Journal of Public Health Medicine

Vol. 23, No. 3, pp. 198–204
Printed in Great Britain

Health care needs assessment in prisons: a toolkit

Tom Marshall, Sue Simpson and Andrew Stevens

Abstract

Background Since 1999, prison health services and health authorities have been jointly responsible for assessing the health care needs of the prison population. To facilitate this process, the Department of Public Health and Epidemiology at the University of Birmingham developed a toolkit for carrying out a health care needs assessment of the prison population.

Methods This paper describes the principles of the epidemiological approach to needs assessment and presents a stepped approach to carrying out a health care needs assessment in prisons. Some examples of the kind of health care needs to be found in prisons are presented.

Results A systematic approach to the assessment of the health care needs of prisoners ensures that all the essential components of this important planning exercise are considered. The prison population is described, health problems are identified and quantified, and a review of current services is carried out. This allows the most effective solutions to addressing the health problems to be established. The process can be time consuming and is reliant on good data sources, but it does ensure that health problems and service elements are considered and addressed together rather than in a disjointed manner.

Conclusion The stepped approach to epidemiological needs assessment allows health problems and current services to be identified. It also allows these to be matched to appropriate service requirements.

Keywords: needs assessment, prisons, planning, health service planning

Introduction

Those who are responsible for planning and commissioning health care within the prison service are required to assess the health care needs of their prison populations.[1] A practical toolkit for carrying out a health care needs assessment of the prison population has been developed by the Department of Public Health and Epidemiology at the University of Birmingham.[2] The toolkit is based on the epidemiological method of needs assessment described in the *Health care needs assessment series* edited by Stevens and Raftery.[3] It was developed in liaison with a steering group consisting of members of the former Health Care Directorate of the Prison Service and the NHS Executive. The toolkit was piloted at a workshop with representatives from the Kent cluster of prisons and modified accordingly.

This paper briefly describes the principles of the epidemiological approach to needs assessment and the stepped approach to carrying out a health care needs assessment in prisons adopted by the toolkit. The toolkit recognizes the particular nature of prisons but also the applicability of the usual public health tools. A health care needs assessment of the general prison population was carried out in tandem with the development of the toolkit (see www.doh.gov.uk/prisonhealth/toolkit.htm), which, amongst other things, summarizes the limited epidemiological data available at the time on the prison population. This piece of work was very timely because of the recommendation by a Working Group of Officials from the Prison Service and the NHS Executive that the Prison Service and the NHS should work closer together to identify the health needs of prisoners in their area.[1] The toolkit has to date been utilized by a number of pilot prisons.

Aims of a health care needs assessment

The aims of a health care needs assessment are to gather information to plan, negotiate and change services for the better and to improve health in other ways. In the process a clear picture is developed of current service provision. In general, the reasons why services may need to be changed are well recognized. They include the fact that some services tend to reflect historical developments rather than health needs; the emergence of new treatments, better knowledge or new diseases in the population; and changing expectations of both patients and providers. In prisons, in particular, 'historical developments' include the extra dimension of the main objective of the service being custodial care and all its ramifications rather than health. The process of

Department of Public Health and Epidemiology, University of Birmingham, Edgbaston, Birmingham B15 2TT.

Tom Marshall, Lecturer in Public Health Medicine

Sue Simpson, Research Fellow

Andrew Stevens, Professor of Public Health Medicine

Address correspondence to Dr T. P. Marshall.
E-mail: T.P.Marshall@bham.ac.uk

carrying out a health care needs assessment is also an opportunity to involve the stakeholders in the planning of services and to ensure that they have a feeling of ownership.

Definitions

When we discuss need we are concerned with the individual or population's potential to benefit from health care interventions.[3] There is a meaningful need for a health care intervention only when there is an effective and acceptable intervention to prevent, cure or ameliorate a health problem. Health care needs assessments therefore require knowledge of the incidence and/or prevalence of the health problem and of the effectiveness of services to address that problem. It is important to recognize that need-for-health or 'neediness' is different from 'need for' health care. The rationale for this is simple. If the aim of the health service is to improve health, it must focus its resources on interventions that can effectively make a difference – a focus on 'need for' health care, rather than 'neediness'.

