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Domains of need in a high secure hospital setting: a model for streamlining care and reducing length of stay

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Abstract

There are financial and humanitarian consequences to unmet need amongst service users of high secure hospital care, not least in terms of length of stay. This paper presents two reviews of high secure service user needs. They provide support for the sequencing of interventions to meet service user needs and the utility of a structured framework for their review. Through analyses of these reviews, eight domains of need were identified: Therapeutic Engagement, Risk Reduction, Education, Occupational, Mental Health Recovery, Physical Health Restoration, Cultural and Spiritual Needs, Care Pathway Management. A model is presented, within which logically sequenced, timely and relevant interventions could be framed in order to provide a comprehensive and streamlined pathway through a high secure hospital.

Reducing Length of Stay in High Secure Hospital Settings: A Model for Streamlining Care

There are three high secure hospitals in England and Wales, the function of which are to provide a service to people who cannot be managed in conditions of lesser security, predominantly mentally disordered offenders (MDOs). More specifically, service users are detained under legislation which mandates assessment and treatment and emphasises public protection (Sarkar, 2010). Grounds for detention must include 'mental disorder' – any disorder or disability of mind – and a risk of harm to self or others (Mental Health Act 1983 as amended 2007). MDOs can be diverted into the Mental Health System from the Criminal Justice System at the point of contact with the police, during the pre-trial period of assessing fitness to plead, at trial, post-trial (advice on disposal prior to sentencing) and on disposal to a prison or psychiatric hospital (Wrench and Dolan, 2010). Some individuals will encounter the Criminal Justice System secondary to the Mental Health System and might find themselves transferring to facilities of increasing levels of security, through low, medium and high security. Under the Mental Health Act (1983 as amended 2007), provisions exist for MDOs to be admitted to hospital for assessment of mental disorder and risk, for offenders to be treated in hospital rather than serve a prison sentence and for prisoners to be transferred for 'urgent' treatment (for more complete descriptions of forensic mental health systems, services and concepts in England and Wales the reader is referred to Bartlett and McGauley, 2010).

Broadmoor Hospital is one of three, publically-funded National Health Service (NHS), high secure hospitals in England and Wales which admit people with serious mental illness and severe personality disorders, often in combination (Adshead, 2010), who pose a serious risk of harm to themselves or others. Service users are most often referred from courts, prisons and

secure hospitals of lesser security (see Völlm, Daley and Silva, 2009 for further description) and most commonly have restrictions on their movement and liberty at the discretion of the Ministry of Justice (the governmental body responsible for the Criminal Justice System), often without limit of time (Sarkar, 2010). As such, consent is required from the Ministry of Justice before these service users can be transferred to lesser secure hospitals or to prison.

A service user's pathway through a high secure hospital is influenced by the multidisciplinary assessment of their needs and treatment provided, as well as multi-agency review and communication. The National Health Service (NHS) provides health care at no direct financial cost to the service user, whose health care is funded by geographically-based funding bodies. Broadmoor Hospital is commissioned by these funding bodies to provide a service to people from the south of England, including London. The commissioners are involved in the reviewing of service users' care and are responsible for the continued provision of funds for placement when they leave high security. NHS medium secure service providers are identified for each high secure service user and are represented (usually by a Consultant Psychiatrist, Psychologist or Nurse) at meetings which plan and review a service user's high secure care and might make recommendations for specific treatment in high security which would be essential to complete prior to transfer to medium security. The principal mechanism for review of treatment and care is through regular review meetings (of which the service user is a part) held by the service user's clinical team. More recently, clinical teams at Broadmoor Hospital operate on a catchment-area basis to facilitate liaison with external agencies and continuity of in-patient care and with the aim of service users having fewer than three clinical teams during their stay in the hospital (across admission, acute services and rehabilitation). Finally, service users have an independent review of their grounds for continued detention at least every three years through

the Mental Health Review Tribunal, which can discharge or make recommendations for discharge from the hospital. The average length of stay for service users at Broadmoor Hospital is 8 years and ranges from relatively short stays of 2 or 3 years for some rapidly controlled psychotic conditions to, rarely, lengthy periods for people with intractable psychoses and/or personality disorders.

Criteria for admission to a high secure hospital include grave and immediate "dangerousness" to others and a severe "nature and degree" of Mental Disorder (Mental Health Act, 1983 as amended 2007). Therefore, the needs of a high secure hospital service user can broadly be defined by these concepts. Invariably, these needs are complex and require a wide range of specialist interventions. In line with this, the goals of the services at Broadmoor Hospital are to reduce risk and to enable mental health recovery or discovery, within the "least restrictive environment" (*Reed Report*; Department of Health and Home Office, 1992) and at reasonable and fixed financial cost. Furthermore, service users should be 'able to benefit' from interventions, which should be evidence-based (NHS management executive, 1991) and in line with the principles of the recovery approach (e.g. Slade, 2009) and social inclusion (e.g. National Social Inclusion Programme, 2009). In meeting these goals, the service aims to provide a responsive, accessible service, care appropriate to individual needs, clinical interventions to address these, a clear pathway of care and regular review and monitoring of these. Finally, the service evaluates the outcomes of its provisions in terms of 'acceptable' waiting lists, effectiveness of interventions and user and carer satisfaction.

