Occasional Paper 8

Classification, Diagnosis and Datasets: Towards an approach for clinical psychology services and electronic records

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This Occasional Paper brings together two original documents. The first was prepared as background for the Division of Clinical Psychology (DCP) Working Group developing a statement on diagnosis and was used by the Working Group to inform the debate. It has been revised for this paper and presents an overview of issues in psychiatric diagnosis and their implications for psychology services. The second is a related document introducing proposals for the development of a clinical psychology model and dataset for electronic clinical records (ECRs) in mental and other health services. These proposals are driven by the perceived need for a system unencumbered by some of the limitations of conventional psychiatric diagnosis systems and are aimed at being relevant to users of psychology services and practitioner psychologists in an NHS context that is itself developing. Some ideas in both parts originate in previous papers by the author (e.g. Berger, 2011), but are extended and updated.

Part 1 introduces important concepts that underpin classification and diagnosis using the two main classification systems in mental health nationally and internationally: the World Health Organization’s International Classification of Diseases-10: Chapter V. Classification of Mental and Behavioural Disorders (ICD-10) (WHO, 1992), and the American Psychiatric Association’s Diagnostic and Statistical Manual (DSM-IV) (APA, 2000). The concepts are necessary for understanding the nature and role of diagnostic systems in mental health care and their strengths and limitations. The final section of Part 1 presents an overview of evaluation research on the main systems. The concepts and the research findings are of central importance for developing a psychology-relevant system, detailed in Part 2.

Two important points need to be emphasised at the outset. Firstly, this paper is not ‘against diagnosis’ per se – diagnosis is integral to clinical practise. Rather, the issue is about psychiatric diagnostic systems, their benefits and disadvantages, as well as their relevance or otherwise to psychology practise. The evidence summarised at the end of Part 1 is clearly that psychiatric diagnosis systems, despite their pervasive use, do not meet their own core requirements. The evidence for this is presented in the overview at the end of Part 1.

These systems also do not meet certain features that reflect what may be broadly called a ‘psychology perspective’, making it essential for psychologists to ensure that information systems, epitomised by structured datasets in electronic clinical records, capture information relevant to such a perspective. As is argued in this paper, failure to do so will seriously disadvantage psychology service users and services. Secondly, this paper is intended primarily to inform practitioner psychologists, most of who happen to be clinical psychologists, hence its publication through the Division of Clinical Psychology of the British Psychological Society. Nevertheless, it is hoped that the paper will have some relevance for a wider readership.
Part 1: Diagnosis and psychiatric diagnosis: 
An overview of the issues and their implications

Diagnosis and psychiatric diagnosis in context
The process of clinical diagnosis involves identifying and matching certain patterns of 
behaviour, thoughts and feelings to pre-defined standards, such as those found in the main 
psychiatric disorder classification systems (ICD-10 and DSM-IV), and ensuring that similar 
but alternative diagnoses within the classification, as well as other conditions with similar 
characteristics, are discounted in the matching – the process of differential diagnosis. For 
example, is it anxiety and not depression, and not the consequence of hyperthyroidism or 
other physical or psychological condition? The patterns themselves – syndromes – are 
commonly categorical: essentially, if it is one, it cannot be the other, but several can 
co-occur (co-morbidity).

Categorical classification systems are ubiquitous in all forms of systematic study in the arts 
and sciences and are fundamental in physical medicine and psychiatry. The two major 
classification systems for psychiatric disorders are used in a variety of ways: in clinical and 
research applications and for administrative, management, health insurance provision, and 
for educational purposes, but with their primary function being to ‘…assist mental health 
professionals in providing clinical care for their patients’ (First, 2010, p.465).

Sartorius, in his Preface to ICD-10 (WHO, 1992, p.3), notes that such classification systems 
are ways ‘of seeing the world at a point in time. There is no doubt that scientific progress 
and experience with the use of these guidelines will ultimately require their revision and 
updating.’ Essentially, they are works in progress, the current systems replaced by version 5 
of DSM (APA, 2013) and version 11 of ICD (WHO, 2013b). These too will eventually 
require revision.

Apart from the drivers of change such as research findings, other considerations challenge 
the use of the standard systems. These include questions about the conceptualisation of 
psychiatric disorders, about the personal impact of being given a psychiatric diagnosis, 
about services depending on, and being based on, psychiatric diagnoses, and even about 
the fundamental nature of the systems themselves and their clinical utility. Negative critical 
analyses of psychiatric disorder diagnosis as a clinical process, the underlying systems 
supporting such diagnosis, and the major consequences arising from their use, abound, 
are long-standing and diverse. They are shared, in part or fully, across professional and lay 
groups involved in mental health, including psychiatrists (Bentall, 2007; BPS, 2011; 
Bracken et al., 2012; Brown & Barlow, 2005; Wykes & Callard, 2010). The core issues 
arising from psychiatric diagnosis systems, as well as their contributions in research and 
other spheres, together with the issues they present for clinical psychologists, are 
considered in the following paragraphs.

There is a tension between the ‘ways of seeing’ engendered by psychiatric disorder systems 
and the long-standing position of clinical psychology and its ‘ways of seeing’ – the latter 
arising from the difficulties associated with WHO/APA models, and more importantly, 
because of a long-recognised view about the need to approach psychological difficulties or 
problems through a framework based in psychological theory and research.
This orientation and approach were propounded decades ago by Shapiro (1957) and others and has remained influential (e.g. Kinderman, 2005; Turkat, 2012). At the same time the views of psychologists are tempered by the knowledge that, while there are many important and innovative ideas and developments supporting psychology approaches for clinical psychologists (and others), these are as yet insufficiently developed: they can neither stand alone to provide a robust and comprehensive alternative to the psychiatric disorder classification systems, nor are they sufficiently advanced to be introduced as a coherent and robust psychology component within a mental health or other service ECR.

For these and many other reasons, and despite their limitations, psychiatric diagnosis systems will remain dominant in the foreseeable future: they are in widespread use nationally and internationally and underpin basic and applied research. They guide interventions in both the talking and drug-based therapies and drive policy development. Such systems and their concepts are embedded in mind-set of many mental health practitioners and are central in ECR systems that capture the clinical and other information that form the basis of service commissioning and evaluation. Nevertheless, as noted later, psychologically based approaches relevant to the services provided by clinical psychologists, and to clinical research and training, are abundant and increasingly influential. Given the limitations of the psychiatric systems, the psychology approaches need to be further developed into a coherent system and implemented and tested in clinical use so as to lay a secure foundation that better meets the needs of psychology service users and practitioners. Some of the requirements for doing so are presented in Part 2 of this paper.

The remainder of this Part introduces key concepts relevant to psychiatric diagnosis systems, both current and proposed, as well as some of the important newer developments having the potential to support psychology-relevant models and services.

**Concepts and models**

A number of concepts associated with the use of psychiatric diagnosis systems that are essential to a proper understanding, analysis and evaluation of such systems, are introduced in this section.

**Disease, illness, disorder, and ‘problems’**

Certain forms of behaviour have long been recognised as ‘unusual or different from the norm’ in many cultures. How they are then understood – indifferently; as forms of deviance; danger; or as positive attributes – tends to be culturally related. In Western cultures, with the emergence of medicine as a formal discipline, and under its influence, such states came eventually to be regarded as forms of illness or disease, just like other physical illness, and became the subjects of the medical sub-discipline of psychiatry. Some of the basic issues that arise stem from imposing physical disease or illness analogies in the realms of behaviour and experience to account for aetiology of such conditions and to introducing medical, commonly medication-based, interventions. Such ‘ways of seeing’ are manifest by the use of terms such as ‘mental or psychiatric illness’, ‘psychiatric disease’, and the prevalence of physical treatments.
As the use of ‘disease’ forms of conceptualisation developed and became embedded, objections began to be raised, leading to attempts to find other terms such as ‘disorder’, to encompass the phenomena. Even these prove problematic, with the problems inherent in such a translation being well recognised:

‘The term ‘disorder’ is used throughout the classification, so as to avoid even greater problems inherent in the use of terms such as ‘disease’ and ‘illness’. ‘Disorder’ is not an exact term, but it is used here to imply the existence of a clinically recognisable set of symptoms or behaviour associated in most cases with distress and with interference with personal functions. Social deviance or conflict alone, without personal dysfunction, should not be included in mental disorder as defined here.’ (WHO, 1992, p.11).

‘Disease’ thinking persists, evidenced, for instance, in a paper on Attention Deficit Hyperactivity Disorder (ADHD) in which the authors, Eloyan et al. (2012), refer to ‘the biological basis of the disease’ (p.1). Similarly, Meyer-Lindenberg and Tost (2012) write about ‘disease states such as depression or anxiety’ (p.663). Alternative terms such as ‘distress’, ‘problems’ or ‘concerns’ are not fully satisfactory either: What about individuals not expressing distress? Problems for whom? How severe do concerns have to be to justify them being called ‘problems’ or the use of professional resources? Who is to be empowered to make such judgements? And so on. Nevertheless, while recognising such issues, the terms ‘concerns’, ‘clinical problems’, or ‘psychological difficulties’, will be used here unless otherwise required.

Medical, biopsychosocial, and psychobiosocial models

The significance of models should not be underestimated: most importantly, they underpin particular forms of classification of the clinical phenomena and hence the derivation of diagnoses. In doing so, they drive the thinking of clinicians, service users, researchers and others, often without awareness. Models also influence the conceptualisation of interventions and outcomes, and have a key role in policy and the allocation of resources because of their downstream applications. Further, the choice of terminology to describe phenomena is directly linked to causal or aetiological assumptions that underlie the thinking about psychological difficulties expressed in models. In this context, it is important to question the simplistic distinctions that can sometimes drawn between ‘medical’ and other models as medicine has many models and physical conditions take many forms (Rutter, 1976, 2011). Not all of these are anchored in illness or disease-based thinking and they also recognise the importance of other factors, such as socio-cultural influences, in psychiatric morbidity. Nevertheless, with DSM at least, there was a deliberate move to transfer psychiatry in the US from its then dominant psychoanalytic psychological orientation clearly into the medical domain, with a diagnostic system that would ensure psychiatry could retain government and medical insurance reimbursements for its work (see Coghill & Sonuga-Barke, 2012, p.470). (The intimate relationship between DSM and ICD, the latter being the international reporting standard to which the US has to adhere, and the pressures on ICD to follow DSM thinking, are described by Reed (2010): the issues are not just conceptual, clinical or empirical but link powerfully to various professional and commercial interests.)
Other models, for instance, the ‘biopsychosocial’ (Berger, 2011b; WHO, 2001) and their variants, are attempts to emphasise multi-factor contributions to the emergence and maintenance of psychological problems. ‘Psychobiosocial’ models accord primacy to psychological factors without discounting the influence of others (LeVine, 2012) whereas ‘biopsychosocial’ does not necessarily allocate primacy to the ‘bio’ contributors, only that these should be taken into account where relevant. It is also recognised that different models may have advantages in particular circumstances, even if they have disadvantages when applied outside these constraints. Nevertheless, even if a disease or physical-illness model and aetiology are considered ‘primary’, there will likely be psychological ramifications stemming from being so affected that will require psychologically orientated models, understanding, and interventions, to deal with the psychosocial concomitants.