The commonest mistake in health care needs assessment is to equate demand for a service with need for the service. Measuring existing service provision as if it were an indication of need is likely to be misleading. In prison health care it is all but certain to be misleading. The relationship between need, demand and supply is illustrated in Figure 1.[3]

Methods of health care needs assessment

There are three main approaches to health care needs assessment.[2] The corporate approach is to canvas stakeholders or others with special knowledge (patients, purchasers, providers, politicians) to determine their views on what is needed. The comparative approach is to be guided by discrepancies between local services and those of other providers. The main approach used in this paper is the epidemiological approach. This evidence-based approach determines health care needs by considering the incidence and prevalence of the health problem, the current services available to deal with the problem and the effectiveness and cost effectiveness of these services.

Carrying out a health care needs assessment process

Assessing the health care needs of a population is a complex task involving a number of sequential steps (Figure 2). Some of these steps must be completed before the next steps can be started; others can be done simultaneously. Because health care needs assessment is a large task and because implementation requires ownership by all the key stakeholders, it is a task for a team rather than any one individual. It should also be seen as a continuing long-term process.

A toolkit for carrying out a health care needs assessment of the prison population

The following text summarizes the steps outlined in the toolkit developed for carrying out a health care needs assessment of the prison population.

Preliminary tasks

Because of the multidisciplinary nature of prison health care, different team members will contribute different types of expertise and share responsibility for completing the work. Table 1 lists suggested stakeholders to participate in a prison health care needs assessment team. The list is not intended to be exhaustive. The purpose of health care needs assessment is to secure service changes. Where possible, managerial commitment to act on recommendations should be sought at the outset. Failure to establish this may result in inaction and risks discrediting the whole process. Before starting, the team members need to meet

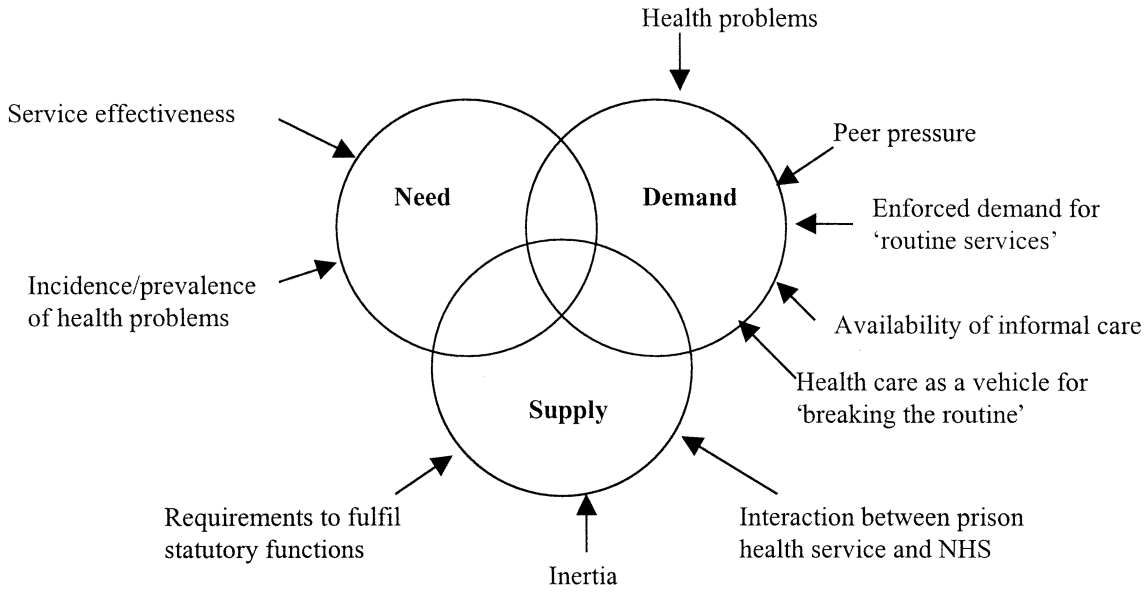

Figure 1 The interaction between need, supply and demand in a prison health system. Source: Singleton *et al.*[5]

to familiarize, define their roles, assign tasks and establish their short- and long-term aims and objectives.