Currently, Broadmoor Hospital is undergoing 'modernisation' of its service provision and physical redevelopment of the site to enhance this. Principles of good service provision (Tansella and Thornicroft, 1998), some of which are described above, have underpinned the theoretical

development of the modernisation of the Hospital's service to its users. These have presented challenges in thinking about how to provide the best possible service for users whilst taking into account both the goals of the service and the aims of its provisions. For example, how does a service go about identifying 'complex needs' and providing 'specialist' evidence-based interventions to meet these? Many of the service users of Broadmoor Hospital (and other high secure hospitals) are people for whom previous interventions (may) have been ineffective, whose developmental pathways to offending differ and who may, indeed, be 'statistical outliers'. This, in turn, presents a challenge to the service in meeting the NHS management executive's (1991) "ability to benefit" criterion. According to this, need is resource-driven, in that needs for which there are no evidence-based interventions should not attract resources (Shaw, 2002). As such, the provision of interventions which draw on sound theoretical bases and which are also relevant to an individual service user's needs may facilitate the provision of a more responsive service than one which is restricted to the currently available evidence base, which is limited insofar as high secure forensic service users are concerned. In consideration of "what works with offenders", McGuire (2008) emphasised the need for strategies to reduce attrition in psychological and related therapies, to test multi-modal interventions, to improve treatment 'dosage', to be guided by the principles of risk, needs and responsivity (Andrews, Bonta and Wormith, 2006) and to be guided by formulation and functional analysis in treatment allocation. This suggests that, for high secure service users, interventions generated from 'best practice' as well as from an evidence base might be those most responsive to their needs. In applying what makes theoretical sense, followed by evaluation of such interventions, 'best practice' could evolve into more appropriate and focussed evidence-based interventions for high secure service users.

Integral to good service provision is the evaluation of outcomes. Whilst this is not the focus of this paper, it is worth noting that one indicator of successful high secure service provision is transfer to conditions of lesser security. Whilst this might be as objective an indicator as the frequently used outcome measure of recidivism, both measures will be affected by difficulties relating to poor continuity of care and communication across services (Duggan, 2008) and, consequently, longitudinal evaluation of outcomes of service provision (and therefore generation of evidence-based practice) is hindered. Furthermore, international differences in contexts of secure care, treatment philosophies and legal systems often renders outcomes evaluation unique to specific services rather than applicable to all (Lindqvist, Taylor, Dunn, Ogloff, Skipworth, Kramp, Kaliski, Yoshikawa, Gagné and Thomson, 2009).

Fundamental to streamlining care and reducing length of stay within high secure services is the promotion of quality of life through the meeting of service user need across a range of domains - such as occupation and activity - that are not restricted to formal medical or psychotherapeutic interventions. For example, the meeting of spiritual needs has been shown, under some circumstances, to relate to positive mental health treatment outcomes (Cornah, 2006). One study which explored the relationship between community mental health service user need and quality of life found that high levels of service user-rated unmet need were associated with low subjective quality of life (Slade, Leese, Ruggeri, Kuipers, Tansella and Thornicroft, 2004). This association was found not only to be sustained over time but also enabled prediction of subjective quality of life at one-year follow-up. Quality of life amongst high secure service users is not only an important humanitarian factor - for some, the hospital will be their ‘home’ for many years – but also has been associated with the facilitation of motivation for and engagement in interventions which reduce risk and/or enable mental health recovery/discovery

(e.g. Ward and Brown, 2004) and with general behaviour amongst forensic psychiatric in-patients (van Nieuwenhuizen and Nijman, 2009). The implication of this is that promoting quality of life and meeting service user need might contribute towards long-term prevention of relapse into mental ill-health and offending behaviour.

In considering the impact and consequences of unmet need for both the service user and the service, it is alarming that studies of time use in in-patient settings have discovered high levels of inactivity and social disengagement. Of 1152 observation hours across 46 service users at a Swedish forensic psychiatric clinic, daily averages of 1.6 hours of structured activities (for example, education, visits, exercise) and 0.31 hours of treatment (for example, pharmacotherapy, psychotherapy, meeting with multidisciplinary staff) were generated per service user (Sturidsson, Turtell, Tengström, Lekander and Levander, 2007). Time use amongst service users on acute psychiatric wards in the UK was similar, averaging 4% of time spent in organised group activity (Radcliffe and Smith, 2007). An internal audit of service user activity carried out at the beginning of the Broadmoor modernisation process indicated that most service users were involved in less than 2 hours of planned or purposeful activity each day, and that these activities were predominantly vocational work, education, occupational therapy, groupwork and individual psychological therapy. Whilst these studies are not indicative of level of met or unmet need, they raise the notions of treatment intensity and frequency ('dosage'), service responsivity (how well specific service user needs are met) and how these relate to a timely care pathway. Furthermore, they raise the question of whether the readiness of service users for treatment has been assessed and what the services offer to help to motivate and engage groups of MDOs who frequently present with low motivation to change and low compliance with treatment (Gudjonsson and Young, 2007). Indeed, Wong, Gordon and Gu (2007) argue that the assessment

of treatment readiness amongst forensic clients is essential to reducing attrition in psychological treatment and thereby improving the outcomes of treatment and management strategies.

Within Broadmoor Hospital, amongst service users with complex and multiple needs, the challenge of reducing the average length of stay from 8 years was considered to be most appropriately met through the provision of a needs-responsive service which was clearly based on an individualised case formulation and monitoring of individual change (Davies, Howells and Jones, 2007). This in turn required clarity about met and unmet needs of the service users and the development of more logically sequenced, timely and relevant interventions in order to provide a comprehensive and streamlined pathway through the hospital. Feedback from users and carers had consistently raised issues of level of clarity about the treatment pathway, including concern about a 'stop-start' or inconsistent approach to treatment plans. This might reflect an ethical challenge on the part of forensic mental health practitioners who work within the explicit constraints of security and detention and the implicit "untrustworthiness" (Austin, Goble and Kelecevic, 2009) of forensic mental health service users but also the challenge to users and carers who experience 'the system' as 'untrustworthy'. Therefore, transparency in links between needs and interventions might further assist in the engagement of a service user in their treatment pathway and so reduce length of stay.