**Categorical vs. Dimensional models**

The limitations of categorical conceptualisations have led to proposals for alternatives, with ‘Personality Disorder’ being a prime example of the attempt to recast the diagnosis into dimensional form. Widiger and colleagues, for instance (Widiger, 2011; Widiger & Mullins Sweatt, 2010) detail the shortcomings when personality disorder is taken as a categorical diagnosis, including heterogeneity within the diagnosis, inadequate coverage, and lack of consistent diagnostic thresholds. They suggest a five-factor psychology-derived dimensional model as a more supportable framework. The issues are, however, much more complex when considered across the range of diagnostic categories (Coghill & Sonuga-Barke, 2012), with a methodology that requires very large samples and special statistical procedures to resolve the question: Which disorders are best considered as dimensions and which as categorical entities? (Assuming the notion of disorders is acceptable.) In child psychopathology, for instance, evidence suggests that some are best regarded as dimensional and others as categorical (Coghill & Sonuga-Barke, 2012). The other challenges that arise in relation to understanding which diagnoses are best accommodated in dimensional conceptualisations and which in categorical, are detailed by Coghill and Sonuga-Barke (2012). Their analysis covers both general topics affecting all diagnoses as well as the findings to date in studies of child psychopathology.

Even when some disorders are recast as dimensional, the associated issues are not necessarily resolved. First (2010) describes the unsatisfactory outcomes of attempts to incorporate dimensional ratings within DSM diagnoses, particularly in the context of clinical utility (see below). Coghill and Sonuga-Barke (2012) point out as well that the main difficulty for practitioners is that whatever the underlying structure used to conceptualise clinical problems, clinicians have to make categorical decisions: to intervene or not, and which intervention/s? Whatever framework is used needs to support such service-level decision-making, a point considered further in Part 2.

**Other classification systems**

The World Health Organization has long recognised that diagnoses of disease and disorder provide an incomplete perspective on health. To obtain a more rounded picture, it introduced additional classifications including the *International Classification of Functioning, Disability and Health (ICF)* (WHO, 2001), and the *International Classification of Health*
Interventions (ICHI) (WHO, 2013). The importance of ICF is its focus on the functional consequences or impact of any medical diagnosis. In conceptualising these ‘disabilities’, ICF explicitly adopts a biopsychosocial model. This encourages practitioners to take account of intra-individual factors such as personality and memory, as well as personal and social circumstances, and wider socio-cultural factors that may limit or facilitate individual functional adaptation to medical or psychiatric conditions. As with the other such systems, ICF provides a set of codes to facilitate computerised record keeping and the statistical analyses that support the objectives of the World Health Organization in its international role and public health responsibilities (Reed, 2010).

Further, the World Health Organization publishes three versions of its ICD-10 classification of mental and behavioural disorders: a version intended for practitioners, the Clinical Descriptions and Diagnostic Guidelines (WHO, 1992a); the Research Diagnostic Criteria (WHO, 1993) operationalised for research use; and a simplified version, the Diagnostic and Management Guidelines for Mental Disorders in Primary Care (WHO, 1996). This collection of classifications reflects the principle: that it is acceptable for there to be other classification systems for specific purposes.

**Diagnosis**

Within current clinical services, the term ‘diagnosis’ is commonly used as shorthand for ‘psychiatric diagnosis’. Further, in the critiques of such ‘diagnoses’, arguments can be framed as if the process of diagnosis is itself tainted. This can be because of the association with the inadequacies of the classifications systems to which they link; or because of medical connotations; or because of the inadequacies or the inappropriateness of medical models in understanding psychological difficulties; or combinations of these and other factors. Rejecting ‘diagnosis’ as a process for such reasons is misplaced. The word itself derives from the ancient Greek word meaning ‘discernment’, as in identifying or understanding the nature and cause of something. The term is used in differing ways in a variety of disciplines outside of medicine to reflect the process of determining what is ‘wrong’ or difficult, and then trying to understand why the problems have come about and resolving them. In undertaking an assessment or investigation of reported difficulties, it is not the discernment, problem discovery or diagnosis processes as such that are problematic, but the reference classification systems to which they link, and the models on which these are based, that matter. These models determine in the first instance how the problems are identified and understood. Given the strong medical ‘disease’ orientation of the psychiatric diagnostic framework, it is not surprising that ‘diagnosis’ can have negative connotations.

Nevertheless, identifying, discerning or ‘diagnosing’ the problems, issues or concerns are fundamental in psychological practise as subsequent processes – formulation and intervention – are totally dependent on the nature of what is identified or uncovered. Any process that aims to identify problems and understand their nature, whatever the framework, are essentially diagnostic processes. To the extent that the term ‘diagnosis’ is unacceptable to practitioners, it can be avoided by describing the process, as ‘assessment’, and the outcome as ‘the assessment’, understood here as essentially a formulation –
commonly tentative – attempting to account for the key problems. At the same time those who are ‘anti-diagnosis’ have to recognise that in our ‘medicalised’ Western culture, a service user expectation is that the outcome of professional investigation is commonly ‘a diagnosis’. Further, a psychiatric diagnostic label may be required administratively, for access to services, or for insurance or related purposes. And finally, clinical and other psychology practitioner groups show a spectrum of practise in relation to the use of psychiatric diagnosis: some have no qualms about using these terms or their connotations, or in conceptualising their activities as involving diagnosis within the framework of psychiatric systems; others will recognise the importance of medical and psychiatric syndromes in contributing to their understanding of the concerns encountered in practise (for instance the impact of genetic conditions on psychosocial functioning), and use this information in formulation and intervention; others will regard the contributions of such diagnoses as negligible or even counterproductive; and some will modulate their practise as individual circumstances dictate.

Unsurprisingly, several approaches have been introduced that attempt to go beyond psychiatric disorder frameworks. These seek to identify more basic, crosscutting psychological mechanisms and processes that underlie clinical features and span one or more such diagnoses.

**Case conceptualisation, transdiagnostic approaches and psychological formulation**

Case or clinical formulation (Butler, 1998; Persons, 1986, 1989), transdiagnostic case conceptualisation (Dudley, Kuyken & Padesky, 2010) and transdiagnostic models of psychopathology (Nolen-Hoeksma & Watkins, 2011), are instances. These are possibly better called ‘trans-psychiatric-diagnostic’ because they do not necessarily question the validity of psychiatric diagnoses, but use the diagnoses as the basis for developing the interpretations. Like their antecedents (e.g. Meyer & Turkat, 1979; Shapiro, 1957), these transdiagnostic approaches focus on generating psychological hypotheses based in psychological research and theory relevant to the presenting concerns. Essentially, they are posing ‘why’ questions about clinical phenomenology and the answers they give are conceptualised as formulations. (Whatever their variations, each of these older and newer conceptualisations implicitly or explicitly requires the process of diagnosis as characterised above as their starting point: what varies is the theoretical framework, processes and language used to underpin the detection and understanding of the features, and the ways they are then described and understood.)

In addition to their conceptualisation of the transdiagnostic approach, the Nolen-Hoeksma and Watkins (2011) paper is important in demonstrating the richness of the psychological theory and research that can be harnessed for conceptualising problems and developing formulations at the individual level. Formulations may encompass: individual characteristics and historical experiences; more recent experiential contributions; recognition of the individual’s strengths; and the positive and negative social and biological factors that drive individual psychological development, functioning and difficulties. The recognition of the critical role of historical experiences, particularly those occurring early in life, is among the advances assuming greater significance for psychological (and psychiatric) practise.
Other advances

Recent advances in epigenetics are illuminating the possible ways in which early and other experiences can interact with genetics to influence developmental pathways (Labonté al., 2012; Meaney, 2010) and the susceptibility or resilience to developing psychological difficulties (Meyer-Lindenberg & Tost, 2012; Read & Bentall, 2011; Russo et al., 2012; Szyf & Bick, 2013). Epigenetics is an area of theory and research that focuses on the effects of experiences, especially those in early life, on genetic expression at several levels of analysis – neurochemical to behavioural – and their impact on behaviour and psychiatric disorders (Meaney, 2010). Early abuse and other experiences (e.g. Copeland et al., 2013) appear to have biological and psychological ramifications in later life and epigenetics encompasses some of the biological mechanisms and processes that may contribute to such continuities. Psychologists will need to acknowledge and, if relevant, incorporate such biological and social considerations, as well as asserting the psychological – intra- and inter-individual – factors, that are involved in such continuities in both assessment and formulation.

As important as epigenetic research is for clinical practise, it would obviously be wrong to discount or disregard as a consequence, the impact of diverse other adverse experiences such as discrete traumatic events occurring anywhere in the lifespan that influence psychosocial adaptation. Such factors can include bereavements, educational difficulties, peer relationship problems, head injuries, severe or chronic illnesses, difficulties that arise in employment and family life, and all the other personally traumatic physical and psychological events. All can have ramifications for the individual, relatives, carers and peers, and need to be considered in assessment and formulation.

Inevitably, to the extent that there are biological ramifications of early and other experiences, these will offer further scope for the medicalisation of psychological difficulties, and for developing pharmacological or other physical interventions that may ameliorate or prevent such experiences having subsequent functional impacts (Quirke et al., 2010; Russo et al., 2012). The potential for such developments raises many fundamental questions, such as what actually transpires at a biological level in the process of therapies, psychological and pharmacological? Can they ever be equivalent in their impact? Is it likely that neurochemical interventions will be devised to produce the same outcomes as may be found with psychological interventions, or do both work very differently, are not equivalent, and are never likely to be so? Some insights into the answers to such questions are being offered through exciting recent research on the nature and different types of extinction, as well as the role of pharmacological interventions in expediting fear extinction (see Quirke et al., 2010, for instance). The potential of such interventions will undoubtedly continue to reinforce the use of physical medicine models and interventions in mental health, approaches consonant with initiatives such as the NIMH Research Domain Criteria project.

The NIMH Research Domain Criteria (RDoC) initiative

The US National Institute for Mental Health (NIMH) notes that current psychiatric diagnosis systems are the agreed standards for mental disorders, ‘formally implemented’ (NIMH, 2013) in arrangements for insurance billing and federal drug trial requirements.
They have various other uses and constitute ‘the predominant standard for reviewing and awarding research grants.’ The RDoC initiative stems from the finding that, in contrast to physical disorders, new knowledge about mental disorders has had ‘limited clinical impact, partly because they map only moderately onto current clinical diagnostic categories for mental illness.’ As examples, some of the psychotic disorder risk genes appear to be associated with bipolar disorder and schizophrenia, and depression and PTSD appear linked to the same prefrontal brain region.

These and other findings suggest that biological factors in mental disorders, perhaps unlike those in physical disorders, may be non-specific, or that if there is specificity, it is not with disorders as currently defined. As the NIMH paper notes further, ‘…most genetic findings and neural circuit maps appear either to link to many different currently recognised syndromes or to distinct subgroups within syndromes.’ While this could be taken to imply that each clinical presentation is unique, doing so would essentially undermine the potential contribution of biology in identifying ‘illnesses linked to pathophysiology’, and would further ‘limit the development of more specific treatments’. Consequently, the NIMH proposes a classification, RDoC, based on ‘dimensions of observable behaviour and measures derived from neurobiological research’, to provide a framework for research that is not dependent on the current diagnostic systems. RDoC is a way of classifying patients for research, with the hope that in the longer term, it will provide a foundation for diagnosis and treatment with direct links to ‘genomics, neuroscience and behavioural science’. The implications of RDoC for developing a psychology model and electronic record content are considered in more detail in Part 2.

Other classification systems have been introduced for specific purposes, such as the ‘cluster’ models used to classify service users in the context of ‘Payment by Results’ being introduced in NHS mental health and other services (see below), and the Patient Level Information and Costing Systems (PLICS) (Whitfield, 2012), the former to estimate average costs, the latter actual individual costs, primarily geared to acute health services.

**Clustering models**

These models (Cohen-Tovée, 2012; DoH, 2013), whose components differ depending on the services to which they are applied, group service users into clusters using a set of operational criteria that essentially combine clinical features and severity based on clinician assessments. The groups reflect complexity of health care need. They are not based directly on psychiatric diagnosis but can be resolved into these. Clusters are the ‘currencies’ – the units to be paid for and the cost of each is its ‘tariff’. The nature and potential impact on psychological services for adults has been documented by Cohen-Tovée (2012). While clustering will not replace other forms of assessment, it may complement these and will bring clinicians face-to-face with the economic and financial realities and their implications for practice.