The health care needs assessment process

Outline description of the prison population

The first step is to describe the prison (i.e. the category of prison, its security status and capacity) and the characteristics of the prison's population. The sizes of both the prevalent (average daily) population and the throughput (the number of new receptions) are needed. In addition, the gender, age and ethnicity of prisoners have an important bearing on their health needs, as does their legal status (on remand or sentenced). The information obtained for the health care needs assessment of the general prison population of England and Wales is shown in Table 2. The category of prison is a particularly striking determinant of the prison population's characteristics. In general, local prisons have the highest turnover of prisoners and the worst health problems, with particularly high rates of mental illness, self-harm and substance misuse.

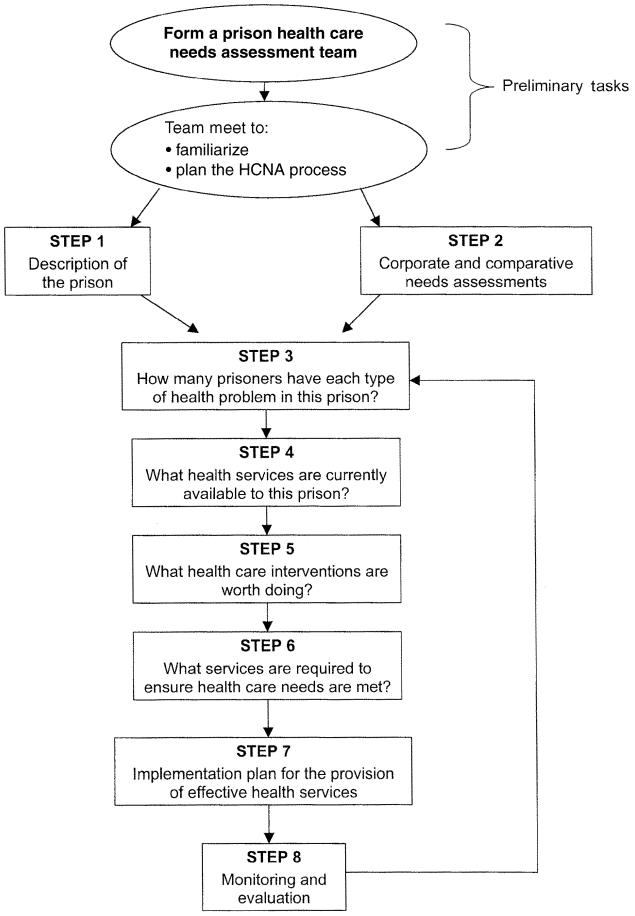

Figure 2 The health care needs assessment process.

What major health and health care issues are already known?

A corporate needs assessment can be carried out early in the process. As the health care needs assessment team consists of a group of key stakeholders, their views and those of other relevant people can easily be canvassed to establish what health and health care provision issues are already known. This information can be especially useful where there are no routine or published data available. However, the outcome of this exercise should be treated with some caution, as individual stakeholders may have their own agendas and are likely to be more aware of demand than need.

Where routinely available data are available for similar prison institutions – for example, on prescribing, health care activity and reported incidents of self-harm – comparative needs assessment can be carried out. The recently formed Prison Health Task Force is a key source of such data.

The major categories of health problems identified when developing the health care needs assessment of the prison population of England and Wales are listed in Table 3. Individual prisons will have health problems specific to their prison population. This will largely depend on age, sex and ethnicity of the population; for example, a prison with a large Afro-Caribbean population may identify sickle-cell anaemia as an important health problem.

