins of omission (allowing patients to misunderstand or consider an incomplete option set)” (pp. 196-197). In their systematic review about communicating clinical evidence, Epstein et al. ([2004](#_ENREF_65)) offer five steps to providing enough information for patients to make decisions. After understanding the patient’s experience and building partnership (steps 1 and 2), physicians should provide evidence, in the appropriate format for the patient, with a balanced discussion of uncertainties. Next, once the physician has integrated the evidence with the patient’s values, recommendations can be presented with an explanation of how he or she has come to them. Finally, and importantly for shared decision-making, physicians must check for understanding and agreement. If the patient does not agree with the recommendations, the physician must be flexible in his or her approach and open to re-considering the options. In terms of what information patients desire in order to participate in decisions about their care, Coulter et al. ([1999](#_ENREF_38)) found that they want to hear the full range of options, including complementary therapies or counselling. Patients who had heard about treatments but weren’t offered them found the omissions frustrating, suggesting a need for physicians to check with patients what ideas they have about treatment options before presenting recommendations and explaining the rationale behind them.

Salmon and Young ([2005](#_ENREF_236)) offer a word of warning regarding shared decision-making: for some patients, the choice and responsibility involved are unwelcome and can be perceived as a burden. When patients are experiencing illness, it puts them in a vulnerable position and for some this can lead to a sense of dependence: for these patients, being offered a choice of treatment options may be overwhelming. Again, this speaks to a need to elicit patients’ emotions and preferences early in the consultation, and to be aware of cues to them which the patient may not have articulated. As Taylor ([2009](#_ENREF_263)) pointed out, for some patients paternalism is the desired consulting style, and a truly patient-centred approach allows for this to be an option for them. Other obstacles to shared decision-making may be that there is a lack of training, information or skills available to the physician; it threatens the power balance between doctor and patient; or that it takes time ([Elwyn, et al., 1999](#_ENREF_62)), although in Mauksch’s ([2008](#_ENREF_171)) analysis of efficiency in the medical encounter, if time is allocated for sharing decisions and the physician and patient don’t try to attend to too large a number of problems in one consultation, it becomes more efficient and manageable.

In a systematic review of 11 studies, Joosten et al. ([2008](#_ENREF_126)) found inconclusive evidence for the effect of shared decision-making on general outcomes, well-being, adherence and patient knowledge. However, the study settings and measures of shared decision-making used in the studies were very heterogeneous, which may have had an impact on the findings. Indeed, the reviewers observed that outcomes were significantly improved in studies whose shared decision-making intervention consisted of more than one session or involved patients making longer-term decisions. They suggest that a longer interaction may be necessary to enable patients to participate effectively in their treatment decisions. In contrast, Arbuthnott and Sharpe ([2009](#_ENREF_7)) reviewed 48 studies in non-psychiatric settings and found a small but significant effect size for physician-patient collaboration and adherence (Md = 0.145, 95% CI: 0.125-0.165, p < 0.001). Further, the effect remained significant in primary care settings and in samples of patients with acute illnesses. There is evidence, then, that shared decision-making can be beneficial to patients even in single consultations.

## 2.2.7 Reassurance

There are several definitions and approaches to reassurance in the literature on health in general, and back pain specifically. Reassurance is defined as “the restoration of confidence” by Buchsbaum ([1986](#_ENREF_23)) and incorporates a number of the factors already covered. As discussed in the previous chapter, reassurance provided during low back pain consultations may address patients’ concerns, lessen their anxiety and promote better coping behaviour, leading to reduced risk of chronicity. Prior to delivering reassurance, Buchsbaum recommends uncovering personal meaning of the illness to the patient and conveying empathy. When attempting to reassure, physicians should address patients’ informational needs in order to tackle uncertainty and fear, and provide a clear message. This means aligning verbal and non-verbal cues with one another, so that the patient doesn’t hear the physician say one thing but read another in his or her body language. The aim is to reduce uncertainty and assure the patient that the situation is manageable ([Buchsbaum, 1986](#_ENREF_23)).

Kathol ([1997](#_ENREF_127)) offers a perspective on reassurance with patients who present with idiopathic symptoms (an alternative term for MUS). He suggests that the aims of reassurance in this situation should be to restore patients’ confidence that they have no serious disease and that their symptoms will improve without complication. Critical steps in achieving this, according to Kathol, are:

1. Questioning and examining the patient, which shows concern and understanding. Questioning should try to encompass depression and anxiety, as these can be contributing factors.
2. Assure the patient that there is no serious illness. It is best to use non-specific terms in doing this, as labels may have personal meanings to patients which can increase, rather than allay, their anxiety.
3. Suggest that symptoms will resolve, and offer a timetable for this appropriate to the length of current symptoms.
4. Advise return to normal activity without fear of worsening symptoms.
5. Consider non-specific treatment, such as medication, exercise, or lifestyle changes, and emphasise that this is for symptom improvement rather than indicating underlying disease.
6. Follow the patient through their problem. Scheduling routine follow-up appointments assures the patients that the physician cares and avoids them feeling abandoned.

However, these recommendations are not evidence-based, and in some cases could fail to reassure, or even increase worry, for patients. For example, the use of non-specific terms when telling a patient that they have no disease is problematic, because patients have been known to interpret such terms more negatively than physicians intend them ([Barker, Reid, & Minns Lowe, 2009](#_ENREF_15)). Kathol himself points out that non-specific diagnoses can carry special meaning for patients based on their prior experiences with the terms (e.g. friends or family with the same diagnosis), and so can increase worry if they are associated with negative outcomes ([Kathol, 1997](#_ENREF_127)). Secondly, suggesting that symptoms will resolve, and how soon they should do so, is problematic within non-specific conditions, because symptom resolution is not guaranteed and timelines for recovery are highly unpredictable. As discussed in Chapter One, low back pain is often a recurrent problem, with more than half of sufferers expected to experience repeated episodes ([Kent & Keating, 2005](#_ENREF_129); [Pengel, et al., 2003](#_ENREF_197)). It may alarm patients more that their pain persists, having been told by a physician that their symptoms will resolve, than if the physician had fostered realistic expectations in the first instance. Finally, scheduling routine care contradicts the goal of self-management for patients with low back pain, and risks fostering a dependence on medical professionals which would place a large burden on health services. Evidence from the IMPaCT Back Study ([Implementation to improve Patient Care through Targeted treatment for back pain, Sowden, et al., 2012](#_ENREF_253)) suggests that minimal care, involving reassurance about the benign nature of back pain and simple advice on pain management, without onwards referral, is sufficient for low-risk patients. Warwick and Salkovskis ([1985](#_ENREF_290)) also warn of the perils of poorly-handled reassurance, in that it can create dependency as patients rely on physicians to allay their anxiety whenever it rises. Reassurance must instead achieve the goal of relieving patients’ anxiety in the long-term, then, so that they are able to cope on their own outside of the consultation.

Linton, McCracken and Vlaeyen ([2008](#_ENREF_157)) provide a topical review of reassurance in the treatment of pain. They emphasise that information given in explanation of pain symptoms must relate to patients’ concerns, and link to physical as well as psychological (if applicable) variables. If information is not presented as part of reassurance (for example if the physician just tells the patient “it doesn’t sound serious”), the patient experiences this as dismissive and will generally assert their concerns more forcefully. They also report evidence that reporting negative tests may only have a short-term positive effect, if any at all. Page and Wessely ([2003](#_ENREF_189)) also caution against unnecessary referrals, tests, and labelling. While ordering tests may appear to be a way to legitimise patients’ symptoms, and reporting negative results a way to emphasise a lack of disease, they were found in a systematic review of 5 RCTs to have no reassuring effect, and to actually increase symptoms and disability levels compared to controls at 3-month follow-up ([van Ravesteijn, et al., 2012](#_ENREF_280)). Linton, et al. ([2008](#_ENREF_157)) conclude, crucially, that a sound theory of reassurance is lacking, but is needed as a step to reducing the adverse effects of poor reassurance, and that “general recommendations for reassurance appear premature, and a better understanding is needed.” ([Linton, et al., 2008, pp. 7](#_ENREF_157)).

Coia and Morley ([1998](#_ENREF_32)) offer such a theory, based in research on persuasive communication. It is this theory which will be examined and tested in this thesis. Despite being published almost 20 years ago, this paper has gone largely unnoticed within the literature on physician-patient communication. It is based in theories and research on persuasive communication, which are applied to the consultation by re-framing reassurance as a process in which the physician attempts to persuade the patient that they have no reason to be concerned. The authors posit that if an attempt at reassurance is not sufficiently persuasive, it will not be effective, which could go some way to explaining why unsuccessful reassurance is so often still reported ([Linton, et al., 2008](#_ENREF_157)). Importantly, this theory not only discusses the emotional demands of reassurance (to reduce fear and worry), but also tackles the cognitive requirements. Patients each come to a consultation with specific cognitions about their illness ([Giroldi, et al., 2014b](#_ENREF_83)), and Coia and Morley emphasise that unless these are tackled through reassurance strategies, fear and worry will return and any attempted reassurance will fail. They begin by distinguishing between illness (a psychological state corresponding to a set of cognitions about disease) and disease (a physical entity), and assert that reassurance “aims to reduce patients’ illnesses rather than cure sufferers’ diseases” (pp. 378). Secondly, they make a distinction between affective reassurance, which can be verbal or non-verbal and intends to emotionally reassure patients directly, and cognitive reassurance, which is persuasive and indicates the absence of medically relevant disease. Non-verbal elements of affective reassurance include the physician appearing strong, dependable and unflustered by the patient’s problem. Verbal statements of affective reassurance aim to directly comfort patients emotionally, such as by telling them not to worry. Cognitive reassurance, on the other hand, is more laborious and involves persuading patients that disease is not present by providing poor evidence of disease and good evidence of no disease. For example, ruling out one or more suspected diseases, reporting negative tests where applicable, and providing convincing non-disease explanations of symptoms. Ambiguity must be reduced in order for cognitive reassurance to be effective. Coia and Morley give the example of telling a patient that ‘it’s probably stress’ labels the problem without explaining, and so will leave the patient with unaddressed uncertainty.

Coia and Morley ([1998](#_ENREF_32)) explore two cognitive processing models to explain how reassurance can be persuasive during medical consultations. The parallel response model ([Leventhal, 1974](#_ENREF_148)) separates cognitive from emotional representations of danger (in this case the possibility of disease). Evidence shows that anxiety levels both during and straight after a persuasive communication can have inverse effects in the long-term, as people use avoidance strategies to reduce fear, and so feel better, in the short-term without changing their cognitions about the danger. There is also a problem of the contagion effect, which habitual reassurance-seekers are particularly prone to. This effect occurs when a person acquires the mood of another person that they are in contact with. Coia and Morley suggest that affective reassurance may provide a form of the contagion effect, in that by the physician being calm and not anxious, the patient becomes so too. As their anxiety has already lessened, then, they have experienced short-term benefit without the long-term gain of altered illness cognitions. The dual process model of persuasion ([Petty & cacioppo, 1986](#_ENREF_199); [Schwartz, Bless, & Bohner, 1991](#_ENREF_243)) distinguishes between systematic and heuristic processing. Systematic processing involves effortful analysis of the message being presented, whereas heuristic processing is more rapid and leads to consideration of only part of the message. The dual process model suggests that heuristic processing will induce larger and faster persuasion, but it will also be less stable over time. Systematic processing, on the other hand, results in opinion changes which are more reflective of the content of the persuasive message, and better recall of the message itself. There is also a strong association between emotion and which processing style is employed. Systematic processing is associated with negative affect, and heuristic processing with positive affect. Affective reassurance, then, which will make the patient feel better immediately during the consultation, may induce heuristic processing of the persuasive non-disease message and leave patients with little recall of the message content and unable utilise it to cope outside of the consultation. This is labelled a ‘transient-beneficial’ response, as patients can re-evaluate their health after the consultation, and may indeed still be experiencing the symptoms they presented with, but without having changed their illness perceptions and without the physician there to reassure them again, the concerns and fears they came in with will return.

If correct, the implications of this model are that affective reassurance should be avoided while cognitive reassurance is being delivered: “this means withholding [physicians’] ubiquitous and largely nonverbal attempts to provide emotional reassurance to patients.” ([Coia & Morley, 1998, pp. 384](#_ENREF_32)). However, the evidence presented in this chapter suggests that affective behaviours (relationship-building; empathising; listening to patients’ concerns, etc.) are not only important to patients, but are associated with improved outcomes, and are important in gaining patients’ trust and eliciting their full range of thoughts and feelings, which allows the physician to provide relevant and individualised information (cognitive reassurance). It may be the case, then, that it is neither possible nor advisable to exclude these behaviours from the consultation entirely. Instead, Coia and Morley’s approach will be adapted in this thesis to suggest that affective behaviours should be limited to the data-gathering stage of the consultation, to facilitate patient exposition and allow the physician to understand the whole story. During the data-giving stage, when the physician is providing the persuasive cognitive reassurance which patients need to fully engage with in order for it to benefit them after the consultation, affective reassurance should be avoided.

Blasi, Harkness, Ernst, Georgiou and Kleijnen ([2001](#_ENREF_19)) conducted a systematic review looking into cognitive and affective communication during consultations and their respective effects on outcomes. They included 25 trials, among which the most frequent disorders studied were hypertension and pain. While they found limited evidence for the effectiveness of either component on their own, interventions which included a combination of cognitive and emotional care were found to significantly decrease pain and increase recovery. While this evidence seems to contradict Coia and Morley’s theory, there are some methodological issues which may have influenced the findings. Firstly, interventions commonly consisted of a single verbal statement, and may not have been enough to influence outcomes. Secondly, it is not specified where in the consultation the interventions took place. More closely controlled research is needed to fully assess the respective contributions of cognitive and affective reassurance to patient outcomes. Coia and Morley’s ([1998](#_ENREF_32)) theory was largely based upon studies in health promotion, which differ from real-life consultations in that the participants’ fears tend to be induced experimentally, unlike real patients whose concerns will be very personal and may have been worrying them for a while. Their suggestions require application to real consultations to establish whether the theory holds true in the case of real patients requiring reassurance. This thesis will present such research and discuss its implications for the theory of reassurance in patients with low back pain.

Chapter 3: Cognitive and Affective Reassurance and Patient Outcomes in Primary Care: A Systematic Review

# 3.1 Introduction

In the previous chapter, a model of affective and cognitive reassurance during consultations was identified. This model is drawn from studies of persuasion and categorizes reassurance into affective communication, which aims to reduce worry, create rapport and reassure patients through a sense of being cared for, respected and understood; and cognitive reassurance, which aims to change patients’ perceptions and beliefs through education ([Coia & Morley, 1998](#_ENREF_32)). Providing affective reassurance is thought to induce a contagion effect, in which the recipient’s mood is automatically lifted, which will lead to them feeling better as they leave the consultation room ([Coia & Morley, 1998](#_ENREF_32)). At this point in time, then, there appears to have been a favourable outcome. As well as feeling less anxious, patients may even be experiencing less pain, under what Lumley, et al. ([2011](#_ENREF_161)) refer to as the effect of ‘affective analgesia’, in which positive mood states are associated with reductions in pain. However, this positive effect is transient, and so when pain or negative mood recurs, and the physician is not there to provide affective reassurance again, the benefit of the consultation disappears (a transient-beneficial response). Crucially, this model asserts that cognitive and affective reassurance are mutually exclusive. Once affective reassurance has taken place, the patient’s anxiety is reduced, and he or she is no longer motivated by their fear of what might be wrong with them to engage properly with processing the information provided as cognitive reassurance. Therefore, their cognitions remain unchanged. Although Coia and Morley therefore recommend avoiding all affective reassurance behaviours during consultations, this advice will be applied in this thesis to the data-giving stage of consultations only.

Reassurance, in the most general sense of the word, is intended to change a person’s emotional state by reducing worry or building confidence. To understand how reassurance may positively impact on outcomes for patients with low back pain, then, we must look at the relationship between pain and emotions. As noted in chapter 1, how pain is experienced can be influenced by attention, interpretation (based on beliefs and attitudes, expectations, cognitive sets, emotions and emotion regulation), coping strategies, and pain behaviours ([Linton & Shaw, 2011](#_ENREF_158)). Similarly, emotions are generated through a sequence in which a stimulus is perceived, attended to, appraised, and then responded to ([Ochsner, Silvers, & Buhle, 2012](#_ENREF_182)). At each stage of this sequence, it is possible for emotions to be regulated or modified, through strategies which parallel the ways in which sufferers can cope with low back pain, such as distraction or suppression of response ([Linton, 2013](#_ENREF_155)). If effective reassurance can promote beneficial coping strategies, it is possible that the perpetuating relationship between negative emotions and pain may be avoided.

In terms of the stimulus which creates either a negative emotion or pain state, Ochsner et al. ([2012](#_ENREF_182)) point out that people can use either situation selection or situation modification to change the nature of the stimulus. For situation selection, stimuli which are known to generate negative emotions are avoided. This bears great similarity to the maladaptive coping strategies implicated within the fear-avoidance model of low back pain, in which any situation which is perceived (based on catastrophic distortions of thought) to have the power to worsen pain is avoided. In his paper on transdiagnostic approaches to pain and emotion, Linton ([2013](#_ENREF_155)) points out that such avoidance behaviours, although useful when first faced with a ‘threat’, can actually serve to increase a problem when still practiced in the absence of any real threat. Situation modification instead involves changing something about a situation to modify its impact on you. In back pain terms, this could be modifications such as using back supports, changing lifting techniques when picking up heavy objects, or altering a desk set-up to be more ergonomically-friendly. Cognitive reassurance can impact on such changes, as physicians can provide education and advice to patients on how to manage, rather than avoid, potentially painful situations.

It is at the appraisal stage of emotional or pain experiences when cognitive reassurance may have the most opportunity to help patients. Strategies such as cognitive change (changing the way one appraises the meaning of a stimulus) and reappraisal (reinterpreting the meaning of a stimulus, including one’s personal connection to it) can change an emotional response to a situation, and reappraisal has been shown to have long-lasting effects on one’s tendency to have an emotional response to a stimulus ([Ochsner, et al., 2012](#_ENREF_182)). The aim of cognitive reassurance in medical contexts is to educate patients in a way which creates temporally stable changes to their illness perceptions and allows them to cope and self-manage their symptoms better ([Coia & Morley, 1998](#_ENREF_32)). This may be particularly important in targeting catastrophic thinking, which is implicated in the development of fear-avoidance ([Linton & Shaw, 2011](#_ENREF_158)) and in the high comorbidity rates between chronic pain and depression ([Linton & Bergbom, 2011](#_ENREF_156)). If cognitive reassurance, provided to patients early, is effective in combating the development of catastrophic thoughts or worries, it has the potential to considerably reduce the likelihood of acute pain becoming a chronic problem.

Theoretically, then, there is a viable link between cognitive reassurance and positive outcomes for patients with pain, although the case for affective reassurance remains unclear. In order to assess the available evidence for this theory, this chapter presents a systematic review of findings from prospective cohort studies, in which a clear timeline between consultation and outcomes are available, based in primary care and in which the measured physician communication behaviours could be categorised as either affective or cognitive.

# 3.2 Methods

## 3.2.1 Defining and Coding Reassurance

For the purposes of this review Linton et al.’s ([2008](#_ENREF_157)) definition of reassurance was used:

“reassurance ‘...removes the fears or doubts of (pain/illness); to comfort’. Reassurance always takes place within the dynamics of the interaction between the caregiver who has the intention to reduce worry, and the patient who is concerned. Ultimately, reassurance is achieved if the patient changes his/her behavior, understanding or thoughts.” ([Linton, et al., 2008, pp. 5](#_ENREF_157))

The categorisation into affective and cognitive components outlined by Coia and Morley ([1998](#_ENREF_32)) was used to code consultation measures. According to these, reassurance is defined as behaviour carried out by the practitioner. Affective reassurance behaviours were coded as:

* verbal and non-verbal behaviour indicating being empathic, comforting, and caring
* giving messages that the practitioner is experienced, competent and optimistic without giving specific information
* giving generic reassuring statements, such as ‘I don’t think you should worry’
* recognising and responding to distress cues
* being warm and friendly

Cognitive reassurance behaviours were coded as:

* providing information about diagnosis, prognosis and treatment
* explanation of symptoms
* providing advice
* agreeing goals
* negotiating a treatment plan with the patient
* explicit exclusion of serious disease
* checking understanding
* discussing obstacles
* summarising

Coding into affective and cognitive components was completed by two researchers, with consensus achieved by discussion. Reassurance is achieved if the patient changes his/her behaviour, understanding or thoughts. Hence, effective reassurance was measured through patient outcomes, including self-report of change in beliefs and mood and measures of change in behaviour resulting in improved coping and management of the problem.

## 3.2.2 Search Strategy

The search focused on observational prospective study designs that provide detailed measurement of the components carried out during consultations and that measure subsequent patient outcomes. Studies were included if at least 50% of subjects were recruited from primary care, and the majority of the sample were adults (over 18). Specifically, of interest were patients presenting with pain and discomfort, with poorly understood aetiology, and for whom further tests and referrals are not indicated (Table 3.1). Groups with non-specific disorders typified by pain (e.g. low back pain, fibromyalgia, irritable bowel syndrome, unexplained chest pain, alone or in combination) were included, along with mixed clusters of these populations defined in the original studies in reference to a lack of a clear pathological cause (such as medically unexplained syndromes) and mixed undefined groups attending primary care consultations, as these include large proportions of our target groups ([Elliott, Smith, Penny, Smith, & Chambers, 1999](#_ENREF_61); [Henschke, et al., 2008](#_ENREF_101); [Hudon, Fortin, & Soubhi, 2008](#_ENREF_114); [Hungin, Whorwell, Tack, & Mearin, 2003](#_ENREF_116)). Studies investigating the impact of delivery of test results and educational material on patient outcomes were not included: these have been reported elsewhere ([Ash, et al., 2008](#_ENREF_8); [Henrotin, et al., 2006](#_ENREF_100); [Kendrick, et al., 2001](#_ENREF_128)).

Figure 3.1 depicts the search strategy for this study. An initial scoping exercise searched MEDLINE and PsycInfo databases from 1979 to November 2010 using the terms ‘pain and reassurance’, ‘pain and communication skills’ and ‘pain and practitioner-patient relationship’ in the title and abstract. A start date of 1979 was selected based on the year of publication of Kessel’s seminal article on consultation-based reassurance ([Kessel, 1979](#_ENREF_130)).

Table 3.1 – Inclusion and Exclusion Criteria

|  |
| --- |
| **Inclusion criteria:** |
| Patient groups in which a) investigations were not indicated or had proven negative, and b) self-management was indicated, without regular monitoring from a health care practitioner (e.g. low back pain, fibromyalgia, irritable bowel syndrome, unexplained chest pain, alone or in combination). |
| Mixed clusters of these populations defined in the original studies in reference to a lack of a clear pathological cause (such as medically unexplained syndromes (MUS)). |
| Mixed undefined groups attending primary care consultations, as these include large proportions of our target groups. |
| Settings: Primary care, or studies where at least 50% of subjects were recruited from primary care. |
| Consultations: Studies had to include specific measures of the process of a consultation, rather than generic measures of trust in practitioners, expectations of outcome etc. |
| Studies had to report patient outcomes post-consultation. We did not limit the outcomes, they were all extracted. |
| **Exclusion criteria** |
| Populations with disorders for which reassurance and subsequent health-related behaviour required regular testing, monitoring or interventions from health care providers, such as , diabetes, cancer, , dental, rheumatoid arthritis, and psychiatric disorders such as hypochondriasis, and emotional problems |
| Studies where a majority of patient participants were aged under 18 |
| Studies focusing exclusively on information leaflets, ordering tests and giving test results, prescriptions, duration rather than content of the consultation, continuity of care and practitioner demographic characteristics such as gender, age and ethnicity. |
| Any study design other than observational prospective cohort – including retrospective studies, cross sectional designs, interview studies and randomised controlled trials |

A backward citation search was conducted, followed by forward citation search on the pool of selected articles. This was supplemented with a second systematic search, following the recommendations from The Centre for Reviews and Dissemination ([CRD, 2008](#_ENREF_39)). The following databases were searched from 1979 to October 2012 for relevant studies: MEDLINE, PsycInfo, PsycExtra and ProQuest Dissertations and Theses. Full details of the search strategy are shown in Appendix 1. EPPIreviewer 4.0 ([Thomas, Brunton, & Graziosi, 2010](#_ENREF_269)) systematic-review dedicated software was used for coding abstracts. Finally, one researcher hand-searched the reference lists of the two most recent review articles our search identified ([Derksen, et al., 2013](#_ENREF_48); [Oliveira, et al., 2012](#_ENREF_184)) (see figure 3.1). Two researchers completed all abstract screening and read all selected papers in full. Disagreements over inclusions and exclusions were resolved by discussion, or by a third researcher where this was not possible.

## 3.2.3 Data Extraction

Data was extracted on patient sample, country, practitioner sample, details of baseline measures, details of consultation measures, details of outcome measures, analysis and findings (Tables 3.2 and 3.3). The consultation was coded into affective / cognitive components, excluding measures of data gathering, and communications from patients to practitioners, using the criteria listed in Section 3.2.1. The separation into cognitive and affective reassurance was carried out through scrutiny of the description of the measures used, as presented in the original articles. All studies were extracted and coded by two independent researchers, and agreement was achieved through discussion. Outcomes were categorised into short-term (consultation exit), and follow-up.

## 3.2.4 Analysis

Because of the known heterogeneity in samples, measures of consultation and outcome measures, statistical pooling of results was not planned. Methodological quality coding was carried out by two researchers independently, based on recommendations for evaluation of the quality of prognosis studies in systematic reviews ([Hayden, Cote, & Bombardier, 2006](#_ENREF_97)), shown in Table 3.4. There are no established cut-points to define adequate/high methodology, thus the total score for each study is given, but high methodology is regarded as those studies that scored above 10/13.

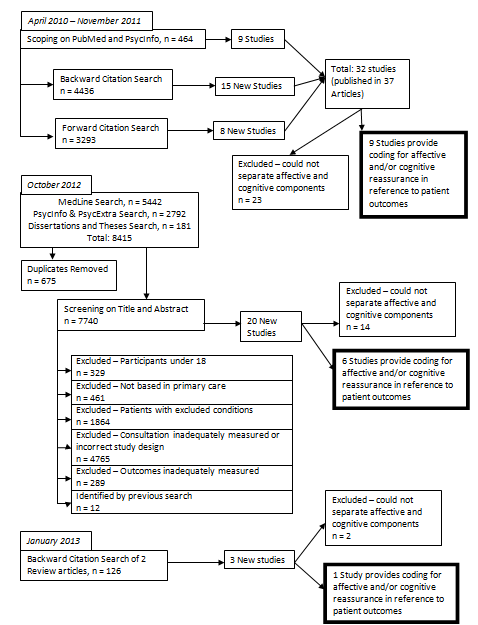


Figure 3.1 – Literature Searches and Screening Results

Table 3.2 – Description of Empirical Studies

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Reference** | **Patients (description & n)**\* | **Practitioners (country, description & n)** | **Baseline measures (pre-consultation)** | **Consultation components (method, description, measure)**† | **Patients outcomes**  **and time from consultation**‡ |
| Fassaert et al., 2008 | C, common minor ailments (digestive, musculoskeletal, respiratory and skin) excluding chronic disease (263) | Netherlands;  General practitioners (139) | Socio-demographic, functional health status (COOP/WONCA§), anxiety (STAI). | V  Positive communication, three components: exclusion of serious disease; clear explanation; favourable prognosis.  Active listening (ALOS-global) | CE  Anxiety  2 weeks:  Functional health status, adherence to medication prescription (MAQ) |
| Gilbert & Hayes, 2009 | Mixed, female pts (age >65) (155) | USA; nurse practitioners (NPs) (31) | Physical and mental health (SF-12v2) | V  Coded for frequency of 43 verbal ‘utterances’ (RIAS);  non-verbal activity check sheet; relationship messages | CE  Satisfaction, intention to adhere  4 weeks:  adherence, change in presenting problems; physical and mental health (SF-12v2) |
| Jackson, 2005 | C, physical complaint excluding upper respiratory infection (500) | USA; 28 clinicians at an army medical centre (4 NPs; 7 medicine residents; 2 FPs; 15 general internists) | Mental health (PRIME-MD); symptom type, duration and severity; recent stress; Previsit expectations ; functional status (MOS-SF-6,); physical symptoms (PHQ-15) | S  Unmet expectations; patient-report of what clinician did during visit (prescription, diagnostic test, referral, discussion of diagnosis or prognosis). | CE  Satisfaction (MOS 9 item); residual serious worry.  2 weeks:  Symptom outcome and severity; recent stress; functional status (MOS-SF-6); satisfaction; unmet expectations. |
| Jackson & Kroenke, 2001 | Physical symptoms (632) | USA; physicians from a primary care walk-in clinic at an army medical centre. | Symptoms, expectations, functional status (MOS-SF-6)  depression and anxiety (PRIME-MD) | S  Unmet symptom-related expectations (diagnosis, prognostic information, prescription, diagnostic test, referral, or other)  Physicians completed DDPRQ | CE  Satisfaction (MOS); worry about serious illness.  2 weeks:  symptom outcome and severity, residual worry, unmet expectations, functional status (MOS-SF-6) satisfaction |
| Kravitz et al., 2002 | Pts with concern over a new / worsening problem or missed diagnosis  (909) | USA, family practice (16), internal medicine (18) and cardiology (11) physicians | General health and concerns; trust in the physician | S  Proportion of requests fulfilled | CE  Satisfaction; endorsement of physician.  Physicians’ rating of consultation (demanding / satisfying).  2 weeks:  Self-reported health care utilization; health concerns; symptom improvement; health status (SF-36) |
| Little et al., 2001 | Consecutive, mixed (661) | UK, GPs | What patients wanted the doctor to do | S  exploring disease/illness experience, understanding whole person, finding common ground, health promotion, and physician-patient relationship | CE  Positive and definite approach of the doctor to diagnosis; anxiety (SSAQ); enablement (PEI); satisfaction (MISS); symptom burden (MYMOP).  1 month:  Symptom burden (MYMOP); reattendance, investigation and referral (from notes) |
| Mead et al., 2002 | C, mixed (173) | UK, GPs (14) | Demographic; physical health (COOP / Wonca); emotional health (GHQ-12); GP acquaintance with patient; surgery visits in past 12 months | V  patient-centeredness (adaptation of RIAS), patient-directed eye gaze, clinical behaviours | CE  Satisfaction (CSQ); enablement (PEI) |
| Pawlikowska et al., 2012 | C, mixed (261, but analysis performed on 88) | UK, GPs (3) |  | V  Verbal communication with socio-emotional exchange, Patient-centred communications (RIAS), Verbal dominance, Global affect (warm, friendly reassuring manner), emotionally supportive non-verbal communication (MIPS) | CE  Enablement (PEI) |
| Phillips et al., 2011 | C, mixed, included only those for whom treatment was prescribed (243) | USA  Primary care physicians |  | S  CS-SRM behaviours: Discussion of cause, explanation of examination, timeline, treatment instructions, discussion of consequences, tips about incorporating treatment into daily routine, information on monitoring.  Interpersonal skills, 5 items. | 24-48 hours  Change in understanding, Satisfaction, Adherence (MARS-5), Problem resolution.  1 month  Adherence, Problem resolution, Emergency care utilization |
| Putnam et al., 1985 | N, mixed  female (102) | USA, physicians and medical residents (14) | Symptom status ; health beliefs; acute or chronic status. | AT  VRM for medical history, physical examination and conclusion. Coded as patient exposition (during medical history) and physician explanation (during conclusion). | CE  Cognitive and affective satisfaction (MISS)  1 and 4 weeks post-consultation: compliance; change in symptom status |
| Shaw et al., 2011 | N, acute low back pain (83) | USA  Community-based practitioners (14, 6 physicians; 4 nurses; 2 physician assistants, 1 osteopath, 1 chiropractor) | Pain | AT  Interaction Analysis (RIAS), 10 items. | 1 and 3 months  Numerical Pain rating  Disability (RMDQ)  Return to work |
| Stewart, 1984 | N or continuing, mixed (140) | Canada, 24 family physicians |  | AT  Patient-centred statements by patient and physician (Bales Interaction Process Analysis).  Physician behaviours grouped as patient-centred: showing solidarity, expressing tension release, agreement, asking for opinions, asking for suggestions, asking for help. | 10 days:  Satisfaction ; compliance as measured by both pt self-report and pill counts. |
| Stewart et al., 2000 | Pts with one or more recurring problems (315) | Canada,  family physicians (39) |  | AT  patient-centred communication: exploring illness, understanding whole person, finding common ground  S  Pt perception of patient-centeredness | CE and at 2 months:  Recovery; health status (SF-36); health care utilization (chart review) |
| Thom, 2001 | Consecutive, mixed  (343) | USA, family physicians (20) | Length of relationship with physician; number and type of health conditions; health status (SF-36) | S  Interpersonal behaviour of physician (14/23 items from Humanistic Behaviours Questionnaire plus 4 items from focus groups: finding out all reasons for visit; respecting opinions and feelings; caring and concern; demonstrating competency) | CE, 1 month and 6 months later:  Trust in the physician (Trust in the Physician Scale); satisfaction (13 items from Consumer Satisfaction Survey) |
| Turner et al., 1998 | Back pain (68) | USA, family practice physicians (10) and  Nurses (2) | Details of back pain (duration, intensity, interference) and goals for visit. | AT  physical examination; explanation of pain and diagnosis; pain and disability assessment; other problem assessment; pain management strategies; discussion of prognosis; treatment recommendations | One month:  Pain intensity and interference classified into functional, improved and unimproved. |
| Van Dulmen & van den Brink-Muinen (2004) | Not described (698) | Netherlands, GPs (142) | Anxiety (STAI); extent to which preferred empathic GP. | VT  GPs’ responses to patients’ concerns (RIAS)  S  Patient perception of GP empathy | CE:  Anxiety (STAI) |
| \* Patients: N= new, C=consecutive, MUS= medically unexplained symptoms  † Method of data collection on consultation components: AT= audiotaped, OB= observation, S= survey, V= videotaped  ‡ Time of outcome data collection: CE= measured at consultation exit FU= follow up  § Measurements Key:  ALOS –global: Active Listening Observation Scale. COOP/WONCA: functional health assessment charts developed by the Dartmouth COOP as part of the World Organization of National Colleges. CSQ: Consultation Satisfaction Questionnaire. CS-SRM: Common Sense – Self-Regulation Model. DDPRQ: Difficult Doctor-Patient Relationship Questionnaire. GHQ-12: General Health Questionnaire – 12 item. MAQ: Medication Adherence Questionnaire. MARS-5: Medication Adherence Report Scale-5. MIPS: Medical Interaction Process System. MISS: Medical Interview Satisfaction Scale. MOS: Medical Outcomes Study. MOS-SF-6: Medical Outcomes Study – Short Form – 6. MYMOP: Measure Yourself Medical Outcome Profile. PEI: Patient Enablement Instrument. PHQ-15: Patient Health Questionnaire-15. PRIME-MD: Primary Care Evaluation of Mental Disorders. RIAS: Roter Interaction Analysis System. RMDQ: Roland-Morris Disability Questionnaire. SSAQ: Short State Anxiety Questionnaire. SF-12v2: Short Form health survey -12v2. SF-36: Short Form health survey-36 item. STAI: State Trait Anxiety Inventory. VRM: Verbal Response Modes. | | | | | |

# 3.3 Results

16,059 abstracts were retrieved, and 58 publications, describing 53 studies read in full. From these we identified 16 studies that met the entry criteria (Figure 3.1) and measured and analysed both cognitive and affective reassurance (Table 3.3). Composite components of both types of reassurance were excluded.

## 3.3.1 Coding

All studies were independently double coded. Inter-coder agreement was above 99% for inclusion/exclusion of abstracts. The level of agreement between the two coders about inclusion of studies that measured and tested cognitive or affective reassurance according to the agreed definitions was 93%. There was disagreement about two studies, both of which were excluded after discussion. Agreement on the coding of the methodological quality of the studies was estimated from the number of criteria (13) multiplied by the number of studies (16). There was disagreement on three items (1%); this was resolved by discussion.

## 3.3.2 Included Studies

Table 3.2 provides a description of the included studies. Of the 16 studies, all but two used mixed populations of patients. The remaining 2 ([Shaw, et al., 2011](#_ENREF_246); [Turner, LeResche, Von Korff, & Ehrlich, 1998](#_ENREF_273)) were conducted using patients with back pain. Nine were conducted in the USA, with 3 in the UK, and 2 each in Canada and the Netherlands. Methods of measuring the consultation were evenly spread throughout the studies, with 5 using videotapes, 5 using audiotapes and 6 surveying patients or physicians. Sample sizes ranged from 68 to 909, with an average of 346.63 (SD 256.40) patients. Outcomes were measured at consultation exit in three studies, with the remainder involving some kind of follow-up. The average length of follow-up was around 4 weeks; the longest follow-up period of the included studies was 6 months.

The average methodological quality score (Table 3.4) was 9 (SD 2.20), with half of the studies scoring higher than 10 and so being considered of high quality. Eight studies included measures of both affective and cognitive components. Six measured only cognitive aspects, and two only cognitive aspects (Table 3.3).

## 3.3.3 Findings

### 3.3.3.1 Affective Reassurance

Affective reassurance was associated with higher satisfaction and enablement in four studies ([Pawlikowska, Zhang, Griffiths, van Dalen, & van der Vleuten, 2012](#_ENREF_195); [Phillips, et al., 2012](#_ENREF_200); [Stewart, 1984](#_ENREF_255); [Thom, 2001](#_ENREF_268)), and with lower satisfaction, and increased concerns in one study with high methodology ([Gilbert & Hayes, 2009](#_ENREF_80)) and one with lower methodology ([van Dulmen & van den Brink-Muinen, 2004](#_ENREF_278)). One study ([Mead, et al., 2002](#_ENREF_175)) found no association between affective reassurance and improved satisfaction. One study ([Stewart, 1984](#_ENREF_255)) found physician patient-centred behaviours to be associated with improved adherence when assessed by patient report, but not by pill count. Lower rates of reassurance, optimism and non-verbal activity were related to improved mental health in one high quality study ([Gilbert & Hayes, 2009](#_ENREF_80)).

Table 3.3 – Findings from Empirical Studies

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Study** | **Sample (country, n, & description)** | **Affective**\* | **Cognitive**† | **Statistical Analysis** | **Results (by follow-up period)** | **MQ**‡ **Score (n/13)** |
| **Studies that measured and analysed affective and cognitive components** | | | | | | |
| Fassaert et al., 2008 | Netherlands, 263, minor illness (12% digestive; 52% musculoskeletal; 23% respiratory; 12% Skin) | Active listening, defined as GPs attentiveness and acknowledgement of the patients’ suffering. | Positive communication, 3 components: Explicit exclusion of serious disease; clear explanation of cause and symptoms; explicit statement about favourable prognosis. | Multiple linear regression, adjusting for baseline measures of outcomes, corrected for clustering. | CE: Clear explanation and good prognosis associated with reduced anxiety (.55, SE=23, p=0.02)  2 weeks: Clear explanation and good prognosis associated with better physical (-.12, SE=0.5, p=0.02) and overall health (-.11, SE=0.4, p=0.02), and better mood (-0.12, SE=0.5, p=0.02). Active listening associated with feeling worse, physically (.03, SE=0.1, p=0.02 and overall (.03, SE=0.01, p<0.01, and for patients with good mood at baseline, reduced adherence (-.39, SE=0.16, p=0.01). | 11.5 |
| Gilbert & Hayes, 2009 | USA, 155, mixed, female, age >65 | Approving, expressing concern, expressing reassurance and optimism, non-verbal activities (eye contact etc) | Orienting or instructing, giving lifestyle advice | Mixed-Model Regression Analysis | CE: expressing concern and more non-verbal activity reduced satisfaction (-.053, SE=0.19, p<0.01; -0.15, SE=0.07, p=0.03). Orienting and instructing increased intention to adhere (0.21, SE=0.08, p=0.01). Giving lifestyle advice reduced intention to adhere (-0.08, SE=0.03, p<0.01).  4 weeks: approving related to improvement in presenting problem (1.18, SE=0.47, p=0.01), giving lifestyle information reduced improvement (-0.57, SE=0.18, p<0.01), and reduced improvement in physical health (-2.36, SE=0.88, p<0.01). Lower rates of reassurance and optimism and of non-verbal activity related to improvement on mental health (-2.21, SE=0.79, p<0.01; -13.79, SE= 6.44, p=0.03). | 11 |
| Little et al., 2001 | UK, 661, consecutive mixed | Personal relationship (knows and understands me and my emotional needs) | Positive and clear approach (clear explanation, definite and positive about problem and prognosis); Health promotion and prevention advice | Logistic regression, multiple regression and ANCOVA | CE: positive clear approach predicted satisfaction, and enablement. Health promotion predicted enablement.  1 month: positive clear approach predicted less symptom burden Personal approach related to higher symptom burden, but was related with fewer referrals. Other health care utilisation not related to components. | 10.5 |
| Mead et al., 2002 | UK, 173, consecutive mixed | Therapeutic alliance- socio-emotional utterances, empathy= affective reassurance; non-verbal caring= warmth, concern. | involving the patient (explanations, clarification etc / total talk= cognitive) | Multiple regression (for satisfaction) and logistic regression (for enablement) | CE: enablement and satisfaction on CSQ:  Not related to any. | 9.5 |
| Pawlikowska et al., 2012 | UK, 88, consecutive mixed | Global affect: Interest/attentiveness, friendliness/warmth, hurried/rushed, anxiety/nervousness, anger/irritability, dominance/assertiveness.  Non-verbal (MIPS, Ford et al., 2000) | RIAS item, counselling regarding medical condition or therapeutic regimen, doctor only | Logistic regression and chi-square analysis | CE: regression model predicting enabling included 7 items, including RIAS cognitive item (R2=0.07, p=0.004). Global affect NS. Of the Non-verbal behaviours, only relaxed hand movements (not writing) was associated with higher enablement. | 4.5 |
| Phillips et al., 2011 | USA, 243, consecutive, mixed | Interpersonal skills, 5 items: Doctor sympathetic; understanding of patients’ feelings; Doctor is a good person; Doctor is like a friend or family member; Doctor concerned with patients’ feelings. | Common-sense self-regulation model (CS-SRM, behaviours: Discussion of cause, explanation of examination, timeline, treatment instructions, discussion of consequences, tips about incorporating treatment into daily routine, information on monitoring. | Causal path analysis, comparison of theoretical models. | All 1 month unless otherwise stated: the better model depicts paths from CS-SRM Behaviours to adherence and problem resolution. Interpersonal skills were related to patient satisfaction (at 24-28 hours) but not to adherence or problem resolution. (RMSEA=0.083, GFI=0.97, AGFI=0.91).CS-SRM significantly lower for those attending emergency room (t= 2.03, p=0.04). | 6.5 |
| Thom, 2001 | USA, 343, consecutive mixed | Being comforting and caring | Discussing options, working to adjust treatment, answering clearly, explaining, checking understanding, demonstrating competency | Pearson correlation | CE, 1 month, and 6 months later: all items correlated with patient trust and satisfaction (p<0.01). | 9.5 |
| Shaw et al., 2011 | USA, 83, new acute episodes of low back pain | Rapport building, socializing, facilitation and engagement | Biomedical/ therapeutic information, Lifestyle/ psychosocial information | Pearsons’ correlations and t-tests | 1 and 3 months: rapport building associated with poorer function (r=0.31, p<0.01) higher pain intensity (r=0.31, p<0.01), less return to work (t(75)=1.96, p<0.05, and less case resolution (t(75)=2.13, p<0.05). Facilitation and engagement associated with poorer function (r=0.4, p<0.01) higher pain intensity (r=0.5, p<0.01), less return to work (t(75)=4.01, p<0.05, and less case resolution (t(75)=4.49, p<0.05. | 10 |
| **Studies that measured and analysed only cognitive components** | | | | | | |
| Jackson & Kroenke, 2001 | USA, 632, consecutive patients with physical symptoms |  | Met expectations for diagnosis and prognosis | Logistic regression | CE: Diagnosis and prognosis related to higher satisfaction (CI 1.2-1.6 and 1.2-1.5 respectively)  2 weeks: diagnosis related to fewer revisits (0.79-0.99) and greater symptom improvement (CI 1.02-1.3). Prognosis related to fewer revisits (0.69-0.91) and symptom improvement (CI 1.04-1.3). | 8.5 |
| Jackson, 2005 | USA, 500, consecutive, physical complaint excluding upper respiratory infection (500) |  | Unmet expectations; patient-report of what clinician did during visit (prescription, diagnostic test, referral, discussion of diagnosis or prognosis). | Satisfaction: student t-tests.  Symptom outcome: chi-square or Kruskall-Wallis.  Likelihood of symptom improvement: multivariable modelling.  Functional status: ANOVA | CE: receiving diagnostic or prognostic information led to higher satisfaction (CI 1.5-3.1 diagnostic; 1.4-2.9 prognostic), less residual worry (CI 0.29-0.64 diagnostic; 0.36-0.79 prognostic)  2 weeks: receiving diagnostic or prognostic information led to fewer unmet expectations (CI 0.24-0.71 diagnostic; 0.52-0.98 prognostic).  Stepwise increase in 2 week functional improvement when had received diagnostic (p < 0.04) or prognostic (p < 0.03) information.  Those who received prognostic information were significantly more likely to have improved at 2 weeks (CI 1.3-3.1). | 8 |
| Kravitz et al., 2002 | USA, 909, patients with concern over a new / worsening problem or missed diagnosis |  | Fulfilled requests for medical information (one of four possible requests) | Regressions (not specified) | CE: satisfaction with care lower if information not received in full (p<0.001).  2 weeks: no relation of information received to further health care visits, or function. Incomplete requests (any, i.e. tests and referrals included) predicted more health concerns and less symptomatic improvement (p<0.001 for both. | 11.5 |
| Putnam et al., 1985 | USA, 102, new patients, mixed, females only |  | Explanations: giving objective information about illness and treatment | Pearson correlation, linear regression, ANOVA | CE: explanations related to cognitive satisfaction (understanding and feeling able to control problem (r=0.36, p<0.001) but not affective satisfaction (feeling warmth, able to express oneself etc).  1 and 4 weeks: explanations not related to change in symptoms. | 10 |
| Stewart et al., 2000 | Canada, 315, mixed, one or more recurring problems (315) |  | Finding common ground: Clear description of problem and management plan, answered questions discussed and agreed plan.  Patients’ perception that common ground was found in relation to treatment option. | Multiple regression and multiple logistic regression, adjusting for baseline measures. | CE and 2 months: perception of finding common ground was associated with reduced concerns (P=0.04), and subsequent diagnostic test (4.1% compared to 25.4%), and subsequent referrals (6.1% compared to 14.9%). Audio-taped coding was not significant related to recovery, health status, subsequent medical care. | 11 |
| Turner et al., 1998 | USA, 68, back pain (68) |  | Explanation and diagnosis, treatment recommendations, advice on returning to normal activity | Not specified (bivariate) | 1 month: advice on return to normal activity significantly higher in improvers (18 versus 5%) | 10 |
| **Studies that included only analysis of affective reassurance** | | | | | | |
| Stewart, 1984 | Canada, 140, new or continuing problem, mixed (140) | Physician patient-centred behaviours: showing solidarity, expressing tension release, agreement, asking for opinions, asking for suggestions, asking for help. |  | Not specified | 10 days: physician patient-centred behaviours linked to higher compliance assessed by pt self-report (p < 0.05), but not by pill count (p < 0.10)  Asking for opinions (p < 0.05) significantly linked to higher satisfaction with physician’s personal qualities. Asking for help was significantly linked (p < 0.05) to higher satisfaction with physician’s professional competence. | 6.5 |
| Van Dulmen & van den Brink-Muinen (2004) | Netherlands, 698, not described | GPs’ empathy, measured by adequate responses (facilitating or acknowledging emotional content) to patients expressing concerns from videotape, and patient perceptions post-visit. |  | Pearson’s correlations | CE: patients who had perceived a more empathic GP were less anxious (r = 0.10; p = 0.03). However, more adequate responses from GP related to higher post-visit anxiety (r = 0.15; p = 0.000) | 5.5 |
| CE= consultation exit  \* Affective reassurance: verbal and non-verbal behaviour indicating being empathic, comforting, and caring; giving messages that the practitioner is experienced, competent and optimistic without giving specific information; giving generic reassuring statements.  † Cognitive reassurance: providing information about diagnosis, prognosis and treatment; providing advice; negotiating a treatment plan with the patient; explicit exclusion of serious disease.  ‡Methodological Quality | | | | | | |

Importantly, in the following studies, all rating high for methodological quality, affective reassurance was associated with higher symptom burden/less improvement ([Fassaert, van Dulmen, Schellevis, van der Jagt, & Bensing, 2008](#_ENREF_70); [Little, et al., 2001](#_ENREF_159); [Shaw, et al., 2011](#_ENREF_246)), with lower rates of return to work in one ([Shaw, et al., 2011](#_ENREF_246)), and with reduced adherence in another ([Fassaert, et al., 2008](#_ENREF_70)). For example, Fassert, et al. (2008) found that active listening was associated with patients feeling worse physically and overall at 2-weeks follow-up, and Shaw, et al. (2011) found that rapport-building, facilitation and engagement all predicted poorer function, higher pain intensity, less return to work, and less case resolution at both 1 and 3-months follow-up. Two of these studies ([Fassaert, et al., 2008](#_ENREF_70); [Little, et al., 2001](#_ENREF_159)) adjusted for clinical status at baseline, and the third ([Shaw, et al., 2011](#_ENREF_246)) found no significant correlation between patients or practitioners’ communication and pain intensity at baseline.

### 3.3.3.2 Cognitive Reassurance

Five high-quality ([Fassaert, et al., 2008](#_ENREF_70); [Kravitz, et al., 2002](#_ENREF_138); [Little, et al., 2001](#_ENREF_159); [Putnam, Stiles, Jacob, & James, 1985](#_ENREF_210); [Stewart, et al., 2000](#_ENREF_256)) and four lower quality studies ([Jackson, 2005](#_ENREF_122); [Jackson & Kroenke, 2001](#_ENREF_123); [Pawlikowska, et al., 2012](#_ENREF_195); [Thom, 2001](#_ENREF_268)) found an association between cognitive reassurance and immediate (consultation exit) outcomes, including increased satisfaction and enablement, lower anxiety and reduced concerns. Additionally, intention to adhere as measured at consultation exit was stronger when physicians’ orienting and instructing were rated as higher in a high-quality study ([Gilbert & Hayes, 2009](#_ENREF_80)).

Four high-quality ([Fassaert, et al., 2007](#_ENREF_69); [Little, et al., 2001](#_ENREF_159); [Stewart, et al., 2000](#_ENREF_256); [Turner, et al., 1998](#_ENREF_273)) and three lower quality studies ([Jackson, 2005](#_ENREF_122); [Jackson & Kroenke, 2001](#_ENREF_123); [Phillips, et al., 2012](#_ENREF_200)) found associations with improvement in symptoms at follow up, with mixed evidence from one high-quality study ([Gilbert & Hayes, 2009](#_ENREF_80)). For example, Little, et al. ([2001](#_ENREF_159)) found that a positive, clear approach was associated with less symptom burden 1 month post-consultation, while in Jackson and Kroenke’s ([2001](#_ENREF_123)) study, diagnosis and prognosis were both associated with fewer revisits and greater symptom improvement. Associations were also found with reduced further health care utilization in three studies ([Jackson & Kroenke, 2001](#_ENREF_123); [Phillips, et al., 2012](#_ENREF_200); [Stewart, et al., 2000](#_ENREF_256)), one of which ([Stewart, et al., 2000](#_ENREF_256)) was of high methodology, although another high-quality study found no association between information received and further healthcare visits ([Kravitz, et al., 2002](#_ENREF_138)). The relationship between cognitive reassurance and adherence remains unclear. One high-quality study found that while orienting and instructing increased intention to adhere, giving lifestyle advice reduced it ([Gilbert & Hayes, 2009](#_ENREF_80)), and another study found an association between cognitive reassurance and improved adherence ([Phillips, et al., 2012](#_ENREF_200)). One study ([Mead, et al., 2002](#_ENREF_175)) found no association between cognitive reassurance and improved satisfaction, and two studies ([Putnam, et al., 1985](#_ENREF_210); [Shaw, et al., 2011](#_ENREF_246)) found no associations between cognitive reassurance and symptom resolution at follow up.