For various reasons, presented next, the current diagnostic systems introduce certain requirements for disorder symptomatology that are also likely to be important considerations for all models and classification systems.
Severity and duration

One of the requirements for diagnosis in ICD and DSM is meeting pre-designated severity and/or chronicity criteria. These criteria help reduce the potentially adverse consequences of too many false positive diagnoses that can result in inappropriate treatment, excessive estimates of prevalence, and inappropriate stigmatisation (First, 2010). The criteria also recognise the occurrence of remission or ‘spontaneous’ recovery and therefore introduce duration criteria aimed at avoiding premature diagnoses. As with all such cut-offs, there will inevitably be some false positives and negatives with implications for providing medication and psychosocial interventions, or withholding such. Some of the implications of cut-off changes are noted in the Wykes and Callard (2010) comments about the implications of threshold changes introduced in DSM-IV and the further changes in DSM-5 that can lead to ‘sub-syndromal diagnoses’ (p.301): people with mild symptomatology now meeting criteria for having a psychiatric disorder diagnosis which would not have happened if the diagnostic thresholds of DSM-IV had remained. They point to comments by Frances (2010) that implicate the contribution of such factors to the increased rates of attention deficit, autistic, and bi-polar disorder in children following diagnostic criteria changes in DSM-IV.

An important consideration in relation to severity and duration criteria is the contentious matter of rationing health care, an anathema to many in principle and practise, but a reality nevertheless, and one that cannot be ignored as it is directly impacted by changes in standard diagnostic criteria. There are clearly competing demands for health care resources both within health services such as the NHS and between health and other services, as arises in the UK. There are not the resources, or the political will, probably in almost all countries where the state is the paymaster, to allocate resources sufficient to offer services to everyone who is referred or feels the need for professional input to deal with psychological problems. Severity and duration criteria are seemingly objective measures for controlling such provision. As with all such judgements however, clinician reliability is an issue as is clinician adherence to the criteria but, despite the introduction of generic, simplified severity criteria in DSM-IV, ‘…severity specifiers continue to be ignored by clinicians’ (First, 2010, p.470).

In addition to the need to manage such issues, there are likely to be other considerations involved in setting specific criteria that are not always acknowledged. In insurance-led health care for instance, criteria for ‘caseness’ will need to accommodate particular economic considerations, such as the availability of funds for services. Further, in both state and insurance-funded systems where payments are based on individuals having been given the service, it is important that there will not be an excessive demand for reimbursement whilst at the same time ensuring that practitioners paid through such systems can earn ‘enough’ – whatever that may be. Similar considerations likely apply in relation to thresholds for prescribing medication, an issue that will most likely be of on-going interest to the pharmaceutical industry because on the impact of prescribing changes on profitability.

In addition to the issues about severity and duration, classification schemas will also have to address the related notions of ‘functional impairment’ and ‘clinical significance’.
**Functional impairment and clinical significance**

*ICD* and *DSM* differ in their use of information about the everyday impact of a disorder. In *DSM-IV*, ‘clinical significance’ is comprised of the extent of distress and (everyday) impairment in functioning. Crucially, these elements are integral to the diagnosis in *DSM-IV* (Narrow, Kuhl, & Regier, 2009) whereas in *ICD-10*, the impact is assessed primarily via the World Health Organization’s *International Classification of Functioning, Disability and Health* (WHO, 2001) and the notion of ‘disability’. As Narrow et al. (2009) note, while those involved with people with mental illness are aware of the associated disabilities, the forms these take, how frequently they occur, the outcomes for those so disabled ‘are not well-defined or studied scientifically. Moreover, their use in formulating diagnoses of mental disorders is both un-clear and inconsistent’ (p.82). Further, *ICD* and *DSM* ‘use the construct of disability very differently...’ (p.82). There is, however, recognition of the need to address such differences in conceptualisation and for the inclusion of operational criteria for both disease and disability components in the revisions of the classifications (Narrow et al., 2009). These divergences highlight further problems with the current psychiatric disorder classification systems as well as raising additional considerations that would need to be addressed in the development and evaluation of alternative models.

**Evaluating diagnostic systems and clinical utility**

Diagnostic systems are complex in structure and application, so that evaluating their nature, benefits and inadequacies, are complex tasks. In part this arises because such systems serve various purposes (clinical, administrative and policy), and establishing evaluation criteria and undertaking the research necessary to evaluate each will be time-consuming and methodologically demanding. Nevertheless, given that the clinical application of such systems can have profound consequences, a special criterion has been advanced – clinical utility – and applied in setting part of the framework for *DSM-5* (First, 2010), and for the projected *ICD-11* (Reed, 2010).

‘Clinical utility’ recognises that classification systems in psychiatry are used to help clinicians achieve certain goals: communication; selecting effective interventions; predicting course, prognosis and future management needs; and finally, differentiating disorder from non-disorder so as to determine who might benefit from treatment. Similar criteria would apply to any other clinical system, including any that psychologists might construct. The fundamental importance of the notion of ‘clinical utility’ is evident in both the use of utility criteria in critical evaluations of current psychiatric classifications, and in providing a framework for their revision. For instance, First (2010) notes that any change in the *DSM* that improves clinicians’ ability to achieve any of these goals constitutes an improvement in its clinical utility. However, demonstrating that this is the case is methodologically challenging, partly because of differences in how ‘clinical utility’ is to be conceptualised.

There are disagreements regarding the main constituents of ‘utility,’ as well as variations in its constituent criteria (see Reed, 2010, pp.461–463). For instance, Widiger and Mullins-Sweatt (2010) suggest three fundamental components: ease of use, communication, and treatment decisions, whereas the proposed the ICD criteria are: (a) communicative value for practitioners, patients and others; (b) implementation in clinical practice, including
how accurate its descriptions are, its ease in use and time demands; and (c) usefulness in choosing interventions and making clinical management decisions (Reed, 2010). The World Health Organization also takes into consideration relevance to improvements in clinical outcomes at the individual and population levels.

Some of the utility criteria appear as re-framed criteria of conventional psychometric validity (e.g. construct and predictive) or, inappropriately, conflate utility and validity (Widiger & Mullins-Sweatt, 2010). The World Health Organization conceptualisation of utility does not attempt a separation of the two and Reed (2010) argues that while the World Health Organization approach can be encompassed in a validity framework, the utility criteria adopted reflect very different aspects of validity to those that have been used in previous evaluations of psychiatric classification systems. It is noteworthy too that none of the discussions challenge the basic validity question, that of the use of the ‘disorder’ concept itself within the classification systems: even the dimensional proposals refer to how personality ‘disorder’ is to be represented – categorical or dimensional – and do not consider its implied or overt status as a form of disease or illness.

In addition to these conceptual and other concerns about the underpinnings of psychiatric diagnostic systems, there are a number of core issues that arise from empirical studies of the systems in use. These are summarised in the next section. It should be emphasised that the conclusions presented here are not based on a review of the literature on psychiatric diagnosis and classification by the author: rather the summaries of the findings that follow reflect the situation as reported in peer-reviewed publications, in particular by Reed (2010, especially pp.459–460)¹, and First (2010)²: hence its status as an overview.

**Core issues**

*Psychiatric classifications and diagnosis – an overview of current evidence*

The following are the key points made by Reed (2010), with similar conclusions appearing in First (2010, see especially p.468):

- Both *ICD-10* and *DSM-IV* assumed that using a descriptive approach with clearly stated criteria would result in better diagnostic reliability. This has not proved to be the case in daily clinical practise, and when found, occurs primarily in tightly controlled studies using standardised diagnostic interviews.

- There has been no demonstration that the psychiatric classification systems reflect valid disease entities, and given the rate of progress in relevant research, such entities, should they exist, will not underpin the new revisions, *ICD-11* and *DSM-5*. A similar position was noted in the earlier discussion of the NIMH RDoC.

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¹ A psychologist involved in developing *ICD-11*.

² A psychiatrist involved in the current revision processes for both *ICD* and *DSM*.
Further, as Reed (2010, p.459) states:

- ‘Research to date has not provided a clear, validity-based over-arching structure or coherent set of organising principles for a standard diagnostic system. Nor has it led to validation of individual diagnostic entities or clarification of their criteria.’

**Psychiatric classifications and diagnosis – an overview of evidence of clinical utility**

It is recognised (First, 2010; Reed, 2010) that a key challenge for a clinical classification and diagnosis system is that it should meet criteria for clinical utility (see earlier discussion). In this regard too, even though there are differences in what such functionality consists of, the current systems and approaches have failed to meet key criteria. Again to summarise Reed (2010, p.459):

- A high proportion of diagnoses in practice use the ‘Unspecified’/‘Not Otherwise Specified’ characterisations, suggesting difficulties in the use of the systems, or that the characterisations are not useful to clinicians and are failing properly to reflect clinical realities. First (2010) suggests that ‘many patients seen in clinical practice have presentations that do not neatly fit into any of the DSM-IV categories and require the use of the catch-all Not Otherwise Specified (NOS) category...’ (p.468).
- A substantial number of individuals meet criteria for two or more disorders. Multiple diagnoses may be the consequence of a number of factors, but whatever these may be, it suggests that the present systems fail, succinctly or efficiently to capture the nature of difficulties encountered in clinical services.
- Treatments, whether psychological or pharmacological, are in the main not disorder specific, suggesting ‘that there are many diagnostic distinctions currently made in the classification that have no relevance for clinical practice’ whereas others ‘are characterised by significant heterogeneity’, with important implications for treatment.

Similar points are made by First (2010, pp.466-467) in the context of the revision of DSM-IV. He notes that possibly

- ‘…the most important goal of a psychiatric classification is to help clinicians manage their patients by facilitating the implementation of effective interventions.’ This is a complex task because of ‘the fact that diagnosis and treatment are only loosely related in psychiatry and psychology. Most available treatments work on a wide range of diagnostic categories … Similarly, for each diagnostic category, a wide range of treatments, both psychopharmacological and psychotherapeutic, have demonstrated efficacy…’.
- For some conditions it is possible for individuals with the same diagnosis not to share any of the diagnosis components.
- Being given a psychiatric diagnosis does not predict treatment requirements. This is particularly so in relation to those ‘with the most severe forms of mental disorders’, yet ‘specific diagnoses are often used to define service eligibility’. Essentially, existing ‘systems do not support the efficient use of limited treatment resources at the clinical or country level’.
Several additional points, noted by Reed (2010, pp.459–460), are relevant in the present context:

- The incremental revision process in both *ICD* and *DSM* has led to systems with a degree of complexity that places a substantial memory load on clinicians to which they cannot accommodate. Parenthetically, this may become less of an issue if computerised decision-support systems such as Map of Medicine (2013) are adopted.

- Much of the revision process is driven by research where the availability of multivariate analysis procedures allows for complexity. The main beneficiaries of such research appear to be the pharmacological companies, with research into mechanisms and cross-disorder treatment effectiveness losing in the process.

- It may not be necessary for clinicians to rely on the degree of detail inherent in the definitions and criteria for mental disorders: some studies appear to demonstrate ‘that nearly half of the existing criteria for major depression could be dropped while retaining nearly complete explanatory power’, and that similar results could arise for other disorders.

