

Information deficits in emergency mental health care in Ireland: could a minimum data set offer a solution?

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For Isabel and Arthur

Declaration

I declare that the work described in this dissertation is, except where otherwise stated, is entirely my own work, and has not been submitted as an exercise for a degree at this or any other university.

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Summary

Historical information, to a much greater degree than in other health care specialties, is central to decision making in mental health care. Clinical information in the Irish mental health services is currently mostly paper based. Mental health care in Ireland has moved from an institutional medical model towards a community based multidisciplinary model in recent years. This change has resulted in a dispersal of information between multiple sites and professionals. At the same time Irish society has become more mobile. As a result of these changes personal health information may be less accessible, particularly in the emergency setting, to mental health professionals. A great deal of mental health information is currently collected and recorded electronically in Ireland, but this information is generally not available to assist in individual mental health care decision making. Mental health information is highly personal and electronic recording and sharing of it raises many ethical concerns.

This dissertation explores the idea of a minimum data set for emergency mental health assessments in Ireland. A minimum data set is a set of clearly defined items of information that are essential to the description and analysis of a particular subject. To this end a questionnaire was sent to a representative sample of 150 psychiatrists working in Ireland, asking them about information problems they had experienced, their ideas about and attitudes towards electronic solutions to these problems, and their views as to what particular pieces of information are indispensable in emergency mental health assessments.

One hundred and nineteen questionnaires (79.3%) were returned complete. Ninety-eight of the 119 (82.4%) respondents stated that they had performed emergency mental health assessments within the past year without access to key information and 79 (66.4%) said they would have made different decisions if they had had all the available information. Information deficits were particularly apparent in liaison and forensic psychiatry. One hundred and ten respondents (92.4%) stated that they would welcome an electronic database designed to support emergency mental health assessments. Misgivings were expressed regarding forms of consent, data quality, breach of confidentiality, resources and much more. Risk factors (i.e. self-harm potential), a high alert message and medication details were the data items thought to be most critical.

Irish psychiatrists regularly perform emergency mental health assessments without access to critical information and this leads to sub-optimal decision making. An electronic solution seems necessary if a further deterioration of the state of information in the mental health services is to be averted. A shareable set of essential pieces of information (a minimum data set) would offer a balance between patient safety and confidentiality. Given the distributed small scale nature of mental health services such a system must be accessible anywhere emergency mental health assessments take place, must have low requirements for administrative support and must be highly secure. A wider debate about solutions to the information deficits in mental health care in Ireland needs to take place among all stakeholders so that this idea can be moved forward.

Table of Contents

Chapter 1	Introduction	1
Chapter 2	State of the Art	5
	2.1 Literature review introduction and methodology.....	5
	2.2 Emergency assessments and the Irish mental health system.....	7
	2.3 The importance of historical information in emergency mental health assessments	11
	2.3.1 Illustrative case histories.....	11
	2.3.2 Information and risk.....	13
	2.3.3 Information unavailability in emergency mental health assessments.....	17
	2.4 Information management in the Irish mental health services	19
	2.5 Minimum data sets.....	26
	2.5.1 Minimum data sets in general.....	26
	2.5.2 Mental health minimum data sets.....	28
	2.6 How should the composition of a minimum data set be determined?	33
	2.7 What information should be provided in a minimum data set for emergency mental care?	37
	2.8 The implementation of a minimum data set for emergency mental health assessments	40
	2.8.1 Technical issues.....	41
	2.8.2 Attitudinal issues.....	51
	2.8.3 Political issues.....	52
	2.8.4 Ethical issues.....	53
Chapter 3	Methods/Design	56
Chapter 4	Results	59
	4.1 Response to the questionnaire	59
	4.2 Experience of information deficits among Irish psychiatrists	60
	4.2.1 Experience of emergency mental health assessments without access to information	60
	4.2.2 The effect of information deficits on clinical management decisions	62
	4.3 Attitudes of Irish psychiatrists to an electronic database for the purposes of supporting emergency mental health assessments	63
	4.3.1 Welcoming an electronic database	63
	4.3.2 Prepared to personally update an electronic database?	64
	4.3.3 Type of consent preferred	65

4.4 Problems that Irish psychiatrists believe would be encountered in the introduction of an electronic database to support emergency assessments	66
4.5 Specific data items that Irish psychiatrists regard as critical to have access to in emergency mental health assessments	67
4.6 Benefits that Irish psychiatrists perceive would arise from having an electronic database available in emergency assessments ...	70
4.7 Other comments made by those who returned the Questionnaire	71
 Chapter 5	
Evaluation	73
5.1 Response to the questionnaire	73
5.2 Experience of information deficits among Irish psychiatrists	75
5.3 Attitudes of Irish psychiatrists to an electronic database for the purposes of supporting emergency mental health assessments	77
5.4 Problems that Irish psychiatrists believe would be encountered in the introduction of an electronic database to support emergency assessments	80
5.5 Specific data items that Irish psychiatrists regard as critical to have access to in emergency mental health assessments	84
5.6 Benefits that Irish psychiatrists perceive would arise from having an electronic database available in emergency assessments ...	87
5.7 Other comments made by those who returned the Questionnaire	88
 Chapter 6	
Conclusions	89
 References	93
 Appendices	117
Appendix 1: Mental health catchment areas in Ireland & Dublin....	117
Appendix 2: UK National Mental Health Minimum Data Set	
– Definitions of data collected	119
Appendix 3: British Columbia Mental Health Minimum Data Set	
– Data Elements, Definitions, Operational Values	125
Appendix 4: Questionnaire used in this study	134

List of Tables

Table 1:	Performance of emergency assessments in the past year without access to pertinent information by specialty.	Page 60
Table 2:	Number of emergency assessments in the past year without access to pertinent information by specialty.	Page 61
Table 3:	Proportions of psychiatrists (broken down by grade, location & specialty) that have performed emergency mental health assessments in the past year in which their management decisions would have been different had they had access to pertinent historical information.	Page 62
Table 4:	Proportions of psychiatrists that would welcome an electronic database to support emergency mental health assessments broken down by grade, location & specialty.	Page 63
Table 5:	Proportions of psychiatrists that would be prepared to personally update an electronic database to support emergency mental health assessments broken down by grade, location & specialty.	Page 64
Table 6:	Views of the 119 psychiatrists that responded with regard to the type of consent that should be obtained before data is recorded and shared through an electronic database for supporting emergency mental health assessments.	Page 65
Table 7:	Problems likely to be encountered in the introduction of an electronic database for supporting emergency psychiatric assessment: views of 119 psychiatrists.	Page 66
Table 8:	Data items rated from 1 (unimportant) to 7 (very important) for the optimal performance of emergency mental health assessments by the 119 psychiatrists.	Page 68
Table 9:	Additional data items suggested by the 119 respondents as being critical to optimal performance of emergency mental health assessments.	Page 69
Table 10:	Benefits that Irish psychiatrists believe would arise from having an electronic database available to them in emergency mental health assessments.	Page 70
Table 11:	Other comments made by respondents.	Page 72

List of Figures

- Figure 1: Representation (simplified) of changes that have occurred in recent decades in the structure of the Irish mental health services. Page 8
- Figure 2: Emergency Psychiatric Assessment: Process (simplified). Page 13

Chapter 1 Introduction

A series of recent reports have decried the poor state of information technology in the Irish health services. The National Health Information Strategy (Department of Health & Children, 2004) argued strongly for the central importance of health information systems to the planning, management, delivery and evaluation of the Irish health services. The report of the Commission on Financial Management and Control Systems in the Health Service, also known as The Brennan Report (2003) and the report of the Audit of Structures and Functions in the Health System, also known as The Prospectus Report (2003) both emphasised the centrality of remedying the information technology deficits of the Irish health system if efficiency is to be achieved in the business of services and more importantly, in the provision of timely, high quality information to service providers. The Inspector of Mental Health Services in her 2004 report stated that “the availability of accurate, comprehensive and timely information is fundamental to the delivery and management of any business or service (Mental Health Commission, 2005a).

A primary purpose of data collection in any area, including mental health, is to inform and enable decision making. According to the World Health Organisation (WHO) “a mental health information system is a system for action: it should exist not simply for the purpose of gathering data, but also for enabling well-informed decision-making in all aspects of the mental health system” (WHO, 2005). The focus of mental health data collection in Ireland to date has been for epidemiological and other research as well as for planning and policy decisions. This information has been generally unavailable in the critical area of clinical decision making. The Irish Mental Health Commission (Statutory body established in the 2001 Mental Health Act to ensure

standards in Irish mental health care) has now committed itself to making the data that it collects “available to end-users who gather and use mental health service data during the clinical encounter” (2005b).

This dissertation focuses on information deficits that exist in the performance of emergency mental health assessments within the Irish health service. Mental health services are in the process of shifting to a community model (Expert Group on Mental Health Policy, 2006). This means that the service is increasingly provided from multiple, highly distributed, small-scale sites. Most information in the Irish mental health services continues to be collected on paper. With the shift to the community model this information is also increasingly geographically distributed, with the consequence of access problems, particularly in emergency circumstances.

Psychiatrists are the professional group at the present time with the greatest expertise in the performance of emergency mental health assessments. Typical scenarios include an assessment of an individual following attempted suicide, of an individual with suicidal or homicidal ideas, or of an individual with new onset or worsening psychosis or depression. These assessments may take place in the emergency department of a general hospital, in a psychiatric hospital, or in a psychiatric clinic in the community. It is essential that quality information regarding the individual’s previous history is available if risk is to be fully assessed and if appropriate decisions regarding further management are to be made. Decisions, such as whether to admit an individual to a psychiatric inpatient unit, need to be made as a matter of urgency so this information needs to be immediately available at the point of care. Psychiatric emergencies often present to services at a distance from their paper record and outside

normal working hours so, at present, this critical information is regularly unavailable to assist decision making in emergency mental health presentations.

A great deal of mental health information is currently collected electronically in Ireland. However, this information is not collected with reference to an agreed minimum data set resulting in duplication, incompatibility and limited usefulness for front-line service providers (Health Service Executive, National Suicide Review Group and the Department of Health & Children, 2005). There are numerous international examples of mental health minimum data sets and a number of Irish agencies have recently called for the establishment of an Irish mental health minimum data set (Expert Group on Mental Health Policy, 2006; Mental Health Commission, 2005c). A minimum data set would ensure that high quality data is collected in a standardised manner, which would facilitate data sharing. The interim Health Information and Quality Authority was established in Ireland in 2005 and one of its commitments is to “lead and ensure that all patient records are easily and electronically available, irrespective of where the patient or client presents for a service” (iHIQA, 2005). A minimum data set ensures that no more information than is absolutely necessary is shared. This is particularly important in such a sensitive area as mental health.

In this dissertation I begin by reviewing the existing literature on the role of information in emergency mental health assessments, the current state of electronic mental health data collection in Ireland, the role of minimum data sets and issues to be considered in the implementation of a mental health minimum data set for emergency mental health assessments in Ireland. I then go on to describe research carried out

which sought to establish the experiences of Irish psychiatrists of information deficits when performing emergency mental health assessments, their attitudes to an electronic data set for the purposes of supporting emergency mental health assessments and their views on what the critical pieces of information would be for inclusion in such a minimum data set. This study will add to the knowledge base in this area and will provide practical information that can be applied to the development and implementation of just such a data set in Ireland.

Chapter 2 State-of-the-art

2.1 Literature review introduction and methodology

What follows is a comprehensive literature review, which sets out the current state-of-the-art in the area of electronic provision of clinical data for emergency mental health assessments. The methodology for this literature review was as follows. I performed extensive electronic literature searches using Ovid Medline (United States National Library of Medicine, 1966-2005) and PsycInfo (American Psychological Association, 1872-2005), using combinations of the following search terms, derived from my working knowledge of the domain: “mental health”, “psychiatry”, “suicide”, “risk”, “assessment”, “computers”, “electronic”, “minimum data set”, “data” and “information”. I identified further articles by tracking back through references from relevant papers and book chapters. I contacted corresponding authors to request copies of specific papers identified in my search and to request copies of related papers. In addition for the section on information collection in the Irish mental health services I interviewed key personnel from the Mental Health Commission, the Health Research Board, the National Suicide Research Foundation, and the Hospitaller Order of St. John of God.

The literature review is set out as follows:

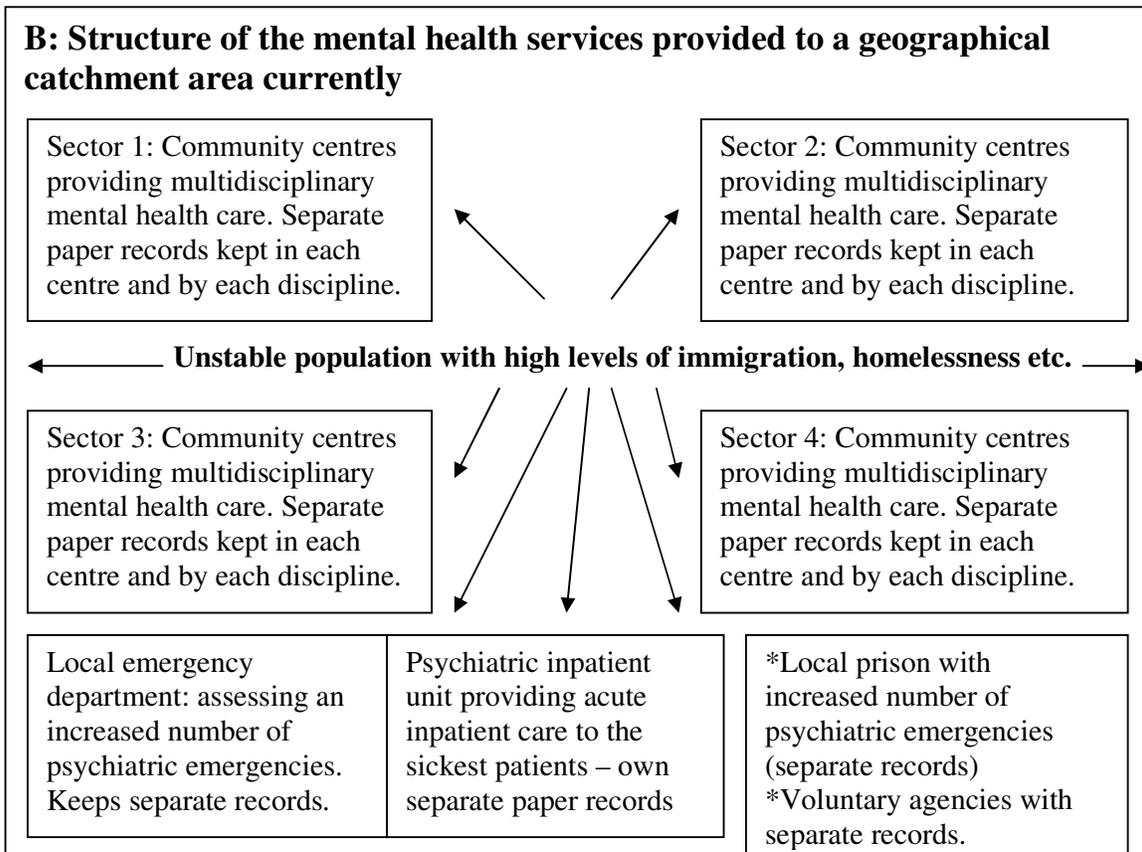
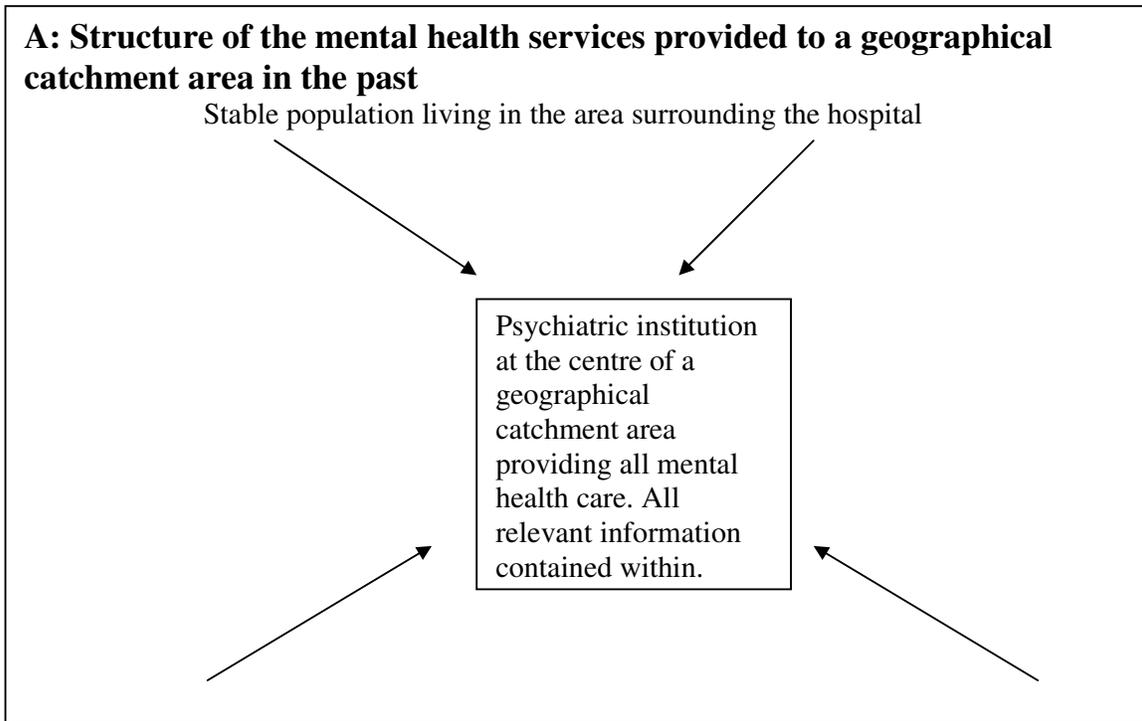
- Firstly the position of emergency assessments within the Irish mental health system is explained.
- Secondly the importance of information to the assessment of risk and decision-making in mental health assessments is addressed.

- Thirdly the current state of electronic information collection and its availability to clinicians in the Irish mental health services is delineated.
- Fourthly the concept of minimum data sets and their availability and proven value in mental health and other settings internationally is described.
- Fifthly the question of how the content of a minimum data for mental health crisis assessments should be established is explored.
- Sixthly the literature is reviewed for evidence as to the ideal content of such a data set.
- Finally technical and other issues to be addressed if such a minimum data set were to be implemented in Ireland are explored.

