A Needs Assessment for Prison Health Information in the Thames Valley Area

A report by Dr Sudy Anaraki, Specialist Registrar in Public Health Medicine, South East Public Health Observatory & South East Prison Health Task Force
May 2003
Executive summary

Background:
Prisoners have greater physical and mental health needs compared to the general population, but there are concerns that they do not receive the same quality of healthcare as others in the community. Health information is an important element of modern health services and is required for assessing the health and healthcare needs of prisoners, planning and improving healthcare services and evaluating these services. South East Public Health Observatory (SEPHO) and South East Regional Prison Health Task Force supported this project to assess prison health information needs in the South East region.

Objectives:
- To identify prison health information systems and available local information for planning and managing prison health services in the region, including a review of sources of information for prison HNAs;
- To obtain evidence on effectiveness and appropriateness of health information systems;
- To compare prison health information with the NHS primary care;
- To obtain the views of stakeholders, including policy makers, managers and clinicians;
- To use collected information to recommend changes.

Methods:
Methods used in this project include:
- Visits to a sample of prisons in the Thames Valley area and interviews with prison healthcare staff and managers;
- Visits to two General Practices and interviews with GPs and practice managers;
- Interviews with other stakeholders who had knowledge and experience of health information systems;
- A workshop for prison healthcare managers and staff;
A literature review on effectiveness of electronic health information systems.

**Results and conclusions:**
Prison healthcare centres in the studied area are not computerised and clinical information is collected on paper records (Inmate Medical Records or IMRs). Healthcare staff do not have access to email, internet and electronic information resources. Prison health needs assessments (HNAs) are routinely conducted using limited local epidemiological data, estimates of incidence/prevalence rates based on external information such as national surveys, or by conducting local health surveys. Evidence suggests that Electronic Medical Records (EMRs) are effective in improving clinical performance. Primary healthcare services in Oxfordshire use EMRs and their experience indicates the efficiency of EMRs as a tool for audits, HNAs, management and planning. All stakeholders believe prisons need to improve their health information systems and use EMRs. Prison healthcare managers and staff who participated in the workshop suggested that such improvement would require commitment of all involved parties to prison’s health agenda, debate and education on health and health information, reassurance about security concerns, investment on IT facilities and training, and working more closely with other healthcare agencies, especially Primary Care Trusts.

**Recommendations:**
1. PCTs and prisons should work together more closely and consider health information as a priority.
2. PCTs should consider options for implementing primary care computerised information systems in prisons.
3. PCTs should share their experience and knowledge of analysing and using information, for purposes such as HNA and audit, with prisons and support them in doing so.
4. A steering group should be established composed of representatives of prisons and PCTs to monitor progress in prison health information and plan further developments.

5. There should be more debate and education in prisons to raise the awareness on the importance of health information and needs based healthcare services.

6. There should be clear guidelines and more training for healthcare staff on confidentiality issues, data protection and communication with other agencies.
Contents

Executive summary ................................................................................... 7
Acknowledgements .................................................................................... 10
Abbreviations ............................................................................................ 10

1. INTRODUCTION .................................................................................... 12
   1.1. PRISON HEALTH: A PUBLIC HEALTH CONCERN ................................. 12
   1.2. NATIONAL CONTEXT ............................................................................. 12
       1.2.1. Prison healthcare reforms ............................................................. 12
       1.2.2. Health information ....................................................................... 14

2. THE TASK .................................................................................................. 16
   2.1. BACKGROUND TO THIS PROJECT ........................................................ 16
   2.2. REMIT .................................................................................................. 16
   2.3. AIMS ................................................................................................... 17
   2.4. OBJECTIVES ....................................................................................... 17

3. METHODS .................................................................................................. 19
   3.1. THEORETICAL FRAMEWORK ............................................................... 19
   3.2. ASPECTS OF HEALTH INFORMATION .................................................. 19
   3.3. EPIDEMIOLOGICAL NEEDS ASSESSMENT ............................................ 21
       3.3.1. Evidence ........................................................................................ 21
       3.3.2. Health information in prisons ........................................................ 21
       3.3.3. Prison health needs assessments: sources of information .............. 21
   3.4. COMPARATIVE NEEDS ASSESSMENT .................................................. 23
       3.4.1. Health information in the community ............................................. 23
       3.4.2. Health information in other prisons ............................................... 24
   3.5. CORPORATE NEEDS ASSESSMENT ..................................................... 24
       3.5.1. Interviews ..................................................................................... 24
       3.5.2. Healthcare managers workshop .................................................... 24

4. RESULTS OF NEEDS ASSESSMENT ....................................................... 27
   4.1. EPIDEMIOLOGICAL NEEDS ASSESSMENT ............................................ 27
       4.1.1. General ......................................................................................... 27
       4.1.2. Literature on health information ..................................................... 28
       4.1.3. Prison health information ............................................................... 31
           4.1.3.1. Information systems ............................................................... 31
           4.1.3.2. Analysing data and uses of information .................................... 33
           4.1.3.3. Sharing information ............................................................... 34
           4.1.3.4. Reception health screening ...................................................... 34
           4.1.3.5. Clinical data .......................................................................... 35
           4.1.3.6. Demographic data ................................................................. 36
           4.1.3.7. Workload data ....................................................................... 37
           4.1.3.8. Quality of data ..................................................................... 37
       4.1.4. Prison health needs assessments ..................................................... 38
   4.2. COMPARATIVE NEEDS ASSESSMENT ................................................. 40
       4.2.1. Health information in general practices .......................................... 40
4.2.1.1. Information systems ................................................................. 40
4.2.1.2. Using information ................................................................. 40
4.2.1.3. Sharing information .............................................................. 41
4.2.1.4. Clinical data .......................................................................... 41
4.2.1.5. Demographic data ............................................................... 42
4.2.1.6. Workload data ...................................................................... 42
4.2.1.7. Quality of data .................................................................... 42
4.2.2. Health information in Oxfordshire primary care settings ........ 43
4.2.3. Other prisons ........................................................................ 43
4.3. Corporate needs assessment ......................................................... 45
4.3.1. Interviews ............................................................................. 45
4.3.2. Workshop results ................................................................. 45
  4.3.2.1. Purposes of collecting health information ....................... 46
  4.3.2.2. Comparison of IMR and EMR ............................................ 47
  4.3.2.3. Health information improvement, barriers and solutions ... 50
  4.3.2.4. Summary of workshop results ......................................... 52
4.4. Summary of project’s findings ..................................................... 54

5. DISCUSSION ...................................................................................... 56

6. CONCLUSION ................................................................................... 57

7. RECOMMENDATIONS ..................................................................... 59

References .......................................................................................... 61
Appendices .......................................................................................... 64
Executive summary

Background:

Prisoners have greater physical and mental health needs compared to the general population, but there are concerns that they do not receive the same quality of healthcare as others in the community. Health information is an important element of modern health services and is required for assessing the health and healthcare needs of prisoners, planning and improving healthcare services and evaluating these services. South East Public Health Observatory (SEPHO) and South East Regional Prison Health Task Force supported this project to assess prison health information needs in the South East region.

Objectives:

- To identify prison health information systems and available local information for planning and managing prison health services in the region, including a review of sources of information for prison HNAs;
- To obtain evidence on effectiveness and appropriateness of health information systems;
- To compare prison health information with the NHS primary care;
- To obtain the views of stakeholders, including policy makers, managers and clinicians;
- To use collected information to recommend changes.

Methods:

Methods used in this project include:
Visits to a sample of prisons in the Thames Valley area and interviews with prison healthcare staff and managers;

Visits to two General Practices and interviews with GPs and practice managers;

Interviews with other stakeholders who had knowledge and experience of health information systems;

A workshop for prison healthcare managers and staff;

A literature review on effectiveness of electronic health information systems.

**Results and conclusions:**

Prison healthcare centres in the studied area are not computerised and clinical information is collected on paper records (Inmate Medical Records or IMRs). Healthcare staff do not have access to email, internet and electronic information resources. Prison health needs assessments (HNAs) are routinely conducted using limited local epidemiological data, estimates of incidence/prevalence rates based on external information such as national surveys, or by conducting local health surveys. Evidence suggests that Electronic Medical Records (EMRs) are effective in improving clinical performance. Primary healthcare services in Oxfordshire use EMRs and their experience indicates the efficiency of EMRs as a tool for audits, HNAs, management and planning. All stakeholders believe prisons need to improve their health information systems and use EMRs. Prison healthcare managers and staff who participated in the workshop suggested that such improvement would require commitment of all involved parties to prison’s
health agenda, debate and education on health and health information, 
reassurance about security concerns, investment on IT facilities and training, 
and working more closely with other healthcare agencies, especially Primary 
Care Trusts.