As part of the modernisation of Broadmoor Hospital, a multidisciplinary working group was established and tasked with developing a model of pro-actively managed, individualised, structured activity for service users. Part of this work involved developing a therapeutic model, the aims of which were (a) to actively engage service users in recovering/discovering their mental health and reducing risk, (b) to take account of individual needs, abilities and interests and (c) to provide care and treatment on a needs-led and timely basis. Furthermore, it was

anticipated that this model might aid uniformity of reporting and informing service users' needs and provide a means through which care may be strategically planned and sequenced from admission to discharge with the aim of streamlining high secure service user care and reducing the average length of stay to a proposed duration of five years.

Development of a Model for Streamlining High Secure Service User Care

Prior to the development of the model described in this paper, two reviews of Broadmoor Hospital service user need took place in order to gauge the level and type of need and associated provision of interventions. These two reviews were psychology-led and so focused on psychological need and psychotherapeutic interventions. Outcomes of these reviews provided a platform for multidisciplinary discussion in the working group tasked with the development of the proposed model for streamlining high secure service user care. As such, the two reviews will be described in brief first and will be followed by description of the process of development of the model within the multidisciplinary working group.

Review of Service User Needs – 1

The aim of the first review was to explore met and unmet need for non-pharmacological therapeutic interventions (i.e. psychological, occupational and recreational) amongst a sample of male service users at Broadmoor Hospital over a two-year period of hospitalisation.

Sample.

A cohort of 63 consecutive male admissions to Broadmoor Hospital between 1st January 2000 and 31st December 2001 was generated. At the commencement of this review, 29 of those

service users were no longer in the Hospital and 3 service users were on trial leave. Of the remaining 31 service users, 3 were admitted to the Hospital before 2000 but received a court directive for treatment in the Hospital post-sentencing (so, in real terms, were not new admissions). A total sample of 28 male service users permitted an exploration of needs, both met and unmet, over a two-year in-patient stay.

The mean age of the sample at admission was 33 years 5 months (range 18 years 4 months to 60 years 5 months). Legal diagnostic classification under the Mental Health Act (1983) at admission were predominantly Mental Illness (n=15, 54%), followed by Psychopathic Disorder (n=9, 32%) and dual classification of Mental Illness and Psychopathic Disorder (n=4, 14%). Grounds for detention under the Mental Health Act (1983) were predominantly prison transfers or court hospital orders with restrictions on movement or liberty (s47/49, n=12, 43%; s37/41, n=9, 32%; s48/49; n=3, 11%; 3 Criminal Procedures (Insanity) Act (1991), n=1, 4%; 5(1) Criminal Procedures (Insanity) Act 1991, n=1, 4%) and a minority were unrestricted service users (notional 37, n=2, 7%;).

Procedure and materials.

Areas of need were identified from case filed reports which documented a comprehensive review of the service user's care. These included Mental Health Review Tribunal reports written by Consultant Psychiatrists and Social Workers and bi-annual multidisciplinary case conference reports which included structured clinical needs assessment (Camberwell Assessment of Need; Slade, Thornicroft, Loftus, Phelan and Wykes, 1999) and routine clinical outcome measure of behaviour, impairment symptoms and social functioning (Health of the Nation Outcome Scales; Royal College of Psychiatrists, 1999) and feedback from disciplines working with the service

user. Areas of need were tabulated chronologically to produce a profile of individual service user need since admission to the hospital. There was variable – and at times inconsistent – information in the files, although it was possible to piece together a general picture of service user need.

Definitions and determination of need.

For the purposes of this review, 'met needs' were considered to be those 1) which were being addressed and for which progress was being maintained, or 2) for which treatment was no longer required. Occasionally this was made explicit within case files but was more often determined through reports of treatment outcome and lack of recorded indications of need. The quantification of met needs was especially difficult within this sample, as many areas of need were of a continuous nature and considered to be on-going rather than specifically met or unmet. As such, 'on-going needs' were defined as those which were being addressed but where progress was not necessarily being achieved. This was also the case when a specific need had begun to be addressed and some progress was being made but the service user was awaiting further intervention in relation to this need.

'Unmet need' was conceptualised as a failure to address a specific need or where the service user had failed to respond to a specific intervention aimed at meeting that need. Unmet needs were more readily quantifiable than met needs and were identified primarily through case conference multidisciplinary treatment plans, Mental Health Review Tribunal reports and the Camberwell Assessment of Need (Slade et al., 1999) which required ratings including 'met' or 'unmet' need.

Results.

The most frequently identified met needs were the development of a therapeutic relationship (for 25% of service users), improvement of self-esteem (11%), development of insight into mental illness (11%), improvement of social skills (7%) and reduction of self-harming behaviour (7%). Other identified met needs were the development of trust in others (4%) and problem-solving skills (4%), the improvement of self-confidence (4%), oral language skills (4%) and motivation to engage in interventions (4%), having engaged in an intervention to address fire-setting behaviour (4%), substance misuse (4%) and confusion regarding sexual identity (4%). The majority of the needs identified as met were considered to be fundamental to achieve before the service user could progress to addressing offence-related and other specific needs.

