# The pathway of prisoners with mental health problems through prison health services and the effect of the prison environment on the mental health of prisoners

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# Executive Summary

## *Introduction*

There is widespread concern that the prison environment, with its rules and regimes, may have a detrimental impact on the mental health of prisoners, and those with mental illnesses in particular (Birmingham, 2003). It is well documented that the prevalence of psychiatric morbidity and substance misuse is higher among prisoners than the general population (Singleton *et al,* 1998; Singleton *et al,* 1999; Fazel & Danesh, 2002). Indeed, the growing prison population means that there are now more people in prison with mental illnesses than ever before (Bradley, 2009).

The standard of healthcare provided within prisons has, historically, been criticised (Smith, 1990). However, in recent years there have been signs of improvement. In particular, the handover of responsibility of prison healthcare from the Prison Service to the NHS has heralded significant developments in prison mental health and substance misuse services (DH & HMPS, 2001; DH & NIMHE, 2005; NTA, 2008). Indeed, current prison healthcare policy asserts that prisoners are entitled to the same range and standard of care as that received by the general population in community settings (HMPS & NHS Executive, 1999; DH & HMPS, 2001).

Delivering quality healthcare services in prisons is a complex undertaking, hampered by not only the high level of need amongst prisoners, but also the constraints of the prison environment, which is often viewed as anti-therapeutic and counter-productive to the effective provision of care (Sykes, 1958; Sim, 1994; Hughes, 2000; Scott, 2004). Factors such as overcrowding, separation from family and friends, boredom and loss of autonomy have all been identified as being potentially detrimental to mental health (Smith, 2000; Wener & Keys, 1988; Nurse *et al,* 2003). Nonetheless, some have questioned whether prison is universally harmful (Bonta & Gendreau, 1990). There is a paucity of empirical evidence as to what effect incarceration has on the health of prisoners, and in particular, those with existing mental health problems. However, one small-scale study has found that psychotic symptoms in a sample of adult males were not exacerbated by imprisonment (Blauuw *et al*, 2007).

Given the focus on improving standards of healthcare over the last two decades, it is therefore timely and reasonable to question whether prisons truly remain wholly anti-therapeutic environments. This programme of work examined the course of mental illness in prison populations, tracking the health services received by mentally ill prisoners from reception into prison through to discharge, and undertook an examination of prisoners' perceptions of their quality of life in custody.

## *Research aims*

This study aimed to observe the effect of imprisonment on mental health in a sample of prisoners with and without mental illness. Three research questions were identified:

1. How does time spent in prison impact on the mental health of prisoners with and without a mental illness?
2. What are prisoners' perceptions of their quality of life in prison?
3. What type of contact with health services do prisoners with a mental illness have whilst in prison?

## *Methods*

Psychiatric symptoms were monitored in a sample of 980 prisoners from five prisons at three time points during custody. Participants were firstly interviewed following reception into custody (T1; <1 week). At the interview the Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978) was used to diagnose mental illness. On the basis of their SADS diagnosis, prisoners were assigned to one of four mutually exclusive diagnostic groups, which were hierarchical in the following order:

- **Any psychosis** (including bipolar disorder, hypomania, schizoaffective disorder, schizophrenia and other non-affective, non-organic psychosis);
- **Major depressive disorder**;
- **Other mental illnesses** – including dysthymic disorder, generalised anxiety disorder, minor depressive disorder, obsessive compulsive disorder, panic disorder and phobic disorder; and
- **None** - no mental illness.

Psychiatric symptoms were monitored at baseline (T1) using the Brief Psychiatric Rating Scale – extended version (BPRS; Lukoff *et al* 1986) and the General Health Questionnaire-12 (GHQ; Goldberg, 1976). Participants were then followed up at approximately one month (T2; 3-5 weeks) following reception into custody and again at approximately two months (T3; 7-9 weeks) or in the week prior to discharge, whichever was sooner. The BPRS and GHQ were re-administered at each follow-up.

In addition, the Measuring the Quality of Prison Life (MQPL) survey (Liebling & Arnold, 2002) was used to examine prisoner perceptions of their quality of life in prison. Case notes were reviewed in order to establish whether prisoners with mental illness were referred to, or had contact with primary care, secondary care, and/or substance misuse services whilst in custody.

# *Results*

## 1. How does time spent in prison impact on the mental health of prisoners with and without a mental illness?

*General trends:*

- The proportion of men and women above thresholds for GHQ caseness, clinically significant symptoms of suicide and clinically significant hallucinations were generally highest at T1, in the week following entry into custody.
- At T1, 33% of men and 46% of women overall met the GHQ (prison) threshold for caseness. Clinically significant symptoms of suicidality were present in 8% of men and 16% of women. Clinically significant hallucinations were found in 4% of men and 9% of women (9% vs. 4%; $x2=11.9$, $p<.001$).
- Over the period T1 to T3, women had a significantly higher relative risk than men of meeting thresholds for GHQ (prison) caseness, clinically significant symptoms of suicide and clinically significant hallucinations.
- Over the period T1 to T3, remand prisoners had a significantly higher relative risk than convicted prisoners of meeting thresholds for GHQ (prison) caseness and clinically significant symptoms of suicide.
- Over the period T1 to T3, the proportion of men exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality significantly decreased. No significant decreases were observed amongst women. Furthermore, the proportion of women with clinically significant hallucinations showed a significant linear increase.
- Over the period T1 to T3, the proportion of sentenced prisoners exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality significantly decreased. No significant decreases were observed amongst remand prisoners.

*Prisoners with a mental illness:*

- Rates of GHQ (prison) caseness, clinically significant symptoms of suicidality and clinically significant hallucinations were highest amongst prisoners with SMI (psychosis and/or MDD). At T1, over 70% of prisoners with SMI exceeded the GHQ (prison) threshold. Also, 45% of those with psychosis and 32% of those with MDD exceeded the threshold for clinically significant symptoms of suicidality at T1.
- Amongst those with SMI, significantly more women exceeded the threshold for GHQ (prison) caseness than men (84% vs. 69%) at T1. There were, however, no significant differences in rates of GHQ (prison) caseness between remand and sentenced prisoners with SMI at T1.

- Over the period T1 to T3, the proportions of prisoners with SMI exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality significantly decreased. However, there was no significant decrease amongst prisoners with any other MI using the same measures.
- Amongst those with SMI, at T3 significantly more women exceeded the threshold for GHQ (prison) caseness than men (55% vs. 44%), and significantly more remand prisoners exceeded the threshold than convicted prisoners (64% vs. 32%).
- Over the period T1 to T3, prisoners with SMI had a significantly higher relative risk than prisoners with no MI (the reference group) of meeting thresholds for GHQ caseness, clinically significant symptoms of suicide and clinically significant hallucinations. No statistically significant differences in relative risk were found between those with MI and those with no MI.

**2. What are prisoners' perceptions of their quality of life in prison?**

- Using the MQPL survey, the two most positively rated areas of prison life were *race relationships* and *physical safety*, which ranked amongst the top three dimensions across all five establishments.
- The least positively rated area of prison performance was *entry into custody*, which was consistently ranked amongst the bottom three dimensions of prison performance across all five establishments.
- Across 15 of the 19 MQPL dimensions, mean ratings for men and women did not significantly differ from each other. In three areas, namely *offending behaviour, personal development* and *entry support,* mean ratings were significantly higher amongst women. In the area of *clarity*, ratings were significantly lower amongst women.
- Across all but one of the MQPL dimensions, mean ratings for remand and convicted prisoners did not significantly differ from each other. The area *entry into custody* was rated significantly more positively by convicted prisoners.
- Across 16 of the 19 of the MQPL dimensions, mean ratings for prisoners with any psychosis, MDD, any other MI and no MI did not significantly differ from each other. Significant differences were found in three areas, namely *individual care, entry into custody* and *overall distress*. In all three of these areas prisoners with no MI rated prison performance the most positively.

**3. What type of contact with health services do prisoners with a mental illness have whilst in prison?**

- Two-thirds (64%) of prisoners with a mental illness were documented to have seen the prison GP at reception, a quarter (24%) saw a CARAT worker at reception and

12% saw a mental health professional. Documented rates of contact with mental health services at reception were highest amongst prisoners with psychosis (27%).

- Overall, 72% of prisoners with a mental illness (diagnosed using SADS) also had a diagnosis of mental illness and/or substance misuse documented in their prison clinical record.
- Of those diagnosed with psychosis by the research team, the same diagnosis was found documented in prison clinical records in 23% of cases. Of those identified by the research team to have MDD (excluding psychosis), evidence of the same diagnosis in prison clinical records was found in 21% of cases.
- Amongst prisoners with a documented diagnosis of mental illness and/or substance misuse, rates of contact with mental health services after reception were highest amongst prisoners with a documented diagnosis of psychosis (68%) whilst those with a documented diagnosis of any other MI were least likely to be seen (38%).
- Amongst prisoners with a documented diagnosis of mental illness, 45% of those receiving prescribed medication did not see either the prison GP or mental health services whilst in custody.
- Overall, 63% of those with a documented diagnosis of substance misuse had contact with CARATs and 70% were prescribed medication for substance dependence. Of those with a documented diagnosis of alcohol misuse, 12% had contact with a dedicated alcohol service in custody and 18% were prescribed medication for alcohol withdrawal.
- After reception, prisoners with a documented diagnosis were significantly more likely than those prisoners with no documented diagnosis to have had contact with the prison GP, mental health or CARATs services (76% vs. 28%), or to have had prescriptions for medication (73% vs. 11%) documented in their clinical records.
- In 9% (n=27) of cases where a diagnosis had been documented and 65% (n=77) of cases where no diagnosis had been documented, prisoners were not documented to have received any intervention after reception (defined as health service or CARATs contact, medication prescribed and/or receipt of another intervention).

## *Recommendations*

**1.** The first health reception screening tool in prisons should be updated to improve the triaging of prisoners to appropriate health care pathways.

**2.** Staff administering health reception screens should be given training to identify those prisoners that are likely to need extra support during early custody, including women, those with a history of mental illness and prisoners likely to be on remand for extended periods of time.

**3.** Prisons should consider providing targeted, improved support to vulnerable groups during transitional periods such as early custody and resettlement.

4. Whilst detoxification may initially take priority in prison, treatment via the substance misuse care pathway should not necessarily replace involvement from mental health services. Opportunities for mental health assessment should be built into substance misuse care pathways to avoid overlooking individuals that also require psychiatric intervention.

5. Primary care mental health services need further development and investment to ensure that prisoners with common mental health problems receive appropriate, skilled and timely care. Implemented services and initiatives should be subject to proper monitoring and evaluation to inform ongoing service improvement and to judge their effectiveness.

6. Large scale prison prevalence surveys should be repeated to provide up-to-date information regarding the physical and mental health needs of the UK prison population, including the prevalence of PTSD.

7. A future prevalence survey should include measures of individual service needs, in addition to identification of mental health problems, to provide data upon which NHS commissioners and managers can develop services which are appropriately matched to need in terms of both quantity and plurality of provision.

8. Further longitudinal studies should be conducted to determine the effects of imprisonment over longer periods of time and on vulnerable groups, including women and those on indeterminate (IPP) sentences.

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# 1 Literature Review

## *1.1 Introduction*

There are currently in excess of 80,000 adults in prison in England and Wales (MoJ & NOMS, 2009), and it is estimated that this figure will reach 95,800 by 2015 (MoJ, 2008). It is well documented that the prevalence of psychiatric morbidity and substance misuse is higher among prisoners than the general population (Singleton *et al,* 1998; Singleton *et al,* 1999; Fazel & Danesh, 2002); indeed, the increasing prison population means that there are more people in prison with mental illnesses than ever before (Bradley, 2009). Nevertheless, the core business of HM Prison Service in England and Wales is punishment, public protection and rehabilitation, *not* health, and it has long been recognised that delivering quality healthcare services to serving prisoners is a complex undertaking, hampered by the high level of need and the constraints of the physical and cultural environment of prison. Historically, the standard of healthcare provided within prisons has been severely criticised (Smith, 1990), with prison environments described as counter-productive to the effective provision of care (Sim, 1994; HAC, 1997; Hughes, 2000). In recent years, however, there have been signs of improvement. Tackling health inequalities is a key priority for HM Prison Service and the UK government in general (DH, 2003; 2004). Current prison healthcare policy asserts that prisoners are entitled to the same range and standard of care as that received by the general population in community settings (HMPS & NHS Executive, 1999; DH & HMPS, 2001).

The drive towards achieving equivalence of care can be most usefully traced back to 1996, when the then Chief Inspector of Prisons recommended that delivery of prison healthcare services become the joint responsibility of the Prison Service and the NHS (HMIP, 1996). Recommendations outlined in *The Future Organisation of Prison Healthcare* (HMPS & NHS Executive, 1999) heralded the current formal partnership between the two organisations. In April 2006, responsibility for planning and commissioning prison healthcare completed its transfer from the Prison Service to the NHS.

Given the focus on improving standards of healthcare over the last two decades, it is therefore timely and reasonable to question whether prisons truly remain wholly anti-therapeutic environments. Indeed, there is a paucity of empirical evidence as to what effect incarceration has on the health of prisoners, and in particular, those with existing mental health problems. This programme of work examined the course of mental illness in prison populations, tracking the health services received by mentally ill prisoners from reception into prison through to discharge, and undertook an examination of prisoners' perceptions of their quality of life in custody.

The study findings are prefaced by a description of the relevant literature to contextualise the study within the wider research and policy literature concerning the identification, care and treatment of prisoners with mental illnesses. We will firstly describe the prevalence of psychiatric disorder in the prison population; secondly, we will identify and describe key services and pathways for mentally ill prisoners; and thirdly, we will consider the available evidence base regarding the impact of incarceration on mental health.

## *1.2 Prevalence of mental health and substance misuse disorders in prisons*

A large scale point prevalence survey of 3,142 prisoners conducted by the Office for National Statistics (ONS) found that over ninety percent of prisoners in England and Wales had one or more of the five psychiatric disorders studied; namely psychosis, neurosis, personality disorder, hazardous drinking and drug dependence (Singleton *et al,* 1998). The study found that, in general, remand prisoners had higher rates of mental disorder than sentenced prisoners, and women had higher rates of mental disorder than men. Rates of 'probable psychosis' amongst men in the sample varied between 4% in the sentenced population and 9% in the remand population. Amongst women prisoners, rates of psychosis varied between 10% in the sentenced population and 21% in the remand population. More than half (59%) of male remand and 40% of male sentenced prisoners had a neurotic disorder, with the corresponding figures for women being even greater, at 76% and 63% respectively. The high prevalence of mental disorder in prisons is not confined to the UK. In a large-scale systematic review of serious mental disorder in 23,000 prisoners in western countries, Fazel & Danesh (2002) found that one in seven prisoners had either a psychotic illness or major depression.

Rates of psychiatric morbidity are consistently reported as being higher amongst prisoners than in the general population (Gunn *et al,* 1991a; Gunn *et al,* 1991b; Brooke *et al,* 1996; Parsons *et al,* 2001). For example, surveys of mental illness in the community in England and Wales have reported rates of neurotic disorder at approximately 12% of men and 20% of women, between three and five times lower than amongst prisoners (Singleton *et al,* 1998; Marshall *et al,* 2000). Similarly, the prevalence of psychosis in prisons is substantially higher than in the community (Brugha *et al,* 2005). Approximately 0.4% of the general population could be diagnosed with functional psychosis (Meltzer *et al,* 1995), compared to 7-14% of the prison population (Singleton *et al* 1998). It has been demonstrated that the clinical symptom profiles of psychosis is identical in both settings (Brugha *et al,* 2005).

Rates of drug and alcohol misuse are high amongst prison populations. UK-based research suggests that over half of prisoners have misused drugs or alcohol in the year before coming into prison (Singleton *et al,* 1998; Wheatley, 2007). The ONS survey (Singleton *et al,* 1998) reported 51% of remand and 43% of sentenced male prisoners were drug dependent in the year before reception into prison, with similar rates amongst women (54% and 41% respectively). Equally high rates of substance misuse and dependence are found in prison populations throughout western society. Fazel and Danesh's (2002) large-scale systematic review of substance misuse and dependence in 7,563 prisoners in western countries, reported rates of drug misuse and dependence ranging from 10% to 48% in men and 30% to 60% in women.

The prevalence of alcohol misuse has, in the past, often been assimilated, and arguably lost, within the broader category of general substance misuse. More recently however, it has attracted increased attention as a separate policy issue (Prime Minister's Strategy Unit, 2003; Home Office, 2007; Roberts *et al,* 2007). Over half of the men in the ONS study (58% of remand and 63% of sentenced prisoners), screened positive for hazardous drinking in year before imprisonment (Singleton *et al* 1998). Rates were slightly lower amongst women, reported as 36% of remand and 39% of sentenced prisoners. In western countries generally, Fazel and Danesh (2002) reported rates of alcohol misuse and dependence ranging from 18% to 30% amongst male and 10% to 24% of women prisoners.

Prisons contain, therefore, populations with a high prevalence of mental illness and substance use disorders. Such problems are often further complicated by poly-substance misuse and co-morbidity; a recent study estimated that 18% of prisoners have a dual diagnosis; that is, a mental illness and co-existing drug or alcohol problem (Shaw *et al,* 2009). Furthermore, despite having complex psychiatric healthcare needs, offenders characteristically make little use of routine NHS services outside of prison (DH, 2002a; Harty *et al,* 2003). A recent study reported that only 18% of prisoners with serious mental illness (SMI) had been in recent, active contact with community based mental health services immediately before reception into prison (Shaw *et al,* 2009).

## *1.3 Prison primary care services*

Primary healthcare professionals provide a range of clinical care services in the prison setting analogous to those available to the general public. As the discussion thus far has demonstrated, the identified health needs of prisoners are numerous and complex, resulting in a high need for both primary and secondary care services. There is evidence that prisoners make extensive use of health services whilst in prison; male prisoners are reported to consult doctors three times more frequently and other healthcare workers seventy seven times more frequently in comparison to men in community health settings (Marshall *et al,* 2001; Bridgwood & Malbon, 1995).

Primary healthcare professionals are usually the first point of contact for prisoners with health concerns, routinely providing clinical assessments, advice, referral to other services and, where appropriate, treatment. One of the key roles undertaken by primary healthcare staff in prisons is reception health screening. In line with Prison Service Standard 24 (HMPS, 2000) and Prison Service Order (PSO) 0500 (HMPS, 2004), all prisoners newly received into custody are assessed using a standardised reception health screening tool. Reception health screening is usually nurse-led and aimed at identifying physical or mental health needs that require immediate attention, including suicide risk and acute physical problems, such as substance withdrawal (Birmingham *et al,* 1997; Grubin *et al,* 1998). The initial health screen is generally followed by a more detailed secondary assessment within seven days which, although not standardised, typically focuses on general health status (e.g. blood pressure, weight, ongoing health issues) and disease prevention (e.g. smoking cessation and vaccination programmes). Reception health screening acts as an initial triage process, and thus is regarded as a key stage in identifying mental health needs and determining the care that a prisoner will receive whilst in custody (Birmingham *et al,* 2000; Birmingham, 2001; HMPS, 2004).

Primary care services actively provide treatment to prisoners, including those with mental illness. General practitioners (GPs), hold routine clinics to identify and treat common health problems and facilitate referral to specialist services when indicated. This routinely includes the identification and treatment of mild to moderate mental health problems/illness, including anxiety and depressive disorders. Prison-based GPs may also work in partnership with primary mental healthcare staff, when available, to provide more comprehensive interventions to tackle mental, physical and social needs. Primary care mental health services also act as a gateway for referral onto secondary care mental health services such as mental health in-reach services, psychiatrists and dual diagnosis specialists. Many prison healthcare centres also provide twenty-four hour in-patient facilities for prisoners who cannot be adequately cared for on normal prison wings, including those with acute mental health problems and those considered to be actively at risk of self-harm.

Primary care staff working in prisons face a number of challenges. A fundamental issue is balancing an individual's clinical needs with the need to maintain the supremacy of discipline and control (Sim, 1994; Hughes, 2000). This may lead to ethical dilemmas for healthcare professionals whose instinct is to treat people as autonomous individuals capable and empowered to make choices about their lives, rather than as disempowered prisoners who must bow to the greater power of the institution itself (HMIP, 1996; Norman & Parrish, 1999; Watson *et al,* 2004). Practising in the context of such tensions can complicate the development of interpersonal relationships. For example, prescribers have to be mindful that certain types of medication (e.g. benzodiazepines) can become 'currency' in prisons and are thus more susceptible to non-therapeutic diversion (Wayman, 2006). Thus prison doctors have been described as being positioned in a triangular relationship with

patients and the prison (Council of Europe, 1998), facing pressure from each when making clinical decisions.

## *1.4 Prison mental healthcare services*

In addition to generic primary care services, prisons also generally offer dedicated specialist mental health services. The joint Prison Service and NHS document *Changing the Outlook* (DH & HMPS, 2001) acknowledged that most prisoners with mental health problems do not require interventions under the Mental Health Act and that, to achieve greater equivalence with community-based services, there should be a greater focus on providing wing-based care. This marked a move away from the historically held assumption that prisoners with mental health problems should be located in prison healthcare centres. In order to achieve this reform, *Changing the Outlook* announced multi-disciplinary mental health 'in-reach' teams as the primary vehicle for delivering specialist mental healthcare services in prisons.

Multi-disciplinary prison mental health in-reach teams provide assessment and treatment similar to CMHTs in the community (DH & HMPS, 2001). Although it was anticipated that all prisoners would eventually benefit from the introduction of in-reach services, teams were established to initially focus on identifying prisoners with severe and enduring mental illness (SMI), utilising the principles of the Care Programme Approach (CPA) to help ensure continuity of care between prison and community upon release from custody (Armitage *et al,* 2003). In practice, the work of many in-reach teams has broadened to include those with any mental disorder (Brooker *et al,* 2005).

Since the introduction of in-reach teams, a limited amount of descriptive and, to a lesser extent, evaluative literature on their work has been published. From this, it would appear that some of the initial aims have been achieved, including the goal of employing 300 additional staff to deliver services; in 2007, the Prison Service reported that over 350 mental health in-reach workers had been recruited to deliver services across 102 prisons (HMPS, 2007). Qualitative research has shown that in-reach has generally been viewed as a positive development, by mental health and discipline staff alike. A qualitative study by Brooker *et al* (2005) conducted interviews and focus groups with staff to explore their views about the development of in-reach services. The authors reported that in-reach services received high praise from a range of prison staff, some of whom described dramatic improvements in the timeliness and quality of care. Others commented how the introduction of in-reach had reduced the stigma associated with mental health problems in the prison. Armitage *et al* (2003) reported that the introduction of in-reach services in one prison improved communication between healthcare staff and prison officers and raised awareness of mental health issues in the prison. In some cases, there was also a reduction in self-harm for those prisoners who had contact with the in-reach team (Armitage *et al,* 2003).

Nonetheless, the introduction of in-reach has not been without its challenges. As part of a national evaluation of prison in-reach services, Shaw *et al* (2009) reported that the vast majority of prisoners with SMI were still not being identified or treated in a timely fashion following reception into custody; only 25% of prisoners received into custody experiencing a current episode of SMI were assessed and 13% accepted onto in-reach caseloads within one month. This, as Birmingham (2003) suggested earlier, made it unlikely that targets such as after-care on release for everyone with a mental illness would be met. One of the major sources of frustration appears to be misconception regarding the purpose of in-reach services, resulting in inappropriate referrals of individuals who present not with severe and enduring mental illness, rather with common mental health needs, often compounded by substance abuse personality disorder and problems coping with the routine pressures of incarceration (Armitage *et al,* 2003; Meiklejohn *et al,* 2004; Shaw *et al,* 2009). This has resulted in many establishments being expected to take on the full burden of mental health provision in prisons (Brooker *et al,* 2005). Whilst some teams are complemented with support from primary care and more specialist mental health services (e.g. crisis resolution, early intervention and dual diagnosis teams), this is by no means universal.

## *1.5 Prison substance misuse services*

As previously discussed, prisons house large numbers of individuals who misuse drugs and/or alcohol. Thus, a period detained in custody presents an opportunity to engage problematic substance misusers in treatment programmes and signpost them to appropriate community services for aftercare and support. The provision of effective substance treatment services in prison is a priority for the Home Office and HM Prison Service (NOMS, 2004). Such measures have the potential to reduce both drug misuse and reoffending, thus delivering benefits both to substance misusers and the wider community (NOMS, 2005). It is important to note, however, that the focus of substance misuse policy, treatment and research in prisons to date has largely been on drugs rather than alcohol (Roberts *et al,* 2007).