Table 1 Suggested participants in a prison health care needs assessment team

People who might be members of the health care needs assessment team	People who the health care needs assessment team might refer to
Governor (prison)	Board of Visitors
Health care manager (prison)	Representatives of prisoners
Doctor (prison)	Nursing staff and health care officers (prison)
Nursing staff and health care officers (prison)	Other health care staff (NHS Trust)
Public health specialist or consultant (Health Authority)	Pharmacist (prison)
General practitioner (NHS)	Genitourinary medicine services representative
Psychiatrist (NHS Trust)	Local health promotion unit
Other health care staff (NHS Trust)	
Task Force member	

Table 2 A description of the prison population in England and Wales[3]

Categories of prison	1. Local prison/remand centre 2. Training prison (open or closed) 3. High-security prison 4. Young offender institution (YOI) 5. Women's prison	
Capacity of prison estate		
Certified normal accommodation	61900	
Operational capacity	69100	
Prison population		
Average daily population	64200	
Turnover/year	*c.* 200000	
Types of prisoner		
Male – sentenced	64%	
Male – remand	18%	
YOI male – sentenced	13%	
Female	5%	
Age of prisoners	*Males*	*Females*
15–19	12%	9%
20–24	22%	22%
25–29	21%	22%
30–34	17%	17%
35–39	11%	13%
40–44	7%	8%
45+	10%	9%
Ethnicity	*Males*	*Females*
White	86%	86%
Black	10%	11%
South Asian	2%	1%
Chinese or other ethnic group	2%	2%
Prisoners with a sentence >4 years (1998)		
Males	50%	
Females	40%	
Lifers (1997)		
Males	3584	
Females	137	

Source: figures are based on Prison Service data for 1999 unless stated and are for the entire prison estate.

How many prisoners have each major type of health problem in this prison?

When the population of the prison and its basic characteristics are known it is possible to estimate the expected number of prisoners with each health problem in the prison. As different health problems require different services, it is advisable to categorize problems into appropriate sub-groups. *Health care in prisons: a health care needs assessment* divides health problems into minor illness, physical health, mental health, substance misuse, pregnancy and maternal health needs, and health promotion needs[4] (see Table 3).

The prevalence and/or incidence of health problems is then estimated using the limited epidemiological data available on prisoners. Where there are no data on prisoners, data from comparable community populations can be used. These data on the prevalence of health problems can be supplemented with local information, such as routine service utilization data (e.g. from the Health Information Systems for Prisons) and/or prescribing data. Local surveys of the health status of prisoners are time consuming and rarely add to information estimated from published data. However, if they are necessary to inform specific decisions they may be useful.

Table 3 Main sub-categories of health problems

Sub-categories	Health problems
Minor and self-limiting illnesses	Headaches Colds Skin problems, etc.
Physical health problems	Epilepsy Asthma Diabetes Cardiovascular disease and risk factors Infectious diseases Special senses and disability Dental health
Pregnancy and maternal health	
Mental disorders	Personality disorders Functional psychoses Neurotic disorders Self-harm and suicide
Substance misuse	Alcohol misuse Drug misuse
Health promotion	Diet Occupational regime Social support

Table 4 shows the prevalence of mental health problems in male prisoners for England and Wales. These data were obtained and summarized from a survey carried out by the Office for National Statistics in 1997.[5] At the time of writing the health care needs assessment, this was one of the few comprehensive sources of data on the health problems of prisoners.

The prison institution itself generates certain requirements for health care interventions, such as medical examinations before adjudication, at reception and before discharge. As they use health care resources it is useful to collect data on these activities at this stage.

What health services are currently available to this prison?

The aim of this step is to provide an inventory of the services that are currently provided and the health care interventions that are currently employed in the prison. An overview of the main categories of health care available to prisoners and a comparison with the general population are shown in Figure 3.