The most frequently identified unmet needs were anger management and substance misuse (for 46% of the service users respectively), anxiety management (36%), violent behaviour and improving self-esteem (32% respectively), lack of insight into mental illness (25%), communication difficulties (21%), insight into risk/offending-related behaviour (18%), improving social skills (18%), fire-setting and emotion management (14% respectively), substance relapse prevention, sexual offending, risk towards women, improved understanding of sexual experiences and risk, depression, coping skills and assertiveness (11% respectively). Other identified unmet needs were identity, motivation to engage in interventions, sensitivity to rejection, building trusting relationships, relationship difficulties (7% respectively), lack of information about treatment and rights, cognitive distortions, lack of victim empathy, psychotic symptoms, lack of guilt, self-harm, overcompliance, post traumatic stress disorder and external locus of control (4% respectively).

Obstacles to the meeting of identified need were thematically three-fold:

1) the need had not been addressed. Common factors which contributed to this included lengthy periods between care pathway reviews (ranging between 8 and 22 months), poor multidisciplinary communication, lengthy waiting lists (particularly for psychological interventions), a lack of prompt referral to appropriate services and a lack of responsivity to a service user's mental state.

2) the service user had not responded to the intervention. Common factors which contributed to this included a lack of responsivity to a service user's mental state and a service user's limited (or refused) engagement in an intervention. For example, in two cases, service users were referred for interventions to address needs but refused to engage or were not able to make optimal use of the intervention at that time. An additional five service users had needs identified but these were not addressed due to the service user's mental state. As a result, needs which were identified at the initial case conference might not have been picked up again for a further 18 months, at which time referrals would be made and the service user would join a waiting list.

3) the interventions provided were inadequate to meet the need. This related more to a lack of resources available to address service user need, rather than the quality of existing interventions.

It was not within the scope of this study to explore the potential shortfall between identified and non-identified needs. However, given the difficulties described above in meeting identified needs, it might be that a proportion of service user needs were simply not being identified and that, as such, the levels of identified met and unmet need were underestimates of

the level of need for non-drug therapeutic interventions amongst this cohort of service users over the specified time period.

Summary.

The development of therapeutic relationships, improvement of self-esteem and insight into mental illness were the most frequently met needs. Offending and related behaviours (e.g. anger management, violence, insight into risk-related behaviours) were the most frequent unmet needs. Clinically, the met needs identified in this review seemed to be fundamental to achieve amongst most service users prior to addressing offending and related behaviour.

There was some overlap between identified met and unmet needs which might have been attributable to the readiness and accessibility of each service user. However, poor multidisciplinary communication, infrequent reviews of care and lengthy waiting lists contributed to a reduction in the service's responsivity to service user need.

Review of Service User Needs – 2

The second review formed part of a larger project which aimed to explore the contribution of the Care Programme Approach review process to the identification and progression of service users' needs. The Care Programme Approach (CPA) is the national framework for the assessment, coordination, planning and review of mental health services. Service user needs are identified and a plan is agreed between the clinical team and the service user for how to meet them. The minimum requirement is that multidisciplinary CPA meetings are held annually. In Broadmoor Hospital they take place at least every six months.

In the larger project, needs were identified at two consecutive CPA meetings and included follow-up of need on an individual basis. Information was also collected regarding the type of psychotherapeutic intervention identified to address each need (e.g. individual Cognitive Behavioural Therapy, Sex Offender group work, skills training, engagement in meaningful occupational activity). In those cases where a service user had not had two CPA meetings within 12 months, the most recent and previous CPA documentation (for description, see below) was reviewed. The focus of the review presented here was to describe the main types of need identified at two consecutive points in a service user's care pathway and to identify the disciplines responsible for the main types of psychotherapeutic interventions in use to address these.

Sample.

In December 2004, 6 service users across each of 12 male wards of Broadmoor Hospital were randomly selected, representing approximately one third of the total male population of the Hospital at that time (female service users were excluded as services for this group of service uesrs were shortly to be provided elsewhere). The mean age of the cohort on 1st December 2004 was 38 years 5 months (range 19 years 7 months to 68 years 2 months). Legal diagnostic classifications (under the Mental Health Act 1983) were predominantly Mental Illness (n=42, 58%), followed by Psychopathic Disorder (n=19, 26%) and dual classification of Mental Illness and Psychopathic Disorder (n=11, 15%). Grounds for detention under the Mental Health Act (1983) were predominantly prison transfers or court hospital orders with restrictions on movement or liberty (s37/41, n=42, 58%; s47/49, n=12, 17%; Criminal Procedures (Insanity)

Act, n=2, 3%; s48/49, n=1, 1%; s46, n=1, 1%; s45a, N=1, 1%) and a minority were unrestricted service users (notional 37, n=9, 13%; s37, n=3, 4%; s3, n=1, 1%).

One of the 72 randomly-selected service users had left the Hospital on trial leave so was excluded from analysis. In total, 117 complete CPA documents (for description, see below) were collated (82% of 142 possible documents), of which documentation across two consecutive time periods was received for 55 service users (78% of sample of 71). The mean age of the sample on 1st December 2004 was 38 years 11 months (range 19 years 7 months to 68 years 2 months). Legal diagnostic classifications (under the Mental Health Act 1983) were predominantly Mental Illness (n=28, 51%), followed by Psychopathic Disorder (n=17, 31%) and dual classification of Mental Illness and Psychopathic Disorder (n=10, 18%). Grounds for detention under the Mental Health Act (1983) were predominantly prison transfers or court hospital orders with restrictions on movement or liberty (s37/41, n=29, 53%; s47/49, n=10, 18%; Criminal Procedures (Insanity) Act, n=2, 4%; s48/49, n=1, 2%; s46, n=1, 1%; s45a, N=1, 1%) and a minority were unrestricted service users (notional 37, n=9, 16%; s37, n=1, 2%; s3, n=1, 1%).

Procedure and materials.