The government's white paper *Tackling Drugs Together* (HM Government, 1995) set out the framework for the delivery of services to tackle drug misuse in the UK. The strategy was guided by the recognition that law enforcement, alongside treatment, education and prevention was the most appropriate way to challenge drug use and drug related criminality. *Tackling Drugs to Build a Better Britain* (HM Government, 1998), introduced a ten year plan to implement drug related prevention and education programmes. In 1998, HM Prison Service published *Tackling Drugs in Prison* (HMPS, 1998), the central tenets of which were underpinned by a recognition that measures to tackle supply, demand and harm reduction should be routine practice in all prisons across England and Wales. The national drug strategy framework was updated in 2002, stimulating a growth of prison-based and aftercare treatment programmes

which manage prisoners' treatment, with an over-arching aim of meeting their needs both in custody and upon release (Home Office, 2005).

Prisons in England and Wales currently provide a range of services to support individuals who experience drug withdrawal in custody (HMPS, 2000). Currently, the strategic focus is on the roll-out of the Integrated Drug Treatment System (IDTS) by the National Treatment Agency (NTA) for substance abuse, a special health authority within the NHS which was established in 2001. IDTS aims to increase the range of treatment options available to prisoners (particularly the prescription of substitutes for illicit drugs e.g. methadone), to improve integration of clinical and psychological treatments and to enhance continuity of care between prison and the community (NTA, 2008). Although the emphasis in prisons has historically been on detoxification (Stallwitz & Stover, 2007), maintenance programmes are now growing more popular in prisons (Shaw & Humber, 2007).

Another established feature of HM Prison Service's drug strategy is the Counselling, Advice, Referral, Assessment, and Through-care (CARAT) service. CARAT services provide prison based assessment, sign-posting and support for prisoners with problematic drug use up until release from prison (HMPS, 2002). CARAT services are delivered based on the individual needs of prisoners and is accessible to all prisoners. CARAT workers are able to refer individuals to individual or group support programmes in order to support detoxification or maintenance. The service also has links with other agencies, including those based within the Courts, other prisons and communities to ensure continuity of care from arrest through to release. In addition, detoxification/ maintenance programmes and CARAT services are supported by a variety of other initiatives, including voluntary and mandatory drug testing, drug detection dogs, CCTV on 'drug free wings' and education programmes.

## *1.6 Service integration and pathways of care*

Heretofore, primary care, mental health and substance misuse services have been discussed separately. In practice however, responding appropriately to prisoners' health needs often demands action from multiple services simultaneously, using an integrated and co-ordinated approach to care planning to avoid prisoners falling through "gaps between services" (Social Exclusion Unit, 2002:9).

In 2005, the Department of Health published the *Offender Mental Health Care Pathway* (*OMHCP*; DH & NIMHE, 2005), a broad and comprehensive framework of best practice for the holistic management of offender mental healthcare needs. Care pathways can usefully be described as multi-disciplinary, structured care plans which explain, in detail, the essential steps of anticipated care for patients with an identified clinical problem (Campbell *et al*, 1998). They are usually focused and specific, in order to better utilise resources, minimise delays and maximise the quality of care delivered (Coffey *et al* 1992; Campbell *et al,* 1998). It has previously been argued that

pathways are less suited to mental healthcare because of the varied and individual nature of mental health needs (Rees *et al,* 2004; Emmerson *et al,* 2006); however, in the UK, care pathways are being increasingly used in this service area (Hall, 2004).

The OMHCP was produced on the basis of evidence presented in *Offender Mental Health – A Case for Change* (DH, 2005), which summarised background evidence from other key policy documents (including *Changing The Outlook*) on the need for mental health services to be integral to every stage of the criminal justice system, from arrest to reception into custody, right through to aftercare following release from prison. A key challenge in developing mental health pathways is to incorporate all agencies which should be involved (Denton *et al,* 1999). Indeed, the OMHCP is useful in identifying the variety of agencies that may potentially have input at each stage of the pathway. It also illustrates how the core roles of primary care, mental health and substance misuse services can be supplemented with input from other, non-health, interventions in prison. Notably, this includes a care-planning system for prisoners identified to be at risk of suicide or self-harm called ACCT (Assessment, Care in Custody, and Teamwork (HMPS, 2005). Established in 2007, the introduction of ACCT signified a move away from reliance on healthcare staff for suicide prevention, espousing a multi-disciplinary approach, encouraging prison officers, healthcare staff, other support agencies and prisoners themselves to taking joint responsibility for caring for those at risk. Aside from ACCT, the OMHCP also identified roles for a wide range of disciplines, including probation, Criminal Justice Liaison teams, the police, housing, social workers, prison chaplains, community substance misuse teams, voluntary agencies and even families of prisoners in the provision of holistic health and social care for those in custody.

## *1.7 The effects of imprisonment on mental health*

Despite providing an increasing range of health services, prisons are generally considered to be harsh environments. Indeed, there are numerous reasons why the prison environment, with its rules and regimes, is widely thought to have a detrimental impact on mental health (Birmingham, 2003). Incarceration separates individuals from their natural support networks of families and friends and places them in an environment where stress, boredom and bullying are commonplace. Historically, the sociological literature has painted a bleak and painful picture of prison life. According to Sykes (1958:78-79):

*"The significant hurts lie in the frustrations or deprivations which attend the withdrawal of freedom ... And, however painful these frustrations or deprivations may be in the immediate terms of thwarted goals, discomfort, boredom, and loneliness, they carry a more profound hurt as a set of threats or attacks which are directed against the very foundations of the prisoner's being. The individual's picture of himself as a person of value . . . begins to waver and grow dim."*

It is therefore understandable why prison environments have been labelled by some as 'anti-therapeutic' (Scott, 2004). Prisons also present a number of special difficulties for those attempting to promote health (DH, 2002). Although the notion of the 'healthy prison' has been accepted into mainstream prison healthcare policy (DH, 2002; HMPS, 2003), it has been questioned whether this represents a contradiction in terms (Smith, 2000). The rhetoric of health promotion is rich in terms such as 'autonomy', 'self-esteem' and 'empowerment'; these are arguably difficult concepts to integrate into an environment where prisoners experience high levels of control, dependence and surveillance (Smith, 2000). Indeed, Goffman famously dubbed prisons as all-encompassing 'total institutions' in which individuals are systematically stripped of their individuality and are ruled en masse by a single, official authority (Goffman, 1961).

Without doubt, prison environments and regimes can become unbearable for some. Compelling evidence for this comes from research on suicide in prisons. A recent large scale study conducted by Fazel *et al* (2005) observed an excess of deaths by suicide in UK prison populations, reporting a five-fold increase in suicide mortality (n= 1312, SMR = 5.1, 95% CI: 4.8 - 5.3) for male prisoners in England and Wales. Suicide amongst prisoners has received significant attention as a policy issue in recent years. A number of demographic risk factors associated with suicide have been identified including substance misuse, mental illness and a previous history of self-harm (Towl & Crighton 1998; Tratelli *et al,* 1999; Shaw *et al,* 2003a; Shaw *et al,* 2004), which are all common amongst offender populations (Singleton *et al* 1998; Fazel & Danesh, 2002). According to Liebling (1992; 1999) there are three distinct groups of prisoners vulnerable to suicide; life sentence prisoners, the psychiatrically ill and 'poor copers'. The latter group, which account for the largest proportion of suicides, tend to be younger and have difficulties coping with various aspects of prison life, such as isolation from family and friends, fear of other prisoners, boredom and a lack of constructive activity.

Environmental factors have also been associated with prison suicides. Liebling & Krarup (1993) reported few differences between suicide attempters and non-attempters in prison with regard to socio-economic variables. Rather, the authors concluded that differences between the two groups related to their individual custody experiences. Those who attempted suicide or self-harmed were found to perceive themselves as 'worse off' than their peers in custody in terms of their views on the availability and desirability of work, education and recreation and other methods of occupation. Furthermore, a review of all prison suicides between 1972 and 1987, found that factors relating to the prison environment were regarded as significant motives for suicide in 40% of deaths in custody (Dooley, 1990).

A number of other studies have focused on health related outcomes other than suicide. Nurse *et al* (2003) conducted a focus group study in one prison in England to explore perspectives on how the prison environment influenced mental health.

The authors reported that long periods of isolation, accompanied by minimal mental stimulus contributed to poor mental health as well as feelings of intense anger, frustration and anxiety. Prisoners reported using drugs to cope with long hours of boredom. Negative staff-prisoner relationships were also reported to affect stress levels. Some prisoners, in particular women, may also be affected by separation from, and concerns about, their children (Royal College of Psychiatrists, 2007) which might have additional negative effects on mental health.

Prison overcrowding today is a serious issue both in the UK and throughout the world. Overcrowding has been identified as a key performance indicator by the Ministry of Justice and thus is routinely measured; the National Offender Management Service (NOMS) has stated in its most recent annual report that 25% of prisoners are accommodated in units intended for fewer prisoners (NOMS, 2009). Overcrowding in institutionalised populations such as prisons has been linked with psychological distress (Evans, 2003; Gaes, 1985) and has a significant negative impact on healthcare (Walmsley, 2005). Wener and Keys (1988) set out to identify the effects of overcrowding in prison on mental health and randomly assigned prisoners to one of two identical housing units which varied only in population density; one unit was at capacity and the second, over capacity. The research team then corrected the population levels, decreasing the population density in the unit considered over capacity and increasing it on the unit considered at capacity, so that population density was comparable. In the unit where population density increased, perceived crowding and 'sick call rates' (prisoner self-reports of illness) were comparatively higher (Wener & Keys, 1988).

More recently, a longitudinal study conducted by Andersen *et al* (2003) examined the effects of solitary confinement on mental health amongst a sample of Danish remand prisoners. A research team of qualified mental health professionals used clinically validated tools, including the Present State Examination (Wing, 1991) to diagnose prevalent (present prior to imprisonment) and incident (developed during period of imprisonment) psychiatric disorders amongst prisoners. Observations were completed after reception into custody (on day two to four) and every month thereafter until release, sentencing or transfer to another prison. The study found that the incidence of psychiatric disorder was higher amongst prisons in solitary confinement in comparison to those in non-solitary confinement (28% vs. 15% respectively). Also, whilst over time clinical symptoms reduced amongst prisoners in the control group, symptoms amongst those in solitary confinement remained consistent. However, the authors did note that the initial period after reception into custody was a vulnerable time for all prisoners; indeed, disorders developed during these early periods in both groups. Such studies demonstrate the need to give consideration to understanding the wider environmental and organisational factors that contribute to poor mental health in prisons as well as individual demographic factors.

In 1990, Bonta and Gendreau conducted a substantial literature review providing an overview of the effects of imprisonment. Using the available evidence from

quantitative studies, they reviewed several specific aspects of imprisonment including overcrowding, long-term imprisonment, short-term imprisonment, solitary confinement and death row. After failing to confirm any profound detrimental effects of imprisonment, the authors concluded that the evidence for the notion that prison was universally harmful was inconclusive (Bonta & Gendreau, 1990:365):

*"To date, the incarceration literature has been very much influenced by a "pains of imprisonment" model. This model views imprisonment as psychologically harmful. However, the empirical data we reviewed question the validity of the view that imprisonment is* universally *painful."*

The authors suggest that individual differences in adapting to prison life may be of more importance than environmental factors. They called for a more 'constructive', evidence-based policy agenda when considering how to improve prison systems, underpinned by research from robust, longitudinal studies.

## *1.8 The effects of imprisonment on individuals with mental illnesses*

There is growing consensus that, whilst the need to protect the public is paramount, prison may be an unsuitable environment for some vulnerable groups, including some people with mental health problems. A recent review of diversion for offenders with mental health problems and learning disabilities undertaken by Lord Bradley acknowledged that custody has the potential to "exacerbate mental ill health, heighten vulnerability and increase the risk of self-harm and suicide" (Bradley, 2009:7). Nonetheless, the growing prison population means that there are now more people in prison with mental illnesses than ever before.

The Bradley report conceded that there were problems in defining what constituted mental illness. There are numerous terms in use referring to people with mental illness in the criminal justice system (e.g. mentally disordered offender, prisoner-patient, prisoner with mental illness) with no single, accepted definition of what constitutes mental disorder. Indeed, a broad range of disorders may be classed under the heading of mental illness, varying from common mental health problems such as anxiety and mild-moderate depressive disorders and more severe and enduring mental illnesses such as major depressive disorder and psychosis. Whilst not categorised as mental illness, personality disorders are also common in prison populations and can be amenable to some forms of treatment. Furthermore, when considering diversion from custody into health and social care services at an individual level, there is a need to establish the link between mental illness and offending behaviour – the two may be linked or, indeed, entirely coincidental (RCP 2008, cited in Bradley, 2009). Such definitions are of operational importance when trying to determine who might better be treated by health services, rather than processed within the criminal justice system.

Prison may not be the most appropriate judicial disposal for offenders with the most severe mental health problems. Community sentences, treatment orders or diversion into more appropriate services have all been identified as alternative ways of dealing with offenders with mental illness (Bradley, 2009). The Bradley report used the following definition of diversion (2009:16):

*"a process whereby people are assessed and their needs identified as early as possible in the offender pathway (including prevention and early intervention), thus informing subsequent decisions about where an individual is best placed to receive treatment, taking into account public safety, safety of the individual and punishment of an offence."*

The *Mental Health Act 2007* provides the current legislative framework for transferring remand or convicted offenders to hospital for in-patient treatment, updated from the 1983 Act. Notably, the 2007 Act dispensed with the previously required 'treatability test' for those with personality disorders which demanded that it had to be demonstrated that treatment under mental health legislation was likely to alleviate or prevent deterioration of a personality disorder.

It is however likely that, due to the systemic and capacity issues to be tackled to ensure that all individuals who should be diverted into health and social care services are given such opportunities, prison will unfortunately continue to be a reality for many mentally ill offenders for the foreseeable future. Furthermore, whilst there is evidence that waiting times for transfer from prison to hospital are reducing, the average wait is still over a month (Shaw *et al,* 2008; McKenzie & Sales, 2008); indeed, a recent report noted waits of up to 175 days (Shaw *et al,* 2008). Thus it remains important to consider the impact of incarceration on people, both those with and without formal diagnoses of mental illness.

Whilst there have been several large-scale surveys to establish the prevalence of mental illness amongst prisoners (e.g. Gunn *et al,* 1991a; Gunn *et al,* 1991b; Brooke *et al,* 1996; Singleton *et al,* 1998; Parsons *et al,* 2001; Fazel & Danesh, 2002), there is less evidence regarding the impact of imprisonment on the course of mental illness. For those with pre-existing mental health problems it is important to establish whether they are likely to experience deterioration in their symptoms whilst in prison. Also, given that entering prison is a significant life event, it warrants investigation as to whether custody itself impacts upon the incidence of mental illness in previously well individuals.

Deterioration in the symptoms of mental illness has been linked with a number of factors including inadequate treatment, non-adherence to prescribed medication (Barnes, 2004; Vos, 2004), co-morbid substance misuse (Drake, 2000; Myrick & Cluver, 2004) and stressful life events (Hirsch, 1996; Castine, 1998; Payke, 2003). Such factors are common in offender populations who, as discussed previously, are a generally less healthy group with high rates of co-morbidity and low rates of engagement with community based health services. It has been suggested that

imprisonment, whilst stressful, may not be universally detrimental to those with mental illness, instead offering a valuable opportunity to some of those leading more chaotic lifestyles to establish a routine and re-engage with services. As Reed & Lyne put it, ideally:

> *"A period in prison should present an opportunity to detect, diagnose and treat mental illness in a population often hard to engage with NHS services. This could bring major benefits not only to patients but to the wider community by ensuring continuity of care and reducing the risk of re-offending on release."*
>
> (2000:1033)

However, the reality is that imprisonment does not necessarily guarantee immediate or appropriate access to treatment. As previously discussed, the vast majority of mental illness continues to go undetected and undiagnosed in prison, particularly amongst those with less serious disorders (Shaw *et al,* 2009). Furthermore, capacity to treat is limited; currently primary mental health services are in their infancy whilst secondary mental health services remain overloaded (Steel *et al,* 2007; Shaw *et al,* 2009). Furthermore, for those previously engaged with services in the community, maintaining continuity of care in prisons may still present a challenge; discontinuation of pre-custody prescribed medications, for example, is a common complaint amongst prisoners (Shaw *et al,* 2006; Plugge *et al,* 2008). Thus, imprisonment may result in reduced quality of care for some individuals.

A recent study conducted in the Netherlands by Blauuw *et al* (2007) monitored the level of symptoms, and care received, in a sample of 61 prisoners with psychosis over 12 weeks. Prisoners suspected of suffering from psychosis were initially screened using the extended version of the Brief Psychiatric Rating Scale (BPRS-E) and subsequently diagnosed by a psychiatrist using Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition (DSM-IV) criteria. Of the 61 prisoners recruited to the study, 64% were diagnosed with schizophrenia and almost half of the sample (42%) had co-existent substance abuse disorders. Prison staff observed and rated each prisoner on a weekly basis using a modified version of the BPRS-E for a maximum of 12 weeks. Using Ventura *et al*'s (2000) four-factor solution, BPRS-E ratings of psychotic symptoms were divided into four categories, which included positive (e.g. grandiosity, hallucinations, suspiciousness) and negative (e.g. blunted affect, emotional withdrawal, motor retardation) symptoms. The course of positive symptoms varied, with 21% of prisoners showing a decrease in symptoms, 13% following a fluctuating course, 8% deteriorating over the length of their stay and 5% improving throughout their time in custody, then rapidly deteriorating shortly before their departure from the prison. The authors reported that certain negative symptoms, namely poverty of speech and blunted affect, significantly declined (i.e. improved) over time. Contacts with mental health staff were also monitored. Notably, 21% of the sample was transferred to specialist forensic care facilities within 12 weeks. All except one prisoner received a visit from the prison psychologist, with most being seen more than once. Around half also received a

further visit from a psychiatrist following their initial diagnosis and 79% of the sample received at least one visit from a prison doctor or nurse. Finally, 80% of the sample received prescribed medication.

The authors concluded that for this sample, symptoms of psychosis amongst the sample were not exacerbated by prison and remained largely stable, with some observable improvements in negative symptoms. This study suffers from some methodological and analytical limitations, including the small sample size, the employment on an un-validated adaptation of the BPRS-E and incomplete statistical analysis. Nonetheless, it presents some interesting findings in an area where observational research is sparse and at the very least, indicates the need for further work.

## *1.9 Study aims*

This research took the form of an observational cohort study, designed to investigate the effect of imprisonment on mental health in early custody and the quality of life experienced by prisoners. In addition it sought to establish the pathways of care through which prisoners with mental illness are processed and treated, from reception up until discharge. To that end, this research identifies three distinct, but inter-related research questions:

1. **How does time spent in prison impact on the mental health of prisoners with and without a mental illness?**
2. **What are prisoners' perceptions of their quality of life in prison?**
3. **What type of contact with health services do prisoners with a mental illness have whilst in prison?**

# 2 Method

This section describes the procedures used to recruit participants, and to collect and analyse data.

## *2.1 Prison establishments*

The fieldwork took place in five prisons, chosen to reflect a range of prisoners and prison types. The following section provides basic information on the services offered at each establishment.

Prison A was an all male busy local remand establishment with a high secure function. It had an operational capacity of over 800. Prison A provided 24-hour healthcare, with primary care and psychiatric services contracted in from local NHS providers on a full-time basis. In addition to this the multi-disciplinary mental health in-reach team, including eight sessions a week of psychiatrists' time, provided a day-care centre and one-to-one services.

Prison B was a local establishment for adult and young women. It had an operational capacity of 450. The prison accommodated both remand and sentenced women and operated a mother and baby unit. The prison had in-patient healthcare facilities and a multi-disciplinary mental health in-reach team. This included mental health nurses, a consultant psychiatrist, psychologists and administration support staff. The team provided services to prisoners with personality disorder as well as severe and enduring mental illness.

Prison C was a privately run local prison for adult and young men. It accommodated both remand and sentenced prisoners and had an operational capacity of over 1,000. Prison C provided 24-hour nursing facilities with an in-patient unit. The in-reach team includes mental health nurses, administrative support and psychiatric sessions.

Prison D was a busy local remand establishment for adult men, with an additional high secure function. It had an operational capacity of over 1,000. It provided 24-hour nursing facilities with an in-patient unit. There was a multi-disciplinary mental health in-reach team which provided day-care and one-to-one services to those with personality disorder and severe and enduring mental illness. The team included a clinical team leader, two consultant psychiatrists, five mental health nurses, a day-care centre co-ordinator, a day-care therapist and a dual diagnosis specialist.

Prison E was an all male local prison with an operational capacity of over 500. It provided 24-hour in-patient facilities, and two primary mental health nurses. There was a multi-disciplinary mental health in-reach team, which provided specialist mental

health services for those with severe and ensuring mental illness. The mental health in-reach consisted of a team leader, three mental health nurses, a consultant psychiatrist who provided five sessions a week, and an administrator.

## 2.2 Sampling

The present study formed part of a broader, integrated programme of work on prisoners with mental illness. A common objective of these studies was to identify prisoners with mental illness, and in particular those with severe and enduring mental illness (SMI). The minimum sample size to be recruited was determined using an estimate of the proportion of prisoners with SMI to a confidence level of 95% (5% error) and operational capacity figures (obtained from the Prison Service website).

The proportion of SMI was estimated by combining rates for psychosis and/or major depression from existing research literature. Psychosis rates for men and women both on remand and sentenced were obtained from Singleton *et al* (1998). Rates were calculated for the five individual sites based on their type of prison population (using legal status and gender). For the four sites dealing with both remand and sentenced prisoners the mid-point between the two relevant rates was selected. Psychosis rates were then combined with rates of severe depression reported by Brooke *et al* (1996). These rates of severe depression were added to the psychosis rates to yield aggregate rates of SMI for each establishment type.

Due to the longitudinal study design, we decided to over sample by an additional 50% in order to account for any attrition resulting from prisoners being released or transferred during the study period. Table 1 provides details of numbers of participants required, and subsequently recruited at each of the five sites. From this it can be seen that overall, we over sampled by an additional 48% (n=317).

**Table 1: Sample size calculations for phase one by research site**

| Research site | Type of establishment | Operational capacity | SMI[1] | Sample needed | Sample recruited | Diff. |
|---|---|---|---|---|---|---|
| **A** | Adult male local, high secure | 915 | 0.11 | 130 | 168 | 38 |
| **B** | Adult and young female local | 450 | 0.16 | 142 | 211 | 69 |
| **C** | Adult male local | 1040 | 0.11 | 132 | 262 | 130 |
| **D** | Adult male local, high secure | 1269 | 0.11 | 135 | 210 | 75 |
| **E** | Adult male local | 697 | 0.11 | 124 | 129 | 5 |
| **Totals** | **-** | - | - | 663 | 980 | 317 |

## *2.3 Recruitment and initial screening*

A consecutive sample of prisoners, taken from the list of new receptions each day, were approached for inclusion in the study within three days of reception into custody. Participants were given an information sheet and informed consent was obtained

Prisoners were asked to complete the PriSnQuest (Shaw *et al,* 1999), an eight-item questionnaire validated to screen for mental illness in a criminal justice system population.

## *2.4 Clinical interviews*

Participants who scored three or more on PriSnQuest and who were 'screened positive' and 5% of those who 'screened negative' (scoring two or less) were asked to complete a longer clinical interview within a week of reception into custody. This incorporated the following instruments:

- A demographic and criminological proforma designed for the study;
- The Schedule for Affective Disorders and Schizophrenia (SADS; Endicott & Spitzer, 1978);
- The Michigan Alcoholism Screening Test (MAST; Selzer *et al,* 1975);
- The Drug Abuse Screening Test (DAST; Skinner, 1982).
- The General Health Questionnaire-12 (GHQ; Goldberg, 1976); and
- The Brief Psychiatric Rating Scale – extended version (BPRS; Lukoff *et al,* 1986)
- The Measuring the Quality of Prison Life (MQPL) survey (Liebling & Arnold, 2002).