Table 3.4 – Methodological Coding of Included Studies

| **Reference** | **Fassaert et al., 2008** | **Gilbert & Hayes, 2009** | **Jackson, 2005** | **Jackson & Kroenke, 2001** | **Kravitz et al. 2002** | **Little et al., 2001** | **Mead et al., 2002** | **Pawlik-**  **owska**  **et al.,**  **2012** | **Phillips**  **et al.,**  **2011** | **Putnam**  **et al.,**  **1985** | **Shaw**  **Et al.,**  **2011** | **Stewart 1984** | **Stewart**  **et al.,**  **2000** | **Thom**  **et al.,**  **2001** | **Turner**  **et al.,**  **1998** | **Van Dulmen& van den Brink-Muinen (2004)** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Study participation**i | Y | Y | Y | P | Y | Y | N | P | Y | P | Y | P | Y | Y | Y | P |
| **Study sampleii** | Y | P | Y | Y | P | P | Y | P | P | Y | Y | P | Y | Y | Y | N |
| **Study attritioniii** | P | Y | DK | Y | Y | Y | N/A | N/A | Y | Y | Y | Y | Y | Y | Y | N |
| **Practitioners Describediv** | P | Y | Y | N | Y | N | Y | Y | N | Y | Y | P | Y | Y | Y | N |
| **Consultation Measure Qualityv** | Y | Y | DK | DK | Y | Y | Y | P | P | Y | Y | Y | Y | Y | Y | Y |
| **Independent Coders of Consultationvi** | P | P | N/A | N/A | N/A | N/A | P | N | N/A | Y | Y | Y | DK | N/A | Y | DK |
| **Outcome Measures Qualityvii** | Y | Y | P | P | Y | Y | Y | Y | P | P | Y | Y | Y | Y | N | Y |
| **Follow- up outcomeviii** | Y | Y | Y | Y | Y | Y | N | N | Y | Y | Y | Y | Y | Y | Y | N |
| **Confounding: baseline measurement of outcome variablesix** | Y | Y | Y | Y | Y | Y | Y | N | N | Y | P | N | Y | Y | Y | Y |
| **Confounding: Baseline adequately measuredx** | Y | Y | Y | P | Y | Y | Y | N/A | N/A | DK | P | N/A | DK | Y | N | Y |
| **Confounding: baseline adjusted in Analysisxi** | Y | N | DK | Y | Y | Y | Y | N | N | Y | DK | N/A | Y | N | Y | DK |
| **Appropriate Analysisxii** | Y | Y | P | Y | Y | Y | Y | P | Y | N | P | N | Y | N | N | N |
| **Adequate Sample size for Analysisxiii** | Y | Y | Y | Y | Y | Y | Y | P | Y | Y | P | N | Y | Y | Y | Y |
| **Total** | 11.5 | 11 | 8 | 8.5 | 11.5 | 10.5 | 9.5 | 4.5 | 6.5 | 10 | 10 | 6.5 | 11 | 9.5 | 10 | 5.5 |
| i Adequate description of sampling frame and recruitment, recruitment setting geographic location. Adequate description of inclusion and exclusion criteria.  ii The baseline study sample (i.e., individuals entering the study) was adequately described for key characteristics (e.g. presenting problems, gender, age, socio-economic status, education).  iii Frequency of loss to follow-up from sample to study response <40% (i.e., proportion of study sample completing the study and providing outcome data at least 60%) **Or:** Attempts to collect information on participants who dropped out of the study were described **and** reasons for loss to follow-up were provided **and** participants lost to follow-up were adequately described for key characteristics, **and** there were no important differences between key characteristics and outcomes in participants who completed the study and those who did not.  iv Provide adequate information on : Numbers, Clinical Experience, Specialisation.  v A clear definition or description of the consultation factors measured, with the measurement of consultation-related factors reported or refered to adequately validity and reliability to limit misclassification bias (e.g., may include relevant outside sources of information on measurement properties).  vi Independent double coding of transcriptions, audio-tapes etc.  vii A clear definition of the outcome of interest was provided, including duration of follow-up. The outcome measure and method report or refer to adequately validity and reliability.  viii Included measures of outcome beyond the consultation exit.  ix Baseline measures of potential confounding variables which may impact both on consultation-factors and on patient outcomes (e.g. pain, disability, health status, expectations, duration of problem) measured.  x Measurement of all important confounders was adequately valid and reliable (e.g., may include relevant outside sources of information on measurement properties).  xi Important potential confounders were accounted for in the analysis (i.e., appropriate adjustment).  xii Used appropriate analysis (multivariate where appropriate, avoiding multiple testing, reporting significance and confidence intervals, or other appropriate measures of variance).  xiii Adequate sample size for statistical analysis.  Y = yes; N = no; P = partial; DK = don’t know; N/A = not applicable | | | | | | | | | | | | | | | | |

# 3.4 Discussion

## 3.4.1 Discussion of Findings

The findings suggest that cognitive reassurance improves patients’ outcomes, both immediately after the consultation and at follow up. Associations were found in seven studies with improvements in symptoms, and with reduced subsequent health care utilisation in three studies. In contrast, affective reassurance was associated at best only with improved satisfaction and at worst with poorer outcomes. Three studies with good methodology found an association between affective reassurance and reduced recovery/higher symptom burden.

The low number of studies examining the impact of practitioner-patient interactions on patient outcomes was surprising, even before having applied the inclusion criterion for studies that explicitly measured cognitive and affective reassurance. The systematic searches were comprehensive and together included over 16,000 abstracts, yet only 53 empirical prospective cohorts in primary care were identified which met the inclusion criteria. Existing narrative reviews (e.g. [Coulter & Elwyn, 2002](#_ENREF_37); [Epstein, 2000](#_ENREF_63); [Frantsve & Kerns, 2007](#_ENREF_75)) and publications on how to improve consultations (e.g. [Arborelius, 1996](#_ENREF_6); [Asnani, 2009](#_ENREF_9); [Duggan, 2006](#_ENREF_57)) far exceed the empirical evidence. The assumption that all aspects of patient-centred consultations have a positive impact on all outcomes, in all patients, demonstrates a case in which implementing a theory may have galloped ahead of evidence.

Other reviews of the impact of consultation-based factors in broader groups have provided inconclusive and inconsistent findings ([Charlton, et al., 2008](#_ENREF_28); [Hall, et al., 2010](#_ENREF_92); [Hsiao & Boult, 2008](#_ENREF_113); [Mead & Bower, 2002](#_ENREF_174)). Practitioner-patient collaboration has been found to predict treatment adherence, but the effect size is small ([Arbuthnott & Sharpe, 2009](#_ENREF_7); [Hall, et al., 1988](#_ENREF_93); [Haskard, DiMatteo, & Heritage, 2009](#_ENREF_96)); meeting patient expectations has a modest effect on satisfaction, but the evidence is inconclusive for other outcomes ([Rao, et al., 2000](#_ENREF_216)). The current review advances the field by categorizing consultations into affective and cognitive components, and addressing groups in which reassurance is considered to be a primary goal of the consultation.

## 3.4.2 Strengths and Limitations

This is the first review investigating reassurance in primary care, based on a model that explicitly codes practitioners’ behaviour into cognitive and affective components. While this coding enabled a direct comparison between the two types of reassurance, it resulted in exclusion of many studies that used composite measures of patient-centred consultations in association with outcomes. Although agreement between coders was high, there is a possibility of errors in coding, especially when coding is based indirectly on previous direct coding by study authors.

In addition, despite the associations found, causality cannot be established in observational studies. Not all of the studies adjusted for severity of symptoms, mood and function at baseline and these could have affected practitioners’ behaviour. As outcomes in some of these groups are likely to be poorer, it is impossible to know whether increases in affective reassurance reduced or increased the likelihood of poor outcomes. However, of the three studies with high methodology that found worse outcomes associated with affective reassurance, two adjusted for clinical status, and the third found no correlations between pain intensity at baseline and communications at the consultation.

The majority of studies identified in this review included consecutive mixed groups of patients, which are likely to be extremely heterogeneous. However, primary care samples are reported to include large proportions of patients with non-specific conditions or those typified by pain ([Elliott, et al., 1999](#_ENREF_61); [Henschke, et al., 2008](#_ENREF_101); [Hudon, et al., 2008](#_ENREF_114); [Hungin, et al., 2003](#_ENREF_116)). The majority of the identified studies included follow up in durations up to four months. The long term impact of reassurance remains, therefore, unknown.

A systematic review, published after these analyses were complete, reports evidence for a relationship between empathy and patients’ outcomes ([Derksen, et al., 2013](#_ENREF_48)), but interpretation of the findings in relation to this review are not clear, as measures of empathy do not distinguished between data-gathering and data-giving stages, and often include items that measure a combination of affective and cognitive reassurance ([e.g. Mercer, Neumann, Wirtz, Fitzpatrick, & Vojt, 2008](#_ENREF_177)). It is also important to note that studies that measured only cognitive or affective components of the consultation might be compromised, as the presence of the other (unmeasured) component may nonetheless impact on patients’ outcomes. Therefore, the stronger evidence is considered to be forthcoming from studies that measured both components in the same consultation.

RCTs were not included in this analysis. The research question within RCTs, ‘will this intervention change outcome’, is distinctly different from that in the observational studies which were included where we are looking for the characteristics that predict a good outcome following the consultation. Others have systematically reviewed the literature on studies to improve the consultation, and have not found a convincing benefit on patient outcomes; and they have failed to adequately draw out the components of effective reassurance ([Blasi, et al., 2001](#_ENREF_19); [Dwamena, et al., 2012](#_ENREF_59); [Griffin, et al., 2004](#_ENREF_87); [Joosten, et al., 2008](#_ENREF_126)).

## 3.4.3 Unanswered Questions and Goals for Research

Provisional evidence from this review suggests that some aspects of reassurance are more beneficial than others. In light of practitioners having to prioritise behaviours under time pressure, offering clear explanations and information about prognosis, explicit exclusion of serious disease, and discussion of treatment plan should take priority. It is of note that receiving information has been rated as a more important aspect of patient-centred care by patients, in comparison with clinicians prioritizing receptiveness and affective components ([Ogden, et al., 2002](#_ENREF_183)).

A model is offered to guide future research (figure 3.2). This model is based on the findings from the current review in combination with other theories, in reference to sequence ([Makoul, 2001](#_ENREF_167); [Mauksch, et al., 2008](#_ENREF_171)), content and components of the consultations ([Epstein, et al., 2004](#_ENREF_65); [Frankel & Stein, 1999](#_ENREF_74); [Roter, 2000](#_ENREF_226)) and paths to outcomes ([Street, et al., 2009](#_ENREF_260)). The model aims to provide guidance for future research, rather than providing a definitive model of evidence-based reassurance.

Specifically, the model includes measurement of known predictors of outcomes outside of consultation-related factors, details the consultation components at the different stages of the consultation, and a division of outcomes into short, medium and long term. Following from left to right, the block arrows at the bottom of the figure denote that patients’ characteristics and those of their problem (e.g. psychosocial factors, previous experience, education & knowledge, general health & fitness, pain, symptom burden, function) affect all aspects of the consultation, and outcomes at all stages.

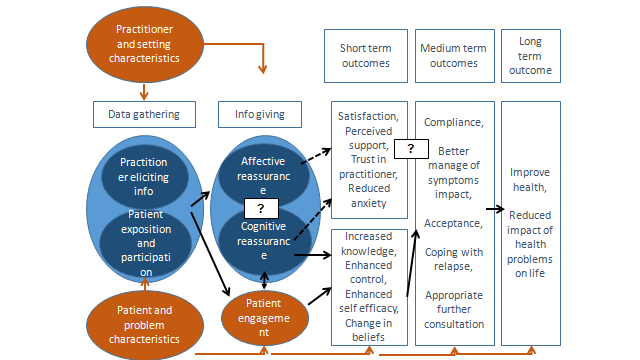


Figure 3.2 – Model of Reassurance in Relation to Outcomes

There is a plethora of evidence to support the association between patient characteristics and their behaviour during consultations ([e.g. Street, 1991](#_ENREF_259)) and their prognosis ([e.g. Gatchel, Peng, Peters, Fuchs, & Turk, 2007](#_ENREF_79)). The block arrows at the top of the page denote that practitioner and setting characteristics (e.g. personal characteristics, orientation, perceived roles, patients-related beliefs, work related factors such as consultation duration and stress) impact on all aspects of the consultation ([Gravel, Legare, & Graham, 2006](#_ENREF_86)).

As described in Chapter 2, the first stage of the consultation is data-gathering. The practitioner is involved in exploring symptoms, eliciting concerns/feelings, eliciting illness perceptions/causal attributions, exploring expectations, and, where appropriate, carrying out examinations. The patient is involved in exposition, description of the problem and its impact, and voicing beliefs, concerns and requests. This stage of the consultation affects the next stage (denoted by thin arrows) both in terms of the practitioner’s behaviour and the patient’s behaviour.

The next stage, data-giving, involves the practitioner offering affective and cognitive reassurance. These communications affect immediate outcomes, which in turn affect medium and long term outcomes ([Street, et al., 2009](#_ENREF_260)). Cognitive reassurance results in changes in knowledge and understanding, increased sense of control, and change in beliefs. The questions that remain to be addressed (denoted by question marks) are whether changes in short term outcomes such as satisfaction, perceived support and reduced anxiety (for which there is some evidence for an association with affective reassurance) improve or worsen medium and long term outcomes; and whether cognitive reassurance can be effectively delivered independently of affective reassurance.

This systematic review has shown that patient outcomes can be improved by some features of patient-physician interactions, although the evidence for others remains unclear. There is sufficient evidence to suggest that cognitive reassurance is an important aspect of the consultation, and that giving clear explanations and information improves patients’ outcomes in the short term, and in the long term. The findings raise questions about the impact of affective reassurance on patient outcomes, which, at best, appears to be related only to short term outcomes. Future research should, in the first instance, establish comprehensive, reliable and valid measures of both affective and cognitive reassurance. Experimental and longitudinal observational studies are necessary to compare the impact of cognitive and affective reassurance on patients’ outcomes, including their recall of information given during the consultation, their compliance with advice, and shift in their beliefs, in addition to symptom resolution, well-being and utilisation of health care services. There is a need to investigate these in distinct patient sub-groups. The following three chapters present a starting point to this research within low back pain primary care patient populations.

Chapter 4: Patients’ Narratives and Reflections on Reassurance during Low Back Pain Consultations: A Qualitative Study

# 4.1 Introduction

In the preceding chapters, the elements of effective reassurance based on Coia and Morley’s ([1998](#_ENREF_32)) model were provisionally identified. What is lacking from this model, though, is an understanding of what reassurance means to patients themselves, and specifically to patients with low back pain (as the populations studied were primary care patients in general). Patients will bring individual histories, concerns, and agendas to each consultation, and communication with physicians may be interpreted differently by different patients. To gain an insight into how patients understand reassurance in terms of their personal illness experience, qualitative methods are required.

Qualitative analyses of the ways in which patients interpret and value physicians’ communication behaviours are far sparser than the empirical studies and reviews discussed previously. However, a select few studies exist which give an insight into physician-patient communication from the patient’s perspective. The following sections review qualitative studies with populations that do not include LBP, but can inform on patients’ perception of effective reassurance in consultations.

One problem which has been identified is that of interpretation: patients do not always understand physicians’ statements in the way that they are intended. Barker, Reid and Minns Lowe ([2009](#_ENREF_15)) conducted focus groups with both health professionals dealing with back pain and lay persons (including those who had and who had not experienced back pain), and found that lay persons interpret many terms used by health professionals differently to how they are intended. They identified a long list of terms used by health professionals, such as acute, chronic, wear and tear, and neurological involvement, which were all met with negative perceptions from lay persons and had the potential to lead to problematic misunderstandings. For example, the term non-specific back pain, which health professionals agreed meant that a cause had not been found yet, was interpreted by participants to mean, varyingly, that the health professional did not understand the cause of the pain, that the pain was non-existent, that they would be automatically referred, or that the pain was ‘all-over’ the body. They also found that participants would attempt to define unfamiliar terms through guesswork – which is where misunderstandings may originate for some patients if incorrect interpretations are not corrected. In focus groups with health professionals, participants reported that they generally tried to avoid terms which could be misconstrued in discussions with patients in order to avoid these negative connotations, although they would use them in patients’ notes. This study demonstrates misunderstandings which can occur in the language used between physicians and patients. However, it did not explore the impact or aftermath of such misunderstandings. For example, how interpreting a medical term to mean a poor outcome might affect patients’ motivation or mood, or whether miscommunications have any impact on the patient-physician relationship. Additionally, this study did not include any discussion of how misinterpretations are handled: do patients attempt to clarify their understanding of terms, or do physicians recognise and attempt to remedy any misunderstandings? These are important unanswered questions, the answers to which may hold clinical utility in reducing the size of the language gap between physicians and patients.

Donovan, et al. ([1991](#_ENREF_53); [Donovan & Blake, 2000](#_ENREF_54)) repeatedly interviewed 54 patients with possible rheumatoid arthritis over a period of 6 months to 3 years regarding their consultations with rheumatologists. They found that although doctors usually tried to reassure patients about treatments, diagnoses and outcomes, patients often did not interpret the reassurance in the way doctors had intended – tending to infer ideas of future pain and disability from terms such as ‘mild’ or ‘early-stage’. They also found a clash of agendas wherein patients wanted doctors to understand how they perceived their problems within their personal contexts, but doctors tended to look at symptoms in terms of biomedical criteria. Patients were appreciative of doctors who took their time and were critical of those who rushed. They also found it difficult to express all of their concerns and 1/3 of patients felt misunderstood by their doctor, meaning that their lay beliefs weren’t addressed, reinforced or corrected. It is important to remember, though, that the data for these studies was collected over 25 years ago, and so these findings may not represent how patients and physicians interact today. Successful reassurance was achieved when patients perceived that the doctor had understood and acknowledged their difficulties.

Interviews with 188 patients with somatisation disorders (those with physical symptoms persisting at least 12 months without explanation) in Liverpool, St Helens and Knowsley ([Salmon, Peters, & Stanley, 1999](#_ENREF_235)) identified three categories of ways in which patients interpreted physicians’ explanations of their symptoms. Rejection was experienced by patients when their physicians denied the reality of symptoms or implied psychological problems. As a result, these patients would not trust telling their physicians about future symptoms. Collusion occurred in cases where explanations were generated by patients and agreed with by physicians, which although meaning the explanations were acceptable to patients, also left them questioning either the physician’s competence or the reason the explanation hadn’t been offered to them by the physician. Empowerment, although the least common type of explanation, produced alliance between patients and physicians and allowed patients to feel understood. This was achieved by explanations which exculpated the patient and provided tangible mechanisms for symptoms and the opportunity for self-management. This study utilised an unusually large sample for qualitative analysis, and employed rigorous procedures to pilot and review the interview structure and to build an analytical framework which was based in patients’ responses, checked against further transcripts, and modified as indicated. Explanations were also a priority for participants in Ward et al.’s ([2007](#_ENREF_289)) sample of 25 patients with rheumatoid arthritis taking part in a randomised controlled trial at a rheumatology clinic. Explanations were related to test results, medication and self-management techniques, although the type of information required was dependent on participants’ individual concerns. They also found that patients wanted to feel in control of their condition, which was accomplished by controlling their own medication, or even by refusing interventions such as surgery even if doing so was detrimental to their condition. Finally, patients derived confidence in their care from clear communication and positive relationships with physicians, which were based on approachability and empathy. The participants in this sample, though, were reflecting on the care they had received as part of a randomised controlled trial, rather than usual physician care. Participants’ expectations or perceptions of the care they had received could have been skewed by their awareness of the study, and so caution must be taken not to interpret these findings as representing patients’ views on care as usual. Interpersonal skills, caring, optimism and empathy from nurses were also important to participants in Fareed’s ([1996](#_ENREF_68)) sample of 8 hospitalised patients. No information is provided on participants’ illnesses in this sample, but that they had been admitted to either the medical or surgical ward of a hospital indicates at least some level of severity of their conditions. Additionally, the relationship between hospitalised patients and their nurses may reasonably be expected to be qualitatively different than the one between primary care patients and their physicians, with more of a focus on immediate physical care. In this context, interpersonal behaviours were a source of reassurance to patients, who appreciated nurses being there, and understanding and caring about them. Participants also valued information as a source of reassurance, including information about their disease or treatment and explanations of things which they had not understood, thereby helping to reduce the fear of the unknown.

Thórarinsdottir and Kristjánsson ([2012](#_ENREF_270)) conducted a concept analysis of the results of 60 qualitative studies of patients’ views on patient-centred participation in healthcare. Their results indicated three distinct ‘phases’ of the consultation. In the human-connection phase, patients rated an inviting atmosphere, feeling that the physician paid genuine attention and interest, and feeling respected and recognised as equal human beings as important. This is, essentially, the phase of the consultation where therapeutic relationships are formed, and trust is established. Next, the phase of information processing involves seeking and receiving appropriate information and information-giving, dialogue and knowledge-building. During this phase, patients seek information but also may provide it themselves, and physicians answer questions and share their knowledge. Finally, in the action phase responsibility is delegated and shared decision-making is undertaken to the level desired by the patient or physician, and patients reported wanting to feel that they had control over their care. The authors note that patient participation may only occur during the first phase, or may advance across all three, depending on the situation and the physician and patient involved. This study parallels the model presented in the previous chapter, in which warm, empathetic, listening behaviours form the data-gathering stage of the consultation, before moving on to information-giving and decision-making. The authors of this study refer to the human-connection phase as ‘fundamental’ to person-centred participation, which further calls into question Coia and Morley’s ([1998](#_ENREF_32)) assertion that these behaviours are to be entirely avoided.

The above studies paint a picture of patients’ perceptions of medical communication in which information is highly valued, having control is reassuring to patients, and appropriate interpersonal skills are important. However, these studies were conducted neither in primary care nor with patients with low back pain. Attention is turned now to qualitative analyses which more directly relate to the aims of this thesis.

Cooper, Smith and Hancock ([2008](#_ENREF_34)) interviewed 25 patients with chronic low back pain from physiotherapy departments in Scotland to ascertain what they considered to be patient-centred care in a physiotherapy context. Patients identified good communication, in which treatments and diagnoses were well explained and tailored to the individual’s needs; information was shared about their diagnosis and what it means for them; and being allowed to be involved in decision-making as much or as little as they personally wanted as key elements. Also important to patients was individual care, in which the professional really listened to and got to know the patient, and a professional’s caring, friendly personality.

Laerum, Indahl and Skouen ([2006](#_ENREF_142)) observed 35 specialist consultations and interviewed Norwegian patients with low back pain about their perceptions of the doctor’s communication. Twenty-nine out of 35 Patients felt it important to receive an understandable explanation of why it hurt, adapted to their concepts, knowledge and personal glossary, and approved of metaphors and physical demonstrations (e.g. with plastic spine models) to help achieve this. Effective reassurance was achieved when physicians clearly communicated that serious disease could be ruled out, when patients could infer their own benign conclusion from the information given, and when telling patients that pain does not necessarily mean harm and an increase in pain when moving/exercising may be a sign of repair process. Patients wanted doctors to address psychosocial issues, tell them what can be done about the pain (e.g. what activities are encouraged/discouraged), and to use patient-centred communication to make the patients feel “seen, heard and believed”. This study supports the notion that patients want to understand the causes of their pain, to know that it is not serious, and to be able to manage it within their individual lives. Patient-centred communication in this sample was related to physicians listening and being interested in what the patient said, empathising, and believing them about their pain. Both of these studies provide support for the proposed model of reassurance, as outlined in chapters 2 and 3, as patients place the most value on receiving information about what is wrong and what can be done. While interpersonal (affective) behaviours are seen as important, these are most often discussed in terms of listening to and fully understanding patients – both of which are central to the data-gathering stage of the consultation as a pre-requisite to effective cognitive reassurance.

Outcomes have also been explored qualitatively in samples of patients with low back pain. Andén, Andersson and Rudebeck ([2005](#_ENREF_4)) conducted focus groups and individual interviews with 28 primary care patients in Sweden with a range of problems (of whom 9 had problems with the back and joints) one week after a consultation with their physician. They found that participants considered a number of outcomes which could indicate a successful consultation, and that cure or symptom relief was only one outcome considered important. Participants also wanted to understand their problem in terms of their personal context: if the doctor achieved this, the consultation was considered successful even if the symptoms persisted. Explanations needed to be related to participants’ personal circumstances, otherwise understanding was not achieved. Participants further wanted confirmation or disconfirmation of their fears or fantasies, and to feel reassured about not having a serious problem that had been worrying them. This reassurance could be explicit (a statement that there is nothing serious going on) or implicit (receiving an explanation or diagnosis which precludes the possibility of something more serious). Achieving a change in self-perception relating to their illness was also a satisfactory outcome for some participants, typically those who had had their illness for a long time and had come to accept, after their most recent consultation, that it would persist and that they could focus now on finding ways to manage it. Finally, participants considered a consultation successful if they felt satisfied, which was linked strongly to understanding but exclusive of being cured.

Again, within samples of low back pain or primary care patients, receiving information and being able to understand their problem was an important part of their consultations. This often included the exclusion of serious disease so as to allay patients’ worries. While the existing published literature lends support to our model, no study was identified which dealt directly with patients with acute low back pain in general practice settings. The current study aimed to explore communication and reassurance within this population from the perspective of patients with low back pain themselves.

# 4.2 Methods

## 4.2.1 Design

This study used qualitative research methods to investigate the narratives of patients with low back pain of their consultations with a focus on reassurance. Semi-structured interviews were conducted with all participants. Ethical approval for this study was granted by the NHS Greater Manchester West Proportionate Review Committee and by the ethics committee at Royal Holloway, University of London.

## 4.2.2 Participants

Nine general practice surgeries in Northamptonshire, England recruited patients for this study who had recently had consultations for low back pain. The inclusion and exclusion criteria used to identify eligible patients are as follows:

Inclusions:

* Consultation within the previous month.
* New episode of acute LBP (duration <6 weeks; no prior episodes within last 6 months) without radiating leg pain and for whom self-management is indicated.
* Adult patients (>18 years).

Exclusions:

* Red flag markers.
* Cancer.
* Cauda equina and ankylosing spondylitis.
* Severe disability or end of life disorder.
* Pregnancy.
* Cognitive impairment or serious mental health problems, which the GP considers could make patients vulnerable and for whom participation would be detrimental.
* Previous spinal surgery.
* Currently receiving secondary care (physiotherapy, osteopathy, etc.) for the same problem.
* Unable to read and speak English.
* Those requiring further investigation

Eligible patients were identified through periodical searches in each practice’s database using the above criteria. A full search protocol, which was reviewed by an expert independent company, is available in Appendix 2. Searches were run by practice staff, to protect the confidentiality of patients’ medical records. Eligible patients were invited to take part in the study by post. Recruitment lasted for 6 months between May and November 2013.

## 4.2.3 Materials and Procedures

Letters were sent to eligible patients inviting them to take part in the study. Each invitation pack contained a letter of invitation, a detailed information sheet about the study which included contact details for the research team, a form which patients could fill in if they chose to participate, and a pre-paid envelope to return the form in. The form asked for patients’ name, GP surgery, telephone number, and best time to call.

Upon receiving returned forms, a researcher (NH) telephoned participants to arrange interviews at their convenience. Interviews were conducted in private rooms at each participant’s GP surgery. Participants were not offered payment for taking part in this study. Practices were reimbursed for Service Support Costs (SSCs) of recruitment and use of their rooms for the study by the National Institute for Health Research (NIHR). Upon arriving for interviews, participants signed a consent form indicating that they agreed to participate in the study. A short questionnaire was completed by participants, collecting demographic information (age and gender) as well as information about their back pain. Participants were asked to rate their pain intensity in the previous week on a scale from 0 (no pain) to 10 (worst possible pain) and identify how long they had been experiencing their current episode of low back pain. Next, questions concerned: whether or not patients had taken time off work due to this episode of back pain (yes/no/not applicable), and how long if so; whether this was the participant’s first episode of back pain (yes/no), and how long since their previous episode if not; how many consultations they had had with their GP for this episode of back pain; whether they had seen any other health professionals since their consultation; how long it took between contacting their surgery and seeing the GP; and how long they spent in with the doctor. Finally, the Roland-Morris Disability Questionnaire ([Roland & Morris, 1983](#_ENREF_225)) assessed their functional status at the time they had visited the GP. This scale has been well-validated for use in such populations ([Pincus, Santos, Breen, Burton, & Underwood, 2008](#_ENREF_203)).

The interview schedule was developed by NH in collaboration with a team of experienced low back pain researchers, who provided comments on each draft until a final schedule was agreed. Members of a patient advisory group also offered their comments on the interview schedule, and changes were made to the phrasing and ordering of questions as per their suggestions. Interviews focused on two main areas: what happened during participants’ consultations (with a specific focus on their concerns and expectations and whether they were met), and how their low back pain had been since. Table 4.1 provides a summary of the topic guide for the interviews. For the full interview schedule, including introduction and debriefing content, please see Appendix 3.

Participants were also asked, after their interview, to provide feedback on a newly-developed questionnaire which aimed to measure reassurance during consultations. This questionnaire and participants’ feedback on it are discussed in detail in the next chapter.

Interviews were audiotaped and transcribed by a private transcription service, who was familiar with principles of confidentiality. Audiotapes sent to transcribers referred to participants only by number, and any data within the interviews which could be used to identify participants or their doctors was excluded from transcripts.

## 4.2.4 Analysis

There are a number of options available for the analysis of qualitative data. Some, such as discourse analysis or conversation analysis, focus on language and the structures of interactions, and are not appropriate to address the research question here. Instead, a method is required which aims to uncover common ideas and meanings within participants’ data.

Grounded theory is an approach which was developed in the 1960s and is based in the philosophical traditions of pragmatism and symbolic interactionism ([Corbin & Strauss, 1990](#_ENREF_35)). It rests on the belief that observation is part of the construction of scientific truth, and is described as,

“an organic process of theory emergence based on how well data fit conceptual categories identified by an observer, by how well the categories explain or predict ongoing interpretations, and by how relevant the categories are to the core issues being observed.” ([Suddaby, 2006, pp. 634](#_ENREF_261))

Table 4.1 -Interview Topic Guide

|  |  |
| --- | --- |
| **Topic Question** | **Probes** |
| Can you describe your consultation in as much detail as possible in respect to the bits that were reassuring and the bits that were not? | Did your doctor examine you at all? (if patient has not already mentioned this)  What were your thoughts about the examination?  So can you sum up for me which key aspects you felt were reassuring, and which weren’t? |
| What concerns did you have about your back pain before you went to see the doctor? | Did you tell the doctor about these concerns?  *Probe if yes*: “How did he or she respond?”  *Probe if no*: “Why not?”  Have you been concerned about these things since your consultation?  Tell me what changed that?  Was there anything in the consultation which has made a difference to that concern?  So, I’ve heard about your concerns and how your consultation has affected them. Was there anything else you expected to get out of your consultation?  Was this expectation met? |
| How, if at all, has your experience with the back pain changed since seeing the doctor?  *Specific aspects to explore: work, daily activities, social activities, exercise, hobbies, housework* | Why do you think that is?  Was there anything in your consultation which changed any of this?  What other changes have you noticed? |
| Was there anything else about your consultation which was significant to you that we haven’t yet talked about? |  |

Grounded theory involves analysing and collecting data simultaneously, in a process of constant comparison, to ensure that the developing theory fits the data, and new data is obtained which will be pertinent to the developing theory.

Thematic analysis methods are used to identify, analyse and report patterns within a dataset. They offer a flexible tool which can provide a rich, detailed and complex account of the data ([Vaismoradi, Turunen, & Bondas, 2013](#_ENREF_276)). Framework analysis ([Ritchie & Lewis, 2003](#_ENREF_220); [Ritchie & Spencer, 1994](#_ENREF_221)) builds on thematic analysis methods, which have been criticised for lacking depth and transparency in relation to the development of themes, with greater emphasis on illustrating the linkage between the stages of the analysis to make the process more transparent ([Smith & Firth, 2011](#_ENREF_252)). The central feature of framework analysis is its use of matrices which display cells of summarised data organised by cases (e.g. participants) and coding categories. These matrices allow in-depth analysis of key themes across the whole dataset, whilst maintaining the context of each piece of coded data within each participant’s account ([Gale, Heath, Cameron, Rashid, & redwood, 2013](#_ENREF_77)). Grounded theory is an inductive approach, while framework analysis can be either inductive or deductive, or a combination of the two ([Gale, et al., 2013](#_ENREF_77)). A key difference is that framework analysis is not necessarily concerned with generating social theory, but rather seeks to generate themes which describe and interpret participants’ views. This study is not concerned with developing a theory of consultation interactions: a theory has already been posited, as described in the previous three chapters. Rather, the aim of this study was to explore reassurance from participants’ perspectives, with analysts allowing participants’ own responses to inform the development of the thematic output. This is to avoid what Ritchie and Lewis ([2003](#_ENREF_220)) call ‘bullying’ the data to fit with a pre-determined theoretical model. The results of this study will be compared with the existing theory, but the theory will not be imposed upon participants’ responses. Framework analysis also offers the benefit over grounded theory that it remains rooted in participants’ data, with researchers being able to move back and forth across the data, between levels of abstraction, to ensure fidelity to participants’ narratives ([Smith & Firth, 2011](#_ENREF_252)). Grounded theory, by comparison, encourages researchers to begin to view data in terms of abstract concepts as early as possible, to allow for comparison across cases and theory-building ([Corbin & Strauss, 1990](#_ENREF_35)). As Suddaby ([2006](#_ENREF_261)) says, “the primary interest is not in the stories themselves.” (pp. 635). In order that the analysis remains inductive, it was felt unwise to begin to apply theory too early in the process, lest participants’ responses were lost to the pre-existing model of consultation reassurance. Therefore, the framework method was selected to analyse this dataset, based on the methods described in Ritchie and Lewis ([2003](#_ENREF_220)).

Interview transcripts were analysed using QSR International’s NVIVO 10 software ([QSR, 2012](#_ENREF_211)). After a small number of transcripts were examined to enable familiarisation and identification of main themes, a coding framework was developed based on participants’ responses. All transcripts were then coded by one researcher according to the framework, with changes made to the framework as new categories emerged and were applied to previously-coded transcripts. When all transcripts had been coded, data was arranged into separate thematic charts, or matrices, for each main coding theme. Within each matrix, coded data was summarised by sub-theme and participant, although links were retained to the original text so that participants’ words and their context were still available.

Matrices were then examined, taking each coding sub-theme individually, to identify emergent categories and classifications for the dataset, and identify associations between themes until a final thematic framework emerged. This framework was then applied to each chart and transcript to ensure that the framework fit with the original data. The development of the thematic framework was supervised by SV, an experienced qualitative researcher, with consensus being achieved through discussion.

A summary table was developed charting participants’ concerns and expectations, whether these were discussed and/or addressed, and what percentage of each participant’s concerns/expectations had been addressed. Where they had been, the way in which they were addressed was labelled as either implicit or explicit, in line with the thematic framework. Finally, each participant’s transcript was read wholly in order to assign typologies relating to the outcomes of improved pain, improved coping, and satisfaction. Participants were assigned to either a positive or negative outcome on each domain, or as unknown where this information was not available in the transcript.

# 4.3 Results

## 4.3.1 Participants

181 eligible patients from 9 GP surgeries were invited to participate in the study. Of these, 28 responses were returned, giving a response rate of 15.5%. One patient declined to participate when telephoned to arrange an interview, two patients failed to arrive for their interviews, and one patient was unavailable to conduct the interview within the study period. Interviews were conducted with 24 participants. One interview failed to record, leaving a total of 23 transcripts for analysis.

Table 4.2 provides a summary of the background data collected about this sample. While capturing participants after their first consultation would have been ideal, 11 had had previous consultations with their GP for their current episode of low back pain (an average of 2.4 consultations). Where applicable, this was incorporated into the interview schedule and participants were asked to discuss significant GP communication behaviours from any of their prior consultations. Some participants had seen different health professionals between their visit to the GP and the time of interview. These were (as listed by participants, with number of participants who had seen them): physiotherapists (3); chiropractor (1); pain clinic (2); hospital (1); osteopath (1) and specialist (1). Again, this was incorporated into interviews where appropriate and communication during these encounters was also explored.

Table 4.2 - Sample Data

|  |  |
| --- | --- |
| Average Age | 57.2 years |
| Gender | 13 male (57% )  10 female (43%) |
| Average Pain intensity | 5.4 |
| Episode Length: | * 1. month: 1 (4%)   1-3 months: 11 (48%)  4-6 months: 1 (4%)  7 months – 3 years: 5 (22%)  More than 3 years: 4 (18%)  Missing: 1 (4%) |
| Time off work | 5 yes (22%)  7 no (30%)  11 not applicable (48%) |
| Average time off work | 13.2 days |
| First episode? | 5 yes (22%)  18 no (78%) |
| Average number of previous consultations for this episode of low back pain | 2.4 |
| Average time to appointment | 3.92 days |
| Average consultation length | 12.4 minutes |
| Average RMDQ score | 10.9 |

## 4.3.2 Findings

Analysis of participants’ interviews revealed three main themes which play a role in low back pain consultations. A summary table showing how initial coding themes and subthemes mapped onto the final thematic framework is shown in Table 4.3. The first major theme concerns patient factors, which may otherwise be described as what patients bring with them to the consultation: their experiences and their beliefs. Secondly, a theme of implicit reassurance revealed itself in patients’ responses. Implicit reassurance refers to things which patients find reassuring outside of spoken messages from the doctor. Patients found reassurance in doctors’ actions, their manner, and in feeling that the doctor would be there for them. Finally, explicit reassurance was also an important part of these patients’ consultations. This type of reassurance came directly from what the doctor told patients, and focussed strongly around their’ need to understand what had caused their low back pain and how to resolve it. Each of these themes will now be explored in more detail, with a description of each theme’s categories and the elements within them provided in Tables 4.4, 4.6 and 4.7.

Table 4.3 - How Coding Maps to Thematic Framework

| **Initial Coding Themes** | **Initial Coding Categories** | **Final Themes** | **Categories** | **Elements** |
| --- | --- | --- | --- | --- |
| Data-Giving | Comorbidity | Patient Factors | Pain Experiences | Experience of pain |
| Description of problem | Mood |
| Lifestyle | Impaired activities |
| Triggers and causes | Interactions and comorbidities |
| Concerns | Future disability |
| Progression of pain |
| Serious disease |
| Specific condition |
| Hopes and Expectations | Cessation or cure | Beliefs | Causal attributions |
| Information | Concerns |
| Pain reduction | Expectations |
| Prescriptions |
| Resignation to pain |
| Acceptance of limits of the system |
| Expectations met or not |
| GP as gatekeeper | Not an expert |
| Referral Point |
| Examination | Examined | Implicit Reassurance | Being taken seriously | Doctor listens |
| Not Examined | Examination |
| Reassurance | Doing everything they can | Doctor wants to help |
| Treated as a whole | Doctor-patient relationship | Relationship-building |
| Affective behaviours | Doctor listens | Knowing the doctor |
| Emotional responses |
| Informal discussion | Setting | Availability |
| Positive response |
| Taking patient seriously |
| Dismissive behaviour |
| Relationship with practitioner | Finding common ground |
| Knowing the doctor |
| Seeing unfamiliar doctors |
| Trust in doctor’s judgement |
| Quality of care | Practice characteristics |
| Time spent with doctor |
| Waiting times |
| Barriers to communication | Don’t like to ask |
| Feeling like a time-waster |
| Reluctance to re-consult |
| Avoidance of further health-care utilisation |
| Addressing Concerns | Concerns not addressed |
| Not given chance to discuss |
| Imaging | Not offered | Both implicit and explicit reassurance | Being taken seriously | Doctor wants to help |
| Requested by patient |
| Refused | Explanations | Physical explanation |
| Sent for |
| Diagnosis | Confirmation or Disconfirmation of suspected condition | Explicit Reassurance | Ruling out serious disease | No-disease explanations |
| Certainty from doctor | Explanations | Cause |
| Quite serious | Physical explanations |
| Importance of having a diagnosis | Advice |
| Assumptions made in absence of diagnosis | prognosis |
| Explanation | Ageing | Decision-making | Treatment explanation |
| Physical explanation | Treatment choice |
| Discussion of scan results |
| Sharing information |
| Visual aids |
| Responsibility of patient |
| No explanation |
| Addressing Concerns | Ruling out serious disease |
| Prognosis | Poor outlook |
| Time to recovery |
| Uncertainty over time to recovery |
| Not much can be done |
| Lifestyle advice | Changing lifestyle |
| Fitting treatment into lifestyle |
| How to help oneself |
| Maintaining activity |
| Reassurance | Doctor not concerned about serious disease |
| Treatment | Offered a choice |
| Doctor as expert |
| Explanation of treatment |
| Shared decision-making |
| Treatment preferences |
| Uncertainty | Doctor is not sure |
| Guesswork |
| Tackling uncertainty |

Table 4.4 - Patient Factors Theme Summary Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Elements** | **Definition** | **Examples** |
| Pain experiences | Experience of pain | How the experience of low back pain has been felt by patients | “it's not a constant ache. If I stand up it doesn't hurt. It's pulling a bit now because I'm sat up straight. If I go like that it doesn’t. And when I bend forward, go forward, then it pulls and hurts.” *PPT 010, female*  “the bad back is always there. It's even there now, as I'm sitting, and I think I've only got to do something extraordinary, like sneeze, or run, or do something where I turn, that it's just going to go off again” *PPT 023, female*  “it was because I got different pain ... Because my pain was different to that which I would normally experience, I chose to see a doctor” *PPT 013, male* |
| Impaired activities | Impairment in daily living, e.g. work, sleep, hobbies, or movement | “well it affects my whole life because I can't do what I need to do, and then along with … because I have a bladder issue, so my urgency in the morning, that's a big problem, and I'm not very old to find that that's really embarrassing, that I don't get to the toilet in the mornings” *PPT 005, female*  “I can't walk properly or manage stairs, and I have to be careful mowing the lawn and things like that, you know, and walking the dog. I have to remember which leg to leave when I go up a step.” *PPT 001, male* |
| Mood | Negative mood as a result of low back pain | “the pain was beyond the Paracetamol could deal with and I couldn't sleep at times, umm, getting irritated” *PPT 006, male*  “it does get a bit depressing because it's sort of … when you want to go and do something, you feel that you can't give it your full you know 100% because it aches too much. It just aches.” *PPT 010, female* |
| Interactions and Comorbidities | Other conditions or medications which have either contributed to the pain or hindered recovery | “I've also got another condition, Polymyalgia, and I'm taking steroids for that ... And because of the lack of exercise on the steroids I've put on a lot of weight, put on three stone, since last October, and this was … so it becomes a vicious circle umm the more weight you put on the worse the pain” *PPT 002, male*  “I was putting it down to the fact that I was taking Statins and I had tested myself going off Statins for three months, going off for five days, and then going back on to them, and the back pain seemed to stop, so I put it down to the Statins” *PPT 003, male* |
| Beliefs | Causal attributions | Participants’ beliefs about what had caused their current episode of low back pain | “I walked in and said I think I've got sciatica, it's quite bad” *PPT 004, male*  “I think it could be related to the job I do because, instead of bending at the knees, because I work in a shop, you tend to bend at the waist to do things, and it's a job where you have to do that quite a bit, so I don't know whether it’s been over a long period of time, it's … done something to the muscles and stuff, I don't know.” *PPT 010, female* |
| Concerns | Participants’ concerns over what their low back pain might mean | “you wake up the next day and it's still there, and that's the only reason that I came in because … I keep having … that's a bit more than just nothing you know.” *PPT 019, female*  “I imagined all sort of things, you imagine cancer, you imagine something wrong with your kidneys” *PPT 017, male*  “Well I suppose the concerns you can only say is when it's happening the pain is so bad that you think a) it might be something worse than what you've had, or b) is this going to immobilise me for longer than I want.” *PPT 023, female* |
| Expectations | What participants expected from their consultations and their treatment | “I was hoping he would give me some soluble Co-Codamol and he didn't. So I get that myself now, buy that myself.” *PPT 007, male*  “As I said, I was expecting to go for an x-ray or a blood test or these sort of things what should be done to find the exact cause of the problem” *PPT 015, male*  “I didn't know what to do, so really I was coming for advice because I thought shall I do this, shall I do that, don't really want to take any time off work, but I don't want to pay for an osteopath, because I've got private medical, the doctor will advise me” *PPT 022, female* |

## 4.3.2.1 Patient Factors

### Pain Experiences

Living with low back pain had meant different things to different participants. For some it was a constant pain, for others a pain which came and went. Some had not experienced back pain before, while others had been suffering with their backs for a long time, for example following injuries which had been incurred a number of years ago:

“[the doctor] asked me if I'd had previous umm problems, which I had, five years ago, I had a car crash” *PPT 020, female*

Participants were able to articulate their experience of pain well, and to identify exacerbating factors such as sudden movements, overexertion, or sitting for too long. For a number of participants, the pain was somehow different to what they had expected or experienced previously: it lasted longer; felt more intense; had begun spreading to their hips, legs, or buttocks:

“I usually move myself, force to move myself, that time I couldn't. I was in tears.” *PPT 011, female*

For some participants, these changes had prompted their decision to consult a physician. Participants’ experiences of their pain fed into the concerns they felt over what the pain might mean, and their expectations of how the doctor would be able to help them.

A common theme which participants discussed during consultations was impairment. This could be impaired ability to perform their hobbies or work, impaired sleep, or impairment in social situations. A number of participants had given up on sports, exercise or gardening due to their low back pain, which was often a source of unhappiness for them:

“I mean I'd love to still be playing cricket, I know I can't do that, umpiring was the next best thing, and that's been taken away.” *PPT 001, male*

“I just couldn’t do my garden, I couldn't even mow the lawn ... and you know I enjoy a little bit of gardening, what have you. I used to play golf but I had to pack that in, but bowls, I've had to pack in bowls, everything.” *PPT 002, male*

The losses which participants had felt as a result of their low back pain were another motivating factor in coming to see the GP:

“But then I was having a job to get out of bed again in the morning. I was having to roll out because I couldn't pick myself up. And so I've come back down [to see the doctor].” *PPT 012, female*

They wanted to see if their doctor could help them to regain some of the freedoms they had lost, as indicted by participant 002 (male), who said, “if I can get some relief of pain, at least I could go for walks and what have you.” As well as being less able to engage in pleasurable activities, participants described the impact of their pain on their everyday lives as well:

“when it does come on, it's so bad, you just get sick with it, and it stops you in your tracks and you can't get in and out of the car, for example, without taking like 10 minutes and a crane and everybody else to help you, and I know that sounds dramatic, but that's exactly as it is and uhh doing things like just sitting down, it's excruciating” *PPT 023, female*

The impairments described by participants in this sample relate to the ways in which low back pain can be disabling for those who suffer from it, as small daily tasks become impossible due to overwhelming pain. Reduction of disability is often a key goal for the management of low back pain, and the participants in this sample were seeking assistance to return to living the way they had been able to before their pain began.

A recurring problem related to the theme of impairment was the negative effects this had on participants’ mood and ability to cope. When low back pain was disturbing participants’ sleep, they described themselves as getting irritated, and one said:

“That's what's made me push for [help from the doctor] because I'm just so tired because I'm not getting a good night's sleep ... Umm so that's really why I've pushed for [the consultation]. I need my sleep! I'm not a nice person if I don't get my sleep!” *PPT 016, female*

With regards to their mood, as related to their low back pain, participants used the words “depressing” and “frustrating”, such as participant 010 (female, quoted in Table 4.4). The data pool for the subtheme on mood is small, as participants tended to express their negative mood briefly as a reaction to the pain they were describing, such as adding “it’s frustrating” after describing not being able to do something due to the pain. As such, more lengthy quotes than the ones already given are not available. However, this still represents an important element under the theme of pain experiences, because, similarly to the subtheme ‘impairment’, it demonstrates that the effects of pain were wider than just the physical experience of pain, and the association between chronic low back pain and mood is well-documented ([e.g. Linton & Bergbom, 2011](#_ENREF_156)).

For some participants, it was important to discuss with the GP how other conditions (and the medications they take for them) were interacting with their low back pain. Two participants had issues with digestion which made taking medication for their pain more difficult. Two further participants had expressed concerns over their back pain leading to surgery, as their diabetes meant this would increase chances of complications:

“I'm stuck between if he wanted to do, because if it's any operation I refuse this operation ... I say, no, because I'm diabetic.” *PPT 011, female*

For two other participants, it was medications they had taken for other conditions which they felt had led to their back pain. Participant 002 (male, quoted in Table 4.4) had been unable to exercise and had gained three stone after taking steroids for another condition, which had made his pain worse, and participant 003 (male, quoted in Table 4.4) had found that his pain was relieved when he stopped taking his prescribed Statins, and returned when he took them again.

Participants wanted to discuss these interactions and comorbidities with their GP because they felt they were pertinent to how their backs were affected as well as their options for improving the pain, and were related to participants’ aims for the consultation. For example, participant 003 made requests to change his medications if they were interacting negatively with their low back pain, quoted in Table 4.4. Participant 005 described having to make a trade-off between her back pain and her underactive thyroid, as painkillers make the symptoms in her digestive system worse. Having discussed this with her physician, she was left feeling that “you either want the pain, or, you know...” (PPT 005, female), indicating that she had not been offered a solution which enabled her to manage both problems more effectively.

### Beliefs

Causal attributions were discussed by participants and their GPs, with workplace factors being a common line of inquiry where applicable (e.g. patient is not retired). Generally, it was doctors who instigated these discussions by asking participants about their work, and participants found it helpful because, as one said, “you spend most of your time at work, so it makes sense that focus on an area where you're doing most of your … you're spending most of your life” (PPT 024, male, 35). For participant 015 (male, 34) this was particularly helpful because the doctor wrote a note to his workplace that his workstation had to be re-assessed and changed as required, as the participant had told him that it was not suitable.

Participants in this sample were very keen to understand what had caused their low back pain – by understanding the cause, they could try to prevent it happening again – and so they looked to the GP to confirm or disconfirm their causal attributions. Participant 010 said:

“if they do turn around and say, it's your job and you've either got to put up with it, or change what you do, you can go from there, but I'm not going to do it … not going to stop doing what I'm doing because they've not told me what it is.” *PPT 010, female*

Participants wanted to discuss what they thought had caused the low back pain with their GP in order to be able to do something about it. Without such discussion, they were left, as participant 010 was, not knowing what they could do.

Participants in this study had come to their consultations with a number of concerns about their back pain and what it might mean for them. While many came with specific concerns that they might have more serious conditions, for some it was just a feeling of ‘something more’ going on:

“I just wondered whether it was more than just muscle pain. I don't know what else it could have been but I just thought it might be more than just that” *PPT 010, female, 47*

Participants also expressed a fear of the unknown surrounding their pain; as participant 001 (male, 67) said, “The big worry is not knowing what it is.” For others (over a third of the sample), whether or not they had a specific condition in mind, they were worried about becoming incapacitated or ending up in hospital. Participants mentioned seeing other people with debilitating back pain, or having had previous episodes which left them unable to function for a long time, and were concerned that this would happen to them with their new episode:

“**(interviewer) Did you go through that with the doctor?**

Yes, yes, because when I hurt my back, five years ago, it took me a year to get back to work ... I just couldn't walk. I couldn't stand. I couldn't sit. Everything you could only do for small periods, you know …

**So was it part of the worry not wanting that to happen again?**

Yes. Yes. ... Be back in that situation, that it was going to take me a year to get to recover from it.” *PPT 020, female, 50*

“to be honest, I'm worried about it, I don't want to get involved in anything heavy, you know, like going to hospital and having to stay in hospital, anything like that.” *PPT 007, male, 84*

Though some faced more general concerns, many participants had consulted their GP with concerns over specific diseases or conditions. The most common among these were kidney problems and/or cancer. Spinal problems were, perhaps unsurprisingly, also a concern for some participants, with disc problems or nerve problems such as sciatica mentioned. Participants’ concerns are summarised in Table 4.5.

Although most participants had some concerns about their pain, they did not always discuss these with the doctor. For some, it was the case that they didn’t want to trouble the doctor with their concerns:

“**Were you able to address these concerns with the doctor?**

No, not really, not really. I didn't want to burden them ... But I've just worked that out for myself as well ... So that was it really.” *PPT 023, female, 59*

Whereas in some cases it was lack of opportunity which held them back. Participant 009 said:

“**Have you felt able to tell the doctors about those worries?**

No.

**Why is that?**

Because he don't ask me for this. When he don't ask me I don't think.” *PPT 009, male, 35*

Table 4.5 also charts which concerns were discussed during consultations and which were not, with the reasons why not where they were given. Participants’ concerns were often a key reason why they had consulted their physician: they were worried that something might have been seriously wrong, and so they came in to find out. What this data shows, though, is that while patients may have concerns, they are not always spontaneously volunteered in conversation with physicians.