When describing services available, the full range of human resources and physical facilities currently available to provide health care to inmates should be identified. Services can range

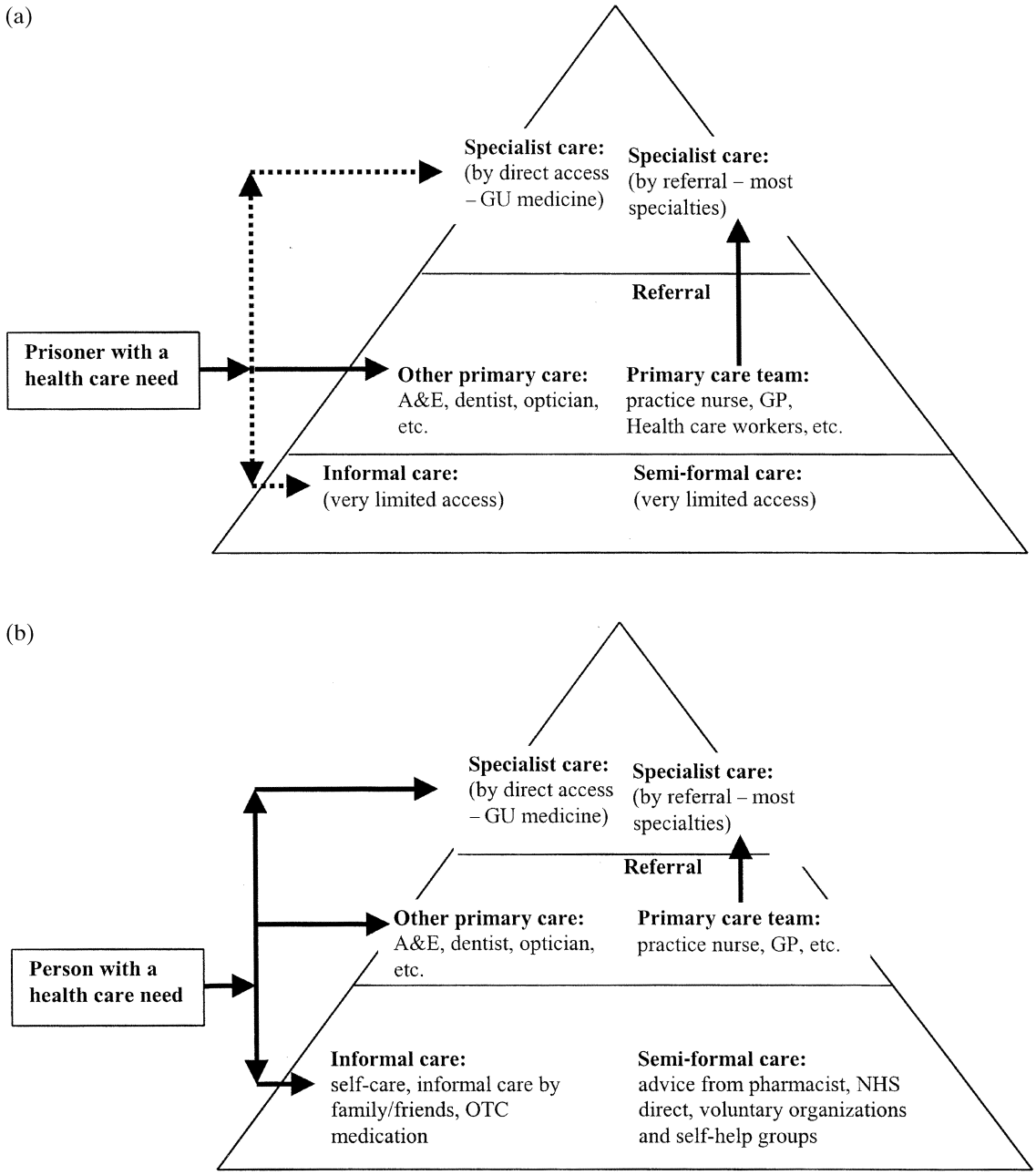

Figure 3 Services available to the general population and prisoners: a comparison. (a) Pathways to health care accessible to a prisoner with a health care need. Dotted arrow indicates reduced access compared with patients in the community. (b) Pathways to health care accessible to a person in the community with a health care need.

from access to a visiting specialist or an external health facility to interventions to address minor health problems such as a headache. If the care of minor illness often relies on informal networks this is important to mention. The section should therefore also include information on inmates who have relevant skills as well as prison officers who have received training in aspects of health care. In addition, in some cases, staff who are important in health care may have an input at a level other than individual patients (e.g. occupational therapy advice on occupational regimes and the main prison regimes, dietetic advice on catering, etc.). It is important to estimate the range of skills available, rather than simply the professional titles of staff. In many cases it is not important who provides a service, but it is important that they have received appropriate training. The cost of present health care provision should be estimated, so that it is clear what resources or staff might be available for redeployment and what additional resources may be required if service changes are recommended.