[1] *Based on Singleton *et al* (1998) and Brooke *et al* (1996)

The SADS was used to diagnose mental illness in line with DSM IV criteria, including the following disorders; bipolar disorder, dysthymic disorder, generalised anxiety disorder, hypomania, major depressive disorder, minor depressive disorder, obsessive compulsive disorder, panic disorder, phobic disorder, schizoaffective disorder, schizophrenia and other non-affective, non-organic psychosis. For the purposes of this study we then allocated individuals to four mutually exclusive (i.e. no overlapping), broad diagnostic categories based on their SADS diagnosis:

1. **Any psychosis** - including bipolar disorder, hypomania, schizoaffective disorder, schizophrenia and other non-affective, non-organic psychosis;
2. **Major depressive disorder**;
3. **Other mental illnesses** – including dysthymic disorder, generalised anxiety disorder, minor depressive disorder, obsessive compulsive disorder, panic disorder and phobic disorder; and
4. **None** - no mental illness.

Where individuals were diagnosed with more than one mental illness we used a hierarchical system of assigning individuals to categories according to disorder severity: a diagnosis of any psychosis took first priority, followed my major depressive disorder, followed by other mental illnesses and finally none[2].

Substance misuse problems, defined as drug and/or alcohol misuse, were diagnosed using the MAST and the DAST. These diagnoses were made independently of diagnoses of mental illness (see above) and did not affect the four mental illness categories to which individuals were assigned.

Baseline measures of symptoms suggestive of psychiatric illness were established during the interview using the GHQ and BPRS. The 12 item version of the GHQ was used to measure symptoms of common mental health problems such as depression, anxiety and somatic symptoms. Symptoms are rated on a four-point Likert scale aimed at identifying the frequency with which each had been experienced within the preceding two weeks (less than usual to much more than usual). The 12 items of the GHQ were added together to yield a total score; using the binary scoring method[3], in community populations a threshold score of three or more is routinely used to indicate 'caseness', a probabilistic term interpreted here as the likelihood of having, or being at risk of developing, a mental illness. In prison populations, however, higher GHQ threshold scores have been found to offer superior balances of sensitivity and specificity (Senior, 2005; Shaw *et al,* 2003b). In view of such findings, results were also reported using a higher (prison) threshold score of seven.

[2] For example, if an individual was diagnosed with both schizophrenia and major depressive disorder, the individual would be assigned to the 'any psychosis' group only.
[3] In this scoring method, Likert scale scores (0,1,2,3) are converted into binary scores (0,0,1,1). The potential scoring range is 0-12.

The BPRS, a 24 item semi-structured interview, was used to rate the presence of psychiatric symptoms within the last two weeks. A total of 24 symptoms were rated on a seven-point Likert scale (not present to extremely severe). The authors advise that a rating of four to seven on any individual BPRS item indicates clinical significance of a symptom. The analysis subsequently presented in section 3 focuses on two BPRS items in particular, namely *suicidality* and *hallucinations*. *Suicidality* is defined in the BPRS as 'expressed desire, intent, or actual actions to harm or kill self', while *hallucinations* is defined as 'reports of perceptual experiences in the absence of external stimuli'.

The MQPL questionnaire was used to measure prisoner perceptions about the quality of prison life. Historically, the quality of prison life has been difficult-to-measure. In an attempt to better capture this, the Prisons Research Centre at the University of Cambridge undertook a programme of work to design a survey to complement existing indicators of prison performance used as part of national prison statutory audit processes. A consultative process involving prisoners and staff at five UK prisons led to the development of the Measuring the Quality of Prison Life (MQPL) survey (Liebling & Arnold, 2002). In 2002, the MQPL was formally adopted by the Prison Service and is now used as part of formal audit visits to measure prison quality.

Prisoners were asked to express their agreement or disagreement with 112 MQPL statements relating to their treatment and experiences within prison. Prisoners' responses were recorded using a five-point Likert scale ranging from strongly agree to strongly disagree. The 112 item scores were then grouped into 19 dimensions concerning aspects of the prison regime and relationships within it (see Appendix 1 for grouping of questions that make up each dimension) including respect, humanity, trust, order and safety. The authors indicate that an overall dimension score of three is considered to be a neutral rating, a score above three is considered to be a broadly positive rating and a score below three is deemed to be a broadly negative rating.

## *2.5 Follow ups*

Participants who were interviewed at baseline (T1) were followed up at approximately one month (T2; 3-5 weeks) following reception into custody and again at approximately two months (T3; 7-9 weeks) or in the week prior to discharge, whichever was sooner[4]. The BPRS and GHQ were repeated at each follow up. In addition, the MQPL survey as completed at T2.

An overview of the assessments completed at interview and at subsequent follow ups is presented in Table 2.

[4] There was a period of at least two weeks between each follow up.

**Table 2: Overview of assessments completed at each time point**

| Assessment | T1 (<1 week) | T2 (3 - 5 weeks) | T3 ( 7 - 9 weeks) |
|---|---|---|---|
| SADS | ✓ | | |
| DAST | ✓ | | |
| MAST | ✓ | | |
| BPRS | ✓ | ✓ | ✓ |
| GHQ | ✓ | ✓ | ✓ |
| MQPL | | ✓ | |

## *2.6 Administrative tracking – case note analysis*

Case notes, where available, including core clinical records and mental health records, were reviewed in order to establish whether prisoners with mental illness (as diagnosed by SADS at T1) were referred to, or had contact with primary care, mental health, drug and/or alcohol and other relevant services at each prison while in custody. This administrative tracking continued for six months following reception into custody, or until the prisoner was discharged or transferred, whichever was sooner.

## *2.7 Data entry and analysis*

Data were double-entered and errors in data entry identified and corrected, thus producing a valid data set for analysis. Data were analysed using Stata version 10 software (StataCorp, 2008).

Following screening using PriSnQuest, screen positive and screen negative sampling probability weights for each prison and each time point were calculated (Table 4) and applied to all prevalence estimates and regression analyses in order to derive valid point and variance estimates from the two-phase sampling design. Weighted prevalence estimates were obtained from the coefficients generated by logistic regression models, as described by Dunn *et al* (1999). Where analyses were performed across all five prisons sampled, variance estimates (confidence intervals) were further corrected for prison clustering effects using the Huber/White sandwich estimator (Rogers, 1993)[5]. All significant differences referred to in the text were significant at the 5% level. Where risk ratios were used, differences were regarded as significant if the CI did not cross 1.0. Analyses in Stata were performed using valid percents, which exclude missing data.

[5] For some more complex analyses we were not able to correct for prison cluster effects. Where CIs remain uncorrected, this has been highlighted in the analysis.

## 2.8 Ethics

Ethical approval for the research was obtained from the Thames Valley Multi-Centre Research Ethics Committee. Research governance approval was sought from the relevant NHS primary care and mental health trusts and the private sector company providing in-reach services to the research prisons.

## 2.9 Sample

The number of participants approached and recruited at each prison is shown in Table 3. It shows the numbers and proportions of prisoners who screened positive and negative on PriSnQuest at each prison, and the proportion of the screened sample that undertook the full clinical interview (T1) and each of the subsequent follow up interviews at T2 and T3. From this it can be seen that at T1, 980 prisoners were interviewed in total. All screen positives and a 5% sample of screen negatives (for comparison purposes) were approached for interview; however, some interviews could not be completed due to prisoners being transferred, released or withdrawing from the study.

All those that were successfully interviewed and were still in prison were approached for subsequent follow ups at T2 and T3; however, at each phase, a proportion of prisoners had been transferred or released from the prison leading to attrition[6]. At T2, 572 prisoners were followed up in total; at T3 182 were followed up. The sample weightings used at each time point account for both the two-phase sampling design and for the attrition observed at each subsequent stage of data collection (see Table 4).

Inspectorate reports for individual prisons were used to establish the extent to which the prisoners recruited at each site were representative of their respective prison populations. The prisoners interviewed at T1 were broadly representative of their prison populations with respect to age distribution, ethnicity, legal status and offence characteristics (see Table 35-38, Appendix 2). In addition, the proportions of men and women, remand and convicted prisoners, and prisoners with mental illness remained similar at T1, T2 and T3 (see Table 39, Appendix 2) thus increasing our confidence that any observed changes in the prevalence of symptoms over time do not merely reflect changes in sample composition.

[6] A small number of participants also withdrew from the study, estimated at n=30.

**Table 3: Percentage of all prisoners who screened positive vs. negative on PriSnQuest (Phase I); by screening status, percentage of screened prisoners given Phase II clinical interviews (T1) and follow up interviews (T2 and T3)**

| | **Phase I:** | | **Phase II:** | | | | | |
|---|---|---|---|---|---|---|---|---|
| | **% Screening status[7]:** | | **% Interviewed (T1)[8,9,10]:** | | **% Followed up (T2)[5,6,7]:** | | **% Followed up (T3)[5,6,7]:** | |
| **Prison** | *Positive* | *Negative* | *Positive* | *Negative* | *Positive* | *Negative* | *Positive* | *Negative* |
| A | 26 (148) | 74 (429) | 99 (146) | 5 (22) | 53 (78) | 2 (10) | 7 (10) | 0 (0) |
| B | 44 (228) | 56 (285) | 87 (199) | 4 (12) | 54 (124) | 4 (10) | 9 (20) | 0 (0) |
| C | 38 (262) | 62 (427) | 85 (222) | 9 (40) | 50 (132) | 6 (26) | 26 (68) | 4 (15) |
| D | 34 (231) | 66 (452) | 84 (195) | 3 (15) | 54 (125) | 2 (11) | 27 (62) | 2 (7) |
| E | 37 (228) | 63 (389) | 55 (125) | 1 (4) | 24 (54) | 1 (2) | 0 (0) | 0 (0) |
| All | 36 (1097) | 64(1982) | 81 (887) | 5 (93) | 58 (513) | 3 (59) | 15 (160) | 1 (22) |

**Table 4: Sampling probability weights used at each phase for prevalence estimation purposes, by screening status and prison**

| **Prison** | **Sampling probability weights:** | | | | | |
|---|---|---|---|---|---|---|
| | **T1** | | **T2** | | ***2.10*** | ***T3*** |
| | *Positive* | *Negative* | *Positive* | *Negative* | *Positive* | *Negative* |
| A | 1.014 | 19.500 | 1.897 | 42.900 | 14.800 | n/a |
| B | 1.146 | 23.750 | 1.839 | 28.500 | 11.400 | n/a |
| C | 1.180 | 10.675 | 1.985 | 16.423 | 3.853 | 28.467 |
| D | 1.185 | 30.133 | 1.848 | 41.091 | 3.726 | 64.571 |
| E | 1.824 | 97.250 | 4.222 | 194.500 | n/a | n/a |
| All | 1.237 | 21.312 | 2.138 | 33.593 | 6.856 | 90.091 |

[7] Figure in parentheses gives the number of prisoners per prison by screening outcome (+ vs. -) at Phase I.

[8] Figure in parentheses gives the number of prisoners per prison interviewed at each subsequent Phase, according to Phase I screening status.

[9] Percentages have been calculated using the numbers screened at Phase I (by status) as the denominator.

[10] Figure in parentheses gives the number of prisoners per prison followed up at each stage.

# 3 Results

## *3.1 How does time spent in prison impact on the mental health of prisoners with and without a mental illness?*

The following analysis aims to describe the changes in mental health symptoms in a sample of prisoners over time, as measured using the GHQ and the BPRS. This section will initially report on findings for the general prisoner population by gender and legal status before describing findings amongst those with a diagnosable mental illness (by psychiatric diagnosis).

### 3.1.1 Gender

Table 5 describes the overall percentage of men and women that met clinical thresholds for GHQ and BPRS items for suicidality and hallucinations at T1, T2 and T3. The results of chi squared tests for heterogeneity and linearity over the three observations are also provided in the final two columns. Figure 1 illustrates the percentage of men and women meeting the GHQ (prison) threshold at each time point.

**Table 5: Percentage (and 95% CI) of prisoners that met/exceeded thresholds for the GHQ, BPRS suicidality and BPRS hallucinations by gender at T1, T2 and T3**

| Measure | Gender | T1 | | T2 | | T3 | | Change T1 - T3 (chi$^2$ tests)[11] | |
|---|---|---|---|---|---|---|---|---|---|
| | | *n* | % (95% CI) | *n* | % (95% CI) | *n* | % (95% CI) | Heterogeneity | Linearity |
| GHQ (prison threshold) | *Men* | 469 | 33 (24-44) | 167 | 23 (15-33) | 43 | 18 (12-26) | p=.03 | p=.01 |
| | Women | 146 | 46 (31-61) | 72 | 28 (18-40) | 10 | 50 (29-71) | p=.02 | p=.84 |
| GHQ (community threshold) | *Men* | 653 | 69 (60-76) | 286 | 50 (32-69) | 84 | 47 (34-61) | p=.01 | p=.006 |
| | Women | 184 | 76 (58-88) | 98 | 55 (36-72) | 14 | 70 (47-86) | p=.06 | p=.31 |
| BPRS - Suicidality | *Men* | 143 | 8 (5-12) | 34 | 5 (2-10) | 10 | 3 (1-5) | p<.001 | p<.001 |
| | Women | 65 | 16 (11-24) | 28 | 10 (6-16) | 3 | 15 (5-38) | p=.03 | p=.70 |
| BPRS - Hallucinations | Men | 74 | 4 (2-7) | 15 | 1 (1-2) | 6 | 2 (1-7) | p=.001 | p=.14 |
| | Women | 37 | 9 (6-14) | 23 | 13 (6-28) | 5 | 25 (11-49) | p=.09 | p=.04 |

[11] Here and henceforth, CIs for all chi$^2$ change tests are uncorrected for prison cluster effects.

**Figure 1: Percentage (and 95% CI) of prisoners that met/exceeded threshold for GHQ (prison) by gender at T1, T2 and T3**

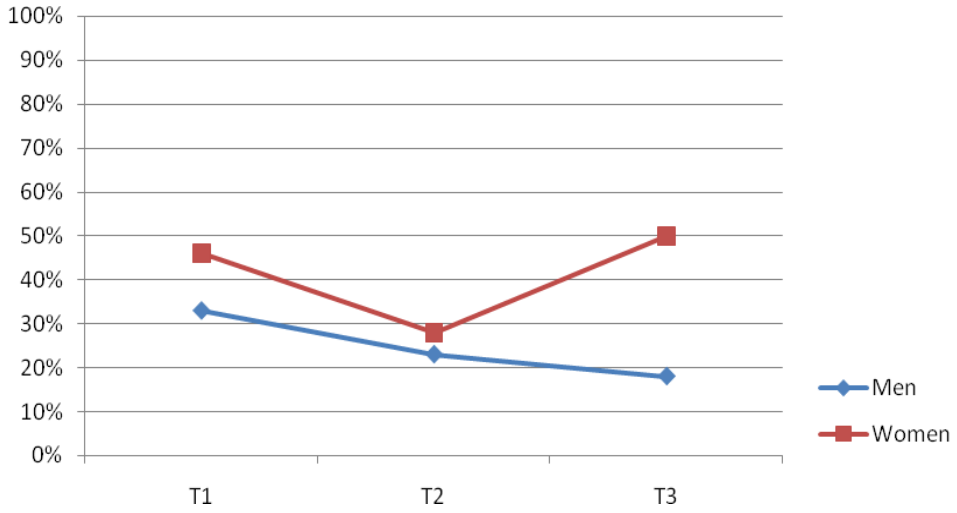



Table 5 shows that the prevalence of GHQ caseness at T1 using the community threshold (henceforth, GHQ [community]) was 69% amongst men and 76% amongst women. Using the prison threshold (henceforth, GHQ [prison]), caseness rates at T1 were lower; 33% amongst men and 46% amongst women. Rates of GHQ (prison) caseness were significantly higher amongst women at T1 (x2=5.8, p=.02) and T3 (50% vs. 18%; x2=45.9, p<.001) but not T2 (28% vs. 23%; x2=1.1, p=.29). Table 5 shows that rates of GHQ (prison) caseness over the period T1 to T3 showed a significant linear decrease amongst men (33%-18%), but not women (46%-50%).

At T1 clinically significant symptoms of suicidality were prevalent amongst 8% of men and 16% of women, a statistically significant difference (x2=11.5, p<.001). Clinically significant symptoms of suicidality were also significantly more prevalent amongst women at T2 (10% vs. 15%; x2=4.7, p=.03) and T3 (15% vs. 3%; x2=30.0, p<.001). Table 5 shows that significant symptoms of suicidality over the period T1 to T3 showed a significant linear decrease amongst men (8%-3%), but not women (16%-15%).

Clinically significant hallucinations were significantly more prevalent amongst women than men at T1 (9% vs. 4%; x2=11.9, p<.001), T2 (13% vs. 1%; x2=77.0, p<.001) and T3 (25% vs. 2%; x2=22.4, p<.001). Table 5 shows that prevalence rates over the period T1 to T3 showed a significant linear increase in hallucinations amongst women (4%-25%). Whilst rates amongst men across the three time points remained low (4%-2%), the trend showed significant heterogeneity, but not linearity.

### 3.1.2 Legal status

Table 6 shows the percentage of remand and convicted prisoners reaching thresholds for GHQ caseness, clinically significant suicidality and clinically

significant hallucinations at T1, T2 and T3. Figure 2 illustrates the prevalence of GHQ (prison) caseness amongst remand and convicted prisoners at each time point.

**Table 6: Percentage (and 95% CI) of prisoners that met/ exceeded thresholds for the GHQ, BPRS suicidality and BPRS hallucinations by legal status at T1, T2 and T3**

| Measure | Status | T1 | | T2 | | T3 | | Change T1 - T3 (chi$^2$ tests) | |
|---|---|---|---|---|---|---|---|---|---|
| | | *n* | % (95% CI) | *n* | % (95% CI) | *n* | % (95% CI) | Heterogeneity | Linearity |
| GHQ (prison threshold) | *Remand* | 342 | 44 (32-57) | 106 | 39 (24-56) | 33 | 37 (23-54) | p=.78 | p=.49 |
| | *Convicted* | 272 | 28 (21-35) | 129 | 17 (12-25) | 20 | 13 (7-21) | p=.003 | p=.02 |
| GHQ (community threshold) | *Remand* | 449 | 76 (67-84) | 153 | 63 (36-83) | 48 | 55 (47-63) | p=.04 | p=.02 |
| | *Convicted* | 388 | 65 (50-77) | 224 | 46 (29-65) | 49 | 47 (29-65) | p=.09 | p=.07 |
| BPRS - Suicidality | *Remand* | 122 | 12 (8-19) | 30 | 11 (5-24) | 7 | 6 (3-14) | p=.31 | p=.10 |
| | *Convicted* | 86 | 7 (5-11) | 31 | 3 (2-6) | 6 | 3 (1-8) | p<.001 | p=.01 |
| BPRS - Hallucinations | *Remand* | 63 | 6 (3-9) | 15 | 3 (1-9) | 6 | 8 (2-27) | p=.08 | p=.50 |
| | *Convicted* | 48 | 4 (2-7) | 19 | 3 (1-11) | 5 | 3 (1-15) | p=.74 | p=.54 |

**Figure 2: Percentage (and 95% CI) of prisoners that met/exceeded threshold for GHQ (prison) by legal status at T1, T2 and T3**

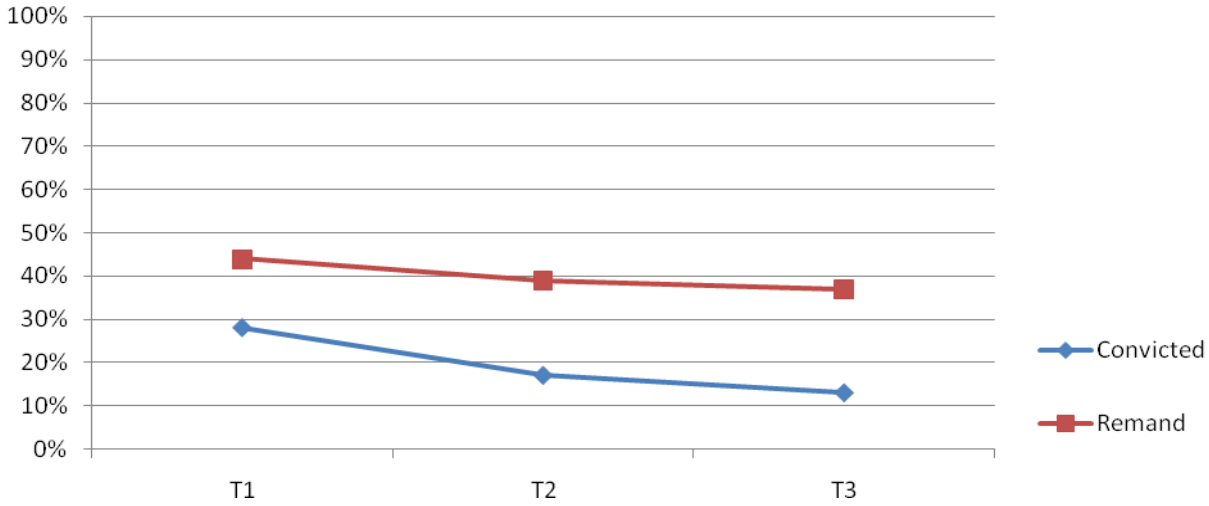



Table 6 shows that the prevalence of GHQ (community) caseness at T1 was 76% amongst remand prisoners and 65% amongst convicted prisoners. Table 6 and Figure 2 show that the prevalence of GHQ (prison) caseness at T1 was 44% amongst remand prisoners and 28% amongst convicted prisoners, a statistically significant difference (x2=6.3, p=.01). Rates of GHQ (prison) caseness were significantly higher amongst remand prisoners at T2 (39% vs. 17%; x2=5.8, p=.02) and T3 (37% vs. 13%; x2=14.1, p<.001). Table 6 shows a statistically significant linear decrease in rates of GHQ (prison) caseness amongst convicted prisoners over the period T1 to T3 (33%-18%). No significant differences were

observed in caseness rates amongst remand prisoners over the same period (44%-37%).

Clinically significant symptoms of suicidality were significantly more prevalent amongst remand prisoners in comparison to convicted prisoners at T1 (12% vs. 7%; x2=28.8, p<.001), T2 (11% vs. 3%; x2=6.3, p=.01) and T3 (6% vs. 3%;x2=10.0, p<.01). Table 6 shows that over the period T1 to T3 significant symptoms of suicidality decreased in both convicted and remand prisoners, but this was only statistically significant in the former.

No significant differences were observed in the prevalence of clinically significant hallucinations between remand and convicted prisoners at T1 or T2, although they were significantly more prevalent amongst remand prisoners at T3 (8% vs. 3%; x2=6.1, p=.01). Table 5 shows that prevalence rates in hallucinations did not significantly change in either group over the period T1 to T3.

### 3.1.3 Mental illness

Table 7 describes the percentage of prisoners with each diagnosis meeting thresholds at T1, T2 and T3 and presents the results of associated chi squared tests. Figure 3 illustrates the percentage of prisoners that met the GHQ (prison) threshold at each time point, by psychiatric diagnosis.