Table 4.5 - Concerns and Expectations Summary Table

| **participant** | **Concern** | **Expectation** | **Discussed?** | **Addressed?** | **% addressed**1 | **Explicit/Implicit** | **Improved Pain2** | **Improved Coping** | **Satisfaction** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 001 |  | MRI | Yes – doctor asked | Yes – MRI sent for | 50 | Both |  |  |  |
| Effect of diabetes on possible operation |  | No – felt that doctor wouldn’t know | unknown |  |  |  |  |
| 002 | Sciatica |  | Yes – asked whether it was | Yes – confirmed sciatica | 100 | Explicit |  |  |  |
| Slipped disc |  | Yes – asked whether it was | Yes – ruled out through exam | Explicit |  |  |  |
| 003 |  | Stop taking Statins | Yes – told her would like to | Yes – doctor agreed | 100 | Implicit |  |  |  |
| 004 | Sciatica |  | Yes – told doctor | Yes – confirmed sciatica | 67 | Explicit |  |  |  |
|  | Pain relief | Unknown | Yes – pain relief provided (feeling good) | Implicit |  |  |  |
| Something more – e.g. disc problem |  | Yes – mentioned it | No – declined MRI. That doctor didn’t argue suggests benign, but still doesn’t know what is |  |  |  |  |
| 005 |  | Further investigation | Yes – requested it | No – doctor refused | 0 |  |  |  |  |
| Something more serious |  | Yes – asked for investigations | No – no exam, no tests |  |  |  |  |
| 006 |  | Non-painkiller solution | No | No – painkillers prescribed | 40 |  |  |  |  |
| Something serious, stroke etc. |  | No | Yes – with benign explanation (by exclusion) | Explicit |  |  |  |
|  | Stronger painkillers | No | Yes - prescribed | Implicit |  |  |  |
|  | Thorough examination | No | No – just bending, no laying of hands |  |  |  |  |
|  |  | Information | No | No – has found it elsewhere |  |  |  |  |  |
| 007 |  | Soluble co-codamol | No – concerned with cost-saving | No – not prescribed. Buys them himself | 0 |  |  |  |  |
| 008 | Shooting pains down leg |  | Yes – told doctor | Partial – explained could be nerve, rest, come back if ... | 50 | Explicit |  |  |  |
| 009 |  | Examination | No | No – not examined, just prescribed painkillers | 0 |  |  |  |  |
| Landing in a wheelchair |  | No – doctor didn’t ask | Unknown |  |  |  |  |
|  | Scan | Yes – requested it | No – said it’s too early |  |  |  |  |
| 010 |  | To be told why pain was spreading to hips | Unknown | Partial – hip X-ray excluded damage, but still no explanation | 25 |  |  |  |  |
| Something more serious |  | Yes – told them pain had spread | No – not examined, not explained |  |  |  |  |
|  | Information on treatment options | Unknown | No – found out from other sources |  |  |  |  |
|  | Taken seriously | No | Partial – one doctor made her feel she was being a pain; another doctor sent for scans | Both |  |  |  |
| 011 |  | Advice on how to help herself | Unknown | Yes – provided this advice | 100 | Explicit |  |  |  |
| 013 | Something more than a back problem |  | Unknown | Yes – was definitely nerve/muscular relating to back | 100 | Explicit |  |  |  |
| 015 |  | Further investigation for suspected kidney trouble | Unknown | Partial – 1st doctor didn’t investigate, 2nd sent for tests | 25 | Both |  |  |  |
|  | x-ray or blood test | Unknown | No – not sent for |  |  |  |  |
| 016 | Becoming a burden |  | No | No | 33 |  |  |  |  |
|  | Referral | Yes – asked for it | Yes – referred privately | Implicit |  |  |  |
|  | Information on causes and self-management | Unknown | No |  |  |  |  |
| 017 | Something serious |  | No | Yes – by excluding serious disease | 100 | Explicit |  |  |  |
| 019 | Something more serious |  | No | No – explained as muscle strain but not what had caused it | 0 |  |  |  |  |
| 020 | Not being able to move, long recovery |  | Yes | No – offered physio which she’s had before and was ineffective | 0 |  |  |  |  |
| 022 |  | Referral to osteopath | Yes – requested it | Yes – referred, but to physiotherapy not osteopath | 66 | Both |  |  |  |
| Pain being as bad as last time |  | Unknown | No – waiting for physio appointment for them to advise |  |  |  |  |
|  | Advice | Yes – asked for it | Yes – referral | Explicit |  |  |  |
| 023 |  | Painkillers of appropriate strength | Yes – requested it | Yes - prescribed | 100 | Implicit |  |  |  |
| Becoming immobilised |  | No – didn’t want to burden them | Yes – nothing serious | Explicit |  |  |  |
| 024 |  | Discussion of workplace factors | Unknown | Yes – thorough discussion and advice | 100 | Explicit |  |  |  |
| Didn’t want to rely on medication |  | No – happy to try it | Yes – reassured they were for relaxing muscles, not Painkillers | Explicit |  |  |  |
| Serious disease (bowel cancer) |  | Unknown | Yes – told signs to watch out for | Explicit |  |  |  |
| Percentage calculated as: . Where concerns or expectations were partially addressed, they were counted as half a concern/expectation addressed. Where it was unknown whether they had been addressed, they were counted as not having been.  2 For each outcome of improved pain, improved coping and satisfaction, outcomes were coded as either positive (green) or negative (red). If this information was not available in the transcript, they were coded as unknown (orange) | | | | | | | | | |

As discussed under the theme of pain experiences, participants had come to their consultations for specific reasons (e.g. because their pain was different and they wanted to know why). As a result of this, participants can be said to have arrived with certain aims for the consultation (e.g. to find out why their pain had changed) and expectations about how these aims would be achieved (e.g. the doctor would explain what had happened). For some, their expectations were specific and straightforward: they wanted certain prescriptions, to be sent for scans, or referrals to different specialists. When these expectations were met, participants were satisfied with how their consultations had gone: they had got what they came for, and so they were happy. The kinds of specific expectations participants had are listed in Table 4.5.

The most frequent hope for consultations, as espoused by just over half of the participants, was for information. Most commonly, participants wanted to understand what was causing their pain. This information, they felt, would have eased their minds of any worry that there was something more sinister going on:

“if you know what it is, and you know why it does that, then it puts your mind to rest.” *PPT 017, male, 56*

Finally, participants wanted information in order to help them manage the pain. This meant both understanding what was causing the pain, and receiving advice on what to do about it:

“I need to know what's causing the pain, where it's coming from, why it's occurring and how do I manage it, not just, oh, take these tablets three times a day, or whatever, that's all very well but there's obviously other things that you can do ... So that's what I need to know, umm, in some ways, it's more important than pain killers, well it is for me anyway.” *PPT 016, female, 66*

The above two quotations illustrate the twofold reasons why participants wanted to receive information, and why they found it reassuring: it tells them what is going on, and what they can do about it.

By looking at Table 4.5 a pattern can be seen to emerge: when participants’ concerns and/or expectations were addressed, they show a positive result on at least one of the three outcome domains. In fact, it was those who showed no satisfaction or improvement in pain or coping, who had had none of their concerns and/or expectations addressed. What this shows is that addressing concerns and meeting expectations may have a beneficial effect on patients after their consultations. Three participants showed positive outcomes without having any concerns addressed or expectations met (participants 007, 019 and 020). By looking back through their transcripts, though, it emerged that these participants had sought to address their concerns and expectations themselves *after* their consultations. Participant 007 wanted a specific prescription, which he now buys himself having failed to receive it from the doctor; participant 019 felt she had identified the cause of her low back pain herself after seeing the doctor and taken steps to address it; and participant 020 had self-referred to physiotherapy which she felt had improved her pain. It is important to note that this is a qualitative study of patients’ experiences in consultations, and so it is not possible to make quantitative assessments of the impact of having concerns and expectations dealt with in the consultation on patients’ recovery. The apparent association of having concerns addressed and expectations met with improvement following the consultations is speculative, and would require controlled testing in a study with a clear timeline to convincingly establish. Recovery is a complex process, and there are likely to be numerous factors involved outside of having concerns addressed and expectations met within the consultation. Participants 019 and 020 also reported feeling satisfied with their consultations, despite their concerns not being addressed. They had felt the consultations had gone well in other areas, such as examination or prescription, although they hadn’t come in with any specific expectations regarding such things, which are likely to have played a part in them reporting positive outcomes. In the following sections, the ways in which concerns may be addressed or expectations fulfilled will be discussed by looking at participants’ views on what effective reassurance meant to them.

## 4.3.2.2 Implicit Reassurance

### Being Taken Seriously

Listening to patients was raised several times as an important behaviour on the part of GPs. Participants wanted to feel listened to so, as it gave the impression that the doctor understood them and their situation. This relates back to the patient factors discussed in the previous section: each patient brings to the consultation a personal story containing histories and beliefs, which they want the doctor to know about in order to be able to treat them individually:

“I think it's all … umm … people being symp … not sympathetic, just understanding I suppose ... It was, you know, listen to what I'm … listened to what I'd said, given me the advice ... and I can't argue at all, so quite happy” *PPT 022, female, 56*

Tied in with this were ideas of compassion, support and understanding. Feeling that the doctor was listening gave patients the sense that their pain was being taken seriously by someone who was motivated to help them.

Under the topic of examination, participants fell into two categories: those who were examined, and those who were not. Generally, participants who were examined were pleased with how it went, with the general consensus, even if the patient hadn’t know what to expect, being along the lines that “I wasn't sure that the level of physical examination umm … could have been done much better” (participant 006, male, 41). Doctors tended to feel around the area, test reflexes, and ask patients to bend, stretch or lift their limbs. Examination seemed to reassure patients that the GP was serious about their problem, and would be able to better tell what it was:

“if someone's got back pain, the only way you're going to see how serious it is, is actually testing it and seeing the reaction of the person” *PPT 024, male, 35*

As may be expected, then, participants who had not been examined tended to feel disappointed. There was a sense among participants that examination would give the doctor insight into what was wrong, and that, conversely, they could not know this without examining the back:

“Maybe, maybe he find some area … find a place where it's actually hurting, the damage. Because I have some … I don't know … I have something in here ... But he don't see this ... Goes … painkiller, bye.” *PPT 009, male, 35*

Examination, then, indicated to participants a desire on the part of the doctor to know what was wrong with their backs, which meant that their pain was being taken seriously. When examination was absent, they did not experience the reassurance of feeling that their doctor had taken the steps to understand their pain and be able to treat it effectively.

Part of feeling taken seriously for the participants in this sample was feeling that the doctor was motivated to help them. This, for most participants, was more of a general impression than a specific behaviour, although certain actions did seem to help to give this impression. One of these was acknowledging the pain participants were in:

“Well as it happens it was downstairs and I had to wait and it was just a practice nurse and I just couldn't get out the chair and she said you're in pain aren't you, I said, yes, I just could not move.” *PPT 012, female, 59*

When participants felt that the doctor did not recognise how much pain they were in, they left feeling that the doctor was not as motivated to help them:

“Umm I think … I think the opinion is that we can't go any further because I don't think she feels it's serious enough … to have the x-ray or a scan, that that's it. Until I'm suffering any more” *PPT 005, female, 43*

Participant 005 had felt that the reason she was not offered the further investigations she had wanted was a sign that the doctor did not feel her pain was sufficient to warrant them, and so did not feel it necessary to provide them. Her care, then, appeared to the patient to have suffered as a result of the doctor not acknowledging her pain.

The impression that the doctor wanted to help was also given when they listened to what the patients wanted. Participant 013 (male, 67, quoted in Table 4.6) had sat with his doctor and gone through the issues he was having with his prescriptions. The doctor had listened to his problems, and met his requests, which satisfied him that she had wanted to help. Listening to patients was a key element of showing that the doctor was taking them seriously, because it indicated that the doctor wanted to know what was wrong so that they could treat it properly. Without feeling listened to, then, participants lacked the sense that the doctor wanted either to get to the bottom of their problem or to help them.

Table 4.6 - Implicit Reassurance Theme Summary Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Elements** | **Definition** | **Examples** |
| Being taken seriously | Doctor listens | Feeling that the doctor has listened to and understood the patients’ story | “**So was there anything in particular about the consultation that you thought really stuck out for you as reassuring?**  Only that she listened really. Umm she listened.” *PPT 020, female*  “My own doctor is a very caring doctor, very uhh … doesn't leave it. Wants to get to the bottom of the situation and has a very good beside manner ... So will listen to you and doesn't pre-empt or try to pre-empt.” *PPT 017, male* |
| Examination | Being examined during consultations as a sign that the doctor is taking patients’ complaint seriously | “With the second one I'd been examined a bit better and that was a sign that, yes, this doctor wants to help me some way” *PPT 015, male*  “[not being examined] did bother me slightly because I wouldn't have thought you'd be having a pain that long, they would have done something a bit more than just tell me to take Ibuprofen” *PPT 010, female* |
| Doctor wants to help | Feeling that the doctor wants to help with the problem and is doing everything they can | “As I said, in the first one, it was a good thing that the doctor really recognised that this is a serious pain and needs resting. With the second one I'd been examined a bit better and that was a sign that, yes, this doctor wants to help me some way” *PPT 015, male*  “So that sort of … umm … care that she took gave me umm … a feeling of wellbeing if you like ... You know understanding that she wanted to treat me properly, was willing to treat me the way I needed to be treated, and so on.” *PPT 013, male* |
| Doctor-patient relationship | Relationship building | Behaviours intended to form relationships between doctors and patients | “Doctor has a very good sense of humour and we always have an amusing sensible conversation ... We could have sat there and chatted for hours but uhh … because she's an easy person to talk to.” *PPT 003, male*  “I always try to get in to see him but he's very popular, you can't always ... Yes, you know, I've got I feel it's an affinity with him ... I mean I've lost a couple of stone in the last year to help my diabetes and that and he said he'd been on the same diet ... Yes and also I think he goes to the same chiropractor from what he said ... So, you know, you do feel an affinity then don't you?” *PPT 001, male* |
| Knowing the doctor | Having a prior relationship with the doctor and feeling that he/she knows the participant | “I mean my doctor here was my doctor for 20 years ... I knew him, played golf with him on occasions, and so on, and even though he was Dutch, we actually understood one another and so on.” *PPT 013, male*  “He knows exactly inside out of my problems and he knows I don't bother him if it's only small problem.” *PPT 011, female* |
| Setting | Availability | How easily available the GP is, and how much time is available to patients | “**So if you could sum up sort of throughout your whole experience with back pain and the consultations, what you found the most reassuring?**  That there is a doctor available when I wanted the doctor. That pain … you can't remember pain until you get it again, but you just know it's awful. If I couldn't have got hold of any pain killers or saw a doctor or was reassured that I was going to get better, that wouldn't have been very good” *PPT 023, female*  “that's the general gist of it and it wasn't too long, but we went through all the details that were relevant.  **Yes. So you felt that you had enough time?**  I had enough time.” *PPT 024, male* |

Finally, participants were given the impression that the doctor wanted to help them when something was actually done about their pain.

“As long as I feel everything's being done that can be done, umm … if there's something you can do, do it, if you can't, put it out of your mind," *PPT 004, male, 68*

“I'm satisfied on the last one, oh, and the first one, because she did do something. I felt they had taken me seriously and they're looking into it.” *PPT 010, female, 47*

In participant 010’s case, at her first consultation she had been offered a choice between physiotherapy and exercise on prescription, and at her third had been sent for an X-ray to see why the pain was spreading to her hips. That some effort had been made to either look into or try to treat the pain reassured her that the doctors wanted to help, which contrasted with her second consultation when this was absent. Participant 016 illustrates the way that a lack of action can have the opposite effect when she says:

“But it's like in the past, when I've asked about back pain, the … I suppose the attitude is, well, okay, you know, just get on with it, which isn't exactly helpful because I'm 66, I'm active, I like being active ... It's a bit frustrating. It makes you feel as though you're being a bit of a nuisance” *PPT 016, female, 66*

In this case, the message of “just get on with it” suggests that the doctor is not motivated to help the patient in any real way, which results in negative emotions as opposed to the patient feeling reassured.

Of the expectations in Table 4.5, implicit reassurance was provided when expectations were met in a way which indicated that the doctor had taken the above steps and so wanted to help the participants in some way. For example, implicit reassurance was afforded when participants’ expectations regarding pain relief were met: the doctor had acknowledged that the pain needed relieving, had listened to patients’ requests for pain relief, and had provided a prescription. The case is similar for expectations and requests for referrals, as well as further investigations as in the case of participant 010.

### Doctor-Patient Relationship

Some participants said that they appreciated efforts on the part of physicians to get to know them as individuals. This tended to be more important to older participants, perhaps because they had (as participant 013 described) grown up in a culture where a person’s GP was their doctor for life and did have a personal, or familial, connection with their patients. Rapport-building was an important part of building relationships, as participants mentioned finding things they had in common with their GP (such as participant 001, quoted in Table 4.6, who had bonded with his GP over a diet they had both been on), or just having a chat with them, facilitated them to get to know one another. In some cases, it was patients themselves who initiated this relationship-building, such as participant 013 who had come in to see his new GP after his previous one had retired, “so at least I knew her face” (participant 013, male, 67).

When patients had formed a relationship with their GP, they felt reassured that when they saw that doctor he or she would know their medical history, and they trusted that they would be willing and able to help them. For participant 011 (female, 62) she made an effort to get to know her doctors so that they would understand her, and know that she will not consult unless she needs to. There is a link here to the notion of being taken seriously: for this participant, that her doctors knew her and knew that she would only consult when necessary meant that they knew to take her complaints seriously when she did come in. For participant 016 (female, 66) her regular GP is aware of the problems she has with taking some medications, and so can tailor his prescriptions or advice accordingly. By having this relationship with the doctor, the participant trusted that he would know the best way to treat her based on her history.

Although relationships with GPs were important to participants, they understood that their GP was not always available and were content to see others if necessary. Participant 023 summed up this approach when she said:

“But I've no qualms, if she's not available, I don't mind seeing anybody else because, to me, they're doctors aren't they ... They get to their profession for a reason, not because it's just her, and she's brilliant, it's just that it's … she's my doctor.” *PPT 023, female, 59*

This illustrates an awareness on the participant’s part that all GPs receive the same training and qualifications, and so any will be able to help, but still a preference for seeing her own doctor, who had treated her mother and herself for most of her life.

### Setting

Some participants mentioned finding reassurance in having a doctor readily available when they needed one. Participant 006 (male, 41) felt confident that if an incident happened, he would be able to speak to somebody immediately, and PPT 023 (female, 59) found it reassuring that there was a doctor available when she had needed to see somebody for her back. While this was a reflection of more general practice characteristics than the content of consultations themselves, being able to have their consultations when they really needed them (rather than having to wait) could be very reassuring to participants. As participant 011 said, she wanted somebody to:

“make me appointment when I have pain, not make me appointment after one week or God knows how many days” *PPT 011, female, 62*

Another facet of finding reassurance in availability was the amount of time doctors had available to spend with patients, although this, in fact, was reported more negatively by this sample of participants. For some, the limited time was not an issue and they had not felt rushed, but most participants who had mentioned it felt like the allotted time was not enough:

“But it's increasingly hard for GP's because they're only given a certain slot of time for you to unburden yourself to them, and for them to sort of discern the right thing.” *PPT 025, female, 64*

The problem with limited time is that it limited what participants felt they were able to say. As participant 025 said, there is a finite amount of time to ‘unburden’ yourself with a GP, which could mean that important parts of personal histories are missed out. Participant 013 (male, 67) even described having to plan and manage his appointments, knowing the time restrictions, in order to discuss everything he had wanted to.

## 4.3.2.3 Explicit Reassurance

### Ruling out Serious Disease

Ruling out serious disease with the provision of no-disease explanations was a source of reassurance for participants because it addressed their concerns directly. If they had been worried that something serious might have been going on, then hearing from the GP that this was not the case was immediately comforting:

“**you said that she addressed your concerns with regards to it maybe being a different cause?**

Yes.

**And you weren't worried any more when you came out?**

No. I was able to go back and say, right, umm … it is still the back problem. It isn't another problem and therefore I will treat myself the way I've always treated myself.” (PPT 013, male, 67)

There were a number of ways in which serious disease was excluded from participants’ minds. Participant 017 (male, 56), who had said that he had imagined cancer or kidney trouble, felt reassured that more than one doctor had independently told him that it was neither, and was his leg which was causing the pain. When doctors were certain that there was no serious risk, this was often enough to reassure patients. Participants also found reassurance in receiving negative test results. Participant 015’s GP sent out for further examinations, and upon receiving negative results he felt that, “at least it was a piece of mind that my kidney is alright so it's something less to worry about.” (participant 015, male, 34). Finally, two participants’ GPs had given them information about the warning signs for serious disease, thereby reassuring them that as they had not had any of the symptoms they did not have such a serious problem:

“… [he said] that if I see signs of incontinence, then I should ring emergency services ... And I was quite confident that I've never had any accident regarding my incontinence whatsoever ... Yes. So that was quite reassuring that I'm probably far away from the extreme end of the back pain.” *PPT 006, male, 41*

### Explanations

For many participants, what they felt they lacked was an explanation of what had *caused* their back pain. This meant that as well as wanting to know what was wrong with their bodies to cause them pain, they wanted to know what had happened in their lives to lead to it. For example, participant 019 said that although her doctor had told her it was probably just muscle strain, it wasn’t really helpful because, “it wasn't like I'd just been lifting something, so I don't know exactly what caused it originally” (participant 019, female, 23), and participant 024 said that, “the focus was more around … wasn't necessarily around why it was spasm-ing, it was the fact it was spasm-ing,” (participant 024, male, 35). The reason participants wanted to know this information was to be able to manage the pain and to avoid it happening again. For participant 010, while she suspected that her job may have led to the low back pain, no doctor had confirmed this and so she was stuck in a sort of limbo not knowing what to do:

“if they do turn around and say, it's your job and you've either got to put up with it, or change what you do, you can go from there, but I'm not going to do it … not going to stop doing what I'm doing because they've not told me what it is.” *PPT 010, female, 47*

What this demonstrates is that participants wanted to be able to help themselves, and were willing to consider making the necessary changes in their lives, but needed their GPs to guide them and give the right information on how to do so.

Physical explanations help patients to understand what is wrong, which allays their concerns and gives them and insight into how to help themselves. Participants in this sample expressed a strong desire for their doctors to explain exactly what was wrong with them. While specific diagnostic labels were not often mentioned by physicians, the idea of having a diagnosis was appealing to participants:

“if there was more resources wouldn't that be wonderful to say, well, you've got a disc out of place, or you've got arthritis or … put a name to it, instead of just saying, do you know what, my back's gone again.” *PPT 023, female, 59*

One participant who had been told by the doctor that his problem was ‘quite serious’ said that, “even if it's bad news ... it's good to know somebody's diagnosed it” (participant 001, male, 67). There was a sense among participants that finding out what was physically wrong with them helped to legitimise their pain, such as participant 025 who had been relieved after being told it was the sacroiliac joint which was causing her long-term pain because:

“You're in pain. You can't get out of pain. You can't take anti-inflammatories and you start thinking even your husband doesn't believe you, when people look at you, and you're trying to explain about this pain …” *PPT 025, female, 64*

Explanations of the physical structures which were leading participants to feel pain were found to be very helpful. Educating patients about the back and the structures within it, along with how they may become damaged which results in pain, helped participants to understand how the pain had arisen, and also assisted them in understanding how the doctor’s advice was actually helping:

“but she said it wasn't my disc, it was the bits that hold the discs in, and all that and explained how the muscles work, so you can actually then see it in your mind's eye then, when you're doing your exercises, you can get into your mind's eye that exercise is actually doing this or doing that” *PPT 022, female, 56*

In addition to verbal explanations, some GPs also used visual aids in their explanations to participants, which again were widely well-received:

“I mean I did take a lot of notice of what he was saying but I knew it was a nerve that came sort of out of the … or something that's pushed a nerve, and what it did, I knew that, but showing on a diagram sort of highlighted it.” *PPT 004, male, 68*

“he's a really nice man, Dr. [*name removed*] and he explained things thoroughly. Gets his little model of your spine out and shows you where he's going to put needles” *PPT 016, female, 66*

It appears that anything which helps patients to understand their problem better, and how it can be remedied, is considered useful and desirable information. Another facet of this which was discussed during interviews was doctors sharing reports or information, for example scan results:

“getting me a copy of the report [helped] although there's a lot of words in it I don't understand ... Having had it explained to me, I then understood about what I was reading ... I do know roughly what the problem is,” *PPT 001, male, 67*

However, while some participants expressed that they wanted scans of the affected area, negative results were not guaranteed to be reassuring. The pitfall of receiving negative results is that, although a certain problem may have been ruled out, the patient is still none the wiser as to what *is* wrong and causing them pain, such as participant 010:

“I phoned up and they said there was nothing wrong with [my hips] ... But that's where I get … it's the lower back pain, but it goes into my hips as well.” *PPT 010, female, 47*

Explanations were not always given within consultations, and where these were lacking participants had felt unsatisfied with the care they had received. Participant 010 further stated that:

“I would have liked to have known what it was in the hips as well as … because it … if you get back pain you expect it just to be on the back, not on your hips as well ... you think, they haven't found anything that told you anything about what could be wrong and you are still in pain and it's been like it three years, … and I would prefer it if there was some … if they could actually say, yes, it is muscle strain or it's … you've pulled some ligaments or they could say what it is, rather than just …” *PPT 010, female, 47*

Having not received any explanations of why she had been in pain for 3 years had been a great source of frustration for this participant, particularly when her pain had spread to her hips and she still was not able to understand why. Other participants had received labels for what was causing their pain without any explanation of what this meant for them:

“**Have you ever had an explanation of what might be causing the pain?**

No.

**Is that something you would like?**

Just arthritis, osteoarthritis, that's all I get.” *PPT 012, female, 59*

“I was told that, oh, it was arthritis, in my spine and it was referred pain because it used to be sort of in my buttocks I suppose, because I didn't think it was like my back, and I was told it was referred pain, it's arthritis, get on with it.

**Right, and was that well explained to you what that meant and where it came from, what it would mean for you?**

Not really, no. No. And so I didn't really do anything about it” *PPT 016, female, 66*

The lack of explanations in such cases had meant that participants were left not knowing what to do about their pain, because they couldn’t understand it, and feeling that their physician’s attitude was somewhat dismissive, that they should “just get on with it” (participant 016, female, 66). Participant 015 (male, 34) had been told his pain was due to sciatica, but his physician had not explained what this meant. He believed that this was because the GP thought that patients would not understand such explanations, but felt that he would have, and so would have appreciated an explanation. This meant that he sought more information online and attempted to educate himself on what sciatica meant and how to manage it. A lack of explanations from GPs about the causes and mechanisms of participants’ pain appears to have been a violation of their expectations, as participants had consulted their physicians for information and advice which was not always forthcoming.

In fact, participants’ desire for information about their low back pain, when they did not receive sufficient explanation from their GP, could take them elsewhere. Many had researched their problem, either online, in magazines, or by talking to people who knew about it:

“But it's umm … a member of my family's training to be a physio. She said … she explained to me how the muscles run in bands across so that's sort of … I can understand now a bit why I'm getting hip pain.” *PPT 010, female, 47*

“I looked after myself because the information is widely available on the internet and I worked it out that the ...muscle is pushing the nerve.” *PPT 015, male, 34*

“I think it could have been more helpful if I've got more information about back pain. I don't think I got anything from there. Umm … or back care, something like that, because I ended up going look for stuff on the internet,” *PPT 006, male, 41*

Uncertainty was not well-tolerated by participants. As has been shown, most of them wanted to know what was wrong, and so if the doctor could not provide this information they were not reassured.

“If it's not [his hips] then it's back to the drawing board again.

**Yes, how would you feel about that?**

I wouldn't be too happy about it to be honest umm because if it's not that then obviously it's something else and then you've got to start thinking again is it a, b, c, d or e, umm, but we'll see what happens then.” *PPT 017, male, 56*

The way in which GPs manage uncertainty in the face of non-specific low back pain, then, potentially has implications for how concerned patients are after leaving the consultation and how well they cope with their pain.

Table 4.7 - Explicit Reassurance Theme Summary Table

|  |  |  |  |
| --- | --- | --- | --- |
| **Category** | **Elements** | **Definition** | **Examples** |
| Ruling out serious disease | No-disease explanations | Providing a benign explanation for patients’ symptoms | “I know it's a bad back. I know it's not sciatica because they've told me it's not. I know it's not replacement hips or anything like that, umm, so if I've got to live with it, I will.”  *PPT 023, female*  “At least it was a peace of mind that my kidney is alright so it's something less to worry about.”  *PPT 015, male*  “it's one of those things, when you have a back problem, you want to come in and just have that reassurance that it's nothing serious and it's, like you say, it's nothing”  *PPT 024, male* |
| Explanations | Cause | Explanation of what may have contributed to the onset of low back pain | **“you said that she explained it would probably just be muscle strain.**  Yes.  **Did that … help in any way to know … to hear that?**  Umm … not really because, at the time, it had just kind of … I work with a Brownie group in town and it had just kind of come on suddenly, so it wasn't like I'd just been lifting something, so I don't know exactly what caused it originally.”  *PPT 019, female*  “I think it would be nice to know if it's something which I could change briefly or ask some people to change about so that they don't get it,”  *PPT 006, male, 41* |
| Physical explanations | Explanation of the physical structures which are causing the pain | “she said it wasn't my disc, it was the bits that hold the discs in, and all that and explained how the muscles work, so you can actually then see it in your mind's eye then, when you're doing your exercises, you can get into your mind's eye that exercise is actually doing this or doing that” *PPT 022, female,*  “He explained … he even got wall charts out and showed me what was going on and why and he started talking about discs and I thought, okay.” *PPT 004, male* |
| Advice | Advice on how to manage the pain | “not saying you should do this or should do this, it was the advice of you can do this or this, but I'd suggest you do this first, so you know, all the way along, they're there and I can't argue at all, so quite happy” *PPT 022, female*  “he just explained that umm … watch what I do, you know what I mean, and don't over-do it, you know” *PPT 008, male* |
| Prognosis | Explanation of what the patient can expect in terms of recovery | “I think he was expecting it to be slightly better but, again, he pointed out that umm you know it could go on for a few months or you could wake up next weekend and think, ooh …” *PPT 004, male*  “it can come and go, words to that effect, you know, you can expect it and uhh you can be lucky and not get it like you know, and some days, you could jump about and really get out” *PPT 018, male* |
| Decision-Making | Treatment explanation | Explanation of the treatment offered and how it will help | “but again, it's thinking it's only going to ease the pain, it's not going to cure the problem, umm, but that was explained anyway” *PPT 004,male*  “going back to the pain killers and explaining that it allows my muscles to rest, is one of the things and, again, the fact of saying that I need to get up and walk around to allow my back and my muscles to get back to the normal position” *PPT 024, male* |
| Treatment Choice | Offering patients a choice of treatment options | “He even said to me ‘what would you like me to do?’  **That's what I was coming on to next. Were you pleased that he asked you?**  Oh yes. ... He could have told me what to do but he didn't. It was a two-way thing.” *PPT 001, male, 67*  “**how important is it for you do you think to be sort of involved in the decision making with regards to your treatment?**  I think it's very important umm because I've got to manage it. At the end of the day I'm the one with the pain and I'm the one that's umm … knows what does and doesn't work for me.” *PPT 016, female, 66* |

Participants appreciated being told how they could help themselves to manage their pain. Participants were motivated to get better, and were willing to put in the necessary effort to achieve this, and so when doctors explained to them how they could take responsibility for their own recovery, it was generally well-received:

“I think that was the biggest thing actually ... [the nurse] to say, here you go, this is the issue and this is how you resolve it, so, yes, it was useful with regards to mentally realising … even though I knew what I should have been doing, I actually need to do it.” *PPT 024, male, 35*

Participants recalled GPs offering them advice on how changes to their lifestyles could help to alleviate their low back pain. This advice generally fell into three categories: exercise, changes to their environment, and changes to how they used their bodies. Exercise did not have to mean anything strenuous, as some participants were advised simply to get up and walk around more throughout the day. Other participants were advised that they could change their exercise routine, for example participant 023 (female, 59) was advised to try swimming as opposed to the netball and badminton she used to play. In terms of changing their environment, participants mentioned recommendations from their GPs about using back supports (e.g. in the car or on office chairs) or using hot water bottles on the painful area, as well as information about making their workplace more suitable. Participant 015’s GP wrote a note to his workplace to have his station re-assessed and changed to help his back, which he found very helpful. Participant 022 was also advised on how to position the seat of her car correctly. These were all small changes which participants felt capable and happy to make, and had found useful in helping to relieve their pain. Finally, participants were advised on how to use their bodies in ways which would help their backs. This included advice on posture and losing weight, as well as ensuring that they were careful in their movements and did not ‘overdo it’. Participants had generally found their own ways of managing their movements, but were receptive to this advice when it was given:

“it's ... them making you more aware of, when you bend down, you use your knees rather than bending from there, and when you pick things up, make sure you do it properly. You just don't think about it in your normal life.” *PPT 022, female, 56*

Being offered such advice provided participants with some control; something they could *do* about their pain. This type of advice seems to offer some form of solution to the impairments which participants had been experiencing prior to their consultation, such as the advice on managing ones movements which could assist participants to undertake their daily activities without worrying about inducing further pain.

Explanations of prognosis were generally not well-reported in this sample. If participants were given an estimation of when they might recover, it was remembered as being fairly vague, such as those quoted in Table 4.7. Participants experienced frustration with not knowing how long they might be in pain for, which again links back to the experience of pain and impairment they had suffered prior to their consultations. Participants had come to the doctor looking for a way to improve their situation, and they did not like to leave not knowing when, or if, such an improvement might be possible:

“I've got a weak spot, that's all really.

**Okay, and did they say what that meant for you for the future or …**

No, it could just happen at any time really (laughs)

**How is that looking for you knowing that?**

Umm it's frustrating really.” *PPT 020, female, 50*

One participant had felt that when she asked GPs about back pain the attitude was ‘just get on with it’, about which she said,

“It's a bit frustrating. It makes you feel as though you're being a bit of a nuisance, [they] probably don't mean that but that's how it comes over” *PPT 016, female, 66*

If the aim of reassurance during low back pain consultations is to assure patients that they will get better, then expressions of uncertainty surrounding when or if this will happen seem to have the opposite effect.

### Decision-making

Explaining treatments – what the options were and how they would help – helped some participants in this sample to understand why they should do what the doctor recommended, and made them more motivated to continue with treatment as a result. Participant 022 had found herself more motivated to do the stretches and exercises which she had been recommended because it was explained exactly how they would help her back. Participant 024 also found this kind of explanation helpful (see Table 4.7), and had made an effort to incorporate the doctor’s advice to move around more into his daily life.

Participant 024 had also appreciated having the doctor explain that the ibuprofen she had prescribed was to relax his muscles, rather than to use as a painkiller. He had been concerned about relying on painkillers, but having had this explanation was happy to adhere to the medication he was given. This information, in this case, allowed the participant to make an informed choice about his treatment, which he found reassuring. If treatment options are not well-explained, participants are not in a position to make an informed choice. Participant 010 was not sure what the options available to her were, and said:

“I don't know what the practices are, or the other treatments, it was only the physio that said they can do scans to see whether there's anything else wrong. I didn’t know that. I don't know what else, and I don't really know what else they can do, if I've had a chiropractor and a physio. I don't know what the other options are.” *PPT 010, female, 47*

While participants in this sample did not recall much explanation of the treatment plan offered by their GPs, when such explanations were given they were useful and provided reassurance that the treatment could help to improve participants’ situations.

Being offered a choice of management options was not a universal feature of consultations within this sample. Eight participants talked about having some input into their treatment plan. Some had come into their consultations with specific requests and so took a leading role in planning their treatment, such as participant 003 (male, 77) wanting to come off his Statins, and participant 025 (female, 64) who said that she will only make reasonable requests, such as asking to go to the pain clinic, and the GPs “just sort of go along with what I suggest”. For those who had been given a chance to give their opinion in the decision-making process, the experience was generally described as positive. This was either in terms of how it made them feel, for example:

“**So do you appreciate that, being able to ask for what you need, and have it done?**

Yes. Because you have to feel you're in control of something don't you.” *PPT 025, female, 64*

or because the results meant that the patient got the treatment they would have wanted, such as participant 010, who had opted for exercise on prescription over joining a waiting list to see a physiotherapist:

“**did you appreciate being given the choice?**

Yes, because I didn't want to wait months for a physio appointment and I thought maybe the exercise to strengthen the back, that was the idea of it, to strengthen the back, would help” *PPT 010, female, 47*

The reassurance gained for participants felt from being given a choice regarding their treatment plan, then, was down to both feeling in control of their problem and avoiding unwanted treatments. In one case, though, the participant experienced negative emotions as a result of being offered a choice of options and choosing, in his mind, the wrong one at the time. Participant 004 (male, 68) had been given the choice between having an MRI scan or attending physiotherapy. He chose to have physiotherapy, because he thought that MRI scans were costly and wanted to spare the NHS the expense. At the time of his consultation, he was happy with this decision and left feeling satisfied, but some time afterwards began to think that he should have opted for an MRI scan so that any damage would be revealed and subsequent treatment would be aimed at repairing it, whereas without the scan there was still no indication of what was wrong. Although he said he was not particularly worried about it, and would come back and ask for a scan if the physiotherapy did not help, the decision had weighed on his mind and he blamed himself (“I was my own worst enemy there”) for not choosing correctly. His responses suggested that he would have preferred more input from the doctor, even if it was just to reassure him that he had made the right choice:

“he was quite … well obviously he was quite happy to go along with that, umm … I suppose thinking now, he could have … he could have perhaps said, yes, that's a good idea, umm … but I think once I suggested he just accepted that.” *PPT 004, male, 68*

This participant’s experience highlights that decision-making around treatment options may need to be truly ‘shared’, in that the patient’s preferences are combined with the doctor’s expertise and both parties have some input into the final decision, to avoid weighing the decision too heavily on the patient’s shoulders and leaving them feeling responsible if it is not the optimal one.

# 4.4 Discussion

## 4.4.1 Discussion of Findings

In this study, semi-structured interviews were conducted with 23 patients with low back pain who had recently consulted their GP about their pain in order to ascertain their views on what reassurance means in the context of consultations. Their responses provided a rich framework of what is important to patients when communicating with GPs.

Participants in this study discussed a number of low back pain-related factors which had affected them prior to consulting their GP. This included their experience of the pain, how it had impacted on their lifestyle, and a number of beliefs about the pain. It was these preceding factors which had often contributed to participants choosing to consult, and which they felt were important for the GP to know and understand. Candidacy is thought to be a key factor in patients’ decision to consult healthcare providers and refers to the ways in which a persons’ eligibility for medical attention is jointly negotiated between individuals and health services ([Dixon-Woods, et al., 2006](#_ENREF_52)). The way in which people decide that their symptoms require medical attention or intervention is referred to as ‘identification of candidacy’, and will include evaluation of whether they *need* and *deserve* healthcare ([Koehn, 2009](#_ENREF_135); [Mackenzie, Conway, Hastings, Munro, & O'Donnell, 2013](#_ENREF_163)). Some participants in this sample hinted at the factors which had led them to feel medical assistance was required, typically in the form of new symptoms (such as leg pains) or exacerbation of pain. However, as the focus of these interviews was on the content of consultations and their outcomes, reasons for consulting were not explored in-depth. The interaction between perceived candidacy for healthcare and patients’ experience of reassurance represents a worthwhile avenue for future research, particularly in light of evidence that people from marginalised groups perceive themselves as having less candidacy ([Dixon-Woods, et al., 2006](#_ENREF_52); [Goddard, 2009](#_ENREF_85)) and have been reported to receive poorer quality communication from physicians ([Epstein, 2006](#_ENREF_64); [Epstein & Peters, 2009](#_ENREF_67); [Hall, et al., 1988](#_ENREF_93); [Roter, 2003](#_ENREF_229)).

Concerns about what the pain might mean were prevalent in this sample, ranging from sciatica to cancer but generally representing a fear of ‘something more’ going on than simple back pain. Eliciting patients’ concerns and beliefs about their pain is cited as a core tenet of clinical communication ([Levenstein, et al., 1986](#_ENREF_147); [Main, et al., 2010](#_ENREF_165)) and qualitative studies in other populations have shown that participants rate feeling that their physician has understood their problem and their personal context very highly ([e.g. Donovan & Blake, 2000](#_ENREF_54)). Participants also brought with them a number of expectations of what they hoped to get out of consultations. As Main and colleagues point out, patients each consult with their own agenda and hopes for the consultation, be it a cure, reassurance, or a diagnosis ([Main, et al., 2010](#_ENREF_165)). Participants in this study had come to their consultations looking for pain relief, further investigations and/or referrals, but by far the most common hope was for information: participants wanted to understand what was causing their pain, and how to manage it. By comparing concerns and expectations against outcomes in Table 4.5, a link was found between having concerns and expectations addressed and experiencing positive outcomes post-consultation, again indicating a need for doctors to elicit these from patients to gain a fuller understanding of what their specific needs are for the consultation.

The theme of implicit reassurance which emerged from the data reflects behaviours which are not overtly stated (it is unlikely that a doctor would have to say “I am listening” or “I’m going to try and build rapport with you, now”) but rather give patients a sense that the doctor is taking them seriously and can be trusted to help them. This implicit reassurance links strongly with ideas of affective reassurance as outlined in the model, which speaks to listening, empathising, relationship-building, etc, and its utility is well-documented in published literature (e.g. [Hall, et al., 1988](#_ENREF_93); [Ong, et al., 1995](#_ENREF_185); [Roter, 2000](#_ENREF_226)). Examination emerged as a strong indicator to participants that the doctor had taken them seriously, as it showed that they wanted to find out what was wrong. Similarly, meeting expectations for tests, prescriptions, or referrals provided implicit reassurance by signifying that the doctor had acknowledged, listened to, and provided what patients needed. Additionally, the availability of GPs was important to participants, and they felt a general sense of reassurance if they perceived that they would be able to access a doctor as and when they needed one. Many felt that the limited time they had for their consultations meant that they were not able to discuss everything they had wanted to, which has implications for GPs being able to elicit, and so address, patients’ concerns and expectations. Along with feeling listened to and taken seriously, an inviting atmosphere was identified as a key attribute of the human-connection phase in a review of 60 qualitative studies, and part of this was being given enough time and having good access to healthcare services ([Thórarinsdottir & Kristjánsson, 2012](#_ENREF_270)). These are aspects of medical interactions which are not always considered in communication research, but form an important part of the experience for patients. As depicted in the model of reassurance presented in the previous chapter (Figure 3.2), setting characteristics can influence the course and perception of a visit to the GP, and patients appear to find reassurance in these details as well as in their communication with the physician. While GPs may not be able to change the size of their waiting list or the amount of time they have available for each patient, Mauksch et al.’s ([2008](#_ENREF_171)) advice on managing time within short consultations may be of use to offer maximum benefit to patients.

Explicit reassurance in this study referred to overtly reassuring behaviours on the part of doctors, such as directly addressing participants’ concerns by ruling out any serious disease they had been worried about. Participants expressed strong desires for information about their low back pain, and as a result of this desire to understand it they appreciated receiving information or explanations from their physicians. These explanations, which fall under the blanket of cognitive reassurance ([Coia & Morley, 1998](#_ENREF_32); [Pincus, et al., 2013](#_ENREF_202)) included ruling out serious disease, providing explanations of the external cause, physical cause, and management options for the pain, and advising patients on how to help themselves and how to maintain their lifestyles. Coulter et al. ([1999](#_ENREF_38)) found a multitude of reasons why patients desire information through discussions with focus groups, which varied from understanding what is wrong to identifying the best healthcare providers, and qualitative studies have emphasised how highly patients value anything which helps them to understand their illness better ([Andén, et al., 2005](#_ENREF_4); [Laerum, et al., 2006](#_ENREF_142); [Ward, et al., 2007](#_ENREF_289)). Participants also felt that being informed and given choices about their treatment options gave them some control over their problem, which was reassuring. What may have been lacking was thorough explanations of participants’ treatment options: where these were given, participants felt informed and motivated to involve themselves in treatment, but where they were absent participants were somewhat at a loss, not knowing what to do. Participant 004’s case also illustrated that shared decision-making can involve an uneasy balance between giving the patient space to choose and ensuring that they are receiving the best possible care. Cooper et al. ([2008](#_ENREF_34)) stress, based on their interviews with patients with low back pain, that patients valued being involved in decision-making as much or as little as they personally wanted, although this can be a tricky balancing act for busy GPs to get right every time ([Elwyn, et al., 1999](#_ENREF_62)).

Some of the participants in this study expressed a desire for a diagnosis, or label, as a way to legitimise their pain and guide management of their symptoms. Diagnostic uncertainty (the perception that something is wrong with the back which physicians have not yet identified) has been found to be associated with guilt, and consequently depression and anxiety, among patients with chronic low back pain ([Serbic, Pincus, Fife-Schaw, & Dawson, 2015](#_ENREF_245)). However, non-specific low back pain tends to be a diagnosis of exclusion: serious diseases are ruled out, and what is left is pain without an identifiable cause ([Koes, et al., 2006](#_ENREF_137)). Peter Salmon and colleagues have conducted a large body of work with patients with unexplained symptoms and somatising disorders, and have found that legitimation, exculpation and empowerment of patients and their symptoms are possible without diagnosis ([Salmon, 2006](#_ENREF_233)). What patients, including those in this sample, appear to be seeking is not diagnosis specifically, but rather a way to understand and explain their symptoms with reference to tangible mechanisms that do not imply that what they are experiencing is not real or is all in their heads. Salmon describes the problem that,

“doctors’ characteristic response to patients’ symptoms or requests for explanation is to normalise them, i.e. provide simple reassurance that does not address the patient’s specific concerns ... patients respond by progressively extending their symptom presentation ... until doctors indicate engagement with the patients by providing somatic intervention” ([Salmon, Humphris, Ring, Davies, & Dowrick, 2007, p. 571](#_ENREF_234))

This quote illustrates a frustrating circle for both patients and physicians, in which the explanations offered are perceived as a lack of understanding or belief on the part of physicians about patients’ symptoms, leading patients to exert their problems more forcefully until interventions are offered which typically offer little or no relief, meaning that patients present to their physicians again because they are continuing to experience symptoms. In a qualitative study of 188 patients with somatisation disorder, most participants had felt that the explanations offered to them rejected their suffering and indicated that the physician did not understand or believe in their symptoms. Those who had been able to accept and feel empowered by the explanations offered reported that they had included tangible causal mechanisms which attributed symptoms to causes for which the patient could not be blamed, and highlighted factors which could be influenced by the patients to exert some control over their symptoms ([Salmon, et al., 1999](#_ENREF_235)). This highlights the importance of clear and comprehensive explanations in reassuring patients about their symptoms, without a need to offer specific diagnostic labels.

Table 4.5 shows that, although expectations could be met through implicit reassurance (such as doctors fulfilling requests for prescriptions in accordance with what the patient wants), concerns were solely addressed via explicit reassurance. It appears to be the case that, while receiving such affective reassurance from doctors can help patients to feel taken seriously and that their needs are being met, information alone is enough to alleviate concerns. As an example of this phenomenon, a patient may be concerned that their low back pain is a sign that they have cancer. While they may feel satisfied by a consultation in which the doctor listens to them and takes them seriously, they will leave the room still concerned about cancer if they have not been explicitly told that it isn’t the case and given a benign explanation. This shows strong links to the model of reassurance and to Coia and Morley’s ([1998](#_ENREF_32)) theory, which posits that although affective reassurance may make patients feel better in the short-term, in the absence of cognitive reassurance their worries will inevitably return at some point when the reassuring presence of the GP is no longer there. While Coia and Morley advise avoiding *all* affective reassurance, the model we propose allows for affective behaviours during the data-gathering stage of the consultation due to the wealth of evidence, as discussed in Chapter 2, that behaviours such as listening and empathy are essential to facilitating patient exposition of their history, concerns and expectations ([Pincus, et al., 2013](#_ENREF_202)). The implicit reassurance behaviours identified in this study (listening, examining, showing a willingness to help, building relationships, and being available) could all plausibly be achieved during this data-gathering stage, leaving the data-giving stage free for cognitive reassurance.

## 4.4.2 Limitations

Although the aim was to interview patients with new episodes of acute low back pain, the reliance on database searches at GP surgeries did not allow for such specificity, even when using a search protocol created by experts in conducting such searches. As patients’ low back pain was not always coded correctly, the database search picked up patients who did not fit the inclusion and exclusion criteria. As such, patients with chronic low back pain were included in the final sample. To compensate for this, the interviewer widened the discussion with these participants to incorporate their overall experience with their GPs throughout their illness, with a specific focus on early messages of reassurance they may have received.

The response rate for this study was 15.5%. The relatively low response rate may have reflected the burden which interview studies place on participants in asking them to give up their time to take part, although steps were taken to minimise this burden by arranging interviews at participants’ convenience. Additionally, postal recruitment has been found to have lower response rates than face-to-face methods in both qualitative and quantitative research ([Badger & Werrett, 2005](#_ENREF_10); [Sitzia & Wood, 1998](#_ENREF_251)). The response rate presents a problem of the representativeness of this study’s findings, as those who agreed to take part may differ from the population of low back pain as a whole. Participants in this sample tended to be older (average age 57.2 years) and almost half were not employed (as indicated by ticking ‘not applicable’ when asked how much time had been taken off work due to back pain), indicating that participation in the study may have been more feasible for retired people who were able to be more flexible with their time. Alternatively, the low response rate may have indicated a self-selecting sample, who chose to take part because they were more strongly inclined to comment on the care they had received, whether positively or negatively. However, this sample included participants who expressed a range of views on the care they had received, including those who were satisfied and dissatisfied with their consultations. Unfortunately, in order to protect patients’ confidentiality, data is not available on those who were invited but declined to take part in this study. The most commonly referred to problem with low response rates is that of generalisability: whether researchers can confidently say that their findings are generalisable to the wider population if non-response was high ([Sitzia & Wood, 1998](#_ENREF_251)). However, the aim of qualitative research is to discover meaning from participants’ narratives, rather than to measure the distribution of attitudes across a population. ([Badger & Werrett, 2005](#_ENREF_10)). It is often considered more important that qualitative research aims to reach a point of ‘saturation’, when the same themes and issues emerge, indicating that a sufficient sample size has been reached ([Pope, Ziebland, & Mays, 2000](#_ENREF_208)). This was the approach adopted for recruitment for this study, resulting in a sample of 23 participants and a rich dataset which provided a coherent thematic framework.

While the aim of this analysis was to be inductive, and to let participants’ responses speak for themselves, there is always a risk of bias on the part of the researcher when undertaking qualitative analysis. In particular for this study, the main analyst (NH) was involved in developing the theoretical model of reassurance beforehand, and so could have interpreted patients’ responses in accordance with it. Steps were taken, though, to avoid this bias from tainting the results, as discussions with SV challenged any assumptions or interpretations which may have strayed too far from the data itself, and each theme and subtheme was repeatedly checked against participants’ original responses to ensure fidelity to their narratives.

## 4.4.3 Conclusions

Overall this study lends support for our model. Participants valued explicit, cognitive reassurance, and they felt that the information gained via this reassurance had helped them to cope better with their low back pain. Affective, or implicit, reassurance, while also important in reassuring patients that their doctor had taken them seriously and could be trusted, was insufficient to address concerns. The limitations of qualitative research, though, are that it cannot be said to be representative of populations as a whole, and so does not offer sufficient empirical support to conclude that the model is accurate. The data presented here represents only the views of those 23 individuals who agreed to be interviewed; quantitative measures of reassurance and patients’ outcomes would be required to allow for generalisation of findings to patients with low back pain in general. Additionally, patients’ reports of consultations represent only one perspective on what actually happened. Participants were asked to recall their consultations in detail in some cases more than a month afterwards, leaving the possibility that delayed recall and post-hoc interpretations of events may have affected the accuracy of what was reported in this study. More immediate data collection would offer more valid insights into the process of reassurance during consultations. The reliance on patient-report means that the data captured in this study cannot be said to accurately reflect what happened during these participants’ consultation, but instead represents participants’ interpretations on communication with their physicians. While this is useful in determining what reassurance means to patients themselves, as was the aim of this study, it does not offer insight into what patients’ interpretations are based upon or how they are formed. More objective measures, such as audio- or video-taped consultations, would place participants’ recollections in context and allow us to compare the content of communication during consultations with patients’ reflections on what was said. Alternative ways to measure consultations, and the implications of these, are discussed in the next chapter.

Chapter 5: Developing and Testing a Measure of Consultation-based Reassurance for People with Low Back Pain

# 5.1 Introduction

The systematic review in Chapter 3 ([Pincus, et al., 2013](#_ENREF_202)) found evidence for the distinction between cognitive and affective reassurance during primary care consultations and patients’ outcomes. In high quality studies of mixed patient populations, cognitive reassurance was associated with improvements in both immediate post-consultation and follow-up outcomes such as satisfaction, enablement, concerns, symptoms, and further healthcare utilisation. Affective reassurance showed mixed results for improved satisfaction, and was related to higher symptom burden, lower rates of return to work, and reduced adherence. These findings support the model proposed by Coia and Morley ([1998](#_ENREF_32)) which has been further developed and presented in Chapter 3 and Pincus et al.’s ([2013](#_ENREF_202)) review. The model proposes possible short-term improvements in satisfaction and reduced anxiety after affective reassurance, but postulates that cognitive reassurance is required to make lasting changes to patients’ illness perceptions, behaviours, and therefore recovery. Findings from Interviews with patients with low back pain (Chapter 4) supported these conclusions, as they describe that only through the explicit reassurance of explanations about their problem were participants’ concerns reduced. The participants in this sample noticed, appreciated, and remembered affective behaviours and wanted to feel that their physician understood them and was taking them seriously, but this was not sufficient to address their specific concerns that their pain indicated a more serious problem.

The next stage of testing the model requires a study with a clear timeline relating affective and cognitive reassurance to patient outcomes. In addition, there remains a need to address the limitations evident in the systematic review. Around half of the studies included in the systematic review only measured either affective or cognitive components, but failed to measure and analyse both. This means that any interaction effects between the two (such as the proposition by Coia and Morley ([1998](#_ENREF_32)) that receiving affective reassurance actually reduces the impact of cognitive reassurance, and leads to poorer patients outcomes) could not be assessed. Additionally, the studies included in the review were not specifically looking at reassurance, but instead focused on consultation-related factors, typically within a framework of measuring patient-centred consultations. The behaviours which were measured were coded according to the model, but the focus was on other topics, such as patient-centredness, patient expectations, empathy, etc. Mixed populations also present a problem for evaluating the model, which focuses on non-specific problems such as low back pain, where there is uncertainty about aetiology and prognosis, and reassurance is required to reduce patients’ concerns, increase their sense of control over their problem, motivate them to comply with advice, and reduce unnecessary further healthcare-seeking. The review excluded groups with conditions that clearly required regular medical monitoring, such as asthma, diabetes, and heart conditions. However, several studies included mixed groups in opportunity sampling, which are likely to include a proportion of such conditions. Mixed groups in primary care are also likely to include people consulting for minor injuries, infections and problems for which there is a clear known aetiology and intervention. The inclusion of patients with chronic conditions, infections, or minor injuries, etc. may cloud links between reassurance and outcomes, as they have very different expected recovery patterns, and may require different patterns of interaction between practitioners and patients The qualitative study addressed this issue, recruiting only patients with musculoskeletal low back pain and focusing the interview content with participants on reassurance. However, qualitative research is designed to provide in-depth insights into participants’ situations but does not allow for large generalisation of conclusions.

## 5.1.1 Measurement of Consultations

In order to properly assess the effect of reassurance on patient outcomes, a measure of reassurance is required. There are a number of instruments designed to measure the content of consultations, but none focused on reassurance. Measurement of consultations tends to fall into three categories: observation (e.g. video- or audiotape), physician report, and patient report. Each will be considered in turn.

