No Bars to Health Protection

Health Protection Agency

Prison Health

Annual Report 2007

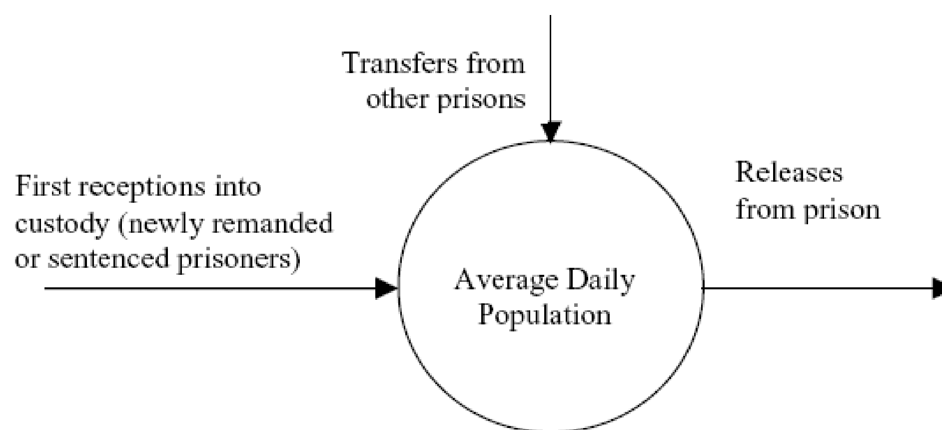
Contents

1. Introduction: The Prison Population 3
2. Prison Health – the Health Protection Agency's Contribution 4
3. Achievements 2007 5
4. Hepatitis B Vaccination Programme 6
5. Tuberculosis (TB) 9
6. Pandemic Flu 11
7. Incident log 11
8. Infection Inside 12
9. Outputs 13
10. Prison Health Symposium Health Protection Agency Annual Conference – September 2007 Warwick 14
13. Areas for future work/research... 15
14. Summary 18
15. Abbreviations... 20
16. Contacts 21

1. Introduction: The Prison Population

The UK prison population is 143 prisoners per 100 000 population[1]. Overall, there are currently around 80,000 people in prison at any one time in the 140 prisons in England & Wales, and around 170,000 people pass through the prison system in the course of each year[2]. Population turnover varies according to the type of prison: it is higher in local and remand prisons, and lower in training and high secure prisons. The turnover of the prison population is extremely important in terms of both assessing health needs and planning health care service delivery[3].

Figure 1. Throughput and average daily prison population (Source: Health care in prisons: A health care needs assessment[4])



Injecting drug users (IDUs) form a significant proportion of the prison population at any one time and the vast majority of IDUs are incarcerated at some time, and often on many occasions[5]. Furthermore, certain groups with a higher than average burden of infectious disease such as some ethnic minority populations, rough sleepers and those dependent on alcohol are disproportionately more common in prisons than in the community, resulting in higher prevalence of blood-borne viruses (BBVs), HIV and respiratory infections among prisoners[3].

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[1] http://www.homeoffice.gov.uk/rds/pdfs2/r234.pdf
[2] http://www.hmprisonservice.gov.uk.
[3] North East Public Health Observatory. The Health Needs of Prisoners. Occasional Paper No. 16, Nov 2005. http://www.nepho.org.uk
[4] MARSHALL T, SIMPSON S, STEVENS A. Health care in prisons: A health care needs assessment. University of Birmingham. 2000. http://www.dh.gov.uk/assetRoot/04/06/43/98/04064398.pdf
[5] Health Protection Agency. Shooting Up- Infections Among Injecting Drug Users in the United Kingdom 2005, An Update October 2006.

However, prison can represent an opportunity to engage with people from some socially excluded groups. Such individuals do not normally come into contact with structured primary care services in the community but may do so in prison, and with more favourable outcomes, which may lead to sustained health benefits when they leave. For public health practitioners therefore, prisons are a good opportunity to offer screening, prevention and treatment programmes.

2. Prison Health – the Health Protection Agency's Contribution

Offender Health (Department of Health) commissions the Agency to develop and deliver jointly a programme to improve the health of prisoners. Through the Health Protection in Prisons Steering Committee, the Agency works directly with Offender Health to agree priorities and ensure that the commissioned work is integrated into an annual work programme.