**Implications for clinical psychology**

For reasons that should be obvious, the standard psychiatric diagnosis systems are not going to be replaced in the foreseeable future. It is nevertheless clear that they are not systems that meet what was hoped and expected of them, nor that they have the capacity to capture either the spirit of clinical psychology practise or the information that reflects the thinking and diversity of the work that psychologists engage in. It is recognised that psychologists will nevertheless need to be familiar with these systems and their strengths and limitations, and if circumstances demand, use disorder diagnoses where necessary for the benefit of service users in accordance with British Psychological Society recommendations (BPS, 2013). At the same time, psychologists need to recognise and understand that unless they also have some system for capturing psychological perspectives, assessments, formulations, interventions and outcomes in ways that are relevant to service users, to themselves and to service managers and commissioners, their contribution will be marginalised and most likely be subsumed under the umbrella of the ‘team’. Hence, the importance of a psychology-specific record or record component should not be underestimated.

Services already have or are in the process of introducing electronic clinical records (ECRs) in mental health and elsewhere, aiming also to move to paperless or paper-light record systems. Essentially then, if something does not exist in electronic form, it does not exist. Further, whereas retrieval of clinical content relating to individual service users and other information from paper records remains difficult and time consuming, electronic records dramatically change the situation. Virtually everything in electronic records is potentially and rapidly accessible and analysable for any of a variety of purposes. The challenges for psychology, therefore, are to ensure a presence in the record, or in a stand-alone record that links with team or other records that clearly conveys the distinctive contributions of psychology practitioners. Before this can happen, there will need to be a structured dataset for use in the ECR to capture the psychology-relevant data.
A psychology dataset presupposes some form of psychology relevant classification system, and that system in turn requires some form of model that sets up the principles to be incorporated in the classification and dataset. These topics, in reverse order are introduced in Part 2 of this paper. The critical feature is that a dataset captures clinical psychology perspectives, activities and outcomes able to inform decisions about the relevance of, and need for the services of psychologists for the benefit of service users. Part 2 introduces some of the key issues and practical challenges in doing so.
Part 2: Moving towards a model and dataset for clinical psychology services

As the NHS moves increasingly to the use of ECRs, there will be major changes impacting directly on clinical practise. Perhaps the most profound of these will be that the content of all clinical records becomes accessible for electronic processing and analysis. With paper records, content could only be accessed manually, making the use of the information contained impracticable for most purposes. Electronic records, in changing all that, transform the salience of the record. In effect, the ECR becomes the primary repository of health care information, holding all the personal data about service users, their clinical history, the nature of their concerns, how these are understood, interventions and outcomes, as well all the data required for service administration, commissioning, policy analysis, and research. Essentially, ECRs will provide the data that meet the clinical needs of service users and providers, and will underpin commissioning and the other decisions that determine the viability and provision of services.

At present, the main information requirements of the NHS Commissioning Board are detailed in a list of approved datasets (NHSCB, 2012):

‘All NHS funded providers (including independent sector) are required to comply with data collections that have been approved by the Information Standards Board (www.isb.nhs.uk)…’ (NHSCB, 2012, p.2).

Table 1 presents a sub-section of these. The required data are based on psychiatric diagnoses (although there may be some exceptions in the CAMHS-related datasets). For instance, the Mental Health Minimum Data Set contains Primary and Secondary ICD-10 diagnoses, notes the involvement of Clinical and Assistant Psychologists, records some outcome data but little else that reflects the nature of the psychology input and specific outcomes (MHMDS, 2012).

The ECR will also bring with it major changes to the nature of clinical records. These will have to contain information in machine-readable form to facilitate processing and analysis. The language of the record – the meanings of its terms and the way they are represented in coded form – also needs to be consistent across users and settings. The NHS has adopted the Systematised Nomenclature of Medicine – Clinical Terms (SNOMED-CT®), an internationally recognised thesaurus of unique clinical terms and their definition with associated numerical codes that facilitate electronic processing. This will define the language of health care record, including mental health records (see Appendix 2). Terms not in SNOMED-CT® will either need to be added or they will be ignored. Also, work is well underway to standardise the record structure. This applies to the headings of all clinical records and communications in physical and mental health, for instance, the discharge summaries that are sent to GPs (RCP, 2013). In process at the same time is a move to ensure that professional records meet suitable standards of content, structure and coverage through the establishment of a Professional Record Standards Body (RCP, 2013). This reflects recognition that the different specialties in medicine and the other professions that comprise the NHS have differing record requirements, but that these too need to be consistent across the NHS, at the very least to ensure consistent communications.
Another significant feature of the culture shift is the emphasis on the ownership of the clinical record by service user or carer. This is accompanied by the need for users to have ready access to the information it contains as well as being involved in the processes concerned with the development of its structure, content and accessibility (see National Voices, 2013; Patient Information Forum, 2012). This requirement will inevitably have an impact on clinical records and recording of information. But this should not mean that the many other requirements of clinical records, particularly those of clinicians for safe, appropriate, efficient and effective practise, should be ignored or distorted: the record will need to be a joint venture attempting to accommodate varied needs, without compromising these criteria. The implications of these requirements, particularly in the context of mental health services, are noted later.

These developments raise a number of fundamental questions for psychologists providing NHS services, and as other services move towards ECRs, for all Practitioner Psychologists: should there be a psychology ECR – for instance, one that is not the same as, but could be part of the team ECR, or a standalone ECR that feeds other records with the required information? And if so, what form or forms should it take? And what data should it contain and in what form, bearing in mind that the NHS is unlikely to accept anything not having both standard structure and content? This paper argues for developing a psychology-based ECR, at least for NHS services, that can either stand alone and be linked to, or be integral with, the main ECR. As noted in Part 1, to do this, there needs to be an underlying model that supports clinical thinking and practise, a data structure detailing how the data are to be organised or grouped in the ECR that is also consistent with the principles of the

Table 1: Excerpts from approved datasets (NHSCB, 2012).

<table>
<thead>
<tr>
<th>ISB Approved Data Sets are outlined below include:</th>
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</thead>
<tbody>
<tr>
<td>Child and Adolescent Mental Health Services (CAMHS) Data Set</td>
</tr>
<tr>
<td>Children and Young People's Health Services Secondary Uses Data Set</td>
</tr>
<tr>
<td>Mental Health Minimum Data Set</td>
</tr>
<tr>
<td><strong>Diagnosis group</strong></td>
</tr>
<tr>
<td>Schizophrenia (most recent and date)</td>
</tr>
<tr>
<td>Bipolar Affective disorder (most recent and date)</td>
</tr>
<tr>
<td>Other psychoses (most recent and date)</td>
</tr>
<tr>
<td>Dementia (most recent and date)</td>
</tr>
<tr>
<td>Depression (most recent and date)</td>
</tr>
<tr>
<td>Anxiety (most recent and date)</td>
</tr>
<tr>
<td><strong>Review interventions group</strong></td>
</tr>
<tr>
<td>Mental Health Review (most recent and date)</td>
</tr>
<tr>
<td>Mental Health Care plan (most recent and date)</td>
</tr>
<tr>
<td>Dementia Review (most recent and date)</td>
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<tr>
<td>Depression Review (most recent and date)</td>
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<tr>
<td>Depression screening (most recent and date)</td>
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</tbody>
</table>
model, and a set of clinically relevant psychology data items to populate the structures in the record. These data items will constitute a dataset: the set or population of clinical terms or words and associated data fields required for identifying and capturing the information needed for particular purposes. A structured dataset is one in which there is a logical grouping of the components, commonly aimed at facilitating the collection and management of the data. The paper also identifies some of the benefits as well as the challenges such a venture will need to confront and resolve.

**Why a psychology ECR?**

The data in clinical records are not theoretically or otherwise neutral: they reflect, in fundamental ways, the particular over-arching clinical conceptual and diagnostic frameworks current in mental health or other services. Clinical records in the UK reflect the nature of the clinical features and concerns of service users as characterised in the World Health Organization *ICD-10* psychiatric disorder classification system. The benefits and problems associated with *ICD-10* diagnoses and those derived from the North American equivalent, *DSM-IV* are discussed in Part 1 and will not be considered further, other than to inform the present proposals where necessary.

The limitations that are salient for psychologists in particular are concerned with, among other things:

- the use of disease-equivalent notions of aetiology, and
- the associated language tied to such notions – pathology, disorder, symptoms and diagnosis,
- Individual attributes, positive and negative, as well as
- context
- historical contributions and particularly,
- the failure to incorporate psychological models and formulations recognising the interplay of influences of the bio-, psycho- and social factors in describing and accounting for the concerns of service users and/or carers.

Importantly too, the absence of a suitable schema and dataset for capturing such information in ECRs means that psychological perspectives are not included in the clinical, management, policy, research, outcome analyses, and decisions deriving their information from ECRs. Given that ECR-based information is the primary, probably sole source, of information for service evaluation and commissioning, this effectively discounts the specific contributions of the 10,000+ Practitioner Psychologists in the UK’s NHS and reinforces to the need for psychology inspired, clinically relevant and useful systems responsive to the needs of service users, the requirements of clinicians, and for other purposes.

Whether or not psychology systems, if available, could eventually replace or supplement the standard systems, is not on the agenda in this paper. In any event the practicalities are complex and variegated. Alternative systems will for instance need to address and satisfy multiple and daunting requirements: psychiatric diagnoses, despite their multifaceted limitations, are embedded in virtually every aspect of mental health services and practise, from the clinical language and record itself in paper and electronic form, to guidelines for
intervention and medication, for service management, in policy development and implementation, and in mental health research. They are intimately bound up with the private and state health care insurance reimbursements that dominate in other countries, and are also widely used internationally, with *ICD* being the de facto standard for national and international morbidity analyses and associated policy. Further, service users and carers seeking some understanding, or ‘official’ recognition of their state, may actually welcome or even demand an *ICD* or *DSM* diagnosis.

The late Hans Eysenck, in responding to the critics of his theory of personality noted that until there was something better, they must put up with his model. Psychologists hoping to introduce a different approach are in the same position. They do not have a viable alternative that can replace the existing system and its ramifications although Johnstone (2012) believes that formulation is such an alternative at the individual level because it more effectively fulfils the requirement of indicating the required interventions (see also Johnstone & Dallos, 2006). This presupposes, among other things, that there is only one intervention that flows from the formulation, a strong supposition that will be difficult to sustain empirically. Further, formulation is a process that leads to a set of statements – the formulation – couched within a particular theoretical framework interpreted by the individual clinician. This leaves it open to questions of the reliability and validity of the practitioner interpretation, given that there is no overarching validated framework that informs all practises.

It also needs to be recognised that there are substantial practical and financial challenges involved in developing a psychology system, and proposing such a system is likely to give rise to strong political, other professional, and institutional resistance: to ignore or underestimate the power of such resistance would be naive, to say the least. In particular, it is important to take account of the present context in which many Mental Health and other Trusts have, or will soon introduce, ECRs: adding a psychology module or linking it to these, apart from the costs, are likely to meet particular objections in some settings because the ‘team-based’ delivery of services that, deliberately or otherwise, appear to want to minimise or even discount professional identity: a psychology record could be seen as unnecessary and even counterproductive, positions that would require active and robust rebuttal, and at some future point, empirically supported counter arguments.