**Recommendations:**

7. PCTs and prisons should work together more closely and consider health information as a priority.

8. PCTs should consider options for implementing primary care computerised information systems in prisons.

9. PCTs should share their experience and knowledge of analysing and using information, for purposes such as HNA and audit, with prisons and support them in doing so.

10. A steering group should be established composed of representatives of prisons and PCTs to monitor progress in prison health information and plan further developments.

11. There should be more debate and education in prisons to raise the awareness on the importance of health information and needs based healthcare services.

12. There should be clear guidelines and more training for healthcare staff on confidentiality issues, data protection and communication with other agencies.
Acknowledgements

I am extremely grateful to the following:

- Alison Hill, Jill Meara, Premila Webster, David Sheehan, Emma Plugge and Harry Rutter for their guidance and comments on this report
- Emma Bradley for providing guidance and information on prison healthcare services and giving me the opportunity for the workshop
- Michael Goldacre who advised me on health information aspects
- Nicola Bexon for assisting with literature search
- To all whom I interviewed and consulted

Abbreviations

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>CARAT</td>
<td>Counselling, Assessment, Referral, Advice and Throughcare service</td>
</tr>
<tr>
<td>EMR</td>
<td>Electronic Medical Records</td>
</tr>
<tr>
<td>HimP</td>
<td>Health Improvement Plan</td>
</tr>
<tr>
<td>HISP</td>
<td>Health Information Systems for Prisons</td>
</tr>
<tr>
<td>HMP</td>
<td>Her Majesty’s Prison</td>
</tr>
<tr>
<td>HNA</td>
<td>Health Needs Assessment</td>
</tr>
<tr>
<td>IMR</td>
<td>Inmate Medical Record</td>
</tr>
<tr>
<td>LIDS</td>
<td>Local Inmate Database System</td>
</tr>
<tr>
<td>NA</td>
<td>Needs Assessment</td>
</tr>
<tr>
<td>PCT</td>
<td>Primary Care Trust</td>
</tr>
<tr>
<td>SEPHO</td>
<td>South East Public Health Observatory</td>
</tr>
</tbody>
</table>
1. Introduction

1.1. Prison health: a public health concern

Improving prisoners’ health is an important public health concern and one way to tackle health inequalities. Most prisoners come from disadvantaged backgrounds, have experienced stressful life events, and have greater physical and mental health needs compared to the general population\(^1\). However, there are concerns that they do not receive the same quality of healthcare as others in the community.

1.2. National context

1.2.1. Prison healthcare reforms

In 1996 Her Majesty’s Chief Inspector of Prisons produced a discussion paper ‘Patient or Prisoner’ that highlighted weaknesses in the prison health services, pointing in particular to the quality of care, including standards and access to care, healthcare planning, professional isolation of prison healthcare staff and poor links with the NHS\(^2\). The Chief Inspector recommended that the NHS should take over responsibility for prison healthcare.

In 1997 the Health Advisory Committee to the Prison Service published a report on ‘the Provision of Mental Health Care in Prisons’\(^3\). The Committee highlighted the uncoordinated way in which mental health care was delivered in prison, and
the need for more effective care arrangements to ensure continuity of care following release from prison.

In view of these reports and other concerns raised about the prison healthcare, the Home Secretary and the Secretary of State for Health agreed to establish a Joint Prison Service and National Health Service Working Group ‘to consider the future delivery of the healthcare to prisoners’. The group endorsed the guiding principle of prison healthcare to be:

‘*Equivalence of care*’: To give prisoners access to the same quality and range of health care services as the general public receive from the National Health Service\(^4\).

The report of the group, ‘The future organisation of prison health care’, published in March 1999\(^4\), recommended the following structural changes:

- Health Authorities and Prison Governors should work together to produce *Health Needs Assessments* (HNAs) and *Health Improvement Programmes* (HImPs) for all prisons.
- A Task Force should be created to support prisons and health authorities in the production and implementation of HNAs and HImPs.
- A prison health Policy Unit should be established, responsible for the development of prison health policy, drawing on, and integrating with, wider national health policies.
The aim of a health needs assessment is to help prison services to plan their healthcare provision according to need.

In 1999, a comprehensive needs assessment for healthcare in prisons\(^1\) highlighted the differences in provision of healthcare in prison and in the community. These included very limited informal care and self-care in prison, high demand for medical care with high numbers of consultations and a lack of healthcare planning based on needs.

In September 2002 the Home Secretary and the Secretary of State for Health have agreed that the funding responsibility for prison health services in England is to be transferred from the Home Office to the Department of Health. This responsibility will take effect from April 2003 and is the first step in a process over the next five years which will see prison healthcare become part of the NHS\(^5\).

1.2.2. Health information

To tackle health needs systematically rather than reacting to demand, information on the population’s health needs and available services is needed. Valid and reliable information is not only required for ascertaining need and planning health services, but is also important in provision of high quality healthcare for individuals and regular audit of healthcare activities.
The NHS is implementing long-term plans to improve its information systems and communication channels. The document ‘Information for Health: an information strategy for the modern NHS’[^1], published in 1998, set out a seven-year strategy for the NHS to ensure that:

*NHS clinicians and managers have the information needed to support the core purpose of the NHS and the public and patients have a range of quality information easily accessible about health and health services.*

In this document specific targets for improving NHS health information were set, including lifelong Electronic Health Records (EHRs) for every person in the country and secondary care Electronic Patient Records (EPRs). It also commits the NHS to connect all GP computers to the NHSnet and make ‘the National electronic Library for Health’[^2] accessible to all NHS practitioners.

[^1]: www.nelh.nhs.uk
[^2]: www.nelh.nhs.uk
2. The task

### 2.1. Background to this project

In the South East region Health Authorities, Primary Care Trusts (PCTs) and prisons have been co-operating to produce HNAs and HImPs. South East Regional Prison Health Task Force collects and reviews these needs assessment regularly and has identified a paucity of routinely available data within prisons. The shortcomings of available information clearly have implications for the needs-based development of prison health services.

‘Identifying gaps in health information’ is one of Public Health Observatories’ main tasks. South East Public Health Observatory (SEPHO) and South East Regional Prison Health Task Force supported a project to assess prison health information needs in the South East region.

### 2.2. Remit

After discussions between the regional Task Force and SEPHO, and considering available resources and feasibility issues, we decided that the project could cover only a sample of prisons in the region. Considering logistics of the project, we agreed that male adult prisons located within the Thames Valley area would be a suitable sample and that the findings would be applicable to other prisons in the region. There are 4 such prisons in this area:
• HMP Woodhill: Milton Keynes, Buckinghamshire
• HMP Grendon: Vale of Aylesbury, Buckinghamshire
• HMP Spring Hill: Vale of Aylesbury, Buckinghamshire
• HMP Bullingdon: Bicester, Oxfordshire

2.3. Aims

• To describe the state of health information in prisons and identify information needs in a sample of prisons in the South East region.

• To obtain information required for planning and improving the provision of health information in prisons in the South East region.

2.4. Objectives

• To identify available local information for planning and managing prison health services in the region, including a review of sources of information for prison HNAs;

• To determine which information systems are used in prison healthcare;

• To obtain evidence on effectiveness and appropriateness of health information systems, in particular, in prison settings;

• To compare health information in the studied prisons with those in the NHS primary care and examples of good practice;

• To obtain the views of stakeholders, including policy makers, managers and clinicians;
• To identify unmet needs for health information in prison;

• To use collected information to recommend changes and formulate plans for action.
3. Methods

3.1. Theoretical framework

Need is the capacity to benefit from an intervention\(^8\). Health needs assessment is defined as a systematic method of identifying unmet health and healthcare needs of a population and making changes to meet these needs\(^9\).

Stevens and Raftery describe three approaches to needs assessment\(^10\):

- **Epidemiological**: Establishing what services are effective and for whom, and defining local availability.

- **Comparative**: Comparing services available to the target population with those available to other populations.