This commissioned work from Offender Health has led to the establishment of a Prison Infection Prevention Team (PIP), based at the Agency's Centre for Infections in Colindale, which co-ordinates surveillance of infectious diseases affecting prisons, supports the implementation and surveillance of the prison Hepatitis B vaccine programme, and provides operational support centrally.

Each of the Agency's nine regions also has a member of staff with lead responsibility for prison health. They form the Agency's Local and Regional Services division (LaRS) Prison Health Network, which supports work undertaken by local Health Protection Units (HPUs) with individual prisons and Primary Care Trusts (PCTs) in their patch. The LaRS network leads the delivery of the annual work programme in the regions. It circulates guidelines and policies, regularly provides an expert resource to policy makers and those developing guidelines on best practice, and provides a forum for sharing of issues and good practice. Each local HPU also has a lead in prison health protection and provides an expert resource on health protection to local prisons, PCTs and other stakeholders, supported by the LaRS network. The LaRS network meets quarterly and also uses a virtual e-group to share work and

enhance communication between members. The work of the Network is also supported by Offender Health which contributes resources and funds through the commissioning process.

The Agency also has a Health Protection and Prison Health Communicable Disease Working Group, which was formed in 2005 by several HPU nurses with an interest in prisons. The group is now made up of a nurse from each region who meet quarterly to discuss relevant prison issues and to plan joint working. The group feeds back to the LaRS Prison Network Meeting.

The group has organised a national Infection Control and Communicable Disease conference for prison officers and healthcare staff at Newbold Revel, the prison service training centre. The day was the first of its kind, was represented by most prisons and covered relevant topics including TB and BBVs. It was evaluated very well and a second conference is currently being organised for November 2008.

3. Achievements 2007

The remainder of this report consists of a summary of achievements made by the HPA/Offender Health partnership during the calendar year 2007.

4. Hepatitis B Vaccination Programme

The Role of the Agency:

- Monitoring & supporting the implementation of the national prison hepatitis B vaccination programme.
  - The Agency collects data from participating prisons each month on the number of consenting eligible prisoners entering prison who complete a 0, 7, and 21 day Hepatitis B vaccine course within one month of their arrival. This is a Key Performance Indicator (KPI) for prison/PCT partnership boards, and is used by a range of stakeholders to monitor standards in prison health. The findings are published monthly on the PIP Team's webpage on the HPA website http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1191942126463?p=1191942126463 as well as being distributed to all the LaRS regional leads, Prison Healthcare Managers and PCT staff.

4.1 Results from the Prison Infection Prevention Team

With the implementation of the KPIs in November 2007, it became necessary for the PIP Team to develop new working definitions for both 'vaccine uptake' and 'vaccine coverage', to improve the validity of the data collected. The PIP team has been working with prisons to support them with using the new definitions.

Vaccine Coverage

$$\frac{\text{No. vaccinated within a month of reception + No. already received 3 (or more doses) on arrival}}{\text{No. of receptions (in given month)}}$$

Vaccine Uptake

$$\frac{\text{No. vaccinated within a month of reception}}{\text{No. of receptions (in given month) – Refusals - No. already received 3 (or more doses) on arrival}}$$

Figure 2 presents the monthly vaccination coverage for each of the regions for January to November 2007. Results for December were not included in this analysis as this was the first month when the new definitions came into use. The South West region consistently had the highest coverage throughout the year with an average

coverage of 52 per cent over the 11 month period. The West Midlands had the lowest average coverage for January to November 2007 with only nine per cent.