There are obviously many advantages in multidisciplinary team services. Professional homogenisation is not one: positively exploiting the benefits of diversity of perspectives and input to meeting complex needs certainly is. In this context, differing ways of working and the associated outcomes need to be captured through appropriate datasets, as part of a proper record of care, for a number of obvious reasons, including the legal. For psychologists and others working in such teams, commonly undertaking solo activities (such as assessments and interventions), there will at some point need to be evidence in the context of their perspectives and practises, that such input leads to demonstrably better outcomes. Without a distinctive, systematic and ecologically valid record, they will not be able to do so. In this context too, the idea of introducing alternative or complementary systems is not revolutionary.
Introducing other systems

The World Health Organization classifications

The World Health Organization has long had several psychiatric disorder classifications developed for particular purposes, all however based on the same model. As noted in Part 1, the National Institute for Mental Health (NIMH) in the US, spurred on by the limitations of conventional systems, is in the process of developing the Research Domain Criteria (NIMH, 2013) classification based on behaviour domains and aimed at providing a framework for mental health research. This could eventually supplant the present clinical frameworks. Hence, ideas about replacing the present systems are not novel, and there are precedents for introducing other, purpose-specific schemes. As also noted earlier, it is important to emphasise that even if another model acceptable to psychologists becomes available, a number of significant practical hurdles will still need to be overcome for the model to be implemented. These issues are dealt with elsewhere (see Berger, 2011a). For the present at least, the intention is not to replace current psychiatric systems but to develop and introduce a psychology-relevant approach. In the interim there remains two questions. Firstly, in the absence of a psychology system, how should psychologists proceed? The immediate answer is simply – as before. Secondly, how are psychology practitioners to deal with psychiatric diagnosis, given the aforementioned concerns?

Medical and psychiatric diagnoses in clinical psychology

The British Psychological Society has issued specific guidance on the use of psychiatric diagnosis for practitioners (BPS, 2013). At the individual clinical level, such diagnoses, if pertinent, obviously need to be taken into account in clinical assessment, formulation and intervention and, as at present, the diagnosis should not prevent psychologists (or others) identifying salient associated psychological issues and working with these, as illustrated for instance in by Grant et al. (2012) in working with ‘low functioning’ individuals diagnosed with ‘schizophrenia’. Likewise, a diagnosis of ‘psychosis’ does not preclude interventions for ‘hearing voices’, nor does a diagnosis of depression prevent working with concerns about ‘low self-esteem’. Much the same would apply in relation to problems associated with or instigated by other medical and psychiatric diagnoses. The challenge for the psychology clinician is to identify the likely multiple factors that drive psychological concerns and clinical phenomenology, and take these into account in formulation and intervention. Further, relevant psychiatric diagnosis information should be part of a psychology record, either alongside or, through links to medical and psychiatric information systems. As proposed earlier, in order to proceed towards developing a psychology system, one of the requirements is to develop an acceptable model(s) or super-ordinate system(s) within which to frame approaches relevant to clinical practise. The next section suggests some of the features that might characterise such a model. Later sections cover the issues in developing data structures and datasets based on the model.

Some proposed core requirements for a psychology model

There is likely to be some consensus about the key properties of a model, such as accommodating biological, psychological, and social factors in understanding...
psychological difficulties, as well as practical considerations, for instance, ensuring it aids assessment and formulation. By implication, the model will need to be systemic in that the influences presumed to give rise to difficulties are recognised as mutually influential: the systems are at least ‘partially open’ (Berger, 2011b).

The model also needs to recognise the dynamic nature of psychological adaptations and adjustments. People are constantly engaged in adjusting (or not) and adapting (or not) to their experiences, with variations in feelings and behaviour in changing circumstances, as well as commonly being actively involved in shaping these (or attempting to do so). The model should reflect this human dynamism and the idiosyncratic impact of events, predictable or not, that are part of daily living. Some of this dynamism is reflected in the ‘state of well-being’ expressed in the World Health Organization (2010) constitution.

Given the wide compass of psychology practise, the model needs to be explicitly ‘life span developmental’ in orientation: psychological needs and services encompass all ages, and, despite the major services-specified but arbitrary age spans, difficulties can continue across spans. It is also important that the model recognises the wide spectrum of factors that impinge on psychological difficulties across the age-span and should not be dictated by one age or set of clinical characteristics. If there is need to encompass service- or otherwise-specific phenomena, this could be developed through sub-model principles and special provisions in the record. The model (and any derived dataset) also needs to accommodate some of the recent advances in our understanding of psychological difficulties such as the influence of early abusive or other experiences on later psychological difficulties being illuminated through epigenetic studies (see Part 1). Given that such research has profound implications for how we might understand the difficulties and their management, there should be scope to include such material in the model and individual ECR.

Further, the model, dataset and record should accommodate some of the core features of practise, for instance the differing levels of need indicated in stepped care provision: not all individuals may require intensive and/or prolonged assessments and interventions – but where they do, there should be scope in the record for the detailed individual narrative accounts in formulation that can arise for service users with complex histories and needs, even though any analyses of such information will entail particular complexities, considered in detail later.

Other features of the approach stem from a requirement that classification systems meet clinical utility criteria discussed earlier (First 2010; Reed 2010). As such criteria derive from medical systems, consideration should be given to the nature of these for psychology, recognising that some may overlap with medical convention. Views about the particular constituents of conventional clinical utility vary, but the psychology criteria should ensure that models are relevant to service users and psychology practitioners as a minimum. Evidence of psychology clinical utility will only emerge when a system has been introduced and has been in use for some time but it is important from the outset to ensure that the data required to evaluate this are included in the record structure and dataset.

**Record and dataset considerations**

Clinical records in the NHS will need to be structured according to national guidelines identifying the key headings, currently in the process of development (RCP 2012).
Headings include identification details such as NHS Number and personal information as well as those covering presenting concerns, interventions and outcomes. It will be important to ensure that the standard headings are sufficient for psychology purposes and work for service users who will need to be involved in psychology developments. Special consideration will also need to be given to the management of sensitive personal information in mental health or at least psychology records (BPS, 2011a), discussed later under the ‘sealed section’ of the record. As emphasised earlier, in moving towards the re-balancing of record ownership, the information needs of clinicians to enable them to provide safe and effective services, should remain a priority.

Once agreed nationally, record headings will become a requirement for all information systems, although which headings are used will depend on the context. Speciality- or profession-specific information will be part of the record and given the need for this it is likely that the multi-specialty body will oversee the development and implementation of these record standards (RCP, 2012).

In addition to the national requirements, there is a need to address the ways in which the clinical information is represented in the psychology record, on the basis that a psychology model should drive the clinical structure and content of the record. Technically, the information will need to be captured through a structured dataset compatible with the emerging NHS requirements. The dataset will also include terms that provide information needed for administrative and management purposes, such as Start and End dates of the contact. Crucially, it will need to flag or link directly to statutory content such as Mental Health Act and Children Act status, issues of competence, risk, and any social and educational services involvement, including children who are looked after. Such information is already part of record systems in approved datasets and not need to be replicated in a psychology dataset and record.

The operational characteristics of psychology records and examples of dataset structure and content will become apparent in later sections of this paper. The structural requirement is introduced so as to ensure there is a logical, clinically relevant organisation of the dataset, among other things, to support assessment and formulation, and to facilitate data entry.

**Record structure**

For a complex record such as might be needed for psychology, the structure itself is likely to be hierarchical – a set of general headings encompassing a hierarchy of increasingly specific items. Given the complexity, it will be useful in developing the approach to explore whether existing systems can be used. One example is the World Health Organization’s *International Classification of Functioning, Disability and Health (ICF)* built around a biopsychosocial model. Despite its limitations, ICF has a number of features that may be concordant with psychology requirements (Berger 2008). Other NHS professions are also considering ICF: the College of Occupational Therapists, for instance, has selected some of the ICF high-level terms for use as headings for OT professional assessment records (Austin, 2012).
ICF and its structure

Box 1 shows a brief overview of the ICF hierarchical structure. It covers four main domain hierarchies, identified with the prefixes b, s, d and e at the uppermost level. Each of these in turn has a series of increasingly specific sub-hierarchies. Importantly, ICF encompasses not only the main mental functions but also personal circumstances and characteristics of the socio-cultural context, including their positive attributes and limitations, reflecting its biopsychosocial roots. The strengths of ICF are its systematic structure and scope, facilitating a fuller characterisation of the major personal and contextual factors relevant to the individual, offering a comprehensive basis for assessment and formulation. While aimed originally at capturing the functional consequences of medical (including psychiatric) conditions diagnosed using ICD, the ICF structure could be adapted as a basis for a comprehensive psychology framework. Its limitations for psychology include its lack of depth or detail, and the nature of its characterisation of some psychological attributes such as personality characteristics (Berger, 2008). Nevertheless, the ICF headings offer scope for additional concepts at lower levels of the hierarchy, leaving open what these might be, something advantageous for psychology system development. At the very least, it is a useful exemplar of a structured, clinically orientated system based on a psychology-compatible model.

Features of two more recent approaches, introduced in Part 1 (the NIMH RDoC and transdiagnostic approaches), need to be considered further because they offer different, potentially relevant frameworks for psychology.

The NIMH (2012) Research Domain Criteria (RDoC)

The NIMH RDoC project identifies a number of key functional domains has some features that could be adapted for a psychology model because it focuses on important common systems presumed to have a role in the emergence of several disorders. Background information is given in Part 1. This section focuses on the model.

The NIMH classification is presented a draft matrix, RDoC, with observable behaviour dimensions in the rows and a range of research-based neurobiological measures as columns. The RDoC rows are dimensions of function, ordered in five major high level domains of related constructs such as systems underlying positive and negative motivation (e.g. reward learning), cognition (e.g. attention and memory), social processes (e.g. attachment and separation fear), and arousal/regulation. It is assumed the constructs and their components, like the matrix overall, will be revised as developments in theory and research feed through, hence its draft status. The columns reflect variables used to study the domain constructs: genes, cells, neural circuits, behaviours, and self-reports, and includes a ‘paradigm’ column or framework within which the domain is studied. The model also incorporates developmental/life span and environmental considerations. Further details of the approach and its research implications are given on the NIMH website (NIMH, 2012).

RDoC is clearly ‘medical illness’ in orientation and does not question the validity of this view in relation to psychological difficulties: indeed, its specific purpose is to strengthen the biological orientation, without ignoring developmental and social processes.
### Box 1: Structure of ICF.

<table>
<thead>
<tr>
<th>Top Level Structure ICF</th>
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<tbody>
<tr>
<td>b BODY FUNCTIONS</td>
</tr>
<tr>
<td>b1 CHAPTER 1 MENTAL FUNCTIONS</td>
</tr>
<tr>
<td>b2 CHAPTER 2 SENSORY FUNCTIONS AND PAIN</td>
</tr>
<tr>
<td>s BODY STRUCTURES</td>
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<tr>
<td>s1 STRUCTURES OF THE NERVOUS SYSTEM</td>
</tr>
<tr>
<td>d ACTIVITIES AND PARTICIPATION</td>
</tr>
<tr>
<td>d1 CHAPTER 1 LEARNING AND APPLYING KOWLEDGE</td>
</tr>
<tr>
<td>d7 CHAPTER 7 INTERPERSONAL INERATIONS AND RELATIONSHIPS</td>
</tr>
<tr>
<td>e ENVIRONMENTAL FACTORS</td>
</tr>
<tr>
<td>e3 CHAPTER 3 SUPPORT AND RELATIONSHIPS</td>
</tr>
<tr>
<td>e4 CHAPTER 4 ATTITUDES</td>
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</tbody>
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<table>
<thead>
<tr>
<th>Sub–hierarchies</th>
</tr>
</thead>
<tbody>
<tr>
<td>b BODY FUNCTIONS</td>
</tr>
<tr>
<td>b1 CHAPTER 1 MENTAL FUNCTIONS</td>
</tr>
<tr>
<td>b140–b189 Specific mental functions</td>
</tr>
<tr>
<td>b140–Attention</td>
</tr>
<tr>
<td>b152–Emotional Functions</td>
</tr>
<tr>
<td>b1521–Control of Emotions</td>
</tr>
<tr>
<td>b160–Thought functions</td>
</tr>
<tr>
<td>d ACTIVITIES AND PARTICIPATION</td>
</tr>
<tr>
<td>d2 CHAPTER 2 GENERAL TASKS AND DEMANDS</td>
</tr>
<tr>
<td>d230 Carrying out daily routine</td>
</tr>
<tr>
<td>d9 CHAPTER 9 COMMUNITY, SOCIAL AND CIVIC LIFE</td>
</tr>
<tr>
<td>d940 Human rights</td>
</tr>
<tr>
<td>e ENVIRONMENTAL FACTORS</td>
</tr>
<tr>
<td>e3 CHAPTER 3 SUPPORT AND RELATIONSHIPS</td>
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*Continued alongside*
Systemically, its functional dimensions are similar to the mechanisms in psychologically orientated transdiagnostic approaches, and have strong conceptual commonalities with these (see below). With regard to a psychology system, the matrix rows can for instance provide a systemic framework for conceptualising and assessing individual clinical concerns in relation to each construct. The level of analysis would encompass only some of the matrix columns and the developmental and social environment factors. The RDoC framework also facilitates the creation of structured datasets.