- **Corporate**: Exploring the knowledge, views, demands, and wishes of informants on healthcare services; a qualitative approach.

In this report the above framework was applied to ‘health information’, which is an important component of healthcare services and relevant to all health conditions and healthcare interventions.

3.2. Aspects of health information

After consultation with experts in the field of health information and prison healthcare services, I decided to investigate the following aspects of health information, as described in Table 1.
Table 1: Aspects of health information considered in this project

<table>
<thead>
<tr>
<th>Handling data and information systems</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Information systems</td>
<td></td>
</tr>
<tr>
<td>o IT facilities and computer systems</td>
<td></td>
</tr>
<tr>
<td>o Internet and email access</td>
<td></td>
</tr>
<tr>
<td>Analysing data and uses of information</td>
<td></td>
</tr>
<tr>
<td>o Health needs assessments</td>
<td></td>
</tr>
<tr>
<td>o Audit and clinical governance</td>
<td></td>
</tr>
<tr>
<td>o Provision and planning of healthcare services</td>
<td></td>
</tr>
<tr>
<td>o Epidemiological information and research</td>
<td></td>
</tr>
<tr>
<td>o Medical education</td>
<td></td>
</tr>
<tr>
<td>Sharing information</td>
<td></td>
</tr>
<tr>
<td>o Communication between agencies: other prisons, other criminal justice system agencies, GPs in the community, hospitals, social services, etc.</td>
<td></td>
</tr>
<tr>
<td>o Access to sources of information: NHSnet and other internet-based sources</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Data items and quality</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reception screening</td>
<td>Health check on entering prison</td>
</tr>
<tr>
<td>Clinical data</td>
<td>Clinical conditions, healthcare activities, referrals and discharge notes</td>
</tr>
<tr>
<td>Demographic data</td>
<td>Age, ethnicity, socio-economic background</td>
</tr>
<tr>
<td>Workload data</td>
<td>Incidence, prevalence, consultations, prescribing data, health promotion activities</td>
</tr>
<tr>
<td>Quality of data</td>
<td>Completeness, accuracy, accessibility, time required to collect and extract data</td>
</tr>
</tbody>
</table>
3.3. Epidemiological needs assessment

3.3.1. Evidence

First I conducted a preliminary literature search on ‘health information’ and ‘prison health information’ to explore what areas of health information, in particular in relation to prison, had been subject to research. Subsequently I conducted a more robust search and focused on the one area where evidence was available, i.e. comparisons of electronic medical records (EMR) with paper records.

3.3.2. Health information in prisons

I visited all the four prisons in the sample and conducted semi-structured interviews with a number of healthcare managers, Medical Officers, GPs, nurses and Health Care Officers to investigate the information available to them, quality and uses of the data and current information systems. I designed a proforma to collect relevant information during the interviews and visits (Appendix 1). I also had direct access to and reviewed a number of prisoners' medical records.

3.3.3. Prison health needs assessments: sources of information

I reviewed HNAs for the prisons in the Thames Valley area and a number of prisons outside this area, to explore the sources of data used to produce them.
3.4. Comparative needs assessment

3.4.1. Health information in the community

I visited two primary care centres in Oxford and interviewed practice managers and clinicians about the information systems they use and the data they routinely collect. I used a proforma to collect the relevant information. The proforma was similar to and adapted from the one I used for prison visits (Appendix 2).

One of these practices covers specifically the homeless population in Oxford. I chose this practice, as its patients are comparable to the prison population in respect to mobility, social exclusion, deprivation and common health problems such as drug and alcohol misuse and mental health problems.

The other practice is known as a pioneer of health information technology in Oxfordshire. I chose this practice as an example of good practice in health information.

I also visited the Multidisciplinary clinical Audit Advisory Group (MAAG) in Oxfordshire and interviewed the team manager. MAAG is involved in clinical audit and making best use of clinical computer systems in General Practices and PCTs in Oxfordshire to support clinical effectiveness and evidence-based practice\(^1\). The purpose of this interview was to discuss health information systems in Oxfordshire’s primary healthcare settings.
3.4.2. Health information in other prisons

I interviewed the Head of Prison Health Care Informatics at Prison Health Policy Unit, Department of Health, and discussed health information systems in other prisons and any plans for future changes. I also contacted a prison in the Eastern Region, where the relevant PCT is implementing EMIS primary care computer system in the prison.

3.5. Corporate needs assessment

3.5.1. Interviews

During visits to prisons and general practices I interviewed a number of healthcare staff. I also interviewed the following people:

- Head of Prison Health Care Informatics, Prison Health Policy Unit, Department of Health
- Prison Health Development Manager, South East Region
- Area Health Co-ordinator, Thames Valley, Hampshire and Isle of Wight area
- Two Public Health Specialist Registrars who had undertaken prison HNAs, South East and Eastern Regions

3.5.2. Healthcare managers workshop

I conducted a workshop for the healthcare managers of prisons in the Thames Valley, Hampshire and Isle of Wight area, to explore their views on the current
information systems and their expectations. First I gave a brief presentation on
the prison healthcare aims and reforms, the NHS information strategy, health
information in Oxfordshire and the objectives of the workshop. The workshop
consisted of three main sessions:

1. The first session was a small group discussion to agree on the purposes of
health information. A list (Box 1), adapted from “Good practice guidelines for
general practice electronic patient records”\(^1\), was discussed by each group
to decide on the relevance of these purposes to healthcare in prisons
(Appendix 3, session 1). Small groups fed back the results to the whole

group, and further discussions followed.

**Box 1: Suggested purposes of health information in prison**

<table>
<thead>
<tr>
<th>Clinical care of individual patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Assisting healthcare practitioner in making decisions</td>
</tr>
<tr>
<td>2. Acting as aide memoir for subsequent consultations</td>
</tr>
<tr>
<td>3. Making information available for others involved in the clinical care of the patient</td>
</tr>
<tr>
<td>4. Interacting with a decision support system: clinical guidelines, evidence, etc.</td>
</tr>
<tr>
<td>5. Providing information for other documents: referral letters, medical reports, lab requests, etc.</td>
</tr>
<tr>
<td>6. Storing information received from other parties or organisations: lab results, etc.</td>
</tr>
<tr>
<td>7. Transferring information to other prisons/NHS organisations when patient is transferred</td>
</tr>
</tbody>
</table>

Improving the health of the population

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>8. Assessing the health needs of the population</td>
</tr>
<tr>
<td>9. Identifying target groups for preventive/proactive interventions</td>
</tr>
<tr>
<td>10. Monitoring health promotion activities and outcomes</td>
</tr>
<tr>
<td>11. Supporting medical audit and clinical governance</td>
</tr>
<tr>
<td>12. Making information available for others involved in the social care of the patient</td>
</tr>
</tbody>
</table>

Non-clinical purposes: management and development

<p>| |</p>
<table>
<thead>
<tr>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Providing medico-legal information and evidence</td>
</tr>
<tr>
<td>14. Meeting the requirements of specific legislations</td>
</tr>
<tr>
<td>15. Providing evidence of workload</td>
</tr>
<tr>
<td>16. Provision and planning of facilities, healthcare staff, and medical supply</td>
</tr>
<tr>
<td>17. Monitoring the use of external resources: lab requests, referrals, prescribing, etc.</td>
</tr>
<tr>
<td>18. Enabling epidemiological monitoring, surveillance and research</td>
</tr>
</tbody>
</table>

\(^1\) Sudy Anaraki, Specialist Registrar in Public Health Medicine, South East Public Health Observatory & South East Prison Health Task Force, May 2003
* Adapted from “Good practice guidelines for general practice electronic patient records”

2. In the second session representative(s) from each prison completed a form (Appendix 3, session 2), comparing the existing paper records used in prisons with electronic records (similar to those used by GPs), in terms of achieving previously agreed objectives of health information in prisons. I briefly reviewed responses to explore areas of considerable difference and we discussed these differences.

3. The third session was another small group activity to discuss ways to improve health information in prisons, main barriers to improvement and ways to overcome those barriers (appendix 3, session 3). Small groups presented their feedback and further discussions followed.
4. Results of needs assessment

4.1. Epidemiological needs assessment

4.1.1. General

Table 2 is a summary of general characteristics of the 4 prisons covered in this project and their healthcare settings.