### 5.1.1.1 Observational Methods

Observational methods involve an observer analysing the content of consultations according to a set coding system. Two of the most widely used in healthcare settings are Bales’ Interaction Process Analysis ([IPA, Bales, 1951](#_ENREF_14)) and the Roter Interaction Analysis System ([RIAS, Roter, 2001](#_ENREF_228)). Bales’ IPA uses literal transcripts of conversations between physicians and patients, which are divided into communication units – “the smallest discriminable speech segment to which the rater can assign classification” ([Inui, Carter, Kukull, & Haigh, 1982, pp. 538](#_ENREF_121)). These are coded according to whether they show interpersonal affect or are task-oriented (from the assumed point of view of the person to whom the communication was directed). There are 12 categories for classifying communication units, as follows:

1. Shows solidarity
2. Shows tension release
3. Agrees
4. Gives suggestion
5. Gives opinion
6. Gives orientation
7. Asks for orientation
8. Asks for opinion
9. Asks for suggestion
10. Disagrees
11. Shows tension
12. Shows antagonism

([From Inui, et al., 1982](#_ENREF_121)).

The RIAS method was developed from Bales’ system, but removes the need for lengthy transcription processes as it allows for coding directly from the spoken record of the consultation ([Roter & Larson, 2002](#_ENREF_227)). RIAS’ verbal units are defined as “utterances that express or imply a complete thought” ([Inui, et al., 1982, pp.539](#_ENREF_121)), and also allow for words or phrases which are separated from the rest of the sentence by a long pause (for emphasis). The benefit of coding directly from tapes, rather than transcripts, is that coders can pick up on cues such as tone of voice which may help them to interpret the meaning or intention of an utterance ([Roter & Larson, 2002](#_ENREF_227)). Eight categories each are available for classifying communication from physicians and patients, as follows:

Physician:

1. Personal remarks
2. Shows approval, gives compliment
3. Statement, gives information, opinion
4. Gives direction, instruction
5. Asks questions
6. Direct request for questions
7. Shows agreement and/or understanding
8. Shows disagreement or criticism

Patient:

1. Personal remarks
2. Shows approval, gives compliment,
3. Statement, gives information, opinion
4. Request for medication
5. Bid for clarification
6. Asks questions
7. Shows agreement and/or understanding
8. Shows disagreement or criticism

([From Inui, et al., 1982](#_ENREF_121)).

For assessing the affective attributes of the consultation, at the end of each recording RIAS requires coders to rate both doctor and patient on five global affect scales. These 6-point scales are meant to assess the following types of affect: anger/irritation; anxiety/nervousness; dominance/assertiveness; interest/engagement; friendliness/warmth ([Ong, et al., 1998](#_ENREF_186)). These characteristics are not based on specific units of discourse, but an overall impression of the encounter.

The main benefit of observational methods is consistency, in that they are scored by an explicit set of codes, usually by a well-trained coder. Raters are independent of the consultations, so their interpretations of the interaction are not coloured by expectations, concerns, previous experiences with the other person, etc. as physicians and patients would be, and so these methods are considered more objective than self-report measures. There are a clear set of codes to be applied, which allows for double-coding to increase reliability. This method also does not rely on recall, which can be unreliable – scores are based on what was said, verbatim. However, existing observational methods, such as those outlined above, are unsuitable for measuring reassurance. The response categories, e.g. ‘gives opinion’ or ‘shows agreement and/or understanding’ tell us nothing regarding the content of what has been said, and offer no insight into whether the utterance would fall under the definition affective or cognitive reassurance. For example, a physician could give an opinion on the weather as part of a brief chat with a patient, which would be part of affective, relationship-building behaviours, or he/she could offer a medical opinion on a patient’s symptoms, which would count as providing information and so be cognitive reassurance. Additionally, there are practical issues with implementing observational methods. Patient discomfort is an important consideration, as some patients may feel uneasy about being recorded. A review of studies which have used this method (Coleman ([2000](#_ENREF_33)) raises concerns that, while patient consent to video-recording is generally high (around 80%), the internal and external validity of the study may be at risk; he argues that although patients have reported forgetting about the presence of the camera, there is no available information (for ethical reasons) on whether patients behave the same when they are aware of being videotaped as when they are not. One study ([Pringle & Stewart-Evans, 1990](#_ENREF_209)) placed a video-recorder in GPs’ consulting rooms and recorded five surgery session which the GP knew were being recorded and five which were recorded without the GP’s knowledge (all patients involved in the taped consultations had agreed to be recorded). This study suggested that GP behaviour does not appear to change significantly when they are being recorded, but this is a small, single study (only 4 GPs), and so the evidence here is limited as well. There is a real possibility that the presence of recording equipment within a consultation will change the behaviour of those being recorded. In terms of external validity, there is a concern that those who withhold their consent to videotaping differ in some way from those who agree. Coleman reports that patients with anxiety, depression, or gynaecological conditions are less likely to consent, as are younger patients, and those who are worried about confidentiality and having ‘embarrassing’ problems. Another problem with using observational methods to measure consultation factors is that it can be time-, cost- and labour-intensive. Researchers need to be thoroughly trained in using the coding systems ([6-8 weeks for RIAS, for example, Roter & Larson, 2002](#_ENREF_227)) to ensure that codes are applied correctly, and recording consultations necessitates having the equipment in place to do so. Coding of transcripts or tapes is also a lengthy process, especially when compared to questionnaire methods. There is a need for a measure of reassurance which is reliable and valid, but which can be implemented easily and at low-costs. Additionally, although observational methods are praised for being scored by an impartial rater, this may actually be a hindrance when attempting to capture the meaning of communication for patients. For example, Barker, Reid and Minns Lowe ([2009](#_ENREF_15)) found that patients understand a large number of common medical terms differently than how physicians intend them. The implications of these misunderstandings, and what they mean for patients’ states of mind, could easily be missed by an external rater. Further, in their study of patient-centredness in 315 family physician consultations, Stewart, et al. ([2000](#_ENREF_256)) found that patient-reported communication scores predicted lower discomfort and concern, better mental health functioning, and fewer diagnostic tests and referrals two months after the consultation, where observer ratings did not. This implies that patients’ interpretations of events may have more of an impact on their recovery than standardised ratings.

### 5.1.1.2 Physician Self-report

Physician-reported consultation measures are useful to gain an expert view of that has happened during a consultation. As was reported in Chapter 2, patients do not always understand medical concepts used by physicians, such as risk scenarios ([Epstein, et al., 2004](#_ENREF_65)), and physicians may say something which is intended to be reassuring (such as ‘it’s just wear and tear’) but actually provokes anxiety in the patient ([Kathol, 1997](#_ENREF_127); [Paskins, Sanders, & Hassell, 2014](#_ENREF_194)). By asking physicians to report on diagnosis, examination, treatment plan, etc. misunderstandings or misinterpretations are avoided. Additionally, although most research focuses on patient satisfaction and perception of how well a consultation has gone, physicians are also active participants in these interactions and assessing their perceptions of the experience gives a deeper understanding ([Cegala, Coleman, & Turner, 1998](#_ENREF_27)). However, as noted on the previous page, such misunderstandings and the way in which they impact on patients’ perceptions of the consultation are important when it is patients’ recovery which is the outcome of interest. Additionally, there is a risk of bias in asking physicians to self-assess their own communication skills. Adams, Soumerai, Lomas and Ross-Dengan ([1999](#_ENREF_2)) reviewed 10 studies comparing physician self-report to objective measures of adherence to practice guidelines and found discrepancies in 87% of cases: physicians tended to overestimate their adherence to guidelines by a median of 27%. In a more recent systematic review of 17 studies, Davis, et al. ([2006](#_ENREF_44)) found that 13 out of 20 comparisons showed little, no, or an inverse relationship between physician self-assessment of competence and observed measures. Self-assessment tended to be worst among physicians who were the least skilled and those who were the most confident. For a measure that focuses on physician behaviours, as would be needed to assess reassurance during consultations, physician self-report may not be sufficiently reliable.

### 5.1.1.3 Patient Self-report

There are a number of patient-report measures for consultations. Patient reports can be obtained through interviews or questionnaires. Interviews can allow more scope for exploration of participants’ responses if questions are open-ended, but questionnaires place less burden on the participant as they are usually faster to fill in and do not always require the presence of the researcher for completion. Questionnaires are a popular method for capturing attitudes or perceptions, as they are relatively cheap as well as fairly simple to administer, and allow for the collection of a large number of responses in a short amount of time ([Gillham, 2011](#_ENREF_81)).

As with physician self-report, measures which rely on patients’ accounts of a consultation are also open to bias. Street ([1992](#_ENREF_258)) compared patient perceptions of physicians with behavioural measures of audio-recorded consultations with a sample of 115 parents accessing paediatric care and found mixed results. Objective measures of physicians’ information-giving were unrelated to perceptions of their informativeness, but measures of patient-centredness did predict parents’ ratings of physicians’ interpersonal sensitivity and use of partnership-building. Patients’ reports can be skewed by lapses in memory; social desirability, self-deception, and sociological considerations; anxiety and confusion; inadequate time to clarify explanations; physicians’ use of medical terminology; and other elements of problematic communication ([diMatteo, Robinson, Heritage, Tabbarah, & Fox, 2003](#_ENREF_50)). However, since patients’ perceptions will impact on their subsequent behaviours, and influence their outcomes, there is a case to be made that patients’ perceptions of the interaction may be more informative than objective measures. For example, if by an objective measure a physician scored 100% for their provision of cognitive reassurance, but the patient rated the information given as inadequate for their needs, the patient will not perceive this a reassuring, which is going to affect their subsequent thoughts and behaviour, and therefore outcomes, as was found in Stewart et al.’s ([2000](#_ENREF_256)) study, as noted on Page 201. Since the goal of reassurance is for the patient to be reassured, self-report by patients of their perceptions of the consultation was considered to be the most informative way of capturing reassurance.

Popular measures such as the Consultation Satisfaction Questionnaire ([CSQ, Baker, 1990](#_ENREF_11)); the Impact Message Inventory ([IMI, Kiesler, 1987](#_ENREF_131)); and the Consultation And Relational Empathy measure ([CARE, Mercer, Maxwell, Heaney, & Watt, 2004](#_ENREF_176)) all measure consultations in different ways. The CSQ is a 9-item questionnaire measuring patient satisfaction with a consultation. It can be split into four subscales: general satisfaction; professional care; depth of relationship; and perceived time. The IMI was developed in counselling/psychotherapy settings, but has been applied in other physician-patient encounter settings, including primary care. It is designed to assess relationship behaviours in two-person interactions and “taps the momentary affective, cognitive, and behavioural covert engagements of one person by another during ongoing face-to-face communication” ([Perkins, et al., 1979, pp. 363](#_ENREF_198)). The IMI is a lengthy scale, consisting of 90 items, although shorter versions are available. It distinguishes between three classes of impact messages: d*irect feelings* (e.g., I feel ... bored, angry, suspicious, competitive, cautious, etc.); a*ction tendencies* (e.g., I should avoid interrupting him; I should leave her alone; I should defend myself, etc.); and p*erceived evoking messages* (e.g., she thinks I can't be trusted; he would rather be left alone; she is determined to be in control of me, etc.) ([Kiesler, 1987](#_ENREF_131)). CARE is a ten-item questionnaire which measures empathy in the context of therapeutic relationships, asking participants to rate their physician’s behaviours on a 5-point Likert scale from poor to excellent, and was developed in primary care ([Mercer, et al., 2004](#_ENREF_176)).

The questionnaires described above were each designed to measure a specific facet of communication during consultations. The IMI reflects the dynamics between physician and patient, categorised under such headings as dominant, hostile, friendly, submissive, or combinations of these ([Kiesler, 1987](#_ENREF_131)), and CARE focuses on empathy ([Mercer, et al., 2004](#_ENREF_176)). Neither measures variables which could translate to the proposed model of cognitive and affective reassurance. The IMI is about feelings towards the other person, whereas a measure of reassurance needs to be about behaviour – what actually happened – and while empathy is undoubtedly a part of affective reassurance, the CARE is not sufficient to measure data-gathering, information-giving or verbal reassurance statements. The CSQ contains elements which could be adapted for use under the model, for example, items such as “the doctor told me everything about my treatment” (cognitive reassurance), or “I felt this doctor really knew what I was thinking” (affective reassurance). However, it also includes items which would be hard to place, such as “some things about my consultation with the doctor could have been better” and “I would find it difficult to tell this doctor about some private things”. Overall, the CSQ is a measure of satisfaction with consultations, and not a specific measure of reassurance. If it were to be used as such, compromises would have to be made on what was measured (e.g. limited numbers of items applicable to each concept, or items shoehorned into concepts where they do not comfortably fit).

A new measure of reassurance is, therefore, warranted, and must have a clear focus on the concepts of data-gathering, affective reassurance, and cognitive reassurance. As outlined, a patient self-report measure will most effectively capture patients’ perceptions of consultation reassurance. To allow for straightforward administration and scoring, which places minimal burden on research participants, a questionnaire was considered the most prudent measurement method.

## 5.1.2 Aims

The aims of this study were:

1. To develop a questionnaire measuring affective and cognitive reassurance during low back pain consultations in primary care, which explicitly differentiates between the early data-gathering and later data-giving stages of the consultation.
2. To test the validity and reliability of this questionnaire in primary care low back pain consultations.

# 5.2 Methods

## 5.2.1 Questionnaire Development

In the first instance, specific examples of practitioner’s behaviours during consultations were extracted from the literature. To provide a comprehensive description of the variety of behaviours associated with reassurance, theoretical reviews of patient-centred consultation were identified, in addition to empirical studies that used existing measures. From these reviews, physician behaviours which were theoretically or evidentially associated with improved outcomes post-consultation were extracted. Where two articles advocated similar behaviours, these were pooled together, with original wording from the texts maintained as far as possible. These behaviours were separated, in line with the model laid out in Chapters 2 and 3, according first to which part of the consultation they fell under: the data-gathering stage or data-giving stage; and secondly within the data-giving stage into cognitive reassurance or affective reassurance. The behaviours identified through this process are shown in Figures 5.1, 5.2 and 5.3. From these lists, items were generated, with phrasing based on the advice for questionnaire development in Mandal, Eaden, Mayberry and Mayberry ([2000](#_ENREF_169)):

* Use simple sentences
* Avoid poor phrasing, ambiguous words and medical terminology
* Avoid double-barrelled questions
* Avoid leading questions.

It was not possible, due to time constraints in implementing both studies, to incorporate the results from the qualitative study in Chapter 4 into the development of the questionnaire, as was originally intended, as data collection was on-going for the qualitative study while the current study was being prepared. This meant that the distinction between implicit and explicit reassurance did not feature in development of the questionnaire items. However, as the items concerned both verbal and non-verbal behaviours on the part of physicians, including items regarding how the physician made the patient feel, these concepts are represented within item pool. The items were sent out to a team of expert low back pain researchers, including a psychologist, an osteopath, and two GPs for comments. Their feedback was used to modify the item pool, change wording where required and add or remove items as recommended. This group represented a small number of opinions from the field of low back pain research, but included practising physicians who see patients with back pain on a regular basis. It was not possible at the time of generating the questionnaire, due to lack of access, to receive feedback on the questionnaire from representatives of other specialities such as physiotherapy. The final, agreed-upon questionnaire consisted of 30 items: 7 data-gathering; 9 cognitive reassurance; and 14 affective reassurance.

The questionnaire response was originally structured:

Not at all / Yes, but not enough / Yes, just right / Yes, too much

The aim with this response scale was so gain insight into patients’ reactions to the behaviour, according to their perceived individual need, with the addition of capturing the perception that practitioners did too much of a given behaviour, which could be perceived as patronising. Items were split into two sections for the data-gathering and data-giving stages of the consultation.

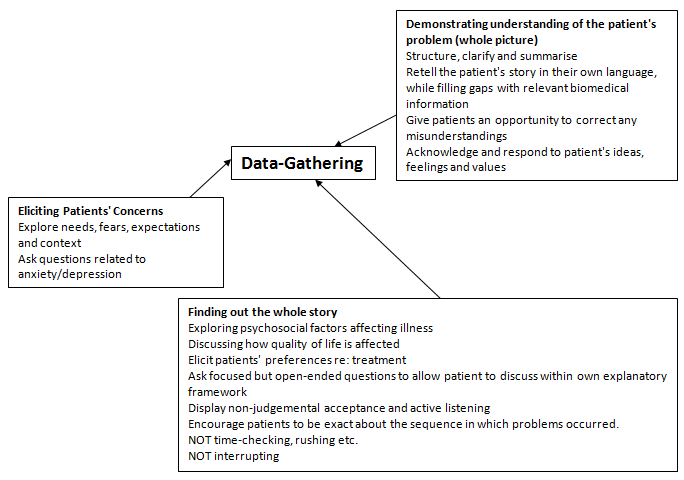
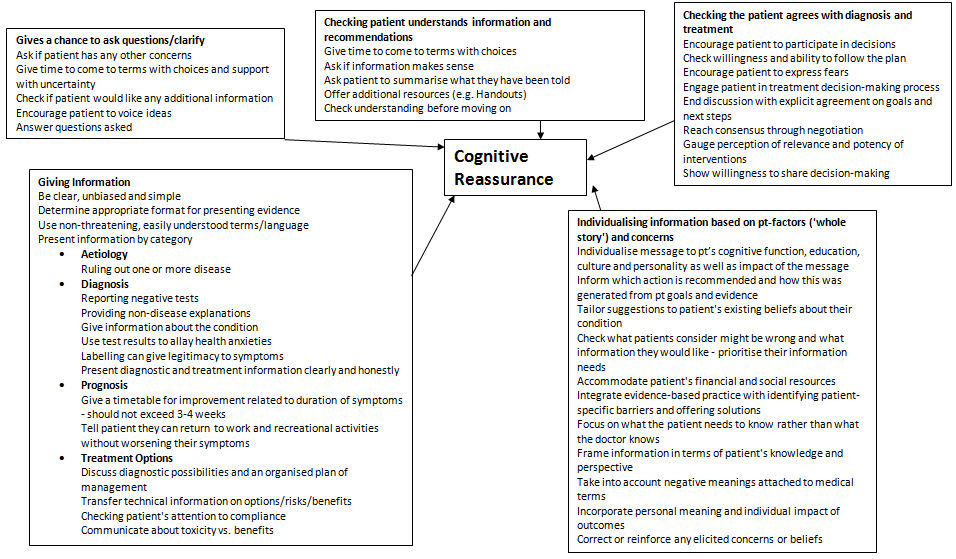


Figure 5.1 - Physician Behaviours Identified from Literature Review for Effective Data-Gathering.

Figure 5.2 - Physician Behaviours Identified from Literature Review for Effective Cognitive Reassurance



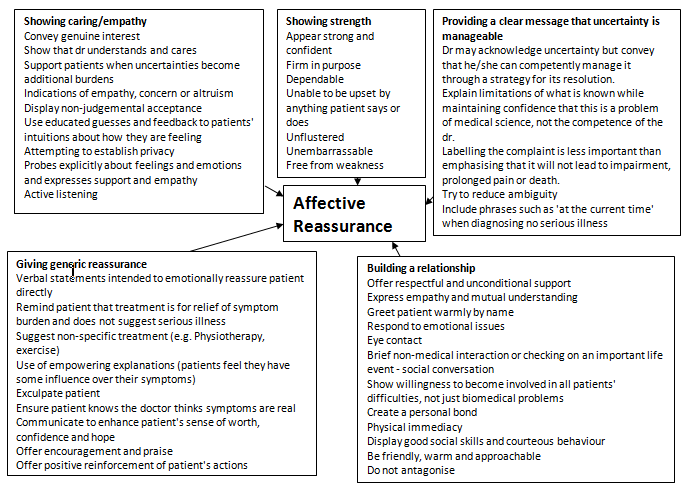


Figure 5.3 - Physician Behaviours Identified from Literature Review for Effective Affective Reassurance.

The questionnaire was preceded by the introduction:

*“The following 2 pages concern your physician’s communication and behaviour during your consultation. Please answer all the questions. The questions are split into two sections reflecting different times during the consultation:*

1. *The section in which you explained to the physician the reasons for your visit.*
2. *The section in which the physician provided you with information about your diagnosis and treatment.*

*Please answer as honestly as you can remember regarding whether or not each statement applies to something your physician said or did. Secondly, please indicate whether or not you would have liked for your physician to have done so.”*

Before the data-gathering items the questionnaire read:

*“Section 1: When discussing the reason for my visit:”*

This was followed by the 7 data-gathering items. Before the data-giving items, the questionnaire read:

*“Section 2: After listening to my explanation of my problem, and performing any physical examination (if required):”*

Following this were the 9 cognitive and 14 affective reassurance items, presented in a random order as determined by entering the item numbers into https://www.random.org/sequences/.

Advice on the questionnaire was sought from a Patient and Public Involvement (PPI) group based in Surrey, UK, who indicated that the items were acceptable and understandable. Participants in the previous study (Chapter 4) also agreed to read and comment on the questionnaire. Again, the consensus was positive on the item content and presentation. However, when participants filled in the questionnaire, a pattern emerged which indicated a problem with the original response scale: all participants ticked “yes, just right” for every item. It seemed there was a reluctance to suggest that their GP had done something ‘wrong’ by ticking the other options, even if they had not been completely satisfied with their consultations (as indicated in their interviews). A panel of experts in measuring health constructs and questionnaire development from Royal Holloway, University of London provided advice in a focus group, and the questionnaire responses were modified to reflect patients’ perceptions of what the practitioner did, without placing any value judgement on their report. The new response options look as follows:

To what extent did the physician ... not at all A great deal

. . . . . . .

1. [physician behaviour]
2. [physician behaviour]
3. Etc.

## 5.2.2 Participants

Forty-three general practice surgeries in Northamptonshire, Kent, Surrey, and Sussex, England recruited patients with low back pain for this study between October 2013 and April 2015. The inclusion and exclusion criteria used to identify eligible patients were as follows:

Inclusions:

* Consultation within the previous month.
* New episode of acute LBP (duration <6 weeks; no prior episodes within last 6 months) without radiating leg pain and for whom self-management is indicated.
* Adult patients (>18 years).

Exclusions:

* Red flag markers.
* Cancer.
* Cauda equina and ankylosing spondylitis.
* Severe disability or end of life disorder.
* Pregnancy.
* Cognitive impairment or serious mental health problems, which the GP considers could make patients vulnerable and for whom participation would be detrimental.
* Previous spinal surgery.
* Currently receiving secondary care (physiotherapy, osteopathy, etc.) for the same problem.
* Unable to read and speak English.
* Those requiring further investigation.

## 5.2.3 Materials and Procedures

This study employed a cross-sectional design; all data were taken from participants at a single time-point, with the exception of the reassurance questionnaire which was answered for a second time one week after the first. Two separate samples were obtained for this study: the first 150 participants, referred to as Sample 1, for an exploratory analysis of the questionnaire; the second 150 participants (sample 2) recruited from the same sites for confirmatory testing.

Although all study data collected from participants is the same, recruitment methods differed between the geographical sites, based on the advice of research and development specialists in each area on what their local surgeries would be able to offer. All participants were recruited in one of two ways:

1. By a database search at their GP surgery. The search protocol was the same as used in the qualitative study (see Chapter 4), as devised by an independent expert company specialised in NHS database systems. Practice databases were initially searched for LBP consultations within the previous month, fitting the inclusion and exclusion criteria for participation (see Section 5.2.2). Following this, update searches were performed monthly to identify new potential participants who had attended the surgery within the previous month. The searches were conducted by a researcher at the practice (such as a designated research nurse), and were checked by GPs to ensure that identified patients were eligible and suitable to participate. The practice then sent out a study pack to eligible patients containing the documents outlined below.  
   Those who wished to participate were asked to sign the consent form, fill in the questionnaire and return both to the study team in the envelope provided.
2. During their LBP consultation. GPs and NPs at practices which supported this recruitment method were briefed on the inclusion and exclusion criteria for the study, and invited patients who were eligible to join the study at the end of their consultations, by telling them about the study, handing them the questionnaire pack containing all of the study information and asking that they consider taking part. These participants could return their questionnaires either in the post, or to practice staff who would send it back to the research team. Where a practice had agreed to recruit during consultations, database searches were also conducted at fortnightly intervals to ensure that all eligible patients had, in fact, been invited. If any had been missed, they were invited to take part by post as outlined in the first recruitment method.

The study packs which were given or sent to participants contained: a letter of invitation; a study information sheet; a consent form; and a form to opt in to follow-up questionnaires (See Appendix 4 for copies of these) along with the questionnaire. All participants were asked if they would like to opt in to fill in the questionnaire again one week later and answer a follow-up questionnaire three months later (follow-up responses discussed in Chapter 6). If they chose to do so, the subsequent questionnaires were posted to them one week and/or three months after the study team received their response, along with a pre-paid envelope. The questionnaire at one-week follow-up asked participants again to answer the reassurance questionnaire.

### 5.2.3.1 Post-Consultation Questionnaire

#### Demographic Information

The questionnaire asked participants to give their age and gender, as well as the gender and type (GP or nurse) of their physician. Participants were also asked their marital status (married/civil partnership; cohabiting; single; divorced; widowed; other); education level (left school at or before 16; obtained A levels or equivalent; obtained higher education degree/certification); and employment status (employed full or part time; looking after home/family; retired; student; unemployed for health reasons; unemployed for other reasons).

#### Pain and Function

Participants were asked several questions about their pain. First, to allow for the separation of acute and chronic low back pain in the analyses, participants were asked to report how long they had had their current bout of back pain from the following options: less than 1 month; 1-3 months; 4-6 months; 7 months-3 years; more than 3 years. Participants were also asked if this was their first episode of back pain or not. To control for the effects of repeated consultations, participants reported the number of GP consultations they had had for this episode of low back pain, and details of any other physicians they had seen since their consultation. Finally, participants were asked to rate their pain in the week prior to visiting the GP on the 11-point Pain Numeric Rating Scale ([NRS, Turk, Rudy, & Sorkin, 1993](#_ENREF_272)). The NRS asks patients to rate their pain from 0 (no pain) to 10 (worst possible pain).

Functional status was assessed using the Roland-Morris Disability Questionnaire ([RMDQ, Roland & Morris, 1983](#_ENREF_225)) which is a well-validated measure of disability in low back pain populations ([Pincus, et al., 2008](#_ENREF_203)).

#### Consultation outcomes

As well as the newly developed and validated reassurance questionnaire, participants completed measures of satisfaction and enablement. To measure satisfaction, the Consultation Satisfaction Questionnaire ([CSQ, Baker, 1990](#_ENREF_11)) was used. The CSQ is a validated 9-item questionnaire in which participants respond to statements about how they felt about the consultation on a five-point scale from ‘strongly agree’ to ‘strongly disagree’. Enablement was measured with the Patient Enablement Instrument ([PEI, Howie, Heaney, & Maxwell, 1997](#_ENREF_108)) which has been validated for use in primary care populations ([Howie, Heaney, Maxwell, & Walker, 1998](#_ENREF_109)). The PEI consists of 6 items, rated on a 3-point scale from either ‘much better’ to ‘same or less’ or ‘much more’ to ‘same or less’.

## 5.2.4 Analysis

Traditionally, researchers in the social sciences have used what is known as ‘Classical Test Theory’ (CTT) to assess the validity and reliability of new measures. The aim of measurement is to represent, with as little error as possible, a ‘true’ (but unobservable) score on a specified variable, and CTT uses the correlations between items as a method of determining how successfully a measure achieves this ([DeVellis, 2006](#_ENREF_49)). This typically includes the use of Factor Analysis (FA) to examine the construct validity of the scale, and reliability statistics such as Cronbach’s alpha ([Cronbach, 1951](#_ENREF_41)) or test-retest reliability. The aims of FA are,

“to summarize patterns of correlations among observed variables, to reduce a large number of observed variables to a smaller number of factors, to provide an operational definition (a regression equation) for an underlying process by using observed variables, or to test a theory about the nature of underlying processes.” ([Tabachnick & Fidell, 2013, pp. 621-613](#_ENREF_262))

Within FA, groups of items which are highly correlated with one another but relatively independent of the rest of the items are labelled as ‘factors’. These factors are thought to represent the latent processes or traits which have created these correlations, and so provide a valid measure of the variable in question ([Tabachnick & Fidell, 2013](#_ENREF_262)). Cronbach’s alpha provides a measure of the internal consistency of a scale, using correlations between item scores ([Carmines & Zeller, 1979](#_ENREF_26)). This emphasises the distinction between shared variance between items, and variance unique to each item: “the greater the proportion of shared variation, the more the items have in common and the more strongly they reflect a common true score” ([DeVellis, 2006, pp. S52](#_ENREF_49)). Test-retest reliability methods assume that if a variable’s true score is stable over time, then changes in the measured score over time must be attributable to error. Therefore, the more temporally stable the measured scores are (as assessed by a correlation between scores at two or more time points), the more closely they represent the variable in question.

CTT has been widely used, and is therefore familiar to most researchers, and easily accessible using most statistical software. However, it is not without its limitations, and Devellis ([2006](#_ENREF_49)) offers a summary of these. Firstly, because adding more items will inflate correlations between items, redundancy can be a problem and scales can be long and include items which appear similar. Secondly, CTT assessment is concerned with scales as a whole over individual items, and so items are not rigorously scrutinised. Thirdly, CTT is dependent on the sample being studied – “because items are described in terms that take their meaning from the group being studied, comparisons across groups are problematic” ([DeVellis, 2006, pp. S58](#_ENREF_49)), and so variation in performance based on group differences (differential item functioning, DIF) such as culture or age cannot be assessed. Finally, scores in CTT-based measured tend to be more sensitive at the centre than at the extremes of the scoring range. Therefore, it is harder to detect changes at these extremes, which can be a problem in health settings where people at the extreme ends are those in need of most attention ([DeVellis, 2006](#_ENREF_49)). Additionally, van der Eijk and Rose ([2015](#_ENREF_277)) have suggested that FA may be unsuitable for measures which use Likert scale responses. They simulated 2400 unidimensional datasets using Likert items and factor analysed them in a variety of ways, and found a high risk of over-dimensionalisation within the results. They advise treating factor-analysed models with such data with extreme caution. Due to these limitations, and because the scale being tested here uses Likert responses, an alternative analysis method was sought.

Item Response Theory (IRT), originally developed in educational settings, has grown in popularity within the psychological and health sciences in recent years as an alternative to CTT for constructing measures (e.g. [Hays, Morales, & Reise, 2000](#_ENREF_98); [Reeve & Fayers, 2005](#_ENREF_217); [Reise, Ainsworth, & Haviland, 2005](#_ENREF_218)). IRT is based on item response functions, which are mathematical functions describing the relationship between a person’s probable response to a scale item and where he/she falls on the continuum of the construct being measured by that item ([Reeve & Fayers, 2005](#_ENREF_217); [Reise, et al., 2005](#_ENREF_218)). Following from IRT’s educational beginnings, the relationships within its models are described in terms of the ‘difficulty’ of the item and the ‘ability’ of the respondent to score highly on it. So, in basic terms, if a mathematics test question has a high level of difficulty, and the person answering the question has low mathematical ability, it is unlikely that they will score highly. Alternatively, in a health context, an item such as ‘I am in the worst pain imaginable (yes/no)’ would have a high difficulty, as most people would not be experiencing such intense pain, but a person’s ability to endorse this item would increase in line with an increased level of experienced pain. As with CTT, IRT models aim to construct measures which accurately assess latent (unobservable) traits, and it is assumed that a person must have a higher level of the trait to score highly on more difficult items. IRT models were originally developed for dichotomous items, but have been extended to include items with polytomous response options, such as Likert scales.

IRT overcomes a limitation of CTT in that the mathematical models used within it are independent of sample data, and so comparison of responses across groups becomes possible ([DeVellis, 2006](#_ENREF_49)). Additionally, each item is scrutinised with IRT models, to reduce redundancy as well as ensuring that the scale is valid and reliable. One of the most commonly used IRT models is the Rasch Measurement Model ([Bond & Fox, 2007](#_ENREF_20); [Wolfe & Smith, 2007a](#_ENREF_297), [2007b](#_ENREF_298)), which is used in this analysis. Rasch analysis allows for validity and reliability testing within the same model, and offers the advantage over CTT that it accounts for missing data by using the expected scores (for a person’s ability on a question’s difficulty level) where no score has been given. In this analysis the one-parameter Rasch rating scale model (RSM) is used, which is an extension of the simple (dichotomous) Rasch model for rating scale observations like the present one. The model allows the item difficulty (in this case the extent to which each behaviour is reported to have been present) to be based on the way in which an appropriate group of subjects (i.e. the patients) actually responded to that question, and establishes the relative difficulty of each item stem in recording the development of an attitude from the lowest to the highest levels the instrument is able to record, i.e. from response categories 1 to 7 ([Pampaka, Williams, & Hutcheson, 2012a](#_ENREF_190), [2012b](#_ENREF_191)). Responses with a Rasch model are scored with successive integers. In simple terms, this means that the item scores have to be ordered with reference to the property to be measured, such that higher scores indicate ‘more’ of the property being measured. Within the dichotomous model, this allows for counting of the number of ‘correct’ items, and within polytomous models (such as the rating scale model), the number of passed thresholds ([Salzberger, 2010](#_ENREF_237)). This is commonly likened to a transformation of ordinal data into a linear, interval-level variable within the Rasch model ([Tennant & Conaghan, 2007](#_ENREF_264)).

A core feature of Rasch models is the assumption that measures are unidimensional; that is, they only measure one latent construct. It is acknowledged that, given the complexities of human experience which are to be measured within social sciences, unidimensionality of measures is never perfect and always involves a degree of approximation ([Bond & Fox, 2007](#_ENREF_20)). However, the aim of measurement within Rasch models is to reduce multidimensionality within the data to as small a level as possible ([Linacre](#_ENREF_152)). Bond and Fox (2007) state that,

“we can, however, develop some useful quantitative estimates of some human attributes, but we can do that only for one attribute or ability at a time. Confusing a number of attributes into a single generic score makes confident predictions from that score more hazardous and the score a less useful summary of ability or achievement.” ([Bond & Fox, 2007, p. 33-34](#_ENREF_20))

Rasch measures will assume unidimensionality in all measures, and therefore will treat all data as if it were unidimensional. It is the responsibility of the researcher to identify and minimise multidimensionality when applying a Rasch model ([Linacre, 2011](#_ENREF_150)).

Analyses were conducted using Winsteps version 3.8.1.0 computer software ([Linacre, 2014](#_ENREF_151)) and following guidance for conducting and reporting Rasch analysis set out by Tennant and Conaghan ([2007](#_ENREF_264)), as follows:

* Specifying which derivation of the Rasch model is used  
  *In this case, the Rating Scale Model.*
* Testing fit of the model  
  *This was achieved using mean-squared fit indices and item-measure correlations, as described in section 5.2.4.1.*
* Testing for differential item functioning  
  *These analyses were conducted, separating responses by participant education level and physician gender.*
* Assessing reliability  
  *Reliability was tested within the Rasch model and using test-retest comparisons.*
* Ensuring unidimensionality  
  *Dimensionality analyses were conducted in the first stage of the analysis.*

### 5.2.4.1 Validity aspects to be tested

Structural validity testing appraises the fidelity of the scoring structure to the structure of the latent construct domain. Using the first sample, the dimensionality of the questionnaire was measured to ensure that the items were loading onto theoretically meaningful constructs. Dimensionality Maps were run in Winsteps ([Linacre, 2014](#_ENREF_151)), which assess how much variance is explained by the items as a whole, and provides estimates for clusters which may represent separate dimensions. The Winsteps guide (<http://www.winsteps.com/winman/multidimensionality.htm>) recommends treating item clusters with Eigenvalues of more than 2 as separate subscales, and subsequently running the dimensionality maps again separately for the items which load more than 0.4 on the cluster, and for the remaining items, and so on until no significant clusters remain. The results of each analysis were investigated qualitatively (i.e. by checking the content of the items) to ensure that item clusters were theoretically meaningful. Any sub-scales identified during this process were adhered to in further analysis, described below.

Content validity refers to the relevance and representativeness of the items of the content upon which they are based. Face validity has been explored through expert review and the use of patient advisory groups. We further tested the content validity of our measure according to the Rasch model using item-measure correlations and standardised unweighted mean-squared fit indices. Item-measure correlations indicate how well scores on a particular item are consistent with the average score across the remaining items. As advised by Wolfe & Smith (2007b), correlations of 0.4 and above were considered satisfactory. Standardised unweighted mean-squared fit indices evaluate individual items by comparing their observed and expected values. This tells us how well each item ‘fits’ with the rest of the scale. An Item with a higher score suggests the presence of large residuals in the data, meaning that the item may not be measuring the same construct as the rest of the items. Conversely, items with very low mean-squared fit values indicate the data ‘overfitting’ the model, which could indicate redundancy in our scale. Items with mean-squared fit values exceeding ±2 were examined qualitatively to assess their value to the scale, and removed as indicated.

DIF assesses whether items maintain their meaning across different groups of respondents. In other words, whether individuals from different groups respond differently to an item despite having the same ability level. DIF analyses were run across groups according to education level (to ensure that the wording of the question did not discriminate between those of higher and lower educational attainment) and physician gender (to assess whether preconceived expectations of either gender’s behaviour did not influence participants’ responses to the items). Items with DIF t-test scores of ±2 or more were to be investigated qualitatively.

Reliability was assessed in two ways for this scale. Firstly, person- and item-separation and reliability indices were obtained within the Rasch model using Winsteps ([Linacre, 2014](#_ENREF_151)). Person separation is used to classify people. Low person separation with a relevant person sample implies that the instrument may not be not sensitive enough to distinguish between high and low performers, and more items may be needed. Item separation is used to verify the item hierarchy. Low item separation implies that the person sample is not large enough to confirm the item difficulty hierarchy of the instrument. Winsteps Tutorial 3 (downloadable from [www.**winsteps**.com/a/**winsteps**-**tutorial**-**3**.pdf](http://www.winsteps.com/a/winsteps-tutorial-3.pdf)) advises that a reliability coefficient of 0.5 is the minimum meaningful reliability, and 0.8 is the minimum required for ‘serious decision-making’. Therefore, subscales with a person- or item-reliability score higher than 0.5 will be considered to show acceptable reliability, and subscales with a person-or item-reliability score higher than 0.8 will be considered to show good reliability.

Secondly, correlational analysis comparing participants’ scores at two time points (post-consultation and one-week later) assessed the temporal reliability of the scale. The interval between responses is important, because too short a gap can result in participants recalling and replicating their responses, and too large a gap may result in recording real changes in patients’ perceptions, understanding and recall. We opted for a time interval of one week between receiving the responses to the questionnaire and sending out the questionnaire again. An intraclass correlation coefficient (ICC) is the most appropriate statistical method for continuous scores. Terwee et al ([Terwee, et al., 2012](#_ENREF_266)) recommend ICC agreement over ICC consistency because ICC agreement takes systematic error into account. This requires at least 50 participants to provide two sets of responses to the scale (Terwee et al., 2012). This analysis was conducted in SPSS version 21 ([IBM Corp, 2012](#_ENREF_118)), and coefficients of 0.7 or higher were considered acceptable ([Terwee, et al., 2007](#_ENREF_265)).

External validity is the degree to which measures are related to external measures of the same, similar, or other constructs. Spearman’s Rho correlations were used to compare our scale with the Consultation Satisfaction Questionnaire ([CSQ, Baker, 1990](#_ENREF_11)) and the Patient Enablement Instrument (PEI, [Howie, et al., 1997](#_ENREF_108); [Howie, et al., 1998](#_ENREF_109)). It was anticipated that the generic reassurance subscale would produce a positive correlation of >0.4 with patient satisfaction, as measured by the CSQ. The cognitive reassurance subscale was expected to produce a positive correlation of >0.4 with patient enablement, as measured by the PEI.

# 5.3 Results

## 5.3.1 Participants

Because participants were recruited by their surgeries, the research team were not notified when patients were asked to take part. While it was requested that surgeries record and report on how many study invitations had been sent, very few did so. As such, it is unknown how many of the questionnaire packs sent to practices were actually given to patients, and so it was not possible to calculate a response rate for this study.

One hundred and fifty-seven participants returned questionnaires for the first sample; 90.4% of these were recruited via post, 9.6% by their GPs. Of the respondents, 63.9% were female, 36.1% male. 52.9% had seen a male physician, and 47.1% a female. GP consultations had made up most of the sample (99.3%), with only 0.7% having seen a nurse practitioner for their low back pain. The average age of the sample was 56.63 (SD 16.64). The majority of the participants had experienced low back pain before (73.9%), and had consulted with their GP surgery prior to the consultation which they had been sent the questionnaire after. Descriptive statistics for both samples are presented in Table 5.1.

Table 5.1 – Participant Characteristics

|  |  |  |
| --- | --- | --- |
|  | Sample 1 | Sample 2 |
| Average Age | 56.63 (SD 16.64) | 53.52 (SD 16.08) |
| Gender | 63.9% female  36.1% male | 63.4% female  36.6% male |
| Length of current episode | 33.8% <1 month  23.0% 1-3 months  11.5% 4-6 months  14.2% 7 months – 3 years  17.6% >3 years | 24.1% <1 month  27.2% 1-3 months  11.4% 4-6 months  23.4% 7 months – 3 years  13.9% >3 years |
| Number of consultations for this episode | 47.9% none  31.9% 1-2  14.3% 3-10  5.9% >10 | 54.4% none  30.9% 1-2  12.5% 3-10  2.2% >10 |
| Work status | 53.9% employed (full or part time)  35.7% retired  3.9% looking after home/family  1.9% unemployed (health reasons)  2.6% unemployed (other)  1.9% student | 56.2% employed (full or part time)  32.1% retired  3.1% looking after home/family  3.7% unemployed (health reasons)  1.9% unemployed (other)  3.1% student |
| Education level | 49.0% obtained higher education degree/certification  18.1% obtained A levels or equivalent  32.9% left school at or before 16 | 44.0% obtained higher education degree/certification  20.7% obtained A levels or equivalent  35.3% left school at or before 16 |
| Marital status | 65.8% married/civil partnership  7.7% cohabiting  7.7% single  9.7% divorced  6.5% widowed  2.6% other | 57.8% married/civil partnership  9.9% cohabiting  14.9% single  12.4% divorced  5.0% widowed |
| Physician type | 99.3% GP  0.7% nurse practitioner | 96.3% GP  3.8% nurse practitioner |
| Physician gender | 52.9% male  47.1% female | 50.9% male  49.1% female |
| First episode? | 26.1% yes  73.9% no | 27.2% yes  72.8% no |
| Average pain intensity in the last week (/10) | 7.14 (SD 2.02) | 7.06 (SD 2.06) |
| RMDQ score (/24) | 10.34 (SD 5.73) | 10.10 (SD 5.98) |

For sample 2, 162 responses were returned. Again, the vast majority (90.7%) had been recruited after their consultations, with only 9.3% recruited by their GP. Average age was 53.52 (SD 16.08), and 63.4% were female. Again a minority reported that this was their first episode (27.2%). Slightly more (3.8%) participants had seen a nurse practitioner for their low back pain, and 50.9% of physicians were male.

## 5.3.2 Rasch Modelling

### 5.3.2.1 Dimensionality Analyses

A dimensionality map of the responses of the first sample on the entire scale revealed that it was not unidimensional. A major cluster was identified consisting of 9 items. A second dimensionality map of this cluster showed that these items were also multidimensional, and separated them into two clusters, one consisting of 3 data-gathering items and the other of 6 affective reassurance items. A dimensionality map of the remaining items also separated the remaining 4 data-gathering items from the rest of the scale, and so it was decided to treat the data-gathering items as a distinct subscale. Although the analyses had suggested there were two separate clusters within the data-gathering subscale, these were not qualitatively different enough to warrant separation in the final scale.

Next, dimensionality maps were run on the data-giving items from the scale, and provided three clusters. These are presented in Table 5.2 the order of magnitude with which the items were loading onto each cluster. The middle two clusters were labelled as ‘relationship building’ and ‘generic reassurance’ respectively. Cluster 3 did not present any clear qualitative theme; although it contained the majority of the cognitive reassurance items, it also included four affective reassurance items which were not clearly linked to cognitive reassurance. Despite this, all of the items were retained at this stage for further analysis.

Table 5.2 – Subscales as Defined by Rasch Dimensionality Analysis

|  |  |  |  |
| --- | --- | --- | --- |
| **Cluster 1 (Data-Gathering)** | **Cluster 2 (Relationship-Building)** | **Cluster 3 (Generic Reassurance)** | **Cluster 4 (Unknown)** |
| 1. Ask about how your symptoms affect you in your everyday life | 4. Appear composed and level-headed | 9. Tell you that you should not be worried | 1. Explain how the treatment offered would help with your problem |
| 2. Encourage you to voice your concerns regarding your symptoms | 11. Seem friendly and approachable | 16. Give a clear timescale for when your symptoms should improve | 2. Give you a clear explanation for your symptoms |
| 3. Ask you what you thought your symptoms might mean | 7. Show a genuine interest in your problem | 18. Tell you that everything would be fine | 3. Chat with you informally |
| 4. Listen attentively while you were talking | 15. Treat you politely | 20. Reassure you that he/she had no serious concerns about your back | 5. Encourage you to be optimistic |
| 5. Give you enough time to say everything you wanted to say | 6. Show acceptance of your concerns |  | 8. Give you a choice of treatment options |
| 6. Ask questions to make sure he/she understood what you meant | 19. Put you at ease |  | 10. Seem pleased with how you had managed your symptoms so far |
| 7. Summarise what you had told them | 13. Check that you agreed with the treatment plan |  | 12. Make sure you understood what your treatment plan involves |
|  | 21. Show that he/she understood your concerns |  | 14. Assure you that you could control your problem |
|  |  |  | 17. Explain your symptoms in relation to your concerns |
|  |  |  | 22. Consider your lifestyle and needs in planning your treatment |
|  |  |  | 23. Check you understood the explanation he/she gave for your symptoms |

### 5.3.2.2 Validity Assessment

Assessment using the principles of Rasch measurement was conducted on each subscale identified in section 3.2.1.

#### Content Validity

Standardised unweighted mean-squared fit indices for each item are presented using the data from the first sample. These indices were re-calculated each time a problematic item was removed, until both infit and outfit for the remaining items fell within acceptable ranges. Table 5.3 shows the fit indices for each item at each stage of the analysis for Sample 1.

For the data-gathering subscale, the final model, which included items 2, 4 and 7 (encourage you to voice your concerns regarding your symptoms; listen attentively while you were talking; and summarise what you had told them, respectively), showed good fit for all items. Item-measure correlations were calculated for the reduced subscale, and were found to be strong: 0.88, 0.80, and 0.88 for items 2, 4 and 7 respectively for sample 1. For sample 2, the model continued to show good fit, and Item-measure correlations were also strong for the second sample, as shown in Table 5.4.

For the relationship-building subscale, the final model, made up of items 7, 19 and 21 (show a genuine interest in your problem; put you at ease; and show that he/she understood your concerns, respectively), showed good fit for all items (see Table 5.3). Item-measure correlations were calculated for the reduced subscale, and were found to be .86, .91 and .91 for items 7, 19 and 21 respectively, suggesting that each of the items correlated strongly with the final, reduced subscale for sample 1. For sample 2, items 7 and 19 showed standardised mean-squared fit indices outside of the acceptable ranges of ±2, suggesting the presence of large residuals within the data. As removal of either of these items would leave only two in the subscale, instead all of the original Relationship-building items (see Table 5.2) were re-entered using sample 2’s data, to assess whether a different combination of the items might better represent the construct. The results of this analysis, again with misfitting items removed sequentially are shown in Table 5.5. The item-measure correlations for a subscale containing items 4, 11, 15 and 6 were 0.87, 0.88, 0.82, and 0.90 respectively. When these items were entered into Winsteps using sample 1’s data, item 11 was misfitting (infit -2.3; outfit -2.4). This was removed, and the remaining items showed good fit. The three items in the second reduced subscale (appear composed and level-headed; treat you politely; and show acceptance of your concerns) were not felt by the authors to be qualitatively as useful as the original three items, as there was a strong chance of ceiling effects particularly for the items concerning level-headedness and politeness, as these are anticipated to be high for all physicians. Therefore, both subscales were analysed using the combined data from Sample 1 and 2 before a decision was reached on which to include in the final questionnaire. The analyses of the relationship-building subscales are presented in Table 5.6. Both subscales showed acceptable fit statistics and strong item-measure correlations.

Table 5.3 - fit statistics for each item for Sample 1

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Item | Infit/Outfit | | | | | | | | |
|  | Stage 1 | Stage 2 | Stage 3 | Stage 4 | Stage 5 | Stage 6 | Stage 7 | Stage 8 | Stage 9 |
| *Data-gathering Subscale* | | | | | | | | | |
| 1 | 1.2/1.5 | 2.9/3.2 |  |  |  |  |  |  |  |
| 2 | -2.1/-2.6 | -0.5/-0.8 | 2.3/3.0 | 0.6/0.8 | -1.2/-1.3 |  |  |  |  |
| 3 | 4.0/4.1 |  |  |  |  |  |  |  |  |
| 4 | -0.1/-1.3 | -0.1/-1.4 | 0.2/-1.1 | -0.1/-1.6 | 0.6/-0.4 |  |  |  |  |
| 5 | -0.3/-0.8 | -0.1/-1.5 | -0.5/-2.0 | -1.1/-2.2 |  |  |  |  |  |
| 6 | -1.9/-2.2 | -1.4/-2.0 | -1.7/-2.5 |  |  |  |  |  |  |
| 7 | -0.2/-0.6 | 0.8/0.9 | 1.2/1.6 | 1.8/2.0 | 0.7/0.6 |  |  |  |  |
| *Relationship-building subscale* | | | | | | | | | |
| 4 | 1.6/0.9 | 1.7/1.9 | 1.5/1.5 | 2.8/2.4 |  |  |  |  |  |
| 11 | -2.4/-2.1 | -2.4/-2.2 |  |  |  |  |  |  |  |
| 7 | -1.4/-2.1 | -1.0/-2.2 | -1.2/-2.3 | -1.5/-2.4 | -0.2/-1.4 | 0.6/-0.2 |  |  |  |
| 15 | 2.4/0.7 | 2.6/0.9 | 2.9/1.2 |  |  |  |  |  |  |
| 6 | -2.5/-1.1 | -2.4/-1.7 | -2.9/-2.3 | -3.0/-2.4 | -2.2/-1.7 |  |  |  |  |
| 19 | -0.5/-0.8 | 0.7/0.2 | 0.1/-0.6 | 0.5/-0.5 | 1.2/0.2 | -0.3/-1.8 |  |  |  |
| 13 | 1.8/3.0 |  |  |  |  |  |  |  |  |
| 21 | 0.4/1.9 | 0.7/2.4 | -0.1/1.3 | 0.1/1.5 | 0.8/1.5 | -0.3/-0.5 |  |  |  |
| *Generic Reassurance subscale* | | | | | | | | | |
| 9 | -1.9/-1.6 | -0.9/-1.0 |  |  |  |  |  |  |  |
| 16 | 1.9/1.8 |  |  |  |  |  |  |  |  |
| 18 | -1.3/-1.7 | 0.0/-0.8 |  |  |  |  |  |  |  |
| 20 | 1.7/1.1 | 1.3/0.6 |  |  |  |  |  |  |  |
| *Cognitive Reassurance Subscale* | | | | | | | | | |
| 1 | -0.3/ 0.5 | 0.1/0.9 | 0.3/1.1 | 0.5/1.0 | 0.5/1.2 | 0.8/1.8 | 0.3/1.0 | -0.9/ 0.0 | -1.0/  -0.8 |
| 2 | -3.1/  -2.9 | -2.5/  -2.4 | -2.1/  -1.5 | -2.3/  -1.5 | -2.5/  -1.8 |  |  |  |  |
| 3 | 4.4/4.5 |  |  |  |  |  |  |  |  |
| 5 | -2.1/  -1.4 | -0.8/ 0.1 | -0.6/  -0.1 | 0.3/1.1 | 0.8/1.9 | 0.1/1.0 | 0.2/1.2 | -0.5/  0.3\* |  |
| 8 | 3.2/3.5 | 4.1/4.6 |  |  |  |  |  |  |  |
| 10 | 0.1/1.5 | 0.7/1.8 | 1.5/2.7 | 1.9/2.8 |  |  |  |  |  |
| 12 | 0.9/  -0.6 | 1.0/  -0.5 | 1.4/  -0.3 | 1.5/  -0.1 | 1.8/0.3 | 1.3/  -0.2 | 1.3/0.0 | 1.0/  -0.3 | 0.3/  -0.9 |
| 14 | -2.1/  -1.8 | -2.0/  -2.0 | -1.5/  -1.6 | -1.2/  -1.4 | -0.9/  -1.0 | -1.5/  -1.7 |  |  |  |
| 17 | -2.9/  -2.5 | -3.1/  -2.7 | -3.0/  -2.5 | -2.2/  -1.9 | -1.9/  -1.5 | -1.9/  -0.9 | -2.0/  -1.1 |  |  |
| 22 | 2.5/2.6 | 3.3/3.3 | 3.8/4.2 |  |  |  |  |  |  |
| 23 | -1.0/  -1.2 | -0.5/  -0.5 | -0.2/  -0.5 | 1.1/0.7 | 1.7/1.4 | 1.0/0.6 | 0.2/  -0.2 | 0.6/0.4 | 1.0/0.4 |
| \*Item 5, although showing good fit at this stage, was removed from the subscale because it did not fit qualitatively with the remaining 3 items. | | | | | | | | | |

For the generic reassurance subscale, the reduced subscale, made up of items 9, 18 and 20 (tell you that you should not be worried; tell you that everything would be fine; and reassure you that he/she had no serious concerns about your back, respectively), showed good fit for all items with sample 1 (see Table 5.3), and was used in subsequent analyses. Item-measure correlations were calculated for the reduced subscale, and were found to be .89, .90 and .85 for items 9, 18 and 20 respectively, suggesting that the items correlated well with overall subscale. The subscale showed good fit when tested again with the data from sample 2, as shown in Table 5.4, and maintained strong item-measure correlations.