**Transdiagnostic approaches**

It is important to highlight these again (see Part 1) because they illustrate not only the ways in which psychological theory and research provide a rich source of terms or concepts, but also ideas and hypotheses about the nature of clinical difficulties and their origins. The terms used are primarily a psychological language for describing and understanding clinical phenomena, and the range of proposed mechanisms will be especially useful in developing formulations. As noted in Part 1, these features are well illustrated in various papers (see, for example, Nolen-Hoekema & Watkins, 2011). However, by themselves, they do not provide higher order structures necessary for a different system, and their focus is on accommodating single and especially co-occurring psychiatric diagnoses: this seemingly unquestioning acceptance of such diagnoses is a further limitation.

A further approach to record and dataset structure is simply to draw on the foregoing discussion of model principles and other requirements and combine it with an organising structure based on a progression found in systematic clinical interviews, as detailed below.

**Record components**

*Problems/clinical features*

Apart from standard personal demographic information, one of the major sections of any record will encompass the problems or concerns of the service user, carers or others.
making the referral, and the features identified during initial assessment or subsequently. Box 2 illustrates structured sets of problem-orientated content. It is taken from a multidisciplinary CAMHS dataset (Berger et al., 1993, 2009) deliberately constructed to be free of psychiatric diagnosis terminology wherever possible, although the final lowest-level items used some psychiatric terms descriptively. Interestingly, Box 2 also illustrates the inclusion of Social Relationships and Context headers, consonant with the need to have scope for these in the record to be consistent with the model principles. These are included in separate sections of the proposed record structure.

**Historical/developmental sections**

For reasons noted earlier, several other sections are required in a psychology record. Assessment will need to cover developmental history, with provision to capture issues – positive and negative – in social and educational experiences as well in early and subsequent experiences that were affirming, such as peer popularity, and those that were negative, including family conflict, physical and psychological trauma, and abuse in its various forms.

**Individual attributes, strengths, special difficulties, and context**

As proposed in earlier papers (Berger, 2011a), a rounded clinical psychological description would include items identifying certain individual attributes that benefit or disadvantage the service user, as well as context features that are noteworthy because they represent potential strengths and supports, or particular vulnerabilities. These are especially relevant to creating an individualised and contextualised assessment, enrich the formulation, and constitute important information relevant to interventions and outcomes. Such items would be organised under higher-level structure headings such as individual and context attributes.

As an example of individual attributes, *ICF* includes under ‘Global Mental Functions’ a series of ‘Temperament and personality functions’, further subdivided into trait characterisations such as ‘Extraversion’, ‘Agreeableness’ and ‘Trustworthiness’. While in principle the inclusion of such content is consonant with a psychological approach, some of the ICF concepts might be unacceptable – for instance for being too subjective or judgmental – and might need to be replaced, possibly by core concepts from contemporary personality research. Which concepts and associated frameworks will be sufficiently widely accepted is not known, as particular theoretical perspectives may be preferred in some practitioner groups. Such issues would need to be addressed and resolved.

With regard to the psychosocial context, *ICF* includes hierarchies for ‘Activities and Participation’, covering functioning in areas such as ‘Domestic Life’, ‘Interpersonal Interactions and Relationships’, and ‘Community, Social and Civic Life’. The final section of *ICF* captures information about the broader psychosocial and physical contexts under the heading ‘Environmental Factors’. This covers areas such as ‘Attitudes’ of family and in the wider community, and of the care services providers. *ICF* ‘Services Systems and Policies’ cover information about housing and transport. These are areas that might need to be
addressed during assessment and included in the formulation because they can be of concern to the individual or carers.

**Standardised tests and documents**

Sections for recording structured psychological test data and links to associated diagrams (children’s drawings, family trees, etc.), and other documents such as referral letters, school and other reports relevant to the individual’s record, will be required. Their existence will need to be noted, with links for instance to scanned versions and a system to capture some of their nature and content to enable rapid access.

The various components of psychology practise will likely generate information that the user and the practitioner might wish to restrict for particular reasons. Consequently, this issue of ‘sealed’ sections in ECRs is an important consideration.

**Sealed Section in the Record**

One of the concerns of practitioners in psychology services is dealing with information that the service user does not want shared, especially in an environment where several people may have access to the ECR, including individuals outside of the team and service, for instance, social care services. In considering complying with a ‘no-share’ request, the clinician has to take particular account of the legal context (e.g. disclosure of abuse) and

---

**Box 2: Examples of problem-oriented dataset items taken from a proposed CAMHS dataset (Berger et al., 1993, 2009).**

<table>
<thead>
<tr>
<th>Mood</th>
<th>Social/Relationships</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Irritability/Moodiness</td>
<td>1. Relationship Difficulty Parent(s)/Carers</td>
</tr>
<tr>
<td>2. Fatigue/Lassitude</td>
<td>2. Relationship Difficulty Other Adults</td>
</tr>
<tr>
<td>3. Depression*/Misery</td>
<td>3. Relationship Difficulty Sibling(s)</td>
</tr>
<tr>
<td>4. Euphoria/Expansive Disinhibition</td>
<td>4. General Family Relationship Problems</td>
</tr>
<tr>
<td>5. Mood Swings</td>
<td>5. Relationship Difficulty Peers</td>
</tr>
<tr>
<td></td>
<td>6. Harassment/Persecution Victim</td>
</tr>
<tr>
<td></td>
<td>7. ’Attention Seeking’ Behaviour</td>
</tr>
<tr>
<td></td>
<td>8. Social Disinhibition</td>
</tr>
<tr>
<td></td>
<td>9. Social Withdrawal</td>
</tr>
<tr>
<td></td>
<td>10. Social Sensitivity</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Self-Regulation</th>
<th>Context</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Tics*/Habits/Stereotypies</td>
<td>1. Marital Difficulties</td>
</tr>
<tr>
<td>2. Obsessions*/Rituals</td>
<td>2. Family Mental Health Problems</td>
</tr>
<tr>
<td>3. Overactivity</td>
<td>3. Family Physical Health Problems</td>
</tr>
<tr>
<td>4. Enuresis*/Wetting</td>
<td>4. Adverse Social Circumstances</td>
</tr>
<tr>
<td>5. Soiling/Constipation</td>
<td></td>
</tr>
<tr>
<td>6. Sleep/Wake Pattern Problems</td>
<td></td>
</tr>
<tr>
<td>7. Problems During Sleep</td>
<td></td>
</tr>
<tr>
<td>8. Subjective Insomnia</td>
<td></td>
</tr>
<tr>
<td>9. Feeding Problems/Fads</td>
<td></td>
</tr>
<tr>
<td>10. Anorexia*</td>
<td></td>
</tr>
<tr>
<td>11. Bulimia*</td>
<td></td>
</tr>
<tr>
<td>12. Obesity/Overeating</td>
<td></td>
</tr>
</tbody>
</table>

* These terms are intended to convey the phenomena (signs), not the psychiatric diagnosis (e.g. under-eating, binge eating).
service user safety. If these are not compromised, and the user understands the circumstances where access by others may be required, for instance if the clinician leaves the service, there will need to be a provision for such material in the record and a protocol surrounding its use. Other material of this type will include the raw psychological test data (as opposed to the interpretative report), where access by those not competent to interpret the scores can be inappropriate. These and related issues are dealt with in a British Psychological Society document (BPS, 2011a).

The higher level organising headings illustrated here are not necessarily exhaustive but the collection of the implicit and explicit data encompassed by these headings is likely to be a generic requirement for most psychological services as part of assessment and will need to be accommodated in the ECR. Specific areas of practise may also need additional structures and datasets. Ultimately, much if not most of this information will contribute to developing robust formulations that are central to clinical psychology practise.

**Formulation**

Formulation uses information from the assessment, but puts it together in idiosyncratic or service-user-specific ways, commonly in free-text statements of the hypotheses. These are developed in collaboration with the service user if possible and attempt to account for the clinical concerns. As an example: the clinical features may be persisting severe low mood, suicide attempts, history of physical abuse, teasing, social isolation, inadequate housing, some support from family. These would be flagged in the Clinical and Context features sections of the record, with some of the features recorded in an Early History or Developmental Events section. The formulation narrative attempts to answer the ‘Why?’ questions about the main clinical features. In outline, it might propose, in answer, a history of abuse leading to persisting low self-esteem and sensitivity to personal comments that trigger and maintain periods of low mood and suicide risk, especially if the immediate family is unavailable for support. Formulation as summarised here illustrates one of the ways in which a psychology record may differ from others – it is problem-rather than psychiatric-diagnosis-centred, and ‘aetiology’ is again problem-focused and expressed by a statement involving historical and concurrent biopsychosocial contributions and processes.

One of the challenges arising from the centrality of formulation is extracting information from essentially very individual free-text material in some form of structured manner that will enable the material to be used for some forms of analysis, as might be required for research for instance. Appendix 1 describes approaches to capturing information from free-text to enable it to be structured and used for various purposes.

**Interventions and outcomes**

For the interventions section of the record, terms for the key types of intervention (Psychoanalytic, CBT, etc.) are covered by SNOMED-CT®. Associated process information takes several forms such as the quantitative data – number of sessions, session times, and DNAs. Interventions will also require scope for ‘process notes’ – notes about what went on during sessions: such notes will be both descriptive and interpretative and cover affective content, interactions and reflections about qualitative and other aspects of the therapeutic
processes. The notes are commonly free-text narrative in form but will use various theory-related terms and where relevant, other types of information such as adherence to intervention requirements. Managing such information presents somewhat similar challenges as formulations and is discussed in Appendix 1.

Other sections such as outcomes will be partially constrained by NHS outcomes frameworks and quality of service experience information (Patient Reported Outcome Measures (PROMs), Clinician Reported Outcome Measures (CROMs) and Patient Reported Experience Measures (PREMs) – (CPP, 2012) or the measures used in some CAMH Services developed through the CAMHS Outcomes Research Consortium (CORC, 2013). Psychology intervention-specific outcome information will also need to be included in the ECR.

**Information capture issues**

The need to encompass all this and other information in the ECR, while challenging, is nevertheless a reflection of the complexities and time-demanding processes in much of clinical psychology (and some other areas of mental health) practise. Managers and others in health care may have a mind-set focused on acute care processes and timescales, or the more restrictive models used in Improving Access to Psychological Therapies (IAPT, 2013) services for instance, and find the approach being proposed here too time consuming and costly. This will require a proactive and robust stance – it is a professional clinical and safety matter – but it will also be important help them understand that processes investigating people’s lives and relationships, as well as relevant history, are more demanding and complex, and need to be supported for proper assessment, formulation and intervention.

Nevertheless, the complexity and detail raise several practical considerations, partly because of the costs of data collection have to be set against the risks to service users and the threat to the validity of the model, of not seeking and recording relevant comprehensive data. It will also need to be demonstrated that assessing and recording such data leads to improved service quality and beneficial outcomes.