Table 2: Characteristics of prisons covered in this project *

<table>
<thead>
<tr>
<th>Establishment</th>
<th>Category &amp; capacity</th>
<th>Healthcare and general information</th>
</tr>
</thead>
<tbody>
<tr>
<td>HMP Woodhill Buckinghamshire</td>
<td>Category A</td>
<td>One wing designated as a close supervision centre. 24-hour medical cover with 24 beds.</td>
</tr>
<tr>
<td></td>
<td>650 male adults +</td>
<td></td>
</tr>
<tr>
<td></td>
<td>100 Young Offenders</td>
<td></td>
</tr>
<tr>
<td>HMP Bullingdon Oxfordshire</td>
<td>Category B</td>
<td>A training prison. 24-hour medical cover with 24 beds.</td>
</tr>
<tr>
<td></td>
<td>930 male adults</td>
<td></td>
</tr>
<tr>
<td>HMP Grendon Buckinghamshire</td>
<td>Category B</td>
<td>Started as an experimental psychiatric prison to provide treatment for prisoners with antisocial personality disorders. Each of its five wings operates as an autonomous psychotherapeutic community. Also 24-hour general medical cover.</td>
</tr>
<tr>
<td></td>
<td>230 male adults</td>
<td></td>
</tr>
<tr>
<td>HMP Springhill</td>
<td>Category D</td>
<td>An open prison, jointly managed with</td>
</tr>
<tr>
<td>Buckinghamshire</td>
<td>260 male adults</td>
<td>HMP Grendon. The two prisons share general healthcare services.</td>
</tr>
</tbody>
</table>

*Information collected during visits to prisons and from the HM Prison Service website (www.hmprisonservice.gov.uk)*

### 4.1.2. Literature on health information

Research on health information concentrates on certain aspects of information systems such as decision support systems, the overall patient outcome and user’s satisfaction. I did not find research on electronic transfer of data between organisations and its effectiveness in providing continuity of care; neither did I find research on prison health information systems.

A systematic review of 12 prospective studies, evaluating 6 different information systems, was conducted in the USA and assessed the relationship between EMRs and improvements in surrogate patient outcomes in primary care. The outcomes assessed in the original studies included management of certain chronic conditions and preventive interventions. The researchers conclude that despite methodological problems of the studies, it is apparent that, by generating reminders, electronic systems offer great potential for improving health outcomes.

Another systematic review from Canada, reviewed 68 controlled trials and assessed the effects of computer-based clinical decision support systems on physician performance and patient outcomes. Researchers concluded that
decision support systems could enhance clinical performance for drug dosing, preventive measures and some other aspects of medical care, but not convincingly for diagnosis. However, the authors reported most of the studies had flaws in design or analysis and the findings should be interpreted with caution.

Two cluster randomised controlled trials in the UK\textsuperscript{16} assessed the effect of computerised decision support systems on the management of asthma and cardiovascular conditions in primary care. The systems were embedded in two of the most widely used practice computer systems in the UK. The authors report no benefits arising from these decision support systems, probably due to low levels of software use by clinicians, and argue that more sophisticated software might prove more effective.

Another study from USA\textsuperscript{17} assessed the attitudes of physicians towards EMRs before and after implementation of the computer system. The results indicate that after implementation of the system clinicians were more concerned about the time required to document and order, clinician autonomy, rapport with patients and patient privacy and satisfaction. Concerns about privacy were shared by the patients.

A paper from the Netherlands\textsuperscript{18} describes the author’s opinion on the value of EMRs in Dutch primary healthcare. The author lists the benefits in 3 areas of healthcare:
• Individual care, quality improvement and education
  o Easy review of patient’s history: legibility, better quality of entered data
  o Computer-assisted medical history taking and diagnostic decision support
  o Decision support from textbooks, literature, and guidelines
  o Immediate communication with pharmacist, microbiologist, specialist, etc.
  o Identifying, monitoring and actively inviting high risk groups
  o Self-review and peer review of performance
  o Clinical or vocational training

• Scientific or policy-supporting research
  o Descriptive research: morbidity, mortality, health determinants, interventions
  o Other research feasibility, sample size estimation, sampling for studies

• Policy and management
  o Setting priorities and planning national and local health policy
  o Monitoring the general quality of care

Although some of the above benefits are self-evident, the author does not give enough evidence to support some of the less established benefits.

In conclusion, EMRs are likely to enhance clinical performance and patient outcomes in some areas of healthcare including preventive measures and drug
dosing, and have potential for further improvement in other areas such as
decision support systems for diagnosis and management of chronic diseases.
Some features of these systems still need more assessment. Many of the
advantages of EMRs, such as legibility and system’s ability to conduct queries,
analyse data and provide epidemiological information, are self-evident. Other
aspects such as time required to enter or extract data during consultations
would vary considerably according to the systems’ characteristics and users’
skills.

4.1.3. Prison health information

I assessed the following aspects of prison health information (see also table 1,
page 14) by collecting relevant information during visits to prisons and
interviews with the healthcare staff and managers.

<table>
<thead>
<tr>
<th>Handling data and information systems</th>
</tr>
</thead>
</table>

4.1.3.1. Information systems

- **IMRs:** Inmate Medical Records (IMRs) are files containing clinical
  information. The files include GP notes, healthcare interventions,
  prescriptions, drug charts, referral letters and reports, inpatient activities,
  medical test results, etc. These are paper records, mostly handwritten, and
  filed chronologically.
• **LIDS:** Local Inmate Database System (LIDS) is a prison database containing information on the inmate’s location (including hospital referrals, court attendance, etc), some demographic and general information including age, religion and ethnicity, security category and fitness for work and gym. The information is sent to the Home Office on a monthly basis and is rarely used by individual prisons.

In one of the four prisons, LIDS is also used as a chronic disease register, containing medical diagnosis for five chronic conditions: CHD, epilepsy, diabetes, asthma and other respiratory diseases. It does not hold any information on management, progress or outcomes of the condition.

• **HISP:** Health Information Systems for Prisons (HISP) is a health information database that has been implemented and used in some prisons across the country. In one of the prisons I visited, it has never been implemented, but the other three use it for administrative purposes such as referrals and waiting lists for dentist, optician and GUM clinic. HISP is not linked to LIDS and is not used for analysis by individual establishments. The data are sent to the Home Office, but prisons do not receive feedback.

• **Quantum:** HM Prison Service contracted the Quantum project to implement a new IT system in prisons, produce an electronic prisoner record and provide electronic links between prisons and with other Criminal Justice System organisations. The project is exploring ways to link with other
partners such as the NHS and Probation Service. Quantum is not designed for health purposes. The system has not yet been implemented in any of the four prisons studied.

- **Access to internet and email:** Prison healthcare centres do not have access to internet or NHSnet and cannot use electronic medical resources such as National Electronic Library for Health, electronic journals, web-based clinical guidelines, medical search engines, etc. The staff do not have access to email in prison.

  In one of the prisons there is one computer terminal with access to internet, which is not based in the consulting rooms and is not connected to NHSnet. There is one email address for the health centre, but it is not used for confidential information.

4.1.3.2. **Analysing data and uses of information**

The prisons do not and usually cannot use IMRs to produce statistics on health of the prisoners. Aggregating data from these paper records would be extremely labour-intensive, time-consuming, unreliable and costly.

LIDS and HISP have limited use in providing health statistics. One prison uses LIDS as a chronic disease register, and to record the number of A&E attendances, referrals and missed appointments. Others use the HISP for administrative purposes including referrals. In one prison the number of cases
with certain infectious diseases such as HIV and hepatitis B, and the number of self-harm incidents are manually collected on paper to produce statistics.

4.1.3.3. Sharing information

Communication between prisons and various health and criminal justice agencies is patchy. Health-related reports, such as psychiatric assessments, for police, probation service and courts may be sent to the prison if the information is considered to be important and relevant, but there is no system for such exchange of information. If these reports are sent to the medical staff they will be filed within the IMRs.

If the prisoner is transferred to another prison, the whole IMR will be transferred with him. In the case of newly arrived prisoners from the community, and if considered necessary, healthcare staff may ask for inmate’s consent to contact his GP and request information on past medical history, current medications, etc. This information may be received orally over the phone or on paper as a letter or report, but Lloyd-George records are not sent to prison.