2.2 Emergency assessments and the Irish mental health system

The Irish mental health services are divided into geographical catchment areas (See Appendix 1), each provided for by a number of multidisciplinary mental health teams led by consultant psychiatrists (Walsh & Daly, 2004). Each consultant psychiatrist has responsibility for the care of any individual presenting with a mental health problem, with an address within his or her allocated sector within that catchment area. Since the *Planning for the Future* policy document produced by the Department of Health in 1984 (DOH, 1984) the Irish mental health services have been slowly redeveloped to be community rather than institution based (Walsh & Daly, 2004). This shift is set to be accelerated according to the recently published policy document for the Irish mental health services: *A Vision for Change: Report of the Expert Group on Mental Health Policy* (Expert Group on Mental Health Policy, 2006). This shift has led to an increasing geographical dispersal of services to multiple small sites within each catchment area. At the same time there has been a greater emphasis on the development of multidisciplinary teams, including psychologists, occupational therapists and social workers. The increased organisational complexity has made the availability of information more complex; often multiple paper files on a single individual are held in multiple locations within a mental health service. In addition to community mental health settings, emergency mental health assessments also commonly take place in general hospital and prison settings, which adds further complexity. Figure 1 illustrates simplistically the changes that have taken place in the provision of mental health care in Ireland in recent decades.

Figure 1: Representation (simplified) of changes that have occurred in recent decades in the structure of the Irish mental health services



Psychiatrists, general practitioners and emergency doctors generally carry out emergency mental health assessments in Ireland, although other professional groups are gaining experience and expertise. Psychiatrists are the professional group with greatest expertise in this area. The assessment of suicide risk is one of the most difficult and critical aspects of such assessments. Suicide rates, particularly among young men, have been a source of considerable concern in Ireland in recent years (National Suicide Research Foundation, 2005). When an individual presents to a psychiatrist after a suicide attempt, expressing suicidal ideas or with signs of worsening psychosis or depression, an assessment of risk must be undertaken. Accurate background information is central to this assessment. In order to maximise access to information such assessments should ideally take place within the community sector that the patient lives in and where, if they have a previous history, any information on them should be available, but the assessments may take place in the emergency department of a general hospital, a prison or in another psychiatric hospital or clinic.

A French study found that 38% of all patients presenting to the emergency department of a general hospital had a psychiatric diagnosis and that in patients presenting outside normal working hours, when pertinent historical information is less likely to be accessible, psychiatric diagnosis is even more common (Saliou et al, 2005). Liaison psychiatrists work in general hospitals and, where available, are the key professionals involved in emergency mental health assessments in emergency departments. Decisions have to be made by the assessing clinician as to whether this individual can be safely discharged and, if so, what the appropriate follow up should be, or alternatively whether they require admission to a psychiatric bed. Information

regarding past psychiatric and other history is regularly unavailable at the time of assessment. This leads to decisions being made, as a matter of necessity, based on imperfect information.

This process of reorientation of the mental health services away from a single hospital base to multiple sites within the community is set to be further developed. The Expert Group on Mental Health Policy, established by the Department of Health & Children in 2003 recently published its report into the future direction of mental health services in Ireland (2006). They have called for a greater community orientation with the development of assertive outreach teams, home assessment teams etc. They also call for larger multi-disciplinary teams. All of this will lead to an even greater dispersal of information between geographical sites and different professionals. Another factor that has impacted on the state of information in the Irish mental health services is the social change in Irish society with higher amounts of inward migration, homelessness and mobility of residence (Feldman et al, 2005). Critical information may thus become even less available to those who are charged with making decisions in mental health emergencies unless action is taken to ensure that it is.

2.3 The importance of information in emergency mental health assessments

2.3.1 Illustrative case histories

Case History 1

A 25-year-old woman presented at the weekend following what appeared to be an attempted hanging, to an emergency department in North Dublin. This woman had a history of attending a psychiatric service in the south of the city but this fact was not communicated to the assessing psychiatrist. The psychiatrist who assessed her in the emergency department was very concerned given the history of attempted hanging and the fact that the woman was unwilling to talk to him at interview. He arranged an involuntary admission to the local inpatient unit. It turned out that this lady had a history of presenting repeatedly to emergency departments with similar stories and that involuntary admissions had proved counter therapeutic in the past. Had the psychiatrist had basic background information available to him at the weekend he would have contacted her regular service who would have followed the crisis plan that they had in place for her, which involved a brief crisis admission followed by resumption of her usual treatment programme.

Case history 2

A 53 year old man presented to an Emergency Department of a General Hospital in South Dublin. This man was complaining of severe abdominal pain and vomiting. He gave no history suggestive of a suicide attempt, nor was there any such history available from another source. He was treated as a case of gastroenteritis. His condition worsened in hospital with marked deterioration of his liver function. At this stage the possibility of a Paracetamol overdose suggested itself and when directly questioned the man admitted this. Unfortunately at this stage it was too late to

administer the antidote. The man died while waiting for a liver transplant the following week. It was later revealed that this man had taken Paracetamol overdoses on at least 5 previous occasions. He had presented to a different hospital on all of these occasions. He also had a long history of attending his local mental health services. Had any of this information been available the treating doctor would have been likely to send Paracetamol levels as part of his initial blood investigations and the man would have received potentially life saving treatment.

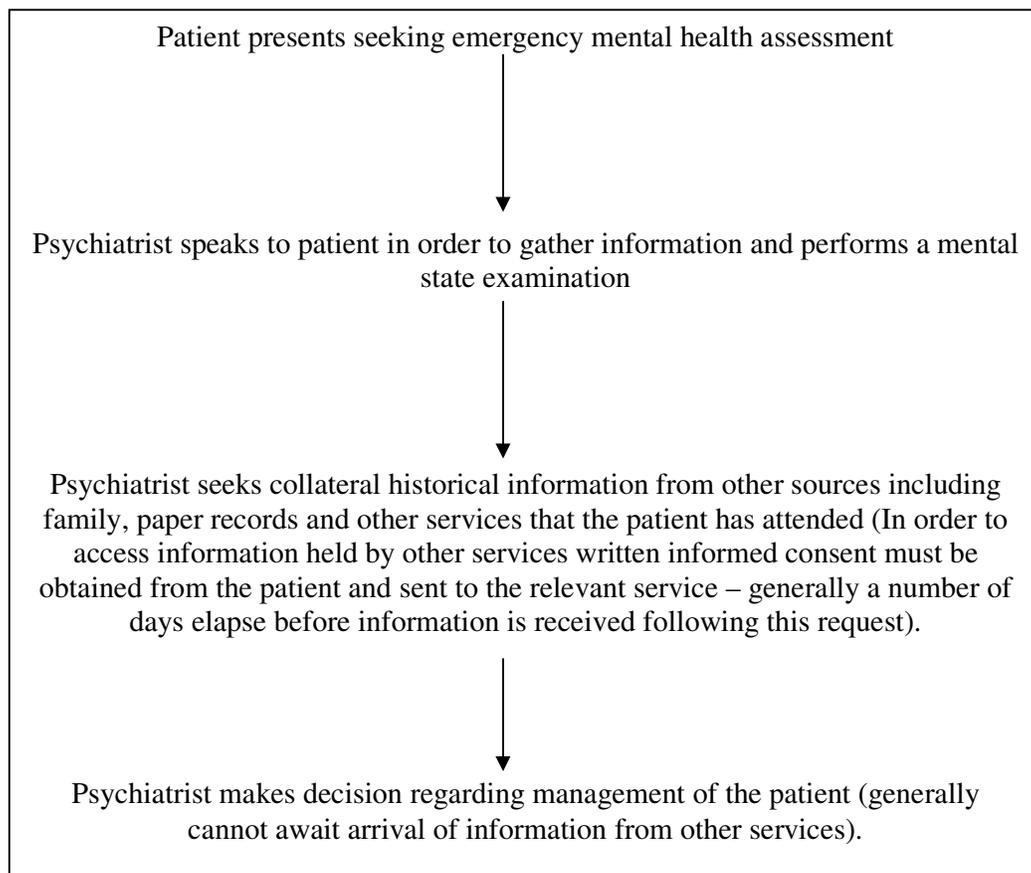
Case History 3

A 19 year old man is brought in by ambulance having been involved in a road traffic accident in which his vehicle left the road and hit a wall. He was alone in the car and was intoxicated at the time. He has sustained only minor injuries. He says that he fell asleep at the wheel. After 24 hours he is discharged from hospital. The following day he hangs himself in his bedroom. It is later revealed that he had a long history of attendance at the child and adolescent mental health services and had been diagnosed with depression. One week prior to the car crash he had taken an overdose of medication. Following that he had been referred to his local mental health service where he had been commenced on an antidepressant. Had this information been available at the time of his presentation to hospital it might have been suspected that the road traffic accident could have represented a suicide attempt and a mental health assessment would have been arranged.

2.3.2 Information and risk

Risk has been defined as the possibility of suffering harm or loss; danger (Little et al, 2003). Risk cannot be adequately assessed, in any area, without comprehensive, accurate and up to date information. The assessment of risk is a fundamental part of any medical assessment. Historical information, clinical examination, laboratory and radiological investigations all assist the clinician in formulating their assessment. Psychiatry, due to the paucity of diagnostic and other investigations, is the medical speciality most reliant on historical information for the assessment of risk. For risk to be adequately assessed in any psychiatric emergency presentation, relevant background information must be available to the clinician (National Collaborative Centre for Mental Health, 2004; Royal College of Psychiatrists, 2004). The process of an emergency psychiatric assessment is illustrated in figure 2.

Figure 2: Emergency Psychiatric Assessment: Process (simplified)



The purpose of accurate clinical assessment is to initiate appropriate management. In mental health the key risks to consider in an emergency mental health assessment are suicide, harm to others, and further deterioration in mental state and ability to self-care. The earlier an appropriate intervention is made the greater the chance it has of success (McGorry & Edwards, 1998). For example, there are a number of psychological, social and pharmacological interventions that have been shown to reduce the risk of further suicidal behaviour (Cipriani et al, 2005; Brown et al, 2005; Meltzer et al, 2003, Isacson & Rich 2001, Hawton et al, 1999). The success of these interventions is dependent, however, on the accuracy of the initial assessment (Kapur, 2005). There are a number of established historical factors (i.e. history of suicide attempts) that indicate that an individual represents a greater risk (i.e. of suicide) and thus requires that an appropriate plan to manage that risk (i.e. admission to a psychiatric inpatient unit) be initiated by the mental health professional performing the emergency assessment.

A number of assessment instruments have been developed to assist clinicians in the prediction of suicide and other adverse mental health outcomes. Many of these scales ignore background information and instead concentrate on the most recent act and the current mental state. Research has repeatedly shown these instruments, in isolation, to be very poor predictors of suicide and other outcomes. The Suicide Intent Scale (Beck, 1974) is the most widely used instrument in general clinical practice, but recent research has comprehensively demonstrated that its predictive value is poor and that clinical risk assessment involving the acquisition of detailed background information is superior (Harriss & Hawton, 2005). Attempts have also been made to

develop computer tools for the prediction of risk of suicide but these have also been unsuccessful and unable to match global clinical risk assessment (Modai et al, 2002).

Previous episodes of self-harm are predictive of suicide (Sidley et al, 1999) and indicate higher levels of psychopathology (Forman et al, 2004). A pattern of increasing severity of episodes is even more predictive (Carter et al, 2005). Having been previously diagnosed with a psychiatric disorder is a key predictor of completed suicide (Maris, 2002). A recently published major US study found that in half of emergency department visits with self harm a mental illness was present and concluded that systematic mental health assessments, including detailed gathering of background information, improved the detection of mental illness and hence the management that the patient received (Olfson et al, 2005).

Major depression, schizophrenia, bipolar affective disorder, substance misuse disorders, borderline personality disorder, and antisocial personality disorder are all predictive of suicide (Tanney, 2000). A systematic review of risk factors for suicidal behaviour in bipolar disorder found that it was predicted by a history of previous suicide attempts, family history of suicide, early onset of bipolar disorder, increasing severity of affective episodes, and abuse of alcohol or drugs (Hawton et al, 2005). A prospective study of suicide in schizophrenia identified history of alcohol or substance misuse, number of lifetime suicide attempts, and number of hospitalisations in the previous 36 months as predictive of future suicide (Potkin et al, 2003). This study looked at a broad range of factors and the only factors to emerge from its multivariate analysis were the above 3 historical factors and current depression and parkinsonism (muscular rigidity as a side-effect of medication). In borderline

personality disorder previous suicide attempts, a diagnosis of depression and a history of substance misuse are most predictive of suicide (Black et al, 2004). A study of children up to the age of 16 that had attempted suicide found that parental mental illness and a history of previous suicide attempts were most predictive of repeat suicide attempts (Chitsabesan et al, 2003). Accurate historical information must be available if these pieces of information are to be included in the risk assessment

Suicide is not the only concern in emergency mental health assessments. The risk of violence towards others is also important to assess and again comprehensive accurate and up to date background information is fundamental to this assessment (Kumar & Simpson, 2005). Assessment scales used for the assessment of violence acknowledge the centrality of historical information to the assessment process i.e. the HCR-20 (Webster et al, 1997). Similarly to suicide risk assessment, violence risk assessment has been shown to be best assessed by clinical judgement supported by historical information (Douglas et al, 2003).

A previous pattern of rapid severe relapse of mental illness may also indicate that an individual requires inpatient care or closer supervision than would otherwise be predictable from the assessment (Gelder et al, 2001). Other, arguably less critical, considerations include accurate information regarding the patient's current medication, medication allergies and any history of medication abuse, if a prescription is to be considered as an outcome to the consultation (Compton & Volkow, 2006). If appropriate follow up is to be arranged, the assessor needs to know if the patient has a history of attending the mental health services.

2.3.3 Information unavailability in emergency mental health assessments

Although comprehensive, accurate and up to date background information is central to risk assessment, this information is regularly unavailable. Unfortunately this can lead to unnecessary adverse outcomes. The lack of availability of background information has been clearly shown to reduce the quality of the decision making arising from the assessment (Kapur et al, 2005; Department of Health, 2002). Wide variations have been shown between UK services in how they manage self-harm with up to ten fold differences in the rates of admission to psychiatric beds (Bennewith et al, 2004). A recent UK study found that over half of those presenting with self-harm to emergency departments were not referred on for psychiatric assessment, despite clear evidence that they merited such an assessment from the details of their case and despite such a referral being the recommended care pathway (Gunnell et al, 2005). Other examples of adverse outcomes of inadequate information for emergency mental health assessment include inappropriate prescribing, misdiagnosis, loss to follow up and difficulties in providing a quality service to homeless and transient populations. There is some evidence from the UK that improving the collection of historical information results in higher quality assessments and hence more appropriate management (Dennis et al, 2001).

The reasons for the lack of availability of background information are manifold. Information may not be available from those presenting as psychiatric emergencies if they are too unwell or unwilling to give information. Information given by patients who present for emergency psychiatric assessment may also not be reliable. In one Irish study 18 out of 123 emergency self-harm presentations were not detected in the emergency department (Feeney et al, 2005). In 11 of these cases the patient was

unable to give a history, while in 7 cases the patient had falsely represented the reason for their attendance at the emergency department leading to a delay in their receipt of appropriate medical care. Had background information on past psychiatric history been available it would have made the treating doctors more likely to diagnose self-harm and hence initiate appropriate treatment. This study also found that of those presenting with self-harm almost 5% had previously concealed an episode of intentional self-harm from medical staff.

Due to the current wide dispersal of information in the Irish mental health services and the requirements that written informed consent be obtained prior to the conveying of clinical information held by mental health or other services, there is often a substantial delay before any information can be obtained. Most mental health emergencies present outside normal working hours when information is even more difficult to access and research has found that this group receives a lower quality psychosocial assessment (Feeney et al, 2005; Gunnell et al, 2004). All of this means that emergency mental health decisions are frequently made based on imperfect information at the present time. Information management in the Irish mental health services will be discussed in more depth in the next section.

2.4 Information management in the Irish mental health services

Effective decision making at every level, from individual patient care to national health care planning, requires relevant, up-to-date, accurate, and accessible information. Information management is concerned with ensuring that such information is available to the appropriate decision makers when it is required. In a heterogenous system such as the health service, this creates a need for a standards based approach to be taken to information management across the various services and organisations involved in health care delivery. Without such standardisation the usefulness of health data for the measurement of improvements in efficiency, effectiveness or appropriateness in any sphere is extremely limited. With proper information management an outcome focused, integrated and accountable health service can be achieved.

In Ireland at present information management in the health services is widely acknowledged to be inadequate (Commission on Financial Management and Control Systems in the Health Service, 2003; Prospectus, 2003). Due to the unique community based structure (Walsh & Daly, 2004) and the “Cinderella” status of mental health when it comes to health care funding (the proportion of the health care budget devoted to mental health was reduced from 11% in 1997 to 6.8% in 2005 (Oireachtas, 2005)), information management in the mental health services is relatively less well developed (Mental Health Commission, 2005a; Health Research Board, 2005).

Mental health information in Ireland is currently collected by multiple agencies with a high degree of overlap, very limited capacity for sharing of data and extremely limited

capacity to use this information to assist in the delivery of care to individual patients. Each individual clinical service, including primary care, collects data for its own clinical and administrative purposes. The vast majority of this data continues to be collected on paper. The sharing of clinical information recorded on paper is time consuming and highly inefficient, usually taking a minimum of a number of working days to effect. The limited electronic information that is collected generally relates to numbers attending and sources of referral and has little clinical input or utility. In any case this information is collected by the various clinical services using a wide variety of software solutions that are largely incompatible. Each service sends regular information on their activities to the Health Service Executive. However this information is predominantly submitted on paper before being entered centrally to the electronic database (Mental Health Commission, 2006a). Only one Irish mental health service provider has moved to collect clinical information electronically in any comprehensive way (Hospitaller Order of St. John of God, 2003).

There are a number of agencies that collect mental health information nationally for research and service development purposes:

- The **National Psychiatric Inpatient Reporting System (NPIRS)** (Health Research Board, 2005b) has been used to collect information regarding admissions to psychiatric institutions since 1963. This dataset has provided valuable statistical information for mental health care planning and research for decades, but increasingly the data it collects does not reflect the reality of community based mental health care in Ireland.
- The NPIRS database is administered by the Health Research Board and recently, in belated recognition of the fact that most mental health care activity

now takes place in the community rather than in institutions, the HRB have launched a new database for the collection of psychiatric community care information; **COMCAR** (Health Research Board, 2006). This Microsoft Access based database is currently being used in 5 mental health sites in Ireland and can be customised to meet the needs of an individual service.

- Another database is used by the Health Research Board to collect information on those attending drug and alcohol addiction services (Health Research Board, 2005c).
- The Health Research Board also administers an intellectual disability database which is Internet based (Health Research Board, 2005e).
- Information in relation to general hospitals is collected through the **Hospital In-Patient Enquiry System (HIPE)** (Economic and Social Research Institute, 2005), which is administered by the Economic and Social Research Institute. Data on mental health presentations to general hospitals are captured in this database if they are admitted to hospital, but not, as is often the case, if they are treated solely in the emergency department.
- The National Suicide Research Foundation (NSRF) who administers the **National Parasuicide Registry** (NSRF, 2005) collects information in relation to self-harm presentations to emergency departments.
- Another group, the National Suicide Review Group, recently established by government, are also collecting data in this area and have recently published their first report, “Reach Out: National Strategy for Action on Suicide Prevention” (Health Service Executive, National Suicide Research Group & Department Of Health & Children, 2005).