For the Cognitive reassurance subscale, the final model, made up of items 1, 12 and 23 (explain how the treatment offered would help with your problem; make sure you understood what your treatment plan involves; and check you understood the explanation he/she gave for your symptoms, respectively), showed good fit for all items for sample 1 (see Table 5.3). Item-measure correlations were calculated for the reduced subscale, and were found to be 0.84, 0.81, and 0.84 for items 1, 12 and 23 respectively, suggesting that the items correlated well with the overall subscale. Fit statistics and Item-measure correlations remained at acceptable levels using the data from sample 2 (see Table 5.4).

#### Differential Item functioning (DIF)

DIF statistics were calculated for items 2, 4 and 7 (the data-gathering subscale) to assess whether different items were answered differently by participants from different groups. For sample 1, when separated by education level, participants at level 2 (obtained A levels or equivalent) showed the most variation, being more likely to endorse item 2 and less likely item 4, however this was not significant (See Figure 5.4). Non-significant t-tests were also found for physician gender (Figure 5.5). For sample 2, there were again no level or physician gender (Figures 5.6 and 5.7).

Figure 5.5 - DIF Plot by Physician Gender – Sample 1 (Data-Gathering Items)

Figure 5.4 – DIF Plot by Education – Sample 1 (Data-Gathering Items)

Figure 5.7 - DIF Plot by Physician Gender - Sample 2 (Data-Gathering Items)

Figure 5.6 - DIF Plot by Education (Sample 2 – Data-Gathering Items)

Table 5.4 - fit statistics and item-measure correlations for sample 2

|  |  |  |  |
| --- | --- | --- | --- |
| Item | Infit | Outfit | Item-measure correlation |
| *Data-Gathering Subscale* | | | |
| 2 | -0.5 | -0.4 | 0.90 |
| 4 | 1.1 | 0.6 | 0.82 |
| 7 | -0.9 | -1.2 | 0.92 |
| *Generic Reassurance Subscale* | | | |
| 9 | -0.3 | -0.6 | 0.87 |
| 18 | -1.1 | -1.3 | 0.90 |
| 20 | -1.0 | -0.4 | 0.87 |
| *Cognitive Reassurance Subscale* | | | |
| 1 | 1.3 | 1.5 | 0.82 |
| 12 | -1.3 | -1.8 | 0.88 |
| 23 | 0.1 | -0.6 | 0.87 |

Table 5.5 - Fit statistics for Second Analysis of Sample 2 (Relationship-Building Subscale)

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Item** | **Infit/Outfit** | **Infit/Outfit** | **Infit/Outfit** | **Infit/Outfit** | **Infit/Outfit** |
| 4 | -0.3/0.5 | -1.3/-0.5 | -1.0/-0.3 | -1.6/-1.3 | -0.1/-0.3 |
| 11 | -2.2/-2.4 | -1.2/-0.9 | 0.5/1.0 | -0.1/0.0 | 0.0/-0.4 |
| 7 | -3.5/-3.2 | -3.9/-3.6 | -3.3/-3.0 |  |  |
| 15 | -0.4/-1.2 | 0.6/-0.6 | 1.6/0.0 | 0.7/-0.6 | 0.9/-0.7 |
| 6 | -2.7/-0.7 | -2.3/-1.1 | -1.9/-1.0 | -2.2/-1.2 | 0.0/0.6 |
| 19 | 2.4/4.3 | 4.4/5.4 |  |  |  |
| 13 | 4.0/4.2 |  |  |  |  |
| 21 | 0.3/0.1 | 1.6/1.0 | 2.8/2.6 | 2.7/2.6 |  |

For the relationship-building subscales, DIF statistics showed that when separated by education level and physician gender, variation was evenly spread amongst groups for both subscales, with no significant t-test results (Figure 5.8 – 5.11 and Table 5.6).

Figure 5.9 - DIF Plot by Physician Gender – Relationship-building Subscale 1

Figure 5.8 - DIF Plot by Education – Relationship-building Subscale 1

Table 5.6 – Analyses of two potential relationship-building subscales.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Subscale** | **1** | | | | **2** | | | |
|  | 7 – show a genuine interest in your problem | 19 – put you at ease | 21 – show that he/she understood your concerns | Whole subscale | 4 – appear composed and level-headed | 15 – treat you politely | 6 – show acceptance of your concerns | Whole subscale |
| Infit | -1.7 | 1.6 | -0.5 |  | 1.2 | -0.7 | 0.7 |  |
| Outfit | -1.9 | 1.0 | -1.3 |  | 0.3 | -1.7 | -0.6 |  |
| Item-measure correlation | .90 | .89 | .91 |  | .88 | .85 | .82 |  |
| DIF by Education | -.48 – 1.22 | -1.32 – .46 | 0 – .12 |  | -1.27 – .82 | -.46 – .23 | -.72 – 1.05 |  |
| DIF by Physician Gender | 0 | -0.60 - 0 | 0 – 0.53 |  | -1.02 – .31 | -.97 – .91 | -.98 – 1.55 |  |
| Person separation |  | | | 2.11 |  | | | 1.82 |
| Person reliability |  | | | .82 |  | | | .77 |
| Item separation |  | | | 2.81 |  | | | 11.45 |
| Item reliability |  | | | .89 |  | | | .99 |
| ICC | .87 (n=155) | .84 (n=155) | .88 (n=154) | .93 (n=153) | .78 (n=156) | .80 (n=156) | .86 (n=156) | .88 (n=156) |
| Correlation with CSQ |  | | | .81\* |  | | | .73\* |
| Correlation with PEI |  | | | .52\* |  | | | .41\* |
| \* correlation is significant at p<0.05 | | | | | | | | |

Figure 5.10 - DIF Plot by Education - Sample 2 (Relationship-Building Items)

Figure 5.11 - DIF Plot by Physician Gender – Relationship-building subscale 2

DIF statistics for the generic reassurance subscale for sample 1, when separated by education level, showed that variation was evenly spread amongst groups, with no significant t-test results (see Figure 5.2). Non-significant t-tests were also found for physician gender (figure 5.13). Non-significant t-test results for sample 2 for either of these categories (see Figures 5.14 and 5.15) support the finding that items in this subscale did not produce different results for different subgroups.

Figure 5.12 - DIF Plot by Education - Sample 1 (Generic Reassurance Items)

Figure 5.13 - DIF Plot by Physician Gender - Sample 1 (Generic Reassurance Items)

Figure 5.14 - DIF Plot by Education - Sample 2 (Generic Reassurance Items)

Figure 5.15 - DIF Plot by Physician Gender - Sample 2 (Generic Reassurance Items)

For the cognitive reassurance subscale, when separated by education level, participants who had obtained higher education degree/certification were less likely than other groups to endorse item 1 in sample 1, but this difference was not significant (see Figure 5.16). Non-significant t-tests were also found for physician gender (Figure 5.17). A similar picture emerged for the second sample, with no items showing significant DIF t-tests for education (Figure 5.18) or physician gender (Figure 5.19).

Figure 5.17 - DIF Plot by Physician Gender - Sample 1 (Cognitive Reassurance Items)

Figure 5.16 - DIF Plot by Education - Sample 1 (Cognitive Reassurance Items)

Figure 5.19 - DIF Plot by Physician Gender - Sample 2 (Cognitive Reassurance Items)

Figure 5.18 - DIF Plot by Education - Sample 2 (Cognitive Reassurance Items)

#### Reliability

Reliability was assessed for each subscale using Rasch person- and item-separation statistics and ICCs comparing scores on the items one week after one another (see Table 5.6 and 5.7).

For the data-gathering subscale, in sample 1 the person separation was 2.08 (reliability coefficient 0.81), and the item separation was 8.67 (reliability coefficient 0.99), indicating a good level of reliability. Reliability remained high for sample 2: person separation 2.26 (reliability coefficient 0.8); item separation 8.65 (reliability coefficient 0.99). ICC Correlations were all above the acceptable level of 0.70, and so the subscale can be considered to have good test-retest reliability.

Reliability scores were mixed for the relationship-building subscale (see Table 5.6). For the first subscale, person- and item-separation were both above the threshold for good reliability. However, for the second subscale person reliability was .77, and therefore failed to meet the standard for good reliability of >.8, although item-separation was good. Test-retest reliability was strong for both subscales.

For the cognitive reassurance subscale, person- and item-separation indices were within acceptable ranges for sample 1: the person separation was 2.04 (reliability coefficient 0.81) and the item separation was 2.48 (reliability coefficient 0.86). For sample 2, the person separation was 1.82 (reliability coefficient 0.77) and the item separation was 1.36 (reliability coefficient 0.65). Although the reliability scores for sample 2 fell above the minimum meaningful level of 0.5, they failed to reach to acceptable standard of 0.8. ICCs, however, were all strong for this subscale and indicate acceptable test-retest reliability (table 5.7).

## 5.3.3 External Validity

All four subscales were significantly positively correlated with satisfaction and enablement, for both samples (see Tables 5.6 and 5.8). The hypotheses that affective reassurance (in this case split into relationship-building and generic reassurance) would show a positive correlation >0.4 with satisfaction, and that cognitive reassurance would show a positive correlation >0.4 with enablement were both supported.

## 5.3.4 Relationship-building Subscale

Overall, both potential subscales performed well when analysed using samples 1 and 2 combined (see Table 5.6). However, the second subscale showed weaker person-separation than the first, which is indicative of the ceiling effects which were expected to arise. As the items in the first subscale were felt to be more qualitatively meaningful in the context of relationship-building, this subscale was included in the final questionnaire.

## 5.3.5 Final Questionnaire

The final questionnaire consists of 12 items, presented in Table 5.9.

Table 5.7 – ICC Scores for all items

|  |  |  |
| --- | --- | --- |
|  | ICC Sample 1 | ICC Sample 2 |
| *Data-gathering subscale* | | |
| Item 2 | 0.85, n=75(74,74) | 0.82, n=68(67,67) |
| Item 4 | 0.83, n=74(73,73) | 0.70, n=67(66,66) |
| Item 7 | 0.77, n=74(73,73) | 0.75, n=68(67,67) |
| Whole subscale | 0.90, n=76(75,75) | 0.81, n=68(67,67) |
| *Generic reassurance subscale* | | |
| Item 9 | 0.87, n=71(70,70) | 0.82, n=68(67,67) |
| Item 18 | 0.90, n=68(67,67) | 0.83, n=66(65,65) |
| Item 20 | 0.89, n=73(72,72) | 0.77, n=68(67,67) |
| Whole subscale | 0.91, n=73(72,72) | 0.87, n=68(67,67) |
| *Cognitive reassurance subscale* | | |
| Item 1 | 0.82, n=72(71,71) | 0.82, n=65(64,64) |
| Item 12 | 0.82, n=71(70,70) | 0.79, n=65(64,64) |
| Item 23 | 0.85, n=72(71,71) | 0.79, n=66(65,65) |
| Whole subscale | 0.82, n=73(72,72) | 0.88, n=66(65,65) |

Table 5.8 – Correlations of all Subscales with Satisfaction and Enablement

|  |  |  |
| --- | --- | --- |
|  | Total Satisfaction Score (CSQ) | Total enablement score (PEI) |
| *Sample 1* |  |  |
| Data Gathering, n=156 | 0.71\* | 0.43\* |
| Generic Reassurance, n=151 | 0.54\* | 0.42\* |
| Cognitive Reassurance n=156 | 0.80\* | 0.48\* |
| *Sample 2* | | |
| Data Gathering, n=162 | 0.77\* | 0.43\* |
| Generic Reassurance, n=160 | 0.45\* | 0.46\* |
| Cognitive Reassurance, n=162 | 0.76\* | 0.52\* |
| \* correlation is significant at p<0.05 | | |

Table 5.9 – Final Questionnaire items

|  |  |  |  |
| --- | --- | --- | --- |
| Data-gathering subscale | Relationship-building subscale | Generic reassurance subscale | Cognitive reassurance subscale |
| *To what extent did the physician ...* | | | |
| Encourage you to voice your concerns regarding your symptoms | Show a genuine interest in your problem | Tell you that you should not be worried | Explain how the treatment offered would help with your problem |
| Listen attentively while you were talking | Put you at ease | Tell you that everything would be fine | Make sure you understood what your treatment plan involves |
| Summarise what you had told them | Show that he/she understood your concerns | Reassure you that he/she had no serious concerns about your back | Check you understood the explanation he/she gave for your symptoms |

# 5.4 Discussion

## 5.4.1 Discussion of Findings

The aims of this study were to develop and test a theory-driven reliable and valid questionnaire to assess consultation-related reassurance in LBP. Overall, the questionnaire performed well, with all items showing good fit with the final subscales, no DIF indicating consistency of responses, and acceptable reliability. The four sub-categories map on to the model of reassurance proposed by Pincus, et al. ([2013](#_ENREF_202)). The first two, data-gathering and relationship-building can be considered to provide implicit reassurance, while the latter can be conceptualised as explicit reassurance. Building a relationship was one of the key reassurance skills extracted from the literature review, and was included under affective reassurance as it involves emotion-based behaviours such as empathising, being supportive, and forming a bond. The benefits of forming therapeutic relationships with patients are well-reported (e.g. [Hall, et al., 2010](#_ENREF_92); [Hall, et al., 1988](#_ENREF_93); [Hsiao & Boult, 2008](#_ENREF_113); [Makoul, 2001](#_ENREF_167); [Simpson, et al., 1991](#_ENREF_250)). According to Coia and Morley (1998), relationship-building and generic reassurance would fall into the category of affective reassurance, combining verbal and non-verbal behaviours. Coia and Morley do not mention data-gathering behaviours, possibly because they consider these as attempts to elicit information about the presenting problem, rather than attempts to understand the whole person’s story, including their concerns and the implications on their lives. As such, the items in the data-gathering sub-scale can be considered to also represent implicit reassurance, as they convey the patients perception that they have had the opportunity to voice their concerns, and that they have been listened to.

## 5.4.2 Strengths and Limitations

The study utilised two separate samples for the analysis. While this enabled re-testing findings in a new sample, it could be argued that both samples could be expected to perform similarly, as they were drawn from the same population presenting to the same practices. However, the samples were recruited from 43 general practices, in a large geographical spread and diverse socio-economical catchment populations. This argument is supported by the Differential Item Functioning (DIF) analysis. The presence of DIF means that respondents with the same ability level will answer a question differently, and may represent an issue in the wording of the question which is causing this. All four subscales showed no DIF for either participant education level or physician gender, meaning that responses did not differ significantly across respondents within different groups on these variables. The absence of DIF for participant education is encouraging, as it is essential that a questionnaire is understandable to people from all educational backgrounds ([Mandal, et al., 2000](#_ENREF_169)). Responses from participants whose physicians had been of different genders were examined as there are documented differences in the ways male and female physicians communicate with patients, with female physicians more likely to engage in empathetic and partnership-building behaviours ([Jefferson, Bloor, Birks, Hewitt, & Bland, 2013](#_ENREF_124)). Additionally, physician gender has been shown to affect patient satisfaction outside of the effects of patient characteristics and physician behaviours ([Bertakis, Franks, & Azari, 2003](#_ENREF_17)), suggesting that patients may hold expectations for physicians of different genders which affect their perceptions of the care they receive. However, all four subscales were resistant to these effects and remained consistent whether the physician in question was male or female.

Reliability was assessed for all subscales using Rasch estimates of reliability and ICC scores comparing responses to the items given one week apart. While test-retest reliability was demonstrated for all items and subscales, Rasch estimations of reliability were mixed for the cognitive reassurance subscale. This subscale showed good reliability within the Rasch model with sample 1, but fell short of the higher cut-points with sample 2. Because of these mixed results, it is difficult to draw conclusions about the implications for the scale’s reliability, and further testing is warranted.

Finally, scores on all four subscales were correlated with scores on established consultation measures for satisfaction ([CSQ, Baker, 1990](#_ENREF_11)) and enablement ([PEI, Howie, et al., 1997](#_ENREF_108)). All showed significant positive correlations with both instruments for both samples, demonstrating good external validity for the scale. Cognitive reassurance was related more strongly than the other subscales to enablement. This finding supported both the hypothesis that the two would be correlated, and the model of reassurance which posits that cognitive reassurance equips patients with the knowledge and skills to manage their problem ([Pincus, et al., 2013](#_ENREF_202)). Surprisingly, although the generic reassurance subscale was significantly correlated with satisfaction, and so the second hypothesis was supported, it showed the weakest correlations of the four subscales for both samples. It was predicted that affective reassurance would increase satisfaction as it produces immediate reductions in anxiety and therefore patients leave the consultation feeling better ([Coia & Morley, 1998](#_ENREF_32)). The relationship between generic reassurance and satisfaction remains problematic: contradictory evidence was found in a systematic review of prospective cohorts in primary care (Pincus et al., 2013), with three studies showing a positive association between the two, and two studies showing negative associations.

The delay between consultation and recruitment is a limitation of this study. To truly capture participants’ perceptions of reassurance it would be ideal to administer the measure at consultation exit. However, this was not always possible within the practices which supported this study and postal recruitment was necessary. Additionally, as with the previous study, participants were included in this sample with both acute and chronic low back pain. A sample of acute cases only (i.e. people presenting with their first episode of low back pain) would be more suited to addressing the model of reassurance, which is concerned with early messages of reassurance and their role in reducing the risk of chronicity. Again, the researchers were limited by the capabilities of the database systems and the information entered within them. The search strategy necessitated the use of SystmOne read codes for low back pain, which do not always discriminate as fully as would be desirable between new and existing cases.

## 5.4.3 Conclusions

Overall, the measure has demonstrated a good level of validity and generally acceptable reliability. This is the first of its kind to focus specifically on reassurance for low back pain in primary care settings, and will enable researchers to further their understanding of what is reassuring within the context of low back pain consultations, and how outcomes are affected by different types of reassurance. Additionally, since reassurance is recommended in numerous guidelines for low back pain (e.g. [Airaksinen, et al., 2006](#_ENREF_3); [Koes, et al., 2010](#_ENREF_136); [van Tulder, et al., 2006](#_ENREF_281)) the measure may provide a useful training and audit tool for physicians. The new measure requires testing in prospective cohorts, and would benefit from further validation against ethnographic observation of consultations in real time.

In the next chapter, the new reassurance measure will be used in a prospective cohort study to assess whether there is a link between reassurance during consultations and patient outcomes.

Chapter 6: The associations between consultation-based reassurance, psychological risk factors and outcomes in patients with low back pain: a prospective cohort study

# 6.1 Introduction

In the previous chapter, a questionnaire to measure reassurance during consultations was created and shown to have good validity with a sample of patients with low back pain. This scale can be used to assess whether different types of reassurance affect patient outcomes in different ways.

The method of reassurance proposed by Coia and Morley ([1998](#_ENREF_32)) advocated physicians withholding emotional support, verbal and non-verbal, when trying to educate patients who present with illness (an experience of ill health) without disease (the presence of pathology). Emotional, or affective, reassurance is defined as attempts to create rapport and to show empathy, combined with generic reassurance based on statements indicating that the practitioner believes that the problem will be resolved, and that the patient can trust them. It is advisable to avoid affectively reassuring patients, Coia and Morley argue, because providing emotional reassurance reduces patients’ concerns to such levels that they are no longer motivated to fully and systematically engage with illness-related information. This creates a change in emotional state without a change in the cognitions associated with the symptoms, which means that if the symptoms persist, the patient is not equipped with the knowledge that would help them to cope. If this affective reassurance is withheld, however, patients’ illness-related concerns will not be prematurely reduced, and so they will be more likely to systematically process the information provided by their physician, which can be recalled if symptoms recur.

The notion that cognitive reassurance leads to better patient outcomes than affective reassurance was supported by the results of the systematic review in Chapter 3 ([Pincus, et al., 2013](#_ENREF_202)). Affective reassurance was associated with worse symptoms in three high-quality prospective cohort studies ([Fassaert, et al., 2008](#_ENREF_70); [Little, et al., 2001](#_ENREF_159); [Shaw, et al., 2011](#_ENREF_246)) whereas cognitive reassurance was linked to improved symptoms in four high-quality ([Fassaert, et al., 2008](#_ENREF_70); [Little, et al., 2001](#_ENREF_159); [Stewart, et al., 2000](#_ENREF_256); [Turner, et al., 1998](#_ENREF_273)) and three lower quality studies ([Jackson, 2005](#_ENREF_122); [Jackson & Kroenke, 2001](#_ENREF_123); [Phillips, et al., 2012](#_ENREF_200)). Both had been associated with increased satisfaction ([Kravitz, et al., 2002](#_ENREF_138); [Little, et al., 2001](#_ENREF_159); [Pawlikowska, et al., 2012](#_ENREF_195); [Phillips, et al., 2012](#_ENREF_200); [Putnam, et al., 1985](#_ENREF_210); [Stewart, et al., 2000](#_ENREF_256); [Thom, 2001](#_ENREF_268)), although there was conflicting evidence on this in the case of affective reassurance ([Gilbert & Hayes, 2009](#_ENREF_80); [Mead, et al., 2002](#_ENREF_175); [van Dulmen & van den Brink-Muinen, 2004](#_ENREF_278)).

That patients may be satisfied with emotionally-reassuring behaviours, particularly interpersonal behaviours which display caring, empathy and warmth, was confirmed by the qualitative study in Chapter 4. Participants in this study found it reassuring to feel that their physician had listened to and understood them, and was motivated to help them. There is a large body of literature which suggest that warm, caring, understanding, and empathetic behaviours lead to better patient outcomes (e.g. [Derksen, et al., 2013](#_ENREF_48); [Hall, et al., 2010](#_ENREF_92)). The patient-centredness movement is built on the notion that physicians should aim to understand a patient’s whole situation and build a therapeutic relationship ([Mead & Bower, 2000](#_ENREF_173)), and, indeed, the qualitative study reported in Chapter 4 (as well as previous studies, e.g. [Cooper, et al., 2008](#_ENREF_34); [Laerum, et al., 2006](#_ENREF_142)) confirmed that patients value these behaviours. This leads to the question of whether Coia and Morley’s ([1998](#_ENREF_32)) suggestion of withholding emotional behaviours is truly practicable or advisable.

However, in terms of reassurance, empathic and partnership-building behaviours may be a distinct entity from the strict affective reassurance which Coia and Morley referred to as, “verbal statements intended to emotionally reassure patients directly” ([Coia & Morley, 1998, pp. 379](#_ENREF_32)), as shown in Chapter 5. Rasch modelling using data from the new reassurance questionnaire indicated that affiliative behaviours, such as showing understanding and empathy, are a separate construct from direct reassurance statements (e.g. that the patient should not be worried). It seems to be the case that these behaviours, which had previously been grouped together as representing affective reassurance, represent two distinct phenomena within the consultation. Relationship-building behaviours, then, might be thought of as implicit reassurance, a precursor to explicit reassurance. Implicit reassurance aims to establish trust between patients and physicians ([Street, et al., 2009](#_ENREF_260)), while explicit reassurance can be broken down into the affective (“you should not be worried about anything serious”) and cognitive (“Here is what I think is going on, and what I propose we do about it”) components identified in the final two subscales of the questionnaire.

An important factor in the model (presented in Chapter 3) which has not yet received much attention is that patient and problem characteristics will have an impact on the patient’s illness journey at all points. This includes how the pain in perceived, levels of pain and disability, and mood ([Pincus, et al., 2013](#_ENREF_202)). Psychological factors such as distress ([Linton, 2005](#_ENREF_154)), depression ([Pincus, Smeets, Simmonds, & Sullivan, 2010](#_ENREF_204)), catastrophising and fear-avoidance ([Leeuw, et al., 2007](#_ENREF_146); [Ramond, et al., 2011](#_ENREF_214)) have been linked to prognosis in low back pain, both in terms of risk of chronicity and maintenance of chronic pain ([Leeuw, et al., 2007](#_ENREF_146)). Additionally, anxiety and emotional state at the time of consultation can affect how reassurance messages from the physician are received and interpreted ([Linton, et al., 2008](#_ENREF_157)). It is not likely, then, that all patients require cognitive reassurance in the absence of affective reassurance in order to improve. Patients with high anxiety levels may require additional emotional reassurance along with a clear message about why there is no cause for concern, whereas patients who display fear-avoidant behaviours may benefit from additional pain education. The need to identify sub-groups of low back pain patients who respond better or worse to different interventions has long been posited ([e.g. Pincus, et al., 2006](#_ENREF_205)), and the case is no different for reassurance as an intervention.

A common method of sub-grouping patients with low back pain according to their level of risk is the Keele STarT Back Tool ([Hill, et al., 2008](#_ENREF_103)). This risk stratification method uses known biopsychosocial prognostic factors to allocate individuals into low-, medium- or high-risk subgroups in order to better target their first-line care. The approach is supported high quality RCT evidence that the combination of stratifying patients according to prognosis and up-skilling clinicians to provide matched treatments leads to significant improvements in patient outcomes such as disability and distress, and is cost-effective ([Hill, et al., 2011](#_ENREF_104)). The up-skilling of clinicians in this study involved training community physiotherapists to better manage high-risk, complex patients by giving them psychologically informed assessment and treatment skills, particularly in order to better manage distressed patients. This was based on the knowledge that the high-risk subgroup of patients with low back pain in primary care is typically characterised by patients with higher levels of fear, catastrophising, anxiety and low mood. By contrast, low-risk patients were provided with less treatment and were instead better supported to self-manage their low back pain. This study therefore provides a clear example, of the truth that one-size does not fit all, and that alternative treatment approaches can be targeted at individuals depending on their risk stratification profile. To date, however, the body of research using the STarT Back Tool does not include explicit measures of reassurance, and has not investigated the interaction between risk strata, reassurance and patient outcomes.

This study aims to use the new Consultation Reassurance Questionnaire to assess whether cognitive and affective reassurance impact differently on patient outcomes, and to test how patients’ psychosocial risk factors affect this relationship.

## 6.1.1 Aims

1. To test how implicit reassurance and explicit cognitive and affective reassurance behaviours relate to short and long term outcome. Based on previous research the following hypotheses will be tested:
   1. All aspects of reassurance will be positively associated with satisfaction post consultation.
   2. Explicit, but not implicit reassurance will be positively related to enablement post consultation.
   3. Cognitive reassurance alone will be related to improvement in disability, pain and mood at 3 month follow up.
2. To compare levels of specific reassurance components between patients with and without individual psychological risk factors identified using the STarT Back Tool.
3. To explore the interaction between risk stratification (the presence of psychological obstacles to recovery, as measured by the STarTBack tool) and reassurance in reference to a) patient satisfaction and enablement post consultation, and b) disability, pain, and mood at 3 months post consultation.

# 6.2 Methods

## 6.2.1 Participants

Analyses in this study utilised the data from those recruited in the previous chapter. To recap, 43 general practice surgeries in Northamptonshire, Kent, Surrey, and Sussex agreed to take part in this study after being approached by representatives from their local NHS Research and Development departments. They recruited patients with low back pain between October 2013 and April 2015. The inclusion and exclusion criteria used to identify eligible patients were as follows:

Inclusions:

* Consultation within the previous month.
* New episode of acute LBP (duration <6 weeks; no prior episodes within last 6 months) without radiating leg pain and for whom self-management is indicated.
* Adult patients (>18 years).

Exclusions:

* Red flag markers.
* Cancer.
* Cauda equina and ankylosing spondylitis.
* Severe disability or end of life disorder.
* Pregnancy.
* Cognitive impairment or serious mental health problems, which the GP considers could make patients vulnerable and for whom participation would be detrimental.
* Previous spinal surgery.
* Currently receiving secondary care (physiotherapy, osteopathy, etc.) for the same problem.
* Unable to read and speak English.
* Those requiring further investigation.

The rule of thumb recommended by Tabachnick and Fiddell ([2013](#_ENREF_262)) of 10 participants per predictor variable was used to estimate sample size. The planned analysis (see section 6.2.3) consisted of four predictor blocks, with a total of 12 variables, and so around 120 participants with full data sets were therefore required. Based on response rates from cohorts in similar settings ([e.g Grotle, Foster, Dunn, & Croft, 2010](#_ENREF_89)) a response rate of around 50% was expected, and therefore we planned to recruit 300 participants at baseline, giving a safe margin of error to ensure sufficient numbers for analysis.

## 6.2.2 Materials and Procedures

Participants were recruited through their GP surgery in one of two ways. Either a GP or Nurse Practitioner (NP) invited eligible patients to take part in the study at the end of their consultation, or patients whose records showed that they had recently consulted (within previous month) and fit the above criteria were invited to take part by post. Participants were asked to complete questionnaires after their consultations and again 3-months later.

### 6.2.2.1 Post-Consultation Questionnaire

#### Demographic Information

Participants were requested to give their age and gender, as well as the gender and type (GP or nurse) of their physician. Participants were also asked about their marital status (married/civil partnership; cohabiting; single; divorced; widowed; other); education level (left school at or before 16; obtained A levels or equivalent; obtained higher education degree/certification); and employment status (employed full or part time; looking after home/family; retired; student; unemployed for health reasons; unemployed for other reasons).

#### Pain and Disability

To allow for the separation of acute and chronic low back pain in the analyses, participants were asked to report how long they had had their current bout of back pain from the following options: less than 1 month; 1-3 months; 4-6 months; 7 months-3 years; more than 3 years. Participants were also asked if this was their first episode of back pain or not. To control for the effects of repeated consultations, participants reported the number of GP consultations they had had for this episode of low back pain, and details of any other physicians they had seen since their consultation. Finally, participants were asked to rate their pain in the week prior to visiting the GP on the 11-point Pain Numeric Rating Scale ([NRS, Turk, et al., 1993](#_ENREF_272)). The NRS asks patients to rate their pain from 0 (no pain) to 10 (worst possible pain).

Functional status was assessed using the Roland-Morris Disability Questionnaire ([RMDQ, Roland & Morris, 1983](#_ENREF_225)) which is a well-validated measure of disability in low back pain populations ([Pincus, et al., 2008](#_ENREF_203)).

#### Psychosocial Risk Factors

The presence/absence of psychological risk was determined using the STarT Back Tool ([Hill, et al., 2008](#_ENREF_103)). The original STarT Back Tool includes 9 items: 1) referred leg pain, 2) comorbid pain, 3) difficulties in walking, 4) difficulties in dressing, 5) fear of physical activity, 6) anxiety, 7) pain catastrophising, 8) depressive mood and 9) overall impact of pain. For the current study only items 5-8 were used. The patient is asked to think about the past two weeks while answering the questionnaire, indicating “agree” or “disagree”. The original coding of the prognostic tool combines all positive responses to stratify patients into low, medium or high-risk. However, for the purposes of this study, the presence of any of the major psychological risk factors (depression, catastrophising, fear of physical activity and anxiety) was considered sufficient to categorise them as ‘at-risk’, while absence of any was considered low-risk. Of those at-risk, participants with scores of 3-4 out of 4 were considered high-risk. We used this categorisation because there is evidence that each of the risk factors independently increases the risk for chronicity ([Pinheiro, et al., 2015](#_ENREF_206); [Wertli, et al., 2014a](#_ENREF_293); [Wertli, Rasmussen-Barr, Weiser, Bachmann, & Brunner, 2014b](#_ENREF_294)).

#### Consultation Outcomes

As well as the newly developed and validated reassurance questionnaire, participants completed measures of satisfaction and enablement. To measure satisfaction, the Consultation Satisfaction Questionnaire ([CSQ, Baker, 1990](#_ENREF_11)) was used. The CSQ is a validated 9-item questionnaire in which participants respond to statements about how they felt about the consultation on a five-point scale from ‘strongly agree’ to ‘strongly disagree’. The CSQ is scored as a whole, and also provides subscales measuring four different aspects of satisfaction: general satisfaction; satisfaction with professional care; satisfaction with the depth of relationship; and satisfaction with perceived time. Enablement was measured with the Patient Enablement Instrument ([PEI, Howie, et al., 1997](#_ENREF_108)) which has been validated for use in primary care populations ([Howie, et al., 1998](#_ENREF_109)). The PEI consists of 6 items, rated on a 3-point scale from either ‘much better’ to ‘same or less’ or ‘much more’ to ‘same or less’ which concern patients’ ability to cope with and manage their health/illness.

### 6.2.2.2 3-month Follow-up Questionnaire

#### Pain and Disability

Participants again answered the NRS to rate their pain in the previous week and the RMDQ to assess their disability. To measure change in each of these, scores from the follow-up questionnaire were subtracted from scores given post-consultation.

#### Other Outcomes

Healthcare utilisation was assessed by asking participants to indicate whether they had consulted with any of the following physicians about their back pain since their consultation: further visits to the GP; other physicians (e.g. physiotherapists, osteopaths); hospital visits; or other. For analyses, the number of different physicians participants indicated that they had seen were added together to give a further healthcare utilisation score. Additionally, further visits to the GP were recorded (as a yes/no binary).

Finally, the Hospital Anxiety and Depression Scale ([HADS, Zigmond & Snaith, 1983](#_ENREF_299)) was used to assess participants’ psychological outcomes. The HADS is a well-established measure of anxiety and depression which has been validated in both clinical and non-clinical populations, as well as for use in primary care ([Bjelland, Dahl, Haug, & Neckelmann, 2002](#_ENREF_18)). It consists of 14 items, 7 of which measure anxiety and the other 7 depression. Participants are asked to give their responses to the items based on how they have been feeling in the past week.

## 6.2.3 Analysis

Statistical analyses utilised SPSS Version 21 ([IBM Corp, 2012](#_ENREF_118)). Correlations between variables were measured using Spearman’s Rho correlation coefficients. Independent t-tests examined the relationship between psychosocial risk scores and both perceived reassurance and outcomes. Each outcome variable’s distribution was assessed using Kolmogorov-Smirnov tests and histograms. A significant Kolmogorov-Smirnov test indicates that data are not normally distributed, and by examining histograms representing the data we can see where problems lie with the distribution. If data were found to violate the assumption of normal distribution for parametric testing, transformations were applied to correct this. Homogeneity of variance was assessed using Levene’s tests, with a significant Levene’s test indicating that equal variances cannot be assumed. Where violations of the assumptions of normal distribution and homogeneity of variances were found, they are discussed in the results section.

All regression analyses were hierarchical multiple linear regressions with variables entered in four stages:

1. Demographic variables (age, gender, education, gender congruence with the physician, length of current episode and number of previous consultations)
2. Pain variables (pain intensity and disability)
3. Psychosocial risk score, recoded into a yes / no category, with the presence of any of the STarTBack items (scores 1-4) indicating the presence of risk, and absence of all (score 0) indicating low-risk.
4. Reassurance variables (all four reassurance subscales).

Finally, to investigate the relationship between the effects of psychosocial risk and reassurance on outcomes, two way ANOVAs were carried out on all outcome variables. For these analyses, The reassurance subscales were split into two groups by the median to group low (0-11) and high (12-21) scores. Analyses were conducted first using the STarTBack items split by no risk (0) and at-risk (1-4), followed by low-risk (0) vs high-risk (3-4) to obtain a clearer picture of the effects of psychosocial risk on how reassurance relates to patient outcomes.

# 6.3 Results

## 6.3.1 Participants

318 participants provided responses to the first questionnaire. Of these, 142 (44.7%) completed the 3-month follow-up questionnaire. Descriptive statistics for the sample can be found in Table 6.1. Those who completed the follow-up assessment were slightly older (58.10 years, SD 14.95) than those who did not (52.28 years, SD 17.02), but no other significant differences emerged when the groups were compared on gender, work status, marital status, education level, length of current episode, number of previous consultations, pain intensity, disability, or whether or not this was their first episode.

Table 6.1 – Sample Characteristics

|  |  |
| --- | --- |
| Average Age | 54.89 (SD 16.36) |
| Gender | 64.4% female  35.6% male |
| Work status | 54.7% employed (full or part time)  33.9% retired  3.5% looking after home/family  2.8% unemployed (health reasons)  2.5% unemployed (other)  2.5% student |
| Education level | 47.0% obtained higher education degree/certification  19.4% obtained A levels or equivalent  33.6% left school at or before 16 |
| Marital status | 62.2% married/civil partnership  8.9% cohabiting  11.1% single  11.1% divorced  5.4% widowed  1.3% other |
| Physician type | 97.8% GP  2.2% nurse practitioner |
| Physician gender | 51.4% male  48.6% female |
| Average STarTBack score (/4) | 1.84 (SD 1.37) |
| First episode? | 26.4% yes  73.6% no |
| Length of current episode | 28.4% <1 month  24.8% 1-3 months  11.8% 4-6 months  19.0% 7 months – 3 years  16.0% >3 years |
| Number of consultations for this episode | 50.8% none  31.5% 1-2  13.8% 3-10  3.9% >10 |
| Average pain intensity in the last week (/10) | 7.13 (SD 2.00) |
| RMDQ score (/24) | 10.31 (SD 5.84) |

## 6.3.2 Findings

### 6.3.2.1 Reassurance

The average score on the total reassurance scale was 55.66 (SD 17.03) out of a possible 84. Each subscale was scored out of 21, with the following mean scores: 14.93 (SD 4.37) for Data-gathering; 15.61 (SD 4.74) for Relationship-building; 11.62 (SD 5.47) for Generic Reassurance; 13.80 (SD 5.09) for Cognitive Reassurance. Correlations of each subscale with baseline and outcome variables are displayed in Table 6.2. Older participants gave higher scores for data-gathering and relationship-building. Relationship-building was also related to a longer time since the participant’s last episode of low back pain. Receiving generic reassurance was associated with less baseline disability and shorter episode duration. Psychosocial risk showed significant negative associations with participants’ perceptions of relationship-building, generic reassurance, and cognitive reassurance. All reassurance subscales were significantly positively correlated with satisfaction and enablement, but not with long-term outcomes.

Table 6.2 – Correlation Table for Reassurance Questionnaire

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Data-gathering | Relationship-building | Generic Reassurance | Cognitive Reassurance |
| *Baseline variables* | | | | |
| Age | .13\* | .18\* | -.08 | .06 |
| Gender | -.05 | -.01 | -.05 | -.04 |
| Work status | .09 | .05 | -.07 | .00 |
| Education level | -.01 | -.03 | .06 | .03 |
| Marital status | .01 | .05 | .00 | .04 |
| Physician gender | -.05 | -.08 | -.09 | -.08 |
| Gender congruence | -.03 | -.01 | -.03 | -.01 |
| Physician type | .10 | .05 | .00 | -.01 |
| Length of current episode | .01 | -.03 | -.21\*\* | -.05 |
| First episode (yes/no) | .00 | .00 | -.07 | .00 |
| Time since last episode (months) | .10 | .15\* | .12 | .13 |
| Number of previous consultations | .05 | -.01 | .01 | .04 |
| Pain intensity at baseline | -.01 | -.04 | -.07 | .01 |
| Disability at baseline | .00 | -.06 | -.15\*\* | -.05 |
| Psychosocial risk score | -.09 | -.17\*\* | -.21\*\* | -.12\* |
| *Outcomes* | | | | |
| Total Satisfaction Score (CSQ) | .75\*\* | .81\*\* | .499\*\* | .773\*\* |
| Enablement | .35\*\* | .52\*\* | .36\*\* | .38\*\* |
| RMDQ | -.04 | -.06 | -.15 | -.03 |
| Pain intensity | -.01 | -.08 | -.17 | .10 |
| Further Healthcare Utilisation | -.04 | .00 | -.10 | -.14 |
| Depression | .02 | -.06 | -.04 | .10 |
| Anxiety | -.05 | -.08 | -.06 | .09 |
| \*\*. Correlation is significant at p<0.01 (2-tailed). | | | | |

Scores on each reassurance subscale and all outcomes were compared by psychosocial risk group using independent t-tests (Table 6.3). For all four subscales, reassurance scores were higher in the low-risk group, although this was only significant for the generic reassurance subscale. The low-risk group reported more positive outcomes, with significant results for higher satisfaction, less pain intensity, less disability, less healthcare utilisation in general and less visits to the GP, as well as lower depression and anxiety at follow-up.

### 6.3.2.2 Reassurance and Outcomes

The summary statistics from all regression analysis are presented in table 6.4.

#### Short-term Outcomes

##### Satisfaction

The average satisfaction score was 544.83 (SD 191.97) out of a possible 900. The four subscales showed the following mean scores: 121.93 (SD 55.32) General Satisfaction; 239.25 (SD 100.38) Satisfaction with Professional Care; 130.52 (SD 46.14) Satisfaction with Depth of Relationship; 54.05 (SD 28.8) Satisfaction with Perceived Time. All reassurance scales were significantly correlated with all satisfaction scales.

At stage 1 of the regression analysis, F(6,115) = 2.35 demographic variable significantly predicted a change in F, accounting for 11% of the variance. Stages 2, F(8,113) = 2.33; and stage 3, F(9,112) = 2.14 were not significant predictors. The only significant predictor in this model were the reassurance variables, which resulted in a .70 change in R2, p<0.001, and therefore accounted for around 70% of the variance in satisfaction scores, F(13,108) = 27.12, p<0.001. The Beta coefficients for stage 4 of the model are shown in Table 6.4, and show that participant age, episode length and three out of four reassurance subscales were the only significant predictors of post-consultation satisfaction. Significant positive Beta coefficients indicate that older participants, and those who had experienced more data-gathering, relationship building and generic reassurance during their consultations, were more satisfied, while those with a longer episode duration were less likely to be satisfied.

Two-way ANOVAs were conducted to examine the effect of psychosocial risk and each reassurance subscale on satisfaction. First, psychosocial risk scores were split 0 vs 1-4 representing low-risk and at-risk groups, the results of which are shown in Table 6.5. Significant main effects were found for all reassurance subscales (with more reassurance related to higher satisfaction), but not for psychosocial risk or the interaction between the two, on satisfaction. Subsequent ANOVAs compared low-risk (0) and high-risk (3-4) scores on the STarTBack items. The results of these analyses are displayed in Table 6.6. Again, significant main effects were found for all reassurance subscales. A Significant main effect was also observed for psychosocial risk in this case, when entered into the analysis with cognitive reassurance, with low-risk patients more satisfied. No significant interactions were observed.

Table 6.3 – t-tests comparing reassurance and outcome scores by psychosocial risk level

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Psychosocial Risk Group | N | Mean | SD | t  [95% CI] |
| Data-Gathering | Low Risk | 70 | 15.19 | 4.34 | .56  [-.83 – 1.49] |
| At Risk | 248 | 14.85 | 4.38 |
| Relationship-Building | Low Risk | 70 | 16.49 | 3.99 | 1.76  [-.14 – 2.39] |
| At Risk | 242 | 15.36 | 4.91 |
| Generic Reassurance | Low Risk | 68 | 13.06 | 4.87 | 2.48\*  [.38 – 3.31] |
| At Risk | 244 | 11.21 | 5.57 |
| Cognitive Reassurance | Low Risk | 70 | 14.36 | 4.39 | 1.04  [-.64 – 2.07] |
| At Risk | 248 | 13.64 | 5.26 |
| Satisfaction | Low Risk | 70 | 586.43 | 165.98 | 2.06\*  [2.49-1.4.20 |
| At Risk | 248 | 533.08 | 197.41 |
| Enablement | Low Risk | 70 | 2.56 | 3.32 | 1.09  [-.36 – 1.25 |
| At Risk | 248 | 2.11 | 2.93 |
| Pain intensity | Low Risk | 36 | 2.88 | 2.30 | -2.19\*  [-2.21 – -.11] |
| At Risk | 107 | 4.04 | 2.89 |
| Disability | Low Risk | 36 | 2.75 | 3.88 | -3.38\*\*\*  [-5.45 – -1.43] |
| At Risk | 105 | 6.19 | 5.67 |
| HCU | Low Risk | 36 | .69 | .82 | -2.70\*\*  [-.86 – -.13] |
| At Risk | 105 | 1.19 | .99 |
| HCU GP | Low Risk | 36 | .17 | .38 | -2.01\*  [-.35 – .00] |
| At Risk | 105 | .34 | .48 |
| Depression | Low Risk | 36 | 2.64 | 2.39 | -3.35\*\*\*  [-3.68 – -.95] |
| At Risk | 106 | 4.95 | 3.90 |
| Anxiety | Low Risk | 36 | 3.72 | 2.76 | -4.23\*\*\*  [-5.06 – -1.84 |
| At Risk | 106 | 7.17 | 4.61 |
| \* - significant at p<0.05 | | | | | |

##### Enablement

The average enablement score at post-consultation was 2.21 (SD 3.02) out of a possible 12. Enablement scores showed a positive skew, and so a log transformation was applied which corrected the problem. Stage 1, F(6,113) = 1.12, stage 2, F(8,111) = 1.38, and stage 3, F(9,110) = 1.27, of the regression model were all non-significant. Only stage 4, the addition of the reassurance variables, resulted in a significant change in F, with a change in R2 of .25, p<0.001, F(13,106) = 4.25, p<0.001. The Beta coefficients for stage 4 of the model are shown in Table 6.4. Only generic reassurance produced a small but significant beta coefficient, indicating that participants who received more generic reassurance reported higher enablement.

In the ANOVA analyses in which low-risk and at-risk STarTBack scores were entered, significant main effects were found for data-gathering, relationship-building and cognitive reassurance (in which more reassurance was associated with higher enablement scores), but not for generic reassurance. No significant effects of psychosocial risk or interactions were found (Table 6.5). These findings were repeated in the second ANOVA analyses, comparing low with high-risk patients (Table 6.6).

#### Follow-up Outcomes

##### Pain Intensity

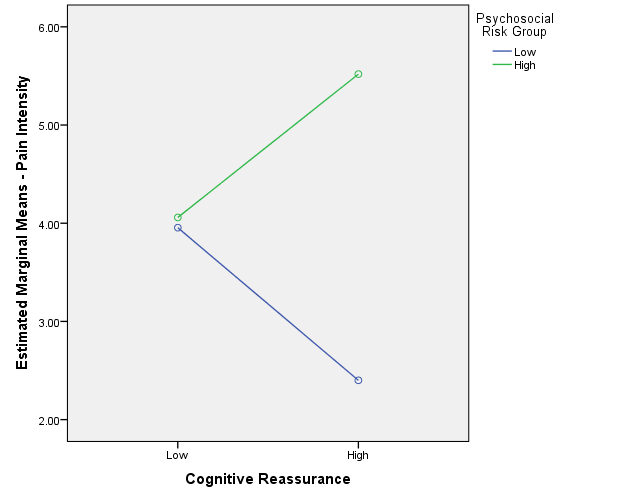
At three-month follow-up, the average pain intensity was 3.74 (SD 2.79), with an average reduction in pain scores of 3.49 (SD 2.89) points on the 11-point scale from baseline scores. The regression model was significant, with the variables entered at stages 1, 2 and 4 significantly predicting changes in pain intensity. At stage 1, F(6,102) = 3.23, p<0.001, R2 was .16. At stage 2, F(8,100) = 6.94, p<0.001, the change in R2 was .20. The addition of psychosocial risk at stage 3 did not significantly predict changes in follow-up pain intensity, F(9,99) = 6.11, ns. The addition of the reassurance variables did cause a significant change in R2 of .08, F(13,95) = 5.65, p<0.001. Significant predictors of higher pain intensity at the three-month follow-up were longer episode duration, higher baseline pain intensity, worse baseline disability, less generic reassurance, and more cognitive reassurance (see Table 6.4).

As Table 6.5 shows, the only significant result of the first ANOVA analyses was for the main effect of psychosocial risk when entered alongside generic reassurance. None of the interactions between psychosocial risk and reassurance were significant. When psychosocial risk was split between low and high-risk, however, the main effect of psychosocial risk was found in three out of the four analyses, with those in the higher risk group reporting higher pain intensity. Additionally, a significant interaction was observed between cognitive reassurance and psychosocial risk, in which more cognitive reassurance was associated with increased pain intensity for high-risk participants, but decreased pain intensity for the low-risk group (Figure 6.1).

##### Disability

The average RMDQ score at follow-up was 5.31 (SD 5.47), with an average reduction in disability of 5.02 points (SD 5.52) out of 24. RMDQ scores showed a positive skew, and so a log transformation was applied. No significant correlations were found between 3-month RMDQ scores and any of the reassurance variables (see Table 6.2). Within the regression model, stages1, F(6,215) = 2.14, p<0.01 and stage 2, F(8,213) = 191.12, p<0.001 significantly predicted changes in disability (see Table 6.4). Stage 3, F(9,212) = 170.97 and stage 4, F(13,208) = 116.73, failed to produce a significant change in F. Baseline disability was the only significant positive predictors of disability at follow-up.

Figure 6.1 - Graph showing the interaction between psychosocial risk and cognitive reassurance on pain intensity at 3-months follow-up

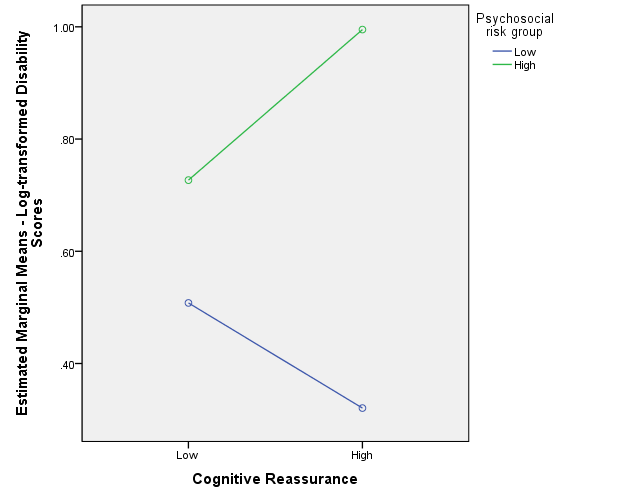


From Table 6.5, we can see that a significant main effect for the presence of psychosocial risk, which showed that those in the higher risk group reported more disability at follow-up, was found in all analyses with disability as the dependent variable. No main effects for reassurance were found, or any significant interactions between the two. The main effect of psychosocial risk was found again in the second analyses, as well as non-significant main effects for reassurance (Table 6.6). When low and high psychosocial risk was entered, a significant interaction was found with cognitive reassurance. More cognitive reassurance increased disability for the high-risk group, but decreased disability for low-risk participants (Figure 6.2).

Table 6.4 – Prediction of short- and long-term outcomes using hierarchical multiple regression

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | Satisfaction | Enablement | Pain intensity | Disability | Further healthcare utilisation | Further visits to the GP | Depression | Anxiety |
| Step 1: Block 1 (Age, gender, education, gender congruence with physician, episode duration, number of previous consultations): R2 | .11 | .06 | .16 | .06 | .17 | .18 | .11 | .17 |
| Step 2: Block 1; Block 2 (baseline pain intensity, baseline disability): changes in R2 | .03 | .03 | .20 | .82 | .06 | .25 | .11 | .06 |
| Step 3: Block 1; Block 2; Block 3 (psychosocial risk): changes in R2 | .00 | .00 | .00 | .00 | .02 | .00 | .03 | .06 |
| Step 4: Block 1; Block 2; Block 3; Block 4 (data-gathering, relationship-building, generic reassurance, cognitive reassurance): changes in R2 | .62 | .25 | .08 | .00 | .05 | .01 | .04 | .03 |
| *Predictors* | *β [95% CI]* | | | | | | | |
| Age | 1.52\*\*  [.37 – 2.66] | .00  [.00 – .01] | -.01  [-.05 – .02] | .00  [.00 – .00] | .00  [-.01 – .01] | -.00  [-.01 – .01] | -.01  [-.01 – .00] | -.01\*\*\*  [-.01 – -.00] |
| Gender | 7.95  [-30.73 – 46.64] | .00  [-.12 – .12] | -.35  [-1.30 – .59] | .02  [-.01 – .05] | .02  [-.35 – .39] | -.10  [-.31 – .11] | -.12  [-.26 – .03] | .02  [-.11 – .15] |
| Education | -5.67  [-26.54 – 15.20] | .05  [-.02 – .12] | .17  [-.36 – .69] | .00  [-.02 – .01] | .28\*  [.08 – .48] | .04  [-.06 – .15] | .06  [-.03 – .14] | -.01  [-.08 – .06] |
| Gender congruence | -19.69  [-57.08 – 17.70] | -.01  [-.14 – .11] | -.64  [-1.56 – .28] | .00  [-.03 – .03] | .28  [-.08 – .64] | .02  [-.21 – .25] | -.15\*  [-.29 – .00] | -.07  [-.19 – .06] |
| Episode duration | -17.73\*  [-32.02 – -3.45] | -.02  [-.07 – .02 | .80\*\*\*  [.45 – 1.15] | .00  [-.02 – .01] | .11  [-.03 – .24] | .00  [-.08 – .09] | .04  [-.01 – .10] | .04  [-.01 – .08] |
| Number of previous consultations | -.70  [-6.04 – 4.64] | -.02  [-.08 – .04] | .04  [-.08 – .17] | .00  [.00 – .01] | .05\*  [.00 – .10] | .00  [-.02 – .02] | .01\*  [-.01 – .03] | .00  [-.0 – .02] |
| Baseline pain intensity | -2.67  [-12.72 – 7.38] | .01  [-.02 – .05] | .40\*\*  [.13 – .67] | .00  [-.00 – .01] | .03  [-.07 – .14] | .03  [-.04 – .10] | .00  [-.04 – .04] | .00  [-.04 – .03] |
| Baseline disability | -2.00  [-5.93 – 1.92] | -.01  [-.02 – .00] | .12\*  [.02 – .22] | .05\*\*\*  [.05 – .05] | .02  [-.02 – .06] | .03\*  [.00 – .05] | .02\*  [.00 – .04] | .01  [.00 – .02] |
| Psychosocial risk | -15.44  [-58.66 – 27.79] | .06  [-.07 – .19] | -.10  [-1.18 – .98] | .03  [-.01 – .06] | .35  [-.07 – .77] | -.07  [-.40 – .27] | .12  [-.05 – .30] | .19\*  [.04 – .34] |
| Data-gathering | 16,61\*\*\*  [8.85 – 24.37] | .01  [-.02 – .03] | -.04  [-.23 – .15] | -.00  [-.01 – .00] | .04  [-.03 –.11] | .00  [-.05 – .04] | -.01  [-.04 – .02] | -.01  [-.04 – .01] |
| Relationship-building | 16.55\*\*\*  [9.07 – 24.03] | .02  [-.01 – .05] | -.08  [-.26 – .10] | .00  [-.01 – .00] | .00  [-.07 – .07] | .01  [-.03 – .05] | .00  [-.02 – .03] | .00  [-.02 – .03] |
| Generic reassurance | 5.57\*\*  [.96 – 10.18] | .01\*  [.00 - .03] | -.13\*  [-.25 – -.01] | .00  [-.00 – .00] | -.06\*\*  [-.10 – -.01] | .00  [-.03 – .03] | .00  [-.02 – .02] | .00  [-.02 – .02] |
| Cognitive reassurance | -.97  [-7.97 – 6.03] | .01  [-.01 – .04] | .27\*\*\*  [.11 – .44] | .00  [-.01 – .01] | .03  [-.04 – .09] | -.01  [-.06 – .03] | .02  [.00 – .04] | .02  [-.00 – .04] |

Figure 6.2 - Graph showing the interaction between psychosocial risk and cognitive reassurance on disability at 3-months follow-up



##### Healthcare Utilisation

Ninety-two participants had utilised some form of further healthcare since their consultation for their back pain. Of these, 42 had seen their GP again, 70 had accessed other physicians such as physiotherapists or osteopaths, 25 had visited the hospital, and 13 had used another, unspecified, type of healthcare. The number of participants who had utilised more than one of these was 45.