**Table 7: Percentage (and 95% CI) of prisoners that met/ exceeded thresholds for the GHQ, BPRS suicidality and BPRS hallucinations by psychiatric diagnosis at T1, T2 and T3**

| Measure | Psychiatric diagnosis | T1 | | T2 | | T3 | | Change T1 - T3 (chi$^2$ tests) | |
|---|---|---|---|---|---|---|---|---|---|
| | | *n* | % (95% CI) | *n* | % (95% CI) | *n* | % (95% CI) | Hetero-geneity | Linearity |
| GHQ (prison threshold) | *Any psychosis* | 72 | 73 (65-80) | 30 | 54 (40-68) | 8 | 56 (32-78) | p=.03 | p=.20 |
| | *MDD* | 249 | 73 (56-86) | 108 | 53 (37-68) | 24 | 45 (35-55) | p=.01 | p=.003 |
| | *Other MI* | 76 | 28 (13-52) | 24 | 24 (7-58) | 11 | 56 (28-81) | p=.14 | p=.25 |
| | *None* | 218 | 25 (15-37) | 77 | 14 (9-23) | 10 | 7 (4-13) | p=.002 | p<.001 |
| GHQ (community threshold) | *Any psychosis* | 90 | 92 (88-94) | 42 | 80 (73-85) | 13 | 87 (68-95) | p=.17 | p=.43 |
| | *MDD* | 297 | 94 (88-97) | 147 | 84 (67-93) | 40 | 69 (53-81) | p<.001 | p<.001 |
| | *Other MI* | 106 | 84 (69-92) | 50 | 45 (11-85) | 14 | 62 (40-80) | p=.29 | p=.27 |
| | *None* | 344 | 60 (47-71) | 145 | 42 (27-60) | 31 | 40 (28-54) | p=.02 | p=.03 |
| BPRS - Suicidality | *Any psychosis* | 42 | 45 (37-52) | 14 | 24 (15-38) | 3 | 22 (8-48) | p=.02 | p=.11 |
| | *MDD* | 107 | 32 (22-44) | 26 | 18 (7-41) | 4 | 7 (4-12) | p=.002 | p<.001 |
| | *Other MI* | 22 | 6 (2-15) | 5 | 3 (2-6) | 1 | 6 (1-40) | p=.48 | p=.78 |
| | *None* | 37 | 2 (1-4) | 17 | 2 (1-3) | 5 | 2 (1-5) | p=.55 | p=.43 |
| BPRS - Hallucinations | *Any psychosis* | 48 | 51 (45-57) | 15 | 27 (14-44) | 5 | 43 (19-71) | p=.006 | p=.54 |
| | *MDD* | 38 | 10 (5-20) | 13 | 5 (1-21) | 4 | 12 (2-43) | p=.02 | p=.81 |
| | *Other MI* | 3 | 1 (0-4) | 4 | 2 (0-9) | 0 | 0 (n/a) | p=.27 | p=.51 |
| | *None* | 22 | 2 (1-3) | 6 | 2 (0-11) | 2 | 1 (0-9) | p=.87 | p=.99 |

**Figure 3: Percentage (and 95% CI) of prisoners that met/exceeded threshold for GHQ (prison) by psychiatric diagnosis at T1, T2 and T3**

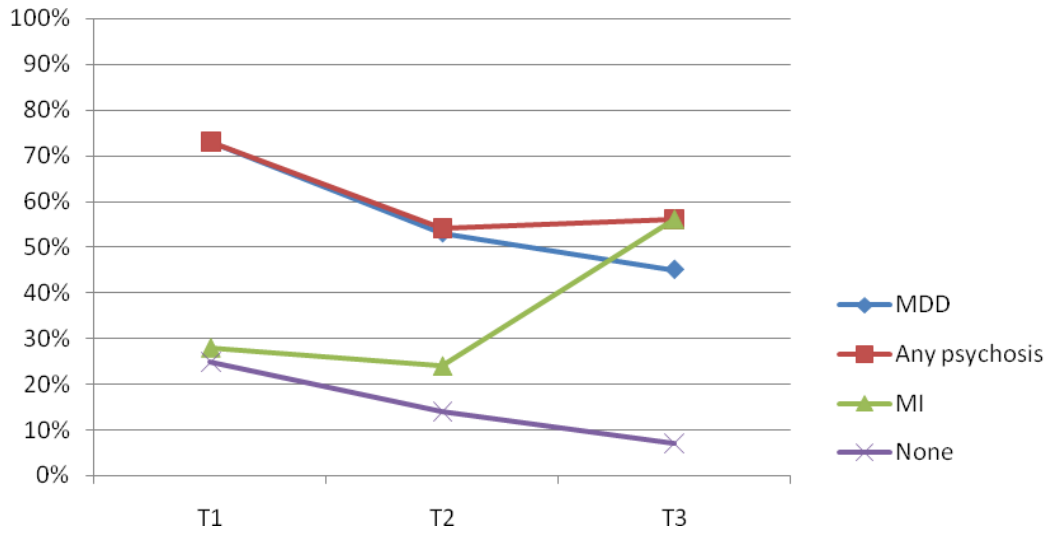



Table 7 shows that the prevalence of GHQ (community) caseness at T1 was 92% amongst prisoners with psychosis and 94% amongst those with MDD. The GHQ (community) caseness rate was 84% amongst prisoners with any other MI and 60% amongst those with no MI. Table 7 and Figure 3 show that the prevalence of GHQ (prison) caseness at T1 was, again, highest amongst both prisoners with psychosis and those with MDD (both 73%). GHQ (prison) caseness rates amongst prisoners with any other MI and those with no MI were also similar to each other at 28% and 25%.

Table 7 shows that over the period T1 to T3, GHQ (prison) caseness rates significantly decline in two groups: prisoners with MDD (73%-45%) and prisoners with no MI (25%-7%). GHQ (prison) caseness rates over the three time points amongst prisoners with psychosis show significant heterogeneity, but not linearity. An increase in prevalence rates, though not statistically significant, can be observed in prisoners with any other MI over the same period (28%-56%): indeed, though GHQ (prison) caseness rates amongst prisoners with any other MI and no MI were similar at T1, by T3 caseness rates are significantly higher in the MI group (56% vs. 7%; $x2=15.4$, $p<.001$).

At T1 clinically significant symptoms of suicidality were prevalent in 45% of those with psychosis, 32% of those with MDD, 6% of those with any other MI and 2% of those with no MI. Table 7 shows that over the period T1 to T3, the prevalence of clinically significant symptoms of suicidality reduces amongst prisoners with psychosis and prisoners with MDD; prevalence rates show significant heterogeneity across the three time points amongst both prisoners with psychosis (45%-22%) and prisoners with MDD (32%-7%), although only the latter demonstrates significant linearity. No significant changes in prevalence rates were observed in prisoners with any other MI or no MI over the same period.

At T1 clinically significant hallucinations were prevalent in 51% of those with psychosis, 10% of those with MDD, 1% of those with any other MI and 2% of those with no MI. Table 7 shows that over the three time points prevalence rates whist they do not demonstrate a linear decline, show significant heterogeneity amongst both prisoners with psychosis (51%-43%) and prisoners with MDD (10%-12%).

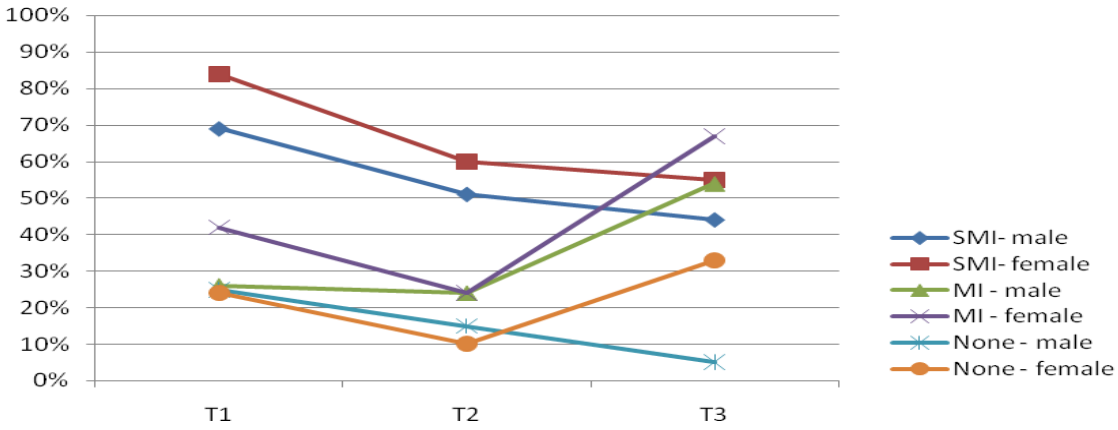
*Psychiatric diagnosis and gender*

Table 8 presents the previous analysis by gender (see Table 40, Appendix 2 for subgroup sample sizes). It illustrates the percentage of men and women across diagnostic groups that met thresholds at T1, T2 and T3. Note that the psychosis and MDD groups have been pooled to form the 'serious mental illness (SMI)' group. Figure 4 illustrates the percentage of men and women that met the GHQ (prison) threshold at each time point, by psychiatric diagnosis.

**Table 8: Percentage (and 95% CI) of prisoners that met/ exceeded thresholds for the GHQ, BPRS suicidality and BPRS hallucinations by psychiatric diagnosis and gender at T1, T2 and T3**

| Measure | Group (gender/ diagnosis) | T1 | | T2 | | T3 | | Change T1 - T3 (chi$^2$ tests) | |
|---|---|---|---|---|---|---|---|---|---|
| | | *n* | % (95% CI) | *n* | % (95% CI) | *n* | % (95% CI) | Hetero-geneity | Linearity |
| GHQ (prison threshold) | *SMI* – men | 237 | 69 (54-81) | 88 | 51 (34-68) | 26 | 44 (33-55) | p=.10 | p=.01 |
| | *SMI* - women | 84 | 84 (74-91) | 50 | 60 (35-80) | 6 | 55 (26-81) | p=.07 | p=.04 |
| | *Other MI* - men | 57 | 26 (10-53) | 17 | 24 (5-65) | 9 | 54 (20-85) | p=.86 | p=.31 |
| | *Other MI* - women | 19 | 42 (12-80) | 7 | 24 (6-61) | 2 | 67 (10-97) | p=.08 | p=.57 |
| | *None* – men | 175 | 25 (14-40) | 62 | 15 (9-25) | 8 | 5 (4-7) | p=.06 | p<.001 |
| | *None* - women | 43 | 24 (12-45) | 15 | 10 (5-20) | 2 | 33 (7-76) | p=.05 | p=.82 |
| GHQ (community threshold) | *SMI* – men | 290 | 94 (86-98) | 128 | 80 (64-90) | 44 | 69 (55-79) | p<.001 | p<.001 |
| | *SMI* - women | 97 | 93 (86-97) | 61 | 90 (80-96) | 9 | 82 (47-96) | p=.43 | p=.25 |
| | *Other MI* - men | 83 | 82 (66-91) | 40 | 40 (7-85) | 12 | 61 (34-83) | p=.41 | p=.35 |
| | *Other MI* - women | 23 | 96 (79-99) | 10 | 83 (50-96) | 2 | 67 (10-97) | p=.18 | p=.21 |
| | *None* – men | 280 | 59 (43-73) | 118 | 45 (27-64) | 28 | 39 (26-55) | p=.07 | p=.05 |
| | *None* - women | 64 | 63 (38-83) | 27 | 28 (12-53) | 3 | 50 (15-85) | p=.06 | p=.18 |
| BPRS - Suicidality | *SMI* – men | 106 | 33 (22-46) | 20 | 18 (6-44) | 5 | 7 (3-14) | p=.06 | p<.001 |
| | *SMI* - women | 43 | 40 (24-57) | 20 | 24 (13-38) | 2 | 18 (4-53) | p<.01 | p=.18 |
| | *Other MI* - men | 12 | 4 (2-9) | 3 | 3 (1-6) | 0 | 0 (n/a) | p=.60 | p=.09 |
| | *Other MI* - women | 10 | 23 (7-55) | 2 | 7 (1-30) | 1 | 33 (3-90) | p=.03 | p=.77 |
| | *None* – men | 25 | 2 (1-3) | 11 | 1 (1-2) | 5 | 2 (1-5) | p=.42 | p=.87 |
| | *None* - women | 12 | 5 (3-10) | 6 | 4 (1-9) | 0 | 0 (n/a) | p=.54 | p=.08 |
| BPRS - Hallucinations | *SMI* – men | 58 | 16 (11-23) | 10 | 5 (3-7) | 5 | 11 (4-26) | p<.001 | p=.27 |
| | *SMI* - women | 28 | 25 (15-38) | 18 | 21 (12-35) | 4 | 36 (14-67) | p=.43 | p=.45 |
| | *Other MI* - men | 1 | 0 (0-2) | 3 | 2 (0-13) | 0 | 0 (n/a) | p=.12 | p=.79 |
| | *Other MI* - women | 2 | 5 (1-22) | 1 | 3 (0-25) | 0 | 0 (n/a) | p=.63 | p=.07 |
| | *None* – men | 15 | 1 (0-3) | 2 | 0 (0-4) | 1 | 0 (0-2) | p=.19 | p=.13 |
| | *None* - women | 7 | 3 (1-7) | 4 | 11 (2-43) | 1 | 17 (2-68) | p=.13 | p=.04 |

**Figure 4: Percentage (and 95% CI) of prisoners that met/exceeded threshold for GHQ (prison) by psychiatric diagnosis and gender at T1, T2 & T3**




At T1 the prevalence of GHQ (community) caseness amongst prisoners with SMI (psychosis and/ or MDD) was 93% amongst women and 94% amongst men. Amongst prisoners with MI, caseness rates were 96% for women and 82% for men. Amongst prisoners with no MI, caseness rates were 63% for women and 59% for men. At T1 the prevalence of GHQ (prison) caseness was significantly higher amongst women with SMI compared with men with SMI (84% vs. 69%; x2=7.4, p<.001). Amongst prisoners with MI, caseness rates were 42% for women and 26% for men. Amongst prisoners with no MI, caseness rates were 24% for women and 25% for men.

Although significant linear decreases in caseness rates were observed amongst both women and men with SMI over the period T1-T3, the gender difference remained: women with SMI still had higher rates of caseness than men with SMI at T3 (55% vs 44%; x2=4.0, p=.045). Over the period T1-T3 a significant linear decrease in caseness rates was observed amongst men with no MI, but not amongst women. Significantly higher caseness rates were observed amongst women with no MI when compared to men with no MI at T3 (33% vs. 5%; x2=182.9, p<.001).

At T1 clinically significant symptoms of suicidality were prevalent amongst 40% of women with SMI and 30% of men with SMI - this difference was not statistically significant. Prevalence rates were significantly higher in women however, amongst prisoners with any other MI (23% vs. 4%; x2=19.4, p<.001) and prisoners with no MI (5% vs. 2%; x2=9.9, p<.01). Over the period T1-T3 Table 8 shows a significant linear decrease in clinically significant symptoms of suicidality rates amongst men with SMI, but not women with SMI. At T3 prevalence rates were significantly higher amongst women with SMI than men with SMI (18% vs. 7%; x2=8.7, p<.01). Table 8 shows showed no significant linear decreases in clinically significant symptoms of suicidality over the period T1-T3 amongst either men or women with MI, although significant heterogeneity of scores was seen amongst women with MI.

At T1 clinically significant hallucinations were prevalent amongst 25% of women with SMI and 16% of men with SMI, a statistically significant difference (x2=6.4, p=.01). Amongst prisoners with MI, prevalence rates were significantly higher amongst women (5% vs. 0%; x2=7.4, p<.001) at T1. Amongst prisoners with no MI, prevalence rates were similar at 3% for women and 1% for men. Over the period T1-T3 Table 8 shows significant heterogeneity, but not linearity, of scores amongst men with SMI. Notably, over the period T1-T3 there is a significant linear increase in clinically significant hallucinations amongst women with no MI (3%-17%). Also, by T3 the prevalence of clinically significant hallucinations amongst was significantly higher in women in both those with SMI (36% vs. 11%; x2=9.2, p<.01) and those with no MI (17% vs. 0%; x2=7.2, p<.01).

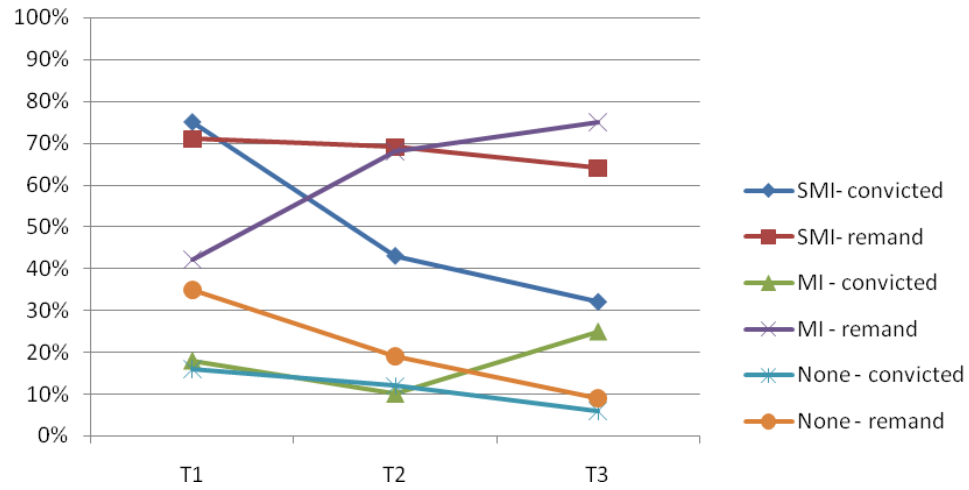
*Psychiatric diagnosis and legal status*

Table 9 describes the percentage of remand and convicted prisoners across diagnostic groups that met thresholds at T1, T2 and T3 and presents the results of associated chi squared tests (see Table 41, Appendix 2 for subgroup sample sizes). Figure 5 illustrates the percentage of remand and convicted prisoners that met the GHQ (prison) threshold at each time point, by psychiatric diagnosis.

**Table 9: Percentage (and 95% CI) of prisoners that met/ exceeded thresholds for the GHQ, BPRS suicidality and BPRS hallucinations by psychiatric diagnosis and legal status at T1, T2 and T3**

| Measure | Group (gender/ diagnosis) | T1 | | T2 | | T3 | | Change T1 - T3 (chi$^2$ tests) | |
|---|---|---|---|---|---|---|---|---|---|
| | | *n* | % (95% CI) | *n* | % (95% CI) | *n* | % (95% CI) | Hetero-geneity | Linearity |
| GHQ (prison threshold) | *SMI – remand* | 178 | 71 (47-87) | 63 | 69 (45-85) | 21 | 64 (54-72) | p=.89 | p=.56 |
| | *SMI - convicted* | 143 | 75 (63-84) | 73 | 43 (34-53) | 11 | 32 (16-53) | p=.003 | p<.001 |
| | *Other MI - remand* | 41 | 42 (16-74) | 10 | 68 (53-80) | 6 | 75 (46-91) | p=.29 | p=.26 |
| | *Other MI-convicted* | 35 | 18 (7-39) | 14 | 10 (3-28) | 5 | 25 (13-43) | p=.06 | p=.97 |
| | *None – remand* | 124 | 35 (20-53) | 33 | 19 (7-43) | 6 | 9 (3-21) | p=.13 | p=.005 |
| | *None - convicted* | 94 | 16 (11-24) | 42 | 12 (6-24) | 4 | 6 (2-15) | p=.33 | p=.07 |
| GHQ (community threshold) | *SMI – remand* | 214 | 96 (92-98) | 79 | 84 (72-92) | 25 | 76 (69-82) | p<.001 | p<.01 |
| | *SMI - convicted* | 173 | 92 (96-85) | 107 | 82 (64-92) | 28 | 70 (44-87) | p<.01 | p<.01 |
| | *Other MI - remand* | 54 | 73 (56-85) | 18 | 82 (68-91) | 6 | 75 (46-91) | p=.69 | p=.92 |
| | *Other MI- convicted* | 52 | 92 (76-98) | 31 | 33 (6-79) | 8 | 40 (24-58) | p<.01 | p=.06 |
| | *None – remand* | 181 | 70 (55-82) | 56 | 49 (18-80) | 17 | 37 (23-53) | p<.01 | p<.01 |
| | *None - convicted* | 163 | 51 (29-72) | 86 | 40 (74-56) | 13 | 41 (20-66) | p=.44 | p=.44 |
| BPRS - Suicidality | *SMI – remand* | 87 | 43 (35-50) | 20 | 33 (14-61) | 3 | 10 (6-16) | p=.37 | p=.001 |
| | *SMI - convicted* | 62 | 27 (17-40) | 19 | 10 (5-19) | 4 | 11 (4-24) | p<.001 | p=.03 |
| | *Other MI - remand* | 12 | 8 (3-22) | 2 | 3 (1-9) | 1 | 9 (1-56) | p=.29 | p=.96 |
| | *Other MI- convicted* | 10 | 5(2-14) | 3 | 3(2-5) | 0 | 0 (n/a) | p=.50 | p=.15 |
| | *None – remand* | 23 | 3 (2-5) | 8 | 3 (2-6) | 3 | 3 (1-8) | p=.93 | p=.93 |
| | *None - convicted* | 14 | 2 (1-3) | 9 | 1 (1-2) | 2 | 1 (0-5) | p=.46 | p=.43 |
| BPRS - Hallucinations | *SMI – remand* | 46 | 19 (14-24) | 13 | 10 (3-29) | 5 | 28 (9-61) | p=.03 | p=.45 |
| | *SMI - convicted* | 40 | 18 (11-26) | 13 | 7 (4-14) | 4 | 11 (4-24) | p=.001 | p=.25 |
| | *Other MI - remand* | 2 | 1 (0-12) | 1 | 2 (0-16) | 0 | 0 (n/a) | p=.71 | p=.09 |
| | *Other MI- convicted* | 1 | 0 (0-4) | 2 | 1 (0-12) | 0 | 0 (n/a) | p=.46 | p=.87 |
| | *None – remand* | 15 | 2 (1-4) | 1 | 1 (0-8) | 1 | 1 (0-7) | p=.38 | p=.44 |
| | *None - convicted* | 7 | 1 (0-4) | 4 | 2 (0-17) | 1 | 1 (0-18) | p=.33 | p=.68 |

**Figure 5: Percentage (and 95% CI) of prisoners that met/exceeded threshold for GHQ (prison) by psychiatric diagnosis and status at T1, T2 & T3**




At T1 the prevalence of GHQ (community) caseness amongst prisoners with SMI was 96% amongst remand prisoners and 92% amongst convicted prisoners. Amongst prisoners with MI, caseness rates were 73% for remand prisoners and 92% for convicted prisoners. Amongst prisoners with no MI, caseness rates were 70% for remand prisoners and 51% for convicted prisoners. At T1 the prevalence of GHQ (prison) caseness amongst prisoners with SMI was 75% amongst remand prisoners and 71% amongst convicted prisoners. Amongst prisoners with MI, caseness rates were 42% for remand prisoners and 18% for convicted prisoners. Amongst prisoners with no MI, caseness rates were significantly higher amongst remand prisoners when compared with convicted prisoners (35% vs. 16%; $x2=10.2$, $p<.01$).

Over the period T1-T3, Table 9 shows that there was a significant linear decrease in GHQ (prison) caseness rates amongst convicted prisoners with SMI, but not convicted prisoners with SMI. At T3, remand prisoners with SMI had higher rates of caseness than convicted prisoners with SMI (64% vs 32%; $x2=5.9$, $p=.02$). Over the period T1-T3 a significant linear decrease in caseness rates was observed amongst remand prisoners with no MI, but not amongst convicted prisoners with MI. Despite the difference between them at T1, by T3 there were no significant differences between the prevalence of GHQ (prison) caseness amongst remand and convicted prisoners with no MI.

At T1 clinically significant symptoms of suicidality were prevalent amongst 43% of remand prisoners with SMI and 27% of convicted prisoners with SMI, a statistically significant difference ($x2=15.8$, $p<.001$). Amongst prisoners with MI, prevalence rates were 8% in remand prisoners and 5% in convicted prisoners. Amongst prisoners with no MI, prevalence rates were 3% for remand prisoners and 2% for convicted prisoners, a statistically significant difference ($x2=4.0$, $p=.046$). Over the period T1-T3, Table 9 shows significant linear decreases in clinically significant symptoms of suicidality rates amongst both remand and convicted prisoners with SMI.

At T1 clinically significant hallucinations were prevalent amongst 19% of remand prisoners with SMI and 18% of convicted prisoners with SMI. Amongst prisoners with MI, prevalence rates were 1% in remand prisoners and 0% in convicted prisoners. Amongst prisoners with no MI, prevalence rates were 2% in remand prisoners and 1% in convicted prisoners. Over the period T1-T3 Table 9 shows significant heterogeneity, but not linearity, of prevalence rates amongst remand and convicted prisoners with SMI; clinically significant hallucinations declined over the period T1-T2, but rose again over the period T2-T3.

### 3.1.4 Risk factors

The previous analysis has focussed on describing changes in the prevalence rates of GHQ caseness and clinically significant symptoms of suicidality and hallucinations (BPRS) over time to identify differences between groups of prisoners with different demographic, legal and clinical characteristics. The following analysis uses risk ratios to compare the relative risk of caseness amongst groups with these different characteristics, or 'risk factors', against a common reference group.

Table 10 describes the relative risk of meeting thresholds for GHQ caseness and for clinically significant symptoms of suicidality and hallucinations (BPRS) for prisoners at any time during the study (T1-T3) according to status, gender and psychiatric diagnosis.