- The Mental Health Commission will begin collecting information electronically on involuntary psychiatric admissions as soon as the Mental Health Act 2001 is fully implemented (Mental Health Commission, 2006b).

It is evident from the above that a great deal of information in relation to mental health is currently being collected electronically in Ireland. One of the difficulties with the information collected by these agencies is that clinicians have little input into its collection, which limits the accuracy and usefulness of the information. At the present time this information is mostly used for the administrative and research purposes of the particular agency doing the collecting, and is of limited benefit to those delivering the services on the ground.

Another difficulty is that the information being collected by these various agencies is incompatible. Each of the agencies collects a slightly different standard set of data items, which makes them incompatible and makes future integration difficult. Examples of incompatibility include that for unique patient identification HIPE use “hospital number”, while the NPIRS uses “patient number” and the National Parasuicide Registry uses “entry number”. Another area of mismatch is in the area of a geographical identification. Here HIPE use “postal code” while the National Parasuicide Registry use “electoral ward” and the NPIRS use the patient’s full address. The diagnostic coding systems used also vary between the databases, with transfer to the International Classification of Disease 10th Edition (ICD-10) (World Health Organisation, 1992) having occurred at different time points. All of this makes the problem of integrating this data into a single information service for researchers, clinicians and administrators extremely difficult, if not impossible.

An integrated national information system has been widely called for to improve the quality of information available and to reduce this overlapping data collection (Health Service Executive, National Suicide Research Foundation & Department Of Health & Children, 2005; Department Of Health & Children, 2004). Some preliminary moves towards this goal have been made in the area of mental health data collection. In April 2005 the Mental Health Commission held a seminar with different data collection agencies “with the expressed aim of getting to know those involved in information collection in mental health services around the country and also to hear their views and recommendations on mental health services data collection” and have said that they hope “to develop a national mental health “minimum data set” and definitions to accompany such a data set” (Mental Health Commission, 2005c). The Health Research Board commissioned in 2005 the Information System Implementation Project (ISIP) to integrate the NPIRS and COMCAR databases and to make them available to health service providers via the Internet (Health Research Board, 2005d). The interim Health Information and Quality Authority (iHIQA) was established in 2005 and in their inaugural newsletter they set out their aims, which include the following; “in a sector that requires information and knowledge to function efficiently, HIQA will set the standards for the exchange and flow of information”. In 2006 the Expert Group on Mental Health Policy established by the Department of Health & Children to set out a strategy for the development of mental health services in Ireland produced their report (2006). One of their recommendations is that “a national mental health minimum data set should be prepared, in consultation with relevant stakeholders”. An Irish mental health nursing minimum data set is currently being developed in Dublin City University (DCU, 2006).

Despite these developments it appears that the need of the Irish mental health services for access to historical information for the purposes of being able to optimally assess and manage patients who present requiring emergency mental health assessment, remains low on the list of government priorities. The only mention of mental health in the entire new Health Information Strategy (Department of Health & Children, 2004) is “functionality to support the mental health review cycle and administration”. The contract for the introduction of an electronic patient record for the Irish health services has been awarded to the UK Company, iSOFT. Their product was developed for hospital settings and functionality to support community-based services does not appear to have been considered in its acquisition. The modifications required to allow this electronic patient record product to support community-based services are currently being explored according to the Health Service Executive (2005). According to the Health Service Executive “the integration of patient information across hospital and community-based services is seen as a key objective that the iSOFT suite will be instrumental in achieving” (2005). However, further information in relation to these development plans is currently unavailable. The role of minimum data sets in supporting front-line clinical decision-making is not seen as a priority. The Irish Expert Group on Mental Health Policy see the role of a minimum data set simply as the provision of the “information required to plan, monitor and evaluate services” (2006). However, the World Health Organisation in their recent policy document on mental health information systems emphasised that the primary role of such data should be to support the delivery of care to individual patients (2005).

As can be appreciated from the above, a great deal of information pertinent to the mental health services is recorded electronically in Ireland at present. Unfortunately the various services and agencies are collecting different sets of data with resulting duplication and compatibility problems. The need to collect and index data in a standardised manner is increasingly appreciated with many of the relevant agencies calling for the establishment of system-wide minimum data sets. The role of such data in supporting clinical decision-making is also increasingly appreciated.

2.5 Minimum Data Sets

2.5.1 Minimum data sets in general

The provision of high quality coordinated care to people with serious mental illnesses presents an ongoing problem for the mental health services. A great deal of information about mental health services is currently being recorded electronically in Ireland. Unfortunately this information is being collected in a non-standardised manner, which means that this information cannot be easily integrated or shared. An integrated system of information sharing across all levels of service delivery, allowing the tracking of patients, has been shown to improve the quality of care and to eliminate gaps in the continuity of care (McDougall et al, 1995). Tracking can prevent the loss of patients to follow up, reduce care costs, prevent misdiagnosis and excessive prescribing of medication, and prevent unnecessary involuntary admissions (McDougall et al, 1995; Stead, 1991).

A minimum data is a set of clearly defined items of information that are essential to the description and analysis of a particular subject. According to the World Health Organisation “a minimum data set means that only the least, most essential information is gathered and used” (World Health Organisation, 2005). The Health Information Policy Council of the US Department of Health and Human Services (1983) defined a minimum data set as “a minimum set of items of information with uniform definitions and categories, concerning a specific aspect or dimension of the health care system, which meets the essential needs of multiple data users”.

Minimum data sets have been developed in many health service areas. The driving force behind the development of these data sets has been the need for reliable

information upon which to base rational service development and which can be used in epidemiological and other research (Glover, 2000a). Hence the definitions used often do not mention a clinical role. For example the Expert Group on Mental Health Policy in Ireland have defined a minimum data set as “a nationally agreed data set that is designed to meet national needs for information required to plan, monitor and evaluate services” (2006). The World Health Organisation has emphasised that the primary function of a health care minimum data set should be to support the delivery of care to individual patients (2005).

Minimum data sets have been developed in many areas of health care. For example in 1990 a minimum data set was established in the United States to measure "physical, medical, psychological and social functioning of nursing home residents” (Centers for Medicare & Medicaid Services, 2006). A great deal of high quality research has been published based on data collected over the past 15 years as part of this project. For example it has enabled the auditing of the appropriateness of prescribing decisions (Briesacher et al, 2005) and the exploration of the relationship between cerebrovascular accidents and various medication types (Liperoti et al, 2005). This minimum data set contains the ability to produce ratings for behaviour, function, mood, communication and cognition. The data set’s ratings, using data collected by non-expert carers, have compared favourably with expert opinions (Frederiksen et al, 1996). Other minimum data sets established in the US include ones for renal care (National Institute for Diabetic and Digestive and Kidney Disease, 2006), and HIV care (Agency for Health Care Research & Quality, 2006). A high degree of integration has been achieved between the various data sets in the US allowing for the data to be utilised for the planning of health care delivery on a national scale. The US

Agency for Healthcare Research and Quality (AHRQ) was able to electronically integrate 31 databases in order to provide information for the production of its National Healthcare Disparities Report (2004).

2.5.2 Mental health minimum data sets

Many countries have developed mental health minimum data sets. The US established a national mental health minimum data set providing comprehensive data for mental health care planning and research in 1976 (Smith et al, 2001). The UK mental health minimum data set was established in 1999 (NHS Information Authority, 2001).

Australia has well developed institutional and community mental health care national minimum data sets (Department of Health & Aging, 2005). Many of the Canadian provinces have developed provincial mental health minimum data sets (Canadian Institute for Health Information, 2000). The European Union has also developed its own mental health indicators minimum data set (STAKES, 2001).

Each of these mental health minimum data sets comprise a comprehensive set of data items thought to be essential to the description of an individual's attendances with the mental health services. They have clear operational definitions of the individual data items. For example the UK Mental Health Minimum Data Set (Appendix 2) describes the care received by service users during an overall "spell of care". It defines a spell of care as "The total period during which the patient receives care from specialist mental health staff". It then goes on to provide further guidance as follows "for some patients, this will comprise a small number of out-patient attendances over a few weeks. For others it may extend for many years and include hospital, community, out-patient and day care episodes, commonly overlapping. The Mental Health Care Spell

starts when a member of the adult or elderly specialist mental health service staff first meets the patient. It should normally finish with a definite decision by the responsible staff that further specialist involvement is not appropriate”.

The UK Mental Health Minimum Data Set is “person-centred” such that all the care received by individuals can be studied, and includes details of clinical problems, treatments given, outline aspects of social care and outcomes. Geographic markers allow analysis by any type of health, GP or local authority administrative categories. It also employs a scale called the Health of the Nation Outcome Scale (HoNOS) to assess overall mental health needs. Diagnostic information is the ICD-10 Classification of Mental and Behavioural Disorders (World Health Organisation, 1992). Information regarding risk is indicated by the Care Programme Approach Level (Bindman et al, 2000). The data from the UK Mental Health Minimum Data Set is provided in Microsoft Access format to users and comes with custom-written software that allows cross-tabulation and other analyses (NHS Health and Social Care Information Centre, 2006).

As stated the development of mental health minimum data sets generally arose from the needs of management to measure the performance of their organisation and to take evidence based decisions regarding the development of services and from the need for high quality epidemiological information for research purposes (Glover, 2000a). As such the data items tend to have an administrative focus. There is a great deal of evidence in the literature supporting the role of mental health minimum data sets in improving the quality of administrative and research functioning (Brennan & Greenbaum, 2005; Glover, 2003; Lelliott, 2003; Abbot et al, 1998). However, as can

be seen from the above discussion of the UK Mental Health Minimum Data Set some of the information recorded could be used to support clinical decision making about individual patients.

The role of a mental health minimum data set in supporting clinical decision-making is increasingly appreciated. As I have detailed, the availability of essential historical information can improve the quality of care. This applies to all areas of acute health care where historical information can impact on the decision making process. The absence of historical information is particularly problematic in mental health care and can lead to inappropriate management (Bennewith et al, 2005; Feeney et al, 2005). The principal means of preventing suicide in those with serious mental illness has been found to be attention in the assessment to historical risk factors such as family history of suicide, early onset of bipolar disorder and abuse of alcohol or drugs (Hawton et al, 2005). The World Health Organisation have recently said “a mental health information system is a system for action: it should exist not simply for the purpose of gathering data, but also for enabling well-informed decision-making in all aspects of the mental health system” (2005). The availability of a set of essential historical information items for the purposes of emergency mental health assessments has been rated as highly important by psychiatrists (BC MHIMSP, 2000).

The British Columbia Mental Health Minimum Data Set (BC MH MDS) has a stated primary focus of providing “front line clinical staff with data to assist in decision making in assessing and intervening with a person with a mental illness in a clinical setting” and as such has a more clinical focus to its data items (Ministry of Health Services, 2005). The BC MH MDS is organized into four data domains (Appendix 3):

Mental Health Service Recipient (Client), Care Episode, Care Episode Service Event and Mental Health Service Provider. The data set includes identifier elements such as Personal Health Number, Date of Birth, Gender; client status elements such as employment status, marital status; client diagnostic and functioning elements and service elements such as the service identifier, date of service and identifier of the clinician providing the service. Each element has a common definition and, where applicable, coded values and definitions for each coded value.

In 1979, Strain et al. developed a mainframe-based software system with applications for liaison psychiatry in general hospitals in the United States. Evolution of this computer program to a minicomputer model yielded Micro-Cares CISCL, a clinical, administrative, research and educational management system for liaison psychiatry (Strain et al 1991). This software has been used in centres in Germany (Diefenbacher, 2001) Australia (Smith et al, 1993), Spain, Portugal and South American countries (Diefenbacher & Strain, 2002) and Taiwan (Chiu et al, 2005). This data set contains basic personal data as well as hospitalisation and life data; reasons for the consultation (or problems) as described by the consultee and again by the consultant; psychiatric diagnoses, psychosocial recommendations and whether or not they were implemented; and, drugs recommended and whether they were prescribed, and the occurrence of adverse reactions. The CISCL program uses a custom-created application engine to control data access. Use of this software has allowed direct comparison of psychiatric data from German, Mexican and Portuguese hospitals (Chiu et al, 2005).

There are many obstacles in the path of developing a minimum data set for use in emergency mental health presentations. First of all there is the need to agree the composition and data definitions of such a data set. This requires the involvement of the many stakeholders involved in emergency mental health presentations; clinicians of various types, administrators, patients and families. Then there are issues of implementation. I will go on to discuss these matters now.

2.6 How should the composition of a minimum data set be determined?

How does the developer of a data set decide what is essential yet minimal and what needs to be considered in reaching such a decision? Need, tradition, professional judgment and empiricism all converge to influence the choice of data items (Kane et al, 1995). Need refers to items that are critical to the subsequent processing of the data i.e. unique identification number. Tradition refers to items that are regarded essential for historical, legal or idiosyncratic reasons. Professional judgment determines items based on experience and knowledge of the domain. Empiricism refers to the use of statistical methods to determine the extent to which individual items contribute to the area being described.

There exist multiple examples internationally of mental health minimum data sets and it may be possible to adapt one rather than developing one from scratch. Given the large amount of work necessary to develop a mental health minimum data set and the fact that there are a number in use already this is a likely option. In British Columbia a decision was taken to adapt the US mental health minimum data set following detailed examination of available alternatives (BC MHIMSP, 2000).

The users of the data set should be key in determining the content, but the views of administrators, patients and carers need also to be considered. Mental health is a multidisciplinary area, and although psychiatrists currently have the greatest experience of emergency mental health assessments, there are many other groups with expertise in the area. Hence the views of other professionals involved in the delivery of emergency mental health care need to be included i.e. nurses, psychologists, occupational therapists, social workers etc.

A project work group, with the requisite skills, should perform a detailed literature review and a review of existing electronic data collection arrangements and ways in which such data could be integrated. A survey of users and others should be performed and focus and other groups should be facilitated on the subject. A situation analysis should be conducted systematically by examining all stages of the current system, addressing the following questions:

What mental health data are currently collected?

How is the information processed and analysed?

How is the information used for decision-making?

How is it disseminated?

(World Health Organisation, 2005).

A useful methodology for taking the review further is to conduct a “walk-through” of current systems. This requires site visits to clinics and hospitals, tracking how data are collected and how data flows through the information systems.

Criteria should be established in advance for the selection of data items. The primary focus should be on the purpose of the data being collected, remembering that the data items should be essential to the description and analysis of the area in question. Other criteria may include patient focus, evidence based sources, clinical relevance, practicality, flexibility, logical structure, data standards, sharing, coding and size (NHS, 2005). Security and accessibility of the data should also be considered.

Gyles Glover who led the UK Mental Health Minimum Data Set project team described the process of designing the data set in a paper in the *Psychiatric Bulletin* in 2000 (Glover, 2000a) as follows: “I started by identifying all the types of data currently recorded by health trusts and social services departments for statistical returns and local clinical reasons. I undertook a detailed survey of the ways these are currently recorded. Then working with information department staff in several trusts, I set about devising a way in which the information from all these sources could be pulled together. This entails trust information staff extracting the various data elements from whatever systems they are collected in, and using a very simple (custom-written) dataset assembler programme to build them into patient based records.” Data-warehousing as described here is employed to integrate information from multiple sources (Kelly, 1996). Hence with regard to the UK Mental Health Minimum Data Set there is almost no original data collection or entry.

Any data set agreed upon will also require ongoing review and will need to have built in flexibility to facilitate this. The data set will be different things to different users and needs to be able to serve those different needs. For example the specific data items that an administrator requires access to will differ from those of a researcher doing epidemiological research. Both of these parties will be satisfied with pooled anonymised data for the service. Clinicians will also be able to benefit from the evidence generated by such datasets regarding the benefits of certain interventions. However clinicians may also require access to a specific subset of data held on an individual in order to make an appropriate safe individual health management decision. In order for the data set to have optimal clinical utility clinicians need to be

involved not only in the design stage, but in the data entry such that the available information is up to date and clinically useful.

2.7 What information should be provided in a minimum data set for emergency mental health care?

Historical information is key to appropriate risk management decisions in urgent mental health presentations (National Collaborative Centre for Mental Health, 2004; Royal College of Psychiatrists, 2004). This critical historical information is, as I have detailed, commonly unavailable and this can lead to decision-making that is not in the best interests of the patient. This makes the availability of a minimum data set providing shareable critical background information to clinicians with an authorised need to know highly desirable. A key consideration for any particular piece of information is just how essential it is to the assessment and the decisions that must be taken. A balance needs to be achieved between privacy and safety considerations in reviewing any data item.

The research detailed in the section describing the importance of information to emergency mental health assessments can be used to guide the contents of such a database. From this research it is clear that critical contents of such a dataset would include psychiatric diagnosis, history of suicide attempts, history of alcohol and substance misuse and family history of suicide (Hawton et al, 2005, Black et al, 2004, Potkin et al, 2003, Chitsabesan et al, 2003, Maris, 2002, Tanney, 2000, Sidley et al, 1999).

There are many validated risk assessment tools available, which, as previously discussed, can be useful as adjuncts to, but are not replacements for, the clinical assessment of risk. These can assist us in determining the contents of such a minimum

data set or subset of a larger minimum data set. As I have described most of the scales for suicide prediction concentrate on the details of the current mental state and the presenting suicide attempt, while neglecting historical factors. These scales have been shown to be inadequate as predictors of future suicide and this is partly due to their neglect of historical contributors to risk (Cochrane-Brink et al, 2000). The Modified SAD PERSONS Scale does include previous suicide attempts among its 10 items (Hockberger & Rothstein, 1988). A new instrument; the Nurses Global Assessment of Suicide Risk (NGASR) includes family history of psychiatric illness or suicide, history of psychosis, previous suicide attempt and history of alcohol and/or substance misuse among its factors (Cutcliffe & Barker, 2004). Scales that have been developed for the assessment of violence risk have tended to include more historical items. Ten of the 20 items in the very widely used HCR-20 violence risk assessment scheme are historical (Webster et al, 1997). These include previous violence, young age at first violent incident, relationship instability, employment problems, substance use problems, major mental illness, psychopathy, early maladjustment, personality disorder and prior supervision failure.

Very few of the currently available mental health minimum data sets were developed with the aim of supporting front line clinical decision making about individual patients. As stated previously supporting clinical decision making is the primary focus of the British Columbia Mental Health Minimum Data Set. During the development of this data set Canadian clinicians were asked to rate a number of data items in terms of importance given the following clinical scenario: “You are working as a front-line clinician (e.g. in a hospital or clinic setting). A new patient has been brought in for assessment who is unable to provide much information. You will be the only one

undertaking the assessment and you have access to a provincial data set". Over 80% of respondents rated the following data items as of very high importance for inclusion on the database; date of most recent admission to hospital/clinic, most recent treatment received, presenting problems at previous admissions, previous diagnosis, medication history, medication allergies, risk factors (i.e. self-harm potential, potential danger to others, substance abuse etc.), alert (i.e. a high priority message such as acutely suicidal) and most recent case manager (i.e. key clinician) (BC MHIMSP, 2000).