Figure 2 Monthly regional vaccination coverage January – November 2007

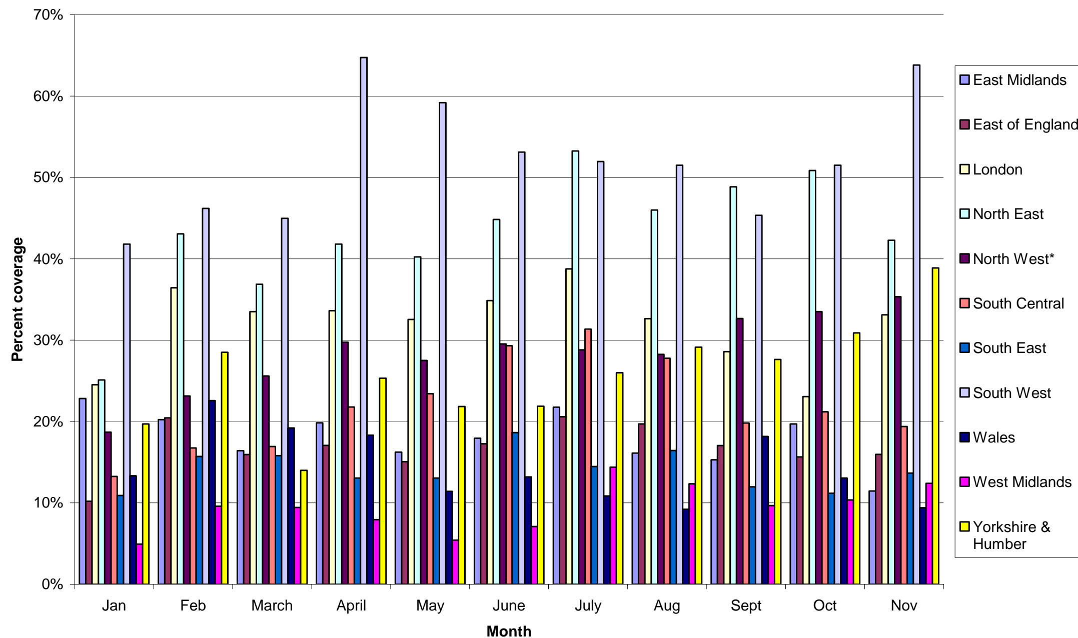


Figure 3 represents the number of prisons reporting on a monthly basis throughout the year. Approximately 70 per cent of the prisons in England and Wales are reporting to the PIP Team. Fluctuation in the number of prisons reporting occurs throughout the year, reasons for this include staff turnover and holidays.

Figure 1.3 details the number of vaccines reportedly administered during the year 2007 and the number of people entering prison already vaccinated; it can be seen that despite a reduction in the number of prisons reporting there has been no tailing off of the number of doses being given suggesting that those that are reporting hepatitis B vaccinations to the Agency have increased their activity. The average number of prisoners entering prison monthly having already completed a course of hepatitis B vaccinations was 403, this roughly equates to five per cent of the monthly receptions across the prison estate.

Figure 3. Number of establishments reporting vaccinations January – November 2007