**Table 10: Relative risk (and 95% CI) of meeting GHQ and BPRS thresholds at any time by gender, legal status and psychiatric diagnosis**[12]

| | | **Risk ratio** (95% CI) | | | |
|---|---|---|---|---|---|
| **Risk factor** | | *GHQ (prison)* | *GHQ (community)* | *BPRS suicidality* | *BPRS hallucinations* |
| Status | Remand | 2.1 (1.5-2.9) | 1.3 (1.0-1.6) | 2.5 (1.4-4.3) | 1.6 (0.8-3.0) |
| | Convicted – (*ref. group*[13]) | 1.0 | 1.0 | 1.0 | 1.0 |
| Gender | Women | 1.5 (1.1-2.2) | 1.2 (0.9-1.5) | 2.4 (1.4-4.3) | 5.4 (3.0-10.0) |
| | Men (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |
| Diagnosis | Any psychosis | 3.7 (2.6-5.3) | 1.8 (1.4-2.2) | 16.5 (9.9-27.5) | 23.9 (10.3-55.4) |
| | MDD | 3.5 (2.5-4.9) | 1.7 (1.4-2.1) | 10.9 (6.2-19.3) | 5.0 (2.0-12.3) |
| | Other MI | 1.9 (0.9-4.1) | 1.3 (0.9-1.8) | 2.6 (0.9-6.6) | 0.6 (0.2-2.3) |
| | None (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |

Table 10 reports a number of risk ratios that are statistically significant. The relative risk of GHQ (prison) caseness at any time over T1-T3 amongst women compared to men was 1.5 (40%/26%), and 2.1 (41%/20%) amongst remand prisoners when compared to convicted prisoners. With regard to psychiatric diagnosis, when compared to those with no MI, the relative risk was 3.7

[12] CIs are uncorrected for prison cluster effects.
[13] The reference group is the group against which all other groups in the category have been compared. The risk ratio for the reference group is always 1.0. For example, a relative risk of 2.0 in a group would indicate risk of caseness is twice as likely in that group as it is in the reference group.

(62%/17%) amongst those with psychosis and 3.5 (59%/17%) amongst those with MDD. No statistically significant differences in the relative risk of the caseness were found between those with MI and those with no MI (32%/17%).

With regard to clinically significant symptoms of suicidality, Table 10 shows a similar pattern. The relative risk of presenting with clinically significant symptoms of suicidality for women compared to men was 2.4 (13%/5%), and 2.5 (11%/4%) amongst remand prisoners when compared to convicted prisoners. With regard to psychiatric diagnosis, when compared to those with no MI, the relative risk was 16.5 (31%/2%) amongst those with psychosis and 10.9 (21%/2%) amongst those with MDD. No statistically significant differences in the relative risk of clinically significant symptoms of suicidality were found between those with MI and those with no MI (5%/2%).

With regard to clinically significant hallucinations, the relative risk of presenting with clinically significant hallucinations for women compared to men was 5.4 (14%/3%). When compared to those with no MI, the relative risk was 23.9 (40%/2%) amongst those with psychosis and 5.0 (8%/2%) amongst those with MDD. No statistically significant differences in the relative risk of clinically significant hallucinations were found between either remand and convicted prisoners (6%/3%) or those with MI and those with no MI (1%/2%).

*Who is most likely to stay ill or become ill in prison?*

This analysis considered risk factors associated with change in GHQ caseness or BPRS suicidality symptoms over the period T1-T2). Table 11 identifies four groups of prisoners based on change over the time period T1 - T2: those remaining below thresholds ('stayed well'); those staying above thresholds ('stayed ill'); those moving from above threshold to below threshold ('improved'); and those moving from below threshold to above threshold ('declined').

**Table 11: Change over T1-T2: percentage (and 95% CI) of prisoners by group**

| | **GHQ (prison)** | | **GHQ (community)** | | **BPRS suicidality** | | **BPRS halls.** | |
|---|---|---|---|---|---|---|---|---|
| **Change over T1-T2** | *n* | % | *n* | % | *n* | % | *n* | % |
| Stayed below threshold (T1 below, T2 below) | 161 | 59 | 42 | 21 | 410 | 89 | 479 | 94 |
| Stayed above threshold (T1 above, T2 above) | 190 | 16 | 343 | 41 | 30 | 3 | 23 | 2 |
| Improved (T1 above, T2 below) | 164 | 17 | 139 | 28 | 80 | 6 | 34 | 3 |
| Declined (T1 below, T2 above) | 48 | 7 | 39 | 10 | 26 | 2 | 10 | 2 |
| Total | 563 | 100 | 563 | 100 | 546 | 100 | 546 | 100 |

With regard to GHQ (prison) caseness, Table 11 shows that 16% of prisoners stayed above threshold and 7% of prisoners declined over the period T1-T2. Conversely, 59% of prisoners stayed below threshold and 17% improved over the same period.

With regard to clinically significant symptoms of suicidality, Table 11 shows that 3% of prisoners stayed above threshold and 2% of prisoners declined over the period T1-T2. Conversely, 89% of prisoners stayed below threshold and 6% improved over the same period. With regard to clinically significant hallucinations, Table 11 shows that 2% of prisoners stayed above threshold and 2% of prisoners declined over the period T1-T2. Conversely, 94% of prisoners stayed below threshold and 3% improved over the same period.

Table 12 focuses on the groups of prisoners scoring above thresholds at T1, presenting the relative risk of GHQ caseness, and of presenting with clinically significant symptoms of suicidality or hallucinations at T2 (the risk of staying above threshold i.e. 'staying ill'), according to demographic, legal and clinical characteristics.

**Table 12: Prisoners above GHQ and BPRS thresholds at T1: relative risk (and 95% CI) of continuing to meet thresholds at T2 by gender, legal status and psychiatric diagnosis**

| | | **Risk ratio** (95% CI) | | | |
|---|---|---|---|---|---|
| **Risk factor** | | *GHQ (prison)* | *GHQ (community)* | *BPRS suicidality* | *BPRS hallucinations* |
| Status | Remand | 1.0 (0.8-1.3) | 1.2 (0.9-1.8) | 1.2 (0.6-2.3) | 1.4 (0.3-5.8) |
| | Convicted – (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |
| Gender | Women | 1.0 (0.9-1.0) | 1.1 (0.8-1.7) | 1.3 (0.5-3.0) | 2.5 (1.6-3.8) |
| | Men (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |
| Diagnosis | Any psychosis | 1.6 (1.1-2.2) | 1.4 (0.9-2.4) | 1.9 (0.9-4.0) | 0.9 (0.5-2.0) |
| | MDD | 1.2 (0.7-2.0) | 1.5 (1.0-2.33) | 1.9 (0.8-4.3) | 0.6 (0.3-1.1) |
| | Other MI | 1.1 (0.7-1.9) | 0.7 (0.2-2.7) | 0.6 (0.2-2.1) | 2.3 (1.0-5.3) |
| | None (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |

Table 12 shows that among those who were above thresholds at T1, the relative risk of continuing to score above threshold at T2 for either GHQ caseness or clinically significant symptoms of suicidality or hallucinations was not significantly affected by gender, status or psychiatric diagnosis. There were, however, a few statistically significant exceptions: firstly, of those who were GHQ (prison) cases at T1, the relative risk of continuing to score above threshold at T2 for prisoners with psychosis compared with prisoners with no MI was 1.6 (69%/44%); secondly, of those who presented at T1 with clinically significant hallucinations, the relative risk of continuing to score above threshold at T2 for women compared with men with was 2.5 (64%/26%).

Table 13 focuses on those prisoners who scored below thresholds for GHQ caseness and clinically significant symptoms of suicidality or hallucinations at T1. Among these, a proportion of prisoners completing the T2 assessment became unwell, going on to score above thresholds at T2. Table 13 presents the relative risk of meeting thresholds amongst those prisoners at T2 (the risk of rising above

threshold i.e. 'declining'), according to demographic, legal and clinical characteristics.

**Table 13: Prisoners below GHQ and BPRS thresholds at T1: relative risk (and 95% CI) of meeting thresholds at T2 by gender, legal status and psychiatric diagnosis**

| | | **Risk ratio** (95% CI) | | | |
|---|---|---|---|---|---|
| **Risk factor** | | *GHQ (prison)* | *GHQ (community)* | *BPRS suicidality* | *BPRS hallucinations* |
| Status | Remand | 4.7 (1.4-16.0) | 1.9 (0.5-7.6) | 3.4 (1.6-7.1) | 1.0 (0.2-5.2) |
| | Convicted – (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |
| Gender | Women | 1.0 (0.5-2.3) | 0.4 (0.2-0.9) | 1.9 (1.1-3.1) | 16.4 (9.4-28.4) |
| | Men (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |
| Primary MI | Any psychosis | 5.5 (1.7-17.5) | 3.4 (1.4-8.2) | 8.2 (3.5-19.2) | 6.5 (0.9-43.5) |
| | MDD | 11.4 (3.5-37.3) | 2.8 (1.3-6.3) | 5.9 (3.8-9.2) | 0.7 (0.5-1.2) |
| | Other MI | 3.1 (1.1-9.2) | 3.7 (1.6-8.7) | 2.3 (1.1-4.8) | 0.5 (0.0-13.3) |
| | None (*ref. group*) | 1.0 | 1.0 | 1.0 | 1.0 |

Table 13 reports a number of risk ratios that are statistically significant. Of those below threshold for GHQ (prison) caseness at T1, the relative risk of scoring above threshold at T2 for remand prisoners compared with convicted prisoners was 4.7 (29%/6%). Compared with prisoners with no MI, the relative risk of continuing to score above threshold at T2 was 5.5 (28%/5%) for prisoners with psychosis, 11.4 (58%/5%) for prisoners with MDD and 3.1 (16%/5%) for prisoners with any other MI. However, statistically women were no more likely than men to score above threshold at T2 (11%/11%).

Of those below threshold for clinically significant symptoms of suicidality at T1, the relative risk of scoring above threshold at T2 for remand prisoners compared with convicted prisoners was 3.4 (4%/1%). The relative risk of scoring above threshold at T2 for women compared with men prisoners was 1.9 (4%/2%). Compared with prisoners with no MI, the relative risk of continuing to score above threshold at T2 was 8.2 (9%/1%) for prisoners with psychosis, 5.9 (7%/ 1%) for prisoners with MDD and 2.3 (3%/1%) for prisoners with any other MI.

Of those who were below threshold for clinically significant hallucinations at T1, the relative risk of scoring above threshold at T2 for women compared with men was 16.4 (8%/0.5%). However, statistically remand prisoners were no more likely than convicted prisoners to score above threshold at T2 (2%/2%). Furthermore, prisoners with any of the mental illnesses identified (including psychosis, MDD or any other MI) were no more likely than prisoners with no MI to score above threshold at T2.

### 3.1.5 Key findings

*General trends:*

- The proportion of men and women above thresholds for GHQ caseness, clinically significant symptoms of suicide and clinically significant hallucinations were generally highest at T1, in the week following entry into custody.
- At T1, 33% of men and 46% of women overall met the GHQ (prison) threshold for caseness. Clinically significant symptoms of suicidality were present in 8% of men and 16% of women. Clinically significant hallucinations were found in 4% of men and 9% of women (9% vs. 4%; $x2=11.9$, $p<.001$).
- Over the period T1 to T3, women had a significantly higher relative risk than men of meeting thresholds for GHQ (prison) caseness, clinically significant symptoms of suicide and clinically significant hallucinations.
- Over the period T1 to T3, remand prisoners had a significantly higher relative risk than convicted prisoners of meeting thresholds for GHQ (prison) caseness and clinically significant symptoms of suicide.
- Over the period T1 to T3, the proportion of men exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality significantly decreased. No significant decreases were observed amongst women. Furthermore, the proportion of women with clinically significant hallucinations showed a significant linear increase.
- Over the period T1 to T3, the proportion of sentenced prisoners exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality significantly decreased. No significant decreases were observed amongst remand prisoners.

*Prisoners with a mental illness:*

- Rates of GHQ (prison) caseness, clinically significant symptoms of suicidality and clinically significant hallucinations were highest amongst prisoners with SMI (psychosis and/or MDD). At T1, over 70% of prisoners with SMI exceeded the GHQ (prison) threshold. Also, 45% of those with psychosis and 32% of those with MDD exceeded the threshold for clinically significant symptoms of suicidality at T1.
- Amongst those with SMI, significantly more women exceeded the threshold for GHQ (prison) caseness than men (84% vs. 69%) at T1. There were, however, no significant differences in rates of GHQ (prison) caseness between remand and sentenced prisoners with SMI at T1.
- Over the period T1 to T3, the proportions of prisoners with SMI exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality significantly decreased. However, there was no significant decrease amongst prisoners with any other MI using the same measures.
- Amongst those with SMI, at T3 significantly more women exceeded the threshold for GHQ (prison) caseness than men (55% vs. 44%), and significantly more remand prisoners exceeded the threshold than convicted prisoners (64% vs. 32%).

- Over the period T1 to T3, prisoners with SMI had a significantly higher relative risk than prisoners with no MI (the reference group) of meeting thresholds for GHQ caseness, clinically significant symptoms of suicide and clinically significant hallucinations. No statistically significant differences in relative risk were found between those with MI and those with no MI.

## 3.2 What are prisoners' perceptions of their quality of life in prison?

Prisoners' perceptions of their quality of life in prison were measured using the MQPL survey. For each of the 19 dimensions measured by MQPL, mean scores were generated for each individual prison and across the sample as a whole (Table 42, Appendix 2). Overall means ranged between 2.69 (*entry into custody*) and 3.55 (*race relationships* and *physical safety*). Mean scores were then ranked and are presented in Table 14 in descending order (1= highest/best; 19= lowest/worst). The three most highly rated areas of prison performance have been highlighted in green, whilst the three lowest rated areas of performance have been highlighted in red.

**Table 14: MQPL composite score rankings by dimension and prison**

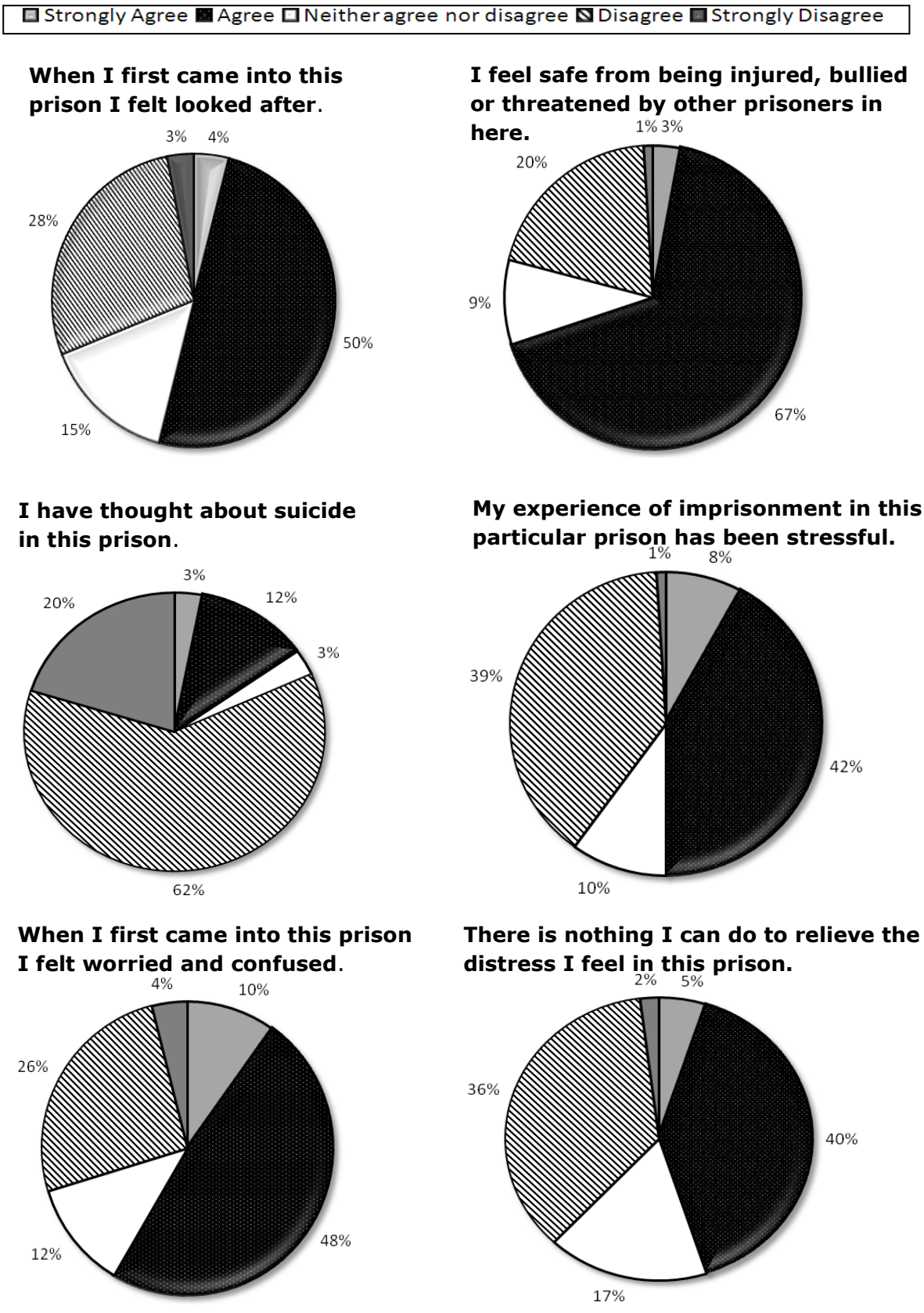
| MQPL dimension | Prison | | | | | |
|---|---|---|---|---|---|---|
| | All | A | B | C | D | E |
| Race relationships | 1 | 3 | 1 | 2 | 1 | 1 |
| Physical safety | 1 | 3 | 3 | 2 | 1 | 1 |
| Clarity | 3 | 1 | 7 | 8 | 1 | 1 |
| Family contact | 4 | 7 | 4 | 1 | 5 | 4 |
| Dignity | 5 | 8 | 2 | 5 | 1 | 4 |
| Order and security | 6 | 2 | 4 | 10 | 5 | 13 |
| Care and safety | 7 | 5 | 7 | 10 | 5 | 9 |
| Fairness | 8 | 8 | 13 | 2 | 11 | 6 |
| Relationships | 9 | 12 | 4 | 8 | 8 | 9 |
| Assistance for vulnerable | 10 | 8 | 7 | 10 | 8 | 9 |
| Respect | 11 | 12 | 7 | 5 | 14 | 6 |
| Overall distress | 12 | 16 | 16 | 5 | 8 | 6 |
| Personal development | 13 | 12 | 7 | 14 | 11 | 13 |
| Frustration | 14 | 17 | 15 | 10 | 16 | 9 |
| Drug control | 15 | 5 | 7 | 18 | 11 | 16 |
| Entry support | 16 | 8 | 13 | 17 | 14 | 15 |
| Individual care | 17 | 12 | 16 | 15 | 19 | 19 |
| Addressing offending behaviour | 18 | 17 | 16 | 15 | 17 | 17 |
| Entry into custody | 19 | 17 | 19 | 18 | 18 | 17 |

In addition to presenting detailed ranking data for individual prisons, Table 14 is effective in identifying areas of consistency and variation in prisoners' perceptions of life in custody across the five establishments. Mean scores for race relationships and physical safety were ranked among the top three dimensions of prison performance across all five establishments. Conversely, *entry into custody* was consistently ranked among the bottom three dimensions of prison performance across all five establishments.

The developers of the MQPL tool also identify 18 of the 113 questions as 'key statements'. The percentage of prisoners indicating that they strongly agreed, agreed, neither agreed nor disagreed, disagreed and strongly disagreed with each of the 18 statements are given in full in Table 43 in Appendix 2. Responses to six of these key statements are also illustrated below in Figure 6.

From the pie charts in Figure 6, it can be seen that 58% of prisoners overall agreed or strongly agreed that they felt worried and confused when they first came into prison, however, 54% agreed or strongly agreed that they felt looked after at this time. Seventy percent agreed or strongly agreed that they felt safe in prison. Half of prisoners agreed or strongly agreed that their experience of imprisonment had been stressful. Almost half (45%) agreed or strongly agreed that they felt unable to relieve their distress in prison, whilst 15% agreed or strongly agreed that they had thought about suicide in prison.

## Figure 6: Responses to MQPL key questions



### 3.2.1 Gender

Men and women prisoners' perceptions of their quality of life in prison are compared in Table 15.

**Table 15: MQPL composite scores by dimension and gender**

| | Men | | Women | | T-test |
|---|---|---|---|---|---|
| **Dimension** | *n* | *Mean (95% CI)* | *n* | *Mean (95% CI)* | |
| Relationships | 417 | 3.24 (2.96-3.51) | 124 | 3.39 (3.12-3.60) | p=.14 |
| Respect | 417 | 3.19 (2.79-3.59) | 124 | 3.27 (3.03-3.51) | p=.56 |
| Fairness | 417 | 3.28 (2.95-3.61) | 124 | 3.21 (3.04-3.39) | p=.52 |
| Clarity | 417 | 3.54 (3.30-3.78) | 124 | 3.26 (2.90-3.62) | p=.02 |
| Frustration | 417 | 3.02 (2.63-3.42) | 124 | 3.11 (2.89-3.33) | p=.50 |
| Security and order | 417 | 3.28 (3.00-3.57) | 124 | 3.34 (3.04-3.66) | p=.49 |
| Dignity | 417 | 3.39 (3.11-3.67) | 123 | 3.58 (3.43-3.74) | p=.09 |
| Offending behaviour | 417 | 2.76 (2.52-3.01) | 124 | 3.02 (2.86-3.18) | p=.03 |
| Personal development | 350 | 3.10 (2.94-3.26) | 113 | 3.26 (3.18-3.36) | p=.03 |
| Family contact | 417 | 3.47 (3.11-3.83) | 123 | 3.38 (3.12-3.60) | p=.48 |
| Drug use | 417 | 2.97 (2.50-3.44) | 124 | 3.27 (3.12-3.41) | p=.10 |
| Race relations | 417 | 3.53 (3.34-3.72) | 124 | 3.67 (3.47-3.88) | p=.07 |
| Care and safety | 417 | 3.27 (3.05-3.49) | 124 | 3.31 (3.16-3.47) | p=.52 |
| Physical safety | 417 | 3.55 (3.39-3.71) | 124 | 3.52 (3.33-3.70) | p=.53 |
| Individual care | 417 | 2.78 (2.41-3.16) | 124 | 2.97 (2.76-3.18) | p=.17 |
| Assistance for the vulnerable | 416 | 3.21 (3.04-3.37) | 124 | 3.26 (3.10-3.41) | p=.34 |
| Entry support | 417 | 2.99 (2.87-3.11) | 124 | 3.19 (2.89-3.49) | p=.01 |
| Entry into custody | 416 | 2.70 (2.62-2.78) | 124 | 2.65 (2.29-3.01) | p=.12 |
| Overall distress | 417 | 3.23 (2.86-3.59) | 124 | 2.97 (2.70-3.25) | p=.09 |

**3.2.2 From Table 15 it can be seen that for 15 out of the 19 dimensions identified, mean ratings for men and women did not significantly differ from each other. In three areas namely *offending behaviour*, *personal development* and *entry support* women rated prison performance significantly higher than men did. In the area of *clarity*[14], however, women's ratings were significantly lower than men's. The differences between group means, while statistically significant, were typically small (all less than 0.3). As differences in MQPL scores can be difficult to judge, we used Cohen's d to calculate effect size which considers the standardised mean difference between two groups, providing a readily interpretable value. Effect sizes in each dimension suggested group differences were of modest to moderate practical significance[15]: offending behaviour (d=.43), *personal development* (d=.43), *entry support (d=.26)* and *clarity*[16] *(d=-.30)*.**

## Legal status

Convicted and remand prisoners' perceptions of their quality of life in prison are compared in Table 16.