In the UK a minimum data set for liaison psychiatry has been piloted (Aitken & Glover, 2004). This data set has a greater emphasis on clinical utility than the UK mental health minimum data set, with clinicians in 11 UK centres entering clinical data on patients that they encounter as part of the pilot study. The data recorded being recorded by clinicians from drop down menus as part of this study includes diagnosis according to ICD-10, risk assessments, alcohol history, physical diagnosis and outcome of the consultation in terms of diagnosis, treatment and plan. There are also rating scales included plus measures of quality of life and patient satisfaction. A free text option is also included.

2.8 The implementation of a minimum data set for emergency mental health assessments

The new Irish interim Health Information and Quality Authority (iHIQA) is committed to ensuring that “that all patient records are easily and electronically available, irrespective of where the patient or client presents for a service” (iHIQA, 2005). This stated aim recognises the need throughout the health services for high quality accurate historical information if patients are to receive the highest quality of care. However all health information on an individual does not need to be accessible when that individual presents for a particular health service. In terms of patient confidentiality that situation would be undesirable. Many different agencies and groups in Ireland have also recently called for the development of a minimum data set for mental health (Expert Group, 2006; Mental Health Commission, 2005c; Health Research board, 2005d). According to the World Health Organisation the design of a mental health information system (MHIS) should be founded on identifying the minimum data set for the system (2005). A minimum data set for emergency mental health assessments should form a subset of a larger mental health minimum data set that would have broader clinical, research and administrative functions and which in turn will form part of a larger general health minimum data set. There is much work to be done in order to achieve these goals and one of the most fundamental aspects of this work will be to agree minimum data sets that can be easily recorded and shared between services. There are many technical, attitudinal, political, ethical and other issues to be addressed in this process. I will address these matters with particular reference to emergency mental health care but similar issues would apply to other areas of health care.

2.8.1 Technical issues

As discussed above, at the present time emergency mental health assessments are regularly carried out in the absence of critical information that is necessary for appropriate decision making. In Ireland mental health data continues, for the most part, to be recorded on paper. Hence when a patient presents to a service located at a distance from their paper record that information is generally unavailable to the assessment. Mental health services, unlike other secondary medical services, are on a smaller scale and are highly distributed within the community; they can comprise a single office manned by one professional for one 3-hour clinic per week or a clinician performing assessments in patients' homes.

Information technology provides a wide range of solutions which can assist in the task of making large repositories of information, that are stored remotely in a centralised or distributed manner, available in a much more flexible and timely manner than paper-based records allow (Coiera, 2003). Database technology allows for the efficient storage of large amounts of electronic data that can be rapidly and reliably accessed. Modern database management systems allow for data to be organised according to particular relationships or purposes of that data. Knowledge can be represented electronically in a standardised format. Computers can be networked using cable or wireless technology so that information can be readily shared between them. The Internet allows any computer with an Internet browser and a connection to the communications infrastructure, to access information held remotely. Personal information can be kept confidential using state of the art security measures.

A system for the purposes of making available critical information for emergency mental health assessments would have the following requirements:

- The agreed data set that would be made available to the clinician in a standardised, searchable and cross-referencable format.
- The Data Set would be aggregated from whatever other electronic information sources contain relevant information as well as from a broader mental health minimum data set.
- There would be a facility for mental health data to be recorded and updated by clinicians in a user-friendly manner.
- The information would be accessible by all mental health professionals charged with carrying out emergency assessments, wherever they may be, on a need to know basis.
- The nodes which access this data would have low requirements for administrative support given the distributed small scale nature of mental health services.
- There would be a high degree of security given the personal nature of the information, comprising measures to ensure the confidentiality, integrity and availability of the data.

It is beyond the scope of this dissertation to discuss these technical issues in depth but I will highlight the areas that have posed problems in other minimum data set projects as well as looking at problems posed by the state of information technology development in the Irish health services. I will also discuss some examples, including one of an Irish mental health service provider that has taken the initiative of making

mental health information available outside their service to clinicians carrying out emergency mental health assessments.

A well-developed information technology infrastructure is necessary such that clinicians can access the necessary information at the point of care delivery and at the same time update records with details of a new episode. The Irish Health Service Executive has acknowledged that the technological infrastructure (computers, broadband connectivity etc.) necessary to support its electronic patient record development plans is not currently available and that an as yet unquantified level of investment will be required over a number of years before it is in place (Health Service Executive, 2005). This is a particular problem in the mental health services in which, as discussed, services are very widely distributed in the community, thereby increasing the complexity of the infra-structural needs.

Information being collected in the mental health services in Ireland is currently non-standardised (see section on Information Management in the Irish health service). Nationally agreed standards, with reference to international best practice, for electronically recorded information will be a critical part of implementing a mental health minimum data set. A particular challenge will be to aggregate historical clinical information that has already been recorded electronically in the various data sets discussed in the above section for inclusion in a nationally agreed standardised mental health data set. There is a long tradition of recording standardised mental health data on psychiatric inpatients in Ireland (National Psychiatric Inpatient Reporting System – see section on Information Management in the Irish health service), but this information has become gradually less representative of the mental health services as

they have moved into the community and away from stand alone psychiatric institutions. Clinicians have always been central to the recording of this data and so should be persuadable to record data for a more clinically useful purpose.

A certain amount of pertinent data (e.g. date of birth, address) are recorded electronically in Ireland at present by a variety of agencies using the Personal Public Services Number (PPSN) for unique identification (Department of Social and Family Affairs, 2006). Data for a minimum data set for emergency mental health assessments that is already collected electronically could be aggregated from those other sources. The Department of Health & Children in its 2004 Health Information Strategy has proposed the use of the Personal Public Services Number (PPSN) for use as a unique identifier for the health services also. Various difficulties with using the PPSN for as a unique patient identifier have been raised (O'Mahoney, 2006). These include potential breaches of confidentiality due to the broad range of people who have access to the PPSN in other services and not all patients having a PPSN. The American Society for Testing Materials (ASTM), a standards development organisation accredited by the American National Standards Institute has published the Standard Guide for Properties of a Universal Healthcare Identifier (UHID) (2006). Key among the 30 criteria set out in this document is that a unique patient identifier should be created solely for supporting healthcare.

Information held on a central server can be shared across a large number of networked computers within a service using specialised software. This necessitates a high degree of administrative input to make sure that all computers on the network have up to date versions of the software and access to the information may be lost if a computer on

the distributed system develops a problem. Alternatively information can be accessed via the Internet. All computers have an Internet browser so this cuts down on the need for specialised software and associated administration and makes it less likely that access to information will be lost. However, information is more difficult to secure on the Internet (Kelly & McKenzie, 2002). Given the highly geographically distributed and small-scale nature of mental health services an Internet solution is more practicable. The Health Research Board are already moving their mental health data sets on to an Internet platform through their Information System Implementation Project (ISIP) (Health Research Board, 2005d).

Data quality is critical if electronic data is to be used to support clinical decisions about individual patients. The National Health Service Information Authority in the UK produced a document detailing difficulties that had been encountered in the piloting of their mental health minimum data set (2000). Problems with data quality were foremost among these. Examples cited included failure to keep records up to date, failure to close records when a patient's attendance was completed, duplication of records and failure to fill in certain data items. Measures need to be taken to avoid these problems in the implementation of a minimum data set in Ireland. Training of users will be a key component of these measures. The World Health Organisation (2005) identified failure to train health care staff in how to collect the data as being central to poor data quality. They also identified other contributors including, failure to use the data collected locally to assist local decision-making, failure to disseminate back locally relevant information based on data collected locally, and failure to use the information generated for the purpose of improving the quality of clinical care. A

data set that can assist in the assessment of patients presenting as emergencies to mental health professionals will address these deficits.

Ease of data entry is an area of concern for clinicians (Hammer et al, 1995). Various means of addressing this concern have been attempted, including software allowing bedside pen data entry onto a PDA (Hammer et al, 1995). A prospective study of clinician-entered data in the emergency department relating to pulmonary emboli, using an Internet based system found that data could be easily, accurately and securely entered in the emergency department in real time (Kline et al, 2004). In this study data were collected by on-duty clinicians on an HTML data collection form (prospective e-form), populated using either a personal digital assistant (PDA) or personal computer (PC). Data forms were uploaded to a central, offsite server using secure socket protocol transfer. Each form was assigned a unique identifier, and all PHI data were encrypted, but were password-accessible by authorized personnel.

Security of personal health information needs to be very robust, particularly in situations where sensitive information is being transferred over the Internet. Within the working programme of CEN/TC251 (Health Informatics), a standard for Security Categorisation and Protection for Healthcare Information Systems (CEN ENV 12924) has been developed and is being improved upon constantly (Louwerse, 2002). The IEEE has also published technical guidelines on on-line data protection (Gritzalis et al, 2005). Necessary security measures include protection against natural disasters, software errors, user errors, hardware failure, unauthorised access, unauthorised use, deliberate damage, fraud, tampering and introduction of damaging software (Draper& Rigby, 2000). Encrypted storage of confidential medical data on a grid can offer

additional security (Seitz et al, 2005). Ruotsalainen has proposed an enhanced cross-security platform using an evolutionary model, which makes it possible for different kinds of local, regional, and national health information systems to communicate in a secure way via the internet (2004).

In addition to a fundamental requirement for secure storage and communications infrastructure, the highly confidential and sensitive nature of much of the data creates a particular requirement for a secure user-authentication framework and a fine grained access control model. Access control refers to the specification of which users of the system have access to view and update the contained data. This is a particularly difficult task, since the data may be aggregated from repositories stored across multiple administrative domains, each with their own, potentially contradictory, access policy. Recent developments in this field, in particular Role Based Access Control (RBAC) and other similar models show some promise of being able to address these problems (Sandhu et al. 1996). Researchers at Cambridge University have applied their Open Architecture for Secure Internetworking Services (OASIS) RBAC to the problems of managing access to an NHS national Electronic Health Record (EHR) (Eyers et al. 2006). OASIS supports the precise specification of agreements between services in different administrative domains in order to support multi-domain interoperation.

The 2004 Irish health Information Strategy stated that a full electronic healthcare record would be adopted as soon as a data model was agreed for the Irish health services and that both hospital and community based services should be actively involved in this development (Department of Health & Children, 2004). Although

there is no evidence that a data model has been agreed the Health Service Executive (HSE) signed a €56m contract with iSOFT, a Manchester-based company, in April 2005, for the roll out of iSOFT's Electronic Patient Records (iEPR) software across all HSE hospitals, clinics and other appropriate settings (Health Service Executive, 2005). The scope of the contract agreed with iSOFT covers software licences, implementation services and software support over a 10-year period. The iEPR suite of software to be supplied to the HSE includes iPatient Manager (iPM) and iClinical Manager (iCM), as well as the LORENZO software that is currently being developed to replace iPM and iCM (iSOFT, 2006). iPM supports an organisation-wide master patient index, patient demographics, patient management, referrals, waiting lists, clinical coding, theatres, accident & emergency and maternity. iCM, is based on a core clinical data repository, supports results reporting, order entry, electronic prescribing, clinical decision support, medication administration, terminology services, structured clinical documentation and care pathways. The iSOFT electronic record was designed for acute general hospital settings, as is evident from the above modular functions of iPM and iCM. The degree to which it can be adapted to the highly geographically distributed small-scale community based setting of the mental health services is unclear. Certainly the administrative costs of supporting such a system across the mental health services would be very great. According to the Health Service Executive the necessary modifications to support community services are being considered at present (2005). The logic or basis of these planned modifications is unclear and there is no information available from iSOFT or elsewhere at present on the adaptations of this software for these purposes. The most recent information that has come into the public domain relates to financial problems that iSOFT is

currently experiencing and that iSOFT is being “blamed for delays in a £2bn plan to upgrade NHS computers” (BBC, 2006).

There are some examples of medical information being made available to authorised users via the Internet. In the UK the National Health Service’s (NHS) national programme for information technology has a long term goal of making electronic records available to patients over the Internet. It was recently reported in the British Medical Journal that one NHS practice has begun to move patient records onto the Internet on a voluntary basis (Cross, 2006). This GP practice had been making records available in the surgery using fingerprint technology for security, but for the Internet records patients are being given 2 passwords, one from an electronic security token that generates a unique continually changing password. The NHS has a programme, due to go live in late 2006, entitled *Connecting for Health Care Records Service*, in place to establish electronic records for everyone, accessible at any NHS site (NHS Connecting for Health, 2006). According to a recent report in the Guardian newspaper “users will log on using a “chip and pin” smart card and number. Access will limited to those with a reason, and there will be an audit trail”(Guardian Newspaper, 2006).

One Irish mental health service provider has developed an electronic patient record (Hospitaller Order of St. John of God, 2003). Between 2001 and 2005 over 95% of clinical assessments within the public adult mental health services provided by this organisation, had an associated electronic clinical record created by clinicians, demonstrating an almost total buy-in (Hamilton & Hearne, 2005). This service recently extended its electronic patient record outside of its own network to the local general hospital to which it provides a liaison mental health service. Now clinicians

based in the general hospital can access, update and create new electronic records for patients who present to the general hospital that require mental health assessment. The electronic records are provided over the Internet via a Broadband connection. Security is ensured at present by having the system accessible only from a single computer in a secure dedicated liaison office with tight access control. This computer needs to download software to access the information from the St. John of God server each time the record is accessed. A 10 digit password is required for access also, comprising a 4 digit individual unique code and a regularly changing 6 digit code provided from a security token carried by each clinician with access rights (Moran & Hamilton, 2006).

Certain health information is already being shared electronically within the Irish health system. Healthlink is the name given to a Health Service Executive funded project, which allows computer links to be established between hospitals, primary care practitioners and other agencies (Healthlink, 2006). The message types available at present include laboratory results, radiology results, death notifications, discharge notifications, discharge summaries, A&E attendance notifications, waiting lists and outpatient appointment updates. This project was piloted in the Mater Hospital and later developed nationally. In November 2005, 5 hospitals (Mater Hospital, Beaumont Hospital, Limerick Regional Hospital, Ennis and Nenagh Hospitals) and 207 general practices were using this system, with over 530,000 messages having been generated since the launch (Lalor, 2005). Healthlink is currently being extended to mental health services within North Dublin, linking community based clinics to the Mater and Beaumont Hospitals in the same way that GP practices would be. Modification of this system could allow for the exchange of data for urgent mental health assessments.

2.8.2 Attitudinal issues

For a minimum data set for emergency mental health presentations to be successful it will need the support of clinicians, managers, service users and carers. The key clinical data such as those items outlined in the section above would have to be maintained by treating psychiatrists and other clinicians in order for the data set to be clinically useful. Poor quality data results when clinicians see no use in data collection (World Health Organisation, 2005). Data entered by administrative staff for the Korner minimum data set has been found to be inaccurate and the authors concluded that doctors would need to be involved in the data selection process if it was to be useful for any purpose (Alexander et al, 1985). Kline et al, found that clinicians could accurately and quickly enter data in the emergency department in real time to their own satisfaction (2004). Clinicians will want to know how data entry will affect their workload, how this information can be of benefit to patients, to them personally and to their organisation. Investment in the process needs to be widely fostered from an early stage. Clinical staff will need to be involved in the design and operation of the system and will need to have a sense of ownership of the product. All unnecessary data should be excluded. Completion of updated episode information may need to be mandatory in order to achieve the greatest accuracy and cover, but there should also be some form of reward for clinicians' efforts (World Health Organisation, 2005). Clinicians will generate questions during the operation of a data set such as how to fill in certain data items such as presenting problem or diagnosis if these are complex. There will need to be ongoing education and support if the venture is to succeed.

2.8.3 Political Issues

In an Irish context real leadership will be necessary from the Mental Health Commission, the Health Service Executive, the Health Information and Quality Authority (HIQA) and the Department of Health & Children if a mental health minimum data set is to succeed. Health Information: a National Strategy has signalled a more active interest and investment in health information by government (2004). This strategy only mentioned mental health on one occasion and did not address the differing requirements of the mental health services. This document also stated that the Health Information and Quality Authority would be established and that one of its tasks would be to “assess information databases of all agencies which provide key health service information on an ongoing basis and enter into service agreements as appropriate for the supply of information”. The interim Health Information and Quality Authority (iHIQA) was established in 2005 and it has a stated aim of setting “the standards for the exchange and flow of information” (2005). However, nowhere in the Strategy document or in iHIQA’s announcements is there mention of a minimum data set. The Mental Health Commission have called for the establishment of a mental health minimum data set and have begun some preliminary background work (2005c). As discussed above a contract has been signed for the delivery of an electronic patient record for the Irish health services with UK company iSOFT. There will need to be very substantial investment in hardware and training for this electronic record to be implemented and the differing needs of the mental health services will have to be addressed. There is a need for both a legislative and an information governance framework to support the use of minimum data sets and electronic health records, particularly in relation to sharing of information.

2.8.4 Ethical Issues

A minimum data set should adhere to internationally accepted ethical guidelines for the recording, use and exchange of personal medical information (Rigby et al, 1999). The data protection principles of the Council of Europe include the following principles (Council of Europe, 1981). Any data stored on patients needs to be held for a specific purpose and should be adequate, relevant and not excessive in relation to that purpose. In general informed consent should be obtained in advance of data being recorded. There needs to be a clear policy on the recording of data on patients who are not able to give informed consent due to lack of capacity, but who may benefit from having data recorded on them if they are at risk if having the data available might assist in making life saving care available to them. The use of data should be consistent with the purpose for which it is kept, and any disclosure of information should be consistent with that purpose, unless the disclosure is to the patient themselves or with their explicit consent, or as required by law. Access to the data should be restricted to authorised users and it should be monitored. There should be a schedule of levels of access and authority to add information related to professional status. The data should be secure such that unauthorised access to, use, alteration, disclosure or destruction is prevented. There should be effective mechanisms to prevent loss or corruption of data. Data should be accurate and up to date. All users need training in data protection principles and in the operation of the system according to their area of operation. There should be a policy on the length of time for which data is retained.

The ethics of confidentiality and the keeping and disclosure of electronic data are complex and frequently misunderstood. Invasion of privacy is a public concern in

relation to the establishment of computer databases (Peterson, 2005). Medical records are not currently made available to other clinicians without explicit informed consent. Doctors and other medical personnel and health institutions have a duty to maintain patients' records in confidence. This is a common law rule, there being no specific legislation on the issue. There is also an ethical duty with patient confidentiality being one of the tenets enshrined in the Hippocratic Oath. The Irish Medical Council guidelines A Guide to Ethical Conduct and Behaviour (Medical Council, 2004) say that "All medical records in whatever format and wherever kept, must be safeguarded. Doctors are responsible for ensuring that other health professionals and ancillary staff working with them maintain confidentiality at all times and are aware of the dangers implicit in the use of computers, electronic processors...".