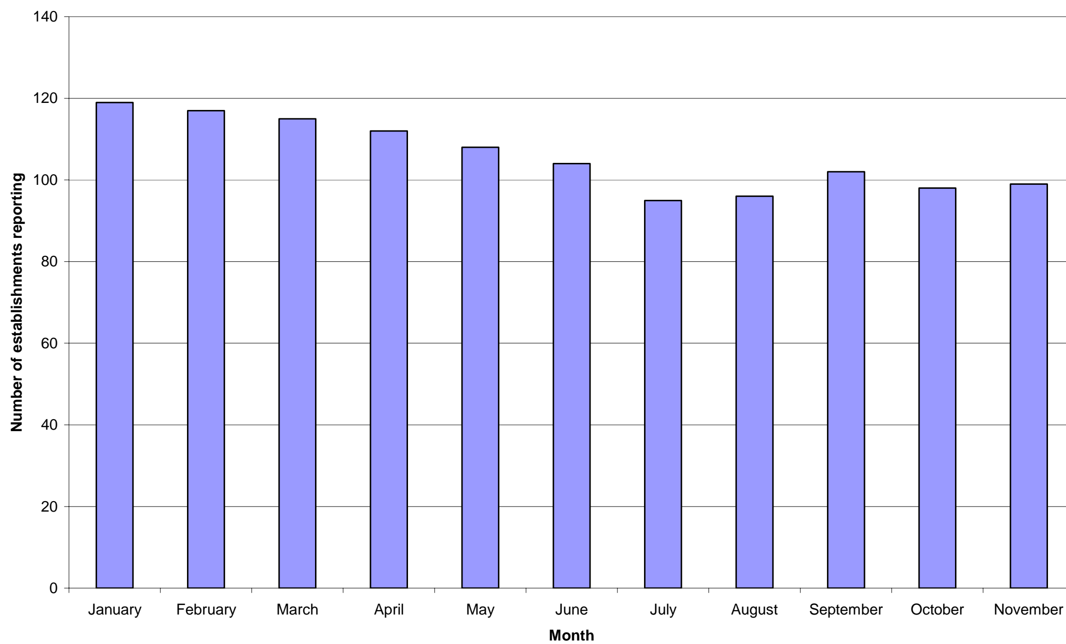
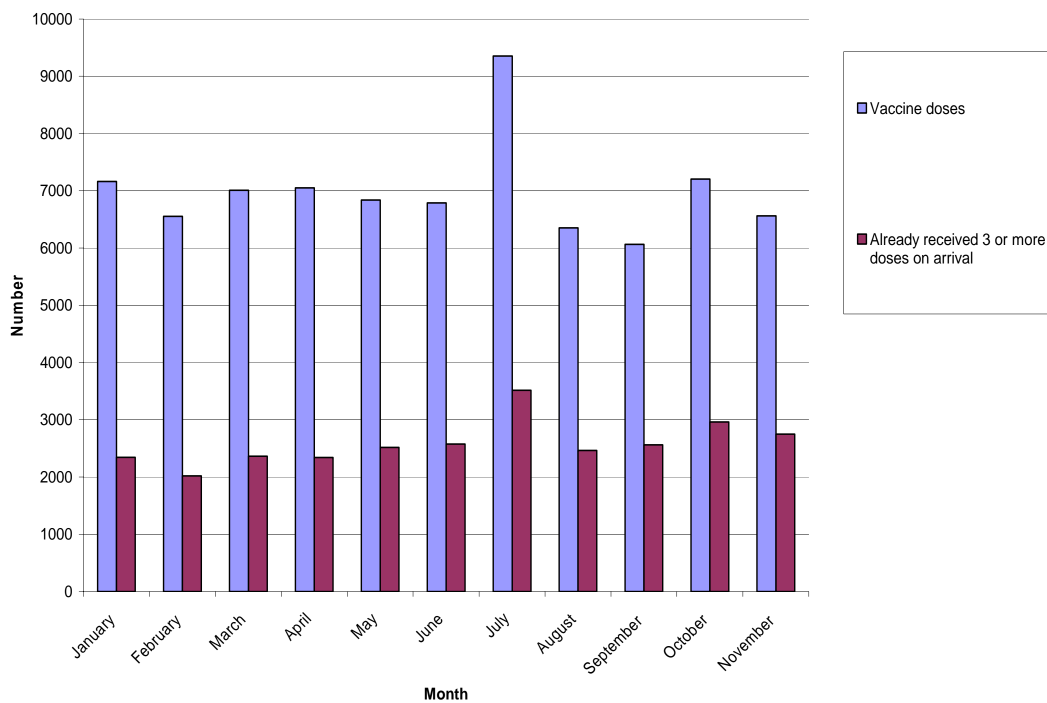


Figure 4. Number of administered vaccine doses reported January – November 2007.



The PIP team has also been involved in training prison staff around the hepatitis B vaccination programme, and provided support and telephone advice to individual prisons. The CfI Immunisation Department, in collaboration with the PIP team and

the LaRS network produced a sample Patient Group Direction (PGD) and a question and answer (Q&A) fact sheet on clinical issues related to hepatitis B vaccinations, which can be downloaded and adapted by individual PCT/prison partnerships for use in their individual establishments Both these documents are available from http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582652988?p=1203582652988

4.2 Input from the Local and Regional Services Prisons Network

At local level, HPU staff are sometimes called upon for specialist input to support the vaccination programme. They have also contributed to local initiatives around Hepatitis B vaccination reporting e.g. regional training/study days. This activity can identify issues around practice or policy, which can be taken to the LaRS Prison Health Network to seek advice and to develop a response or programme which can be developed and delivered on a national basis. For example the Hepatitis B clinical Q&As and PGD referred to above arose from such a process. The Network ensures that local HPU perspective is included in national guidance, such as the recently published Chickenpox guidelines (http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582652988?p=1203582652988).