Data Items and quality

4.1.3.4. Reception health screening

On entering the prison all new prisoners receive a reception health screening intended to identify those with healthcare needs. On the day of reception into prison, a nurse or Health Care Officer undertakes an initial assessment using a
standardised Home Office questionnaire. A further assessment is carried out by a doctor, usually immediately after the initial assessment, but in any case not later than 24 hours after that. The doctor also makes a decision on whether the prisoner is fit to work and to use the gym. The health screening form is kept in the IMR.

The existing prison health screening procedures have been shown to be of limited value in identifying health needs of individuals. A longitudinal study showed that the prison health screen identified only a quarter of men with mental health problems\textsuperscript{19,20}. Suggested reasons for the failure of the current reception screening include conceptual confusion of the questionnaire, uncertain discriminative worth of questions, unclear definitions of “screening positive” and a lack of protocol for action if a problem is identified\textsuperscript{21}. The Prison Health Policy Unit commissioned a redevelopment of screening procedures that were then introduced on a pilot basis in 10 remand prisons. The pilot study showed the new instrument is effective, particularly in identifying immediate healthcare needs and efficient secondary assessment\textsuperscript{21}.

\textbf{4.1.3.5. Clinical data}

During subsequent consultations doctors, nurses and other healthcare staff record the relevant information in the IMRs. The diagnosis is not coded, except in one location, where ICD10 codes are used for mental health conditions. Medical interventions including prescribed medication are also recorded in the IMRs. Pharmacies have their own computer system and keep a record of
dispensed drugs. A copy of any referral letter is held in the IMRs. The reports of external referrals are usually sent to the prison by post.

At the time of leaving prison, the prisoner may receive a discharge letter, with a summary of prisoner’s health condition and any current medications, if this is considered necessary. He can choose whether or not to pass this letter to his GP.

Information on some health promotion and health protection activities such as smoking cessation and, in one prison, hepatitis B immunisation are collected on separate paper records and used to produce activity reports. This information may also be included in the IMRs.

Drug and alcohol rehabilitation programme is provided by an independent service, CARAT (Counselling, Assessment, Referral, Advice and Throughcare service), which is not formally linked to the healthcare service. The team collects its own data and may share it with the healthcare staff informally or record some information in the IMRs although this is not a requirement.

4.1.3.6. Demographic data

All prisons collect some demographic data including age, ethnicity and place of birth and record them in IMRs and also in LIDS, which is accessible to all prison staff, including healthcare staff.
Education and previous employment details are not recorded in IMRs, but randomly recorded on general prison records, and used for education and work in prison. They are not routinely used for health purposes. Information on type of offence and sentence are recorded in both IMRs and LIDS.

4.1.3.7. Workload data

None of the prisons in the Thames Valley area are able to provide health statistics, using routinely collected data, except limited information collected in one prison where an electronic disease register for five chronic conditions exists and another prison where the cases of certain infectious diseases including HIV and hepatitis B are counted. Number of referrals are recorded on either LIDS or HISP systems, but statistics on GP or nurse consultations are not produced.

Information on the workforce is kept separately by the Prison Service and is not linked to the healthcare.

4.1.3.8. Quality of data

The majority of collected health information is handwritten notes, which may be illegible or unstructured. The accuracy and completeness of these data varies, depending on individual staff. In one prison the healthcare manager regularly audits data quality by reviewing a sample of IMRs, and feeds results back to the staff.
In the case of prisoners with long-standing health problems or complicated conditions the IMR may be of considerable size and several volumes, and it would be difficult and time-consuming to extract the relevant information. The smaller proportion of the information collected on LIDS or HISP is more easily accessible, but it usually does not include clinical data and data entry is not standardised.

Referral reports from external consultations are sent to the prisons by post, and may take days before they reach the healthcare team in the prison.

### 4.1.4. Prison health needs assessments

I reviewed a number of HNA reports and papers published on the conduct of prison HNAs.

A toolkit for health needs assessments in prisons, published by University of Birmingham, recommends the following sources of information for HNAs:

- Local data: HISP, reception screening, IMRs, prescribing data, surveys; and
- Where local data are not available: Estimates of prevalence based on figures in a comparable community

The report acknowledges that such information may overestimate disease rates (if the number of consultations rather than number of patients are counted) or underestimate them (e.g. mental health problems).
HNAs conducted in the Thames Valley area\textsuperscript{22,23} estimated prevalence of physical and mental health problems based on national prison surveys or figures given in the ‘Health care in prisons: a health care needs assessment\textsuperscript{1}, which is a resource for prison HNAs and is itself based on the results of national surveys. Scattered general information from LIDS and HISP and some indirect estimates based on the number of consultations and referrals have also been used.

One HNA conducted in a London prison\textsuperscript{28} identified lack of electronic information as a major problem, and during the exercise the authors had to modify the list of information they originally intended to collect.

Two other prison HNAs conducted in Avon and South & West Devon\textsuperscript{26} reported similar difficulties. The authors argue that as a result of limited epidemiological data in prisons, a corporate approach to HNA emerged as the dominant method.

A HNA in Eastern Region\textsuperscript{24} reported prevalence rates after conducting a special survey in the local prison.
4.2. Comparative needs assessment

4.2.1. Health information in general practices

Handling data and information systems

4.2.1.1. Information systems

One of the health centres that I visited started using EMIS 5.1, alongside paper records, in 1998, but since April 2002 data are collected only on computer and all the old paper records are now being summarised into electronic records. The other practice implemented Torex Premier Synergy system in February 2002, after transferring their system from EMIS, and is virtually paperless now. GPs and managers in the two centres described these systems as secure, flexible and user-friendly.

Both practices have access to email, internet and NHSnet. These links are used for communication with other health and social care providers and to access online resources such as guidelines and sources of evidence-based medicine.

4.2.1.2. Using information

Both systems can be used to search practice databases and run queries, and are used to analyse data and produce reports, both for internal use within the practice and for feedback to the PCT. Practices use the data for internal audit, research and education, while the PCT needs them for contracts and payments, HNAs, HImPs and planning.
4.2.1.3. Sharing information

Links with similar or compatible systems and electronic data transfer is possible with both systems. One of these systems is linked to ambulance services, out-of-hour community nurses, radiology and hospitals, and work is underway to provide more links with microbiology labs, pharmacies, etc.

Data Items and quality

4.2.1.4. Clinical data

In one practice all the clinical information is recorded in electronic format and Read codes are used for clinical diagnoses. Reports of referrals and investigation results are transferred to EMRs.

In the other practice all clinical data are in electronic format, except for the results of medical tests and investigations that are in the process of being computerised. The practice uses Read codes for medical diagnoses and ICD10 codes for psychiatric conditions.

In the practice for the homeless, all new patients go through a full health check and social needs assessment by the nurse and are seen by a doctor if deemed necessary.
4.2.1.5. Demographic data

In the practice covering the homeless population, information about last job and housing situation is collected, but ethnicity is not usually recorded. In the other practice patients are asked about their occupation, but answering this question is not mandatory and the data may be missing.

4.2.1.6. Workload data

Both practices can easily analyse their data to produce population profiles, statistics on morbidity, mortality, and other indicators of health and healthcare activities. Workforce data are kept in separate records at the PCT and are not linked to practices’ information systems.

4.2.1.7. Quality of data

Staff in both practices described their systems as intuitive and user-friendly. Extracting information from the records during consultations is easy. Summary of patient medical history, current treatments and other relevant data are readily accessible. Additional useful information such as reminders, safety warnings and guidelines are incorporated into the systems.

Entering data into computer could be fast, depending on typing and IT skills of individuals, although working with these systems does not require high levels of computer literacy. A 2-3 hour training session is generally considered enough for someone with basic IT skills.
Using codes can prevent errors arising from illegible handwriting or typing errors. One practice conducts regular coding checks and information audit.

4.2.2. Health information in Oxfordshire primary care settings

I discussed Oxfordshire primary care health information systems with MAAG team leader. All Oxfordshire general practices have computerised systems of various specifications, with almost two thirds using different versions of EMIS. Data can be extracted from these computers for audit purposes, using interrogating programmes that can talk to almost all of these systems. Assessment of compliance with national guidelines such as National Service Framework recommendations can be conducted with relative ease. MAAG conducts such audits for the Oxfordshire general practices.