Table 4 Mental health problems in male prisoners – prevalence

	Prevalence (%)	
Mental disorder	**Remand**	**Sentenced**
Personality disorders	78	64
Functional psychoses (in the last year)	10	7
Common neurotic symptoms		
Sleep disorders	67	54
Somatic symptoms	24	16
Worry about physical health	22	16
Neurotic disorders (in the past week)		
Post-traumatic stress disorder	5	3
Mixed anxiety and depression	26	19
Generalized anxiety disorder	11	8
Depressive episode	17	8
Phobias	10	6
Obsessive–compulsive disorder	10	7
Panic disorder	6	3
Any neurotic disorder	59	40
Self-harm and suicide		
Suicide attempts (past week)	2	0
Suicidal thoughts (past week)	12	4
Non-suicidal self-harm	5	7
Alcohol and drug misuse		
Alcohol misuse		
AUDIT score >32 (severe problem)	7	4
Drug dependence		
Cannabis only	9	8
Stimulants only	17	16
Opiates and stimulants	15	10
Opiates only	11	8

Source: Singleton *et al.*[5]

Because most health care is a process it is also useful to map out the pathway that a prisoner follows to obtain appropriate health care, by, for example, drawing a flow-diagram. It is also helpful to identify any protocols that are in place to ensure that referral runs smoothly at this stage. This section is probably best addressed by representatives in the team from the prison service.

What interventions are effective?

For each health problem identified in earlier steps, information on the effectiveness of the services and interventions identified to address that problem needs to be collected. This allows the appropriate (effective) services to be mapped against current service provision. Information on effectiveness of health care services and interventions specific to the prison population is currently very limited. The effectiveness information used will therefore, on the whole, need to be based on experience of implementation of the health care service or intervention in other settings.

Identifying the changes that need to be made

At this point the information collected in the previous steps can be pulled together. It will allow the team at a glance to identify what health problems are most prevalent; the services and interventions that are currently employed to address these health problems; how effective these services and interventions are; and any services and interventions that are more effective. Staffing levels and skills available will have also been identified. A hypothetical example of this is described below.

This information will allow the team to identify any gaps between current services (or staff or skills) provided to address the important health problems and those services that are effective and are therefore needed. It is also likely to highlight that some services that are currently provided are of doubtful value and may be reduced in scope or discontinued. From here the changes that are required to ensure health care problems are addressed by effective services can be identified and prioritized.

The previous steps must have been completed before any attempt is made to identify which services are needed. It should then be possible to identify specific changes to address specific health care needs. It should also be possible to estimate the resource implications and feasibility of change. By considering the information the team will be able to prioritize the health care problem that should be addressed. In general terms, the largest health needs that can be most easily met should be the highest priorities. As this step involves a prioritization process, it is important that it has the input of the whole team.

Implementation plan for the provision of effective health services

Having established the health problems that are priorities and the services that are appropriate to address these, a plan should be drawn up to identify ways in which changes can be achieved. In this step, more detail needs to be recorded, including resource implications and a time scale.

If numerous changes are required to achieve a change, it is advisable to break the process down into manageable stages. For example, a series of steps could be outlined that can be used as benchmarks (e.g. ensure all staff have been trained in the management of depression; establish a limited formulary; etc.).

Monitoring progress

When change is planned and then implemented it is important to study the effects of changes. This is usually done through a process of audit. This involves three basic steps: setting an achievable target (a standard); implementing changes; and collecting data to compare performance against these agreed targets. This forms part of a learning process with new targets set and new changes planned on the basis of previous learning.