There are some circumstances in which a health professional (or hospital) may disclose confidential medical records to others; for example, if the patient consents to such disclosure, when it is required by a court or with certain infectious diseases. It is also considered ethical to disclose medical records if it would be in the patient's best interests or, if necessary, to protect another person or society generally (Department of Health & Children, 2006) but the guidelines are not entirely clear in this area. The confidentiality of personal information such as medical records is protected in Ireland by legislation; the Data Protection Acts, 1988 and 2003 (Office of the Data Protection Commissioner, 2003), and the Freedom of Information Act (Department of Finance, 1997). Under these Acts, third parties may not get access to personal information except under exceptional circumstances. The Acts do permit the recording and release of data without consent if this were necessary to protect the life of the individual. The

use of a data set for critical decision-making in emergency mental health presentations arguably meets this criterion.

The issue of consent in relation to the recording and sharing of electronic health data is a contentious one. The Royal College of General Practitioners in the UK has called for patients to have to “opt in” to electronic health records, necessitating the seeking of informed consent in all cases prior to the recording of such information (Cross, 2006b). Others have argued that an “opt out” approach is more practical and is a more ethically sound approach, despite being somewhat paternalistic (Watson & Halamka, 2006). The ethical and philosophical issues involved in this debate are explored in more depth in a recent review in the BMJ (Norheim, 2006). The whole area of ethics in relation to personal health information in Ireland is also reviewed in depth in a recent book entitled “Protecting Personal Health Information in Ireland: Law & Practice” by Peter Lennon (2005).

Having considered the issues in relation to the implementation of a minimum data set for emergency mental health presentations I will now go on to describe the original research that I carried out.

Chapter 3 Methods/Design

The performance of emergency mental health assessments is slowly becoming more multi-disciplinary with nurses, psychologists, social workers and other professionals gaining greater expertise, but in the Irish health services at the present time, psychiatrists are the professional group with most experience and expertise in these assessments. Emergency doctors or general practitioners may carry out preliminary assessments but generally refer difficult cases to a psychiatrist for an expert opinion. Hence I decided to concentrate my efforts on psychiatrists as I set out to answer the following questions:

- Do Irish psychiatrists currently experience an information deficit in emergency mental health care and what is the impact of this deficit?
- What, in the opinion of Irish psychiatrists, are the most important pieces of historical information to have available to clinicians performing emergency mental health assessments?
- Do Irish psychiatrists think it would be useful to have access to this data electronically at the point of care during an emergency assessment and what benefits would they foresee accruing from this?
- Would Irish psychiatrists be willing to update a database for emergency mental health assessments?
- What are the views of Irish psychiatrists on the issue of consent in relation to such a data set?
- What are the views of Irish psychiatrists on the sharing of data from such a data set with non-clinicians?

- What problems do Irish psychiatrists foresee in the implementation of such a data set?

I constructed a questionnaire designed to answer the above questions (appendix 4). The questionnaire is divided into two parts; part one asks general questions about information in urgent mental health assessments, while part two focuses on the specific pieces of historical information necessary to perform an adequate mental health assessment. Part two is based on a questionnaire previously used for similar purposes in the British Columbia Mental Health Information Project (BC MHIMSP MDS Work Group, 2000), but adapted to the Irish mental health context and augmented by additional questions based on the literature.

The questionnaire was sent to a representative sample of Irish psychiatrists whose role includes mental health assessment of adults in emergency circumstances. The total sample chosen comprised 150 psychiatrists as follows:

1. All consultant psychiatrists working in Dublin who might be expected to regularly perform emergency mental health assessments as part of their work. This group comprised 78 consultant psychiatrists working in general adult psychiatry, general hospital liaison psychiatry, old age psychiatry, addiction psychiatry and prison liaison psychiatry.
2. All consultant psychiatrists working in the Southeast of Ireland (Wicklow, Wexford, Waterford, Carlow, Kilkenny and Tipperary) who would be expected to regularly perform emergency mental health assessments as part of their work. This group comprised 28 general adult and old age psychiatrists.

3. All 44 doctors currently in higher training (senior registrars) in general adult psychiatry (or its related disciplines) under the auspices of the Irish Psychiatric Training Committee (IPTC).

It was beyond the resources of this study to send the questionnaire to all consultant psychiatrists in Ireland (26 counties) whose role includes mental health assessment of adults in emergency circumstances. The sample chosen comprises approximately a third of the total. Dublin and the Southeast were chosen as being representative of urban and rural settings, and because the author has worked in these areas and has greater familiarity with psychiatry in these regions.

I contacted each centre in Dublin and the South-East of Ireland for an up to date list of all consultant psychiatrists that they employed, their roles and their contact details. I obtained a list of senior registrars in psychiatry from the Irish Psychiatric Training Committee (IPTC). I contacted all consultant psychiatrists by post with an explanatory letter, the questionnaire and a stamped addressed envelope for its return. They were instructed to complete the questionnaire anonymously. The questionnaire was resent electronically with an explanatory note after 2 weeks. The questionnaire was sent electronically on the first and second occasions to senior registrars on grounds that anecdotally they would be more likely to respond to an electronic request than consultant psychiatrists.

A database was constructed using the Statistical Programme for the Social Sciences (SPSS) Version 12.0.1 (2003). The results were then analysed using student t-tests, chi-square tests and Mann-Whitney U tests as appropriate.

Chapter 4 Results

4.1 Response to the questionnaire

Out of the 150 questionnaires sent out 119 (79.3%) were returned complete. Two further surveys were returned incomplete. In 1 of these cases the consultant psychiatrist had recently changed job and therefore deemed himself ineligible, while in the other case the consultant psychiatrist commented that the questions would be more appropriately asked of doctors in training. These 2 responses were not included in further analysis.

Eighty-three of the 106 (78.3%) consultant psychiatrists who were sent questionnaires returned them complete, while 36 of the 44 (81.8%) senior registrars in psychiatry responded. One hundred and one of the 150 psychiatrists who received questionnaires were working in Dublin. Of these 79 (78.3%) returned complete surveys. Forty of the 49 (81.6%) psychiatrists working outside Dublin responded. Fifty-nine of the 78 (75.6%) consultant psychiatrists working in Dublin responded while 24 of the 28 (85.7%) consultant psychiatrists working in the Southeast returned completed surveys. There was no statistical difference between these response rates ($p>0.05$ in all cases; chi-square tests).

One hundred and twelve of the 119 psychiatrists who returned completed questionnaires indicated the particular specialist area in which they worked. Of these 84 (75%) were working in general adult psychiatry, 14 (12.5%) were working in old-age psychiatry, seven (6.25%) were working in liaison psychiatry, 5 (4.5%) were working in forensic psychiatry and 2 (1.8%) were working in addiction psychiatry.

4.2 Experience of information deficits among Irish psychiatrists

4.2.1 Experience of emergency mental health assessments without access to information

Ninety-eight of the 119 (82.4%) respondents stated that they had performed emergency mental health assessments within the past year without access to pertinent information. Sixty-eight of the 83 (81.9%) consultant psychiatrists who responded had carried out such assessments, while 30 of the 36 (83.3%) senior registrars had. Sixty-one of the 79 (77.2%) Dublin based psychiatrists had performed such assessments, while 37 of the 40 (92.5%) based outside Dublin had. Table 1 displays figures for the performance of such assessments by psychiatrists working in different specialties.

Table 1: Performance of emergency assessments in the past year without access to pertinent information by specialty.

	Performed assessments without information (%)	Did not perform assessments without information (%)
Adult Psychiatry	70 (83.3)	14 (16.7)
Old Age Psychiatry	11 (78.6)	3 (21.4)
Liaison Psychiatry	7 (100)	0 (0)
Forensic Psychiatry	5 (100)	0 (0)
Addiction Psychiatry	2 (100)	0 (0)
Specialty not indicated	4 (57.1)	3 (42.9)

The mean number of emergency mental health assessments carried out without access to pertinent historical information across the whole sample was 26.1 (95% Confidence Interval (CI) 6.0-46.2). Consultant psychiatrists had carried out a mean of 34.9 (Median 5.0; 95% CI 6.1-63.6) such assessments while senior registrars had performed a mean of 5.92 (Median 3.0; 95% CI 3.5-8.3). The difference between these 2 groups tended towards statistical significance ($p=0.058$; Mann-Whitney U test).

Dublin based psychiatrists had carried out a mean of 36.2 (Median = 5.0; 95% CI 6.0-66.4) emergency mental health assessments without access to pertinent information, while psychiatrists based outside Dublin had performed a mean of 6.2 (Median = 5.0; 95% CI 4.2-8.1) such assessments. There was no statistically significant difference between these groups ($p=0.45$; Mann-Whitney U). Table 2 displays figures for how the number of such assessments differed between psychiatric specialties.

Table 2: Number of emergency assessments in the past year without access to pertinent information by specialty.

	Mean (median)
Adult Psychiatry	8.0 (5.0)
Old Age Psychiatry	4.6 (3.0)
Liaison Psychiatry	234.3 (72.0)
Forensic Psychiatry	137.8 (100.0)
Addiction Psychiatry	12.0 (12.0)
Specialty not indicated	2.7 (1.0)

The number of emergency mental health assessments carried out without access to pertinent historical information was statistically significantly greater in liaison psychiatry than in adult psychiatry ($p=0.001$) and old age psychiatry ($p=0.002$), but not than in forensic or addiction psychiatry ($p>0.05$ in both cases). The number of emergency mental health assessments carried out without access to pertinent historical information was statistically significantly greater in forensic psychiatry than in adult psychiatry ($p<0.001$) and old age psychiatry ($p=0.001$), but not than in addiction psychiatry ($p>0.05$). There were no statistically significant differences between adult psychiatry and old age or addiction psychiatry ($p>0.05$ in all cases) (Mann-Whitney U tests in all cases).

4.2.2 The effect of information deficits on clinical management decisions

Seventy-nine of the 119 (66.4%) respondents said that in some cases the clinical management decisions that they had made would have been different if they had had access to pertinent historical information at the time of the emergency mental health assessment. There were no statistical differences between the proportions of consultant psychiatrists and senior registrars in psychiatry, psychiatrists based in Dublin and outside, or between any of the psychiatric specialties ($p > 0.05$ in all cases; chi-square tests). The breakdown of these results is shown in table 3.

Table 3: Proportions of psychiatrists (broken down by grade, location & specialty) that have performed emergency mental health assessments in the past year in which their management decisions would have been different had they had access to pertinent historical information

	Performed assessments in which decisions would have been different if information was available (%)	Did not perform assessments in which decisions would have been different if information was available (%)
Consultant Psychiatrists	54 (65.1)	29 (34.9)
Senior Registrars in psychiatry	25 (69.4)	11 (30.6)
Psychiatrists based in Dublin	51 (64.6)	28 (35.4)
Psychiatrists based outside Dublin	28 (70.0)	12 (30.0)
Adult Psychiatry	55 (65.5)	29 (34.5)
Old Age Psychiatry	9 (64.3)	5 (35.7)
Liaison Psychiatry	6 (85.7)	1 (14.3)
Forensic Psychiatry	4 (80.0)	1 (20.0)
Addiction Psychiatry	2 (100)	0 (0)
Specialty not indicated	3 (42.9)	4 (57.1)

4.3 Attitudes of Irish psychiatrists to an electronic database for the purposes of supporting emergency mental health assessments

4.3.1 Welcoming an electronic database

One hundred and ten out of the 119 (92.4%) psychiatrists who returned completed questionnaires stated that they would welcome an electronic database designed to support emergency mental health assessments. Table 4 displays these results broken down by grade, location and psychiatric specialty.

Table 4: Proportions of psychiatrists that would welcome an electronic database to support emergency mental health assessments broken down by grade, location & specialty.

	Would welcome an electronic database to support emergency assessments (%)	Would not welcome an electronic database to support emergency assessments (%)
Consultant Psychiatrists	75 (90.4)	8 (9.6)
Senior Registrars in psychiatry	35 (97.2)	1 (2.8)
Psychiatrists based in Dublin	75 (94.9)	4 (5.1)
Psychiatrists based outside Dublin	35 (87.5)	5 (12.5)
Adult Psychiatry	75 (89.3)	9 (10.7)
Old Age Psychiatry	14 (100)	0 (0)
Liaison Psychiatry	7 (100)	0 (0)
Forensic Psychiatry	5 (100)	0 (0)
Addiction Psychiatry	2 (100)	0 (0)
Specialty not indicated	7 (100)	0 (0)

There were no statistical differences between the proportions of consultant psychiatrists and senior registrars in psychiatry, psychiatrists based in Dublin and outside, or between any of the psychiatric specialties ($p > 0.05$ in all cases; chi-square tests).

4.3.2 Prepared to personally update an electronic database?

Ninety-nine of the 119 (83.2%) psychiatrists who returned completed questionnaires stated that they would be prepared to personally update an electronic database for the purposes of supporting emergency mental health assessments. Table 5 displays these results broken down by grade, location and psychiatric specialty.

Table 5: Proportions of psychiatrists that would be prepared to personally update an electronic database to support emergency mental health assessments broken down by grade, location & specialty.

	Would be prepared to personally update an electronic database to support emergency mental health assessments (%)	Would not be prepared to personally update an electronic database to support emergency mental health assessments (%)
Consultant Psychiatrists	64 (77.1)	19 (22.9)
Senior Registrars in psychiatry	35 (97.2)	1 (2.8)
Psychiatrists based in Dublin	64 (81.0)	15 (19.0)
Psychiatrists based outside Dublin	35 (87.5)	5 (12.5)
Adult Psychiatry	68 (81.0)	16 (19.0)
Old Age Psychiatry	13 (92.9)	1 (7.1)
Liaison Psychiatry	5 (71.4)	2 (28.6)
Forensic Psychiatry	5 (100)	0 (0)
Addiction Psychiatry	2 (100)	0 (0)
Specialty not indicated	6 (85.7)	14.3 (0)

The proportion of senior registrars in psychiatry prepared to update such an electronic database was statistically significantly greater than that of consultant psychiatrists (Odds Ratio 10.4 (95% CI 1.3-80.9); $p=0.015$ (chi-square test)). None of the other comparisons yielded statistically significant differences ($p>0.05$ in each case; chi-square tests).

4.3.3 Type of consent preferred

The 119 psychiatrists who returned completed questionnaires indicated 5 separate views regarding the type of consent that a patient should have to give before having data recorded and shared through such a database. Table 6 displays these views.

Table 6: Views of the 119 psychiatrists that responded with regard to the type of consent that should be obtained before data is recorded and shared through an electronic database for supporting emergency mental health assessments.

	Number of psychiatrists choosing this option (%)
No consent should be required for the recording and sharing of such electronic information	5 (4.2)
Patient informed (and given choice to opt out) on first presentation to the mental health services that data will be recorded electronically and that certain data may be shared with other clinicians from other services in emergency circumstances	42 (35.3)
Patient gives written consent on first presentation to the mental health services for the electronic recording of data and to the future sharing of specific data with clinicians from other services in emergency circumstances	40 (33.6)
Patient should give consent on each occasion that any information held electronically on them is accessed by clinicians from another service	29 (24.4)
Patients should never consent to the electronic recording and sharing of personal health information	3 (2.5)

With regard to the type of consent preferred there were no statistical differences between the proportions of consultant psychiatrists and senior registrars in psychiatry, psychiatrists based in Dublin and outside, or between any of the psychiatric specialties ($p > 0.05$ in all cases; chi-square tests).

4.4 Problems that Irish psychiatrists believe would be encountered in the introduction of an electronic database to support emergency assessments

Of the 119 psychiatrists who returned completed questionnaires 113 (95.0%) detailed between 1 and 6 problems that they believed would be encountered in the introduction of an electronic database to support emergency mental health assessments. These 26 separate problems that they anticipated are set out in table 7.

Table 7: Problems likely to be encountered in the introduction of an electronic database for supporting emergency psychiatric assessment: views of 119 psychiatrists.

	Number expressing this view (%)
Poor data quality due to clinicians failing to adequately update	53 (44.5)
System insecurity leading to breaches of patient confidentiality	53 (44.5)
Problems with consent: refusals, withdrawals, lack of capacity – how to deal with these eventualities	48 (40.3)
Absence of the necessary computer and communications infrastructure	45 (37.8)
The necessary administrative support will not be available	27 (22.7)
Psychiatrists are overworked and this would worsen matters	20 (16.8)
Lack of the necessary funding to implement system properly	18 (15.1)
Difficulty selecting criteria for inclusion on such a database	9 (7.6)
Levels of access rights difficult to manage	8 (6.7)
Problems with Freedom of Information Act	6 (5.0)
Poor training availability	5 (4.2)
Personal concern regarding the ethics of such a venture	5 (4.2)
System frequently crashing/ being unavailable	5 (4.2)
Such a system treats psychiatric patients differently → stigma	5 (4.2)
Poor computer literacy of many psychiatrists	4 (3.4)
Difficulty securing agreement as to what data to include	4 (3.4)
Lack of proper project management	4 (3.4)
Incompatibility with other computer systems	3 (2.5)
Civil rights advocates would object although such a database would protect the interests of patients	3 (2.5)
Patients would use false names and addresses with this system	3 (2.5)
Difficulties with data protection legislation	2 (1.7)
Difficult to achieve standardisation across different centres	2 (1.7)
Lack of a unique patient identifier would make it unworkable	1 (0.9)
Would result in increased legal & public scrutiny of mental health decisions	1 (0.9)
Refusal of courts to accept information recorded in database	1 (0.9)
Problems with information storage	1 (0.9)

4.5 Specific data items that Irish psychiatrists regard as critical to have access to in emergency mental health assessments

The questionnaire presented psychiatrists with the following scenario: “You are working as a front-line clinician for a mental health service. A new patient has been brought in for assessment on a Saturday evening. The patient is from outside your catchment area, unaccompanied and unable to provide much information. You will be undertaking a mental health assessment and you have access to a national mental health data set. How important would it be for you to have access to the following information?” They were then asked to rate 36 separate data items from 1 (unimportant) to 7 (highly important). The opinions of the 119 psychiatrists who returned completed questionnaires are presented in table 8. There were no statistical differences between the preferences of psychiatrists when compared between grades, locations and specialties ($p>0.05$ in all cases; student t-tests).

In addition the questionnaire asked psychiatrists to suggest other data items that they regarded as critical to have available if they were to be able to carry out an emergency mental health assessment. Thirty-two of the 119 (26.9%) psychiatrists who responded made suggestions of additional data items and as many as 10 psychiatrists suggested 1 particular data item. The 20 separate data items that they suggested are listed in table 9.

Table 8: Data items rated from 1 (unimportant) to 7 (very important) for the optimal performance of emergency mental health assessments by the 119 psychiatrists.