4.2.3. Other prisons

The purpose of my interview with the head of Prison Health Care Informatics was to discuss health information in other prisons in England and Wales. She informed me that a pilot project was underway to evaluate implementing electronic health information systems in prison. The pilot project is evaluating 3 clinical information systems (EMIS, In Practice and Sunrise Clinical Manager) in 7 different prisons (none in the Thames Valley) and will compare the outcomes in terms of collecting data on individual patients, processing data including
decision support systems, and dissemination of healthcare information. The results were not ready at the time this report was being prepared.

Some PCTs are implementing primary care clinical information systems in prisons including one prison in the Eastern Region, where the relevant PCT is implementing EMIS. When I contacted the prison, the system was not fully implemented and it was too early to assess the outcomes, although they had started using it for administrative purposes and some health promotion activities, including immunisation. Other functions are expected to start within a few months.
4.3. Corporate needs assessment

This corporate needs assessment consisted of interviews with stakeholders and a workshop for prison Healthcare Managers in the South East Region. The workshop consisted of three sessions to:

i) Agree on the purposes of health information

ii) Compare information systems in prison and in the community

iii) Discuss barriers and ways to improve prison health information

4.3.1. Interviews

All stakeholders that I interviewed agreed that prison health information suffers from considerable problems, due to lack of computerised systems. Those who conducted prison HNAs could not use routinely collected data and had to provide estimates of health problems and healthcare interventions or to conduct special studies, such as surveys, to fill the gap in usable information. Managers at regional and national level also considered lack of routine information as a barrier to provide a needs-driven and evidence-based healthcare in prisons. They informed me that almost all prisons in the South East region are suffering from similar problems and none have a computerised health information system.

4.3.2. Workshop results

Healthcare managers and/or other representatives from 7 out of the 10 prison healthcare centres in the Thames Valley, Hampshire and Isle of Wight area
attended the workshop. This provided a good representation of prisons in the area and an opportunity to capture the views of healthcare staff and managers. There were considerable similarities in the experiences and expectations of all representatives.

4.3.2.1. Purposes of collecting health information

Workshop participants agreed on the majority of items proposed as purposes of health information (Box 1, Page 18). One group did not agree that health information and databases, either on paper or electronic, could accurately reflect the quality of healthcare, or measure the workload. They argued that routinely collected information might only be a partial evidence of the workload, as it is mainly a quantitative measurement of certain aspects of healthcare and does not reflect the quality of the work. They considered routinely collected health information as an insufficient tool for clinical governance, medical audit and measuring workload.

There was also some uncertainty and discussions around some other topics, with groups not being certain if they are relevant to, or appropriate in the context of healthcare in the prisons. All groups had concerns about transferring information between prisons and other organisations, including NHS and social services. Although they agreed that such information sharing would improve the quality of care, they were concerned about confidentiality and consent issues. There were different views on whether or not an inmate’s consent for transferring their data to other organisations is required and if such transfer
without their permission would be in breach of confidentiality requirements. The uncertainty about safeguards for data protection led the groups to suggest some filtered information could be transferred between organisations involved in the care of the patient and information sharing should be limited.

One group expressed their uncertainty about the role of health information in monitoring health promotion activities, provision and planning of healthcare facilities and staffing and supporting continued medical education. They considered routinely collected health data might not be sufficient to monitor activities and plan for the services. They suggested that specifically collected information might be required for these purposes.

As for continued medical education, they believed other educational resources might be as relevant as medical records and education is not the primary purpose of health information systems.

4.3.2.2. Comparison of IMR and EMR

In the second session of the workshop participants completed a form comparing IMR and EMR in terms of achieving purposes of health information. Each item was scored between 0-5 by representatives from each of the 7 prison health centres. I added up scores for each item to calculate an overall score up to a maximum of 35. Figure 2 shows the total score for each item, comparing electronic and paper records.
Figure 2: Workshop participants’ comparison of IMR and EMR in achieving purposes of health information

<table>
<thead>
<tr>
<th>Identified purposes of health information*</th>
<th>IMR</th>
<th>EMR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical care of individual patients</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Assisting healthcare practitioner in making decisions</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>2. Acting as aide memoir for subsequent consultations</td>
<td>29</td>
<td>31</td>
</tr>
<tr>
<td>3. Making information available for others involved in the clinical care of the patient</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>4. Interacting with a decision support system: clinical guidelines, evidence, etc.</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>5. Providing information for other documents: referral letters, medical reports, lab requests, etc.</td>
<td>32</td>
<td>33</td>
</tr>
<tr>
<td>6. Storing information received from other parties or organisations: lab results, etc.</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>7. Transferring information to other Prisons/NHS organisations when patient is transferred</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Improving the health of the population</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Assessing the health needs of the population</td>
<td>31</td>
<td>34</td>
</tr>
<tr>
<td>9. Identifying target groups for preventive/proactive interventions</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>10. Monitoring health promotion activities and outcomes</td>
<td>31</td>
<td>33</td>
</tr>
<tr>
<td>11. Supporting medical audit and clinical governance</td>
<td>32</td>
<td>32</td>
</tr>
<tr>
<td>12. Making information available for others involved in the social care of the patient</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>Non-clinical purposes: management and development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Providing medico-legal information and evidence</td>
<td>31</td>
<td>33</td>
</tr>
<tr>
<td>14. Meeting the requirements of specific legislations</td>
<td>30</td>
<td>32</td>
</tr>
<tr>
<td>15. Providing evidence of workload</td>
<td>31</td>
<td>32</td>
</tr>
<tr>
<td>16. Provision and planning of facilities, healthcare staff, and medical supply</td>
<td>33</td>
<td>34</td>
</tr>
<tr>
<td>17. Monitoring the use of external resources: lab requests, referrals, prescribing, etc.</td>
<td>34</td>
<td>35</td>
</tr>
<tr>
<td>18. Enabling epidemiological monitoring, surveillance and research</td>
<td>33</td>
<td>32</td>
</tr>
<tr>
<td>19. To support teaching and continuing medical education</td>
<td>32</td>
<td>33</td>
</tr>
</tbody>
</table>

*Adapted from “Good practice guidelines for general practice electronic patient records”

A report by Dr Sudy Anaraki, Specialist Registrar in Public Health Medicine, South East Public Health Observatory & South East Prison Health Task Force
May 2003
Scores given to electronic records by individual representatives were rather similar for most items, and differences were not very big. However, differences in scores given to IMRs were greater for some items. We discussed the reason for these differences in the group.

Participants believed that the quality and accuracy of data entered into both paper and electronic records depends on the individuals entering the data. In some prisons, where data audit is conducted regularly, the quality and accuracy of IMRs would compare favourably to other prisons.

Some representatives believed that transfer of paper records is an acceptable way of sharing information. The usability of these records depends on the quality of records but transfer of electronic records may also be problematic, if computer systems are incompatible. There were also some uncertainties regarding confidentiality issues, which apply to both paper and electronic records, and limit information sharing.

Some participants considered ‘service requirements’ such as HNAs and HImPs as ‘legal requirement’ and believed IMRs cannot be used to meet these requirements. Others considered different aspects of legal requirements such as data protection and confidentiality and scored IMRs relatively higher. They argued that computerised records might not be more secure than paper records. The issue of electronic signatures was also discussed, with some of
the participants not convinced of the appropriateness and security of using
them.

Some representatives believed that IMRs could provide a more accurate picture
of workload, because of the flexibility and freedom with which the data can be
entered, rather than filling electronic forms with fixed questions.

One of the representatives believed that paper records could be as effective as
the electronic records to support teaching and medical education.