The CPA documentation includes structured clinical needs assessment for forensic services users (Camberwell Assessment of Need – Forensic Version; Thomas, Harty, Parrott, McCrone, Slade and Thornicroft, 2003), a routine clinical outcome measure of behaviour, impairment symptoms and social functioning (Health of the Nation Outcome Scales; Royal College of Psychiatrists, 1996), assessment of risk (including early indicators of increased risk, circumstances which might increase risk and how to manage such risks), care, contingency and crisis plans for specific needs and risks, summary notes of the multidisciplinary discussion and

multidisciplinary reports. Met and unmet needs were collated from CPA documentation by way of a matrix checklist of needs and non-drug therapeutic interventions (including whether no intervention was identified to address the need). The checklist was developed from an earlier study as a means of trying to capture a) the main types of need presented and b) the main types of psychotherapeutic interventions in use, and was adopted as a working document in this study. The checklist was completed for each of the 110 sets of CPA documentation.

Results.

Consecutive CPA documentation was made available for 55 service users. Service user needs were identified from 110 sets of CPA documentation, two consecutive sets for each of the 55 service users in the sample. The content of the CPA documentation varied and, as such, there was a lack of consistency of information source across wards and service users. By taking the CPA documentation as a whole, a greater knowledge of the service user and the context of their needs was available than from the individual CPA documents alone. Furthermore, the notes of discussion and the multidisciplinary reports yielded more information regarding the needs of service users in a high secure hospital than the structured documents, which did not appear to facilitate comprehensive multidisciplinary perspectives on the - often complex - needs of the service user.

A high level of need relating to offending behaviour, mental illness and personality disorder was identified. Within the sample as a whole, the frequencies of identified needs were broadly consistent across each of the two time periods (i.e. first CPA, second CPA), despite variations in individual need across the two time periods. (Information from the larger review, of which this was a part, facilitated more meaningful review of need over time. For example, of the

36 needs identified for 6 service users on one ward at time 1- first CPA - 17 of these were also identified at time 2 - second CPA - and a further 12 needs were identified). In addition, information regarding the disciplines responsible for providing interventions to address identified needs was collected. Identified needs were aggregated thematically and are described in Table 1, along with the percentages of service users identified as having the need across each of the two time periods (first or second CPA) and disciplines responsible for delivering associated interventions.

TABLE 1 HERE

Summary.

High levels of need related to risk-related behaviours (to self and others), mental health, interpersonal functioning and preparation for therapeutic interventions were identified amongst a sample of service users of a high secure hospital. In addition, needs relating to the effects on the service user of staying in high security were identified and are an important aspect of skills maintenance and development, improving quality of life and social inclusion, all of which aid an individual's recovery and can contribute towards improving treatment outcome. Interventions to address need were multidisciplinary at a general level (for example, in contributing towards thematically aggregated need) and at a discrete level (for example, in providing multidisciplinary group work interventions). However, it was sometimes unclear as to who was providing which intervention to meet which aspect of an identified need. This might be a product of the complexity of enduring forensic mental health need but does not appear to assist in transparency in the links between need and intervention.

There is utility in having a structured format for regularly reviewing service users' needs relative to their care pathway through high secure services, as indicated by the high level of need identified in this review. However, the CPA documentation reviewed in this study did not provide a comprehensive, consistent framework for the identification of needs and, as such, inconsistencies in completing the documentation might have resulted in an under-estimate of need, a lack of focused thought about needs relating to aspects of and impacts on the individual's journey through high security and might have impacted negatively on communication and transparency of decision-making across care teams.

Development of the Model Within the Multidisciplinary Working Group

As part of the modernisation of Broadmoor Hospital, a multidisciplinary working group was established and tasked with developing a model of pro-actively managed, individualised, structured activity for service users. Part of this work involved developing a therapeutic model, the aims of which were (a) to actively engage service users in recovering/discovering their mental health and reducing risk, (b) to take account of individual needs, abilities and interests and (c) to provide care and treatment on a needs-led and timely basis. Furthermore, it was anticipated that this model might aid uniformity of reporting and informing service users' needs and provide a means through which care may be strategically planned and sequenced from admission to discharge with the aim of streamlining high secure service user care and reducing the average length of stay to a proposed duration of five years.

The multidisciplinary group met over a period of four years. Part of these discussions drew on information from the two psychology-led reviews of service user need and considered a range of additional multidisciplinary services to more fully reflect therapeutic and management needs, such as the service users' social needs and the requirement of the clinical teams to

regularly review the service users' care. The thematically-aggregated psychotherapeutic needs (as in Table 1) were expanded to include all services provided within Broadmoor Hospital and a document including this was distributed to multidisciplinary colleagues for a period of consultation. Comments from the consultation process were incorporated and eight domains of need were generated and agreed by clinical consensus, as described in Table 2.

TABLE 2 HERE

Subsequently, sub-needs were generated in order to provide a high level of refinement and specificity from the level of overarching need (e.g. reduce the likelihood of the use of weapons, hostage-taking and fire-setting) to specific intervention (e.g. group work to address fire-setting). In part, this was generated from the information in the second review of service user need regarding disciplines providing interventions to meet identified needs, where it was not clear as to who was providing what intervention to meet aspects of a specific need. Furthermore, the group drew on recommendations for evidenced-based practice (for example, National Institute for Clinical Excellence) but also on practice-based evidence in the Hospital, based on the disciplines identified as providing interventions to address needs. This level of specification was necessary in particular for the 'larger' domains, such as 'Risk Reduction' and 'Mental Health Recovery' (as reflected in the needs/disciplines of the second review) but was also applicable to the 'Therapeutic Engagement', 'Occupational' and 'Diversity and Spirituality' domains. Examples of need and sub-need across these domains are presented in Table 3.