Table 6.5 - Results of ANOVA analyses with long-term outcomes as dependent variables when comparing participants with low-risk from those at-risk

|  |  | **Data-gathering** | **Relationship-building** | **Generic Reassurance** | **Cognitive Reassurance** |
| --- | --- | --- | --- | --- | --- |
| Satisfaction | Reassurance Subscale | F(1,314) = 104.13\*\*\* | F(1,308) = 108.59\*\*\* | F(1,308) = 48.12\*\*\* | F(1,314) = 133.79\*\*\* |
| Psychosocial Risk | F(1,314) = 1.74 | F(1,308) = 1.84 | F(1,308) = 1.47 | F(1,314) = 3.36 |
| Interaction | F(1,314) = .20 | F(1,308), =.09 | F(1,308) = .07 | F(1,314) = .50 |
| Enablement | Reassurance Subscale | F(1,168) = 9.92\*\* | F(1,168) = 9.66\*\* | F(1,168) = 3.37 | F(1,168) = 6.01\* |
| Psychosocial Risk | F(1,168) = 2.26 | F(1,168) = .53 | F(1,168) = .01 | F(1,168) = .17 |
| Interaction | F (1,168) = 3.12 | F(1,168), =.69 | F(1,168) = .01 | F(1,168) = .50 |
| Pain Intensity | Reassurance Subscale | F(1,139) = 1.00 | F(1,136) = 1.74 | F(1,136) = 2.30 | F(1,139) = .60 |
| Psychosocial Risk | F(1,139) = 1.48 | F(1,136) = .18 | F(1,136) = 4.65\* | F(1,139) = 1.63 |
| Interaction | F(1,139) = .39 | F(1,136) = 2.85 | F(1,136) = .00 | F(1,139) = 3.76 |
| Disability | Reassurance Subscale | F(1,107) = .51 | F(1,300) = 1.78 | F(1,104) = 1.61 | F(1,107) = .47 |
| Psychosocial Risk | F(1,107) = 12.02\*\*\* | F(1,300) = 7.92\* | F(1,104) = 16.54\*\*\* | F(1,107) = 11.16\*\*\* |
| Interaction | F(1,107) = .46 | F(1,300) = .09 | F(1,104) = .03 | F(1,107) = 1.60 |
| Further Healthcare Utilisation | Reassurance Subscale | F(1,137) = .37 | F(1,134) = .09 | F(1,134) = .29 | F(1,137) = .27 |
| Psychosocial Risk | F(1,137) = 7.82\*\* | F(1,134) = 3.82 | F(1,134) = 6.80\*\* | F(1,137) = 5.44\* |
| Interaction | F(1,137) = 1.36 | F(1,134) = .02 | F(1,134) = .51 | F(1,137) = .13 |
| Further Visits to the GP | Reassurance Subscale | F(1,137) = .09 | F(1,39) = .09 | F(1,134) = .28 | F(1,137) = .53 |
| Psychosocial Risk | F(1,137) = 5.99\* | F(1,39) = .00 | F(1,134) = 3.01 | F(1,137) = 2.28 |
| Interaction | F(1,137) = 2.05 | F(1,39) = .64 | F(1,134) = .00 | F(1,137) = .76 |
| Depression | Reassurance Subscale | F(1,121) = .12 | F(1,118) = 1.14 | F(1,118) = .06 | F(1,121) = .01 |
| Psychosocial Risk | F(1,121) = 9.32\*\*\* | F(1,118) = 9.91\*\* | F(1,118) = 7.49\*\* | F(1,121) = 6.92\*\* |
| Interaction | F(1,121) = 1.5 | F(1,118) = 2.25 | F(1,118) = .09 | F(1,121) = .16 |
| Anxiety | Reassurance Subscale | F(1,128) = 2.36 | F(1,125) = 2.27 | F(1,125) = .13 | F(1,128) = 2.51 |
| Psychosocial Risk | F(1,128) = 30.90\*\*\* | F(1,125) = 21.75\*\*\* | F(1,125) = 17.30\*\*\* | F(1,128) = 21.18\*\*\* |
| Interaction | F(1,128) = 11.94\*\*\* | F(1,125) = 5.27\* | F(1,125) = .30 | F(1,128) = 3.72 |
| \* significant at p<0.05; \*\* significant at p<0.01; \*\*\* significant at p<0.001 | | | | | |

Only stages 1 (demographics), F(6,102) = 4.27, p<0.001, and 2 (pain-related variables), F(8,99) = 3.54, p<0.05 of the regression model significantly predicted further healthcare utilisation overall, , with an R2 of .47 between the two. Participants with a higher education level and who had had more consultations previously showed significantly more subsequent healthcare utilisation. The subsequent stages of the model failed to produce significant changes in F: stage 3 (psychosocial risk), F(9,98) = 3.49 and stage 4 (reassurance), F(13,94) = 3.07, both ns. The only of the additional variables entered which showed significant predictive power was generic reassurance, indicating a small effect of receiving more generic reassurance in reducing further healthcare utilisation (see Table 6.4).

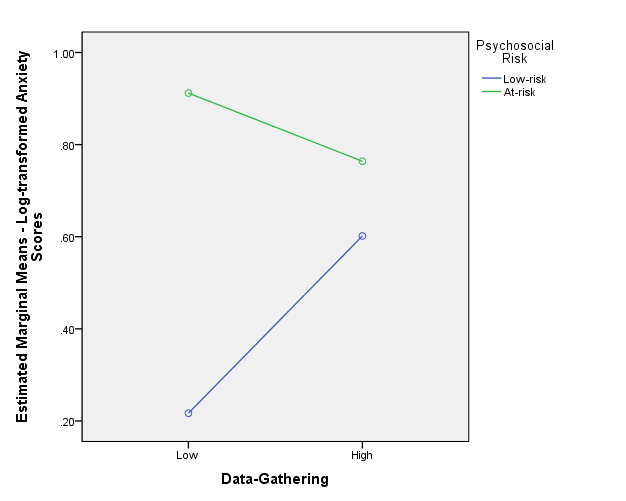


Figure 6.3 - Graph showing the interaction between psychosocial risk and data-gathering behaviours on anxiety at 3-months follow-up when comparing participants with low-risk from those at-risk

When further visits to the GP were the outcome variable, only the second stage of the model, F(8,24) = 2.27, p<0.05 caused a significant change in F, accounting for 25% of the variance in further visits to the GP. Stages 1, F(6,26) = .95, 3, F(9,23) = 1.96, and 4, F(13,19) = 1.18 did not significantly predict changes in F. In the final model, presented in Table 6.4, only baseline disability remained a significant predictor of further visits to the GP.

Figure 6.4 - Graph showing the interaction between psychosocial risk and relationship-building behaviours on anxiety at 3-months follow-up when comparing participants with low-risk from those at-risk

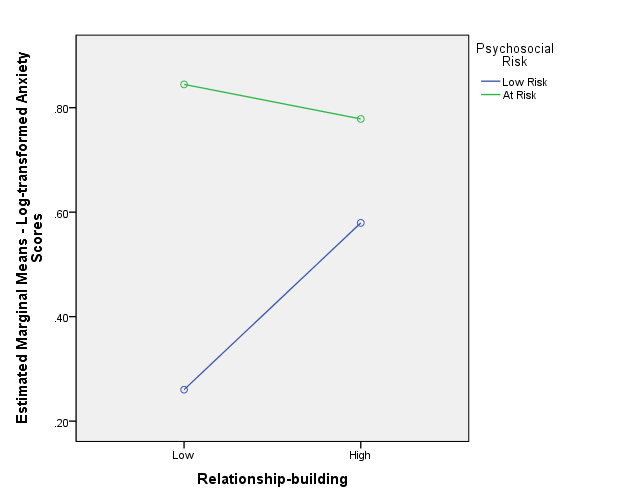
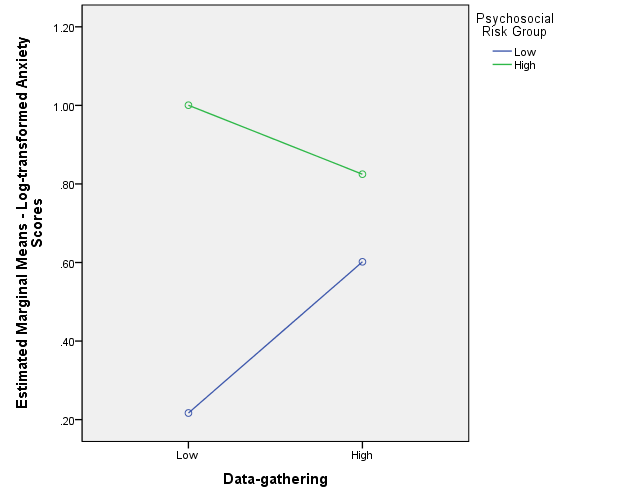


Table 6.5 shows that there was a significant main effect for low versus some psychosocial risk on further healthcare utilisation in all analyses except when entered alongside relationship-building, but no significant effect of reassurance or the interaction between the two. For further visits to the GP, the only effect which was found to be significant was that of psychosocial risk when entered alongside the data-gathering subscale. In both cases, those in the at-risk group were more likely to have utilised healthcare than those in the low-risk group. The main effect of psychosocial risk was confirmed when comparing low versus high-risk (Table 6.6) for further healthcare utilisation generally and further visits to the GP specifically. No other significant effects were found.

Figure 6.5 - - Graph showing the interaction between psychosocial risk and relationship-building behaviours on anxiety at 3-months follow-up when comparing low-risk from high-risk participants

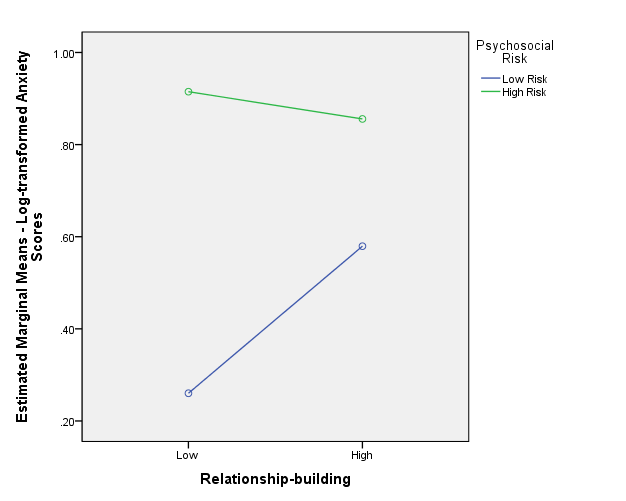


##### Depression and Anxiety

The average HADS depression score for this sample was 4.37 (SD 3.71), and the average anxiety score was 6.30 (SD 4.47), both out of a possible 21. Both depression and anxiety scores were positively skewed, and so they were transformed using a log transformation. Neither depression nor anxiety showed any significant correlation to any of the reassurance variables (see Table 6.2).

For depression, only the second stage of the regression model, the addition of the pain variables, was significant. Stage 1, F(6,88) = 1.83, and stage 2, F(8,86) = 2.98, p<0.05, each predicted an 11% change in R2 (Table 6.4). The addition of psychosocial risk at stage 3, F(9,85) = 3.02 failed to make a significant difference to the model, as did the addition of the reassurance subscales at stage 4, F(13,81) = 2.46. Being younger and having a physician of a different gender and higher baseline disability significantly predicted higher depression.

Figure 6.6 - Graph showing the interaction between psychosocial risk and relationship-building behaviours on anxiety at 3-months follow-up when comparing low-risk from high-risk participants



Baseline demographic variables entered at stage 1 significantly predicted around 17% of the variance in anxiety at 3-month follow-up, F(6,93) = 3.13, p<0.01. The addition of baseline pain and disability significantly predicted an additional 6% of the variance in anxiety, F(8,91) = 3.40, p<0.05. At stage 3, the addition of psychosocial risk score significantly increased the predictive power of the model by a further 6%, F(9,90) = 4.13, p<0.01, R2 change = .06. None of the reassurance subscales predicted for 3-month anxiety scores, F(13,86) = 3.21, ns. In the final model, younger age and higher psychosocial risk were significant predictors of increased anxiety (Table 6.4).

In the ANOVA analyses, no main effects were found for any reassurance subscale on depression or anxiety (Table 6.5 and Table 6.6). The main effect of psychosocial risk was significant in all analyses for both of these outcomes, with those in the higher risk group scoring higher for depression and anxiety at follow-up. A significant interaction was observed (see Tables 6.5 and 6.6) were between data-gathering and psychosocial risk, and between relationship-building and psychosocial risk on anxiety levels at 3-month follow-up. As Figures 6.3-6.6 show, those in the low-risk group for whom data-gathering and relationship-building were scored higher reported more anxiety at follow-up.

Table 6.6 - Results of ANOVA analyses with long-term outcomes as dependent variables (STarTBack Grouped 0 vs 3-4)

|  |  | Data-gathering | Relationship-building | Generic Reassurance | Cognitive Reassurance |
| --- | --- | --- | --- | --- | --- |
| Satisfaction | Reassurance Subscale | F(1,175) = 82.83\*\*\* | F(1,172) = 85.39\*\*\* | F(1,171) = 37.82\*\*\* | F(1,175) = 118.54\*\*\* |
| Psychosocial Risk | F(1,175) = 3.13 | F(1,172) = 1.72 | F(1,171) = 2.92 | F(1,175) = 5.10\* |
| Interaction | F(1,175) = .37 | F(1,172) = .01 | F(1,171) = .09 | F(1,175) = .77 |
| Enablement | Reassurance Subscale | F(1,96) = 8.89\*\* | F(1,96) = 6.42\* | F(1,94) = 1.36 | F(1,96) = 4.80\* |
| Psychosocial Risk | F(1,96) = .93 | F(1,96) = .52 | F(1,94) = .04 | F(1,96) = .46 |
| Interaction | F(1,96) = 2.14 | F(1,96) = 1.14 | F(1,94) = .10 | F(1,96) = .38 |
| Pain Intensity | Reassurance Subscale | F(1,76) = 1.92 | F(1,74) = 2.06 | F(1,74) = .06 | F(1,139) = .01 |
| Psychosocial Risk | F(1,76) = 6.80\*\* | F(1,74) = 3.39 | F(1,74) = 12.07\*\*\* | F(1,139) = 7.22\*\* |
| Interaction | F(1,76) = .04 | F(1,74) = 2.48 | F(1,74) = 1.37 | F(1,139) = 6.32\* |
| Disability | Reassurance Subscale | F(1,62) = .61 | F(1,60) = .04 | F(1,60) = .59 | F(1,62) = .19 |
| Psychosocial Risk | F(1,62) = 21.93\*\*\* | F(1,60) = 14.83\*\*\* | F(1,60) = 30.26\*\*\* | F(1,62) = 23.61\*\*\* |
| Interaction | F(1,62) = .55 | F(1,60) = .50 | F(1,60) = .41 | F(1,62) = 6.14\* |
| Further Healthcare Utilisation | Reassurance Subscale | F(1,76) = .09 | F(1,74) = .03 | F(1,74) = .00 | F(1,76) = .91 |
| Psychosocial Risk | F(1,76) = 16.02\*\*\* | F(1,74) = 9.51\* | F(1,74) = 13.96\*\*\* | F(1,76) = 13.05\*\* |
| Interaction | F(1,76) = 2.23 | F(1,74) = .06 | F(1,74) = .02 | F(1,76) = .01 |
| Further Visits to the GP | Reassurance Subscale | F(1,76) = .01 | F(1,23) = .53 | F(1,74) = .98 | F(1,76) = .15 |
| Psychosocial Risk | F(1,76) = 9.76\*\* | F(1,23) = .08 | F(1,74) = 6.91\*\* | F(1,76) = 5.35\* |
| Interaction | F(1,76) = 2.23 | F(1,23) = .08 | F(1,74) = 2.18 | F(1,76) = 1.06 |
| Depression | Reassurance Subscale | F(1,69) = .09 | F(1,67) = 1.83 | F(1,67) = .29 | F(1,69) = .13 |
| Psychosocial Risk | F(1,69) = 12.59\*\*\* | F(1,67) = 11.95\*\* | F(1,67) = 10.74\*\* | F(1,69) = 10.04\*\* |
| Interaction | F(1,69) = 1.40 | F(1,67) = 1.19 | F(1,67) = 1.07 | F(1,69) = .68 |
| Anxiety | Reassurance Subscale | F(1,72) = 1.55 | F(1,70) = 1.98 | F(1,70) = .21 | F(1,72) = 2.27 |
| Psychosocial Risk | F(1,72) = 35.95\*\*\* | F(1,70) = 25.32\*\*\* | F(1,70) = 20.93\*\*\* | F(1,72) = 25.43\*\*\* |
| Interaction | F(1,72) = 11.15\*\*\* | F(1,70) = 4.19\* | F(1,70) = .10 | F(1,72) = 2.41 |
| \* significant at p<0.05; \*\* significant at p<0.01; \*\*\* significant at p<0.001 | | | | | |

# 6.4 Discussion

## 6.4.1 Discussion of Findings

The findings indicate that reassurance during consultations is directly associated with short-term satisfaction and enablement. All four of the subscales of the reassurance questionnaire significantly predicted satisfaction, with relationship-building the strongest predictor, followed by data-gathering, cognitive reassurance, and then generic reassurance. Although all four reassurance subscales were significantly correlated with enablement (see Table 6.2), only generic reassurance was found to be a significant predictor in a regression analysis, indicating that hearing reassuring messages was sufficient to enable patients, regardless of the information provided. That providing effective reassurance improves immediate consultation outcomes is in line with previous findings, although the evidence from other studies is not consistent ([Pincus, et al., 2013](#_ENREF_202)).

Consultation-based reassurance did not significantly predict long-term outcomes for all patients. Generic reassurance was shown to significantly predict less pain at follow-up, and cognitive reassurance to significantly predict more, but the effect sizes in each case were very small. The associations may be explained by practitioners utilising their skills and experience to predict likely prognosis, therefore offering more positive messages to those who they think will improve; and spending more time explaining the problem and discussing interventions with more complex patients, who might recover more slowly. However, the associations were observed after episode duration, current pain, disability and psychological risk were already entered into the regression, so exactly what practitioners were picking up and responding to remains unknown. What emerged in the subsequent analyses was that cognitive reassurance affected outcomes differently depending on participants’ psychosocial risk levels. For high-risk participants, more cognitive reassurance was associated with worse pain, as well as worse disability, at follow-up, while the opposite was true for low-risk participants. This indicates that the explanations received were beneficial to low-risk patients, but not to those at higher psychosocial risk. Without a record of what was actually said within the consultation, we can only speculate on the content of the cognitive reassurance received by patients in this sample, but it is possible that receiving too much biomedical information increased hyper-vigilance to pain in the high-risk group, or that failing to address psychological concerns was part of the reason for worse pain and disability for these patients. That explicit reassurance was associated with worse patient outcomes is surprising, as the qualitative study in Chapter 4 and a large body of existing literature suggests that explanations and empowering messages are valued by patients, address their concerns, and help them to recover ([Hall, et al., 1988](#_ENREF_93); [Holt, Pincus, & Vogel, 2015](#_ENREF_106); [Maguire & Pitceathly, 2002](#_ENREF_164)). It may be the case that the reassurance provided to participants in high-risk groups was not sufficient to have a positive effect. Within the stratified model of care advocated by the developers of the STarT Back screening tool ([Hill, et al., 2008](#_ENREF_103)), more intensive psychological intervention is recommended for high-risk patients ([Nicholas, et al., 2011](#_ENREF_179)). Within the limited time available for GP consultations ([Stones, et al., 2007](#_ENREF_257)), this level of intervention is not possible. There is evidence that GPs tend to stick closely to biomedical explanations, without exploring the psychosocial context of a patient’s problem ([Hulsman, 2009](#_ENREF_115); [Salmon, 2006](#_ENREF_233)). For low-risk patients, the findings fell more into line with Coia and Morley’s ([1998](#_ENREF_32)) suggestions: more cognitive reassurance was associated with improved symptoms. This model of reassurance, as developed by Pincus and colleagues ([2013](#_ENREF_202)) in Chapter 3, was intended for such patients – those with acute, non-specific illnesses – rather than chronic or high-risk patients for whom more in-depth intervention is required. For low-risk patients with low back pain, this study offers evidence that effective cognitive reassurance will improve patients’ outcomes. This is supported by a recent systematic review of RCT studies involving acute low back pain patients, which found that education interventions, particularly when delivered by a GP, could be effective in reassuring patients for up to 12 months ([Traeger, et al., 2015](#_ENREF_271)).

Those in the low psychosocial risk group who had scored the early-stage consultation behaviours more highly were more anxious at follow-up, contrary to existing literature on the importance of these early patient-centred behaviours (e.g. [Mead & Bower, 2000](#_ENREF_173); [Street, et al., 2009](#_ENREF_260)). The behaviours recorded in these items focus on listening skills, the ability to elicit and validate patient concerns, and a professional and friendly manner, and were earlier described as implicit reassurance. Coia and Morley (1998) argue that these emotionally comforting behaviours should be avoided. The findings from this study suggest that they may be correct, but only in reference to patients with low psychological risk. In these patients, spending additional time building a relationship with enhanced empathy might foster dependence on physicians and reduce a sense of control and ability to self-manage ([Balague, Mannion, Pellise, & Cedraschi, 2007](#_ENREF_12); [Roberts, Chapman, & Sheldon, 2002](#_ENREF_222)). It is for this reason that minimal intervention is recommended for low-risk patients in the IMPaCT Back Study (Implementation to improve Patient Care through Targeted treatment for back pain), which proposes a three-tiered system for treating low back pain patients depending on their level of risk, as identified with the STarT Back tool ([Sowden, et al., 2012](#_ENREF_253)). For low-risk patients, this involves encouraging them to ask questions, reassuring about good overall prognosis and the benign nature of low back pain, and simple messages and advice about pain management and maintaining activity. Onward referral is not recommended. In-depth discussion of beliefs, concerns, and expectations is reserved for high-risk patients within a Cognitive-Behavioural Therapy (CBT) framework. A prospective cohort study of 922 patients consulting primary care who received this targeted approach ([Foster, et al., 2014](#_ENREF_72)), and a Randomised Controlled Trial (RCT) of 851 patients who were assigned to receive either targeted treatment or usual care ([Hill, et al., 2011](#_ENREF_104)) both found that offering such minimal intervention did not adversely affect patients in the low-risk groups, and resulted in fewer prescriptions and increased satisfaction within the prospective cohort, and fewer days off work in the intervention group of the RCT. The low-risk patients in this study rated reassurance as higher on all subscales (Table 6.3), indicating that either physicians were actually offering more reassurance to low-risk than high-risk patients, or that high-risk patients did not recognise reassurance behaviours as readily as low-risk patients. Combining the reassurance questionnaire with direct observations of consultations could help to clarify this finding in the future. If physicians were, indeed, offering more reassurance to low-risk participants, it would contradict the recommendations of the IMPaCT Back Study.

The search strategy excluded patients who had been referred to further treatment or investigations, including pain programmes and psychological services. Yet the majority of participants fell into the high psychosocial risk group, despite recommendations that patients who present with such psychosocial risk factors are referred for more intense treatment ([Sowden, et al., 2012](#_ENREF_253)). It may have been the case that physicians in this study were not aware of or were not able to apply the stratified care approach recommended in the IMPaCT study, particularly if the resources were not available locally to refer patients to more specialised services. Alternatively, there may have been factors which the STarT Back items did not pick up on that meant GPs did not assess their patients as being high-risk. Without concurrent observational measures of the consultation, it is never truly possible to know what has been communicated between patients and physicians with the use of survey measures.

GPs in this study appeared to offer more affective reassurance to low-risk patients, for whom minimal intervention is required, and less to those who might have benefited from additional reassurance at the very least. Attempts to explore psychological concerns and be sympathetic in the absence of psychological risk might raise concerns in patients later, as patients might have difficulty reconciling these with the message that their back pain is a common problem that usually resolves. However, the current evidence is not sufficient to advise clinicians to withhold their attempt to create rapport with patients, regardless of their psychological risk levels. It is possible that the four items of the STarT Back questionnaire are insufficiently sensitive to detect levels of anxiety in some patients, and that the practitioners were in fact responding to anxiety cues from patients, and therefore provided enhanced implicit reassurance to those with intrinsic higher levels of anxiety.

## 6.4.2 Limitations

The recruitment process in this study did not allow for the assessment of true baseline characteristics. Pain and disability prior to the consultation were measured retrospectively, and baseline measures of the full STarTBack Screening Tool (all 9 items, rather than just the 4 psychological items), depression and anxiety would have given a more reliable picture of participants’ psychosocial characteristics prior to visiting the GP. Electronic search to identify participants was carried out by practices once a month. The recruitment method therefore resulted in inconsistency in the time patients completed their baseline measures, which varied between a few days and up to month post consultation. Recall bias and change in symptoms may have affected patients’ responses.

This sample included participants with low back pain which had been ongoing for a long time, with 46.8% reporting the current episode lasting longer than 3 months. Almost half of the sample had consulted with their GP for episodes of low back pain in the past. Although the aim of the study was to include patients with acute low back pain after their first consultation, the sample represented patients at various stages of low back pain episodes. This may explain why consultation factors were unrelated to outcomes, despite previous studies finding associations (e.g. [Charlton, et al., 2008](#_ENREF_28); [Zolnierek & Dimatteo, 2009](#_ENREF_300)): a single consultation might be less important to the recovery of somebody with persistent pain than to somebody who has not experienced this pain before and has not received previous therapeutic intervention.

The participants in this study provided data which was used to both validate the reassurance questionnaire and to assess the impact of reassurance on patient outcomes. This meant that all participants answered the original, 30-item questionnaire, rather than the revised 12-item version produced following Rasch analysis. It has been suggested that participants suffer a decline in motivation when tasked with answering longer questionnaires, which can result in premature termination, random responding, or other behaviour patterns which result in data of lower quality ([Herzog & Bachman, 1981](#_ENREF_102)). Alternatively, they may choose not to respond at all to longer questionnaires, as one study found that response rates declined significantly with increased questionnaire length in a sample of physicians ([Jepson, Asch, Hershey, & Ubel, 2005](#_ENREF_125)). The impact of question-order effects can also not be ignored in this context ([Moore, 2002](#_ENREF_178)), as by answering the longer version of the questionnaire, there was more opportunity for participants’ perspectives on their consultation to be shaped by their overall responses to the other items. Further research is required using the validated 12-item version of the questionnaire to ensure that the data used in this study was not altered by administration of the excluded items.

The response rate for this study was not available, as data on how many patients were invited to participate was not provided by recruiting surgeries. This means that the representativeness of this sample is questionable at best, as it is possible that a large percentage of those invited chose not to take part. Participants were recruited to this study by post, and so it is likely that fewer people responded than would have done had they been approached in person ([Badger & Werrett, 2005](#_ENREF_10)). In order to improve and ensure accurate recording of response rates, as well as to reduce the gap between consultation and data collection, it is recommended that future studies recruit participants in person within practices, as far as possible.

Finally, the search strategy implemented meant that complex cases of low back pain, which had been referred on to other specialists, were not included. As a result, the sample could be considered fairly low-risk for ongoing problems. Indeed, a floor effect may have been present, as more than half of the sample scored less than 3/24 on the RMDQ at follow-up. This indicates that the participants had generally recovered almost completely, and so it would be hard to identify an impact of the consultation. In future, a larger sample in which more complex cases are not excluded may shed more light on how reassurance during the consultation interacts with recovery. Additionally, the follow-up period in this study was only 3 months, and so long-term recovery was not measured. Within future studies, it would be beneficial to measure the long-term effects of reassurance on patients’ outcomes.

The reassurance measure used in this study relies on patient self-report, which is based on their perceptions of what happened during a consultation. While this is valuable information, which allows us to explore the associations between patient’s perceptions of their consultation and their subsequent outcomes, it cannot inform reliably on what happens within the consulting room. Future research in which patients’ perceptions of reassurance are measured alongside direct observation of consultations will allow us to see whether physicians’ attempts at reassurance are, in fact, recognised by (all) patients, and what the implications are when reassurance is not perceived, or is not offered.

Chapter 7: Barriers to Delivering Effective Reassurance

# 7.1 Introduction

In the previous chapters, the benefits of providing good reassurance have been examined. However, delivering entirely effective reassurance to all patients at all times is unlikely to be achievable. Each patient will be different, as will each consultation, and it may be a challenge for physicians to find a rapport with every person they see, or meet everybody’s expectations in a way which allows the consultation to run smoothly. The model of the consultation presented in Chapter 3 (Figure 3.2) shows that there are a number of factors which feed into each part of the consultation and outcomes. This includes patient and problem characteristics and practitioner and setting characteristics, which will affect the dynamics of the consultation from the beginning (and possibly even beforehand). It also postulates that the data-gathering stage of the consultation, in which the patient tells the physician about their problem, affects the data-giving stage, in which the physician feeds back on what they think is wrong and how it can be managed. With all of these factors affecting how ‘well’ the consultation can be said to have gone, from both the physician’s and patient’s perspective, there are a number of opportunities for the encounter could take a wrong turn. The reasons for this may be down to the physician, the patient, their environment, or the interaction between them – and there may be more than one thing which gets in the way of effective communication. As Quill ([1989](#_ENREF_212)) puts it,

“Because no two individuals are identical in terms of background, experience, mood, and expectations, the process of coming to know one another involves a series of potential roadblocks as differences are identified and worked through.” ([Quill, 1989, pp. 51](#_ENREF_212))

Indeed, Quill offers a large taxonomy of barriers to physician-patient communication in the appendix to his 1989 narrative review, consisting of 58 potential problem areas and offering examples of how physicians can adjust to them in order to maintain effective communication. This paper was published more than 25 years ago, though, and it is not clear how thoroughly evidence-based this proposed taxonomy is.

If communication is hindered, the physician may not be able to provide reassurance to the patient, and/or the patient may not be in a position to engage properly with reassuring messages. As has been discussed in previous chapters, effective communication and reassurance can lead to tangible improvements in patients’ conditions (e.g. [Blasi, et al., 2001](#_ENREF_19); [Kiesler & Auerbach, 2006](#_ENREF_133); [Pincus, et al., 2013](#_ENREF_202)), and so if problems arise within the consultation patients’ recovery may be hampered. Some possible signs within a consultation that a barrier exists, according to Quill ([1989](#_ENREF_212)) are:

* Verbal-nonverbal mismatch (e.g., patient says nothing is wrong but looks upset)
* Cognitive dissonance (information does not add up, e.g. patient denies any stress when there has recently been a death/divorce etc.)
* Unexpected resistance (e.g. patient responding angrily that life stresses are not relevant to how they are feeling)
* Physician discomfort (often is picking up how the patient is feeling, e.g. physician feels angry/defensive as they sense the patient is subtly demeaning, controlling or attacking physician’s authority; can also mean confronting physician’s own personal barriers such as disdain for alcoholics)

In order to reduce as far as possible the risk of poor communication resulting from barriers within the consultation, training is provided to physicians on how to interact with patients. The UK’s General Medical Council (GMC) requires that undergraduate medical students demonstrate an ability to “Communicate effectively with patients and colleagues in a medical context” by the end of their education ([GMC, 2009, pp. 21](#_ENREF_84)). Interventions aimed at improving the communication skills of physicians are common, and have been shown to improve communication behaviours during consultations ([e.g. see Rao, Anderson, Inui, & Frankel, 2007, for a systematic review of 36 RCT studies on interventions with physicians, patients, or both](#_ENREF_215)). This review found that interventions targeting physicians led to physicians asking more open-ended and fewer biomedically focussed questions and eliciting more of their patients’ concerns. Expressions of empathy also improved, but this effect did not last the full 12-month follow-up period in one study. In another, long-term improvements in communication were found when feedback was given multiple times throughout a 15-month period, suggesting a possible need for something akin to ‘refresher’ training to ensure that learned skills continue to be practised. Significant improvements were found in how well physicians provided information to their patients after interventions, although it is not clear if these effects were sustained over time. Almost all of the studies included in this review measured communication in consultations with real patients, with the remainder using standardised patients. However, even with training, communication during consultations does not always meet the desired standards. Campion, Foulkes, Neighbour and Tate ([2002](#_ENREF_25)) analysed video submissions for examination to gain membership of the Royal College of General Practitioners, from 2094 candidates who had completed their consulting skills module. They found that even after training, and even within these specifically selected tapes which had been chosen by the physicians as their ‘best’ consultations, the desired competencies of exploring patients’ own beliefs about the illness, using those beliefs in explaining the illness, and checking the patient’s understanding after the explanation were absent in 14%, 31% and 45% of physicians respectively.

The objectives of this review were, therefore, to identify from the literature the barriers which may prevent physicians from offering optimal reassurance to their patients within consultations and to describe recommendations for solutions. Findings will be examined within the structure of the model proposed in Figure 3.2.

# 7.2 Methods

## 7.2.1 Study Selection:

During the systematic literature search described in Chapter 3, a number of review articles were found which were excluded (by virtue of being reviews, rather than original empirical research), but were of relevance to the topic of patient-centred care or doctor-patient communication. To update this pool of potential papers, a new search was conducted on 27th January 2015 for articles published since 2011, the date of the last search. Medline, PsycInfo, PsycExtra and PsycArticles were all search using the search strings described in Chapter 3 (see Appendix 1) with the addition of “AND (review)”. Where possible, database limiters which specified article type were also set to search only for review articles. Duplicates were removed manually by the author.

Reviews of all types (e.g. systematic, narrative, critical, meta-analysis, etc.) were included. Papers were excluded if the focus on reviewing methods or instruments for measuring doctor-patient communication. Reviews which covered doctor-patient communication in general patient populations, or with patients with musculoskeletal, pain-related or idiopathic symptoms were included, whereas specific populations of chronic or life-limiting diseases (such as diabetes or cancer), along with papers on giving bad news, were excluded. Practice setting was not limited. All papers which fit these criteria and whose titles and abstracts suggested a focus on patient-centred care or medical communication were read in full. After being read in full, if a paper made no mention of barriers to communication it was excluded. Figure 7.1 shows the search and identification process.

## 7.2.2 Data Extraction

One researcher read all included articles in full. Information was extracted on the review type, country of origin, practice setting, patient population, and main focus (See Table 7.1). All papers were rated for quality. The inclusion of all review types, rather than only systematic reviews or meta-analyses, meant that established tools for assessing the quality of systematic reviews ([e.g. A Measurement Tool to Assess Systematic Reviews, AMSTAR, Shea, et al., 2007](#_ENREF_247)) were not appropriate for this analysis. The criteria involved in such tools would be too stringent for assessing non-systematic reviews. Instead, a checklist for review articles proposed by Oxman ([1994](#_ENREF_188)) was used as a measure of review quality. The checklist items offered by Oxman were supplemented with the guidelines offered in Weed ([1997](#_ENREF_291)), which covered the same broad topics as Oxman’s checklist, but provided more detail upon which assessments could be based. The quality criteria were therefore as follows:

* Purpose:
  + Is the question clearly focused?  
    A review paper should include a clearly stated purpose in terms of questions to be answered or goals to be met. Noting that the purpose is to review a topic is insufficient. Not all purposes are appropriate for a given review, but all reviews should include a clear statement of purpose.
* Study identification:
  + Is the search for relevant studies thorough?  
    A review paper should describe the information sources searched.
* Study selection:
  + Are the inclusion criteria appropriate?  
    A review paper should describe the inclusion criteria used in selecting the papers cited. Inclusions (and therefore exclusions) can be made on the basis of time period, type of publication, language, study design, topic, and by population studied. The reader of any review should have a clear idea of the search techniques used, what evidence was assessed, and what evidence was excluded.
* Appraisal of studies:
  + Is the validity of included studies adequately assessed?  
    A review paper should describe the criteria used to evaluate the quality of the evidence.
* Data collection:
  + Is missing information obtained from investigators?
* Data synthesis:
  + How sensitive are the results to changes in the way the review is done?  
    A review paper should describe the methods used for summarizing the evidence from the studies selected for review. These may range from simple narrative techniques to highly structured quantitative techniques, such as meta-analysis.
* Interpretation/recommendations:
  + Do the conclusions flow from the evidence that is reviewed?
  + Are recommendations linked to the strength of the evidence?
  + Are judgments about preferences (values) explicit?  
    A review paper should describe the methods used to make conclusions. If public health or medical practice recommendations are a stated purpose of the review, then the methods used to make those recommendations should be clearly stated. In addition, there should be a discussion of the extent to which economic, ethical, and pragmatic considerations were used in arriving at the recommendations.

The final two items on Oxman’s checklist, which concerned the errors in interpretation of misinterpreting ‘no evidence of effect’ with ‘evidence of no effect’ and erroneously interpreting subgroup analyses were excluded from the quality assessment in this review, as they were inappropriate for assessing non-systematic reviews. The final checklist consisted of 7 items (see Table 7.2). Each item was scored in the same way as the quality assessment of included studies in Chapter 3: yes, no, partial, unknown, or not applicable, giving a possible score of 7 for each paper. There are no established cut-points to define adequate/high quality, and so the total score for each study is presented, but studies that scored above 4/7 are considered to have high methodological quality.

Within each paper, any mentioned factor which could prevent, derail or limit communication between a doctor and patient was charted. Identified barriers were grouped according to whether they stemmed from patient and problem characteristics; practitioner and setting characteristics; the data-gathering stage of the consultation; or the data-giving stage of the consultation (see Table 7.3). Where authors discussed possible solutions to communication barriers, these were charted in Table 7.4 according to whether they would constitute implicit or explicit reassurance behaviours, and whether or not the suggestions were evidence-based (supported by a cited research study) or not.

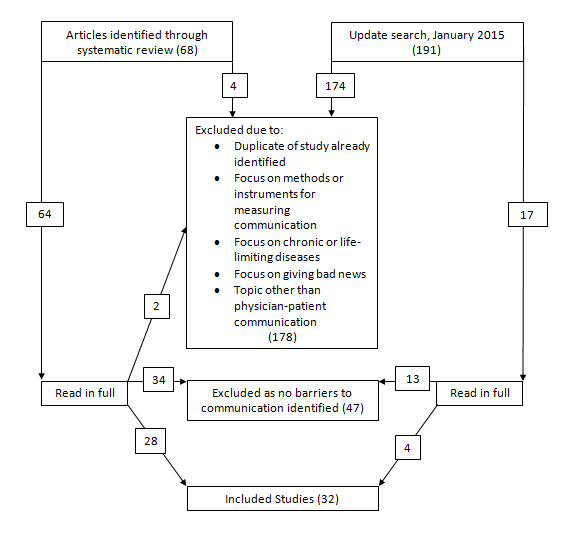


Figure 7.1 – Search and identification of studies

# 7.3 Results:

## 7.3.1 Included Studies

68 articles of potential relevance emerged from the original search and were read in full. The updated search of MedLine in 2015 produced 120 results, and the combined search of PsycInfo, PsycArticles and PsycExtra in 2015 produced 71 results (191 in total). Of these, 17 articles were selected for reading in full. Four of the original articles and 174 from the update search were excluded on the basis of their abstract, using the criteria given in the methods section.

After full-text reading of all 81 articles, 47 made no mention of any barrier to communication and two included almost entirely studies of patients with chronic conditions, which were excluded, leaving 32 articles included in the analysis (see Figure 7.1).

Published between 1986 and 2014, this included 24 narrative reviews (1 of which included a systematic search strategy), 1 topical review, 1 consensus statement, 1 critical review, 2 systematic reviews, 2 meta-analyses and 1 paper which combined systematic review and meta-analysis. The high proportion of narrative to systematic reviews/meta-analyses included in this study reflects the framing of the research question on barriers to communication: systematic review articles tend to focus on what the available evidence tells us is involved in effective communication (i.e. that which is associated with positive patient outcomes). Narrative reviews often take a broader scope, discussing communication in more general terms, and so were more likely to include a discussion of barriers to communication, even if this was not the main focus of the paper. Most (26) of the reviews were from the UK or USA, with 1 from the Netherlands and the remainder co-written by authors from more than one country. The majority did not place a specific focus on one practice setting or patient group, and so represented diverse populations. Only three based their findings specifically in general practice or primary care. One study ([Linton, et al., 2008](#_ENREF_157)) focused specifically on pain, and one on musculoskeletal problems ([Main, et al., 2010](#_ENREF_165)). Five of the reviews focused explicitly on reassurance, with a wide variety of topics covered by the remainder including patient-centredness, communication styles, patient preferences, and shared decision-making. See Table 7.1 for a summary of the review characteristics.

The results of the quality assessments are presented in Table 7.2. Scores ranged from 0 to 6.5 out of 7. The average quality score was 2.52 (SD 1.02), and only 8 out of the 32 reviews (¼) met the criterion for high methodological quality of a score above 4.

## 7.3.2 Barriers to Communication

Table 7.3 displays a summary of the identified barriers to communication.

### 7.3.2.1 Patient and Problem Characteristics

Charlton, Dearing, Berry and Johnson ([2008](#_ENREF_28)) point out that patients with impairments, such as hearing, sight, memory, learning or speech deficits, may find it more difficult to communicate with physicians, and vice versa. The pitfalls here are clear, and are not specific to medical interactions, but will affect such patients in most or all of their communicative encounters. The challenge for the physician is in understanding the patient’s specific impairment, and working with the patient to find a way to maximise the effectiveness of their communication.

Table 7.1 – Characteristics of included papers

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Citation** | **Evidence Type** | **Origin** | **Practice Setting** | **Patients** | **Main focus** |
| Buchsbaum (1986) | Narrative review | USA | All | All | Reassurance |
| **Charlton et al. (2008)** | **Narrative review** | **USA** | **All** | **All** | **Nurse Practitioners’ communication styles** |
| Coia & Morley (1998) | Narrative review | UK | All | Patients without disease | Reassurance |
| Coulter & Elwyn (2002) | Narrative review | UK | General Practice | All | Patient involvement |
| **Davey et al. (2012)** | **Narrative Review** | **UK** | **All** | **Young adults** | **UK Young Adults’ priorities for care** |
| Elwyn et al (1999) | Narrative review | UK | Primary care | All | Shared decision-making |
| Epstein (2000) | Narrative review | USA | All | All | Patient-centred care |
| Epstein (2006) | Narrative review | USA | All | All | What pts notice/want/need from communication |
| Epstein & Peters (2009) | Narrative review | USA | All | All | Exploring pt preferences in pt-centred care |
| Epstein et al (2004) | Systematic review (8 studies) | USA | All | All | Communicating clinical evidence in the context of shared decision-making |
| Epstein et al (2005) | Narrative review | USA | All | All | Patient-centred communication |
| Frankel & Stein (1999) | Narrative review / Model | USA | All | All | The Four Habits Model of clinical encounters |
| **Hall et al. (1988)** | **Meta-analysis (41 studies)** | **USA** | **All** | **All** | **Correlates of provider behaviour** |
| Hulsman (2009) | Narrative review | The Netherlands | All | All | Goal-oriented medical communication |
| **Jefferson et al. (2013)** | **Systematic review (33 studies) and meta-analysis (10 studies)** | **UK** | **All** | **All** | **Effects of physician gender on communication and consultation length** |
| Kathol (1997) | Narrative review | USA | All | Symptomatic patients with benign or no disease | Reassurance |
| Kiesler & Auerbach (2003) | Narrative review | USA | All | All | Affiliation and Control in dr-pt interaction |
| Linton et al. (2008) | Topical review | Various | All | Pain | Reassurance in the treatment of pain |
| Main et al. (2010) | Narrative review | UK & Australia | All | Musculoskeletal problems | Addressing patients’ beliefs and expectations (MSK problems) |
| **Mauksch et al (2008)** | **Narrative review** | **USA** | **All** | **All** | **Relationship, communication and efficiency in the medical encounter** |
| Norfolk et al. (2007) | Narrative review | UK | All | All | The role of empathy in establishing rapport |
| Page & Wessely (2003) | Narrative review | UK | All | MUS | Doctor-Patient encounter factors affecting MUS |
| **Paskins et al. (2014)** | **Narrative review with systematic search** | **UK** | **General practice** | **Osteoarthritis** | **Comparing patient experiences with GP attitudes in osteoarthritis (NOT back pain)** |
| Quill (1989) | Narrative review | USA | All | All | Recognising and adjusting to barriers in doctor-patient communication |
| **Van Ravesteijn et al. (2012)** | **Systematic review (5 RCTs)** | **The Netherlands & France** | **Outpatient settings** | **All** | **Diagnostic tests** |
| Roter (2003) | Narrative review | USA | All | All | Communication during medical exchanges |
| **Roter et al. (2002)** | **Meta-analysis (26 studies)** | **USA** | **All** | **All** | **Physician gender effects in medical communication** |
| Salmon (2006) | Narrative review | UK | All | Idiopathic symptoms, functional disorders, and somatising | Reassurance for idiopathic symptoms |
| Salmon & Young (2005) | Narrative review | UK | All | All | Partnership in clinical consultations |
| Simpson et al (1991) | Consensus statement | Various | All | All | Dr-pt communication |
| Street et al (2009) | Narrative review | USA | All | All | How clinical communication links to outcomes |
| Taylor (2009) | Critical review | UK | All | All | Patient-centredness |
| **Bold** text indicates a paper with a high quality score (>4) | | | | | |

Aside from specific impairments, a large number of other demographic patient factors have been identified in the literature as having the potential to disrupt effective communication. Narrative reviews report the influence of patient race ([Epstein, 2006](#_ENREF_64); [Roter, 2003](#_ENREF_229)), gender ([Epstein, 2006](#_ENREF_64); [Kiesler & Auerbach, 2003](#_ENREF_132)), age ([Elwyn, et al., 1999](#_ENREF_62); [Epstein & Peters, 2009](#_ENREF_67); [Kiesler & Auerbach, 2003](#_ENREF_132)), ethnicity ([Roter, 2003](#_ENREF_229)), education level ([Elwyn, et al., 1999](#_ENREF_62)), and socio-economic status (SES) ([Epstein, 2006](#_ENREF_64); [Epstein & Peters, 2009](#_ENREF_67)) on the quality of communication in consultations. Additionally, Epstein, Alper and Quill’s ([2004](#_ENREF_65)) systematic review of 8 studies found that less educated patients did not understand risk as well as their better educated peers, indicating a potential source of confusion or miscommunication during medical encounters. In their high quality meta-analysis of 41 studies into correlates of physician behaviour in medical encounters Hall, Roter and Katz ([1988](#_ENREF_93)) found that it was white, female, and older patients with a higher SES who were reported to receive better communication from their physicians (e.g. received more information or more partnership-building). Roter ([2003](#_ENREF_229)) provides evidence that ethnic minority patients report poorer communication from physicians, such as not being listened to, regardless of their fluency in English, and that race-discordant doctor-patient pairs communicate less effectively, have shorter visits, and report the lowest positive patient and physician affect. It may be that unconscious biases against certain groups obstruct optimal communication in some cases, which is something that physicians will need to be aware of in order to correct.

Patients’ psychological and psychosocial factors can also have an impact on their medical encounters. For example, Charlton et al. ([2008](#_ENREF_28)) cite a cross-sectional study of over 400 patients which found that discomfort, fear of compromised quality of care, and a belief that the physician does not have a viable solution were potential barriers to communication. Norfolk, Birdi and Walsh ([2007](#_ENREF_180)) suggest that factors such as patients’ personality characteristics, self-awareness, health beliefs, present mood, communication skills, and the level of complexity attached to the problem as having the potential to constrain the development of a therapeutic alliance, and Main, Buchbinder, Porcheret and Foster ([2010](#_ENREF_165)) report that high distress levels may inhibit self-disclosure, although neither of these reviews cite evidence to support these claims. Quill’s ([1989](#_ENREF_212)) review of barriers in physician-patient communication also points out that patients may feel too ashamed to disclose their problems and/or concerns fully. These unstated issues can create problems both within and after the consultation.

Additionally, towards the end of the consultation, psychological factors can influence how physicians’ messages are received by patients. Linton, McCracken and Vlaeyen’s ([2008](#_ENREF_157)) topical review of reassurance in the treatment of pain proposes that reassurance may only be effective for patients with low anxiety levels. They cite a study of patients before and after gastroscopy which found that while more anxious patients may experience a dip in anxiety during the consultation, they will face a subsequent surge later on. This supports Coia and Morley’s ([1998](#_ENREF_32)) claims that unless reassurance is successful in changing patients’ illness cognitions, any beneficial effects of reassurance will fade when the reassuring practitioner is absent.

Table 7.2 – Quality assessment of included papers

| **Citation** | **Purpose** | **Study identification** | **Study selection** | **Appraisal of studies** | **Data collection** | **Data synthesis** | **Interpretation/ recommendations** | **Total** |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Buchsbaum (1986) | N | N | N | N | N | N | P | 0.5 |
| **Charlton, et al. (2008)** | **Y** | **Y** | **Y** | **P** | **N** | **N** | **P** | **4** |
| Coia & Morley (1998) | Y | N | N | N | N | Y | Y | 3 |
| Coulter & Elwyn (2002) | N | N | N | N | N | N | Y | 1 |
| **Davey, et al. (2012)** | **Y** | **Y** | **Y** | **N** | **Y** | **Y** | **Y** | **6** |
| Elwyn, et al. (1999) | Y | DK | DK | DK | N | Y | Y | 3 |
| Epstein (2000) | N | N | N | N | N | N | P | 0.5 |
| Epstein (2006) | Y | N | N | N | N | N | Y | 2 |
| Epstein & Peters (2009) | N | N | N | N | N | N | N | 0 |
| Epstein, et al. (2004) | Y | Y | Y | N | N | N | P | 3.5 |
| Epstein, et al. (2005) | Y | N | N | N | N | N | Y | 2 |
| Frankel & Stein (1999) | Y | N | N | N | N | N | N | 1 |
| **Hall, et al. (1988)** | **P** | **Y** | **Y** | **P** | **Y** | **Y** | **Y** | **6** |
| Hulsman (2009) | Y | N | N | N | N | N | Y | 2 |
| **Jefferson, et al. (2013)** | **Y** | **Y** | **Y** | **Y** | **P** | **Y** | **Y** | **6.5** |
| Kathol (1997) | N | N | N | N | N | N | P | 0.5 |
| Kiesler & Auerbach (2003) | Y | N | N | N | N | N | Y | 2 |
| Linton, et al. (2008) | N | N | N | N | N | N | P | 0.5 |
| Main, et al. (2010) | N | N | N | N | N | N | N | 0 |
| **Mauksch, et al. (2008)** | **P** | **Y** | **Y** | **N** | **N** | **P** | **Y** | **4** |
| Norfolk, et al. (2007) | Y | N | N | N | N | P | P | 2 |
| Page & Wessely (2003) | N | N | N | N | N | N | Y | 1 |
| **Paskins, et al. (2014)** | **Y** | **Y** | **Y** | **Y** | **N** | **Y** | **Y** | **6** |
| Quill (1989) | N | N | N | N | N | N | N | 0 |
| **Van Ravesteijn, et al. (2012)** | **Y** | **Y** | **Y** | **Y** | **N** | **Y** | **Y** | **6** |
| Roter (2003) | Y | N | N | N | N | N | Y | 2 |
| **Roter, et al. (2002)** | **Y** | **Y** | **Y** | **P** | **N** | **Y** | **Y** | **5.5** |
| Salmon (2006) | N | N | N | N | N | N | Y | 1 |
| Salmon & Young (2005) | Y | N | N | N | N | N | Y | 2 |
| Simpson, et al. (1991) | Y | N | N | N | N | N | Y | 2 |
| Street, et al. (2009) | Y | N | N | N | N | N | Y | 2 |
| Taylor (2009) | Y | P | P | N | N | N | Y | 3 |
| Y = yes; N = no; P = partial; DK = don’t know  **Bold** text indicates a paper with a high quality score (>4) | | | | | | | | |

As discussed in Chapter 2, each patient will come to a consultation with expectations and preferences for what they want to get out of the encounter. These will vary according to their problem characteristics, and relate to the aspects of care that they find important ([Coulter & Elwyn, 2002](#_ENREF_37)). These preferences can guide consultations, but can also hinder communication in some cases. Patients’ preferences for treatment may be in direct conflict with medical guidelines ([Elwyn, et al., 1999](#_ENREF_62)), creating a conflict within the consultation between what the patient wants and what the physician can offer. Patients have different preferences for patient-centredness ([Epstein, 2000](#_ENREF_63)) and Salmon and Young ([2005](#_ENREF_236)) cite experimental and cross-sectional evidence that psychosocial talk (attending to the emotional and social context of a patient’s presentation) with patients who do not want it can be perceived as intrusive or even damage a relationship. Patients also have different preferences for how much they want to be involved in treatment decisions, which may be influenced by such factors as their condition, educational status or age ([Elwyn, et al., 1999](#_ENREF_62)). While being involved in treatment decisions is thought to be empowering for patients, as they are elevated from passive recipient of care to active participant, patients do not always experience this sense of empowerment, and some choices may be unwelcome, disorienting, or coerced ([Salmon & Young, 2005](#_ENREF_236)). In other words, forcing patients to participate in treatment planning when they do not want to imbues an unwanted and unwelcome sense of responsibility.