5. Tuberculosis (TB)

The Role of the Agency:

- Providing local leadership for the investigation, prevention & control of TB
- Encouraging the notification of TB cases
- Leading the public health investigation and management of TB outbreaks
- Providing support, advocacy and expert advice to those commissioning health services in prisons

5.1 Results from the Prison Infection Prevention Team

The PIP team monitored the Enhanced Surveillance of TB in London prisons. Of the 34 prison related notifications that were received, over half were from HMP Pentonville. Two thirds of prison related notifications from London were diagnosed in prison, with the remaining one third being diagnosed in the community prior to prison

reception. The mean age of the prisoners who were notified was 36 (standard deviation 13) and there was only one female prisoner reported as having TB on reception or being diagnosed with TB in prison from London during the year. The team liaise closely with the lead TB nurse in London prisons and work is underway on a more in depth analysis of a cohort of TB patients in London prisons jointly with the London prison TB nurses group.

5.2 Input from the Local and Regional Services Prisons Network

HPUs provide local leadership for the prevention and control of TB, wherever cases arise. TB has been identified as a priority area by the network and a working group has been established to develop evidence based guidance for the public health management of TB in prisons.

5.3 Installation of fixed digital x-ray machines in prisons

Offender Health announced last year a new initiative by the Department of Health, in which prisons were invited to prepare bids for fixed digital x-ray machines. This followed the successful evaluation by the Agency of its two-year mobile X-ray unit (MXU) project, which proved the utility of X-ray technology in diagnosing potentially infectious pulmonary disease among hard-to-reach populations, including prisoners.
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The prisons were selected on the basis of being large local prisons receiving prisoners from surrounding populations with a high prevalence of TB. Five London prisons (HMPs Belmarsh, Brixton, Pentonville, Wandsworth & Wormwood Scrubs) have been selected for installation of static digital X-ray machines in the 2008/09 financial year, to be used as part of a wider programme by prison/PCT partnerships to improve the detection & management of cases among offenders. Provision has been made for a further three to four units outside London. Siting of these will be influenced by local TB prevalence, technical reports on the suitability of individual establishments, and proposals by PCT/prison partnerships on their use in wider TB prevention & management programmes, to maximise the impact of this limited resource.

Local HPUs are collaborating with PCT/Prison partnerships to ensure that the use of such technology is integrated into improved care pathways for prisoners, including disease detection, prevention and treatment.

6. Pandemic Flu

The Role of the Agency:

- Encouraging the development of Pandemic Flu Plans for prisons
- Providing support, advice and local leadership for the development of plans

6.1 Work from the Local and Regional Services

Over 60 per cent of HPUs (87/140) have been working with the local prisons in their areas supporting the development of Pandemic Influenza Plans. Throughout 2007 LaRS has had involvement in several Pandemic Flu exercises (in 28 prisons out of the 140) with others planned for 2008. The main point identified during one of the largest exercises carried out in April 2007 ("Cold Play" organised by South West London HPU in Wandsworth prison on behalf of DH and in collaboration with NHS) was the need for prisons to develop a plan dovetailing with local PCT plans and ensuring that the plan is tested in multi-agency exercises. The issues identified during the exercise and the lessons learned, were presented at the Prison Health Symposium of the Agency's National Conference in September 2007

7. Incident log

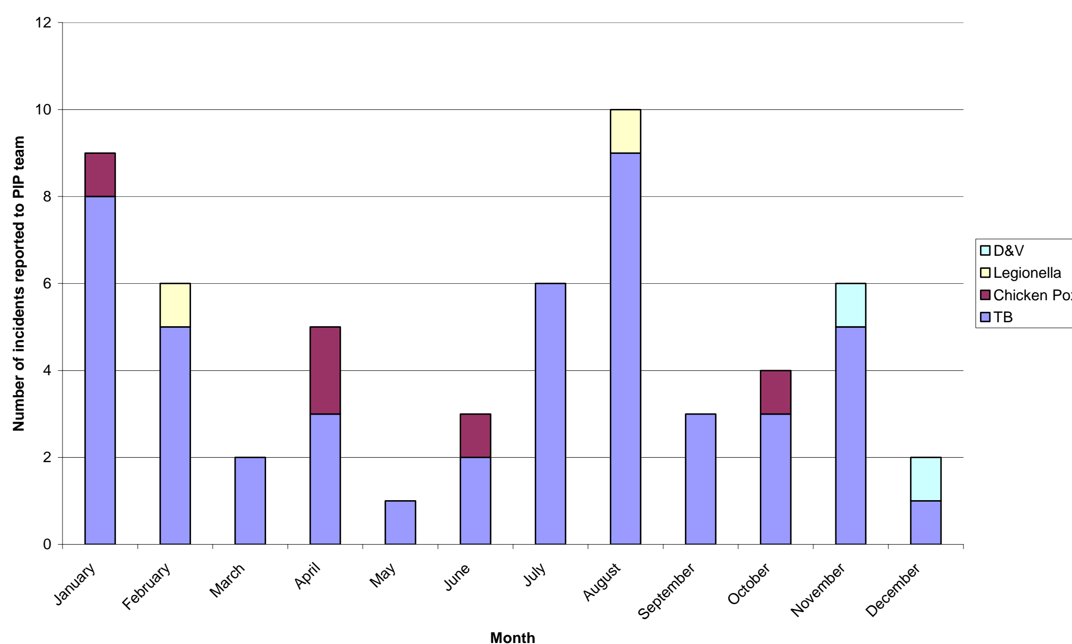
The Role of the Agency:

- Providing regular information to prison healthcare staff on infectious diseases affecting the prison population. This includes producing a quarterly bulletin on infectious disease.

7.1 Results from the Prison Infection Prevention Team

The PIP team collate reports of infectious disease incidents in prisons. During 2007 there were 52 incidents reported to the team. Figure 5 presents a summary of the incidents reported.

Figure 5. Number and Types of Incidents Reported to PIP Team during 2007



TB was the most commonly reported infection during the year. However, there was a bias in the reporting of TB due to the enhanced TB surveillance in London resulting in more reports being received by the team from this region than all other regions combined (34 in London, 14 outside of London). There were two incidents of Legionella, five incidents of chicken pox and two incidents of diarrhoea and vomiting. The incident log is not a mandatory reporting system and therefore does not provide a complete picture of infections in prisons. Despite its limitations there is merit in the incident log in that there are no other systems specifically capturing the burden of infectious disease incidents and outbreaks in prisons and this is an example of passive surveillance that offers some insight into infectious diseases within prisons.

7.2 Work from the Local and Regional Services Prisons Network

The LaRS network has also identified issues around Infection Control in prisons and the need for a manual for prison healthcare staff.

8. Infection Inside

The Role of the Agency:

- As mentioned in the previous section, the Agency produces a quarterly bulletin for prison healthcare staff on infections affecting the prison population

During 2007 the PIP team continued to produce the quarterly newsletter *Infection Inside*. Articles covered a range of topics including TB, Hepatitis C and also examples of sharing best practice and policy updates. Back issues of *Infection Inside* are available on the PIP team website http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582653471?p=1203582653471

9. Outputs

The Role of the Agency:

- Facilitating the development of policies for infection prevention and control in prisons.

9.1 Blood Borne Virus Leaflet

During 2007 a leaflet designed specifically for prisoners was developed by the Agency, Offender Health and the British Liver Trust. The four-page leaflet was designed in a 'comic noir' style with bold graphics. It covers modes of BBV transmission, prevention and harm reduction measures available in prisons, including highlighting the availability of hepatitis B vaccination, disinfectant tablets, condoms, HIV, hepatitis B and hepatitis C testing and treatment.

9.2 Reports, guidelines and other publications produced by the Agency during the year 2007-2008

Hepatitis B vaccination programme monthly reports (Jan – Dec)
http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582653813?p=1203582653813

Hepatitis B vaccination – Frequently Asked Questions
http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582652988?p=1203582652988

Hepatitis B vaccine model PGD

http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582652988?p=1203582652988

Infection Inside (4 issues)
http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582653471?p=1203582653471

Guidance on Chickenpox & Shingles Infection Control in Prisons, Places of Detention & Immigration Removal Centres
http://www.hpa.org.uk/webw/HPAweb&Page&HPAwebAutoListName/Page/1203582652988?p=1203582652988

10. Prison Health Symposium Health Protection Agency Annual Conference – September 2007 Warwick

The Role of the Agency

- To raise the profile of prevention & control of communicable disease in prison both within and outside the HPA
- To identify, promote & share good practice

At the Agency's 2007 Annual Conference one of the four themes of the opening day was dedicated to Prison Health. The first of the three sessions covering the theme was a live debate on the pros and cons of Needle Exchange Services (NEX) in prisons. The lively and stimulating debate, ended with the casting of votes by delegates over a motion in favour or against the introduction of NEX in prisons in England and saw a narrow margin victory of the "pros" votes. The second session comprised six short presentations showcasing a range of interventions/experiences of Agency front-line staff aiming at the control & prevention of a variety of communicable diseases (chickenpox, hepatitis, flu pandemic) within their local prisons. The last session was dedicated to TB and offered an overview, both national and international, on TB epidemiology in prison & related issues and some examples of interventions on how to tackle these.
The three prison sessions were extremely well received by delegates and made the decision to include Prison Health for the first time in the Agency's Conference, a very successful one.