**Table 16: MQPL composite scores by dimension and legal status**

| | Convicted | | Remand | | T-test |
|---|---|---|---|---|---|
| **Dimension** | *n* | *Mean (95% CI)* | *n* | *Mean (95% CI)* | |
| Relationships | 325 | 3.30 (3.17-3.43) | 212 | 3.16 (2.66-3.66) | p=.43 |
| Respect | 325 | 3.24 (3.01-3.47) | 212 | 3.12 (2.61-3.64) | p=.45 |
| Fairness | 325 | 3.32 (3.17-3.48) | 212 | 3.16 (2.62-3.70) | p=.40 |
| Clarity | 325 | 3.52 (3.24-3.79) | 212 | 3.45 (3.15-3.74) | p=.69 |
| Frustration | 325 | 3.08 (2.87-3.29) | 211 | 2.93 (2.39-3.46) | p=.33 |
| Security and order | 325 | 3.32 (2.95-3.70) | 212 | 3.23 (2.81-3.64) | p=.72 |
| Dignity | 325 | 3.47 (3.32-3.61) | 211 | 3.31 (2.83-3.79) | p=.34 |
| Offending behaviour | 325 | 2.82 (2.64-3.05) | 212 | 2.71 (2.26-3.15) | p=.42 |
| Personal development | 287 | 3.17 (2.98-3.36) | 181 | 3.02 (2.74-3.31) | p=.28 |
| Family contact | 325 | 3.47 (3.26-3.69) | 211 | 3.42 (2.98-3.86) | p=.68 |
| Drug use | 324 | 3.01 (2.63-3.40) | 212 | 3.02 (2.59-3.46) | p=.95 |
| Race relations | 325 | 3.59 (3.43-3.74) | 212 | 3.47 (3.22-3.72) | p=.26 |
| Care and safety | 325 | 3.28 (3.05-3.51) | 212 | 3.26 (3.00-3.51) | p=.88 |
| Physical safety | 325 | 3.59 (3.47-3.72) | 212 | 3.43 (3.23-3.64) | p=.16 |
| Individual care | 324 | 2.79 (2.48-3.10) | 212 | 2.87 (2.47-3.26) | p=.49 |
| Assistance for the vulnerable | 324 | 3.29 (3.11-3.46) | 212 | 3.04 (2.79-3.30) | p=.10 |
| Entry support | 325 | 3.05 (2.84-3.26) | 212 | 2.96 (2.61-3.30) | p=.62 |
| Entry into custody | 324 | 2.75 (2.66-2.85) | 212 | 2.55 (2.42-2.68) | p=.02 |
| Overall distress | 325 | 3.29 (3.05-3.53) | 212 | 2.95 (2.46-3.44) | p=.09 |

[14] The dimension *clarity* measures responses to MQPL statements such as 'The rules and regulations in this prison are made clear to me'.
[15] For Cohen's *d* an effect size of 0.2 to 0.3 is generally regarded as a 'small' effect, around 0.5 a 'medium' effect and 0.8 to infinity, a 'large' effect.
[16] The dimension *clarity* measures responses to MQPL statements such as 'The rules and regulations in this prison are made clear to me'.

From Table 16 it can be seen that for all but one dimension, mean ratings for convicted and remand prisoners did not significantly differ from each other. In one area, namely *entry into custody*, convicted prisoners rated prison performance significantly higher than remand prisoners, although the effect size was modest (d=.20). Among both convicted and remand prisoners alike, prisons received their lowest rating in the area of *entry into custody*.

### 3.2.3 Mental illness

Prisoners' perceptions of their quality of life in prison are compared by psychiatric diagnosis in Table 17.

## Table 17: MQPL composite scores by dimension and psychiatric diagnosis

| | Any psychosis | | MDD | | MI | | None | | T-test |
|---|---|---|---|---|---|---|---|---|---|
| **Dimension** | *n* | *Mean (95% CI)* | *n* | *Mean (95% CI)* | *n* | *Mean (95% CI)* | *n* | *Mean (95% CI)* | |
| Relationships | 50 | 3.16 (3.00-3.33) | 170 | 3.12 (2.91-3.33) | 68 | 3.11 (2.42-3.78) | 253 | 3.33 (3.08-3.57) | p=.19 |
| Respect | 50 | 3.17 (2.90-3.43) | 170 | 3.06 (2.87-3.26) | 68 | 3.43 (3.19-3.66) | 253 | 3.19 (2.83-3.56) | p=.67 |
| Fairness | 50 | 3.21 (2.98-3.43) | 170 | 3.15 (2.94-3.32) | 68 | 3.22 (2.82-3.61) | 253 | 3.49 (3.28-3.69) | p=.28 |
| Clarity | 50 | 3.22 (2.82-3.62) | 170 | 3.38 (3.14-3.62) | 68 | 3.74 (3.19-4.29) | 252 | 3.45 (3.22-3.68) | p=.41 |
| Frustration | 50 | 3.21 (3.01-3.41) | 170 | 3.33 (2.96-3.70) | 68 | 3.44 (3.26-3.62) | 253 | 3.31 (3.02-3.62) | p=.26 |
| Security and order | 50 | 2.99 (2.84-3.15) | 170 | 2.84 (2.57-3.11) | 68 | 2.97 (2.47-3.48) | 252 | 3.10 (2.68-3.52) | p=.17 |
| Dignity | 50 | 3.22 (2.97-3.47) | 170 | 3.10 (2.68-3.52) | 68 | 3.04 (2.13-3.95) | 253 | 3.40 (3.24-3.55) | p=.15 |
| Offending behaviour | 50 | 2.71 (2.59-2.82) | 170 | 2.80 (2.54-3.05) | 68 | 2.76 (2.52-3.00) | 253 | 2.82 (2.60-3.03) | p=.52 |
| Personal development | 45 | 3.02 (2.76-3.28) | 148 | 3.14 (2.94-3.34) | 59 | 3.08 (2.92-3.24) | 211 | 3.14 (2.98-3.30) | p=.62 |
| Family contact | 49 | 3.32 (2.95-3.68) | 170 | 3.35 (3.04-3.67) | 68 | 3.73 (3.20-4.26) | 253 | 3.43 (3.03-3.83) | p=.83 |
| Drug use | 50 | 2.95 (2.59-3.32) | 170 | 3.21 (2.71-3.72) | 68 | 2.54 (1.67-3.41) | 253 | 3.07 (2.71-3.42) | p=.88 |
| Race relations | 50 | 3.50 (3.36-3.64) | 170 | 3.67 (3.49-3.84) | 68 | 3.45 (3.38-3.51) | 253 | 3.55 (3.31-3.79) | p=.70 |
| Care and safety | 50 | 3.19 (3.01-3.36) | 170 | 3.22 (3.08-3.35) | 68 | 2.98 (2.45-3.51) | 253 | 3.35 (3.29-3.42) | p=.10 |
| Physical safety | 50 | 3.19 (2.82-3.56) | 170 | 3.44 (3.25-3.62) | 68 | 3.46 (3.35-3.57_ | 253 | 3.61 (3.37-3.85) | p=.18 |
| Individual care | 50 | 2.67 (2.49-2.86) | 170 | 2.61 (2.45-2.76) | 68 | 2.75 (2.37-3.1) | 253 | 2.88 (2.55-3.21) | p=.04 |
| Assistance for the vulnerable | 50 | 3.17 (3.02-3.32) | 170 | 3.30 (3.10-3.51) | 68 | 3.14 (2.90-3.38) | 252 | 3.21 (3.07-3.35) | p=.70 |
| Entry support | 50 | 2.95 (2.57-3.34) | 170 | 2.90 (2.72-3.09) | 68 | 2.95 (2.44-3.45) | 253 | 3.07 (2.89-3.25) | p=.28 |
| Entry into custody | 50 | 2.46 (2.12-2.80) | 170 | 2.23 (2.11-2.36) | 67 | 2.21 (1.72-2.69) | 253 | 2.92 (2.73-3.10) | p<.01 |
| Overall distress | 50 | 2.62 (2.22-2.77) | 170 | 2.68 (2.22-3.14) | 68 | 2.97 (2.80-3.14) | 253 | 3.39 (3.02-3.75) | p<.01 |

Table 17 shows that there were significant differences between different psychiatric diagnostic groups in three dimensions, namely *individual care*, *entry into custody* and *overall distress*. Those prisoners with no MI rated the quality of prison life most highly for all three of these dimensions. Among prisoners with any psychosis, MDD or any other MI, prisons received their lowest rating in the area of *entry into custody*. For prisoners with no MI, the lowest rating was given to *addressing offending behaviour*.

### 3.2.4 Key findings

- Using the MQPL survey, the two most positively rated areas of prison life were *race relationships* and *physical safety*, which ranked amongst the top three dimensions across all five establishments.
- The least positively rated area of prison performance was *entry into custody*, which was consistently ranked amongst the bottom three dimensions of prison performance across all five establishments.
- Across 15 of the 19 MQPL dimensions, mean ratings for men and women did not significantly differ from each other. In three areas, namely *offending behaviour, personal development* and *entry support,* mean ratings were significantly higher amongst women. In the area of *clarity*, ratings were significantly lower amongst women.
- Across all but one of the MQPL dimensions, mean ratings for remand and convicted prisoners did not significantly differ from each other. The area *entry into custody* was rated significantly more positively by convicted prisoners.
- Across 16 of the 19 of the MQPL dimensions, mean ratings for prisoners with any psychosis, MDD, any other MI and no MI did not significantly differ from each other. Significant differences were found in three areas, namely *individual care, entry into custody* and *overall distress*. In all three of these areas prisoners with no MI rated prison performance the most positively.

## *3.3 What type of contact with health services do prisoners with a mental illness have whilst in prison?*

For all those prisoners diagnosed with psychosis, MDD or any other MI, the research team recorded their contact with key health services whilst in prison. This case note review was carried out for up to six months or until discharge, whichever was sooner.

Case note reviews were completed for 421 (78%) of the 541 prisoners identified to have had a mental illness, as diagnosed using SADS. These 421 prisoners comprised:

- 81 prisoners with psychosis;
- 249 prisoners with MDD; and
- 91 prisoners with any other MI.

This section describes service contact and key interventions delivered for these 421 prisoners, using the evidence documented in their prison clinical records.

### 3.3.1 Reception into custody

Table 18 describes service contact at prison reception (i.e. the first 24 hours of custody) amongst the sample, as documented in clinical records.

**Table 18: Documented service contact at reception by psychiatric diagnosis**

| | Service contact at reception | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | CARATs | | Mental health | | Prison GP | | Any | |
| **Psychiatric diagnosis** | *n* | %[17] | *n* | % | *n* | % | *n* | % |
| Any psychosis | 24 | 30 | 22 | 27 | 47 | 58 | 57 | 70 |
| MDD | 56 | 22 | 26 | 10 | 172 | 69 | 192 | 77 |
| MI | 23 | 25 | 5 | 5 | 52 | 57 | 62 | 68 |
| Any MI + substance misuse | 97 | 27 | 47 | 13 | 232 | 66 | 264 | 75 |
| All | 103 | 24 | 52 | 12 | 271 | 64 | 311 | 74 |

Two-thirds (64%) of the sample saw the prison GP at reception, a quarter (24%) saw a CARAT worker at reception and 12% saw a mental health professional[18]. Rates of contact with mental health services were highest amongst prisoners with psychosis (27%). Overall, contact with either CARATs, mental health services or

[17] All percentages in this section (3.3) are unadjusted.
[18] This included psychiatrists, psychologists, CPNs, RMNs, dual diagnosis specialists or other suitably trained mental health professionals.

the prison GP at reception (labelled 'any' contact in Table 18 above) was documented in 74% of cases.

Table 19 shows the frequency of other key interventions undertaken at reception that were documented in prison clinical records.

**Table 19: Documented other interventions at reception by psychiatric diagnosis**

| Psychiatric diagnosis | Interventions at reception | | | | | |
|---|---|---|---|---|---|---|
| | In-reach caseload | | ACCT[19] opened | | In-patient admission | |
| | *n* | % | *n* | % | *n* | % |
| Any psychosis | 13 | 16 | 10 | 12 | 10 | 12 |
| MDD | 12 | 5 | 28 | 11 | 26 | 10 |
| MI | 2 | 2 | 4 | 4 | 6 | 7 |
| Any MI + substance misuse | 23 | 7 | 31 | 9 | 35 | 10 |
| All | 27 | 6 | 42 | 10 | 42 | 10 |

Table 19 shows that an ACCT document was opened in 42 (10%) cases. Prison in-reach services accepted 6% of the sample overall (16% of those with psychosis) onto caseloads at reception into custody. Furthermore, a total of 42 (10%) prisoners were admitted to the healthcare wing as in-patients.

### 3.3.2 Diagnosis

As stated at the beginning of this results section, all 421 cases were diagnosed with at least one mental illness by the research team, using SADS. These diagnoses were not disclosed to the prison healthcare team. In each case, the research team then checked the prisoner's prison clinical records to see whether prison healthcare staff had made any diagnoses[20] and made a note of what these were. The following section compares the diagnoses given to prisoners by the research team (the *SADS diagnosis*) with the diagnoses given by the prison (the *documented diagnosis*[21]). Table 20 gives an overview of the documented diagnoses for all 421 prisoners.

[19] ACCT is a care-planning system to help identify and care for prisoners at risk of suicide or self-harm, which has been in place in the Prison Service since April 2007. ACCT was introduced to replace the old F2052SH system, and facilitates a more multi-disciplinary approach to supporting prisoners at risk of suicide or self-harm.

[20] Defined loosely as any reference to a current mental illness or substance use problem in the notes, including reception screening, mental health records, paper and electronically held records.

[21] Like SADS diagnoses, mental illness diagnoses from prison records have also been arranged into four hierarchical, mutually exclusive categories (see section 2.4 in Methods).

## Table 20: Diagnoses documented in prison clinical records

| Documented diagnosis in prison clinical records | *n* | % |
|---|---|---|
| Any MI | 164 | 39 |
| Any psychosis | 41 | 10 |
| MDD | 70 | 17 |
| Any other MI | 53 | 13 |
| Substance misuse | 226 | 54 |
| Drug misuse | 148 | 35 |
| Alcohol misuse | 36 | 9 |
| Drug and alcohol misuse | 42 | 10 |
| Dual diagnosis | 88 | 21 |
| Any SMI + substance misuse | 63 | 15 |
| Any other MI + substance misuse | 25 | 6 |
| Any diagnosis | 302 | 72 |
| None | 119 | 28 |
| Total | 421 | 100 |

Overall, evidence of a documented diagnosis of mental illness was found in 39% of cases: any psychosis was diagnosed in 10% of cases, MDD was diagnosed in a further 17% of cases and any other MI was diagnosed in a further 13% of cases. A diagnosis of substance misuse was found in 54% of cases. A dual diagnosis, that is a diagnosis of both mental illness and substance misuse was found in 21% of cases: any SMI and substance misuse was diagnosed in 15% of cases, and any other MI and substance misuse was diagnosed in a further 6% of cases. Overall, 302 (72%) of the sample had a diagnosis of mental illness and/or substance misuse in their notes, regardless of whether or not it matched the diagnosis given by the research team. In 119 (28%) of cases, none of these diagnoses were documented in the notes.

The following analysis will look at each SADS diagnosis (made by the research team) in turn and compare this to the documented diagnoses found in prison clinical records. Table 21 shows the documented diagnoses noted by the prison for the 81 prisoners that we diagnosed with psychosis using SADS.

## Table 21: Prisoners with any psychosis (SADS): documented diagnosis in prison clinical records

| Documented diagnosis in prison clinical records | *n* | % |
|---|---|---|
| Any MI | 41 | 51 |
| Any psychosis | 19 | 23 |
| MDD | 10 | 12 |
| Any other MI | 12 | 15 |
| None | 40 | 49 |
| Total | 81 | 100 |

Among those prisoners with a SADS diagnosis of any psychosis, evidence of a documented diagnosis of any mental illness was found in 51% of cases: any

psychosis was diagnosed in 23% of cases, MDD was diagnosed in a further 12% of cases and any other MI was diagnosed in a further 15% of cases. In the remaining 49% of cases, no diagnosis of MI was documented in the notes.

Table 22 shows the diagnoses noted by the prison for the 249 prisoners that we diagnosed with MDD using SADS.

### Table 22: Prisoners with MDD (SADS): diagnosis documented in prison clinical records

| Documented diagnosis in prison clinical records | n | % |
|---|---|---|
| Any MI | 96 | 39 |
| Any psychosis | 16 | 6 |
| MDD | 51 | 21 |
| Any other MI | 29 | 12 |
| None | 153 | 61 |
| Total | 249 | 100 |

Among those prisoners with a SADS diagnosis of any MDD, evidence of a documented diagnosis of any mental illness was found in the notes in 39% of cases: any psychosis was diagnosed in 6% of cases, MDD was diagnosed in a further 21% of cases and any other MI was diagnosed in a further 12% of cases. In the remaining 61% of cases, no diagnosis of MI was documented in the notes.

Table 23 shows the diagnoses noted by the prison for the 91 prisoners that we diagnosed with any other MI using SADS.

### Table 23: Prisoners with any other MI (SADS): diagnosis documented in prison clinical records

| Diagnosis documented in prison clinical records | n | % |
|---|---|---|
| Any MI | 27 | 30 |
| Any psychosis | 6 | 7 |
| MDD | 9 | 10 |
| Any other MI | 12 | 13 |
| None | 64 | 70 |
| Total | 91 | 100 |

Among those prisoners with a SADS diagnosis of any other MI, evidence of a documented diagnosis of any mental illness was found in the notes in 30% of cases: any psychosis was diagnosed in 7% of cases, MDD was diagnosed in a further 10% of cases and any other MI was diagnosed in a further 13% of cases. In the remaining 70% of cases, no diagnosis of MI was documented in the notes.

Table 24 shows the diagnoses noted by the prison for the 275 prisoners that we diagnosed with both SMI (any psychosis and/or MDD) and a substance misuse problem using SADS.

## Table 24: Prisoners with any SMI and a substance misuse problem (SADS+MAST/DAST): diagnosis documented in prison clinical records

| Diagnosis documented in prison clinical records | n | % |
|---|---|---|
| Any MI | 110 | 40 |
| Any psychosis | 31 | 11 |
| MDD | 50 | 18 |
| Any other MI | 29 | 11 |
| Substance misuse | 180 | 66 |
| Drug misuse | 115 | 42 |
| Alcohol misuse | 28 | 10 |
| Drug and alcohol misuse | 37 | 14 |
| Any MI + Substance misuse | 69 | 25 |
| Any | 221 | 80 |
| None | 54 | 20 |
| Total | 275 | 100 |

Among those prisoners the research team diagnosed with SMI and a coexisting substance misuse problem, evidence of a diagnosis of any mental illness in the notes was found in 40% of cases: any psychosis was diagnosed in 11% of cases, MDD was diagnosed in a further 18% of cases and any other MI was diagnosed in a further 11% of cases. A diagnosis of substance misuse was found in 66% of cases: drug misuse was diagnosed in 42% of cases, alcohol misuse was diagnosed in a further 10% of cases and both drug and alcohol misuse were diagnosed in a further 14% of cases. A diagnosis of substance misuse and any mental illness was found in 25% of cases. Overall, 80% had at least one diagnosis in their notes, regardless of whether or not it matched the diagnosis given by the research team. In 20% of cases, no diagnosis was documented in the notes.

Table 24 shows the diagnoses noted by the prison for the 78 prisoners that we diagnosed with both a mental illness and a substance misuse (alcohol/ drug) problem using SADS, the MAST and the DAST.

## Table 25: Prisoners with any mental illness and a substance misuse problem (SADS+MAST/DAST): diagnosis documented in prison clinical records

| Diagnosis documented in prison clinical records | n | % |
|---|---|---|
| Any MI | 24 | 31 |
| Any psychosis | 6 | 8 |
| MDD | 8 | 10 |
| Any other MI | 10 | 13 |
| Substance misuse | 39 | 50 |
| Drug misuse | 30 | 38 |
| Alcohol misuse | 6 | 8 |
| Drug and alcohol misuse | 3 | 4 |
| Any MI + Substance misuse | 13 | 17 |
| Any (MI and/or Substance misuse) | 50 | 64 |
| None | 28 | 36 |
| Total | 78 | 100 |

Among those prisoners with a SADS diagnosis of mental illness and a coexisting substance misuse problem (alcohol/ drug problem diagnosed using the MAST/DAST), evidence of a documented diagnosis of any mental illness was found in 31% of cases: any psychosis was diagnosed in 8% of cases, MDD was diagnosed in a further 10% of cases and any other MI was diagnosed in a further 13% of cases. A diagnosis of substance misuse was found in 50% of cases: drug misuse was diagnosed in 38% of cases, alcohol misuse was diagnosed in a further 8% of cases and both drug and alcohol misuse were diagnosed in a further 4% of cases. A diagnosis of substance misuse and any mental illness was found in 17% of cases. Overall, 64% had at least one diagnosis (substance misuse and/or any MI) in their notes, regardless of whether or not it matched the diagnosis given by the research team. In 36% of cases, no diagnosis was documented in the notes.

### 3.3.3 Service contact amongst prisoners with a mental illness (SADS) with a diagnosis of mental illness and/or substance misuse documented in their prison clinical records

The following section describes service contact amongst the 302 prisoners where evidence was found of a diagnosis of mental illness and/or substance misuse documented in their prison clinical records. In this section, individuals have been allocated to diagnostic categories on the basis of the diagnosis documented in their prison clinical records (see Table 20), not the SADS diagnosis[22].

Table 26 describes rates of service contact amongst this group at any time after reception into custody (i.e. excluding reception contact as documented in Table 18) by the psychiatric diagnosis documented by the prison.

**Table 26: Documented service contact at any time after reception by documented diagnosis**

| Documented diagnosis | Prison GP | | Mental health | | Any health service[1] | | CARATs | | Any[2] | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 25 | 61 | 28 | 68 | 36 | 88 | 19 | 46 | 39 | 95 |
| MDD | 37 | 53 | 29 | 41 | 48 | 69 | 23 | 33 | 55 | 79 |
| Any other MI | 29 | 55 | 20 | 38 | 34 | 64 | 13 | 25 | 35 | 66 |
| Substance misuse | 100 | 44 | 60 | 27 | 120 | 53 | 143 | 63 | 182 | 81 |
| Substance misuse + SMI | 41 | 65 | 30 | 48 | 48 | 76 | 38 | 60 | 56 | 89 |
| Substance misuse + other MI | 19 | 76 | 11 | 44 | 21 | 84 | 12 | 48 | 21 | 84 |
| All | 131 | 43 | 96 | 32 | 169 | 56 | 148 | 48 | 234 | 77 |

[1] Defined as contact with prison GP and/or mental health services.
[2] Defined as contact with prison GP, mental health services and/or CARATs.

[22] This was seen to be the fairest analytical approach as the diagnosis noted in the prison record would inform subsequent care planning and treatment.

From Table 21 it can be seen that of those with a documented diagnosis of any psychosis, 61% had contact with the prison GP, 68% had contact with mental health services and 88% had contact with either of these. Furthermore, 46% had contact with CARATs. Overall, 95% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those with a documented diagnosis of MDD, 53% had contact with the prison GP, 41% had contact with mental health services and 69% had contact with either of these. A third (33%) had contact with CARATs. Overall, 79% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those with a documented diagnosis of any other MI, 55% had contact with the prison GP, 38% had contact with mental health services and 64% had contact with either of these. A quarter (25%) had contact with CARATs. Overall, 66% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those with a documented diagnosis of substance misuse, 44% had contact with the prison GP, 27% had contact with mental health services and 53% had contact with either of these. Overall, 63% of those with a documented diagnosis of substance misuse had contact with CARATs. Of those with a documented diagnosis of alcohol misuse, 12% (n=9) had contact with a dedicated alcohol service. Overall, 81% pf those with a documented diagnosis of substance misuse had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those with a documented diagnosis of SMI and a coexisting substance misuse problem, 65% had contact with the prison GP, 48% had contact with mental health services and 76% had contact with either of these. Furthermore, 60% had contact with CARATs. Overall, 89% had contact with any of these during their time in custody.

Of those with a documented diagnosis of any other mental illness (excluding SMI) and a coexisting substance misuse problem, 76% had contact with the prison GP, 44% had contact with mental health services and 84% had contact with either of these. Furthermore, 48% had contact with CARATs. Overall, 84% had contact with any of these during their time in custody.

Table 27 shows the proportion of those with a documented diagnosis that received prescribed medication in custody.

## Table 27: Documented medication prescribed by documented diagnosis

| Documented diagnosis | Anti-psychotics | | Anti-depressants | | Benzo-diazepines | | Mood stabilisers | | Detox. | | Any | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 29 | 71 | 20 | 49 | 16 | 39 | 8 | 20 | 22 | 54 | 37 | 90 |
| MDD | 3 | 4 | 41 | 59 | 13 | 19 | 6 | 9 | 24 | 34 | 48 | 69 |
| Any other MI | 5 | 9 | 22 | 42 | 12 | 23 | 7 | 13 | 18 | 34 | 33 | 62 |
| Substance misuse | 27 | 12 | 83 | 37 | 68 | 30 | 35 | 16 | 159 | 70 | 185 | 82 |
| Substance misuse + SMI | 19 | 30 | 36 | 57 | 23 | 37 | 12 | 19 | 45 | 71 | 55 | 87 |
| Substance misuse+ other MI | 2 | 8 | 14 | 56 | 10 | 40 | 6 | 24 | 17 | 68 | 21 | 84 |
| All | 43 | 14 | 116 | 38 | 76 | 25 | 38 | 13 | 161 | 53 | 227 | 75 |

Table 27 shows that overall, 73% of prisoners with a documented diagnosis were prescribed at least one type of medication during custody. Of those the prison identified as having psychosis, 71% were prescribed antipsychotic medication. Amongst those the prison diagnosed with MDD, 59% were prescribed antidepressant medication. Amongst those the prison diagnosed with any other mental illness, 9% were prescribed antipsychotic medication, 42% were prescribed antidepressant medication, 23% were prescribed benzodiazepines and 13% were prescribed mood stabilisers.