### 7.3.2.2 Practitioner and Setting Characteristics

The effect of physician gender on communication is well-documented. Evidence from systematic reviews and meta-analyses suggests that female physicians are more effective communicators than their male counterparts. Roter, Hall and Aoki ([2002](#_ENREF_230)) conducted a high quality meta-analysis of 26 observational and physician-report studies concerning gender differences in communication during consultations. They found that female physicians outperformed males in the following areas (all statistics represent a Cohen’s *d* effect size estimate and 95% confidence intervals (CI): psychosocial information giving (0.22 [0.04-0.41]); close-ended question asking (0.28 [0.10-0.46]); active-enlisting partnership behaviours (0.22 [0.00-0.44]); positive talk (0.36 [0.17-0.56]); and positive non-verbal behaviour (0.21 [0.03-0.40]). More recently, Jefferson, Bloor, Birks, Hewitt & Bland ([2013](#_ENREF_124)) conducted a meta-analysis of 10 studies into communication with patients in primary care (also high quality), and found that female physicians spent over two minutes more with patients than males (coefficient 2.4 [95% CI 0.62-3.86], p<0.01). Additionally, 23 further studies were included with the original 10 in a systematic review of specific communication behaviours (which were unsuitable to be entered into a meta-analysis) which found that female primary care physicians showed more partnership-building behaviours (encouragement, attentive silences, verbal encouragement, non-verbal positive communication, lower dominance and more submissive tone of voice) and more concern, warmth and empathy. While information-giving was similar across genders, the evidence suggested that male physicians may give more biomedical and female physicians more psychosocial information ([Jefferson, et al., 2013](#_ENREF_124)).

That certain social groups of patients may receive poorer communication during consultations could be down to biases on the part of physicians. Quill ([1989](#_ENREF_212)) refers to this as an explicit barrier to communication, citing examples of a physician being sexist or racist. Such prejudices are clear barriers to finding common ground and forming therapeutic partnerships with patients, and if left unchecked have the potential to seriously compromise care for disadvantaged groups.

Intrinsic characteristics of the physician which may be harder to identify can also impact on how well they communicate with patients. Potential problem areas for the physician, as suggested in narrative reviews, are a lack of innate curiosity and warmth, other personality characteristics, professional confidence, self-awareness, present mood, and past experiences ([both professional and personal, Norfolk, et al., 2007](#_ENREF_180)); physical and emotional health, competing responsibilities, family/home life, and adequacy of sleep ([Buchsbaum, 1986](#_ENREF_23)); heightened stress levels, and poor self-efficacy ([Hulsman, 2009](#_ENREF_115)); and lack of a solution to a patient’s problem, and discomfort ([Charlton, et al., 2008](#_ENREF_28)). However, this list lacks depth. Concepts such as ‘other personality traits’ or ‘awareness’ are not defined in these review papers, providing little useful information if these barriers are to be addressed.

Buchsbaum ([1986](#_ENREF_23)) suggests that physicians may struggle to understand or empathise with patients in situations where, for example, their illness appears self-induced (such as obesity), the patient reminds the physician of somebody and so evokes negative emotions, or unresolved psychodynamic issues are at play (such as those surrounding sex or death, although the author does not offer any further explanation as to what this means). The suggestion here is that physicians’ attitudes have the power to affect how they feel about and interact with patients. Davey, Carter and Campbell ([2013](#_ENREF_43)) found in their high quality review that in qualitative studies discussing health care in general, young adults reported finding their primary care physicians to be sceptical of their presenting problem, unfriendly and insensitive. Narrative reviews have suggested that physicians having strictly biomedical views (as opposed to a more biopsychosocial orientation) can impede communication with patients. For example, according to Page and Wessely ([2003](#_ENREF_189)), when patients with medically unexplained symptoms (MUS) receive negative test results, physicians tend to lower their estimation of the severity of the symptoms, even if they have not yet met the patient. This can lead to the patient feeling discredited, and precludes the opportunity to explore psychosocial factors. Hulsman ([2009](#_ENREF_115)) suggests that physicians holding such biomedical viewpoints do not use the communication skills they have acquired through training. Additionally, Salmon ([2006](#_ENREF_233)) suggests, anecdotally, that physicians regard empathic explanations as separate from their ‘real’ medical role. This narrow perspective is a problem when looking at musculoskeletal problems, as it can lead to physicians disregarding the role of central pain-processing mechanisms, and therefore failing to integrate the effects of cognitive factors, pain memories, and the emotional impact of pain into the explanations given to patients ([Main, et al., 2010](#_ENREF_165)).

Reviews also point out that a lack of GP training (in communication skills) or knowledge (about the patient’s problem) can impede communication. Elwyn, et al. ([1999](#_ENREF_62)) suggests that communication can be hindered by a lack of training, experience, or modelling; a lack of skill in sharing and involving patients; or a lack of information (or tools to convey it) about risks and/or benefits. Simpson, et al. (1991) assert that more often than not, physicians are inadequately trained in skills such as data-gathering, forming and maintaining relationships, dealing with difficult issues, and imparting information ([Simpson, et al., 1991](#_ENREF_250)). This review, however, is more than 20 years old, and may not reflect the current status of physician education and training, although Paskins, Sanders and Hassell ([2014](#_ENREF_194)) found in their high quality narrative review of 22 studies in osteoarthritis that GPs have reported their own information needs as a barrier to information-giving, and, as discussed in the introduction, even with training physicians can fail to enact important communication tasks ([Main, et al., 2010](#_ENREF_165)). Hulsman ([2009](#_ENREF_115)) suggests that poor self-efficacy leads to avoidance of tasks, and therefore physicians who feel less competent when it comes to interacting with patients may become less sensitive and responsive.

Some factors which can affect the quality of medical interactions are largely beyond the control of the patient and physician within the consulting room. Norfolk, et al. ([2007](#_ENREF_180)) highlight the stable aspects of the practice setting (waiting room and consulting room size, layout and lighting); available resources; time of day or week; and number of patients waiting as potential barriers to ideal communication. Roter ([2003](#_ENREF_229)) also reports that empirical studies suggest that the presence of companions in the consultation can have a negative effect, as patients raise fewer topics and could even be excluded from the conversation as companions take on information-giving role at the expense of the patient. More abstractly, Hulsman’s ([2009](#_ENREF_115)) review on goal-oriented medical communication cited evidence from studies in medical education settings that social norms within the healthcare organisation surrounding the emphasis or value put on patient-centred communication may also affect physicians’ behaviour within consultations. Therefore, if the organisation within which a physician is working does not hold patient-centred care or effective communication in high regard, the physician’s consultation style is likely to reflect this.

Insufficient time is an oft-cited barrier to communication and reassurance ([Charlton, et al., 2008](#_ENREF_28)). Limited time can affect how emotionally the physician responds to the patient ([Buchsbaum, 1986](#_ENREF_23)), inhibit information provision ([Paskins, et al., 2014](#_ENREF_194)) and make it hard to uncover what the patient knows and how much they want to be involved ([Coulter & Elwyn, 2002](#_ENREF_37)), hinder relationship development or lead to physicians interrupting patients ([Hulsman, 2009](#_ENREF_115)). Frankel and Stein ([1999](#_ENREF_74)) claim that if physicians feel they don’t have enough time, many will limit themselves to established problems and exclude psychological or psychosocial ones. They say that at best this confuses the patient, but at worst can erode trust in the physician, although they do not cite evidence which claims to demonstrate this. Physicians’ patient-centred interaction styles were found to be associated with measures of therapeutic alliance, which included trust, in a systematic review of 12 studies, but none of the included studies specifically measured the impact of psychosocial discussion on trust or relationships ([Pinto, et al., 2012](#_ENREF_207)). In another review, of 7 studies with mixed methodologies, biopsychosocial communication (as contrasted with biomedical only communication) correlated with improved satisfaction, adherence and health outcomes ([Charlton, et al., 2008](#_ENREF_28)), indicating that the inclusion of psychosocial communication is important. However, the specific relationship between psychosocial communication and trust in physicians was again not tested. Frankel and Stein’s assertion appears to be anecdotal at best, and would require focused testing to clarify if there is any effect of discussing psychosocial issues on trust in physicians.

### 7.3.2.3 Data-gathering

The data-gathering stage of the consultation is the time when physicians attempt to form a therapeutic relationship with patients and find out what has brought them to the consultation. On both of these counts, the reviews included here identified a number of possible chances for communication to suffer, and there is a common suggestion that if the early stages of the consultation are not handled well, the later stages will be affected. Thus, if a physician has not been able to build rapport and elicit the patient’s history, thoughts, concerns and beliefs in the beginning, they will not be able to provide useful information or explanations at the end. Explanations can fail to reassure patients if they do not address their concerns, and so being aware of these concerns is essential ([Salmon, 2006](#_ENREF_233)).

Table 7.3 – Summary of barriers to reassurance

|  |  |
| --- | --- |
| **Citation** | **Barriers** |
| **Patient and Problem Characteristics** | |
| **Charlton, et al. (2008)** | **Patient barriers:**   * **Discomfort** * **Insufficient time** * **Belief that HCP doesn’t have a viable solution** * **Fear of compromised quality of care** * **Learning deficits** * **Memory loss or impairment** * **Hearing deficits** * **Visual deficits** * **Speech impairments** * **Primary language is different from HCP.** |
| Coulter & Elwyn (2002) | Patient preferences for involvement in decisions making may vary according to stage of disease or severity of condition. |
| Elwyn, et al. (1999) | Desire for shared decision-making can be modified by such factors as patient’s condition, educational status or age.  Patients perceived to dislike the ‘physician uncertainty’ shared decision-making may convey.  Patient preferences may be in direct conflict with medical guidelines.  Continuity of care means that decisions are often coloured by prior experiences of patients in that setting. |
| Epstein (2000) | Patient-centredness may be more important to some patients than others – context of visit can be important in determining the degree of patient-centredness. |
| Epstein (2006) | Patient perceptions of an encounter may have more to do with non-communication factors (such as race, gender, SES etc.) |
| **Hall, et al. (1988)** | **Physicians showed differential communication strategies based on patient SES, age, gender, and ethnicity. Higher SES, older, female, and white patients were treated best.** |
| Kiesler & Auerbach (2003) | Interactions are moderated by person variables (gender, age, illness status). |
| Linton et al. (2008) | Reassurance may only be effective for patients with lower anxiety levels, as anxious patients experienced a dip and subsequent surge in anxiety post-consultation. |
| Main, et al. (2010) | Patients, especially with a high level of distress, may be reluctant to self-disclose. This is even truer when they do not respect, like or trust their physician. |
| Norfolk, et al. (2007) | Patient factors:   * Personality characteristics * Self-awareness * Health beliefs * Present mood * Communication skills * The level of complexity attached to the presented problem |
| Quill (1989) | Implicit barriers: e.g. patient is not comfortable discussing fears with a physician as they feel ashamed. |
| Roter (2003) | Ethnic minority patients report poorer communication from physicians (e.g. did not listen, patient did not understand, did not ask questions they wanted to), regardless of fluency in English.  Race-discordant physician-patient pairs tend to communicate less effectively and have shorter visits. African-American patients report lower levels of physician respect. Positive patient and physician affect were lowest in race-discordant encounters. |
| Salmon & Young (2005) | Context (e.g. patient’s illness or situation) – psychosocial talk can be damaging to relationships when it is not wanted.  Patient’s preference may be to not have to choose – imbues a sense of responsibility. Patients do not always experience this sense of empowerment, and some choices may be unwelcome, disorienting or coerced.  Patients are vulnerable and looking to physician for help – leads to a sense of dependence rather than partnership |
| **Practitioner and Setting Characteristics** | |
| Buchsbaum (1986) | Physician understanding/empathy can be influenced by specific features of patient or illness, e.g. illness appears self-induced (obesity) or patient reminds physician of somebody, or unresolved psychodynamic issues (around sex or death).Contextual factors on the physician’s part (e.g. physical and emotional health, time pressure, competing responsibilities, family/home life, and adequacy of sleep) may also affect how emotionally he/she responds to the patient. |
| **Charlton, et al. (2008)** | **Practitioner barriers:**   * **Insufficient time** * **Lack of a solution to patient’s health problem** * **Discomfort** * **Lack of knowledge about patient’s health problem** |
| Coulter & Elwyn (2002) | Time constraints inhibit information provision, and it can be hard to uncover what the patient knows and how much they want to be involved. |
| **Davey, et al. (2012)** | **Access to primary health services may be a barrier for young people because of inconvenience or lack of visibility of the service.** |
| Elwyn, et al. (1999) | Lack of training/experience/modelling.  Lack of skill in ‘sharing’ and ‘involving’ patients in decision-making.  Lack of information about risks/benefits, or skills/tools to convey it. |
| Frankel & Stein (1999) | If physicians feel they do not have time for all of a patient’s problems, and focus on established problems at the expense of psychological or social problems, they both can feel frustrated, and patients can lose trust. |
| Hulsman (2009) | Physicians often cite insufficient time as a reason for poor relationship development and communication, and tend to interrupt patients due to feeling this time pressure.  Heightened stress levels (e.g. when having to give bad news) may influence physicians’ performance in consultations.  Poor self-efficacy leads to avoidance of tasks – physicians who don’t feel competent may become less sensitive and responsive.  More biomedical/less psychosocial attitudes leads to poorer physician communication, as acquired communication skills are less likely to be used in practice.  Communication can be influenced by conformist social norms in the health care organisation: is good communication considered positively within medical culture? |
| **Jefferson, et al. (2013)** | **Female physicians spent over 2 minutes more with patients than males (coefficient 2.4, 95%CI 0.62-3.86, p<0.01).**  **Information-giving was similar across genders, although males may give more biomedical and females more psychosocial information.**  **No difference between male and female on question-asking in most studies, although 2 showed female asked more psychosocial questions.**  **Female physicians showed more partnership-building behaviours (encouragement, attentive silences, verbal encouragement, non-verbal positive communication, lower dominance and more submissive tone of voice) and more concern, warmth and empathy.**  **Effect of gender on the amount of patient participation is unclear.** |
| Main, et al. (2010) | Even with focussed training, GPs still can fail to explore patients’ beliefs about illness, use them in their explanations, check patient understanding, or involve patients in decisions.  Many physicians hold narrowly biomedical views of musculoskeletal problems, which are more suited to understanding other conditions. |
| Norfolk, et al. (2007) | Physician factors:   * Innate curiosity and warmth * Other personality characteristics * Professional confidence * Self-awareness * Present mood * Past experiences (both professional and personal)   Environmental factors:   * Stable aspects of the practice setting (waiting room, consulting room size, layout and lighting) * Available resources * Time of day or week * Number of patients waiting |
| Page & Wessely (2003) | When patient has been tested and no physical illness is indicated, physicians tend to lower their estimation of the severity of symptoms. Once a patient feels discredited, the opportunity to explore psychosocial factors is lost. |
| **Paskins, et al. (2014)** | **Time in the consultation has been reported as a barrier information-giving.**  **GPs have also reported their own information needs as a barrier to information-giving.** |
| Quill (1989) | Explicit barriers: e.g. physician is accused of being sexist, racist or too young. Implicit barriers: e.g. physician lacks sufficient knowledge about a condition to fully explore the patient’s problem |
| Roter (2003) | Presence of companions in the medical consultation affects communication patterns: patients raise fewer topics and could even be excluded from the conversation. Companions tend to take on information-giving role at the expense of the patient.  Psychosocial and socio-emotional communication is affected by physician’s gender (but not task-specific communication). Female physicians engage in much more patient-centred questioning and elicitation. Patients reciprocate this (talk more, etc. with female physicians). |
| **Roter, et al. (2002)** | **Higher in female physicians:**   * **Psychosocial information giving (0.22[0.04-0.41])** * **Psychosocial question asking (0.29[-0.02-0.59]\*)** * **Close-ended question asking (0.28[0.10-0.46])** * **Active-enlisting partnership behaviours (0.22[0.00-0.44])** * **Positive talk (0.36[0.17-0.56])\*\*** * **Emotionally focused talk (0.12[-0.06-0.30]\*)** * **Positive nonverbal behaviour (0.21[0.03-0.40])**   **Non-significant differences:**   * **Biomedical, directive, nondirective, quality information-giving** * **General, biomedical, open-ended question-asking** * **Passive partnership behaviours** * **Social conversation** * **Negative talk** |
| Salmon (2006) | Physicians regard empathetic explanations as separate from their ‘real’ medical role as they do not convey technical information |
| Salmon & Young (2005) | Patient’s ‘promotion’ also entails physician’s ‘demotion’ from powerful expert to partner. |
| Simpson, et al. (1991) | Physicians are, more often than not, inadequately trained in effective communication skills, such as data gathering, forming and maintaining relationships, dealing with difficult issues, and imparting information, as well as therapeutic skills and strategies. |
| **Data-gathering** | |
| **Davey, et al. (2012)** | **Young patients reported physicians being unfriendly, insensitive, and sceptical of their presenting problems, which can act as a barrier to future use.** |
| Elwyn, et al. (1999) | The absence of information-sharing precludes the possibility of shared decision-making. |
| Epstein, et al. (2005) | Patient-centred care is context-based. Under some circumstances, exploring the patient’s perspective focuses predominantly on biomedical concern rather than other issues.  Unstated issues can have negative effects, and may explain differences between physician and patient ratings of the same encounter.  Changing interactional style (e.g. from directive to patient-centred) can cause angst or friction in the relationship. |
| Frankel & Stein (1999) | Issues of power and authority can inhibit rapport, e.g. use of “Dr X” vs patient’s first name signals a power differential.  Traditional medicine assumes the patient has one clear problem, which will be the first thing they mention. This may not be the case, and by following this idea the physician can miss out on important complaints not freely volunteered.  Often patients only hint at an emotion, but won’t say how they feel outright.  If the physician does not fully explore the patient’s context, expectations and impact of the problem, it can lead to patients feeling misunderstood or misunderstanding treatment, therefore non-compliance, unnecessary tests, etc. |
| Hulsman (2009) | Micro-level communicative problems (patient asking a lot of questions, does not understand, gets emotional, phone rings, etc.) can occur in consultation, and need a response from physician. |
| Main, et al. (2010) | Patients who are apprehensive about the consultation are very aware of any ‘mismatch’ between verbal and non-verbal cues, which can impede communication. |
| **Mauksch, et al. (2008)** | **Too much small talk may displace time for examining complicated problems.**  **Rigidly following agenda-setting may compromise patient satisfaction by forgetting to make a connection or missing emotionally-laden clues about other issues, thereby misunderstanding the patient’s core concern.** |
| Taylor (2009) | The evidence-based medicine movement may present barriers to communication by: adopting a potentially inappropriate biomedical perspective; focusing on illness rather than individuals; excluding outlying cases which tend to be the norm in practice; and not fully recognising patients’ ability to be experts in their own illness or negotiate their own solutions.  Imbalances in language, expectations and culture between patient and physician can cause problems. Physicians tend to formulate theories early and ‘test’ them against the patient, which can be a problem in MUS. Further consequence is the increasing tendency towards medicalisation, where the patient’s account can only be legitimised by diagnosis and treatment. |
| **Data-giving** | |
| Buchsbaum (1986) | If the physician tried to reassure the patient without considering their needs, the intervention is unlikely to meet with success. |
| **Charlton, et al. (2008)** | **Practitioners using biomedical language can create problems, as patients may not understand and may interpret the communication style as uncaring** |
| Coia and Morley (1998) | Medical reassurance is inherently ambiguous. No-disease statements include an element of the unknown (it’s not that, so what is it?) and can be misunderstood.  Patients also understand medical terminology differently to physicians. |
| Elwyn, et al. (1999) | Physicians need to assess (after providing adequate information) the extent to which patient wants to be involved in the decision. Takes time.  Physicians tend to underestimate both how much information and the level of involvement in decision-making patients want.  Threatens ‘power relationship’ between patient and physician.  Treatment decisions often coloured by prior experiences of both parties. |
| Epstein & Peters (2009) | Physicians can influence patient preferences by the way they frame outcomes (positive/negative) or by presenting a favoured option first.  Emotional responses may be skewed, e.g. by time frame (future events carry less weight than current ones) or perceptions of quantity and value (more-is-better heuristic). |
| Epstein, et al. (2004) | The presentation of evidence on clinical risk matters: patients understand risks differently depending on how they are framed or presented. Less educated patients understand risks more poorly.  Avoiding discussion of uncertainty may lead to incomplete patient understanding of a critical decision, but overemphasis on it can lead to lost patient confidence. |
| Epstein, et al. (2005) | When uncertainty is expressed, patients can lose trust. |
| Kathol (1997) | Non-specific diagnoses may carry special meaning for the patient (e.g. had a relative with gastroenteritis who died of ruptured appendix) and so can do harm. Diagnostic terms such as possible heart pain or early ulcer can also be interpreted to mean poor prognosis. |
| Linton et al. (2008) | When patients experience information as a lack of understanding of the legitimacy of the complaint, they exert their claims more forcefully.  Diagnostic tests are believed by some to be more persuasive than verbal explanations, but do not show significant improvements in patient outcomes.  Emphasising the mildness of the condition can increase worry for future pain and disability. |
| Main, et al. (2010) | Disregard of the role of central pain-processing mechanisms leads to failure to integrate the contribution of cognitive factors, pain memories, and the emotional impact of pain into the explanations given to patients. |
| **Mauksch, et al. (2008)** | **Earlier steps need to have been followed (e.g. agenda setting; topic tracking) to ensure management plan is suitable for patient’s situation.** |
| Page & Wessely (2003) | Multiple referrals can lead to conflicting explanations from different physicians.  Sensory experience tends to outweigh negative tests for patients. Those with psychiatric/psychological comorbidity may be made worse (more anxious) by negative tests. Investigations may detect minor abnormalities which become hypothesis-generating. |
| **Paskins, et al. (2014)** | **Phrases mean different things to GPs and patients. Example of ‘wear and tear’, which GPs reported using to facilitate acceptance and prevent negative emotions, actually conveys negative meaning for a lot of patients.**  **Beliefs about symptoms being ‘normal for age’ are modified by shared experiences of friends and family, and the societal view of ageing.**  **Patients value education about their condition, but GPs can avoid labelling OA and do not consider it a disease, therefore it does not warrant patient education.**  **A mismatch may exist between physicians approaching OA from a perspective of acceptance, while patients may feel they have more control over their symptoms.**  **Emotions dominate decisions more in patients with lower numeracy or slower cognitive processing – this leads to age-related and social disparities in care.** |
| **Van Ravesteijn, et al. (2012)** | **Tests are ordered by GPs to provide reassurance to patients, but RCTs found no differences in reassurance levels of intervention and control groups at follow-up.** |
| Salmon (2006) | Tests, referrals or invitations to return can increase worries rather than reassure.  Explanations can fail to reassure if they do not address patient’s concerns, are not based on evidence or are contradicted by other physicians.  Reassurance can increase dependence: appearing to deny legitimacy of patient’s complaints compels the patient to continue asserting them. |
| Street, et al. (2009) | Lack of clear clinical evidence may complicate decision, and can lead to conflicting recommendations from different physicians.  Patients may not understand clinical information and physicians may not know how to communicate it in the patient’s personal context. Physicians often understand risk differently, i.e. epidemiologically whereas patients view it personally. |
| Taylor (2009) | Choice of language has a major bearing on patient participation, both in terms of literacy and in comprehension (of risk) and confidence. Risk can be presented in different ways, and patients may not understand terminology; physicians frame risk explanations according to their personal perspective. Linguistic and cultural barriers can also arise. |
| **Bold** text indicates a paper with a high quality score (>4) | |

Seemingly small things, such as a physician introducing himself as “doctor [surname]” while referring to the patient by their first name, can signal a power differential and inhibit rapport ([Frankel & Stein, 1999](#_ENREF_74)). Micro-level communication problems, such as a patient asking a lot of questions, somebody erroneously entering the room, or the phone ringing all have the potential to derail a conversation between physician and patient, and require split-second responses from physician to prevent this ([Hulsman, 2009](#_ENREF_115)).

Young adults have reported finding their physicians unfriendly, insensitive or cynical, and Davey et al.’s ([2013](#_ENREF_43)) high quality narrative review suggests that this can act as a barrier to future use of health services for young adults. Additionally, patients, particularly those who are apprehensive or emotional, are highly receptive to non-verbal cues from their physicians ([Main, et al., 2010](#_ENREF_165)). As a result, if there is a discrepancy between what the physician is verbalising and what their facial expressions or body language suggest, patients will notice and the flow of the interaction may be impeded. Forming relationships with patients can be a delicate balance, as Mauksch, et al. ([2008](#_ENREF_171)) point out in their high quality narrative review that too much small talk may displace time for examining complicated problems, but rigidly following an agenda may compromise patient satisfaction by forgetting to make a connection or misunderstanding emotionally-laden cues about patients’ concerns.

In setting out their four-habits model for clinical encounters (see Chapter 2), Frankel and Stein ([1999](#_ENREF_74)) highlight the flaw in the traditional biomedical view of patient care that patients will have one clear problem, and that this will be the first thing they mention. Patients’ other concerns, which they may be too distressed or ashamed to disclose freely, may be missed by the physician if he/she follows this idea. As a result, the patient’s context, expectations and the impact of the problem may not be fully explored, which can lead to patients feeling misunderstood and/or misunderstanding treatment. This then leads to non-compliance and further healthcare utilisation. The authors suggest that as patients often only hint at an emotion, rather than discussing it outright, physicians need to be sensitive to what they call ‘potential empathic opportunities’, and know how to respond to draw the information out of the patient. In these cases, if the physician is not able to detect these opportunities, then patients’ issues remain unstated. This may help to explain discrepancies between how successful the patient and physician felt the encounter was which are sometimes found in research studies ([Epstein, et al., 2005](#_ENREF_66)).

Epstein, et al. ([2005](#_ENREF_66)) warn that patient-centred care is context-based. Some patients favour a more directive style from their physicians, and changing from this to a patient-centred approach has the potential to cause angst or friction in the relationship (although this claim is based on a study from the 1970s, and so may not hold true for patients today). Additionally, Epstein and colleagues claim that under some circumstances, exploring the patient’s perspective will focus primarily on biomedical problems rather than psychosocial issues, which is still working towards the patient-centred goal of effectively treating the patient but would not appear outwardly ‘patient-centred’. However, Taylor’s ([2009](#_ENREF_263)) critical review of patient-centredness within consultations suggests that the evidence-based medicine movement may present barriers to communication by: adopting a potentially inappropriate biomedical perspective; focusing on illness rather than individuals; excluding outlying cases which tend to be the norm in practice; and not fully recognising patients’ ability to be experts in their own illness or negotiate their own solutions. Again, it seems that a balance is required between biomedical and psychosocial approaches to data-gathering, and that problems can arise if this balance is not achieved. Over-reliance on biomedical models is a particular problem for patients with medically unexplained symptoms, according to Taylor ([2009](#_ENREF_263)), because physicians who reason in a hypothetical-deductive style tend to formulate theories early and ‘test’ them against the patient. A consequence of this is the increasing tendency towards medicalisation, where the patient’s account can only be legitimised by diagnosis and treatment. Taylor points out that, while this may be a problem of the physician’s approach to the patient, at times it is the patient who seeks reductionist explanations for their symptoms and therefore creates tension in the relationship when none are forthcoming.

### 7.3.2.4 Data-giving

As well as a biomedical perspective, the use of biomedical language can be alienating to patients ([Taylor, 2009](#_ENREF_263)), and they may interpret its use as a sign that the physician is uncaring ([Charlton, et al., 2008](#_ENREF_28)). In terms of reassurance, biomedical language can be especially problematic, as patients understand medical terminology in a different way to physicians ([Coia & Morley, 1998](#_ENREF_32)). Words and phrases used by physicians with the intention of being reassuring can actually cause alarm in patients. Paskins, et al. ([2014](#_ENREF_194)) give the example of ‘wear and tear’, which GPs report using in reference to osteoarthritis to facilitate acceptance and prevent negative emotions, but which actually conveys negative meaning for a lot of patients. Terms used by physicians such as ‘heart pain’ or ‘early ulcer’ can be interpreted to mean a poor prognosis, and even non-specific diagnoses can do harm if the patient has witnessed someone with the same diagnosis experiencing a poor outcome ([Kathol, 1997](#_ENREF_127)). Patients’ understanding of biomedical terms is influenced by their experiences (such as their own past experiences with a condition, or having known family or friends with the same problem), and so their emotional response to hearing certain phrases may differ drastically from the physician’s intention. As well as misunderstanding specific terms, patient comprehension (or lack thereof) of information about clinical evidence can create a barrier to communication ([Street, et al., 2009](#_ENREF_260)). Low literacy and numeracy, less formal education, and slower cognition can impact on how systematically patients are able to process this information, and can lead to decisions being made based on emotions rather than a thorough analysis of what has been presented to them ([Epstein, et al., 2004](#_ENREF_65); [Epstein & Peters, 2009](#_ENREF_67)). While physicians tend to understand risk more epidemiologically, patients view it personally ([Street, et al., 2009](#_ENREF_260)), and responses may be skewed by, for example, time frame (as future events carry less weight than current ones) or perceptions of quantity and value (i.e. a ‘more-is-better’ heuristic approach to treatment). This presents a challenge to physicians in terms of how they present clinical information to patients, to ensure understanding and sound decision-making, and will impact on the success of any cognitive reassurance delivered: to effect a change in patients’ illness cognitions, the reassuring messages need to have been properly understood. It is important for physician to be aware of this, because physicians can subtly influence patient preferences, for example by the way they frame outcomes (i.e. in positive or negative terms) or by presenting a favoured option first, making it seem like the middle of the road, highlighting its benefits, or using a different tone of voice ([Epstein & Peters, 2009](#_ENREF_67); [Taylor, 2009](#_ENREF_263)).

Problems can arise within consultations if the information presented to patients is not suited to their individual needs, preferences, and situation ([Buchsbaum, 1986](#_ENREF_23); [Mauksch, et al., 2008](#_ENREF_171)). Salmon ([2006](#_ENREF_233)) states that explanations can fail to reassure if they do not address patients’ concerns. Paskins, et al.’s ([2014](#_ENREF_194)) high quality narrative review found that a disparity may exist between the way physician and patients approach the management of osteoarthritis, in that physicians take the perspective that the patient needs to accept their symptoms, whereas the patient may feel they have more control over their symptoms and want to take a more proactive approach to controlling them. Additionally, patients highly value education about their condition, but GPs can avoid labelling OA and do not consider it a disease, therefore feel that it does not warrant patient education. As a result, patients are not receiving the information they desire ([Paskins, et al., 2014](#_ENREF_194)). Patients with musculoskeletal problems can also face this problem, as physicians taking a narrowly biomedical view restricts exploration of the cognitive and emotional impact of pain, and so these factors are not integrated into the explanations given to patients ([Main, et al., 2010](#_ENREF_165)).

For some physicians, diagnostic tests are believed to be more persuasive to patients than verbal explanations ([Linton, et al., 2008](#_ENREF_157)). However, there is evidence that ordering and reporting test results can either simply fail to reassure, or even make anxiety worse ([Salmon, 2006](#_ENREF_233)). In a high quality systematic review of 5 RCTs on the effects of ordering diagnostic tests (for mixed groups of patients defined only as ‘outpatients’), van Ravesteijn, et al. ([2012](#_ENREF_280)) found no difference in reassurance levels between intervention and control groups at follow-up, suggesting that having tests ordered was not, in fact, of any value in reassuring patients. Page and Wessely ([2003](#_ENREF_189)) offer some insight into why negative tests may not be as reassuring as physicians believe them to be. Firstly, sensory experience tends to outweigh negative tests for patients. In other words, patients are experiencing symptoms, and a scan or blood test which tells them nothing is wrong does not make these symptoms disappear. Investigations may also detect minor abnormalities which can become hypothesis-generating (i.e. presumed by patients to indicate that something is wrong), particularly for patients with psychiatric or psychological comorbidity. With the potential to make patients feel worse, physicians must be careful when ordering or reporting tests, and must be conscious that extra reassurance may be required.

Negative tests, along with affective reassurance and no-disease statements, include, by definition, a certain amount of ambiguity ([Coia & Morley, 1998](#_ENREF_32)). Patients may wonder: if there is no indication of disease – then what *is* wrong? Because, for them, *something* is wrong and is causing their symptoms. While no-disease statements are given by physicians with the intention of being reassuring, they are not always interpreted this way by patients. Linton, et al.’s ([2008](#_ENREF_157)) topical review of reassurance for patients with pain emphasises some of the pitfalls of this type of reassurance. By emphasising the mildness of a condition, physicians can actually increase a patient’s worry for future pain and disability. Additionally, when patients experience the information they are given by their physician (such as ‘there is nothing wrong’ or ‘I wouldn’t worry, if I were you’) as a lack of understanding of the legitimacy of their complaint, they tend to exert their claims more forcefully. This is supported by Salmon ([2006](#_ENREF_233)) who states that, for patients with idiopathic symptoms, appearing to deny the legitimacy of patients’ complaints compels the patient to continue asserting them, and can therefore increase dependence on the healthcare system as patients continue to stress the importance of their symptoms until physicians offer more tests or investigations. Tied in with offering no-disease explanations to patients is an unavoidable element of uncertainty, and expressing uncertainty with patients can be unwelcome and cause them to lose trust ([Elwyn, et al., 1999](#_ENREF_62); [Epstein, et al., 2005](#_ENREF_66)). This is a delicate topic for physicians, as avoiding discussions of uncertainty may lead to incomplete patient understanding of a critical decision, but overemphasis can lead to lost patient confidence ([Epstein, et al., 2004](#_ENREF_65)).

## 7.3.3 Solutions

Table 7.4 summarises the proposed solutions to communication barriers. If the suggestion was supported by a cited research study, it was considered evidence-based. If no citation was offered, the suggestion was categorised as not evidence-based, and if the authors offered a citation to a secondary source, e.g. another review paper or textbook chapter, the evidence base was marked as unknown. Out of 39 suggested solutions, only 14 (35.90%) were directly supported by research evidence. A further 5 (12.82%) were supported by secondary sources, but more than half (51.28%) were offered without any evidence, and so cannot presently be considered any more than the authors’ opinions (expert opinions though they may be). Therefore, only the proposed solutions which were supported by some evidence will be considered here.

### 7.3.3.1 Implicit Reassurance

Only four evidence-based solutions which concerned implicit reassurance were offered in the included papers, with a further two supported by unknown evidence. Davey, et al.’s ([2013](#_ENREF_43)) high quality review of young adults’ experiences of primary care suggests that young people feel that physicians need to be civil, respectful, kind, sympathetic and understanding. Salmon ([2006](#_ENREF_233)) advises that physicians show empathy for patients’ suffering as a way to ‘legitimate’ patients’ suffering without increasing medical dependence. Quill ([1989](#_ENREF_212)) also recommends empathy and legitimation, along with recognition of the problem, acknowledgement of patients’ feelings, and explorations of the patient’s situation as ways to overcome barriers within clinical communication. Frankel and Stein ([1999](#_ENREF_74)) offer more detail on how empathy can be used and expressed within consultations, but the evidence upon which these suggestions are based is unclear. They highlight the need for physicians to be sensitive to what they call ‘potential empathic opportunities’, in which a patient may hint at an emotion without stating a problem outright, so that the physician can invite the patient to say more about it. This idea is also offered (with a supporting citation) by Mauksch, et al. ([2008](#_ENREF_171)), who say in their high quality review that when cues within the interaction indicate that a patient needs to tell a story, the physician should listen. In terms of conveying empathy, Frankel and Stein ([1999](#_ENREF_74)) recommend using five types of responses: reflection (“I can see that you are ...”), legitimation (“I can understand why you feel ...”), support (“I want to help”), partnership (“let’s work together”) and respect (“you’re doing great”).

### 7.3.3.2 Explicit Reassurance

Ten evidence-based recommendations for explicit reassurance behaviours as solutions to communication problems were found, with a further two supported by secondary sources. Explicit reassurance is concerned with giving information and explanations to patients, and the solutions to communication barriers found in the included reviews suggested ways of deciding what information to offer and how to present it. Epstein and Peters ([2009](#_ENREF_67)) state that physicians must balance the sins of commission (i.e. unduly influencing patients’ decisions in favour of the physician’s preferred management option) against the sins of omission (i.e. allowing patients to misunderstand options or consider an incomplete option set). They note, however, that little research exists to guide how clinicians should engage in shared deliberation with patients, and offer some suggestions which they acknowledge lack empirical validation (see Table 7.4). Linton, et al.’s ([2008](#_ENREF_157)) review suggests that effective reassurance should include specific information with a clear message, in line with current guidelines, although they include the caveat that the effect size for this approach’s effect on beliefs and outcomes is fairly small. Explanations which empower and exculpate patients are also recommended, so that patients feel they have some influence over their symptoms ([Page & Wessely, 2003](#_ENREF_189)) and the opportunity to either self-manage and/or begin to accept and tolerate symptoms is presented ([Salmon, 2006](#_ENREF_233)). Epstein, et al. ([2004](#_ENREF_65)) advises achieving balance by explaining the limitations of what is known, while assuring the patient that this represents the ‘imperfections’ of medical science, rather than a lack of competence on the physician’s part, although the evidence-base for this suggestion is not clear.

Several of the reviews agree on the benefits of individualising information and explanations according to each patient’s abilities and needs. Buchsbaum ([1986](#_ENREF_23)) states that messages must be individualised to patients’ cognitive function, education, cultural background, prominent personality features, as well as considering how the message might affect them (although it is not clear on what evidence this assertion is made). Salmon and Young’s ([2005](#_ENREF_236)) advice is to ask what the functions of being offered information and choices may be for the patient. If the patient is finding having to choose overwhelming or distressing, the physician may judge that it is better to adopt a more paternalistic approach. Taylor ([2009](#_ENREF_263)) sums up the need to individualise explicit reassurance messages when he writes that physicians need the skills,

“to be aware of and adapt to the needs, knowledge and values of the individual patient and of balancing the autonomy of the individual with the evidence from the population.” ([Taylor, 2009, pp. 153](#_ENREF_263))

He notes that this may lead to what the physician considers to be an ‘irrational’ choice by the patient, but suggests that it may help to build a more honest relationship over time. Epstein, et al. ([2004](#_ENREF_65)) proposed that graphical representations of numerical data or decision-aid programmes may facilitate patient understanding, which may be particularly relevant for patients with low health literacy. Davey, et al. ([2013](#_ENREF_43)) also offer advice on how to individualise information for young adults, such as using appropriate media and relating explanations to aspects of care which they find important, although they do not elaborate on what these aspects of care might be.

Finally, Quill’s ([1989](#_ENREF_212)) review of barriers to communication offers a range of practical solutions for when conflict arises between patients and physicians. He recommends attempting to separate the people from the problem (e.g. by suggesting that both are frustrated by the patient’s symptoms, not by each other); clarifying the conflict by asking the patient to discuss his or her frustrations openly and doing the same in return; brainstorming together about possible solutions; establishing the common interest of making the patient feel better; using objective criteria where possible; and inventing new solutions where both parties gain.

Table 7.4 – Summary of proposed solutions to barriers to communication

| **Citation** | **Implicit Reassurance** | | **Explicit Reassurance** | |
| --- | --- | --- | --- | --- |
|  | **Solution** | **Evidence-based?** | **Solution** | **Evidence-based?** |
| Buchsbaum (1986) |  |  | Messages must be individualised to patients’ cognitive function, education, cultural background, and prominent personality features, as well as the circumstantial impact of the message. | **?** |
| **Charlton, et al. (2008)** | **Patient-centred communication strategies** |  |  |  |
| Coia & Morley (1998) | Physician must communicate three feelings to the patient: that he/she is sympathetic, understands the origin of the symptoms, and is not frightened by the symptoms. |  |  |  |
| **Davey, et al. (1999)** | **Physicians need to be civil, respectful, kind, sympathetic and understanding.** | **✓** | **Present information in a way which addresses young adults appropriately, uses appropriate media, and relates to aspects of care they find important.** | **✓** |
| Epstein & Peters (2009) | Physicians should help patients deal with transient increases in anxiety that accompany an appreciation of complexity and greater choice. |  | Physicians must balance the sins of commission (unduly influencing patients’ decisions) and sins of omission (allowing patients to misunderstand or consider an incomplete option set). | **✓** |
| Physicians can reflect on whether patients have really understood the relevant options. |  |
| They can help patients reflect on whether their preferences are stable by suggesting that preferences can change after learning more about the benefits and risks, introducing doubt, and uncoupling short-term emotions from long-term utility. |  |
| Epstein, et al. (2004) |  |  | Graphical representations of numerical data or decision-aid programmes may facilitate patient understanding. | **✓** |
| Achieve balance by explaining the limitations of what is known while maintaining confidence that this represents the imperfections of medical science rather than a lack of competence of the practitioner. | **?** |
| Physicians must differentiate recommendations based on evidence from those based on personal experience or bias. |  |
| Check patient understanding after presenting evidence and recommendations. |  |
| Epstein, et al. (2005) | Responsiveness and flexibility should be considered fundamental qualities of patient-centred care. |  |  |  |
| Eliciting patient preferences clarifies whether the health outcomes targeted are those most important to the patient, and can avoid mistaking a physician-defined ‘good’ for what the patient really wants. |  |
| Frankel & Stein (1999) | Match terms of address by using the same terms with which the clinician would like to be addressed. |  |  |  |
| Prioritising (using positive language to set limits on what can be accomplished) and time-framing (stating the amount of time available and asking the patient to state the issues of highest concern) can save time and distress. |  |
| Physicians need to be sensitive to “potential empathic opportunities” and can invite the patient to say more about it. | **?** |
| Using five types of responses to convey empathy: reflection, legitimation, support, partnership, and respect. | **?** |
| Hulsman (2009) |  |  | Effective goal-oriented medical communication comes down to constantly monitoring shifting goals, accurately detecting patient responses, and responding adequately in solving each of them. |  |
| Kathol (1997) |  |  | Include the phrase “at the current time” when telling patients they have no serious illness. |  |
| Linton, et al. (2008) |  |  | Provide specific information with a clear message in line with current guidelines. | **✓** |
| Demonstrate that the physician understands the patient’s problem, and that the problem is legitimate. |  |
| Main, et al. (2010) | Establish eye contact, and signal attention and willingness to listen. |  | If there is a mismatch between what physician and patient thinks is best, negotiation is needed, which should include management of the patient’s expectations. |  |
| Set the low back pain in context (e.g. age-related change), but do not imply that it is therefore not important. |  |
| **Mauksch, et al. (2008)** | **As relationships develop, physicians can perform a small ‘check-in’ to re-establish the relationship.** |  |  |  |
| **When the patient’s emotional cues reveal the patient’s need to tell a story, the physician should listen.** | **✓** |
| Page & Wessely (2003) |  |  | Empowering explanations, which make patients feel they have some influence over their symptoms, are most beneficial. | **✓** |
| Quill (1989) | When strong feelings emerge in the exploration, the physician can express empathy and legitimation, thereby creating an environment of shared trust. |  | Negotiation strategies to resolve conflict: separate people from the problem; clarify the conflict; brainstorm about possible solutions; focus on common interests, not positions; use objective criteria where possible; invent new solutions where both parties gain. | **✓** |
| Advises using recognition, acknowledgement, exploration, empathy and legitimation to overcome barriers. | **✓** |
| When the barrier is primarily the physician’s, he/she must weigh the benefit of explicitly acknowledging it, or of adjusting to it on his/her own. |  |
| Salmon (2006) | Show empathy for patients’ suffering. | **✓** | Explanations can exculpate patients, and empower patients by indicating the opportunity for self-management or by just accepting a tolerating the symptoms. Appropriate explanations will incorporate cultural beliefs and popular metaphors, and will take account of the negative meanings that patients attach to many medical terms. | **✓** |
| Salmon & Young (2005) |  |  | Ask what the functions of being offered information and choices may be for the patient. | **✓** |
| Taylor (2009) |  |  | Individualise and interpret the evidence appropriately whilst taking into account patients’ unique circumstances and preferences. | **✓** |
| Physicians need the skills “to be aware of and adapt to the needs, knowledge and values of the individual patient and of balancing the autonomy of the individual with the evidence from the population.” pp. 153. While this may lead to an ‘irrational’ choice on behalf of the patient, it may help to build a more honest relationship over time. | **✓** |
| **✓** evidence-based;no evidence base; **?** unknown  **Bold** text indicates a paper with a high quality score (>4) | | | | |

# 7.4 Discussion

## 7.4.1 Discussion of Findings

The results indicated that there is potential for communication problems to arise at many stages throughout the consultation and from many sources. Further, with the potential for so many pitfalls along the way, it may be that a combination of multiple barriers to communication could be present within each consultation. Findings were separated into four categories according to where issues with communication might originate: patient and problem characteristics; practitioner and setting characteristics; the data-gathering stage of the consultation; and the data-giving stage of the consultation. Patient and problem characteristics which were reported to affect communication included specific impairments such as loss of hearing; demographic factors such as age, gender, race, and socioeconomic status; psychological factors related to mood, concerns and beliefs as well as personality characteristics; and patients’ expectations and preferences. Physician gender was related to communication, with female physicians reported to show more empathy and partnership-building behaviours, as well as spending longer with patients. Personal and psychological factors for physicians were also found to affect communication, including how comfortable they are with patients’ problems and their practical orientation (as physicians with more biomedical views are reported to communicate more poorly with patients), as was a lack of training. Factors related to the setting of consultations also play a role, including the practice itself and the amount of time available for each patient. In the early stages of consultations, if patients are not made to feel listened to, understood and valued, they are less likely to divulge their concerns and communication later in the consultation can suffer. The reviews included in this study highlighted a need for physicians to be sensitive to context and individual differences between their patients, as failure to respond to patients’ needs and preferences within the consultation can lead to too narrow a focus on biomedical problems rather than patients as people. Finally, when offering feedback and information to patients, the findings highlighted the importance of using appropriate language which can be understood and does not cause alarm for patients. Further, if information and reassurance is not individualised to patients’ unique situations, they can fail to comfort patients as intended. The reviews included here also stressed the need to reduce ambiguity in discussions with patients, as uncertainty can be interpreted as a lack of understanding of patients’ problems or could lead patients’ to lose trust in their physicians’ ability to help them.

With regards to patient characteristics which can hamper communication, a large number that were reported in this review are beyond patients’ control (such as age, sex, race, culture and education level, or specific impairments such as hearing or sight loss). While the differences in quality of interpersonal care between such groups can make for uncomfortable reading ([such as Roter, 2003, who reports the finding that 11-15% of ethnic minority patients felt they would receive better care if they were of a different race or ethnicity](#_ENREF_229)), the reasons why these factors impact upon how well physicians communicate with specific patient groups were not often elaborated upon within the papers reviewed here. Robinson, et al. ([2008](#_ENREF_224)) recommend the use of methods to increase patient involvement in treatment to combat such barriers, and there is evidence that such methods can be effective. For example, Griffin, et al. ([2004](#_ENREF_87)) found that interventions delivered directly to patients showed a positive effect on any health outcome in 6 of 8 RCTs systematically reviewed (although this was significant in only four of the studies), and no negative effects, and that patient activation improved health outcomes in 15 of 17 studies (significantly in 9). However, as only around half of the studies included showed significant improvements in outcomes for patients, there is more work to be done on finding patient-based interventions which can consistently improve communication outcomes. Interventions targeted at physicians are equally unconvincing: a systematic review by Lie, Lee-Rey, Gomez, Bereknyei and Braddock ([2010](#_ENREF_149)) of seven mixed-methods studies found only limited support for the effect of cultural competency training for physicians across healthcare settings, suggesting a need also for more work on physician-based interventions. Finally, a clear gender gap emerged between male and female physicians in their interaction styles, which could imply a need for more focused training on male physicians’ medical interviewing techniques.

Patients’ psychological and emotional status has also been shown to be a potential barrier to communication and reassurance. In particular, highly emotional or anxious patients respond less well to reassuring messages ([Main, et al., 2010](#_ENREF_165); [Quill, 1989](#_ENREF_212)). A core concept of patient-centredness, and one which is stressed repeatedly in medical communication literature, is exploring the patient’s psychosocial context as well as their biological problem (e.g. [Haidet & Paterniti, 2003](#_ENREF_91); [Levenstein, et al., 1986](#_ENREF_147)). If this is not done, the patient may not feel heard or taken seriously, the physician may miss problems which the patient does not freely elucidate, and the information provided by the physician may fail to address patients’ core concerns. By exploring patients’ fears, feelings and expectations, the physician should be able to detect when a patient is especially worried or emotional, and alter their communication style accordingly. Psychological factors on the side of the physician can also impact on how well they communicate with a patient. A more heavily biomedical orientation has also been shown to hinder interactions, particularly with patients with non-specific symptoms ([Main, et al., 2010](#_ENREF_165); [Page & Wessely, 2003](#_ENREF_189); [Taylor, 2009](#_ENREF_263)). It seems strange to read that after more than 30 years of patient-centred approaches to care, some physicians still regard empathic explanations as separate from their ‘real’ medical role ([Salmon, 2006](#_ENREF_233)). This may be a general attitude which perhaps still needs to be tackled before we can see improvements within individual consultations, and may explain why even after focussed training, physicians can still fail to perform empathic tasks ([Campion, et al., 2002](#_ENREF_25)).

Characteristics of the practice environment or the time of the appointment can create barriers before the patient even enters the physician’s office ([Hulsman, 2009](#_ENREF_115); [Norfolk, et al., 2007](#_ENREF_180)), and the presence of companions within the consultation can detract focus from patients ([Roter, 2003](#_ENREF_229)). It is the limited amount of time available during consultations, though, which often frustrates both patients and physicians and inhibits relationship development and information provision on both sides ([Charlton, et al., 2008](#_ENREF_28); [Coulter & Elwyn, 2002](#_ENREF_37); [Frankel & Stein, 1999](#_ENREF_74); [Hulsman, 2009](#_ENREF_115); [Paskins, et al., 2014](#_ENREF_194)). In the UK General Practice Survey, it was found that GP partners held an average of 87 surgery consultations per week, equivalent to an average of 11.7 minutes per consultation. In addition they had an average of 17 telephone consultations that lasted on average 7.1 minutes each ([Stones, et al., 2007](#_ENREF_257)). With some patients bringing multiple concerns or problems to consultations, and the need to take a full history, examine the patient and provide diagnostic and treatment advice, providing effective reassurance would have to be extremely efficient to be achievable in the time available. Mauksch, Dugdale, Dodson and Epstein ([2008](#_ENREF_171)) reviewed 9 available studies on improving the quality of consultations without increasing their length, and found that, for example rapport-building is achievable and beneficial within the time constraints of the medical encounter. They recommend small gestures such as “a warm greeting, eye contact a brief nonmedical interaction, or checking on an important life event [which] can occur within less than a minute” ([Mauksch, et al., 2008, pp. 1389](#_ENREF_171)). Additionally, as relationships develop through time and the physician and patient become more familiar with one another, a brief ‘check-in’ may become sufficient to re-establish the relationship.

The review papers studied here described a high level of intolerance, on the part of both physicians and patients, for uncertainty and ambiguity. What is clear is that affective reassurance on its own (such as offering no-disease statements or advising the patient that there is nothing seriously wrong) is not acceptable to some patients, particularly those who are highly anxious, and they will continue to assert their problems as a result ([Linton, et al., 2008](#_ENREF_157); [Salmon, 2006](#_ENREF_233)). As far as patients are concerned, they are in pain, or experiencing unpleasant symptoms, and that is a far more convincing message that there is, in fact, something wrong, than a physician telling them that there is not. Without the provision of information about what *is* wrong, it is not much use to patients to hear what the problem *isn’t*. Epstein, et al. ([2004](#_ENREF_65)) suggest that a balance can be achieved in discussions of uncertainty by explaining the limitations of what is known while maintaining confidence that this represents the imperfections of medical science rather than the physician’s lack of competence. However, when patients experience anxiety in the face of any uncertainty, it may be inadvisable to explicitly state that the physician does not know what the problem is. The key may instead be in giving the impression of certainty, such as Linton, et al.’s ([2008](#_ENREF_157)) suggestion that physicians provide specific information with a clear message in line with current practice guidelines. Physicians need to demonstrate that they understand the patient’s problem, and that it is legitimate. This corresponds to Coia and Morley’s ([1998](#_ENREF_32)) advice that physicians must communicate three feelings to the patient: that they are sympathetic, understand the origin of the symptoms, and are not frightened by the symptoms, and Page and Wessely ([2003](#_ENREF_189)) and Salmon ([2006](#_ENREF_233)) who assert that it is benign and empowering explanations, which make patients feel they have some influence over their symptoms, that are most beneficial. This also relates to the finding in Chapter 4 that although patients were appreciative of implicitly reassuring behaviours, their concerns were only addressed through explicit explanations.