TABLE 3 HERE

The final stage was to identify appropriate interventions to address the needs and sub-needs. Wherever possible this process drew on guidelines produced by the National Institute for Clinical Excellence and National Institute for Mental Health in England - which were

particularly relevant for the ‘Mental Health Recovery’ domain - and from the ‘what works’ literature in relation to ‘Risk Reduction’ for dangerous offending behaviours. In addition, interventions were generated from other, potentially relevant evidence bases (e.g. published literature on the efficacy of interventions for non-MDOs and for MDOs in lesser secure settings) as well as from best practice within the Hospital. A summary of the therapeutic model is presented in Figure 1.

FIGURE 1 HERE

Stages of this process discovered ‘gaps’ in what was being provided by the hospital to address service users’ needs, and highlighted areas in which additional resources were required in order to provide the service as described by this therapeutic model.

Discussion

Previous reviews of service user need in Broadmoor Hospital had noted that a) needs relating to insight and the development of therapeutic relationships were more often met than needs relating to addressing offending behaviour, b) the sequencing of treatment in relation to individual service users’ needs (e.g. in reducing attrition) required improvement and c) the framework for identifying and managing need required development in terms of transparency to service users and carers and better communicated across disciplines, teams and services. The work presented in this paper has shown that not one domain but all eight combine to provide an individualised case formulation and monitoring of individual change and meet the service aims of reducing risk and enabling mental health recovery/discovery. This is quite in line with the principles of social inclusion (National Social Inclusion Programme, 2009). It follows that not one intervention but a combination of a number of specified interventions targeted to address

specific need is required. This has been picked up in some areas of treatment, for example the 'Good Lives' approach in sex offender treatment (Ward and Brown, 2004). As well as addressing risk reduction and relapse prevention, the model proposed in this paper aims to build upon the repertoire of offence-incompatible behaviours and to address non-offence related needs of this service user group (e.g. social, educational and spiritual needs). Furthermore, it aims to provide a multi-disciplinary plan of care that works actively with the challenges of providing care and treatment to forensic mental health service users (such as poor motivation to change and/or engage, poor compliance with treatments, difficulties in generating integrated pathways across services and improving quality of life), aids transparency of intervention to need (so going some way to addressing the 'untrustworthiness' held by some forensic mental health service users to 'the system'; Austin et al., 2009) and aims to make best use of available resources. The development of models such as these continues to be advocated in the literature on forensic service evaluation (for example, Gudjonsson and Young, 2007; Young, Gudjonsson, Needham-Bennett and Chick, 2009).

Providing complex and inter-related interventions and experiences for service users inevitably complicates the evaluation of outcomes but represents a challenge to be addressed. Current thinking on treatment evaluation now includes a much greater emphasis on measuring change through individual case formulation and monitoring of individual change (Davies et al., 2007) as well as more traditional group-based tests of treatment effectiveness.

Future work at Broadmoor Hospital will include piloting the 'eight domains' model to assess whether this model streamlines care, improves the service user experience, improves staff collaboration and commitment, reduces the time service users have to spend in high security and thereby impacts on other service goals/aims such as providing care within the 'least restrictive

environment' and maximising the cost-effectiveness of high secure services. Much of the work from this research has been incorporated into the new clinical model for Broadmoor Hospital.

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Table 1

Thematically Aggregated Need Generated from Care Programme Approach Documentation

Aggregate need	**Needs identified and relating to (CPA1;CPA2 % of all 55 service users)**	**Disciplines providing individual and/ or group interventions to address need**
Criminogenic need	Violence (89;85), substance misuse (58;55), weapons (46;35), sexual offending (31;36), fire-setting (15;11), hostage taking (13;5)	Arts Therapies, Education, Medical, Nursing, Occupational Therapy, Psychology/Psychotherapy
Associated criminogenic need	Anger (20;25), psychosexual issues (24;20), distorted thinking (13;13), relapse prevention (15;9), empathy/callousness(3;9), deviant fantasies (2;2), sexually inappropriate behaviour (0;2)	Arts Therapies, Counselling, Education, Medical, Nursing, Psychology/Psychotherapy, Social Work
Clinical need	Depression (36; 16), anxiety (27;24), psychotic symptoms (25;25), personality disorder (18;7), mood disturbances (11;9), self-esteem (9;9), obsessive-compulsive disorder	Medical, Nursing, Occupational Therapy, Psychology/Psychotherapy, Vocational Services/Work Areas

	(2;4), physical illness (2;4), psychological distress (0;2)	
Aggregate need	**Needs identified and relating to (CPA1;CPA2 % of all 55 service users)**	**Disciplines providing individual and/ or group interventions to address need**
Interpersonal functioning	Relationship difficulties (40;45), family relationships (40;40), isolation/intimacy (24;33), interpersonal functioning (22;22), social skills (4;2), psychosocial issues (2;0), coping skills (0;4)	Arts Therapies, Nursing, Occupational Therapy, Psychology/Psychotherapy, Social Work, Vocational Services/Work Areas
Self-oriented behaviours	Self-harm (58;51), self-care/neglect (29;33), suicide (25;20)	Counselling, Education, Medical, Nursing, Occupational Therapy, Psychology/Psychotherapy
Therapy-preparing needs	Lack of insight (35;36), cognitive functioning (15;18), motivational work (2;0)	Arts Therapies, Education, Nursing, Occupational Therapy, Psychology/Psychotherapy
Occupational needs	Keeping busy (49;53), education (13;11), institutionalisation (2;0), taking responsibility/independence	Arts Therapies, Education, Nursing, Occupational Therapy, Psychology/Psychotherapy, Vocational