Of those that the prison identified as having a substance misuse problem, 70% were prescribed detoxification medication. Amongst those the prison diagnosed with SMI and a substance misuse problem, 30% were prescribed antipsychotic medication, 57% were prescribed antidepressant medication and 71% were prescribed detoxification medication. Amongst those the prison diagnosed with any other mental illness (excluding SMI) and a substance misuse problem, 8% were prescribed antipsychotic medication, 56% were prescribed antidepressant medication and 68% were prescribed detoxification medication. Of those with a documented diagnosis of alcohol misuse (n=78), 18% (n=14) were prescribed medication for alcohol withdrawal.

Table 28 shows the proportion of those with a documented diagnosis that received other key interventions at any time after reception into custody.

**Table 28: Other interventions any time after reception by psychiatric diagnosis documented by psychiatric diagnosis**

| Documented diagnosis | ACCT opened | | In-patient admission | | CPA meeting | | Transferred to hospital | | Any | |
|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 5 | 12 | 8 | 20 | 1 | 2 | 2 | 5 | 12 | 29 |
| MDD | 10 | 14 | 5 | 7 | 1 | 1 | 0 | 0 | 13 | 19 |
| Any other MI | 6 | 11 | 4 | 8 | 0 | 0 | 1 | 2 | 8 | 15 |
| Substance misuse | 20 | 9 | 11 | 5 | 6 | 3 | 1 | 0 | 32 | 14 |
| Substance misuse + SMI | 10 | 16 | 8 | 13 | 2 | 3 | 0 | 0 | 16 | 25 |
| Substance misuse + other MI | 5 | 20 | 1 | 4 | 0 | 0 | 0 | 0 | 5 | 20 |
| All | 26 | 9 | 19 | 6 | 5 | 2 | 4 | 1 | 44 | 15 |

It can be seen that an ACCT document was opened after reception in 26 (9%) cases, 19 (6%) prisoners were admitted to the healthcare wing as in-patients at some point during custody, and four (1%) prisoners were transferred to hospital.

Table 29 provides a summary of service contact, medication and other interventions received after reception into custody by the 302 prisoners with a documented diagnosis.

**Table 29: Summary of service contact, medication prescribed and other interventions documented at any time after reception by psychiatric diagnosis**

| | Any health service | | CARATs | | Any prescribed medication | | Any other intervention | | Any | | None | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Documented diagnosis** | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 36 | 88 | 19 | 46 | 37 | 90 | 12 | 29 | 40 | 98 | 1 | 2 |
| MDD | 48 | 69 | 23 | 33 | 48 | 69 | 13 | 19 | 64 | 91 | 6 | 9 |
| Any other MI | 34 | 64 | 13 | 25 | 33 | 62 | 8 | 15 | 44 | 83 | 9 | 17 |
| Substance misuse | 120 | 53 | 143 | 63 | 185 | 82 | 33 | 15 | 214 | 95 | 12 | 5 |
| Substance misuse + SMI | 48 | 76 | 38 | 60 | 55 | 87 | 28 | 44 | 63 | 100 | 0 | 0 |
| Substance misuse + other MI | 21 | 84 | 12 | 48 | 21 | 84 | 9 | 36 | 24 | 96 | 1 | 4 |
| All | 169 | 56 | 148 | 48 | 228 | 73 | 47 | 15 | 275 | 91 | 27 | 9 |

Table 29 shows that 56% of prisoners had contact with a health service (prison GP and/or mental health) and 48% had contact with CARATs. Almost three-quarters (73%) were prescribed medication and 15% had any other intervention during custody.

Of those that received prescribed medication, 50% had contact with the prison GP, 31% had contact with mental health services and 58% had contact with either of these. Thus 42% of those receiving prescribed medication did not see either the prison GP or mental health services whilst in custody. Of those that the prison identified as having a mental illness and also received prescribed medication in custody, 48% had contact with the prison GP, 36% had contact with mental health services and 55% had contact with either of these. Thus 45% of those receiving prescribed medication did not see either the prison GP or mental health services whilst in custody.

Overall, 91% of prisoners were documented to have had contact with a health service, CARATs, were prescribed medication and/or received another intervention. Thus in 27 (9%) cases, prisoners with a documented diagnosis were not documented to have received any of these during their time in custody. Of these 27 prisoners, one was diagnosed with psychosis, six were diagnosed with MDD and nine were diagnosed with any other mental illness by the prison. Also, 15 were diagnosed with drug misuse and thirteen were diagnosed with alcohol misuse by the prison. Six prisoners were referred to mental health services, but were subsequently never seen. Thirteen prisoners were referred to CARATs, but were subsequently never seen. Four prisoners were in custody for a week or less.

### 3.3.4 Service contact amongst prisoners with a mental illness (SADS) with no diagnosis of mental illness and/or substance misuse documented in their prison clinical records

The following section describes service contact amongst the 119 prisoners where no evidence of a diagnosis was found documented in their prison clinical records (see Table 20). These comprised 20 prisoners with psychosis, 61 prisoners with MDD and 38 prisoners with any other MI. Table 30 describes rates of service contact amongst this group at any time after reception, by the psychiatric diagnosis given by the research team.

**Table 30: Documented service contact at any time after reception by psychiatric diagnosis (SADS)**

| | Prison GP | | Mental health | | Any health service[1] | | CARATs | | Any[2] | |
|---|---|---|---|---|---|---|---|---|---|---|
| **Documented diagnosis** | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 0 | 0 | 8 | 40 | 8 | 40 | 2 | 10 | 10 | 50 |
| MDD | 3 | 5 | 6 | 10 | 8 | 13 | 6 | 10 | 14 | 23 |
| Any other MI | 3 | 8 | 3 | 8 | 6 | 16 | 4 | 11 | 9 | 24 |
| Substance misuse + SMI | 2 | 4 | 11 | 20 | 12 | 22 | 5 | 9 | 17 | 31 |
| Substance misuse + other MI | 3 | 11 | 3 | 11 | 6 | 21 | 3 | 11 | 8 | 29 |
| All | 6 | 5 | 17 | 14 | 22 | 18 | 12 | 10 | 31 | 28 |

[1] Defined as contact with prison GP and/or mental health services.
[2] Defined as contact with prison GP, mental health services and/or CARATs.

From Table 30 it can be seen that 28% of those with no documented diagnosis had contact with mental health, CARATs services or the prison GP after reception.

Of those a SADS diagnosis of any psychosis, none had contact with the prison GP, 40% had contact with mental health services and 10% had contact with CARATs. Overall, 50% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those a SADS diagnosis of MDD, 5% had contact with the prison GP, 10% had contact with mental health services and 13% had contact with either of these. Furthermore, 10% had contact with CARATs. Overall, 23% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those a SADS diagnosis of any other MI, 8% had contact with the prison GP, 8% had contact with mental health services and 16% had contact with either of these. Furthermore, 11% had contact with CARATs. Overall, 24% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those a SADS diagnosis of SMI and a coexisting substance misuse disorder, 4% had contact with the prison GP, 20% had contact with mental health services and 22% had contact with either of these. Furthermore, 9% had contact with CARATs. Overall, 31% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Of those a SADS diagnosis of MI and a coexisting substance misuse disorder, 11% had contact with the prison GP, 11% had contact with mental health services and 21% had contact with either of these. Furthermore, 11% had contact with CARATs. Overall, 29% had contact with the prison GP, mental health services and/or CARATs during their time in custody.

Table 31 shows the proportion of those with no documented diagnosis that were prescribed medication.

**Table 31: Medication prescribed by psychiatric diagnosis**

| SADS diagnosis | Anti-psychotics | | Anti-depressants | | Benzo-diazepines | | Mood stabilisers | | Detox. | | Any | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 2 | 10 | 0 | 0 | 1 | 5 | 1 | 5 | 1 | 5 | 3 | 15 |
| MDD | 2 | 3 | 6 | 10 | 1 | 2 | 0 | 0 | 1 | 2 | 8 | 13 |
| Any other MI | 1 | 3 | 1 | 3 | 1 | 3 | 1 | 3 | 0 | 0 | 2 | 5 |
| Substance misuse + SMI | 4 | 7 | 3 | 6 | 2 | 4 | 1 | 2 | 2 | 4 | 8 | 15 |
| Substance misuse + other MI | 1 | 4 | 1 | 4 | 1 | 4 | 1 | 4 | 0 | 0 | 2 | 7 |
| All | 5 | 4 | 7 | 6 | 3 | 3 | 2 | 2 | 2 | 2 | 13 | 11 |

Table 31 shows that despite not having a diagnosis documented in their prison clinical records, 10% of those with psychosis were prescribed antipsychotic medication and 10% of those with MDD were prescribed antidepressant medication. Among those with MI, just two (6%) prisoners were prescribed medication. Of those with SMI and a substance misuse problem, 4% were prescribed detoxification medication. Of those with any other MI and a substance misuse problem, none were prescribed detoxification medication. Overall, 11% of prisoners with no diagnosis documented in their prison clinical records were documented to have been prescribed at least one type of medication during custody.

Table 32 shows the proportion of those with no documented diagnosis that were documented to have received other key interventions in custody.

**Table 32: Other interventions any time after reception by psychiatric diagnosis documented by psychiatric diagnosis**

| Psychiatric diagnosis | Intervention | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | ACCT opened | | In-patient admission | | CPA meeting | | Transferred to hospital | | Any | |
| | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MDD | 3 | 5 | 2 | 3 | 0 | 0 | 0 | 0 | 4 | 7 |
| Other MI | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Substance misuse + SMI | 2 | 4 | 1 | 2 | 0 | 0 | 0 | 0 | 2 | 4 |
| Substance misuse + other MI | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| All | 3 | 3 | 1 | 1 | 0 | 0 | 0 | 0 | 4 | 3 |

It can be seen from Table 32 that an ACCT document was opened in 3 (3%) cases and 1 (1%) prisoner was admitted to the healthcare wing as an in-patient at some point during custody.

Table 33 provides a summary of service contact, medication and other interventions received after reception by the 119 prisoners with no documented diagnosis.

**Table 33: Summary of service contact, medication prescribed and other interventions documented at any time after reception by psychiatric diagnosis**

| | Any health service | | CARATs | | Any prescribed medication | | Any other intervention | | Any | | None | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Documented diagnosis** | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % | *n* | % |
| Any psychosis | 8 | 40 | 2 | 10 | 3 | 15 | 0 | 0 | 12 | 60 | 8 | 40 |
| MDD | 8 | 13 | 6 | 10 | 8 | 13 | 4 | 7 | 21 | 34 | 40 | 66 |
| Any other MI | 6 | 16 | 4 | 11 | 2 | 5 | 0 | 0 | 9 | 24 | 29 | 76 |
| Substance misuse + SMI | 12 | 22 | 5 | 9 | 8 | 15 | 2 | 4 | 22 | 41 | 32 | 59 |
| Substance misuse + other MI | 6 | 21 | 3 | 11 | 2 | 7 | 0 | 0 | 8 | 29 | 20 | 71 |
| All | 22 | 18 | 12 | 10 | 13 | 11 | 4 | 3 | 42 | 35 | 77 | 65 |

Table 33 shows that 28% of prisoners had contact with a health service (mental health, CARATs, or prison GP), 11% were prescribed medication and 3% had any other intervention during custody. Of those that received prescribed medication, 15% had contact with the prison GP, 8% had contact with mental health services and 23% had contact with either of these. Thus 77% of those receiving prescribed medication did not see either the prison GP or mental health services whilst in custody.

Overall, 35% of prisoners were documented to have had any contact with a health service, CARATs, received prescribed medication and/or received another intervention. Thus in the majority (65%) of cases, prisoners with no documented diagnosis in their clinical record were not documented to have received any of these interventions during their time in custody.

### 3.3.5 Comparison

Table 34 compares the frequency of service contact, prescription of medication and other interventions delivered by prisons after reception, amongst those prisoners with a documented diagnosis in their prison clinical records and those with no documented diagnosis.

**Table 34: Comparison of prisoners with and without a documented diagnosis: summary of service contact, medication prescribed and other interventions documented at any time after reception by diagnosis**

| Diagnosis | Any health service | | CARATs | | Any prescribed medication | | Any other intervention | | Any | | None | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | *Diagnosis[1]* | *None[2]* | *Diagnosis* | *None* | *Diagnosis* | *None* | *Diagnosis* | *None* | *Diagnosis* | *None* | *Diagnosis* | *None* |
| Any psychosis | 88 | 40 | 46 | 10 | 90 | 15 | 29 | 0 | 98 | 60 | 2 | 40 |
| MDD | 69 | 13 | 33 | 10 | 69 | 13 | 19 | 7 | 91 | 34 | 9 | 66 |
| Any other MI | 64 | 16 | 25 | 11 | 62 | 5 | 15 | 0 | 83 | 24 | 17 | 76 |
| Substance misuse + SMI | 76 | 22 | 60 | 9 | 87 | 15 | 44 | 4 | 100 | 41 | 0 | 59 |
| Substance misuse + other MI | 84 | 21 | 48 | 11 | 84 | 7 | 36 | 0 | 96 | 29 | 4 | 71 |
| All | 56 | 18 | 48 | 10 | 73 | 11 | 15 | 3 | 91 | 35 | 9 | 65 |

[1] *Diagnosis documented in prison clinical records* [2] *Diagnosis given by research team (SADS)*

Those prisoners with a documented diagnosis were significantly more likely than those prisoners with no diagnosis to have received any intervention (service, medication and/or other intervention) whilst in custody (91% vs. 35%; $x2=142.7$, $p<.001$): they were significantly more likely to have had documented contact with health services (56% vs. 18%; $x2=48.4$, $p<.001$), CARATs (48% vs. 10%; $x2=54.9$, $p<.001$), medication prescribed (73% vs. 11%; $x2=143.7$, $p<.001$), or any other intervention (15% vs. 3%; $x2=10.6$, $p<.001$).

## 3.3.6 Key findings

- Two-thirds (64%) of prisoners with a mental illness were documented to have seen the prison GP at reception, a quarter (24%) saw a CARAT worker at reception and 12% saw a mental health professional. Documented rates of contact with mental health services at reception were highest amongst prisoners with psychosis (27%).
- Overall, 72% of prisoners with a mental illness (diagnosed using SADS) also had a diagnosis of mental illness and/or substance misuse documented in their prison clinical record.
- Of those diagnosed with psychosis by the research team, the same diagnosis was found documented in prison clinical records in 23% of cases. Of those identified by the research team to have MDD (excluding psychosis), evidence of the same diagnosis in prison clinical records was found in 21% of cases.
- Amongst prisoners with a documented diagnosis of mental illness and/or substance misuse, rates of contact with mental health services after reception were highest

amongst prisoners with a documented diagnosis of psychosis (68%) whilst those with a documented diagnosis of any other MI were least likely to be seen (38%).

- Amongst prisoners with a documented diagnosis of mental illness, 45% of those receiving prescribed medication did not see either the prison GP or mental health services whilst in custody.
- Overall, 63% of those with a documented diagnosis of substance misuse had contact with CARATs and 70% were prescribed medication for substance dependence. Of those with a documented diagnosis of alcohol misuse, 12% had contact with a dedicated alcohol service in custody and 18% were prescribed medication for alcohol withdrawal.
- After reception, prisoners with a documented diagnosis were significantly more likely than those prisoners with no documented diagnosis to have had contact with the prison GP, mental health or CARATs services (76% vs. 28%), or to have had prescriptions for medication (73% vs. 11%) documented in their clinical records.
- In 9% (n=27) of cases where a diagnosis had been documented and 65% (n=77) of cases where no diagnosis had been documented, prisoners were not documented to have received any intervention after reception (defined as health service or CARATs contact, medication prescribed and/or receipt of another intervention).

# 4 Discussion

There is widespread concern that the prison environment, with its rules and regimes, may have a detrimental impact on the mental health of prisoners, and those with mental illness in particular. A recent review of offenders with mental health problems undertaken by Lord Bradley acknowledged that custody has the potential to 'exacerbate mental ill health, heighten vulnerability and increase the risk of self-harm and suicide' (2009:7). Nonetheless, the growing prison population means that there are now more people in prison with mental illness than ever before. This study had three aims: to observe the effect of imprisonment on mental health; to explore prisoners' perceptions of their quality of life in prison; and to establish the types of contact prisoners with mental illnesses had with health services in custody, from reception through to discharge.

This is the first large, prospective cohort study of its kind in the UK. We had the benefit of a large sample of prisoners (n>3000) recruited from five different sites. We also used validated, standardised tools to assess and monitor changes in psychiatric symptoms over time. Nonetheless, conducting research in prisons is a difficult process and this study was not without its limitations. This was a purely observational study; the interventions and care received by prisoners were not controlled or influenced in any way. The analysis in this report focused on the impact of gender, legal status and psychiatric diagnosis. Whilst we collected data on other important variables, these in particular were considered to be of importance *a priori* and offered the levels of data completeness and quality needed for a robust longitudinal analysis. We acknowledge that other measured and unmeasured demographic, criminological and environmental factors, as well as the types of care received by prisoners, may also have influenced the changes in symptoms observed in our sample. In particular, we would have liked to explore further the relationship between ethnicity and mental health in prison. Unfortunately, this was prevented by small numbers. Furthermore, the assessments used to diagnose mental illness in our study identified a limited range of disorders; therefore, the influence of other significant mental disorders, particularly Post Traumatic Stress Disorder (PTSD) which is common amongst prisoners (Goff *et al*, 2007), on mental health was not identified.

Conducting longitudinal work in busy, local prisons was particularly challenging. Despite the team's best efforts to retain prisoners within the study, it was common for prisoners to be discharged (released or transferred) from these prisons (often with little warning), leading to high rates of attrition at T2 and T3. Though unavoidable, attrition did affect the precision of our estimates, particularly in subgroup analyses at T3; thus a degree of caution must be exercised in interpreting these findings. Lastly, the third component of the research (service contact data) was reliant on accessible information recorded in clinical records (paper and electronic). This included mental health, drug service and primary care records. Information regarding referrals and contact with services recorded elsewhere (e.g. wing records) was not considered, due to likely inconsistencies in

record keeping practices. Accessing paper records in prison, particularly in discharged prisoners, often proved difficult. Information was routinely kept in multiple locations with records not always arranged in any logical order. Furthermore the quality, quantity and legibility of information contained within records varied greatly as these records were not written to be descriptive accounts of care as such.

The first part of this study measured psychiatric symptoms at three time points; in the week following reception into custody and at monthly intervals twice thereafter (3-5 weeks and 7-9 weeks following reception into custody). The GHQ was used to indicate 'caseness', a probabilistic term interpreted here as the likelihood of having, or being at risk of developing, a mental illness. When using the 12-item version of the GHQ, in community populations a threshold score of three or four is routinely used to indicate caseness. It has, however, been acknowledged that threshold scores that satisfactorily balance sensitivity and sensitivity are likely to vary across different populations and cultures (Goldberg, 1986). In offender populations, higher GHQ threshold scores have been found to offer superior balances of sensitivity and specificity (Senior, 2005; Shaw *et al,* 2003b). In view of such findings, we have also reported prevalence rates using a higher threshold score of seven ('GHQ [prison] caseness') as we believe this to be more appropriate for indicating caseness in the prison population.

We found that overall the proportions of prisoners scoring above the thresholds for GHQ (prison) caseness, clinically significant symptoms of suicidality and clinically significant hallucinations were highest at T1. Although the prevalence of GHQ (prison) caseness was highest amongst prisoners with psychosis and major depressive disorder (both 73%), 25% of prisoners with no identified MI also met the threshold for GHQ (prison) caseness at T1. This indicates that there were high levels of anxiety and distress across the sample at this time. The prevalence of GHQ (prison) caseness at T1 was also significantly higher amongst women when compared to men, and in remand prisoners when compared to convicted prisoners. Similar patterns were also observed when measuring the prevalence of clinically significant symptoms of suicidality and clinically significant hallucinations; generally these were more prevalent in prisoners with psychosis and major depressive disorder, women, and in prisoners on remand.

Following T1, the proportion of men exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality followed a significant linear decline over time. Therefore it appears that for men in general, the prison environment did not exacerbate psychiatric symptoms. Such findings are consistent with those of previous studies by Blauuw *et al* (2007) and Andersen (2004), which also found that men's symptoms in prison improved over time. Interestingly, Blauuw *et al* (2007) questioned whether psychotic prisoners had been 'saved by structure', attributing the observed improvements, at least in part, to the daily routines of the prison regime. It is possible that the men in our study may have similarly benefited from the routine and stability offered by coming into custody and treatment.

For women, the picture is less clear. Overall, women had a significantly higher relative risk than men of exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality in the first two months of imprisonment. This finding fits with previous research which suggests that women have 'imported vulnerability' with higher rates of substance misuse and mental disorder than men (Singleton *et al,* 1998). Whilst the proportion of women exceeding clinical thresholds generally showed a decrease over the period T1-T2, by T3 these proportions frequently returned to rates approaching those observed at T1. Furthermore, over the period T1-T3 there was a significant linear increase in the proportion of women reporting clinically significant hallucinations. Given the limited number of women in the sample, particularly at T3 (n=20), caution is needed when interpreting these results. However, given that on average women serve shorter sentences than men, it is plausible that many may have been approaching release at this time. Thus the rise in symptoms at T3 (7-9 weeks) may have partly been due to increased anxiety and possibly other symptoms associated with the prospect of release. Release may bring uncertainty with regard to reforming relationships, arranging housing and regaining access to children, an issue particularly relevant to women prisoners. The rise in hallucinations is concerning, though difficult to explain. This increase in severity of symptoms may be attributable to the stress of imprisonment, increased drug use in prison or a combination of such factors. Furthermore, the measures used in our study did not distinguish between hallucinations caused by psychosis and those possibly related to other disorders, such as PTSD. Given the high proportion of prisoners with histories of physical and sexual abuse, especially women (Wolff *et al*, 2009; Browne *et al*, 1999), this is an area that deserves further attention. While it would be hasty to form solid conclusions about the course of mental illness amongst women on the basis of this study alone, this research does (at the very least) support the need for a larger longitudinal study observing changes in the health of imprisoned women.

With regard to legal status, this study found that the proportion of convicted prisoners exceeding thresholds for GHQ (prison) caseness and clinically significant symptoms of suicidality followed a significant linear decline over time. However, no significant decreases were found amongst remand prisoners using the same measures. These results fit with previous research that found that remand prisoners had higher rates of mental disorder than sentenced prisoners (Singleton *et al* 1998). The failure of remand prisoners to 'settle' in line with their convicted counterparts could plausibly be explained by the increased uncertainty, stress and anxiety levels associated with being on remand.

Amongst prisoners with a psychiatric diagnosis, the prison environment did not appear to exacerbate psychiatric symptoms. Significant linear decreases were observed in both the prevalence of GHQ (prison) caseness and clinically significant symptoms of suicidality amongst prisoners with major depression. Amongst prisoners with psychosis, decreases from T1 levels were apparent, though not statistically significant. However, for the any other MI group some increases, though not significant, were observed. Whilst bearing in mind the small sample size in this particular subgroup, it is possible that this finding may reflect the reduced availability of mental health services available to this group in prison.

Prison mental health services largely focus on SMI (Shaw *et al,* 2009), therefore prisoners with less serious mental health problems, such as anxiety, may be more likely to go undetected and untreated in prison. Recent reviews have highlighted the need for a broader range of services and interventions to treat prisoners with common mental health problems, mirroring those available in the community (Bradley, 2009; HMIP, 2007). There is evidence that attention is being paid to how prisoners might be included in initiatives such as Improving Access to Psychological Therapies (IAPT), an intervention aimed at improving the lives of people living with anxiety and depression (DH, 2009).

This study also looked at prisoners' perceptions of the quality of prison life. The MQPL questionnaire used covered a wide range of aspects related to relationships within prison and the regime itself including respect, humanity, trust, order and safety. The MQPL survey was adopted by the Prison Service as a key performance indicator in 2002. It is noteworthy that the two areas of prison performance rated most highly by prisoners were *race relationships* and *physical safety*. These consistently ranked amongst the top three dimensions across all five establishments. Such findings are encouraging, if not entirely unexpected, given the increased attention that issues such as racism and escapes have received in recent years.