**Psychology record development**

To illustrate the challenges in moving from a psychological model and concepts to items that would be part of a structured dataset, the present paper takes the analysis of a single psychological phenomenon, ‘hearing voices’ as an exemplar of a clinical presentation. This is used for a number of reasons: conventionally, it is – virtually automatically – characterised as an ‘auditory hallucination’, part of psychotic episode, and, therefore, a key symptom potentially triggering a psychiatric diagnosis such as psychosis. On the other hand, such experiences can have different phenomenological dimensions and are evident in non-psychiatric populations (Sanjuan et al., 2004), making it a useful concept for this exercise. This analysis will involve illustrating the status of ‘hearing voices’ in SNOMED-CT®. This is a clinical thesaurus covering over 350,000 terms structured to accommodate the use of medical and associated clinical terms in record systems. Each term has a unique numerical code and definition an the version in use has been adapted for the NHS. Appendix 2 provides a further description and discussion of SNOMED-CT®.
‘Hearing voices’ in SNOMED-CT®

The strengths and limitations of SNOMED-CT® are illustrated by the following example of an individual who presents to a primary care or mental health service because of concerns about ‘hearing voices’, possibly as an isolated phenomenon or as one of a number of concerns. Searching for ‘hearing voices’ using CliniClue Xplore (2013), a special browser for exploring SNOMED-CT® terminology, results in a Type characterisation of a Clinical finding (verbal auditory hallucinations) with a Concept ID 247730001, the unique identification number for the concept, and a Description ID, a numerical code for the associated definition of the concept. These values can then be recorded in the ECR. The browser further shows that it is a current concept used in Great Britain English; that it is the preferred term for a finding of verbal auditory hallucinations, with hearing voices being a synonym. So, in effect, the SNOMED-CT® default is the ‘pathological’ form of the phenomenon.

Associated with ‘hearing voices’ in SNOMED-CT® are two further important features: the Subtype Hierarchy and the Qualifiers. The Subtype Hierarchy is illustrated in Box 3 and the Qualifiers in Box 4. The Subtype enables more detailed specification of the nature of the voices heard. The Qualifiers allow further characterisation of the experience. The Qualifiers are illustrated as a generic classification scheme having their own hierarchies that can be applied to other concepts: different levels of severity can be applied across multiple phenomena encountered clinically, using a standard terminology. Whether or not these SNOMED-CT® clinical details about ‘hearing voices’ are acceptable or sufficient for purposes of a psychology record will need to be evaluated by clinicians in relevant services where such characteristics are commonly seen. For some purposes (for instance, a primary-care-based psychology service), it may be sufficient simply to log certain characteristics of the voices in term of the detail illustrated in Box 4.

A specialist psychology service may require such details but formulation and process information will likely need more breadth and depth of information to be acquired for the record. Examples of such descriptive parametric features available for characterising ‘hearing voices’ are illustrated in Box 5. Pointers to some of key questions that might be asked in order to elicit relevant descriptive clinical information are also given in Box 5.

These questions will be introduced during the assessment phase and are aimed at clarifying and delineating the clinical features and context, and will be associated with a set of data items as part of possible psychology dataset. Some of the items would be unique to the phenomenon; others (e.g. frequency, which episode, distress, etc.), would be generic – as qualifiers. The amount of data collected would in part depend on assessment and intervention needs, the purpose of the record and the clinical and other costs of data capture. For instance, if the clinical findings were such as warrant no further action by the service because the user needs to be referred elsewhere, it would still be necessary to create a record with sufficient information in case the service user is referred at a later time, and because the assessment was a service activity and used resources that involved a cost that will be relevant to commissioning.

It should be noted that the content of Box 5 is not derived from an established approach but is a conjectural exercise designed to illustrate the potential wealth of basic information that might be generated. How much of this information is relevant will be determined by service and its requirements.
**Box 3: Subtype Hierarchy.**

Auditory hallucinations
  Verbal auditory hallucinations
    Second person verbal auditory hallucinations
      Command hallucination
    Third person verbal auditory hallucinations
      Hears mocking voices
      Hears voices laughing at self
      Thought echo

**Box 4: Qualifiers Hierarchies.**

Qualifiers
  Severity
    Severities
      Moderate
      Severe
      Life threatening severity
  Episodicity
    Episodicities
      First episode
      Old episode
      Undefined episodicity
  Clinical course
    Courses
      Subacute
      Cyclic
      Gradual onset
      Sudden onset AND/OR short duration
### Box 5: Conjectured assessment and dataset framework for 'hearing voices'.

<table>
<thead>
<tr>
<th>Functional area Covered by questions</th>
<th>Range (as appropriate)</th>
<th>Assumed or derived from questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensory system</td>
<td>Auditory, visual, tactile, etc.</td>
<td>Assumed from expressed concern</td>
</tr>
<tr>
<td>Major sub-type</td>
<td>Auditory</td>
<td>Assumed from expressed concern</td>
</tr>
<tr>
<td>Specific sub-type</td>
<td>Hearing voices, music, familiar sounds, unfamiliar sounds</td>
<td>Question based</td>
</tr>
<tr>
<td>Acuity</td>
<td>Normal, partially deaf, deaf, hyperacusis</td>
<td>Question based</td>
</tr>
<tr>
<td>Content</td>
<td>Descriptive/Neutral Laudatory, Accusatory, Denigrating, Directing, Varies</td>
<td>Multiple selections of items possible. If multiple may need to code qualifiers below for each selection.</td>
</tr>
<tr>
<td>Voice Gender</td>
<td>Male, female, varies, uncertain</td>
<td></td>
</tr>
<tr>
<td>Voice Identity</td>
<td>Own, Relative, Friend, Stranger, Varies</td>
<td>Multiple selection of items possible</td>
</tr>
<tr>
<td>Source</td>
<td>Internally generated</td>
<td>Multiple selection of items possible</td>
</tr>
<tr>
<td>Duration since onset</td>
<td>&lt;1 week&lt;br&gt; &lt;1 month&lt;br&gt; &gt;1 month</td>
<td></td>
</tr>
<tr>
<td>Frequency</td>
<td>Less than daily&lt;br&gt; Daily&lt;br&gt; Weekly&lt;br&gt; Monthly</td>
<td></td>
</tr>
<tr>
<td>Episode</td>
<td>First&lt;br&gt; Recurrent</td>
<td></td>
</tr>
<tr>
<td>If recurrent</td>
<td>No. of previous episodes</td>
<td></td>
</tr>
<tr>
<td>Functional area Covered by questions</td>
<td>Range (as appropriate)</td>
<td>Assumed or derived from questions</td>
</tr>
<tr>
<td>--------------------------------------</td>
<td>------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>Patterning</td>
<td>Random</td>
<td>Multiple selection of items possible</td>
</tr>
<tr>
<td></td>
<td>Short cycles</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Long cycles</td>
<td></td>
</tr>
<tr>
<td>Intensity</td>
<td>Low</td>
<td>Multiple selection of items possible</td>
</tr>
<tr>
<td></td>
<td>Medium</td>
<td></td>
</tr>
<tr>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Varies</td>
<td></td>
</tr>
<tr>
<td>Distress caused</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Impact on relationships</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Work Impact</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Daily Living Impact</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mild</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Moderate</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Severe</td>
<td></td>
</tr>
<tr>
<td>Typical reactions to the voice/s</td>
<td>No external effects</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Withdrawal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Overactive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Aggressive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
</tr>
<tr>
<td>Associations</td>
<td>Yes</td>
<td>Other concurrent sensory or other symptoms recorded</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td></td>
</tr>
</tbody>
</table>
‘Hearing voices’ as a psychological concept

The data types illustrated in Box 5 can be important for some purposes, but the main focus of the psychological assessment is developing psychological insights to enable clinically relevant and useful formulations to be developed to guide interventions. Hence, ‘hearing voices’ is approached as a psychological phenomenon without any presumption that it constitutes a form of psychopathology or is necessarily a symptom of a psychiatric syndrome: decisions about its clinical status and further actions would follow from assessment. The core task is to develop an understanding of what ‘hearing voices’ means to and for the individual, and why the ‘voices’ might have arisen. Understanding these are fundamental clinical challenges and part of the formulation processes. However, what ‘understanding’ itself means may vary across the main theoretical orientations of psychology practitioners. It is an issue that is important and beyond the immediate scope of this paper but will ultimately only be resolved by robust empirical investigations. What is important here is that the psychology record should be able to accommodate alternative views until such time as there are evidence-based grounds favouring one or other approach.
Developing and maintaining a psychology model and associated dataset for the ECR are complex but essential tasks if psychologists are to be able to provide information that reflects psychological perspectives and contributions to services. Such information is equally critical in sustaining services in an increasingly competitive, resource-limited and demanding NHS environment. The early phase focusing on dataset development and testing is likely to be the most challenging because of the varied services provided by practitioner psychologists and within these, differing orientations and priorities. As the datasets mature, there will still need to be a commitment, financial and otherwise, to on-going maintenance necessitated by feedback from evaluations and advances in knowledge and practise.

The Division of Clinical Psychology is likely to be the main Division of the British Psychological Society to initiate and oversee such a project, possibly managed through a reference/clinical steering group. This would map the work and identify the resources required for its key stages, and for validating outputs. The complexity of the project probably necessitates a location in a unit within an academic clinical or other suitable centre as the most appropriate context.

A necessary first step would be to agree a set of principles, such as those mentioned earlier, around which to develop the model and data framework. Early on, it will be useful to set up trial data structures and datasets in collaboration DCP Faculties, with service-user involvement from the outset, and to field test these to clarify assumptions, requirements, and expectations. Using the practitioner population and volunteer service-users as a ‘crowd-sourcing’ resource will be helpful for identifying the structural components and items, and evaluating these. A dedicated web site would act as focus for information gathering and participant feedback. Such a resource would also enable the project to engage with psychologists from the wider national and international practitioner community interested in such a development. The common social networking resources will be helpful for such tasks.

Undoubtedly, meeting the key requirements for developing a viable dataset will also face the challenges of recruiting the understanding, interest and practical engagement of practitioners, as well the support and possible involvement of other professions. Critically, it will also need to gain acceptance from those responsible for national informatics standards and dataset development and implementation. None of these are trivial tasks, and the whole exercise will require a clear, active, broad focus ‘PR’ agenda as part of the development and implementation programme. With these and the other supports in place however, it should be possible to initiate a psychology system of relevance and value to the users, practitioners, providers, and commissioners of NHS psychology services.
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For psychologists, formulation is a key, integral process (developing a formulation) and product (the formulation) of clinical practise (DCP, 2011). Based on findings emerging from assessment, it constitutes the working theory or hypotheses, commonly couched in specific theory-related terminology, to account for the clinical phenomenology, and wherever possible, is developed jointly with the user. Critically, it guides interventions. Transdiagnostic formulations clearly illustrate such applications of psychology to understanding clinical difficulties (Nolen-Hoeksma & Watkins, 2011).

The basic data of formulation is a free text, possibly extended and intricate narrative that can change following feedback from interventions or for other reasons. Preparing formulations and including these in any record will be time-consuming. However, other than being dependent on clinician typing fluency, availability of transcription services, or mastery of dictation software that enters content directly into a record, entering a formulation into an ECR will not necessarily require more time than hand-written notes. Storing quantities of text on paper or electronically are also not problematic. Retrieving formulation information from paper records is likely to be exceedingly time-consuming, especially for more than one service user. Doing so from tens or hundreds of ECRs is potentially feasible. Once a methodology for doing so is available in the form of special software, finding and processing formulation information is not an issue. It is however worth digressing briefly to ask firstly why there may be a need to extract and process information from formulations, secondly to consider the nature of the information to be extracted, and thirdly, whether this does justice to the formulation?