	Mean rating (SD*)
Risk factors (i.e. self-harm potential, potential danger to others, substance abuse etc.)	6.64 (0.66)
High alert notification (i.e. acutely suicidal)	6.52 (0.99)
Medication history	6.40 (0.81)
Forensic history	6.40 (0.82)
Previous psychiatric diagnoses	6.36 (0.80)
Medication allergies	6.26 (1.10)
Most recent therapeutic intervention received (i.e. medication, psychotherapy, admission etc.)	6.24 (1.07)
Dates and circumstances of past episodes of self-harm	6.13 (0.94)
Alcohol/drug history	6.07 (0.86)
Next of kin contact details	6.06 (1.19)
Severity of condition/level of functioning at most recent contact with mental health services	6.04 (1.01)
Date and location of most recent contact with mental health services	5.98 (1.17)
Presenting problems at previous assessments/admissions	5.87 (1.00)
Details of mental health clinician most recently managing case	5.84 (1.11)
Mental health contact history (i.e. dates and types of service received).	5.61 (1.06)
Details of most recent primary health physician	5.61 (1.14)
History of involuntary admissions	5.61 (1.20)
Circumstances of most recent discharge from mental health services	5.58 (1.16)
Previous medical diagnoses	5.54 (1.14)
Discharge date from most recent service	5.50 (1.15)
Current address	5.46 (1.56)
Family history of suicide	5.08 (1.44)
English proficiency/ interpreter needed	4.99 (1.72)
Family history of mental illness	4.91 (1.41)
Living arrangements	4.35 (1.52)
Language spoken at home	4.20 (1.82)
Date of birth	3.71 (1.92)
Educational attainment	3.25 (1.46)
Current marital status	3.18 (1.66)
Employment status	3.16 (1.59)
Ethnicity	2.87 (1.75)
Year of entry to Ireland	2.76 (1.72)
Citizenship	2.63 (1.64)
Place of birth	2.41 (1.55)
Gender	2.39 (1.78)
Health insurance	2.37 (1.60)

*Standard Deviation

Table 9: Additional data items suggested by the 119 respondents as being critical to optimal performance of emergency mental health assessments.

	Number expressing this view (%)
Details of outstanding criminal proceedings	10 (8.4)
Details of care arrangements for children	9 (7.6)
History of violence towards medical staff	7 (5.9)
Personality functioning/ type	6 (5.0)
Social supports available to the patient in the community	5 (4.2)
History of adverse reactions to psychiatric medications	5 (4.2)
Details of regular treatment team's crisis management plan	3 (2.5)
Most recent urine drug screen result	2 (1.7)
History of adherence to treatment	2 (1.7)
Identity of main carer	2 (1.7)
Details of emergency department attendances	2 (1.7)
Current psychosocial stressors and their management	1 (0.8)
History of responses to therapeutic interventions	1 (0.8)
Typical pattern of relapse of mental health problems	1 (0.8)
Mobile phone number	1 (0.8)
HIV status	1 (0.8)
Intelligence level	1 (0.8)
Photograph for identification purposes	1 (0.8)
Results of blood tests carried out in the past	1 (0.8)
Details of past residential treatments for addiction	1 (0.8)

4.6 Benefits that Irish psychiatrists perceive would arise from having an electronic database available in emergency assessments

Psychiatrists were asked to suggest benefits that they believed would arise from having an electronic database available to them with information such as the items listed in table 8. One hundred and three of the 119 (86.6%) who returned completed questionnaires suggested between 1 and 5 benefits each. The 19 separate benefits suggested are listed in table 10.

Table 10: Benefits that Irish psychiatrists believe would arise from having an electronic database available to them in emergency mental health assessments.

	Number expressing this view (%)
Would improve the quality of the assessment and subsequent management of the patient	99 (83.2)
Improved health services staff safety	16 (13.4)
Improved patient safety	15 (12.6)
More rapid access to the most appropriate services for the patient	13 (10.9)
Would remove duplication i.e. the need to continuously collect the same data from patients	9 (7.6)
Would reduce hospital admissions	8 (6.7)
Would save clinician time	8 (6.7)
Information would be available outside normal working hours	7 (5.9)
Information would be more accurate than that received currently	5 (4.2)
Would help in carrying out epidemiological research	5 (4.2)
Would make assessment less traumatic for patients as there would be less need to retell everything	5 (4.2)
Would help avoid prescribing errors and medication misuse	3 (2.5)
Enhanced civil rights for patients	2 (1.7)
Friendlier to the environment	2 (1.7)
Reduced litigation	2 (1.7)
Would assist in making recommendations to court	1 (0.8)
Would remove the need to decipher handwriting	1 (0.8)
Reduced likelihood of patients being admitted with false names and addresses	1 (0.8)
Would facilitate more efficient use of the Mental Health Act 2001	1 (0.8)

4.7 Other comments made by those who returned the questionnaire

The questionnaire included a section at the end in which respondents could make any other comments that they wished. Forty-one of the 119 (34.5%) psychiatrists who returned completed questionnaires included between 1 and 3 other comments. The 22 separate comments made are listed in table 11.

Table 11: Other comments made by respondents.

	Number expressing this view (%)
The invasion of privacy risk is too great to support the use of such a system	7 (5.9)
This information is frequently unavailable even during normal working hours within a patient's own service	6 (5.0)
The greatest problem in relation to information unavailability relates to non-nationals so an international database would be more useful	4 (3.4)
The information available through such a system should be kept to an absolute minimum due to risk of inappropriate access	4 (3.4)
For such a system to work it must be national and involve all service providers including private ones	3 (2.5)
The extent of homelessness in Dublin would make accurate data collection difficult	3 (2.5)
If patients choose not to have their data recorded or shared they may be regarded as having no history and thus be placed at greater risk of inappropriate management	3 (2.5)
Inaccurate information on such a system would be worse than having no information at all	2 (1.7)
Those patients who would benefit most from such a system are also the most likely not to consent to participate	2 (1.7)
The questionnaire would have been better sent to junior doctors as they do most emergency mental health assessments	2 (1.7)
There are some systems in use in the UK which provide some of this functionality e.g. EPEX, MAPPA	2 (1.7)
This system would be a fiasco like PPARS all over again	1 (0.8)
There is no need for this system; a good history and mental state examination should suffice	1 (0.8)
With family breakdown and immigration collateral history is less and less available so this system is increasingly necessary	1 (0.8)
Patients should be able to access their records on this system without having to use the Freedom of Information Act	1 (0.8)
The key question will be what the public think	1 (0.8)
The system must be extended to prison health centres as a high proportion of emergency mental health assessments occur there	1 (0.8)
Systems should be developed locally before nationally	1 (0.8)
The information contained in the database could prejudice the assessment of the patient	1 (0.8)
Patients could carry the information on a chip readable by HSE software	1 (0.8)
A homeless register would be a good interim solution	1 (0.8)
Irish clinicians are unreasonably unwilling to share clinical information	1 (0.8)

Chapter 5 Evaluation

5.1 Response to the questionnaire

Almost 80% of the 150 psychiatrists who received questionnaires returned them complete. This represents an excellent response rate for a study of this sort, especially given that 2 further psychiatrists returned the questionnaire incomplete and others may have been on leave during the study period. A recently published study in which a questionnaire designed to assess attitudes towards the Mental Health Act 2001 was sent to Irish consultant psychiatrists and senior registrars in psychiatry only yielded a response rate of 26.0% (Kelly & Lenihan, 2006). Those who did not respond are unlikely to substantially differ from those who did. In terms of grade, location and specialty they were proportionally distributed. It is likely that those who did not respond are relatively neutrally disposed towards electronic records given that many who had strong views appear to have used this questionnaire to air them.

The excellent response rate may relate in part the study's methodology. In this study the names and addresses of the target group of psychiatrists were laboriously compiled by contacting each mental health service in the weeks prior to the questionnaire being sent out. Both regular mail and electronic versions were sent to consultant psychiatrists. The regular mail versions contained a personally addressed letter explaining the study and a stamped addressed envelope for return.

The excellent response rate is also likely to relate to the degree of interest in this particular topic among Irish psychiatrists. The subject of electronic records and communication is a current and provocative topic among Irish psychiatrists. There have been many recent publications, which have addressed the subject e.g. the Report

of the Expert Group on Mental Health Policy: A Vision For Change (2006). Twenty-seven of the 119 (22.7%) respondents listed 5 or more problems that believed would be encountered in the implementation of a database to support emergency mental health assessments in Ireland. This questionnaire appears to have offered an opportunity to many to express strongly held views on the subject with many respondents attaching letters with extra suggestions to the questionnaire.

5.2 Experience of information deficits among Irish psychiatrists

This study confirms that Irish psychiatrists are experiencing an information deficit in relation to emergency mental health assessments. Over 80% of respondents had performed emergency mental health assessments in the past year in which they did not have access to records pertinent to the assessment. This study focused on emergency assessments of individuals at a location distant from their mental health records, but from comments made in response to this questionnaire Irish psychiatrists additionally find it difficult to access such information within their own services and during normal working hours.

Notably Dublin based psychiatrists were slightly less likely than psychiatrists based in the Southeast to have carried out emergency mental health assessments without access to pertinent information. Anecdotally such assessments are more common in Dublin where there is greater inward and outward migration and social problems such as drug abuse are more prevalent. In fact in terms of numbers of assessments carried out Dublin based psychiatrists had performed higher numbers. The lower proportion of psychiatrist who had carried out such assessments in Dublin may relate to the inclusion of psychiatrists working in 2 private institutions in Dublin who were less likely to have carried out emergency mental health assessments.

These information deficits appear to be most acutely felt in the specialties of liaison and forensic psychiatry. In both of these specialties psychiatrists do large amounts of emergency mental health assessments and are more likely to perform these at a distance from any records kept by the mental health services on that individual. Liaison psychiatrists, where they exist, have responsibility for the emergency

departments of general hospitals. In this setting, patients who require emergency mental health assessments (i.e. drug overdoses) generally present outside normal working hours and previous mental health records are usually unavailable onsite (Gunnell et al, 2005). Forensic psychiatrists carry out very frequent emergency mental health assessments in prisons (i.e. fitness to plead assessments) and here previous mental health records are rarely available.

This deficit of information is a serious matter and can lead to inappropriate decision-making (Baca-Garcia et al, 2004). Two thirds of respondents admitted having made decisions in relation to patients that they would have changed had they had access to mental health records that existed, but were unavailable at the time of the assessment. It is unclear as to whether these decisions compromised patient safety. However, the decisions that are made in the setting of emergency mental health assessments can be life saving, so it can be assumed that patient safety was compromised in some cases. As detailed in the literature review information is critical to the optimal performance of these crucial assessments (Olfson et al, 2005). Hence these assessments merit being supported by the best information systems available.

5.3 Attitudes of Irish psychiatrists to an electronic database for the purposes of supporting emergency mental health assessments

The overwhelming majority (92.4%) of Irish psychiatrists would welcome an electronic solution to the current information deficits in emergency mental health care. This statistic probably reflects increasing familiarity with electronic systems and a growing frustration with the information deficits discussed above. Although the difference was not statistically significant senior registrars were more likely to welcome such an electronic solution than consultant psychiatrists (97.2% vs. 90.4%). This may indicate that younger, more technologically informed psychiatrists are more open to electronic data recording and sharing.

Many of the psychiatrists who said that they would welcome an electronic system to support emergency mental health assessments also expressed serious misgivings about the introduction of such a system. These apprehensions will be elaborated on in the next section but in general they suggest that although psychiatrists are open to an electronic system for sharing mental health information in emergencies, a lot of work will be necessary to address particular areas of concern if such a system were to be successfully implemented.

Most psychiatrists who responded (83.2%) were prepared to personally update an electronic database for emergency mental health assessments. Consultant psychiatrists were significantly less likely than senior registrars to be willing to personally update an electronic database. This difference is likely to relate in part to comfortableness with the use of electronic technology. It may also reflect degrees of clinical time commitments in current roles; while both groups are very busy clinically, senior

registrars tend to have more time for research and other projects of personal interest. There is a perception that electronic systems such as this increase workload rather than reduce it. It is likely with such a system as this that workload would increase initially so clinicians will need to see some return on their efforts if it is to be successfully implemented. Clearly the simple availability of quality information on patients requiring emergency mental health assessment will satisfy this in part but more administrative support and reductions in clinical load might also assist successful introduction.

With regard to the type of consent that a patient should give before their information could be recorded and shared through such a system, over two thirds of respondents opted for either the patient being verbally informed that information in relation to them would be recorded and shared or the patient giving written consent in advance which would cover any future emergency sharing of that information. These seem to be the most practical options in order for such a system to successfully perform its purpose. Although the former option of having the information recorded unless the patient formally opts out has been described as unduly paternalistic, it has also been argued that this option strikes the best balance between the patient's best interests and their autonomy (Norheim, 2006).

Almost 25% of respondents opted for the patient having to give written informed consent on each occasion that it was proposed for the information to be shared. In practice this would compromise the usefulness of any system as patients requiring emergency mental health assessment are often not in a position to give written informed consent at that moment. A further 2.5% were so opposed to an electronic

system that they replied that no one should consent to their information being recorded on it under any circumstances while 4.2% felt that consent should not be an issue for the recording and sharing of this type of information. Clearly a wider debate needs to take place in the profession and among other stake-holders about this particular issue.

5.4 Problems that Irish psychiatrists believe would be encountered in the introduction of an electronic database to support emergency assessments

The response rate to this section of the questionnaire was excellent despite it requiring writing rather than box ticking; some 95% of respondents made suggestions as to problems that would be likely to beset the introduction of an electronic system designed to support emergency mental health assessments. The particular responses demonstrate a high level of familiarity with the type of problems that do arise in the introduction of electronic systems.

In the UK the “Connecting for Health” electronic patient record system, due to be fully operational by 2010 at a cost of £12.4 billion, has encountered a number of problems in its implementation thus far. There have been difficulties in transferring patient details from earlier systems to the new database and repeated system failures. Just 12 of England’s 176 major hospitals have implemented the most basic level of the new system and none have moved to introduce the second phase despite all of them being due to do this according to the Department of Health’s timetable (Doward, 2006).

The most prevalent concerns among Irish psychiatrists relate to data quality and data security. These are both critical issues for any electronic system, and are particularly so for electronic health records (Bakker, 2004). The security issue is perhaps easier to address. A related concern expressed was that of the complex area of access control. There have been several recent high profile instances of security breach of electronic health data systems (Richman, 2006; Rojas-Burke, 2006) and when this does occur the consequences are potentially catastrophic. However, overall there is good

evidence to support the assertion that electronic data can be more secure than paper data and that the available technological solutions to security and access control are all the time improving (Ruotsalainen, 2004b). This message needs to be adequately communicated and any electronic system that will hold personal mental health data needs to have the most robust security systems available in place to protect against inappropriate access or use.

Data quality is a more difficult entity to ensure. Electronic systems can be user friendly, can have mandatory fields, can draw information from other sources etc., but ultimately data quality will depend on a high level of user buy in and responsibility. This is likely to represent a major stumbling block as it has done elsewhere (Saigh et al, 2006), but can be overcome as has been demonstrated with the Mental Health Information System of the St. John of God organisation (Hamilton & Hearne, 2005). If there is a fear that the information on the system is inaccurate or out of date then clinicians will avoid using it and consequently avoid updating it. In order for successful implementation there will need to be a large amount of investment in involving clinicians in the design of the system and in training in the use of the system. Managers must be fully on board with such a system and drive its use as part of their quality agenda.

Other related concerns were that training would be inadequate, that administrative support would be lacking, that psychiatrists have too much work to do to be able to devote adequate attention to data entry, that many psychiatrists are computer illiterate, that the project management would be poor, that hardware would be lacking, that the system would be incompatible with existing systems and that the data items would not

be adequately chosen and defined. All of these indicate a culture of fear and a history of experiencing information technology and other management projects that have not succeeded due to failures in these areas. Clearly a great deal needs to be done in advance of the introduction of such a system to reassure psychiatrists and other users that these problems will be addressed sufficiently.

Another prominent issue of concern related to the thorny area of consent. Psychiatrists expressed the legitimate fear that if consent was required that those for whom information would be most necessary would also be those most likely to withhold consent. Another key area of concern was what to do with those who refuse consent and the fear that lack of information on the system on an individual might actually compromise their care. The question of what to do if somebody has given advance consent then withdraws it in an emergency setting was also raised. Again a wider debate about these issues and the ethics of the whole system needs to take place in advance of any decision to proceed with such a system.

Other concerns raised by some psychiatrists related to how the Freedom of Information Act and data protection legislation would interact with such a system. Finally there were concerns expressed that the courts would not accept the information from such a system and that it would lead to increased legal and public scrutiny of decisions made by psychiatrists. Although some of these concerns might seem defensive, they are nonetheless grounded in reality. There has been increased professional and public scrutiny of medical decision making in recent years in Ireland together with increased medical negligence claims (Department of Health & Children, 2001). Not all of this is positive for patients. Information can be used against those

clinicians who are responsible for it and the absence of information can delay or prevent medical negligence suits (Ring, 2005). Overall however, high quality information will on balance serve the interests of both patients and clinicians (Davidson et al, 2004).

5.5 Specific data items that Irish psychiatrists regard as critical to have access to in emergency mental health assessments

There was clear agreement among respondents as to the most important pieces of information to have access to in order to optimally perform an emergency mental health assessment. Eleven of the 36 items suggested in the questionnaire were scored at 6 or above out of a possible 7, and as such could be regarded as the pieces of information that Irish psychiatrists believe are the most critical to have available in emergency mental health assessments. Ten of these items relate specifically to psychiatric and medical history i.e. risk factors (i.e. self-harm potential, potential danger to others, substance abuse etc.) and high alert notification (i.e. acutely suicidal), while 1 is a more general item; next of kin contact details. A further eleven items scored between 5 and 6. Again, ten of these items were related to psychiatric and medical history while 1 is a general item; current address. The 14 lowest ranked items were all general pieces of information such as health insurance status, except for family psychiatric history. Many of these lower placed items would be easier to establish, even with an uncooperative patient i.e. gender. Hence a lower rank would be expected for these items.

The specific data items chosen by Irish psychiatrists correlate well with a similar survey in relation to data items for a minimum data set held among mental health clinicians in British Columbia (BC MHIMSP, 2000). In that survey those data items rated as most important were date of most recent admission to hospital/clinic, most recent treatment received, presenting problems at previous admissions, previous diagnosis, medication history, medication allergies, risk factors (i.e. self-harm potential, potential danger to others, substance abuse etc.), alert (i.e. a high priority

message such as acutely suicidal) and most recent case manager (i.e. key clinician). In this survey, which included extra data items based on the literature, these 9 items all featured in the top 14 of the 36 items that psychiatrists were asked to rate. The additional items that Irish psychiatrists included in their top 14 were forensic history, next-of-kin contact details, dates and circumstances of past episodes of self-harm, alcohol/drug history and severity of condition/level of functioning at most recent contact with mental health services.