(0;2)	Services/Work Areas

Table 2

Descriptions of Domains and Related Need

Domain	Need
Therapeutic engagement Enhancing the service user's capacity to form relationships with others (both fellow staff and service users) and encouraging service users to think seriously about all their clinical needs.	Therapy-preparing: • Enhancing treatment engagement • Develop therapeutic relationships with staff • Increasing engagement with all staff • Develop ability to form relationships with others (e.g. staff, service users, family) Therapy-sustaining: • Continue in active treatment
Risk reduction Working with service users in assessing and defining their risk behaviour and develop ways of risk reduction in order to make it possible for the service user to move to conditions of lesser	• Develop a shared understanding of the nature of the risks to self and others • Reduce the likelihood of the use of violence, including weapons, hostage-taking and fire-setting • Reduce the likelihood of substance misuse • Reduce the likelihood of inappropriate sexual behaviour

security.	• Reduce vulnerability to deliberate self-harm, suicidality, self-neglect and exploitation

Domain	Need
Education All teaching and training opportunities that enhance learning, interpersonal functioning and life skills and fosters a sense of self-worth and achievement for service users.	• Improved awareness of mental and physical health risks and potential benefits including compliance with treatment for mental illness • Improved awareness of high-risk offending, related situations and behaviour • Improved awareness of drug- and alcohol-related risks and risk-reduction strategies • Improved competency in language, literacy and numeracy
Occupational Occupational opportunities to promote optimal physical and psychological capacities to engage in a socially inclusive balanced lifestyle encompassing therapy, work and leisure.	• Identify, preserve and develop existing and adaptive life skills, in order to achieve a balanced lifestyle • Identify, preserve and develop interpersonal skills and awareness of social boundaries • Increase self-esteem/efficacy and minimise isolation

Mental Health Recovery To promote optimal mental health recovery using both pharmacological and psychological evidence-based treatments.	For both clinical and personality disorders: • Develop a shared understanding with the service user of their mental health needs and the appropriate strategies for their management • Develop understanding of and insight into clinical and or personality disorder(s) and their treatments • Provide optimal treatment for mental health problems and manage the risk of relapse • Provide support for those living with long-term mental health problems

Domain	**Need**
Management and promotion of physical healthcare To promote optimal physical health.	• Identify and optimally treat new or existing physical health problems in accordance with best evidence • Promote healthy choices in respect of diet and exercise • Sustain physical health • Promote healthy choice in respect of smoking
Diversity and Spirituality Recognising that service users as individuals have their own cultural and spiritual needs with	• Recognise, understand and support social networks and work with families and others as needed • Recognise, understand and support physical ability, age

wider links with families, communities and social groups within and beyond the Hospital.	and legitimate sexual orientation • Recognise, understand and support racial, cultural and spiritual identity
Care pathway management The process of active liaison with partner agencies – healthcare providers and commissioners, social services, voluntary sector, Home Office, prison healthcare, legal representatives, etc. – to ensure they are informed of progress and understand likely next steps so as to minimise administrative delays.	• Timely invitations to CPA and case conferences as appropriate • Timely preparation and circulation of reports for formal events, e.g. MHRTs, CPAs • Critical review of care needs and RSU involvement • Ensuring service users and legal representatives are informed of all developments • Carers' involvement

Table 3

Examples of Domain-Specific Need and Sub-Needs

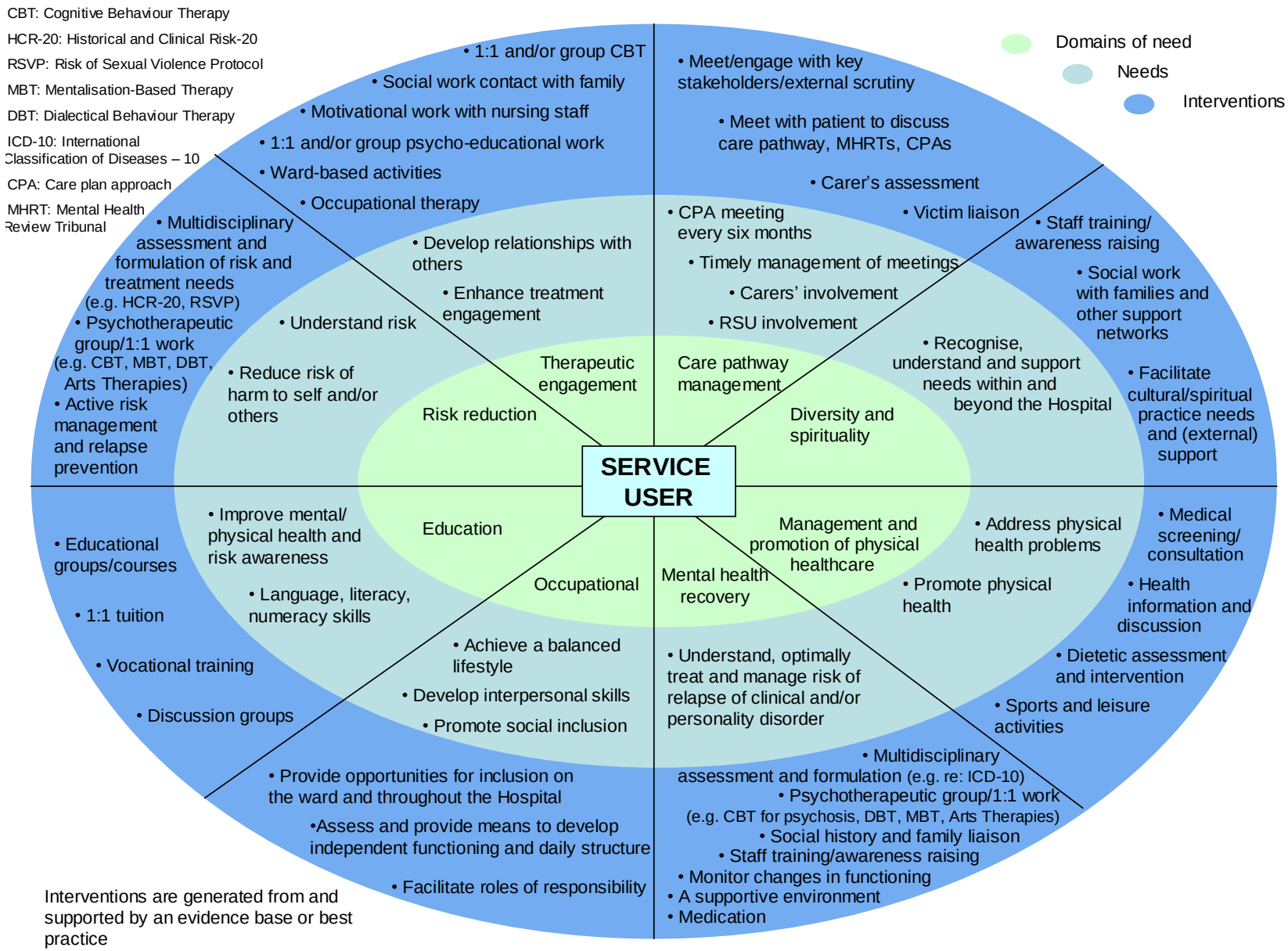
Domain and Need	**Sub-needs**
Therapeutic Engagement Enhancing treatment engagement	• Enhance treatment engagement • Understand more about mental disorders (including faulty cognitions and affect) and the rationale of