Information in formulations is fundamental because it reflects the core clinical issues and capturing these will be important for research, audit, teaching and service business purposes. Also, although it uses information from the initial assessment and re-assessments, a formulation will not necessarily use all the information available and is therefore especially relevant for more precise understanding of the interventions undertaken and for outcomes analysis at clinician and service level.

With regard to the nature of the information to be retrieved from the free text, it may require the clinician to proceed in a different way in the first instance. Electronically it is of course possible to search for key terms or phrases and this may suffice for some purposes. For more focused and meaningful searches, different procedures may be required and could involve searches for higher-level inferential terms. For instance, some terms can refer directly to phenomena themselves or to higher-level concepts: ‘memory’ is a high level concept used collectively to refer to all types of memory or it can be used as part of ‘short-term-memory’ or even more specifically ‘verbal-short-term-memory’. Conversely, going up a hierarchy, ‘being physically maltreated by a parent or carer’ is one of many forms ‘physical abuse’, and this in turn is one of several forms of ‘abuse’.

Given that information about formulation content is important, several options are available for retrieval purposes. Working directly with the narrative, its features can be captured through word or phrase ‘tagging’ that can in turn be achieved in one of several ways. Firstly, the clinician can highlight certain keywords in the free text giving some sense of what the formulations is about. Or, software can check if any of the terms used are in

Appendix 1: Psychological formulations in the ECR

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With regard to the nature of the information to be retrieved from the free text, it may require the clinician to proceed in a different way in the first instance. Electronically it is of course possible to search for key terms or phrases and this may suffice for some purposes. For more focused and meaningful searches, different procedures may be required and could involve searches for higher-level inferential terms. For instance, some terms can refer directly to phenomena themselves or to higher-level concepts: ‘memory’ is a high level concept used collectively to refer to all types of memory or it can be used as part of ‘short-term-memory’ or even more specifically ‘verbal-short-term-memory’. Conversely, going up a hierarchy, ‘being physically maltreated by a parent or carer’ is one of many forms ‘physical abuse’, and this in turn is one of several forms of ‘abuse’.

Given that information about formulation content is important, several options are available for retrieval purposes. Working directly with the narrative, its features can be captured through word or phrase ‘tagging’ that can in turn be achieved in one of several ways. Firstly, the clinician can highlight certain keywords in the free text giving some sense of what the formulations is about. Or, software can check if any of the terms used are in
SNOMED-CT®. If so, and, if necessary after securing the clinician’s agreement about the specific meaning, and that the term is something noteworthy, it can be tagged in the record as a potential search term, making it more easily accessible for processing. Alternatively, the software could scan the text for SNOMED-CT® terms as the formulation is entered, as occurs with predictive texting, or error detection in word processing, and flag these terms, with the clinician accepting relevant selections. (Tagging processes can also be used for images and documents, with the user specifying the key terms for the features or information in the item.)

A further option is for the clinician to select one or more terms from a list of higher level organising concepts that encompass key themes in the formulation, for instance, the clinician might simply flag the ‘Abuse’ option to signify that the formulation includes ‘experiences of abuse by the service user at some point’. Or, it might be preferable to select on or more terms from a list of more specific forms of abuse. There is no basis on which to prefer any of the methods described here, nor as yet to decide on the level of specificity required. Which, if any of these alternatives is chosen, or if other options are used – such as text analysis (Zhang & Segall, 2010) techniques – is ultimately dependent on considerations outside of the immediate scope of this paper. What is important is that formulations are amenable to some forms of analysis and that any solution will need to meet the crucial requirement of SNOMED-CT® linking of the key terms identified.

Encountering or using terms in a list aimed at characterising complex phenomena or summarising detailed narrative accounts in a formulation may come across as restrictive, sparse, reductionist and impersonal, or whatever, not doing justice to the service user’s difficulties and distress. This is an incorrect perception: using such terms serves to enable communication regarding what the formulation is about for particular purposes such as those noted above, and not to act as a substitute for the narrative: the ultimate reference is the formulation itself which will also be much easier to retrieve. Further, it is likely that there will be common themes across formulations in mental health services: identifying these will have important implications, for clinical practise, research and teaching, among other benefits.
A clinical thesaurus covering over 350,000 medical and associated clinical terms, SNOMED-CT® was developed to enable unambiguous coding of clinical terms in record systems. Where terms are the same but have different meanings in different contexts, each use is given a unique code and definition to avoid confusion: ‘abuse’ in relation to substances and ‘abuse’ as an experience, will each have a unique code and definition. These codes are machine-readable, facilitating computer processing. The thesaurus is not a clinical classification scheme that can be plugged into an ECR to capture individual clinical data. Rather, with an appropriate software conduit, the unique numerical codes for clinical terms used by clinicians are stored in the record, rather than potentially ambiguous words.

For any specific application, such as a mental health system, there are also many terms in the full thesaurus that would be superfluous. Consequently, sub-sets are available, or could be assembled from the existing thesaurus, for use in the different domains of health care (e.g. a nursing sub-set – Matney et al., 2012). SNOMED-CT® can be explored using any of a number of freely available browsers such as the CliniClue Xplore (2013). It searches the UK English version of SNOMED-CT® adopted by the NHS and shows specific terms and how they are characterised and numerically coded. When the user enters the higher level or syndrome term (‘Depression’), for instance, from a drop-down list of syndromes, disorders, or associated symptoms (depressed, early waking, loss of interest, etc.), SNOMED-CT® provides unique numerical codes and definitions for the terms. It also provides codes for qualifiers (terms describing frequency, severity or other characteristic of the main phenomenon). These codes can then be stored in the record for diverse forms of processing.

A system that did not map its concepts onto SNOMED-CT® would be very unlikely to be accepted for use in the NHS. Hence, if there are terms required by psychologists but not in the thesaurus, the terms would need to go through a standard NHS approval process to become so. While it is possible to add terms to SNOMED-CT® that capture increasing degrees of detail, and incorporate these in ECRs, as noted elsewhere, any benefits from doing so needs to be balanced against the costs of capturing the data. This has also to be balanced against the risks of not doing so, and the possible distortions of the clinical process that may arise in curtailing the amount of information in the record. Such ‘overheads’ needs to be considered in developing and implementing all datasets, not just those for psychology.

Populating SNOMED-CT® with psychology terms may be less of a challenge than it at first seems as many terms are already in the thesaurus, including clinical characteristics, terms common in the psychotherapies, and the names of many psychological tests. Finally, a psychology ECR system and its dataset must be capable of feeding data in the form of SNOMED-CT® codes to other systems, and receiving and processing codes from them (interoperability). This is one of the major advantages of having a standardised nomenclature, record headings and the like.

The richness of SNOMED-CT® and the scope of its existing psychology dataset can be examined by searching the thesaurus using one of the special browsers. Other information can be readily obtained through an Internet search of official sites.
Appendix 3: Illustration of dataset structure and content

Records in mental health services contain several types of information: in the form of discrete or circumscribed data such as gender, details about clinical concerns, interventions and outcomes as well as free text formulations and process notes, the latter, the extended session-by-session account of session content, and commentaries about ongoing processes during contact – what was said, by whom, and the feelings expressed and observed. This Appendix is concerned primarily with the non-process notes material.

As noted earlier, the introduction and use of electronic records entails a major culture shift, not just in the recording process but also in the nature of the records and the clinician’s interaction with these. For instance, a GP or medical consultation could involve direct data entry by the clinician during the consultation. In contrast, mental health clinicians may rightly feel that this seeming disengagement from the service user recounting emotion-laden personal information is inappropriate, for the professional relationship and for other therapeutic processes. Consequently, data will commonly have to be entered after the session, possibly referring to brief handwritten notes made during the meeting. Hence, one of the main issues with electronic records that must be resolved is in the design of the data input interface, the screens used to collect information from clinicians, and the nature of data entry. This is not a major consideration for paper only records where handwritten or typewritten notes are the primary forms of recorded information.

Electronic records, in contrast, offer various options for data entry, with most of the alternatives being familiar to users of Internet services or speech-recognition interactions with computerised services over the telephone, for instance. All of these enable the capture of discrete data in the form of keywords or short phrases. Condensing or selecting data introduces certain demands of clinicians, such as making forced choices from a drop-down or other list of keywords. These sorts of approaches will tend to come across to the mental health clinician as sparse and disconnected. Although such keywords can be used if a narrative reconstruction is necessary, they can fail to give a sense of the organic nature of what is communicated. Where appropriate, an opportunity for free text comments to accompany the selections would help the ‘feel’ of the record.

Another problem with this type of data entry is that the number of elements entered in the record may be restricted, so that the clinician has to select and prioritise the information to be included, doing so to avoid compromising care and minimising risk. Also, as noted earlier, the amount of information entered by the clinician needs to be carefully judged so as not to detract unduly from the pressures on time available for face-to-face contact. For these and other reasons, clinicians need to be involved with the ensuring that the record structure, content, and the design of the interfaces for all components of the record, facilitate the clinical processes. Clinicians will as well need to be involved in determining the analyses and reports produced to ensure that, in addition to being usable by the service user, they are also clinically relevant.
The following headings illustrate, in simplistic form, the types of record header and the information that could be captured: it is not intended as a complete psychology record structure. Further, within these headings will be hierarchical data sets of the type illustrated in Box 4. However, as noted in the main text, this level of detail is likely to be impractical for all sections of the record. Additionally, psychologists working in different service areas will invariably have developed assessment and content requirements as well as recording approaches that meet the specific demands of their services. These will have to be included in their version of the ECR.

**Demographics**
These (e.g. Name, NHS Number) will typically be available from referral source or existing ECR data fed into the psychology record.

**Referral information**
Reasons for psychology referral/contact, plus background. Increasingly, this is likely to be in electronic form or easily retrievable scanned paper.

**Main current concerns**
Key concerns elicited from service user, family member or other carers during assessment. A sub-section in each will capture more detailed relevant information (e.g. informants, frequency, severity, functional impact).

**Previous history of main and other episodes**
Information about past occurrences, contact with services – may already be available if the ECR is linked to records of other health and social care services contacts.

**Other concerns**
These would reflect information of concern or interest to the clinician, detected during assessment or otherwise, which would commonly be shared with the service user. This might, for instance, include subtle difficulties seen in a child that had not been detected by others; or features in behaviour that suggested mood state variations more severely negative than indicated, or concerns relevant to child protection.

**Personal circumstances**
Relationships, education, employment, etc.

**Personal/Self**
Personality/temperament, interpersonal – ‘What’s important about you as person?’—type of information, to include strengths, difficulties, etc.
Historical/Developmental
Sub-headings for these might for example include Bullying, Abuse, Other Traumatic Experiences, Substance Misuse, Physical Illnesses, Separation, Bereavement and Loss, Educational Difficulties and the like, with detail recorded using more specific concepts such as psychological abuse allegations, difficulties in reading, and so on.

Because of the potentially serious consequences stemming from claims about the occurrence of some such events, particular attention will need to given to validation during the assessment before some of this information is entered in the record, or at least where appropriate, a flag that the information has not been cross checked. As with other sections of the record, positive factors are included, for example, successful career, good at sport, etc.

Socio-cultural context
Information about psychologically relevant factors including family support, housing, participation in various groups, threatening neighbourhood, etc.

Tests and related information
Procedure names, summaries of clinically relevant information, links to psychometric and other reports – which may be in restricted access sections of a record.

Assessment meta-information
Details about where assessment took place, duration of sessions, and quality of information.

Sealed sections
As discussed above.

Formulations
See main text and Appendix.

Interventions
Types or multi-modal. May also include narrative information.

Outcomes
Structure scales and reports, general and psychology intervention specific.

Follow-up status
Interval and status information.
Reports and other documents
Correspondence, drawings. etc.

Process notes
Free text notes – may be divided into sections such as session notes, therapist comments and reflections on the notes.
References


Notes