Twenty additional data items were suggested as being critical to emergency mental health assessment by the 119 psychiatrists who returned completed questionnaires. Given that these required the respondent to write rather than tick boxes this represents an excellent response. Some of the suggestions, particularly those made by multiple respondents, are intuitively very desirable pieces of information to have available in the emergency mental health setting. A case in point is a history of violence towards medical staff. This would not be recorded in a traditional forensic history, which would concentrate on criminal charges and convictions, but would nonetheless be highly relevant to a clinician carrying out an emergency assessment. Likewise many of the other data items suggested might be useful in the emergency assessment situation i.e. care arrangements for children, outstanding criminal charges and social supports in the community.

A minimum data set should only include the most essential items, central to the activity in question. A balance needs to be struck between information that is critical to optimal assessment, information that can be reliably coded and recorded, and the ethical concerns in relation to sharing particular pieces of information. The point at

which to include or exclude an item cannot be determined from this study. What this study presents is psychiatrists' views, without consideration of ethical or technical matters, of what the most important pieces of information to have in an emergency mental health assessment are. Clearly most clinicians would accept that a high alert notification facility, medication and specific risk factors should be included.

However, a wider debate needs to take place among psychiatrists and other clinicians involved in emergency mental health assessments i.e. GPs, emergency doctors, nurses, psychologists, social workers etc. The managers of the health services also need to be involved in this debate. Arguably though, the most critical groups to involve are the patients and their carers.

5.6 Benefits that Irish psychiatrists perceive would arise from having an electronic database available in emergency assessments

More than 85% of those who responded indicated that they thought that such a database would in some way improve the quality of assessment and subsequent management in emergency mental health care. This item required respondents to volunteer their views so it is remarkable that so many made this assertion and it demonstrates strong support among psychiatrists for the idea of an electronic information system to support emergency mental health care. Many more specific suggestions were also made relating to how such a system would improve the safety, quality, efficiency and cost of the assessment process. These responses demonstrate a high level of familiarity about the potential benefits of an electronic system for emergency mental health care.

5.7 Other comments made by those who returned the questionnaire

Over a third of the 119 respondents availed of the opportunity to make other comments. The wide range of these comments is testimony to the high level of interest in electronic solutions to information problems in Irish mental health care. These comments ranged from emphasising opposition to electronic health data recording, to practical suggestions of how such a system should be implemented and of systems used successfully in other jurisdictions, to potential pitfalls for such a system, to thoughts on why Irish clinicians were more reluctant to share information than those in other parts of the world. One point made by a number of respondents was that the information deficits experienced by psychiatrists are not confined to patients attending services away from their local one, but that even within their own service access to their medical records is often problematic.

Chapter 6 Conclusions

Mental health care is a highly information dependent discipline. Suicide, violence, distress and neglect are risks that need to be considered in any mental health assessment. In order for appropriate care decisions to be made by mental health professionals in relation to these risks they need to consider historical information. In emergency situations this information is frequently unavailable from patients (i.e. because they are too unwell, too intoxicated or are unreliable historians). Hence, in order to make an optimal assessment, the mental health professional needs to be able to consult historical information that has been recorded during previous contacts with the health services.

There is a growing information deficit in mental health care in Ireland. The move away from institutional medically oriented care towards community based multidisciplinary delivered care has resulted in a dispersal of information, both geographical and inter-professional. As a result of this dispersal, mental health services in Ireland have experienced a growing problem with accessing patient specific information, particularly in emergency circumstances. This study confirms that psychiatrists, particularly those working in liaison and forensic settings, frequently do not have access to pertinent historical information when conducting emergency assessments. Moreover it finds that in many cases this lack of access to information leads to sub-optimal decision-making.

The move to a community based multidisciplinary model of mental health care delivery is set to continue. Hence the information deficits currently being experienced will grow unless they are addressed. It is difficult to conceive of a non-electronic

solution to this problem. The only mental health services that have moved to address this information dispersal in any comprehensive way are those run by the Hospitaller Order of St. John of God with their custom developed electronic Mental Health Information System (MHIS). All other mental health services continue to collect most of their clinical information on paper. There is a great deal of mental health information being recorded electronically by multiple agencies in Ireland but this is generally for administrative and epidemiological research purposes and is not usable in the setting of an individual mental health assessment.

This study has found that Irish psychiatrists generally believe that an electronic system could solve the information deficits that they experience and that they would welcome such a system and that most would be willing to work to ensure data quality by inputting information themselves. However, at the same time they expressed many legitimate concerns about the introduction of such a system. Central to these was data security. The confidentiality of personal mental health information is, for a variety of reasons, very highly regarded by patients and mental health professionals alike. In order for an electronic data system to be acceptable it must be very clearly demonstrated to observe the highest standards with regard to technical, legal, organisational and governance standards.

One important means of ensuring that these standards are met is to agree a minimum data set for sharing information in situations of urgent necessity. Keeping the data set to be shared to a minimum, alongside security and other measures, will help to reassure professionals, patients and carers that this system will be operated in the best interests of patients. There are international examples of mental health minimum data

sets that could be usefully exploited to create one for the Irish mental health services. Most of these data sets have primary administrative and research functions but some, particularly the British Columbia data set referred to in this study, could also be applied to the clinical assessment of individual patients.

This study has established the pieces of information that Irish psychiatrists regard as being most critical to have available in order to optimally perform an emergency mental health assessment on an individual who cannot themselves supply this information. In order to progress this idea further, debate among psychiatrists, other mental health professionals, other clinicians, managers, information technology professionals, patients, carers and other stakeholders needs to take place. A balance must be struck between the value of the piece of information to the assessment, the technical feasibility of coding and maintaining quality recording of the piece of information, and the sensitivities of patients with regard to the sharing of the particular piece of information. Once a minimum data set for the purposes of supporting emergency mental health assessments is agreed all the same stakeholders should be involved in the effort to clearly define each piece of information.

It will be absolutely critical to get the implementation of such an electronic data set right from the start and to ensure that the many concerns about this phase expressed in this study are addressed. Irish psychiatrists in their responses to this study expressed grave concerns that any plan to introduce an electronic patient data system would be under-resourced, would be poorly managed, would be fraught with technical problems and would lead to increased work for them. Involving the many stakeholders in all stages of shaping and introducing the system is critical to allaying these concerns.

The Irish National Health Information Strategy is committed to developing an electronic patient record for the Irish health services. However, it is not clear that the very different information needs of the mental health services have been considered in implementation plans to date. A minimum data set for the purposes of supporting emergency mental health assessments would represent an important first step towards achieving this goal for the mental health services. The information in this data set needs to be accessible by all mental health professionals charged with carrying out emergency assessments, wherever they may be, on a need to know basis. Given the small-scale highly distributed nature of the Irish mental health services, the nodes by which this data is accessed must have low requirements for administrative support. Only that information that is absolutely critical to a high quality mental health assessment should be included and the system must observe the highest standards with regard to security and governance. The most recent Annual Report of the Mental Health Commission states that “in August 2005 the Mental Health Commission sought tenders to conduct a scoping exercise on current mental health information systems in use in Ireland and elsewhere with a view to recommending the requirements for a national mental health information system” (Mental Health Commission, 2006). This study has contributed important data that can be used towards achieving this objective. In order to avoid further deterioration in the state of information in emergency mental health care in Ireland, it is vital that the Department of Health and Children, the Health Services Executive, the Health Information and Quality Authority and other agencies with responsibilities in this area, pursue this as a matter of urgency.

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Appendix 1: Mental health catchment areas in Ireland & Dublin (taken from the Annual Report of the Mental Health Commission, 2005).



Mental Health Catchment Areas In Dublin Showing Psychiatric Hospitals and Units



Appendix 2: UK National Mental Health Minimum Data Set – Definitions of data collected

Term	Definition																														
Analysis Period	Period of time chosen by the user over which they want the analysis to apply. It can consist of one or more reporting periods.																														
Bed Day	A stay through midnight in in-patient care.																														
Bed Day Type	Specifies the intensity and security of in-patient care at a specific point in time, i.e. <ul style="list-style-type: none"> • Standard (not intensive or secure) • Intensive • Medium Secure • Multiple (patient is recorded as being on more than one of the above at a point in time) 																														
Care Complexity	<p>The complexity of care received by the patient in terms of the number of contacts and type of care, i.e.</p> <ul style="list-style-type: none"> • Simple • patients having contact with only one Clinical Contact type on an out-patient basis (Scenario 1) <p>OR</p> <ul style="list-style-type: none"> • patients receiving only out-patient care (Scenario 2) <p>OR</p> <ul style="list-style-type: none"> • patients having contact with only one Clinical Contact type while receiving Out-Patient Care and also receiving Out-Patient care without Clinical Contact (Scenario 3) <p>OR</p> <ul style="list-style-type: none"> • patients having contact with only one Clinical Contact type while receiving Out-Patient Care and also having same Clinical Contact type without Out-Patient care (Scenario 4) <p>Scenario 1 = Simple</p> <table style="margin-left: 20px;"> <tr> <td>Clinical Contact A</td> <td style="text-align: center;">x</td> <td></td> </tr> <tr> <td>Out Patient Care</td> <td style="text-align: center;">x</td> <td></td> </tr> </table> <p>Scenario 2 = Simple</p> <table style="margin-left: 20px;"> <tr> <td>Out Patient Care</td> <td style="text-align: center;">x</td> <td style="text-align: center;">x</td> </tr> </table> <p>Scenario 3 = Simple</p> <table style="margin-left: 20px;"> <tr> <td>Clinical Contact A</td> <td style="text-align: center;">x</td> <td></td> </tr> <tr> <td>Out Patient Care</td> <td style="text-align: center;">x</td> <td style="text-align: center;">x</td> </tr> </table> <p>Scenario 4 = Simple</p> <table style="margin-left: 20px;"> <tr> <td>Clinical Contact A</td> <td style="text-align: center;">x</td> <td style="text-align: center;">x</td> </tr> <tr> <td>Out Patient Care</td> <td></td> <td style="text-align: center;">x</td> </tr> </table> <p>Scenario 5 = Not Known</p> <table style="margin-left: 20px;"> <tr> <td>Clinical Contact A</td> <td style="text-align: center;">x</td> <td style="text-align: center;">x</td> </tr> </table> <p>Scenario 6 = Simple</p> <table style="margin-left: 20px;"> <tr> <td>Clinical Contact A</td> <td style="text-align: center;">x</td> <td style="text-align: center;">x</td> </tr> <tr> <td>Out Patient Care</td> <td></td> <td style="text-align: center;">x</td> </tr> </table> <ul style="list-style-type: none"> • Complex - patients receiving care from more than one Clinical Contact type regardless of Setting or receiving NHS Day Care or 	Clinical Contact A	x		Out Patient Care	x		Out Patient Care	x	x	Clinical Contact A	x		Out Patient Care	x	x	Clinical Contact A	x	x	Out Patient Care		x	Clinical Contact A	x	x	Clinical Contact A	x	x	Out Patient Care		x
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	<p>receiving In-Patient Care or receiving Acute Home Based Care or receiving NHS Community Care</p> <ul style="list-style-type: none"> • Not Known – cannot be classified as either Simple or Complex 																				
Care Programme Approach Level	The level of Care Programme Approach which has been determined as applicable to a patient.																				
Care Spell End Code	Indicates the reason for the end of the Care Spell.																				
Care Stay	An episode of hospital care																				
Care Team	<p>Team a patient may have contact with. At the first release it covers</p> <ul style="list-style-type: none"> • General Adult Psychiatry Team • Psychiatry of Old Age Team • Substance of Misuse Team • Home Treatment/Crisis Resolution • Assertive Outreach Team • Other Team 																				
Clinical Contact	<p>Type of clinical professionals with which a patient may have contact. At the first release it covers:</p> <ul style="list-style-type: none"> • Consultant Psychotherapy • Physiotherapist • Occupational Therapist • Clinical Psychologist • Community Psychiatric Nurse 																				
Contact	<p>Type of mental health care professional with which a patient may have contact. At the first release it covers:</p> <ul style="list-style-type: none"> • Clinical Contact • SSSA Number for Detention • SSSA Number for Community Care • Social Worker 																				
Denary Age Banding	Banding of ages in 10-yearly intervals, comprising age bands 0-9, 10-19, 20-29, 30-39, 40-49, 50-59, 60-69, 70-79, 80-89 and 90+.																				
Diagnosis	Diagnosis classified according to the International Statistical Classification of Diseases and Related Health Problems, 10 th Revision (ICD-10).																				
Duration of Stay	<p>This is the duration of the stay in hospital. It is measured in Bed Days (see Glossary entry for Bed Days). For reporting purposes it is currently banded as follows for finished stays:</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">0 days</td> <td style="text-align: center;">0 days</td> </tr> <tr> <td>Under 1 week</td> <td>0 – 6 days</td> </tr> <tr> <td>1 wk - under 1 mth</td> <td>7 – 29 days</td> </tr> <tr> <td>1 mth - under 3 mths</td> <td>30 – 90 days</td> </tr> <tr> <td>3 mths - under 6 mths</td> <td>91 – 181 days</td> </tr> <tr> <td>6 mths - under 1 yr</td> <td>182 – 364 days</td> </tr> <tr> <td>1 yr - under 2 yrs</td> <td>365 – 729 days</td> </tr> <tr> <td>2 yrs – under 5 yrs</td> <td>730 – 1824 days</td> </tr> <tr> <td>5 yrs and over</td> <td>1825 days and over</td> </tr> </table> <p>and for unfinished stays as follows:-</p> <table style="width: 100%; border: none;"> <tr> <td style="text-align: center;">0 days</td> <td style="text-align: center;">0 days</td> </tr> </table>	0 days	0 days	Under 1 week	0 – 6 days	1 wk - under 1 mth	7 – 29 days	1 mth - under 3 mths	30 – 90 days	3 mths - under 6 mths	91 – 181 days	6 mths - under 1 yr	182 – 364 days	1 yr - under 2 yrs	365 – 729 days	2 yrs – under 5 yrs	730 – 1824 days	5 yrs and over	1825 days and over	0 days	0 days
0 days	0 days																				
Under 1 week	0 – 6 days																				
1 wk - under 1 mth	7 – 29 days																				
1 mth - under 3 mths	30 – 90 days																				
3 mths - under 6 mths	91 – 181 days																				
6 mths - under 1 yr	182 – 364 days																				
1 yr - under 2 yrs	365 – 729 days																				
2 yrs – under 5 yrs	730 – 1824 days																				
5 yrs and over	1825 days and over																				
0 days	0 days																				

	<p>Under 6 mths 0 – 181days 6 mths – under 1 yr 182 – 364 days 1 yr – under 2 yrs 365 – 729 days 2 yrs – under 3 yrs 730 – 1094 days 3 yrs – under 5 yrs 1095 – 1824 days 5 yrs and over 1825 days and over</p> <p>A stay of 0 days does not mean that the patient has not had a hospital stay. It means the patient has had a hospital stay that has not had a Bed Day. For reporting purposes these two sets of periods will be combined within a single dimension.</p>
Episode	A continuous period of care in one setting in one healthcare provider
Ethnic Category	The ethnicity of the patient, as specified by the patient according to the classification used for the 2001 census.
First Contact/ Attendance	First Contact/Attendance in an Analysis Period
Gender	Indicates the sex of the patient based on physical characteristics, or whether not known or not specified.
HoNOS Average	Average rating in HoNOS Scales 1-7 and 9-12 for a patient, where ratings for these scales have been scored in the range 0-4, i.e. if a scale is rated at 9, it is excluded from the calculation of the average.
HoNOS Change	<p>A change in total HoNOS score banded as follows:-</p> <p>-48 to -45 -44 to -41 -40 to -37 -36 to -33 -32 to -29 -28 to -25 -24 to -21 -20 to -17 -16 to -13 -12 to -9 -8 to -5 -4 to -1 0 1-4 5-8 9-12 13-16 17-20 21-24 25-28 29-32 33-36 37-40 41-44 45-48</p>
HoNOS Rating	A score for an individual HoNOS scale, indicating either the severity of the problem (rating in the range 0-4) or whether the severity is not known or not applicable (rating = 9).
HoNOS Scale	There are twelve HoNOS scales, each rating a different aspect of the mental health of a patient.
HoNOS Total	Total of the HoNOS ratings in HoNOS Scales 1-7 and 9-12 for a patient, where ratings for these scales have been scored in the range 0-4, i.e. a rating

	<p>of 9 is excluded from the total. The totals are banded for reporting purposes as follows: -</p> <ul style="list-style-type: none"> 0 1-4 5-8 9-12 13-16 17-20 21-24 25-28 29-32 33-36 37-40 41-44 45-48
Hospital Stay	See 'Care Stay'
Indicator for non-NHS Services	<p>Indicates the type of non-NHS services a patient may receive. At the first release it covers</p> <ul style="list-style-type: none"> • Home Help Visit • Day Care Attendance MH non-NHS • Social Worker Involvement • Sheltered Work Attendance • Residential MH non-NHS Care
Indicator	<p>This will indicate whether something happened or not. In the first release there is only one value, and that is for:-</p> <p>Mental Health Care Without Patient Consent</p>
Initial Contact/ Attendance	First Contact/Attendance in a Care Spell
Invalid Legal Status	<p>A legal status code that has been recorded on a day when such a code is not appropriate. A legal status code is reported as invalid (in the invalid legal status analysis only) according to the following rules:</p> <ol style="list-style-type: none"> 1. If it occurs outside a Care Stay, and it is not code 01, 33, 35 or 36. 2. If it occurs in the Care Stay on the first day only in the presence of another legal status; it has started outside a Care Stay; and it is not code 01, 33, 35 or 36. <p>(See also Valid Legal Status.)</p>
Legal Status	<p>Indicates the section of the Mental Health Act under which the patient is formally detained or is in guardianship, or indicates that the patient is receiving care informally. Examples include</p> <ul style="list-style-type: none"> • Not Specified • Informal • Formally detained under Mental Health Act Section 2 • Formally detained under other acts • Supervised Discharge (Mental Health (Patients in the Community) Act 1995) • Formally detained under Mental Health Act Section 45A

	<ul style="list-style-type: none"> • Subject to guardianship under Mental Health Act Section 7 <p>As a Dimension there will be a level with entries for Formal and 'Not Formal'. The 'Not Formal' Level will include Not Specified and Informal.</p>
Marital Status	Indicates whether the patient is or has been married.
Mental Category	<p>Indicates the category of mental disorder applicable to a patient. It should not apply to a patient detained under section 2, 4, 5(2), 5(4), 135 or 136. At the first release it covers</p> <ul style="list-style-type: none"> • Mental illness • Mental impairment • Severe mental impairment • Psychopathic disorder • Not Specified • Not Applicable • Not Known
Mental Health Care Spell	The total period during which the patient receives care from specialist mental health staff. For some patients, this will comprise a small number of out-patient attendances over a few weeks. For others it may extend for many years and include hospital, community, out-patient and day care episodes, commonly overlapping. The Mental Health Care Spell starts when a member of the adult or elderly specialist mental health service staff first meets the patient. It should normally finish with a definite decision by the responsible staff that further specialist involvement is not appropriate.
Organisation	<p>Strategic Health Authorities, Primary Care Trusts, Providers, GP Practices, Government Office Regions, Local Authority Districts and Electoral Wards relating to the patient. When mentioned in the Requirements, an Organisation can mean any of the items below</p> <div style="text-align: center;"> <p>Organisation</p> <pre> graph TD Org[Organisation] --> PR[Provider-related] Org --> GR[GP-related] Org --> RR[Residence-related] PR --> PR1[SHA of GOR of Res. Commissioner] PR --> PR2[SHA of Provider Commissioner] GR --> GR1[SHA of GP Practice] GR --> GR2[PCT of GP Practice] RR --> RR1[SHA of Res.] RR --> RR2[PCT of Res. LA District of Res. Electoral Ward of Res.] </pre> </div>
Quinary Age Banding	Banding of ages in 5-yearly intervals, comprising age bands 0-4, 5-9, 10-14, 15-19, 20-24, 25-29, 30-34, 35-39, 40-44, 45-49, 50-54, 55-59, 60-64, 65-69, 70-74, 75-79, 80-84, 85-89, 90+
Readmission	An admission will be counted as a readmission if the patient has had a preceding stay as an in-patient and if both stays occurred under the same

	specialty function code group. The groups are a) 700 b) 710-715
Setting	Indicates the environment within which care was received by a patient. At the first release it covers <ul style="list-style-type: none"> • In-Patient • Out-Patient • Acute Home Based • NHS Day Care • NHS Community Care • Not Known
Specialty Function Code	Indicates the division of psychiatric specialty applicable to a patient. At the first release, it covers <ul style="list-style-type: none"> • Learning Disability • Mental Illness • Child and Adolescent Psychiatry • Forensic Psychiatry • Psychotherapy • Old Age Psychiatry
Subsequent Contact/Attendance	Any Contact/Attendance other than first Contact/Attendance in an analysis period
Type of Data	Specifies whether the data to be used for the analysis is to be taken from the data supplied annually or the data supplied quarterly. Valid values are <ul style="list-style-type: none"> • Quarterly • Annual
Valid Legal Status	A legal status code that has been recorded on a day when such a code is appropriate. A legal status code is reported as valid according to the following rules: <ol style="list-style-type: none"> 1. If it occurs outside a Care Stay, and it is of code 01, 33, 35 or 36. 2. If it occurs inside a Care Stay, <i>except</i> if it occurs in the Care Stay on the first day only in the presence of another legal status; it has started outside a Care Stay; and it is not code 01, 33, 35 or 36. <p>(See also Invalid Legal Status.)</p>

Appendix 3: British Columbia Mental Health Minimum Data Set – Data

Elements, Definitions, Operational Values.