13. Areas for future work/research

Infectious disease burden in prisons

There is currently no formal or robust surveillance system in place for the surveillance of infectious diseases in prisons. It is assumed that notifiable diseases are reported via the normal channels; however the Notification of Infectious Diseases (NOIDS) system does not provide information as to whether a reported case is in a prison or an incident occurred in a prison setting. Currently some insight is inferred from national surveillance systems, where searches can be performed under terms such as a postcode search for a prison, or occupation as a prisoner; however these would not provide complete data and it is difficult to ascertain good information.

There is a need to have a better grasp of the burden of infectious disease in prisoners. With the provision of prison healthcare being under the remit of the local PCT, and the status of public health on the health agenda, not only would an insight aid commissioning and service provision in prisons but also in the wider community. Some of the data required could be gathered using a surveillance system capturing newly diagnosed notifiable infections e.g. an option on NOIDS to specify if the case is currently a prisoner. This option would require rigorous evaluation and would constitute a formal surveillance system with resource implications and should be seen as a longer term goal to work towards. In the short term, and to increase the evidence base to inform on any longer term surveillance solution, a pilot system is being developed in a selection of prisons whereby voluntary reporting to the PIP team occurs for notifiable and some non-notifiable infectious diseases.

TB

Offenders as a group disproportionately include those with social risk factors for TB, such as drug and alcohol abuse, and homelessness. Prisons by the nature of their populations contain those at high risk of TB. In the UK, the annual number of new cases of tuberculosis increased through the 1980s and 1990s with a stabilisation of numbers of cases between 2005 and 2006. The enhanced surveillance of Tuberculosis in Prisons in the London pilot gives some insight into TB infections in prisons. The PIP Team incident log captures some cases of TB in prisons outside London, and reports have been increasing recently with internal publicising of the

incident log to HPUs. It would be very helpful to explore TB in prisons in more detail; particularly with a view to providing evidence as to whether TB is transmitted or just diagnosed in prisons (i.e. the prisoner already had TB when he/she initially came into prison). These two scenarios will have a different impact on the response required from the Health Service.

Development of TB management guidelines in prisons

The Agency has established a group to look at developing practical guidelines for the public health management of TB incidents in prisons for use by HPUs. The objectives of the group are to update the literature review published in the NICE guidelines regarding the management of TB incidents in UK prisons, collate existing local guidelines for the management of TB incidents in UK prisons and review current practice by undertaking a survey of recent TB incidents across LaRS.

Improvements and success around Hep B vaccinations

There is a huge variation in the hepatitis B vaccination coverage achieved by prisons across England and Wales (0-100%). Successful monitoring of a vaccination programme depends in part on the accuracy of recording and also operational dimensions such as patients being able to get to healthcare for a vaccination. The PIP Team regularly give feedback to prisons on common reporting mistakes and provide documentation to assist in completing the returns. Operationally the issues affecting the success of this vaccination programme are similar across regions. It would be useful for those who deliver the vaccination programme to come together and share ideas to facilitate good practice. The PIP Team and LaRS Prison network intend to facilitate this both regionally and nationally.

Local survey of HPU services

The LaRS network has carried out a mapping exercise nationwide to identify what services HPUs currently provide locally to improve health protection in prisons. The results of the survey will help defining HPU core services for prisons; identify good practice to be shared alongside priority areas for improvement. The survey is due to be completed shortly and data will be analysed and reported in the second quarter of 2008/09. The survey results will help inform the Network's work plan for the coming year and will facilitate the targeting of efforts towards the achievement of Prison Health Objectives, which are likely to be included in both the Agency-wide and LaRS Business Plans for 2008-09.