	treatment • Learn to recognise and tolerate positive and negative emotions where these are an impediment to engagement (e.g. decrease anxiety and manage affect control)
Risk Reduction Reduce the likelihood of substance misuse	• Understand previous patterns of alcohol and drug use; identify and practice new ways of coping in the future, avoiding high-risk situations • Understand links between substance use, mental/physical well-being and offending behaviour
Occupational Identify, preserve and develop existing and adaptive life skills, in order to achieve a balanced lifestyle	• Assessment of functional skills and occupational need • Increase volition/motivation for occupation, to include exploration, competency and achievement • Develop and preserve work habits, roles, skills and ethic • Develop and preserve the ability to maximise own potential to function independently • Develop and preserve coping strategies for managing transitions and change • Preserve capacity for autonomy whilst detained

Domain and Need	Sub-needs
Mental Health Recovery Develop a shared understanding with the service user of their mental health needs and the appropriate strategies for their management	• Identify pharmacological needs and management strategies • Identify psychotherapeutic needs and management strategies
Diversity and Spirituality Recognise, understand and support racial, cultural and spiritual identity	• Identify and address dietary needs • Identify and address cultural/spiritual practice needs • Identify and address cultural/spiritual dress needs • Develop understanding of other cultures/spiritual identities

Figure captions

Figure 1. *Domains of Need Model with Examples of Needs and Associated Interventions*


CBT: Cognitive Behaviour Therapy
HCR-20: Historical and Clinical Risk-20
RSVP: Risk of Sexual Violence Protocol
MBT: Mentalisation-Based Therapy
DBT: Dialectical Behaviour Therapy
ICD-10: International Classification of Diseases – 10
CPA: Care plan approach
MHRT: Mental Health Review Tribunal
Domains of need
Needs
Interventions
SERVICE USER
Therapeutic engagement
Risk reduction
Care pathway management
Diversity and spirituality
Education
Occupational
Mental health recovery
Management and promotion of physical healthcare
• 1:1 and/or group CBT
• Social work contact with family
• Motivational work with nursing staff
• 1:1 and/or group psycho-educational work
• Ward-based activities
• Occupational therapy
• Multidisciplinary assessment and formulation of risk and treatment needs (e.g. HCR-20, RSVP)
• Psychotherapeutic group/1:1 work (e.g. CBT, MBT, DBT, Arts Therapies)
• Active risk management and relapse prevention
• Develop relationships with others
• Enhance treatment engagement
• Understand risk
• Reduce risk of harm to self and/or others
• Meet/engage with key stakeholders/external scrutiny
• Meet with patient to discuss care pathway, MHRTs, CPAs
• Carer's assessment
• Victim liaison
• CPA meeting every six months
• Timely management of meetings
• Carers' involvement
• RSU involvement
• Staff training/ awareness raising
• Social work with families and other support networks
• Recognise, understand and support needs within and beyond the Hospital
• Facilitate cultural/spiritual practice needs and (external) support
• Educational groups/courses
• 1:1 tuition
• Vocational training
• Discussion groups
• Improve mental/ physical health and risk awareness
• Language, literacy, numeracy skills
• Achieve a balanced lifestyle
• Develop interpersonal skills
• Promote social inclusion
• Provide opportunities for inclusion on the ward and throughout the Hospital
•Assess and provide means to develop independent functioning and daily structure
• Facilitate roles of responsibility
• Understand, optimally treat and manage risk of relapse of clinical and/or personality disorder
• Multidisciplinary assessment and formulation (e.g. re: ICD-10)
• Psychotherapeutic group/1:1 work (e.g. CBT for psychosis, DBT, MBT, Arts Therapies)
• Social history and family liaison
• Staff training/awareness raising
• Monitor changes in functioning
• A supportive environment
• Medication
• Address physical health problems
• Promote physical health
• Medical screening/ consultation
• Health information and discussion
• Dietetic assessment and intervention
• Sports and leisure activities
Interventions are generated from and supported by an evidence base or best practice