## 7.4.2 Strengths and Limitations

A vast number of review articles on the topic of physician-patient interactions exist. For the purposes of this review, 32 were selected which included a discussion of barriers to communication within the consultation. Of these, the majority were narrative analyses of the topic, with only 5 taking a systematic or meta-analytic approach. The reason for this relative paucity of systematic investigations within the selected papers seemed to be because systematic reviews had a more specific research question, compared to narrative reviews which tended to offer a broader focus. Because it is usually effective communication which is the topic under review, barriers to communication were not as often explored in systematic analyses. Nonetheless, narrative or other non-systematic reviews tend to be written by experts within the field and so can be considered to offer valuable insight in themselves. None of the papers included here were written by authors outside of America or Europe, which reflects a strong bias towards Western medicine and medical practice.

The use of review papers as a source of data has both benefits and drawbacks. Reviews, particularly systematic and meta-analytic reviews, represent a bringing together of available evidence, and therefore each offers more insight into a subject area than individual studies. However, in using review papers as a data source, the opportunity to assess the original evidence is removed. A review paper must be relied upon to have presented the best available evidence, but this is not always the case. The quality criteria utilised in this study were based on checklists for what review papers should be reporting about their data sources ([Oxman, 1994](#_ENREF_188); [Weed, 1997](#_ENREF_291)). Only a quarter of the papers achieved the required score to be classed as high methodological quality, and some papers failed to score any points at all (Table 7.2). Study identification, selection and appraisal, and data collection and synthesis were not reported in a large number of the reviews included here, and so it is impossible to say whether or not the authors had been rigorous in their inclusion of evidence or whether personal bias played a role in what had been included. One narrative review ([Paskins, et al., 2014](#_ENREF_194)) included a systematic search for papers, and scored highly for methodological quality, demonstrating that it is not only systematic reviews and meta-analyses which can be considered comprehensive. Finally, more than half of the solutions which were offered as a way to remedy communication barriers were not supported by any evidence that they actually work and so are indistinguishable from the authors’ opinions. This was controlled for in the analysis by only including evidence-based suggestions in the results.

## 7.4.3 Implications and Conclusions

This review highlighted that there are several potential areas for improvement in the way physicians and patients communicate. More work is certainly needed to develop successful interventions which empower patients to voice their concerns and opinions within consultations, particularly for patients who come from marginalised groups. Previous interventions have focused on individual ‘training’ for patients, and have been shown to have moderate effects. However, this approach is not feasible for reaching large groups of patients either in terms of cost or effort for both patients and healthcare providers. Interventions must be simple to deliver (for example, information posters) and easily accessible to all patients if they are to be successful in widely improving patients’ ability to communicate their position within consultations. It is also apparent that physicians must be aware of and reflect on their personal biases (whether towards groups or specific patients) and the ways in which their own state of mind can affect their practice. Physicians cannot be expected to be free from all psychological vulnerability, but the findings here suggest a possible need for increased support for physicians in managing personal struggles which are either caused by or affect their work with patients. Finally, the findings of this review offer areas of specific focus for physicians’ communication training. These include emphasis on the early stages of the consultation, enabling physicians to elicit patients’ full stories and to feel confident that they can detect and respond to cues that there might be something more going on than has been revealed; guidance on managing time pressures in order to achieve a large number of communication tasks within relatively short consultations; and a focus on providing explanations, particularly to patients whose illnesses include high levels of uncertainty, which empower and exculpate patients and are appropriate to each patient individually.

Providing reassurance to patients is not a simple process, and can be influenced by many factors both external to and within the consultation. What emerged in this analysis is a need to elicit all of a patient’s issues, including those which they do not freely volunteer into the consultation. By being empathetic in the early stages of the consultation, physicians can allow patients the space to discuss these issues, and therefore the information which they provide to patients will be relevant and useful to their individual situation. Ensuring patient understanding of information is key, and so explanations must be individualised based on both patients’ cognitive abilities or education level and their specific perceptions of their symptoms. Finally, ambiguity is to be avoided as far as possible, such that patients are made to feel exculpated and empowered to manage their symptoms by the messages they receive from physicians.

Chapter 8: Discussion

The objective of this PhD study was to explore what constitutes effective reassurance for patients with acute low back pain when consulting primary care physicians. Early reassurance during primary care consultations has the potential to address patient concerns and change maladaptive beliefs about low back pain before they have a chance to negatively affect the course of a patient’s recovery. However, how to reassure patients in a way which achieved this remained largely unknown ([Linton, et al., 2008](#_ENREF_157)). In this thesis, the current literature on low back pain, doctor-patient communication, and reassurance was examined systematically. Interviews with patients with low back pain were conducted to understand what matters to patients in making them feel reassured, and this information was used to inform the development of a scale to measure reassurance during primary care consultations. This scale was validated in a sample of patients with low back pain, and was used in prospective cohort analyses to assess whether reassurance impacts on subsequent levels of disability and other pain-related outcomes. Finally, barriers to delivering effective reassurance were examined through content analysis of existing literature.

# 8.1 Discussion of Findings

## 8.1.1 Components of Reassurance

In this thesis, a model was proposed, based upon a theory informed by persuasion research ([Coia & Morley, 1998](#_ENREF_32)), in which reassurance during low back pain consultations was split into cognitive and affective components ([Pincus, et al., 2013](#_ENREF_202)). Affective reassurance is emotional; it appeals to patients’ fears and tells them not to worry and that things will be fine. Affective reassurance, then, is concerned with providing reassurance in its purest sense: making patients feel better, or less anxious, then and there. Cognitive reassurance, however, is focused on the beliefs which underlie patients’ fears, and takes an educative approach in order to allow patients to cope better with their symptoms. While educating patients may appear to be a distinct concept from reassurance, if we consider Linton, et al.’s ([2008](#_ENREF_157)) definition of reassurance (see Chapter 2), it becomes clear that providing information can be an effective way of reassuring patients. In particular, the aim of reassurance being to remove “the fears or doubts” of pain or illness is something which can be achieved by providing the patient with credible explanations for their symptoms which are not frightening. Additionally, Linton, et al.’s suggestion that reassurance is only achieved if the patient changes his/her behaviour requires that the illness perceptions which influence behaviour are tackled. Coia and Morley’s ([1998](#_ENREF_32)) paper claims that it is only cognitive reassurance which can provide the temporally and situationally stable changes in illness perceptions necessary for patients’ anxiety not to return in the absence of a reassuring physician. A systematic review of the literature supported this proposition, as it was found that only cognitive reassurance showed significant positive effects on long-term outcomes. Affective reassurance was associated with improved patient satisfaction, indicating that emotionally-reassuring behaviours are valued by patients, but failed to consistently predict improvement in symptoms, mood, or functioning beyond the end of the consultation.

What has emerged through the course of this PhD study is that as well as a distinction between affective and cognitive reassurance, there is also a difference between implicit and explicit reassurance. The findings from qualitative interviews with patients with low back pain indicated that patients feel reassured by subtle aspects of the consultation which physicians may not be aware are part of reassurance. The main elements of this type of implicit reassurance are a feeling of being taken seriously, a perceived alliance with the physician, and feeling that the physician is available and accessible. Implicit reassurance, by its nature, is inextricably linked to affective reassurance: both represent elements of the consulting process which make patients feel instantly more at ease. Explicit reassurance, by contrast, is found in what the physician is saying. Explicit reassurance can be cognitive or affective. Explicit, affective reassurance statements could be, for example, “I am not worried that there is something seriously wrong with you,” or “you are going to be fine”. Telling patients that there is nothing seriously wrong with them was found to be an important part of reassurance. However, the participants in this sample appeared to require further explanation in order to accept no-disease explanations. For example, one participant described going “back to the drawing board again” after being told that there was no physical problem in his hips. It was explanations of the physiology of the back and how pain could arise which had helped participants to both cope with their pain and understand their treatment plans better. Peter Salmon’s work on patients with MUS complements these findings, as he recommends providing explanations which offer clear biological mechanisms for symptoms in a way which does not blame the patient but suggests that there is something they can do about it as the way to provide effective reassurance ([Salmon, 2006](#_ENREF_233); [Salmon, et al., 1999](#_ENREF_235)). Illnesses characterised as MUS, such as irritable bowel syndrome or chronic fatigue syndrome, share common features with non-specific low back pain in that they involve the experience of (distressing) symptoms with no identifiable physical cause. Consultations for these conditions can be stressful for both patients and physicians, as physicians are challenged by the symptoms and can feel that they are not in control of the problem, and patients can experience their physicians as dismissive of their experienced symptoms ([Salmon, 2006](#_ENREF_233)). When this occurs, MUS and low back pain patients have been reported to assert their symptoms more strongly, which can lead to physical interventions being offered as a way to demonstrate engagement by physicians which are often ineffective and serve to perpetuate patients’ dependence on medical care ([Linton, et al., 2008](#_ENREF_157); [Salmon, et al., 2007](#_ENREF_234)). If explanations are offered which empower patients to take control of managing their own symptoms, however, this cycle could be resolved. By providing explanations of symptoms which allow patients to understand what, physically, is happening when they are experienced, and what strategies will help to reduce them, patients can take a more active role in their illness and reliance on physicians will be reduced. These explanations can also include psychological components, although these must be handled carefully so as not to give the impression that physicians think patients are ‘making up’ their symptoms (such as one participant in the qualitative study reported in Chapter 4, who had read a letter from her GP to another physician which described her as ‘somatising’ despite not explaining this hypothesis to the patient herself, causing her great distress as she felt the GP had not believed her). Salmon ([1999](#_ENREF_235)) reports examples from interviews with patients with MUS of physicians explaining clearly how depression affects the functioning of neurones and synapses in the brain and had linked this to their symptoms. These patients had accepted these explanations, again, because they included clear reference to biological mechanisms which made it clear they weren’t to blame for, or suspected of inventing, their symptoms. The evidence suggests, then, that it is explicit, cognitive reassurance which is most valuable to patients. Affective reassurance, both implicit and explicit, was something which made patients feel better within their consultations, but it was the cognitive reassurance that they received which helped them in their daily lives. Further to this, by comparing participants’ concerns and expectations, how they were addressed within the consultation, and how well participants felt they had recovered (Table 4.5), we see again that it was only through explicit, cognitive reassurance that concerns were addressed adequately to have improved patients’ outcomes. The findings from the qualitative study are further complemented by a recent study in which 27 GPs were interviewed about the strategies they use to try to reassure their patients ([Giroldi, et al., 2014a](#_ENREF_82)). The GPs in this study reported aiming to first create an environment of trust, safety and comfort (i.e. providing implicit reassurance) before attempting to reassure patients by influencing their cognitions. This was achieved by a combination of challenging patients’ beliefs about symptoms being indicative of serious disease, and promoting the belief that symptoms are benign by offering no-disease explanations for symptoms (explicit reassurance). Again, in a parallel of the patients’ in Chapter 4 reporting that it was not reassuring only to be told what they did not have, Giroldi and colleagues report that,

“GPs described that for reassurance to be effective it was not enough to simply state that the symptoms were no cause for concern, and they used a range of strategies to persuade patients that they were mistaken in thinking they were suffering from a serious disease.” ([Giroldi, et al., 2014a, pp.7](#_ENREF_82))

It seems, then, that GPs (or, at least, some GPs) are aware that reassurance needs to be a persuasive process, which is focused on changing patients’ perceptions of their illness, and they are conscious of creating an atmosphere of trust in which the patient can feel confident that their physician knows what he/she is doing and is motivated to help. However, whether this awareness translates into successful reassurance in practice is questionable, as reports of reassurance being handled badly persist ([Linton, et al., 2008](#_ENREF_157)) and some participants in the qualitative study detailed here reported poor reassurance from their GPs ([Holt, et al., 2015](#_ENREF_106)).

The concepts of affective and cognitive, and implicit and explicit reassurance were represented in the final structure of the questionnaire developed to measure consultation reassurance. The first two subscales, data-gathering and relationship-building, represent the implicit reassurance of feeling listened to and valued by the physician. The relationship-building items were originally included with the generic reassurance items as a measure of affective reassurance. That they were identified as a separate construct when entered into Rasch dimensionality analyses further supports the distinction between implicit and explicit reassurance which deepens our understanding of how to reassure patients. The final two subscales, generic and cognitive reassurance, represent affective and cognitive approaches to explicit reassurance, respectively.

## 8.1.2 Linking Reassurance to Outcomes

The evidence presented in this thesis suggests that cognitive reassurance is more beneficial to patients than affective reassurance. A systematic review of 16 prospective cohort studies found associations between cognitive reassurance and improved outcomes. A more recent systematic review and meta-analysis of 14 Randomised Controlled Trials (RCTs) supported this finding ([Traeger, et al., 2015](#_ENREF_271)). In this study, reassurance was operationalised as an outcome of the RCTs, and was defined as any measure of fear, illness concern, worry, anxiety, catastrophisation, distress or healthcare utilisation taken after an education intervention. Traeger and colleagues found moderate- to high-quality evidence that patient education could reassure patients with low back pain when provided by primary care physicians, with effects lasting up to 12 months. The qualitative study of patients with low back pain found that explicit reassurance, made up of explanations aimed at altering patients’ cognitions, addressed patients’ concerns and helped them to cope better with their symptoms after the consultation. Implicit, or affective, reassurance, by contrast, while appreciated by patients, appeared to be neither necessary nor sufficient to address patients’ concerns. Finally, in a prospective cohort study, cognitive reassurance was found to predict improvement in symptoms for low-risk patients.

The aim of cognitive reassurance is to alter the way in which a patient thinks about their symptoms, thereby reducing distress. Campbell, et al. ([2013](#_ENREF_24)) conducted a factor analysis on the responses of patients with low back pain to a number of measures of psychological constructs in low back pain, such as fear avoidance, coping styles, and illness perceptions. They found a considerable overlap between these measures, with only four distinct constructs emerging in the final analysis. These four factors, then, may be considered as overarching concepts within psychological aspects of low back pain. They were: pain-related distress; causal beliefs; coping cognitions; and perceptions of the future. Pain-related distress was found to be the largest construct, although inter-correlations were found between the four. By providing adequate cognitive reassurance, physicians are in a position to influence patients’ causal beliefs, coping cognitions, and perceptions of the future of their symptoms, and to reduce pain-related distress by tackling maladaptive beliefs about pain (e.g. catastrophisation or fear-avoidance).

The model espoused by Coia and Morley ([1998](#_ENREF_32)) originally proposed a possible harmful effect of affective reassurance. This was based on the notion that receiving affective reassurance would reduce patients’ motivation to engage with cognitively reassuring messages, and would therefore limit their ability to cope with their symptoms. The only support for this notion within the studies presented here was the finding that increased implicit reassurance during the early stages of the consultation was associated with higher anxiety at three-month follow-up for low-risk patients. It is hypothesised that, in line with Coia and Morley’s ([1998](#_ENREF_32)) suggestion, a reduced ability to self-manage and an increased dependency on physicians to make patients feel better may result from over-provision of such affective reassurance in patients who do not require it ([Balague, et al., 2007](#_ENREF_12); [Roberts, et al., 2002](#_ENREF_222)). However, this study cannot claim to show that receiving affective reassurance reduced patients’ engagement with cognitive reassurance. Further research is required to untangle the interaction between the two types of reassurance within the dynamics of a consultation.

High-risk patients in the prospective cohort study showed an unexpected negative association between receiving more cognitive reassurance and worse outcomes (pain and function) at follow-up. The STarTBack risk stratification system ([Hill, et al., 2008](#_ENREF_103); [Hill, et al., 2011](#_ENREF_104)) recommends that high-risk patients are referred to in-depth treatment programmes, typically with physiotherapists. However, in our study, patients who had been referred to other specialists were excluded. This means that a subsample of high-risk patients had not been referred as they should have been and were captured in our sample. For such patients, in whom the presence of psychosocial risk factors indicates a need for intensive intervention, any kind of reassurance from a GP is unlikely to be sufficient. It is possible that by providing cognitive reassurance, which is focused on explanations and may involve a large proportion of biomedical discussion, physicians failed to tackle the important psychosocial issues that these patients presented with. What is clear is that the presence of ‘yellow flag’ indicators of psychosocial risk factors had been missed in these cases, and so they had not received the level of care which would have been optimal. Poorer outcomes, then, may not be altogether unexpected. Research into sub-grouping patients with the STarT Back screening tool is in its infancy ([Foster, Hill, & Hay, 2011](#_ENREF_71)), but the model of stratified care is supported by high-quality RCT evidence ([Hill, et al., 2011](#_ENREF_104)). Use of the tool has not yet been supported by sufficient evidence to have been incorporated into guidelines for the management of low back pain ([Foster, et al., 2011](#_ENREF_71); [Savigny, et al., 2009b](#_ENREF_241)), and so its use is not likely to be well-established within UK routine primary care. Increased use of sub-grouping tools for low back pain patients may assist physicians in identifying and responding to poor prognostic indicators earlier in patients’ healthcare journeys. The evidence from the prospective cohort presented in Chapter 6 supports the distinction between different levels of risk for low back pain patients, and the notion that distinct management strategies are required for each. The notion that reassurance from primary care physicians can act as an intervention in and of itself appears to hold true only for those with simple and acute presentations. When pain becomes chronic, or is complicated by the presence of maladaptive beliefs or low mood, simple patient education and reassurance is no longer sufficient ([Hill, et al., 2011](#_ENREF_104)).

## 8.1.3 Providing Effective Reassurance

In Traeger, et al.’s ([2015](#_ENREF_271)) systematic review of patient education and reassurance, it was found that educative interventions were more successful (i.e. most reassuring) when delivered by a GP than by a nurse or a physiotherapist. The authors of this paper posit that this reflects an effect of the physicians’ authority and credibility in persuading patients to change their illness cognitions. For low-risk patients, then, effective reassurance provided by a primary care physician can be a useful tool in promoting recovery.

The systematic review of barriers to providing effective reassurance in Chapter 7 found that the language used by physicians can be a key factor in patient understanding and engagement with their care. Phrases used by physicians which are intended to indicate the mildness of a condition can be misinterpreted by patients to indicate the potential for significant damage ([Coia & Morley, 1998](#_ENREF_32); [Kathol, 1997](#_ENREF_127); [Paskins, et al., 2014](#_ENREF_194)). Additionally, how clinical evidence or risk information is presented to patients must be a key consideration, as patients with lower literacy and numeracy, less formal education and slower cognition may struggle to fully understand the message the physician is attempting to convey ([Epstein & Peters, 2009](#_ENREF_67)) and patients tend to understand risk in more personal terms than are considered by physicians ([Street, et al., 2009](#_ENREF_260)). Physicians must take pains, then, to communicate in a way which is understandable to patients. Only Epstein, et al. ([2004](#_ENREF_65)) offer evidence-based approaches to tackling the problem of patient comprehension, when they suggest the use of graphical representations of numerical data or decision-aid programmes. Another approach to this may lie in simply checking patient understanding, for example by asking them to summarise what they have been told ([Maguire & Pitceathly, 2002](#_ENREF_164); [Makoul, 2001](#_ENREF_167)), which gives an opportunity to identify and correct any misunderstandings by presenting the information in a different, more accessible way.

If cognitive reassurance aims to alter patients’ perceptions of their symptoms, it is important to understand what perceptions they have. A prospective cohort study measuring a host of psychological obstacles to recovery in low back pain in a sample of 810 adult patients ([Foster, Thomas, Bishop, Dunn, & Main, 2010](#_ENREF_73)) found four main factors: patients’ perceptions that the problem will last well into the future; perceptions that many symptoms are related to their back problem; weak beliefs about personal controllability; and low confidence in their own ability to perform normal activities despite the pain. If reassurance is to be successful, then, it needs to both empower patients and to foster realistic expectations. Additionally, prior to delivering reassurance, it is advisable to gauge patients’ perceptions during the data-gathering stage of the consultation. By doing so, any maladaptive beliefs can be specifically corrected ([Frankel & Stein, 1999](#_ENREF_74); [Gask & Usherwood, 2002](#_ENREF_78); [Haidet & Paterniti, 2003](#_ENREF_91); [Paskins, et al., 2014](#_ENREF_194)).

Dowrick, Ring, Humphris and Salmon ([2004](#_ENREF_55)) offer a functional typology for how physicians can normalise unexplained symptoms (i.e. indicating that serious disease is not present, that symptoms are normal, and that intervention is not necessary). They suggest three types of response from physicians: normalisation without explanation; normalisation with ineffective explanation; and normalisation with effective explanation. What constituted an effective explanation was one which included a tangible mechanism, was related to issues which had been discussed with the patient, and was grounded in the patient’s concerns. A commonly cited barrier to providing such explanations, as found in Chapter 7, is an incomplete understanding of patients’ concerns. This may be due to a lack of skill on the part of the physician in eliciting patients’ concerns, or to a reticence on the part of the patient to divulge their concerns. Either way, there appears to be a consensus among researchers that explanations must directly address patients’ concerns and beliefs about their symptoms if they are to be effective (e.g. [Dowrick, et al., 2004](#_ENREF_55); [Frankel & Stein, 1999](#_ENREF_74); [Salmon, 2006](#_ENREF_233)). As well as concerns, it was also found to be important to adequately understand patients’ emotional or psychological issues related to their symptoms ([Epstein, et al., 2005](#_ENREF_66)) and their preferences for shared decision-making and treatments ([Elwyn, et al., 1999](#_ENREF_62); [Epstein, 2000](#_ENREF_63)), as failure to do so could result in frustrating interactions for both patient and physician.

A consensus statement issued in 2008, developed through discussion between the communication leads from all 33 UK medical schools with the aim of making recommendations for communication skills teaching for undergraduate medical students ([von Fragstein, et al., 2008](#_ENREF_285)), reviewed a number of prominent consultation models and recommendations and found that the following consultation tasks are common across models:

* Establishing and building a relationship
* Initiating (i.e. opening the consultation and setting the agenda)
* Establishing, recognising and meeting patient needs
* Gathering information
* Eliciting and considering the patient’s world view
* Conducting a physical examination
* Formulating and explaining relevant diagnoses
* Explaining, planning and negotiating
* Structuring, signposting and prioritising
* Closing (ending the interview and setting up the next meeting).

The first 6 items on this list represent implicit reassurance behaviours. By fostering a trusting relationship, eliciting the patient’s perspective, and conducting a physical examination to reassure patients that the physician is motivated to fully understand their problem, the physician creates optimal conditions for patients to receive and engage with explicit reassurance messages. If the early steps are not done correctly, the patient may mistrust the physician, or the physician may misunderstand the patient’s beliefs and so provide irrelevant information. The final four items on the list represent the explicit reassurance of diagnosis, explanations, and shared decision-making. In terms of the skills required to complete these tasks, the authors recommend the following:

* Eye contact
* Facial expression
* Attentive listening
* Screening
* Appropriate balance of open and closed questions
* Facilitation
* Empathic reflection
* Responding to cues (both verbal and non-verbal)
* Summarising
* Signposting
* Determining the patient’s starting point when giving information
* Chunking information
* Checking the patient’s understanding

Most of these skills relate to the early stages of the consultation and will enable physicians to most effectively elicit information from their patients. This list is not exhaustive, and although it offers some useful skills which are useful for communication in general, lacks specificity in terms of how to provide information in a reassuring way.

The content of reassuring messages will differ from patient to patient, based on their concerns, beliefs, expectations, and unique situations ([Buchsbaum, 1986](#_ENREF_23); [Salmon & Young, 2005](#_ENREF_236); [Taylor, 2009](#_ENREF_263)). For example, an office worker might be advised to incorporate movement into their daily routine, while discussions with a factory worker might focus more on safe lifting techniques. That said, there will be common themes within reassurance for low back pain, based on tackling maladaptive beliefs and reducing anxiety around symptoms. The National Institute for Clinical Excellence (NICE) guidelines for the care of patients with low back pain recommends that advice is provided to promote self-management, which includes information on the nature of non-specific low back pain and encourages the person to be physically active ([Savigny, et al., 2009b](#_ENREF_241)). Additionally, recommendations for GP training provided by the Royal College of General Practitioners ([Royal College of General Practitioners, 2015](#_ENREF_231)) lists communication and consultation as a core competence in care of patients with musculoskeletal problems. Their guidance is that a GP should communicate health information effectively to promote better outcomes (e.g. using positive terms such as ’wear, flare and repair’ and avoiding unhelpful terms like ‘crumbly spine’ and ‘ruptured disc’), explore the perceptions, ideas or beliefs the patient has about the condition and whether these may be acting as barriers to recovery or return to usual activity or work, and use simple techniques and consistent advice to promote activity in the presence of pain and stiffness (e.g. promoting the message that when it comes to long-term musculoskeletal health patients need to ‘use it or lose it’ and stay active within their individual capabilities). What has been found in the course of this thesis is that as well as information on non-specific pain and remaining active, patients want to be persuaded that their condition is not serious, and to understand why they, personally, are in pain. Some suggestions for the content of effective cognitive reassurance, although this is not an exhaustive list, are:

* Ruling out one or more feared serious diseases by explaining the lack of evidence for their presence
* An indication of the high prevalence of low back pain, and the likelihood that symptoms will resolve on their own
* Explanation of the structures of the back, perhaps with the use of visual aids, and the ways in which pain can arise
* Advice to maintain normal activity, within the limitations of the pain, with emphasis that movement will not exacerbate damage
* An explanation of how a suggested intervention will help (e.g. which areas of the back will be targeted by recommended stretches, or an explanation of how anti-inflammatory medication will reduce pain and inflammation)

The aim with these reassuring statements is to convey the message that pain is not to be feared, and that recovery is possible. What is important to remember when considering how to reassure patients is that reassurance is a form of persuasion ([Coia & Morley, 1998](#_ENREF_32)). Therefore, rather than simply telling a patient that “I’m sure you don’t have cancer” it would be more beneficial to explain that “the signs we would be looking for if it were cancer would be ..., which you do not have. Your symptoms of ... are more consistent with normal low back pain” followed by an explanation of the nature of non-specific low back pain and the possible benign causes, such as muscle strain. This second approach is more likely to be persuasive to a patient, because the physician has shared his/her reasoning process and provided a credible explanation for their clinical judgement. Simply saying “I’m sure you don’t have cancer” could leave the patient questioning whether the physician has missed something or failed to make use of the right test to detect cancer, or whether it was simply too early to detect cancer, and so on. Effective cognitive reassurance must be persuasive, which means informing patients of the diagnostic process and supporting assertions with evidence where possible.

There are on-going questions over how to manage uncertainty within physician-patient communication, as found in Chapter 7. Problems such as low back pain involve a high level of uncertainty, because it is often not clear where the problem originates, nor how well or quickly patients might recover. Additionally, GPs can find it difficult to reassure patients when they do not feel they have sufficient knowledge about a problem ([Elwyn, et al., 1999](#_ENREF_62); [Hulsman, 2009](#_ENREF_115); [Paskins, et al., 2014](#_ENREF_194)). Uncertainty is also not well-tolerated by patients ([Elwyn, et al., 1999](#_ENREF_62); [Epstein, et al., 2005](#_ENREF_66)) and can lead to lost trust within therapeutic relationships. Further, if patients feel uncertain about their diagnosis (either they have not received a diagnosis, or feel that their diagnosis does not explain everything about their problem), they can experience higher levels of guilt ([Serbic & Pincus, 2014](#_ENREF_244); [Serbic, et al., 2015](#_ENREF_245)). Uncertainty is a difficult problem when discussing conditions which do not lend themselves to certainties, and this can be daunting for physicians who feel that they need to provide concrete, relevant information to each individual patient. However, Tyreman ([2015](#_ENREF_274)) offers an alternative approach. He suggests that patients who feel uncertain about their symptoms have lost a sense of agency and confidence over how much control they have of their own bodies. Therefore the role of the physician is not so much that of “explainer of the truth of what has happened, or of medical engineer to mend and restore damaged or dysfunctional parts” ([Tyreman, 2015, pp. 476](#_ENREF_274)), but rather one which helps patients to feel that they can trust in and control their bodies once more. Using these suggestions, physicians can attempt to re-enable their patients with general statements which are still informative. Thereby the focus can move from uncertainty, or what is not known, to providing information with the aim of reducing negative beliefs and reinforcing patients’ agency over their symptoms.

# 8.2 Strengths and Limitations

This thesis offers an evidence-based model of reassurance during low back pain consultations. Reassurance, though often recommended ([Airaksinen, et al., 2006](#_ENREF_3); [de Jager & Ahern, 2004](#_ENREF_45); [Koes, et al., 2010](#_ENREF_136)) has until now remained poorly defined. As such, there has been no consensus on what constitutes effective reassurance, and poorly executed reassurance has been observed and reported to lead to negative outcomes for patients ([Linton, et al., 2008](#_ENREF_157)). Through comprehensive and systematic literature review, interviews with real patients with low back pain, and a large-scale prospective cohort study, the findings outlined here provide evidence for a credible model of reassurance, which includes affective and cognitive, implicit and explicit components. Also presented here is a validated questionnaire which represents the different dimensions of reassurance during consultations. This scale was analysed using Rasch modelling, and was found to have good validity and reliability in the context of low back pain consultations. In addition, its 12-item structure makes it simple to administer and score, enhancing its utility for future research in this area. This questionnaire may be adaptable for other non-specific conditions which share characteristics with low back pain, such as irritable bowel syndrome or fibromyalgia, but would need to be validated in these populations first.

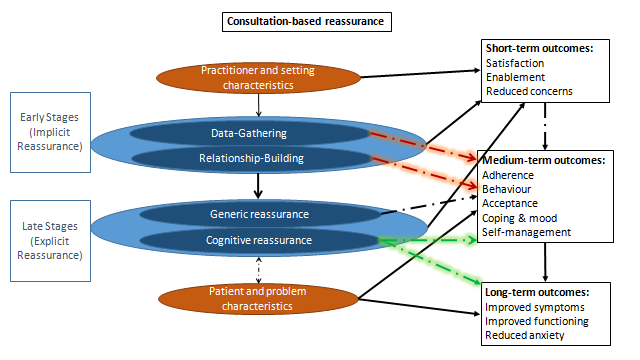
A main strength of this model is that it is supported by patients’ narratives ([Holt, et al., 2015](#_ENREF_106)). A recent review of 27 studies into patients’ expectations for communication from physicians found that qualitative studies reported almost twice as many different expectations as quantitative studies did ([Deledda, Moretti, Rimondini, & Zimmerman, 2013](#_ENREF_46)). This indicates a variety of patient experience which may be restricted within quantitative methods. It is important, therefore, when considering what will work best for patients, to allow patients to have their say. The qualitative study presented in this thesis introduced the concepts of implicit and explicit reassurance to the model, which would have been absent had patients’ narratives not been explored.

The main limitation present throughout this thesis is mixed sampling. The systematic reviews presented in Chapters 3 and 8 relied on data from varied combinations of patients, because focusing on low back pain only would have restricted the available evidence to a point where it would be hard to draw any conclusions. Within Chapters 4, 5 and 6, the aim was to recruit patients with new cases of non-specific low back pain. To achieve this, expert advice was sought in developing a search strategy which made use of the Read codes utilised within primary care consultation recording. However, in practice, this search strategy resulted in the inclusion of patients at varying stages of chronicity. It is not possible to say exactly why the search strategy was unable to provide the desired level of specificity, but it is possible that Read codes are simply not always entered correctly. In the qualitative study, the inclusion of patients with ongoing low back pain led to the adaptation of the interview schedule to incorporate participants’ recollections of reassurance throughout their journey within the medical system and therefore allowed for exploration of consultations which might not otherwise have been covered. However, for the prospective cohort study, the presence of patients with chronic low back pain in the dataset may have weakened the study’s power to detect significant effects of reassurance, as the longer low back pain persists the harder it becomes to treat (e.g. [Hoffman, et al., 2007](#_ENREF_105); [Ibrahim, et al., 2008](#_ENREF_119); [van Middelkoop, et al., 2011](#_ENREF_279)) and so consultation reassurance would be expected to have less of an effect.

A second limitation of the sampling methods for this study is the delay between consultation and study enrolment. By necessity, postal recruitment was in most cases the only way to reach potential participants. This meant, though, delays of up to a month between seeing the GP and receiving an invitation to take part in the study. The problems of recall inherent in this approach are such that baseline measures, such as pain and disability, may not have been accurate reflections of participants’ true symptoms prior to their visit to the GP. Additionally, the lack of access to baseline assessment meant that full measures of psychosocial risk and mood were not possible.

# 8.3 Unanswered Questions and Future Directions

An updated version of the model presented in Chapter 3 is offered here (Figure 8.1). This model reflects established models of consultations in which behaviours can by organised into discrete stages ([Asnani, 2009](#_ENREF_9); [Frankel & Stein, 1999](#_ENREF_74); [Kurtz, et al., 1998](#_ENREF_141); [Silverman, et al., 1998](#_ENREF_249)), although it is acknowledged that consultations cannot be expected to uniformly follow prescribed structures in all cases. The early stages of the consultation in Figure 8.1 reflect behaviours intended to elicit information and build therapeutic relationships, which fall under the description of implicit reassurance. It is at this stage that physicians should convey the message that they are listening to and interested in patients’ accounts, and convey the message that they have understood the problem(s) and are motivated to help. Of key importance during the data-gathering stage is to elicit the patient’s whole story, including their concerns, beliefs, and expectations, to provide a secure base from which reassurance can be offered during the later stages. The need to elicit patients’ whole stories can cause concerns over the limited time available in consultations. This can lead physicians to interrupt patients as a way to save time, risking missing out on relevant information by not giving the patient a chance to finish ([Main, et al., 2010](#_ENREF_165); [Makoul, 2001](#_ENREF_167); [Simpson, et al., 1991](#_ENREF_250)). However, interrupting has been shown to be counter-productive as patients tend to re-orient the conversation back to what they had wanted to say ([Robinson & Heritage, 2005](#_ENREF_223)), whereas uninterrupted patients will talk, on average, for only around 92 seconds ([Langewitz, et al., 2002](#_ENREF_144)). Mauksch ([2008](#_ENREF_171)) offers a number of suggestions for maximising efficiency within consultations, suggesting that communicating effectively is, indeed, possible within such tight timeframes. He also points out that investing time in exploring the patient’s perspective will avoid wasting time on explanations which patients fail to engage with because they are not individualised for them.



Solid line = Robust evidence

Dashed line = Priorities for future

research

Red line = Hypothesised negative

association

Green line = Hypothesised positive

association

Figure 8.1 – Final Model of Consultation-based Reassurance for low back pain patients

Explicit reassurance is delivered in the later stages of the consultation, and has been shown to improve satisfaction and enablement as well as reduce patients’ immediate concerns. Explicit reassurance can be affective, and include generic reassurance statements intended to put the patient at ease, or it can be cognitive and involve efforts to persuade the patient that their symptoms are not to be feared. Coia and Morley ([1998](#_ENREF_32)) advised avoidance of all affective reassurance statements to create an environment in which patients were primed to engage properly with cognitive reassurance. The evidence presented in this thesis has not supported this assertion; nor has it found the opposite. The interplay between the two requires further investigation in which the types of reassurance offered can be controlled and manipulated. However, the results of the qualitative study in Chapter 4 supported the notion that it is only through cognitive reassurance that patients’ concerns can be addressed. Therefore, while it cannot be stated that generic affective reassurance statements are harmful, the evidence suggests that they are not sufficient to convince patients that they should not be worried. It may be the case then, that such statements could indeed be avoided, simply because they are not necessary if sufficiently persuasive cognitive explanations are offered.

Within this PhD study, reassurance has been shown to be consistently associated with immediate outcomes post-consultation, such as satisfaction and enablement. Additionally, cognitive reassurance has been found to be associated with improved longer-term outcomes for low-risk patients. Questions remain as to the influence which patient and problem characteristics have upon how reassurance is perceived. The review of barriers to communication suggested that psychological factors such as anxiety can affect how well reassurance in received ([Linton, et al., 2008](#_ENREF_157)), and the prospective cohort study indicated that patients with low and high psychosocial risk may require different methods of reassurance. The exact nature of which patients benefit (or experience harm) from which aspects of reassurance, though, remains largely unknown, and should be a priority for future research. Additionally, the negative association between implicit reassurance in the early stages of the consultation and later anxiety for low-risk patients which was found in the prospective cohort study warrants further investigation. Finally, the influence of reassurance on long-term (>3 months) outcomes has not been assessed here, and would be a key consideration for future research on the utility of reassuring patients effectively.

The implications of this body of work on clinical practice have largely been discussed in Section 8.1.3 (Providing Effective Reassurance). The key areas of focus for adopting this model of reassurance into practice are investing in the early stages of consultations in order to understand patients’ reassurance needs, and treating reassurance as a process of persuasion. This research has also highlighted the benefits of adopting routine assessment of ‘yellow flags’ into consultations with patients with low back pain. The STarT Back Screening Tool ([Hill, et al., 2008](#_ENREF_103)) offers a quick and easy to administrate method of assessing psychosocial risk factors, which can help physicians to recognise when reassurance on its own is appropriate and when further intervention is required.

The way physicians communicate within consultations represents a specific set of skills that are learnt as part of medical education. Interactions in this context differ from typical conversations, and physicians are expected to incorporate a number of different skills, often concurrently, into each encounter ([Brown & Bylund, 2010](#_ENREF_22); [Kurtz, et al., 1998](#_ENREF_141); [Silverman, et al., 1998](#_ENREF_249)). Maguire and Pitceathly ([2002](#_ENREF_164)) suggest that effective teaching of communication skills must include cognitive input (which convinces learners of the need for and efficacy of the skills being taught); demonstrations of key skills in action; and chances to practise key skills. It is not enough, then, for research to suggest methods for physicians to communicate with their patients; in order for recommendations to be applied in practice, physicians need the opportunity to learn about and perform new skills through training. The incorporation of the findings of this thesis into training for medical professionals would enable physicians to provide reassurance more effectively. This may be particularly important, and should be reinforced, during training on management of patients with low back pain, or MUS.

There are two limitations of the present studies which future research will need to address in testing this model. The first is the measurement of true baseline characteristics. This includes pain, function, psychosocial risk, mood, and, if possible, measures of illness perceptions or other cognitive factors. This would allow for better control within the analysis of changes in pain variables, as well as clear sub-grouping of participants by their psychosocial characteristics. Large samples would be required to ensure that sub-groups included sufficient numbers of participants. The second important factor for testing the original model of reassurance would be the inclusion of a measure of recall. Coia and Morley ([1998](#_ENREF_32)) proposed that receipt of affective reassurance led to poorer engagement with cognitive reassurance, and so poorer recall of reassuring information. By measuring participants’ recall, then, this suggestion can be empirically verified.

A second priority for future research would be a combination of the reassurance questionnaire with observational measures of reassurance. The questionnaire does not capture reassurance as it happens within consultations; it captures patients’ perceptions of the reassurance they have received. By comparing responses to the questionnaire with observational measures, in which the components of reassurance are rated by an external observer, several questions could be answered, such as:

1. Is there a mismatch between the ‘reality’ of reassurance and patients’ perceptions?
2. Which is more important in predicting recovery?
3. Which aspects of information-provision are perceived by patients to be part of reassurance?
4. Is the way reassurance is received influenced by baseline characteristics of participants?

Finally, to explore the proposed interaction between affective and cognitive reassurance, studies in which the levels of each are manipulated would be required. For example, a study in which physicians are randomised to deliver either cognitive or affective reassurance or a combination of both, or the equivalent using conditions involving implicit or explicit reassurance. Alternatively, studies in which physicians are trained in one type of reassurance (e.g. providing cognitive or affective reassurance), and their consultations are compared with physicians who have received no special training. The aim of such studies would be both to truly test Coia and Morley’s ([1998](#_ENREF_32)) assertions regarding the impact of affective reassurance on the persuasiveness of cognitive reassurance, and to further develop the proposed model by identifying which aspects of reassurance are beneficial for optimal patient outcomes, and which might be harmful.

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Appendix 1: Systematic Review Search Strategy (Chapter 3)

# Medline:

((MH "Family Practice") OR (MH "General Practice") OR (MH "Physicians, Family") OR (MH "General Practitioners") OR (MH "Physicians, Primary Care") OR (MH "Primary Health Care"))

AND

((patient-cent\*) OR (consultation) OR ((communication OR interaction) AND (skills or style)) OR (reassur\*) OR ((“clinician-patient” OR “physician-patient” OR “practitioner-patient”) AND (interaction OR communication)))

Limiters: 1979<; English language; human; all adult: 19+ years.

# PsycInfo & PsycExtra:

((DE "Primary Health Care") OR (DE "General Practitioners") OR (DE "Family Medicine") OR (general practi\*) OR (family practi\*) OR (primary care)) AND ((patient-cent\*) OR (consultation) OR ((communication OR interaction) AND (skills or style)) OR (reassur\*) OR ((“clinician-patient” OR “physician-patient” OR “practitioner-patient”) AND (interaction OR communication)))

Limiters: 1979<; English; Adulthood (18yrs&older); Methodology (empirical study; followup study; prospective study; longitudinal study; quantitative study; treatment outcome/clinical trial)

# ProQuest Dissertations and Theses

(primary care) OR (family pract\*) OR (general pract\*)

AND

(patient-cent\*) OR (consultation) OR ((communication OR interaction) AND (skills or style)) OR (reassur\*) OR ((clinician-patient OR physician-patient OR practitioner-patient) AND (interaction OR communication))

Limiters: 1979<; English; Subject heading: primary care

Appendix 2: SystmOne Search Protocol (Chapters 4, 5 and 6)

# Inclusions:

* Low back pain

**READ version 2 terms:**  
16C, Backache symptom

16C2, Backache

16C5, C/O - low back pain

16C6, Back pain without radiation NOS

16C8, Exacerbation of backache

16C9, Chronic low back pain

16CA, Mechanical low back pain

16CZ, Backache symptom NOS

N142, Pain in lumbar spine

N145 Backache, unspecified

**CTV3 TERMS**

16C5., C/O - low back pain

XM0Cq, C/O - lumbar pain

XM1GI, Back pain

16C.., Backache symptom

16C2., Backache

16C6., Back pain without radiation NOS

16CZ., Backache symptom NOS

N145., Backache, unspecified (may be obsolete code in CTV3)

X75s1, Sacral back pain

XE1FE, Backache, unspecified

XE1He, (MAY BE OBSOLETE in CTV3)

Xa0wt, Low back pain

N142., (may be obsolete code in CTV3)

X75s3, Posterior compartment low back pain

XE1FB, Pain in lumbar spine

Xa0sK, Chronic low back pain

Xa0sM, Acute low back pain

Xa0wu, Mechanical low back pain

Xa7mB, Postural low back pain

XaIIv, Chronic back pain

XaINe Exacerbation of backache

* Consultation within previous month (and previous week for update searches)
* None of the above codes within previous 6 months
* Adult patients (>18 years).

# Exclusions:

* Sciatica and radiating leg pain:

**V2**:

16C3, Backache with radiation

N1420, Lumbago with sciatica

N143 Sciatica  
  
**CTV3**:

XE1FC Sciatica

XaB0c Acute sciatica

XaB0d Chronic sciatica

N1420 Lumbago with sciatica

X75rz Acute back pain with sciatica

XaD2p Prolapsed lumbar intervertebral disc with sciatica

* + Last 6 months
* Cognitive impairment or serious mental health problems, which the GP considers could make patients vulnerable and for whom participation would be detrimental.
  + Dementia – all time
  + Learning disability – all time
* Cancer
  + Malignant tumours
  + Ever
* Previous spinal surgery
  + All time
* Cauda equina and ankylosing spondylitis
  + All time
* Those requiring further investigation

As indicated in notes from consultation

Appendix 3: Interview Schedule (Chapter 4)

*Introduction:* “Thank you for agreeing to take part in our research. We’re interested in studying the way GPs reassure their patients when they consult for low back pain. This can mean anything the GP said or did which you felt was important to you within your consultation. We do not need to know your doctor’s name, and it would be helpful to us if you do not use it throughout the interview, to protect their anonymity. It is also important for you to be aware that I am a researcher, and not a clinician myself. This means I am not in a position to give clinical advice or comment on anything that happened during your consultation. This interview is focussed on the experience of the consultation from your personal point of view.

The interview will cover 2 main areas, what happened during your consultation and what has happened since, and I will give a brief introduction for each. Do you have any questions before we start?”*(Answer questions as required)*“Before we begin, I’d like to remind you that you are free to stop the interview at any time and don’t have to answer a question if you would prefer not to. I’d also like to remind you that anything you say today will be confidential. You will be referred to in any publication by a code, not your real name, and your personal information will not be shared with anybody outside the research team. If you need me to clarify or explain any of the questions please feel free to ask. Are you ready to start?”

*(Wait for a ‘yes’)*“First, I’d like you to describe your consultation in as much detail as you can remember; anything the doctor told you, asked you, gave you, and so on. As you do this, I will ask what the effect of each behaviour was on you – how it made you feel, what you thought, and how you intended to act as a result. If possible, I’d like to go through the consultation in stages, starting from the beginning of the visit.”

*Question 1*: “So, Can you describe your consultation in as much detail as possible in respect to the bits that were reassuring and the bits that were not?”

*Probes to be delivered exploring how participants felt, thought, and planned to act on what the doctor said or did.*

*Probe*: “did your doctor examine you at all? (if patient has not already mentioned this)”

*Probe*: “what were your thoughts about the examination?”

*Summing question*: “so can you sum up for me which key aspects you felt were reassuring, and which weren’t?”

*Question 2*: “What concerns did you have about your back pain before you went to see the doctor?”*Probe*: “Did you tell the doctor about these concerns?”*Probe if yes*: “How did he or she respond?”*Probe if no*: “Why not?”*Probe*: “Have you been concerned about these things since your consultation?”*Probe*: “Tell me what changed that?”

*Probe*: “Was there anything in the consultation which has made a difference to that concern?”

*Summing Question*: “So, I’ve heard about your concerns and how your consultation has affected them. Was there anything else you expected to get out of your consultation?”

*Probe*: was this expectation met?“Next, I’d like to discuss how things have been since the consultation regarding your back pain and its impact on your life.*Question 3*: “How, if at all, has your experience with the back pain changed since seeing the doctor?”*Specific aspects to explore: work, daily activities, social activities, exercise, hobbies, housework*

*Probe*: “Why do you think that is?”*Probe*: “Was there anything in your consultation which changed any of this?”

*Continuation probe*: “what other changes have you noticed?”*Question 4*: “Was there anything else about your consultation which was significant to you that we haven’t yet talked about?”“Thank you. At this point, I’d like to ask you, if you would be willing, to have a look at a questionnaire we have developed to measure GPs’ communication during consultations and give me any feedback you might have from a patient’s perspective. In particular, if there are any key areas you feel are important in back pain consultations that we have missed out.”(Go through questionnaire if participant is willing to)“We’ve reached the end of the interview. Do you have any further questions?”*(Answer questions as required).*

*Debriefing*: “Thank you very much for your participation, you have been very helpful. If going through your consultation with me today has raised any concerns for you, I would ask you to keep in mind that there is no such thing as a perfect consultation, and what we were looking for in this study is to find out which aspects of consultations are important to patients. Through participating in this study you have helped to enrich our understanding in this area, which will help further research into how GPs can communicate better with their patients. Here is another copy of the information sheet you received in the post, it contains the contact information for our research team in case you have any questions or wish at any point to withdraw your data from the study.”

Appendix 4: Study pack – documents sent to patients (chapter 6)

# Letter of Invitation

Dear

Following your recent visit to the surgery, we would like to invite you to take part in a research study. You have been selected by your GP as eligible for the study because your records indicate a recent consultation for back pain. The research is looking into how physicians communicate with and reassure their patients when they visit with back pain.

This study is being run by researchers from Royal Holloway, University of London. They have not seen your medical records or personal information – that is confidential to the surgery. The research team will not know anything about you, or your visit, apart from what you tell them should you choose to participate, and your medical records will not be seen by the research team even if you do choose to participate.

Before you decide, it is important for you to understand why the research is being done and what it will entail. Please take time to read the enclosed information carefully and discuss it with others if you wish. If there is anything that is not clear or if you need any further information, please contact the researchers using the details provided at the bottom of each page. If you choose to participate, we ask that you complete and return the enclosed documents in the pre-paid envelope provided.

Yours sincerely,

[Signed by a member of surgery staff]

# Information Sheet

**What is the purpose of the study?**

The way GPs offer reassurance to patients with low back pain is an under-researched area of medical communication. We have developed a questionnaire to measure GPs’ use of reassurance with such patients. This study will test this questionnaire in order to validate its use for future research into reassurance during low back pain consultations.

**Why have I been invited?**

A member of staff at your GP surgery has sent you this letter on our behalf because you have recently had a consultation for low back pain.

**Do I have to take part?**

You do not have to take part in this study if you don’t want to. If you decide to take part you may withdraw at any time without having to give a reason and without this having any effect on you or your treatment. Your decision whether to take part or not will not affect your treatment or care in any way.

**What does taking part involve?**

If you decide to take part, you should retain this information sheet for your records. You are invited to complete the enclosed questionnaire regarding your recent consultation. It should take around 20 minutes to complete.

There is also an option to complete two further, shorter questionnaires one week and three months after this one, to provide us with further details about your consultation and your back pain. If you should choose to complete these questionnaires, we will send you the subsequent questionnaires in the post.

**What do I have to do?**

If you do decide to take part:

* Please sign the enclosed consent form stating that you freely agree to participate in this study. If you have any questions about the study which you would like to ask before agreeing to participate, please contact one of the research team (contact details below) and we will be happy to answer them. Please note that if we receive your questionnaire without a completed consent form, consent to take part will be assumed and your responses will be used. This will not affect your right to withdraw your responses at any time.
* Next, please fill in the questionnaire regarding yourself and your recent low back pain consultation.
* You will also find enclosed a form to opt-in to the follow-up questionnaires. If you are willing to do this, we ask for you to provide your name and address on the opt-in form for us to send you a copy of the second, shorter questionnaire. This information will be kept separately from your responses to the questionnaire, so all of your answers will be anonymous, and nobody outside of the research team will have access to your information.

Once you have completed all of the forms, please place them inside the pre-paid envelope provided and return them in the post to the research team.

If you decide that you do not wish to take part, you need take no further action.

**Will my taking part in the study remain confidential?**

Nobody outside of the research team will have access to your responses, and in the study you will be known only by a unique number, so any information will be completely confidential. The information you provide will not be available to the people treating you, unless you specifically ask us to tell them.

**What happens to the completed questionnaires?**

They will be stored in a locked filing cabinet at Royal Holloway, University of London. Questionnaires will be identified with a number and will not contain the name of the respondent. The answers will be accessed and analysed by the research team only.

**What are the possible benefits and risks of taking part?**

There are no direct benefits of taking part for you in this study. The results of the study will be useful in validating a measure of GPs’ use of reassurance which can be used in future research to predict and improve communication.

There is a risk that reflecting on a consultation that has not met your expectations will be upsetting. In such instances you might find it of help to discuss and try to resolve your concerns with your GP or other another health care practitioner involved in your care. Alternatively, standard NHS complaints procedures should be followed if necessary.

**What will happen to the results from the study?**

The results will form part of a PhD thesis, and may be submitted for publication in academic journals and presented at conferences nationally and internationally.

Whether or not you chose to take part you may request a summary of the results by contacting Nicola Holt, whose details appear below.

**What if I change my mind about taking part?**

You can change your mind at any time, including after you have returned your questionnaire, without penalty or detriment to yourself or your current and future care. Just tell the researcher that you wish to withdraw. You may also decline to answer any of the individual questions on the questionnaire.

**What if there is a problem?**

If you have a concern about any aspect of this study, you should ask to speak to the researchers who will do their best to answer your questions (contact information below). If you remain unhappy and wish to complain formally, you can do this via the university’s complaints procedure. Details can be obtained from the department of psychology at Royal Holloway, University of London (telephone + 44 (0)1784 443526; email PSY-enquiries@rhul.ac.uk)

**Who is organising and funding the research?**

The research is organised by Nicola Holt, PhD student, together with her academic supervisor Professor Tamar Pincus. The study has been adopted into the National Institute for Health Research portfolio and has been planned with involvement from the Primary care Research Network South East and the Northamptonshire Primary Care Trust.

Funding for this research is provided by a Doctoral Training Centre studentship from the Economic and Social Research Council. Additional costs have been covered by the National Institute for Health Research

**Who has reviewed the study?**

The study has been reviewed and approved by the London City and East Research Ethics Committee and has also received local NHS approval.

Please contact us about any aspect of the study. Thank you for your time in considering participation in this research study, it is greatly appreciated.

# Consent Form

Centre Number:

Study Number: 02/2013

Patient Identification Number for this Study:

CONSENT FORM

Title of Project: Validation of a scale to measure GPs’ use of reassurance during low back pain consultations

Name of Researcher: Nicola Holt

Please initial all boxes

1. I confirm that I have read and understand the information sheet dated 30/04/13 (version 3) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

1. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.
2. I understand that relevant data collected during the study, may be looked at by individuals from Royal Holloway, University of London, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.
3. I agree to take part in the above study.

Name of Participant Date Signature

Name of Person Date Signature

taking consent.

# Opt-in Form for Follow-up Questionnaires

Dear participant,

Thank you for choosing to take part in this study. As outlined in the Patient Information Sheet, we would also like to invite you to take part in follow-up questionnaires. This will involve filling in two, shorter, questionnaires, both one week and three months after you have provided your first responses. These will be sent to you by post. We also offer the option of having a summary of the study’s results sent to you, if you are interested, when the study is finished.

If you would like to opt in to these follow-up questionnaires, please provide your contact details below and enclose them in the pre-paid envelope provided. These contact details will be kept private, accessible only by the research team. We will not refer to your contact details apart from in sending you the follow-up questionnaire, and your responses will be anonymously recorded by your participant number as before.

Additionally, if you would not like to participate in the follow-up, but would like to receive a summary of the study’s results when it is completed, please indicate this preference below and provide your contact details.

If you would not like to receive the follow-up questionnaires or study summary, you do not need to complete this form. Simply return your responses to the current questionnaire in the envelope provided.

Kind regards,

Nicola Holt

Chief Investigator.

Please send me the follow-up questionnaires

Please send me a summary of the study’s results

Name:

Address:

Date:

Appendix 5: Publication resulting from Chapter 3



Appendix 6: Publication resulting from Chapter 4