4.3.2.3. Health information improvement, barriers and solutions

Small groups discussed ways to improve health information in prisons and
came up with the following list:

- Provision of up-to-date IT equipment
- Access to internet and electronic databases
- Integration of health information systems with the systems used in the
  NHS
- Appropriate IT training for all healthcare staff
- Improved information sharing with the NHS and other involved
  organisations
- Clear guidelines for access to information by different staff and sharing of
  information between organisations
- Easy access to information for all healthcare staff
• Telemedicine, and access to NHS-Direct for prisoners and healthcare staff

Perceived barriers to improving health information in prisons were the following:

• Lack of IT facilities in the prisons
• Lack of IT training for healthcare staff
• Concerns about potential breaches of security and discipline posed by computers
• Time required for modernising health information in prisons, compounded by staff shortage in prisons’ healthcare settings
• ‘Negative culture’ towards prison health and resistance towards change
• Lack of understanding of advantages and disadvantages of information systems
• Financial constraints

They suggested ways to overcome the barriers:

• Sufficient funding and human resources
• Education and IT training for healthcare workers
• Change of attitude and culture, more commitment and emphasis on health
• Motivation, job satisfaction and a sense of purpose for the healthcare staff
• Working more closely with other agencies, learning from each other
• Setting realistic aims and targets for improvement
4.3.2.4. Summary of workshop results

The participants accepted that the purposes of collecting routine health information in prison are broadly the same as those in other healthcare settings. These purposes can be categorised under three headings: clinical care of individual patients; improving the health of the population; and non-clinical purposes such as management and development. Some of the participants had reservations about using routinely collected data to monitor the quality of care and the workload. Almost all expressed their uncertainty about the transfer of data to other organisations and data security. They felt there was a need for clearer guidelines to safeguard the security of prison environment as well as data security.

All the representatives agreed that electronic health records would be more effective than IMRs in achieving the 19 suggested purposes of health information, and suffer from fewer shortcomings. Although IMRs compared unfavourably to electronic records in all areas, the differences between scores given to the two systems were less marked in the area of clinical care of individual patients and considerably bigger for the purposes of improving the population’s health.

The perceived rigidity of electronic systems with restricted fields was considered as a barrier to accurately reflect the complexity of some cases, workload and
the quality of care. Legal aspects of health information such as electronic signature and data security of electronic records were also cause for concern.

Prison healthcare staff and managers agreed that to improve provision of prison healthcare it is necessary to provide access to modern IT systems, internet links, electronic links with other organisations (in particular NHS) and IT training for all staff. This would require commitment to and investment in the prison healthcare services. Changing the prevailing culture of low priority given to health in prisons through debate and education is necessary. Staff need more encouragement and support to achieve a sense of direction and job satisfaction.

Overall, there appears to be little resistance to or reluctance towards the introduction of electronic health information systems, although there is some anxiety and uncertainty about the effects of such a change.
4.4. Summary of project’s findings

Table 3 is a summary of findings of this health information needs assessment.

<table>
<thead>
<tr>
<th>Information systems</th>
<th>Epidemiological NA (Prison data)</th>
<th>Literature review</th>
<th>Comparative NA (Primary care data)</th>
<th>Corporate NA (Workshop, interviews)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMR: paper medical record</td>
<td>Electronic information systems and EMRs effective in improving many aspects of healthcare</td>
<td>Electronic medical systems, containing most or all health and healthcare activity information; Internet, NHSnet and email available</td>
<td>Computerised health information systems are more effective and are needed to improve many aspects of healthcare activities</td>
<td></td>
</tr>
<tr>
<td>LIDS and HISP: prison record, not suitable for health purposes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quantum: not working yet</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No internet or email access</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Using information</td>
<td>Data cannot be used for HNAs or to produce statistics on healthcare activity, incidence, prevalence, etc.</td>
<td></td>
<td>Data can easily be extracted and analysed for audit, research and payment purposes</td>
<td>Health information in prisons cannot be used to analyse data, unlike in GP practices</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sharing information</td>
<td>Limited information sharing through letters and reports, no electronic links</td>
<td></td>
<td>Electronic links with hospital trusts, etc., more communication channels are being developed</td>
<td>Prisons need to share some limited information with others; clearer guidelines on data protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reception screening</td>
<td>Current screening not collecting relevant and useful information to assess individual’s health needs accurately</td>
<td>New reception screening more effective in detecting individual’s healthcare needs*</td>
<td>A health check in one practice, not using a structured method, results included in EMRs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Epidemiological NA (Prison data)</td>
<td>Literature review</td>
<td>Comparative NA (Primary care data)</td>
<td>Corporate NA (Workshop, interviews)</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------</td>
<td>-------------------</td>
<td>-----------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td><strong>Clinical data</strong></td>
<td>Data recorded on paper, diagnostic codes not usually used, ICD10 in one prison, for mental health problems</td>
<td>____</td>
<td>All data saved electronically, Read codes, and rarely ICD10 codes are used</td>
<td>____</td>
</tr>
<tr>
<td><strong>Demographic data</strong></td>
<td>Limited data on LIDS and IMRs</td>
<td>____</td>
<td>Some data are collected on EMRs</td>
<td>____</td>
</tr>
<tr>
<td><strong>Workload data</strong></td>
<td>Consultations recorded in IMRs, referrals on LIDS (no clinical information)</td>
<td>____</td>
<td>All information collected on EMRs and can be analysed to produce activity report</td>
<td>Routinely collected health information not good evidence of workload, other methods needed</td>
</tr>
<tr>
<td><strong>Quality of data</strong></td>
<td>Quality check not common, handwritten notes, completeness and accuracy variable</td>
<td>____</td>
<td>Notes are legible, accessible to all team members, regular information audit &amp; code check</td>
<td>Prison staff not convinced that electronic records are always of higher quality</td>
</tr>
</tbody>
</table>

*Reports of a pilot study, obtained from Prison Health Policy Unit*.
5. Discussion

Workshop discussions and meetings with the Area Prison Health Co-ordinator identified that none of the prisons in this area have computerised information systems. Although the remit of this project was male adult prisons in the Thames Valley area, it is likely that the results are applicable to other prisons in the region and recommendations could be considered for service planning in the whole region.

There is a relative paucity of evidence on the effectiveness of services, including health information, in prison healthcare settings. In this project I gathered available evidence on aspects of health information that had been subject to research. For other aspects of health information I used comparisons or common knowledge as a basis for making conclusions.

The workshop was designed in a way that participants could discuss the issues around prison information systems and make comparisons with primary care in the community. For those attendants who had never used EMRs, the comparison between IMR and EMR was a theoretical exercise. They may underestimate or overestimate benefits of EMRs. They may also have anxieties about EMR’s potential pitfalls, especially in respect to prison security and discipline.
6. Conclusion

Computer based health information systems are beneficial in improving clinical performance. They would also assist healthcare staff and managers with audits, HNAs, HImPs, service planning and improvement. None of the prison healthcare centres in the Thames Valley area are computerised. There is a clear need for electronic health information systems in the prisons.

GP practices in the community use electronic medical systems and are satisfied with them. Primary care computer systems can be utilised to produce population profiles, health statistics and activity reports. They are used for audit and HNA purposes. I contacted one prison where the relevant PCT is implementing a primary care system to facilitate functions such as HNA and links between prison and PCT. Although the system is not fully implemented yet, this development is promising, as it is an example of collaboration between PCT and prison to improve prison health information.

Prison healthcare staff and managers believe that computerised health information systems can improve healthcare provision and should be implemented in prisons. They feel that it is not only financial investment that is needed, but a change in the prevailing culture and a commitment to improvement are also necessary. They expect all staff to receive more education and training on various aspects of health information including data protection and IT skills.
Other professionals, who are involved with planning and provision of prison healthcare, are also concerned about the gap in usable routinely collected health information, and the lack of computer systems in prisons.

A new reception health screening system has been recently evaluated in a pilot study and was shown to be more effective in detecting healthcare needs of prisoners. The system will be rolled out from next year and healthcare services will benefit from using the new system. However, the new screening system was shown to be effective in the care of individual patients and unless a health information system is in place to analyse the data and provide information at a population level, benefits of this new system for planning services would be limited.
7. Recommendations

The guiding principle of healthcare in prison is to provide the same level and standards of care for prisoners as they would receive in the community. This would not be possible without providing the same facilities for the healthcare services in prisons, including information systems. To improve health information in prison healthcare staff should have:

- Access to IT facilities and primary care information systems
- Be able to manage (collect, store, analyse, communicate) health information
- Be able to perform tasks such as HNA, HIImP and audit by using routinely collected data

The following are recommendations on how to achieve the above objectives:

PCTs and prisons should work together more closely and consider health information as a priority.

PCTs should consider options for implementing primary care computerised information systems in prisons.

PCTs should share their experience and knowledge of analysing and using information, for purposes such as HNA and audit, with prisons and support them in doing so.
A steering group should be established composed of representatives of prisons and PCTs to monitor progress in prison health information and plan further developments.

There should be more debate and education in prisons for all staff to raise the awareness on the importance of health information and needs based healthcare services.