REF #:	MDS ELEMENT	ELEMENT COMMON DEFINITION	ELEMENT OPERATIONAL VALUES
1.MENTAL HEALTH SERVICE RECIPIENT (Client)			
1.1	Personal Health Number	Personal Health Number is the Mental Health Service Recipient Registry unique identifier that appears on the Mental Health Service Recipient's Care Card - a Mental Health Service Recipient must have a PHN.	PHN to be used as part of a combination key consisting of: PHN / Last Name / DoB / Gender - to uniquely identify the Mental Health Service Recipient
1.2	Personal Name	Mental Health Service Recipient's Family Name, Mental Health Service Recipients first name, Mental Health Service Recipients second names Mental Health Service Recipient's residential address at admission (captured if different from the usual residential address)	Include legal and alias: Surname (family name) First name Second name Four address lines plus Mental Health Service Recipient city/ municipality and Mental Health Service Recipient province Associated Phone number (if applicable)
1.3	Address	Mental Health Service Recipient's usual residential address	If Mental Health Service Recipient is living temporarily at a different location to his/her usual residential address then the temporary postal code information should also be captured
1.4	Telecommunication Number	Mental Health Service Recipient's telephone, fax, cellular or pager number	Text field to capture a string of numbers
1.5	Date of birth	Mental Health Service Recipient's date of birth	yyyy/mm/dd
1.6	Gender	Mental Health Service Recipient's legal gender	Coded values include: Male Female

1.7 Current marital status Identifies the possible types of nuptial arrangements for a Mental Health Recipient.

Coded values include:

1. Married
2. Separated
3. Divorced
4. Widowed
5. Never Married
98. Unknown

1.8 Legal status Identifies the possible types of officially authorized conditions for a Mental Health Recipient.

Coded values include:

1. Criminal - In custody
2. Criminal - Not in custody
3. Forensic - In custody
4. Forensic - Not in custody
5. Mental Health Act - Involuntary
6. Mental Health Act - Voluntary
7. Mental Health Act - Extended Leave
8. Child, Family and Community Services Act - in care
9. Child, Family and Community Services Act - not in care
99. Not Applicable

1.9 Employment status identifies the possible categories of professional service provided by a Mental Health Recipient.

Coded values include:

1. Full time
2. Part time
3. Unemployed
4. Not in Labour Force
99. Not Applicable

1.10 Current vocational status Identifies the types of programs that a Mental Health Service Recipient may be involved in as an alternative to employment.

Coded values include:

1. Alternate Program
2. Special Needs
3. Elementary School
4. High School
5. Day School Program
6. College/University
99. N/A

1.11 Residential arrangement Identifies the types of physical locations where a Mental Health Recipient may live.

Coded values include:

1. Private House or apartment
2. Rented Room
3. Board and Care
4. Community living support group home
5. Mental Health psychiatric setting
6. Nursing home/home for the aged/Retirement home
7. Homeless
8. Correctional facility
97. Other

CAPTURED AT ADMISSION AND DISCHARGE

1.12 Household Composition Identifies the types of living situation for a Mental Health Recipient.

Coded values include:

- 1 Lives alone
- 2 Lives with family
- 3 Lives with other relatives - not spouse or children
- 4 Lives with non-related person
97. Other

1.13 Custody/Guardianship Identifies the types of organizations or people who could act as wardens/protector and be involved in the care of a Mental Health Service Recipient.

Code values include:

1. Parents
2. Relative
3. Non-relative
4. Public Trustee Office
5. In Care under the CF-CS Act
96. None
99. N/A

1.14a Eligibility determination Identifies the types of financial assistance available to a Mental Health Service Recipient for the provision of medications/services.

Coded values:

1. None
2. Plan C (social assistance)
3. Plan E1 (premium assistance)
4. Plan G (free-med)

1.14b Plan G Start Date Date from which Mental Health Service Recipient's Plan G formulary drugs will be paid for by Plan G

yyyy/mm/dd

1.14c Plan G Expiry Date Date Mental Health Service Recipient's Plan G formulary drugs will no longer be paid for by Plan G

yyyy/mm/dd

1.15 Medication History	Identifies the types of prescribed and non prescribed drugs that can be provided for a Mental Health Recipient.	
1.16 Allergy Status	identifies the kinds of medications, substances, foods or materials which may cause a medical reactive condition in a Mental Health Service Recipient.	OPTIONAL
1.17 Language	Identifies the preferred language and the ability of the Mental Health Service Recipient to read and speak English.	Coded values include: Values from the RAI List of Languages will be used Includes flags to identify: Read English - Yes/No Speak English - Yes/No
1.18 Education level	Identifies the types of schooling that can be attained by a Mental Health Recipient.	Coded values include: 1. None 2. Pre-school/kindergarten 3. Elementary 4. High School 5. Post Secondary
1.19 Aboriginal Origin	Identifies if the Mental Health Service Recipient has an aboriginal origin	Coded values include: 1. Yes 2. No 3. Blank OPTIONAL (Mandatory for MCFD)
1.20a Mental Health Alert	Identifies the status of warnings / alarms associated to a Mental Health Service Recipient.	Coded values include: 1. blank 2. activated 3. inactivated Once activated can only be set to inactivated
1.20b Caution/alert start date		yyyy/mm/dd
1.20c Caution/alert end date		yyyy/mm/dd - date defaulted to 48 hrs after start date.

1.21 Physical harm risk factors	Identifies the types of hazards or threats that is faced by or posed by a Mental Health Service Recipient.	Coded values include: 1. Substance abuse 2. Self harm potential 3. Potential danger to others 4. Self neglect 5. History of weapons 6. History of trauma 96. None 98. Unknown
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2.	CARE	EPISODE	
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2.1 Date of First Contact	The date of first contact for this care episode - first face to face contact lasting more than 15 minutes. This is the date a Mental Health Service Recipient is formally admitted into a mental health program. This date is the point at which the Mental Health Service Recipient starts to receive assessment and/or clinical services.	yyyy/mm/dd
	Note: this date is must be equal to or greater than the referral date.	
2.2 Date of Referral	The date the Mental Health Service Recipient was referred to the organization	yyyy/mm/dd
2.3 Referring Party Type	Identifies the possible types of individual / organization / agency responsible for recommending the transfer of a Mental Health Service Recipient or responsible for the receipt of a Mental Health Service Recipient (I.e., the Referral Source or Referral Target).	Coded values include: 1. Self 2. Physician/Psychiatrist 3. Family/Relative 4. Social Services 5. Community Adult Mental Health Centre 6. Psych. Unit/Gen. Hospital 7. Corrections/court 8. Educational institution 9. Continuing care 10. Police 11. Psychiatric Hospital 12. Alcohol and drug 13. Parent 14. Guardian 15. Community agency 16. MCFD Referral 97. Other 99. N/A

2.4 Care Episode Presenting Problem	Identifies the possible kinds of conditions possessed by a Mental Health Service Recipient at start of treatment (I.e., conditions identified before a formal diagnosis).	<p>Coded values include:</p> <ol style="list-style-type: none"> 1. Marital/family 2. Social/interpersonal 3. Alcohol/drug abuse 4. Abuse / Assault / Rape Victim 5. Medical somatic problems 6. Attempt/threat/danger of suicide 7. Involved with criminal justice system 8. Eating disorder 9. Psychiatric symptoms 10. Runaway behaviour 11. Self reported health status 12. Sexual Orientation issues 13. Head Injury 20. Medication only
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2.5 MH Recipient Diagnosis (DSM-IV-TR)	<p>Diagnosis code used to classify a Mental Health Service Recipient's condition</p> <p>MH Recipient Diagnosis is the categorization of clinical, personality psychosocial and general medical conditions.</p> <p>Version: DSM IV TR</p> <p>Axis I - Clinical Disorders. When a person receives more than one DSM code, the principal one is the condition that was chiefly responsible for occasioning the assessment/referral</p> <p>Axis II - Personality Disorders/Mental Retardation. When a person receives more than one DSM code, the principal one is the condition that was chiefly responsible for occasioning the assessment/referral.</p> <p>Axis III - General Medical Conditions - General Medical conditions associated to the principal of axis I and the principal of axis II</p>	<p>Diagnosis codes will consist of:</p> <p>DSM coding Standard (e.g., DSM IV TR)</p> <p>DSM Axis (e.g., II,IV)</p> <p>DSM Class (e.g., Delirium, Dementia)</p> <p>DSM Code (e.g., 291.81)</p> <p>Principal</p> <p>Secondary</p> <p>Additional</p> <p>Principal</p> <p>Secondary</p> <p>Additional</p> <p>Condition for principal of axis I</p> <p>Condition for principal of axis II</p>
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OPTIONAL

Axis IV - Psychosocial and Environmental Problems. When a person receives more than one DSM code, the principal one is the condition that was chiefly responsible for occasioning the assessment/referral.

Principal
 Secondary
 Additional
 Overall GAF score

Axis V - GAF: Identifies the overall functioning

CAPTURED AT ADMISSION AND DISCHARGE

2.6 Care Episode Agency Identifies organizations/authorities that are participating in the care services required by the Mental Health Service Recipient.

Coded values include:
 1. Mental handicap support team
 2. Community support agency
 3. Education Institution
 4. Child protection service
 5. Social services
 6. Police
 7. Courts
 8. Juvenile justice/correction
 9. Public/school health
 10. Rehab
 96. None

2.7 Care Episode Contact Identifies the types of contact roles that a person has with regard to the care of a Mental Health Service Recipient.

Provide information for three contacts consisting of: name Phone e-mail address type:
 1. Referral Contact
 2. Primary Physician
 3. Relation
 4. Substitute decision maker
 5. Custody/Guardianship
 6. Next of Kin
 7. Agency

2.8 Date of discontinuation Date of discontinuation/discharge/death/transfer
 yyyy/mm/dd
 n

2.9 Care Episode Identifies the types of reasons for Discontinuati ending a Care Episode.
on Reason
Type

Coded values include:

1. Transferred
2. Administratively discontinued
3. Terminated against advice
4. Lost to contact
5. Discharge treatment complete / no referral
6. Discharged additional services advised and no referral
7. Discharged and referral
8. Mental Health Service Recipient Death
99. N/A

3. CARE EPISODE SERVICE EVENT

3.1 Care Episode Service Event

Identifies the types of health care treatments that are available for the Mental Health Service Recipient

Coded values include:

1. Intake Assessment and Referral
2. Short term Assessment
3. Info / Advice / Referral
4. Education
5. Formal Assessment
6. Formal Case Review
7. Individual Therapy
8. Group Therapy
9. Family Therapy
10. Crisis Intervention
11. Medication Review
12. Medication Management
13. Plan G Clients - Medication Only
14. Case Work Management
15. Consultation
16. Supported Independent Living Program (SLIP)
17. Community Living Out Reach Services (CLS)
18. Mental Health Home Support

3.2 Date of Service Event

The date the service is delivered

yyyy/mm/dd/Time

4. MENTAL HEALTH SERVICE PROVIDER

4.1 MH Service Provider Organization	Identifies the organization / agency / institution that is providing health care treatment to a Mental Health Service Recipient	The initial implementation of the MDS will use existing location codes to identify the MHC or Agency providing the service (this will change when the provider registry system is implemented).
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MDS to be supported by code table of location codes.

4.2a MH Service Provider Individual	Identifies the individual that is providing health care treatment to a Mental Health Service Recipient	MDS to be supported by code table of valid provincial staff
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4.2b Case Manager	Identifies the current primary therapist/case manager who has responsibility for the Mental Health Service Recipient's treatment	MDS to be supported by code table of valid provincial staff
	The case manager/therapist responsible for the care episode	

Appendix 4: Questionnaire used in this study

Information for urgent mental health assessments - questionnaire

Part 1

1. **Current position:** _____ **Location**_____
2. **Within the past year have you had to carry out urgent mental health assessments of patients from outside your service area without having access to pertinent historical information? Yes___ No___**
3. **Can you estimate how many times this has happened? _____**
4. **Have there been situations within the past year in which you would have made a different management decision with regard to such a patient had you had access to pertinent historical information? Yes___ No___**
5. **If critical background information, such as history of suicide attempts and current medication, were available from a secure computer database to clinicians carrying out urgent mental health assessments, would you welcome this? Yes___ No___**
6. **Would you be prepared to personally update such an electronic database? Yes___ No___**
7. **With regard to consent which of the following approaches would you favour(please circle one option):**
 - a. **Patient informed (and given choice to opt out) on first presentation to the mental health services that data will be recorded electronically and that certain data may be shared with other clinicians from other services in emergency circumstances.**
 - b. **Patient gives written consent on first presentation to the mental health services for the electronic recording of data and to the future sharing of specific data with clinicians from other services in emergency circumstances.**
 - c. **Patient should give consent on each occasion that any information held electronically on them is accessed by clinicians from another service.**
 - d. **Other _____**
8. **Should this information be shared with any non-clinicians (i.e. police, insurance companies)? Yes___ No___**
9. **What problems would you foresee in implementing a system enabling this background information to be made available to clinicians?**

Part 2

Clinical scenario: You are working as a front-line clinician for a mental health service. A new patient has been brought in for assessment on a Saturday evening. The patient is from outside your catchment area, unaccompanied and unable to provide much information. You will be undertaking a mental health assessment and you have access to a national mental health data set. How important would it be for you to have access to the following information?

Please rate each of the following items on a scale from 1 (very low importance) to 7 (very high importance). Circle one rating for each question. Do not take into account questions of privacy or confidentiality for the purposes of this exercise.

	Item	Importance						
		Very low						Very high
1	Date and location of most recent contact with mental health services	1	2	3	4	5	6	7
2	Most recent therapeutic intervention received (i.e. medication, psychotherapy, admission etc.)	1	2	3	4	5	6	7
3	Gender	1	2	3	4	5	6	7
4	Date of birth	1	2	3	4	5	6	7
5	Ethnicity	1	2	3	4	5	6	7
6	Current marital status	1	2	3	4	5	6	7
7	History of involuntary admissions	1	2	3	4	5	6	7
8	Language spoken at home	1	2	3	4	5	6	7
9	English proficiency/interpreter needed	1	2	3	4	5	6	7
10	Educational attainment	1	2	3	4	5	6	7
11	Employment status	1	2	3	4	5	6	7
12	Next of kin contact details	1	2	3	4	5	6	7
13	Place of birth	1	2	3	4	5	6	7
14	Citizenship	1	2	3	4	5	6	7
15	Year of entry to Ireland	1	2	3	4	5	6	7
16	Current address	1	2	3	4	5	6	7
17	Presenting problems at previous assessments/admissions	1	2	3	4	5	6	7
18	Previous psychiatric diagnoses	1	2	3	4	5	6	7
19	Severity of condition/level of functioning at most recent contact with mental health services	1	2	3	4	5	6	7
20	Medication history	1	2	3	4	5	6	7
21	Health insurance	1	2	3	4	5	6	7
22	Medication allergies	1	2	3	4	5	6	7
23	Forensic history	1	2	3	4	5	6	7
24	Risk factors (i.e. self-harm potential, potential danger to others, substance abuse etc.)	1	2	3	4	5	6	7

25	High alert notification (i.e. acutely suicidal)	1	2	3	4	5	6	7
26	Mental health contact history (i.e. dates and types of service received).	1	2	3	4	5	6	7
27	Living arrangements	1	2	3	4	5	6	7
28	Discharge date from most recent service	1	2	3	4	5	6	7
29	Circumstances of most recent discharge from mental health services	1	2	3	4	5	6	7
30	Details of most recent primary care physician	1	2	3	4	5	6	7
31	Details of mental health clinician most recently managing case	1	2	3	4	5	6	7
32	Previous medical diagnoses	1	2	3	4	5	6	7
33	Family history of suicide	1	2	3	4	5	6	7
34	Family history of mental illness	1	2	3	4	5	6	7
35	Alcohol/Drug history	1	2	3	4	5	6	7
36	Dates and circumstances of past episodes of self-harm	1	2	3	4	5	6	7

Please provide any other items of information that you would regard as being essential for you to have access to, in order to provide appropriate management of the above scenario:

		1	2	3	4	5	6	7
		1	2	3	4	5	6	7
		1	2	3	4	5	6	7

What benefits would you see in having access to some of the above information?

Any other comments?