Prevalence of Blood Borne Viruses in Prisons

There are currently no up to date estimates of the prevalence of BBVs in prisons; this information would be useful for informing on interventions aimed at BBVs and also evaluating current interventions. The PIP team will be exploring funding opportunities over the coming year to look at ways of estimating the prevalence of BBVs in prisons without the need for a large scale cross sectional survey.

Tattooing and Risk of BBV transmission in prison

There is anecdotal evidence that prisoners engage in tattooing while imprisoned. One prison in the Yorkshire and Humberside region has previously run a campaign to highlight the risks from illegal tattooing, using prisoner-designed leaflets and a tattoo equipment amnesty, that resulted in some homemade tattoo guns being handed in to healthcare staff. There are plans over the coming year to consolidate this earlier work by taking a multidisciplinary approach using the healthcare and CARAT (Counselling, Assessment, Referral, Advice, Throughcare) teams at the prison to look at running health promotion sessions with prisoners around tattooing risks and blood borne viruses in general with focus groups around how to tackle tattooing in prisons.

Hepatitis C and development of Care Pathways including prisoners

Hepatitis C is by far the most common of BBV viral infection, with an estimated 231,000 (0,53% of the 15-59 years old population) infected people in England & Wales in 2003. Prevalence of the infection amongst IDUs, which is the highest risk group for the disease, is above 40% as revealed by data from the Unlinked Anonymous Prevalence Programme (UAPMP). As 60% of IDUs pass through the prison system at some point in their life, prisons represent an ideal place in which to identify Hepatitis C positive individuals. Prisons may also represent an ideal environment to start treatment, when indicated, as they often provide a stabilising effect on the otherwise chaotic lifestyle of IDUs when outside in the community. Developing local care pathways which include prisons, is a priority area for intervention and one where the Agency, both through its LaRS local HPUs and the PIP team, can provide leadership, expertise and technical tools to support the process, examples of which have been or are being developed across the country.

14. Summary

Over the last year the HPA along with stakeholders has increased its activity on Prison health protection, expanding its initiatives and networks on a local and national level.

This momentum will continue this year particularly around ensuring that datasets and associated information are produced in a timely fashion, to be of use for commissioners and other parties making decisions and choices on infectious diseases in prisons.

Some of the key achievements to build on include:

- **Hepatitis B vaccination:** Training, better definitions and new support materials for the Hepatitis B vaccination programme, with around 70 per cent of prisons now reporting vaccination coverage to the Agency.
  Going forward, there is room to improve both the number of prisons reporting and the vaccine coverage rates themselves.
- **Tuberculosis:** Enhanced surveillance has led to a better understanding of the burden of TB in the prison population, particularly in London. The successful evaluation of the Agency's mobile x-ray unit project has led to the wider utilisation of x-ray technology to diagnose potentially infectious TB in prisoners.
  Going forward, TB has been identified as a priority area for work across the country, both to improve surveillance of the disease and develop better guidelines for managing cases in prisons.
- **Pandemic Flu:** The Agency has supported a large number of prisons in developing and testing pandemic influenza plans.
  Going forward, there is scope both for wider exercising of plans and ensuring that prison plans are well-integrated into plans for the wider community.
- **Logging Incidents:** The Agency has continued to provide regular information for prison healthcare staff on infectious diseases affecting the prison population.
  Going forward, there is scope to develop a more robust surveillance system for the notification of infectious diseases in prisons and a pilot project is planned.
- **Local Survey of HPU services:** The Agency's LaRS Prisons Network has undertaken a national mapping exercise of the Agency's services to prison health.

Going forward, the results of this survey will help to inform plans and target efforts into the future to identify core HPU services across England in Prison Health Protection.

15. Abbreviations

PIP Team	Prison Infection Prevention Team of the Health Protection Agency
OH	Offender Health, Department of Health
TB	Tuberculosis
D&V	Diarrhoea and Vomiting
HPU	Health Protection Unit of the Health Protection Agency
LaRS	Local and Regional Services of the Health Protection Agency
PCT	Primary Care Trust
NOIDs	Notification Of Infectious Diseases
IDUs	Injecting Drug Users
KPI	Key Performance Indicator
PGD	Patient Group Direction
BBV	Blood-borne virus
HPA	Health Protection Agency
DH	Department of Health
NEX	Needle Exchange Services

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