Pulling the information together: an example

The following is a brief example of a completed health care needs assessment in a hypothetical male local prison. In our

example, we discuss only the physical health care needs of inmates with epilepsy, asthma and diabetes.

The prison population is male, with 50 per cent under 30 years old. The average daily population is about 800 but 4000 prisoners are received into the prison each year. At any one time the prison can expect to have three epileptics, 50 treated asthmatics and six diabetics. However, it can expect to receive 16 epileptic prisoners, 200 treated asthmatics and 32 diabetics a year.[4] Good practice recommends that such patients are reviewed six monthly and at least once after imprisonment. In our hypothetical prison, none of these groups of patients is subject to systematic regular review at present. The prison therefore needs to set aside at least 250 appointments a year to see these patients. These appointments can be expected to last twice as long as routine consultations for minor illnesses.

Doctors currently undertake about 8800 consultations a year, other prison health care staff 16 000 consultations a year.[4] The majority of these consultations are for minor illnesses.

Following analysis of the reasons for consultation, it is estimated that providing prisoners with regulated, but self-initiated access to certain over-the-counter medications (e.g. anti-fungal creams) might reduce their health care worker consultation rate by 2.5–5 per cent. This would free 400–800 appointments a year, enough for prison health care workers to initiate a system of regular review of asthmatic, diabetic and epileptic prisoners. To achieve this, named staff will undertake appropriate training in the care of asthma, diabetes and epilepsy.

The milestones for achieving this end could therefore be: the implementation of a self-prescription system to give prisoners access to non-toxic over-the-counter medications; staff training in asthma, diabetic and epileptic care; and the implementation of an identification and recall system for new prisoners with these illnesses.

It can be seen from this example that the needs assessment informs a realignment of services. If additional services are to be provided, some services will need to be reduced. In this case, prisoners' dependence on health care worker consultations to obtain over-the-counter medication is challenged. There may well be institutional barriers to making such a change; it is therefore important to ensure that all the key players understand the need for the changes. Inevitably, important lessons are learned from carrying out a needs assessment and implementing its conclusions. It is worthwhile reviewing the strengths and weaknesses of the process and the lessons learnt. The review stage is an important way of passing on skills and experience. This could be done in a final report, at a final meeting or even through an educational event.

Conclusion

Health care needs assessments of prison populations are now an unavoidable task following the recommendations of the Working Group of Officials from the Prison Service and the NHS Executive.[1] In general, prison health care needs assessments follow the rules of epidemiological needs assessment *per se*. However, three key points stand out: (1) the sensitivities of implementing the process in a custodial setting; (2) the historical distortions associated with the prison establishment; (3) the very unusual population involved.

Contributions of authors

Tom Marshall and Sue Simpson adapted the model of needs assessment to the prison setting. They also obtained and collated data from different sources and contributed to writing the paper. Andrew Stevens developed the original model of needs assessment and contributed to writing the paper.

References

1 Joint Prison Service and National Health Service Executive Working Group. *The future organisation of prison health care*. London: Department of Health, 1999.

2 Marshall T, Simpson S, Stevens A. Toolkit for health care needs assessment in prisons. London: Department of Health, 1999. [Online.] http://www.doh.gov.uk/prisonhealth/toolkit.htm (20 November 2000, date last accessed).

3 Stevens A, Raftery J. *Health care needs assessment: the epidemiologically based needs assessment reviews, Volume 1 and Volume 2*. Oxford: Radcliffe Medical Press, 1994.

4 Marshall T, Simpson S, Stevens A. *Health care in prisons: a health care needs assessment*. London: Department of Health, 1999.

5 Singleton N, Meltzer H, Gatward R, Coid J, Deasy D. *Psychiatric morbidity among prisoners in England and Wales: the report of a survey carried out in 1997 by the Social Survey Division of the Office for National Statistics on behalf of the Department of Health*. London: The Stationery Office, 1998.

Accepted on 8 March 2001