Conversely, *entry into custody* was the least positively rated area of prison performance, consistently ranking among the bottom three dimensions of prison performance across all five establishments. Indeed, over half (58%) of prisoners surveyed agreed or strongly agreed that they felt worried and confused when they first came into prison. This finding fits with our own observations that the prevalence of GHQ (prison) caseness and clinically significant symptoms of suicidality were also high at this time.

The authors of the MQPL propose that the survey may be used to measure differences longitudinally in particular establishments (Liebling & Arnold, 2002). If the reliability of the MQPL can be established and interventions *are* implemented, the data presented in this study could usefully be used as a baseline from which to measure any subsequent changes in prisoner perceptions regarding their quality of life.

This study looked at patterns of service contact and key interventions delivered in prison for all those prisoners that we diagnosed with a mental illness. This case note review was carried out for up to six months or until discharge, whichever was sooner. This study found that most prisoners with mental illnesses did not receive care from dedicated mental health services in prison; however, most of those missed by mental health services received input from either the prison GP or substance misuse services instead.

Overall, 72% of prisoners with a mental illness had a diagnosis of mental illness and/or substance misuse documented in their clinical record. In the vast majority (91%) of cases where the prison had documented a diagnosis, evidence of some sort of intervention (service contact, medication prescribed and/or other intervention) was found. However, in 104 cases (27 cases where a diagnosis had

been documented and 77 cases where no diagnosis had been documented) prisoners with a mental illness were not documented to have received any intervention after reception. Thus, those cases where no diagnosis was documented were significantly less likely to receive an intervention after reception (91% vs. 35%).

We know that prisoners have complex needs and are not always in custody for long enough periods to allow comprehensive treatment. Indeed, some cases where individuals were missed may partly be due to short stays in custody. We also recognise that some health needs (e.g. substance dependence) may be more of an immediate priority for healthcare staff than others. This should not, however, rule out later assessment and involvement from other services. This study highlights the importance of identifying health problems as a prerequisite to assigning prisoners to particular pathways of care, whether substance misuse, mental health or primary care. Improvements to triage processes early on in custody may need to be made to ensure that prisoners subsequently receive the right care. The findings here support those of a previous OHRN report (Shaw *et al*, 2009) that recommended a series of updates to the reception screening process in prisons.

Notably, we also found that rates of contact with mental health services were lower amongst those with any other MI when compared to psychosis and or MDD. This finding is consistent with a previous OHRN report, which reported that prison mental health services largely focus on SMI (Shaw *et al,* 2009) and warned that prisoners with less serious mental health problems may be more likely to go undetected and untreated in prison. Thus primary care mental health services need further development and investment to ensure that prisoners with common mental health problems receive appropriate, skilled and timely care.

In summary, the results of this study indicate that prison does not have a universally detrimental effect on mental health. Our study findings are consistent those of Blauuw *et al* (2007) and Andersen (2004) in that we found that symptoms in prison generally improved over time. Most prisoners, even those with mental health problems, do not experience deterioration in their mental health whilst in custody. The improvements in symptoms observed may have partly been due to input from health services whilst in custody. Indeed, prison may provide an opportunity for offenders previously leading chaotic lifestyles to settle into a stable routine and engage with services.

This study arguably represents a genuine contribution to the evidence base in this area. Nonetheless, it is important that care is taken in interpreting these findings. Some people do experience a decline in mental health in prison. These individuals are more likely to be female, on remand, have a pre-existing severe and enduring mental illness or some combination of these factors.

Finally, with the prison population higher than ever and set to increase it is imperative that further research is done. The main source of information relating to psychiatric morbidity of offenders (Singleton *et al,* 1998) was undertaken over ten years ago. Therefore there is a need to repeat these prevalence studies and

complete longitudinal work studying the effects of imprisonment over time amongst vulnerable groups, including women and those on indeterminate (IPP) sentences.

# 5 Recommendations

**1.** The first health reception screening tool in prisons should be updated to improve the triaging of prisoners to appropriate health care pathways.

**2.** Staff administering health reception screens should be given training to identify those prisoners that are likely to need extra support during early custody, including women, those with a history of mental illness and prisoners likely to be on remand for extended periods of time.

**3.** Prisons should consider providing targeted, improved support to vulnerable groups during transitional periods such as early custody and resettlement.

**4.** Whilst detoxification may initially take priority in prison, treatment via the substance misuse care pathway should not necessarily replace involvement from mental health services. Opportunities for mental health assessment should be built into substance misuse care pathways to avoid overlooking individuals that also require psychiatric intervention.

**5.** Primary care mental health services need further development and investment to ensure that prisoners with common mental health problems receive appropriate, skilled and timely care. Implemented services and initiatives should be subject to proper monitoring and evaluation to inform ongoing service improvement and to judge their effectiveness.

**6.** Large scale prison prevalence surveys should be repeated to provide up-to-date information regarding the physical and mental health needs of the UK prison population, including the prevalence of PTSD.

**7.** A future prevalence survey should include measures of individual service needs, in addition to identification of mental health problems, to provide data upon which NHS commissioners and managers can develop services which are appropriately matched to need in terms of both quantity and plurality of provision.

**8.** Further longitudinal studies should be conducted to determine the effects of imprisonment over longer periods of time and on vulnerable groups, including women and those on indeterminate (IPP) sentences.

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# 7 Appendices

## *7.1 Appendix 1: Breakdown of MQPL items by dimension*

**Relationships**

- I have been helped significantly by a member of staff in this prison with a particular problem.
- I receive support from staff in this prison when I need it.
- I feel that I am trusted quite a lot in this prison.
- Staff in this prison often display honesty and integrity.
- Relationships between staff and prisoners in this prison are good.
- I trust the officers in this prison.
- I am being looked after with humanity in here.
- Personally I get on well with the officers on my wing.
- Overall, I am treated fairly by staff in this prison.
- Staff help prisoners to maintain contact with their families.

**Respect**

- Staff here treat me with kindness.
- I feel I am treated with respect by staff in this prison.
- I am treated as a person of value in this prison.
- Staff in this prison show concern and understanding towards me.
- Most staff address and talk to me in a respectful manner.

**Fairness**

- Privileges are given and taken fairly in this prison.
- Staff here treat prisoners fairly when distributing privileges.

- Staff here treat prisoners fairly when applying the rules.
- Control and restraint procedures are used fairly in this prison.
- The regime in this prison is fair.
- This prison is good at placing trust in prisoners.
- My legal rights as a prisoner are respected in this prison.

**Clarity**

- The rules and regulations are made clear to me.
- It is hard for me to obtain information about rules and regulations in this prison.

**Frustration**

- Some of the treatment I receive in this prison is degrading.
- This prison is poor at treating prisoners with respect.
- In general I think the disciplinary system here is unfair.
- Staff are argumentative toward prisoners in this prison.
- This prison is poor at giving prisoners reasons for decisions.
- I am not being treated as a human being in here.

**Order and security**

- This prison is good at delivering a structured and predictable regime so that you know where you stand.
- This is a well controlled prison.
- This prison is well organised.
- Staff carry out their security tasks well in this prison.

**Dignity**

- I am given adequate opportunities to keep myself clean and decent.
- I am given adequate opportunities to keep my living area clean and decent.
- This prison provides adequate facilities for me to maintain a presentable appearance
- Prisoners spend too long locked up in their cells in this prison.
- The quality of my living conditions is poor in this prison.
- Supervision of prisoners is poor in this prison.

**Addressing offending behaviour**

- Every effort is made by this prison to stop offenders committing offences on release from custody.
- I am being helped to lead a law-abiding life on release in the community.
- I feel I have been encouraged to address my offending behaviour in this prison.
- The regime in this prison is constructive.
- I am being encouraged to work towards goals/targets in this prison.
- This regime encourages me to think about and plan for my release.
- My time here seems like a chance to change.
- On the whole I am doing time rather than using time.

**Personal development**

- My thinking has improved as a result of courses I have taken in here.
- My participation in courses in here has helped to develop myself.
- My behaviour has improved as a result of courses I have taken in here.
- I get a lot out of the activities I take up here.
- My chances of going straight are better as a result of the courses I have taken in here.
- The education/work I do in this prison is helping me to develop myself.

- I learned a lot from offending behaviour courses in here.
- Doing gym and sports in this prison helps me to feel positive.

**Family contact**

- I am able to receive visits often enough in this prison.
- I am able to maintain meaningful contact with my family whilst I am in this prison.
- The length of time for each visit is long enough.

**Drug control**

- The level of drug use in this prison is quite high.
- The lack of security in this prison means that I ca usually get away with things.
- This prison does very little to prevent drugs being smuggled in.

**Race relations**

- This prison discriminates unfairly against minority ethnic prisoners.
- This prison encourages good race relations.
- Racist comments by staff are rare in this prison.
- There is respect for all religious beliefs in this prison.
- Race complaints are not taken seriously in this prison.

**Care and safety**

- Staff respond promptly to incidents and alarms in this prison.
- This prison is good at delivering personal safety.
- Bullying behaviour by prisoners is not tolerated in this prison.
- Victims of bullying get all the help they need to cope.

- When important decisions are made about me in this prison I am treated as an individual, not a number.
- Prisoners are treated decently in the Segregation Unit in this prison.

**Physical safety**

- Generally I fear for my physical safety.
- I have no difficulties with other prisoners in here.
- I feel safe from being injured, bullied, or threatened by staff in this prison.
- There is a lot of threats/bullying in this prison.
- I feel safe from being injured, bullied or threatened by other prisoners in here.

**Individual care**

- I feel cared about most of the time in this prison.
- This is a decent prison.
- Wing staff take an interest in helping to sort out my healthcare needs.
- Healthcare provision here is as good as I would expect to receive outside.

**Assistance for the vulnerable**

- Anyone in this prison on a self-harm monitoring form gets the care and help from staff that they need.
- Anyone with a drug problem coming to this prison gets the help they need to detox safely.
- This prison is good at improving the well-being of those who have drug problems.
- This prison is good at providing care to those who are at risk of suicide,
- The prevention of self harm and suicide is seen as a top priority in this prison.
- It's easy getting to see a Listener in this prison.

**Entry support**

- When I first came into this prison I felt looked after.
- In my first few days in this prison, staff took a personal interest in me.
- The induction process in this prison helped me to know exactly what to expect in the daily regime and when it would happen.

**Overall distress**

- I often feel aggressive and hostile in this prison.
- I have little hope for the future.
- Life in this prison involves a great deal of suffering.
- There is nothing I can do to relieve the distress I feel in this prison.
- I have thought about suicide in this prison.
- I often feel depressed in this prison.
- I feel I can handle my emotions in here.
- I have experienced major feelings of distress in this prison.
- My mental health is of concern to me.
- I find it hard to cope in this prison most of the time.
- Generally I fear for my psychological safety.
- I have many problems at the moment.
- I have problems sleeping at night.
- I can relax and be myself in this prison.
- I can easily adapt to this prison environment.

**Entry into custody**

- When I first came into this prison I felt worried and confused.
- I felt extremely alone during my first three days in this prison.

**Stand alone questions**

- Security dominates everything else in this prison so that an appropriate balance is rarely achieved.
- Anyone who harms themselves is considered by staff to be more of an attention-seeker than someone who needs care and help.
- This is a decent prison.

## 7.2 Appendix 2: Additional tables

**Table 35: Age (%) within the sample and HMCIP figures[23] (% in brackets) by prison**

| | Age group | | | | | |
|---|---|---|---|---|---|---|
| **Prison** | **21-29** | **30-39** | **40-49** | **50-59** | **60-69** | **70+** |
| **A** | 56% (40%) | 35% (33%) | 4% (19%) | 5% (7%) | 0% (1%) | 0% (0%) |
| **B** | 39% (41%) | 28% (35%) | 31% (14%) | 2% (4%) | 1% (1%) | 0% (0%) |
| **C** | 44% (45%) | 35% (32%) | 17% (9%) | 3% (2%) | 2% (0%) | 0% (0%) |
| **D** | 40% (46%) | 43% (32%) | 16% (15%) | 1% (5%) | 0% (2%) | 0% (1%) |
| **E** | 46% (42%) | 28% (29%) | 8% (21%) | 2% (6%) | 16% (3%) | 0% (1%) |

**Table 36: Ethnicity (%) within the sample and HMCIP figures (% in brackets) by prison**

| | Ethnic background | | | | |
|---|---|---|---|---|---|
| **Prison** | **Black** | **White** | **Asian** | **Mixed** | **Chinese/ other** |
| **A** | 28% (28%) | 64% (56%) | 1% (9%) | 7% (6%) | 0% (1%) |
| **B** | 21% (28%) | 76% (62%) | 1% (3%) | 1% (4%) | 1% (2%) |
| **C** | 3% (5%) | 93% (84%) | 3% (6%) | 1% (5%) | 0% (0%) |
| **D** | 3% (10%) | 90% (75%) | 1% (10%) | 5% (3%) | 1% (2%) |
| **E** | 1% (9%) | 97% (84%) | 1% (4%) | 1% (1%) | 0% (0%) |

[23] The relevant HMCIP reports are, however, not included in the reference list as this would breach the anonymity of the participating sites.

**Table 37: Index offence within the sample and HMCIP figures (% in brackets) by prison**

| Prison | Index offence | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Violence against the person | Sexual offences | Robbery | Burglary | Theft & handling | Fraud & forgery | Drug offences | Other offences |
| **A** | 21% (37%) | 4% (9%) | 1% (4%) | 9% (6%) | 16% (6%) | 4% (2%) | 5% (8%) | 40% (28%) |
| **B** | 12% (7%) | 0% (0%) | 6% (5%) | 2% (3%) | 31% (18%) | 12% (2%) | 20% (11%) | 16% (55%) |
| **C** | 17% (17%) | 3% (4%) | 8% (10%) | 12% (13%) | 15% (12%) | 2% (3%) | 4% (12%) | 39% (33%) |
| **D** | 25% (20%) | 2% (10%) | 15% (15%) | 7% (6%) | 11% (6%) | 5% (2%) | 2% (3%) | 32% (23%) |
| **E** | 27% (24%) | 0% (9%) | 2% (7%) | 5% (11%) | 37% (7%) | 1% (2%) | 2% (13%) | 26% (27%) |

**Table 38: Legal status (%) within the sample and HMCIP figures (% in brackets) by prison**

| Prison | Status | | |
|---|---|---|---|
| | Remand | Convicted sentenced | Convicted unsentenced |
| **A** | 54% (15%) | 33% (51%) | 13% (31%) |
| **B** | 56% (37%) | 43% (42%) | 1% (21%) |
| **C** | 47% (64%) | 53% (25%) | 0% (11%) |
| **D** | 43% (17%) | 51% (69%) | 6% (12%) |
| **E** | 28% (26%) | 37% (63%) | 35% (11%) |

## Table 39: Key sample characteristics at T1, T2 and T3[24]

| Variable | | T1 | | T2 | | T3 | |
|---|---|---|---|---|---|---|---|
| | | *n* | *%* | *n* | *%* | *n* | *%* |
| PriSnQuest outcome | PriSnQuest positive | 887 | 91 | 513 | 90 | 160 | 88 |
| | PriSnQuest negative | 93 | 10 | 59 | 10 | 22 | 12 |
| Gender | Male | 769 | 79 | 438 | 77 | 162 | 89 |
| | Female | 211 | 22 | 134 | 23 | 20 | 11 |
| Status | Remand | 506 | 52 | 299 | 52 | 105 | 58 |
| | Convicted unsentenced | 53 | 5 | 22 | 4 | 3 | 2 |
| | Convicted sentenced | 421 | 43 | 251 | 44 | 74 | 41 |
| Psychiatric diagnosis | Any psychosis | 101 | 10 | 53 | 9 | 16 | 9 |
| | MDD | 318 | 32 | 181 | 32 | 56 | 31 |
| | Any MI | 122 | 12 | 73 | 13 | 30 | 17 |
| | None | 439 | 45 | 265 | 46 | 80 | 44 |
| Ethnicity | White | 820 | 84 | 478 | 84 | 153 | 85 |
| | BME | 158 | 16 | 92 | 16 | 28 | 15 |
| All | | 980 | 100 | 572 | 100 | 182 | 100 |

## Table 40: Subgroup sample sizes at T1, T2 and T3: by psychiatric diagnosis and gender[25]

| Subgroup | | T1 | | T2 | | T3 | |
|---|---|---|---|---|---|---|---|
| | | *n* | *%* | *n* | *%* | *n* | *%* |
| Male | Any psychosis | 89 | 12 | 43 | 10 | 14 | 9 |
| | MDD | 223 | 29 | 120 | 27 | 47 | 29 |
| | MI | 97 | 13 | 57 | 13 | 27 | 17 |
| | None | 360 | 47 | 218 | 50 | 74 | 46 |
| Female | Any psychosis | 12 | 6 | 10 | 8 | 2 | 10 |
| | MDD | 95 | 45 | 61 | 46 | 9 | 45 |
| | MI | 25 | 12 | 16 | 12 | 3 | 15 |
| | None | 79 | 37 | 47 | 35 | 6 | 30 |
| All | | 980 | 100 | 572 | 100 | 182 | 100 |

[24] All percentages quoted are unweighted.
[25] All percentages quoted are unweighted.

## Table 41: Subgroup sample sizes at T1, T2 and T3: by psychiatric diagnosis and legal status[26]

| Subgroup | | T1 | | T2 | | T3 | |
|---|---|---|---|---|---|---|---|
| | | *n* | *%* | *n* | *%* | *n* | *%* |
| Convicted | Any psychosis | 47 | 10 | 36 | 10 | 12 | 12 |
| | MDD | 146 | 31 | 97 | 28 | 27 | 27 |
| | MI | 60 | 13 | 43 | 13 | 18 | 18 |
| | None | 221 | 47 | 168 | 49 | 44 | 44 |
| Remand | Any psychosis | 54 | 11 | 15 | 7 | 4 | 5 |
| | MDD | 172 | 34 | 83 | 38 | 29 | 36 |
| | MI | 62 | 12 | 28 | 13 | 12 | 15 |
| | None | 218 | 43 | 92 | 42 | 35 | 44 |
| All | | 980 | 100 | 572 | 100 | 182 | 100 |

## Table 42: MQPL composite scores by dimension and prison

| | A | | B | | C | | D | | E | | Total | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Dimension** | *n* | *Mean* | *n* | *Mean* | n | *Mean* | n | *Mean* | *n* | *Mean* | *n* | *Mean* |
| Relationships | 84 | 3.04 | 124 | 3.39 | 153 | 3.44 | 133 | 3.26 | 47 | 3.14 | 541 | 3.26 |
| Respect | 84 | 2.98 | 124 | 3.27 | 153 | 3.52 | 133 | 3.03 | 47 | 3.19 | 541 | 3.20 |
| Fairness | 84 | 3.09 | 124 | 3.21 | 153 | 3.56 | 133 | 3.22 | 47 | 3.22 | 541 | 3.27 |
| Clarity | 84 | 3.57 | 124 | 3.26 | 153 | 3.38 | 133 | 3.50 | 47 | 3.73 | 541 | 3.50 |
| Frustration | 84 | 2.74 | 123 | 3.11 | 153 | 3.31 | 133 | 2.90 | 47 | 3.10 | 540 | 3.04 |
| Security & order | 84 | 3.45 | 124 | 3.35 | 153 | 3.28 | 133 | 3.38 | 47 | 3.02 | 541 | 3.29 |
| Dignity | 84 | 3.12 | 123 | 3.58 | 153 | 3.47 | 133 | 3.54 | 47 | 3.37 | 540 | 3.42 |
| Offending behaviour | 84 | 2.70 | 124 | 3.02 | 153 | 2.95 | 133 | 2.76 | 47 | 2.60 | 541 | 2.80 |
| Personal development | 84 | 3.01 | 113 | 3.27 | 153 | 3.19 | 70 | 3.19 | 43 | 3.02 | 463 | 3.13 |
| Family contact | 84 | 3.22 | 123 | 3.38 | 153 | 3.76 | 133 | 3.43 | 47 | 3.40 | 540 | 3.46 |
| Drug use | 84 | 3.31 | 124 | 3.27 | 153 | 2.66 | 133 | 3.15 | 47 | 2.81 | 541 | 3.02 |
| Race relations | 84 | 3.41 | 124 | 3.67 | 153 | 3.57 | 133 | 3.45 | 47 | 3.69 | 541 | 3.55 |
| Care & safety | 84 | 3.31 | 124 | 3.31 | 153 | 3.33 | 133 | 3.36 | 47 | 3.05 | 541 | 3.27 |
| Physical safety | 84 | 3.40 | 124 | 3.52 | 153 | 3.59 | 133 | 3.53 | 47 | 3.66 | 541 | 3.55 |
| Individual care | 84 | 2.97 | 124 | 2.97 | 153 | 3.00 | 133 | 2.63 | 47 | 2.53 | 541 | 2.81 |
| Assistance for the vulnerable | 84 | 3.12 | 124 | 3.26 | 153 | 3.29 | 132 | 3.28 | 47 | 3.10 | 540 | 3.21 |
| Entry support | 84 | 3.11 | 124 | 3.19 | 153 | 2.94 | 133 | 3.00 | 47 | 2.92 | 541 | 3.02 |
| Entry into custody | 84 | 2.67 | 124 | 2.65 | 152 | 2.74 | 133 | 2.73 | 47 | 2.64 | 540 | 2.69 |
| Overall distress | 84 | 2.88 | 124 | 2.97 | 153 | 3.46 | 133 | 3.29 | 47 | 3.19 | 541 | 3.19 |

[26] All percentages quoted are unweighted.

## Table 43: Distribution of responses to MQPL key statements

| MQPL key statement | Strongly Agree | Agree | Neither agree nor disagree | Disagree | Strongly Disagree | All |
|---|---|---|---|---|---|---|
| When I first came into this prison I felt looked after. | 4% (24) | 50% (251) | 15% (83) | 28% (139) | 3% (44) | 100% (541) |
| I have experienced major feelings of distress in this prison. | 5% (58) | 28% (227) | 11% (57) | 54% (188) | 1% (10) | 100% (540) |
| I feel cared about most of the time in this prison. | 1% (8) | 25% (145) | 37% (134) | 31% (222) | 6% (32) | 100% (541) |
| I feel safe from being injured, bullied or threatened by other prisoners in here. | 3% (31) | 67% (306) | 9% (72) | 20% (112) | 1% (19) | 100% (540) |
| I have thought about suicide in this prison. | 3% (29) | 12% (118) | 3% (30) | 61% (278) | 20% (90) | 100% (540) |
| This prison is good at providing care to those who are at risk of suicide. | 3% (19) | 21% (181) | 50% (201) | 18% (105) | 7% (31) | 100% (537) |
| My experience of imprisonment in this particular prison has been stressful. | 8% (62) | 42% (251) | 10% (62) | 39% (157) | 1% (8) | 100% (540) |
| When I first came into this prison I felt worried and confused. | 10% (85) | 49% (281) | 12% (27) | 26% (134) | 4% (13) | 100% (540) |
| There is nothing I can do to relieve the distress I feel in this prison. | 5% (28) | 40% (219) | 17% (79) | 36% (202) | 2% (12) | 100% (540) |
| I felt extremely alone during my first three days in this prison. | 10% (83) | 46% (251) | 7% (39) | 34% (157) | 3% (9) | 100% (539) |
| My experience in this prison is painful. | 7% (40) | 25% (200) | 17% (59) | 50% (234) | 2% (8) | 100% (541) |
| This prison is good at improving the well-being of those who have drug problems. | 5% (29) | 39% (210) | 26% (147) | 26% (124) | 5% (29) | 100% (539) |
| The prevention of self harm and suicide is seen as a top priority in this prison. | 4% (26) | 28% (201) | 50% (188) | 14% (105) | 5% (21) | 100% (541) |
| Wing staff take an interest in helping to sort out my healthcare needs. | 3% (11) | 33% (187) | 19% (92) | 40% (204) | 5% (45) | 100% (539) |
| The induction process in this prison helped me to know exactly what to expect in the daily regime and when it would happen. | 2% (15) | 58% (283) | 11% (75) | 22% (137) | 6% (30) | 100% (540) |
| Anyone in this prison on a self-harm monitoring form gets the care and help from staff that they need. | 3% (15) | 22% (165) | 63% (266) | 9% (78) | 3% (16) | 100% (540) |
| Anyone with a drug problem coming to this prison gets the help they need to detox safely | 6% (29) | 37% (250) | 47% (148) | 8% (91) | 2% (22) | 100% (540) |
| Anyone who harms themselves is considered by staff to be more of an attention-seeker than someone who needs care and help. | 5% (27) | 18% (136) | 57% (248) | 19% (122) | 1% (8) | 100% (541) |

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