There should be clear guidelines and more training for healthcare staff on confidentiality issues, data protection and communication with other agencies.
References


A report by Dr Sudy Anaraki, Specialist Registrar in Public Health Medicine, South East Public Health Observatory & South East Prison Health Task Force
May 2003


Appendices

Appendix 1:
Data collection proforma: prisons visits

Appendix 2:
Data collection proforma: General Practice visits

Appendix 3:
Workshop data collection proforma
Appendix 1: Proforma for data collection at visits to prisons

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Is data collected? If yes, electronic or paper?</th>
<th>Who needs/uses data?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual patient data while in prison</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, ethnicity/place of origin, employment,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of offence/sentence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical diagnosis without coding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical diagnosis with coding (ICD-10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical interventions/procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical tests: e.g. radiology, ECG, lab tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral: reason, speciality, outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Leaving prison/between prisons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health promotion: smoking cessation,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>drug/alcohol rehab</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reception screening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other?</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Individual Patient Data from Other Sources

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP/Dentist in the community (before detention)</td>
<td>Case-mix: incidence, prevalence</td>
</tr>
<tr>
<td>Court reports</td>
<td>Workload: e.g. consultations, referrals, in-patient</td>
</tr>
<tr>
<td>Probation</td>
<td>Workforce: staffing, recruitment, training</td>
</tr>
<tr>
<td>Police reports</td>
<td>Health promotion: programmes, prison environment</td>
</tr>
<tr>
<td>Social services information</td>
<td>Audit: local and comparisons with other establishments</td>
</tr>
<tr>
<td>Other prisons</td>
<td>Other?</td>
</tr>
</tbody>
</table>

### Population and Practice Data

<table>
<thead>
<tr>
<th>Data Source</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>GP/Dentist in the community (before detention)</td>
<td>Case-mix: incidence, prevalence</td>
</tr>
<tr>
<td>Court reports</td>
<td>Workload: e.g. consultations, referrals, in-patient</td>
</tr>
<tr>
<td>Probation</td>
<td>Workforce: staffing, recruitment, training</td>
</tr>
<tr>
<td>Police reports</td>
<td>Health promotion: programmes, prison environment</td>
</tr>
<tr>
<td>Social services information</td>
<td>Audit: local and comparisons with other establishments</td>
</tr>
<tr>
<td>Other prisons</td>
<td>Other?</td>
</tr>
</tbody>
</table>

- **Information systems: ICT facilities in prisons**
  - LIDS
  - HISP
• Quantum
• Internet and email access, NHS net and National Electronic Library for Health (NELH)
• IT training for the staff
• Ability to analyse available data
• Flow of information: communication between agencies, Confidentiality and security of data
• Costs
  • The existing prison health information system
  • Improving information systems
## Appendix 2: Proforma for data collection at visits to GP practices

<table>
<thead>
<tr>
<th>Type of data</th>
<th>Is data collected?</th>
<th>Who needs/uses data?</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Individual patient data while in prison</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age, sex, ethnicity/place of origin, employment, education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life style: smoking, drug, alcohol</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical diagnosis without coding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical diagnosis with coding (ICD-10)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical interventions/procedures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Medical tests: e.g. radiology, ECG, lab tests</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prescription information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referral: reason, speciality, outcome</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other?</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Population and practice</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Case-mix: incidence, prevalence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workload: e.g. consultations, referrals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Workforce: staffing, recruitment, training</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Health promotion initiatives

<table>
<thead>
<tr>
<th>data</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health promotion initiatives</td>
</tr>
<tr>
<td>Audit: local and comparisons with other establishments</td>
</tr>
</tbody>
</table>

- **Information systems: ICT facilities**
  - Clinical information system
  - Internet and email access
  - NHS net and National Electronic Library for Health (NELH)
  - IT training for the staff
- **Ability to analyse available data**
- **Flow of information:** communication between agencies, confidentiality and security of data
- **Costs:**
  - The existing health information systems
  - Improving information systems
Appendix 3: Workshop data collection forms

Session one: Small group discussions
Do you agree with the following purposes of collecting health information?*

1. Clinical care of individual patient:

<table>
<thead>
<tr>
<th>The purpose</th>
<th>1: agree</th>
<th>2: don't know</th>
<th>3: disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.1. Assist health care practitioner in making decisions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.2. Aide memoir for subsequent consultations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.3. Make information available for others involved in the clinical care of the patient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.4. To interact with a decision support system: clinical guidelines, evidence, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.5. Information for other documents: referral letters, medical reports, lab requests, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.6. Storing information received from other parties or organisations: lab results, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.7. Transfer information to any other Prison or NHS organisation when patient is transferred</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Improving the health of the population:

<table>
<thead>
<tr>
<th>The purpose</th>
<th>1: agree</th>
<th>2: don't know</th>
<th>3: disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.1. Assessing the health needs of the population</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.2. Identifying target groups for preventive/proactive interventions</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.3. Monitoring health promotion activities and outcomes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.4. Supporting medical audit and clinical governance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.5. Make information available for others involved in the social care of the patient</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. Non-clinical purposes; management and development:

<table>
<thead>
<tr>
<th>The purpose</th>
<th>1: agree</th>
<th>2: don't know</th>
<th>3: disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.1. Providing medico-legal information and evidence</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.2. Meeting the requirements of specific legislations</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.3. Providing evidence of workload</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.4.</strong></td>
<td>Provision and planning of facilities, health care staff, and medical supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.5.</strong></td>
<td>Monitoring the use of external resources: lab requests, referrals, prescribing, etc.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.6.</strong></td>
<td>To enable epidemiological monitoring, surveillance and research</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>3.7.</strong></td>
<td>To support teaching and continuing medical education</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(adopted from “Good practice guidelines for general practice electronic patient records” by: RCGP & joint computing group of GPs committee)*
**Session two: Prisons’ form**

<table>
<thead>
<tr>
<th>Name of the Establishment:</th>
<th>……………………………………………………………………………………………………………………………</th>
</tr>
</thead>
<tbody>
<tr>
<td>Your job title(s):</td>
<td>……………………………………………………………………………………………………………………………</td>
</tr>
</tbody>
</table>

The aim of this section is to explore in your establishments:

- How far the following objectives of the health information can be achieved by the current system?
- If you had a computerised health information system similar to those used in most GP practices (e.g. EMIS), how far do you think the following purposes would be achieved?

Please complete the following table, considering the above questions. As a rough guide, you can use the following criteria for scoring:

- **Time required to record/extract/use data**
- **Usability of the data**
- **Accessibility of the data**
- **Accuracy/completeness of data**
- **Timeliness**

<table>
<thead>
<tr>
<th>IMR/existing health information system</th>
<th>Electronic records/computerised information systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Score 0-5</td>
<td>Score 0-5</td>
</tr>
</tbody>
</table>

### 1. Clinical care of individual patient

1.1. Assist health care practitioner in making decisions

1.2. Aide memoir for subsequent consultations

1.3. Make information available for others involved in the clinical care of the patient

1.4. To interact with a decision support system: clinical guidelines, evidence, etc.

1.5. Information for other documents: referral letters, medical reports, lab requests, etc.

1.6. Storing information received from other parties or organisations: lab results, etc.

1.7. Transfer information to other Prisons/NHS organisations when patient is transferred
### 2. Improving the health of the population

2.1. Assessing the health needs of the population

2.2. Identifying target groups for preventive/proactive interventions

2.3. Monitoring health promotion activities and outcomes

2.4. Supporting medical audit and clinical governance

2.5. Make information available for others involved in the social care of the patient

### 3. Non-clinical purposes; management and development

3.1. Providing medico-legal information and evidence

3.2. Meeting the requirements of specific legislations

3.3. Providing evidence of workload

3.4. Provision and planning of facilities, health care staff, and medical supply

3.5. Monitoring the use of external resources: lab requests, referrals, prescribing, etc.

3.6. To enable epidemiological monitoring, surveillance and research

3.7. To support teaching and continuing medical education
Session Three: Small group discussions

Discuss the following questions in your groups. (30 minutes)
You will have 5 minutes to feedback the results.

1- Could you suggest ways to improve health information in prisons?
   (Feedback the 5 most important ones)

2- What are the main barriers to improving health information in prisons?
   (Feedback the 5 most important ones)

3- Could you suggest ways to overcome the barriers you have identified?