

## Health risks from needle stick injuries

Written submission for the Inquiry into *Reducing Drug Related Litter in Southampton* on 19th October 2017.

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The 2005 Department for Environment, Food and Rural Affairs publication<sup>1</sup> '*Tackling drug related litter: Guidance and good practice*' advises that litter related to drug use can cover a range of materials – syringes, foils, swabs, spoons, plastic bottles and cans. Taking a wider view, such litter can include faeces, vomit, urine etc. that are sometimes found in areas that have been used for drug use. There are also close associations between drug and sex markets, and so sex related litter will often be encountered in the same locations as drug litter.

This submission will concern itself with the health risks associated with injuries sustained from needlesticks or 'sharps' and contact with potentially infectious body fluids. Needlestick injuries occur when a needle or other sharp instrument accidentally penetrates the skin (*percutaneous*). If the needle or sharp instrument is contaminated with blood or other body fluid, there is the potential for transmission of infection. When blood or other body fluid splashes into the eyes, nose or mouth or onto broken skin, the exposure is said to be *mucocutaneous*. The risk of transmission of infection is lower for *mucocutaneous* exposure than for percutaneous exposures but still significant and would be managed by healthcare providers in a very similar manner.

Health risks from needlestick and splash injuries include:

### 1. Anxiety

Significant stress and psychological trauma can result from such injuries, even where no infection is ultimately acquired, due to long periods of uncertainty regarding the outcome of the injury, as well as changes in lifestyle, working restrictions and, where indicated, extended and debilitating treatments<sup>2</sup>. Individuals who sustain a significant needlestick injury will be recommended to have a three dose Hep B vaccine course over a period of two months or a single booster vaccine if previously vaccinated, a tetanus containing vaccine if required and provide a venous blood sample at the time of the injury, at six weeks and three months after the injury. They will be advised to look out for symptoms that might indicate the presence of a blood borne infection and will be advised to take safe sex precautions with their partners until their blood test results are clear. In addition, based on the nature of the injury/ time since injury they may be put on a course of antibiotics to avoid skin/soft tissue infection which will be accompanied with potential restrictions on diet/alcohol and carries with it a risk of side effects.

### 2. Blood borne viruses like hepatitis B, C and HIV

Body fluids can be a source of viral infections like hepatitis B, C and HIV. The source with the highest potential for transmission in the context of drug related litter is a contaminated hollow bore needle. A splash injury to the eye has resulted in one documented transmission of hepatitis C worldwide. The risk of contracting hepatitis B, C and HIV from a known contaminated needle is estimated to be 1 in 3, 1 in 50 and 1 in 300 respectively. Hepatitis B and HIV transmission is preventable through post exposure vaccination a short course of antiviral medication respectively. There are no preventative interventions to address the risk of acquiring hepatitis C from a needlestick/splash injury.

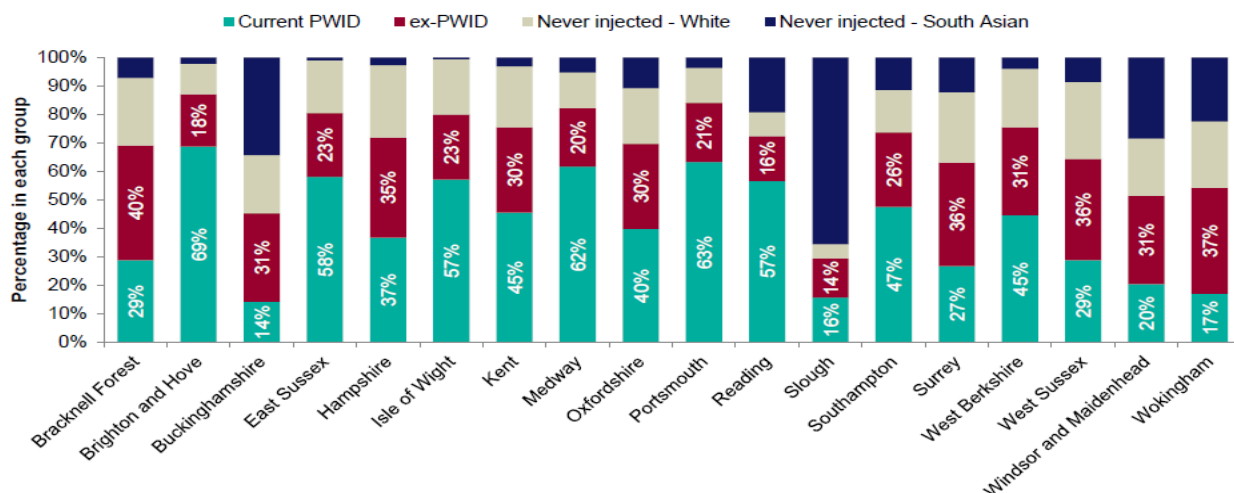
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<sup>1</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/221089/pb10970-drugrelatedlitter.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/221089/pb10970-drugrelatedlitter.pdf)

<sup>2</sup> <http://www.nhsemployers.org/~media/Employers/Documents/Retain%20and%20improve/Needlestick20injury.pdf>

It is estimated that over half of people who inject drugs (PWID) in the South East of England have hepatitis C (58%). It is estimated that nearly 47% of known hepatitis C cases in Southampton are people who inject drugs currently<sup>3</sup>. A tool to estimate the burden of hepatitis C by DAT area indicates that there were 689 individuals currently injecting drugs in Southampton<sup>4</sup> although it must be emphasised that this is an estimate.

### Estimates of the proportion of all people who have been infected with hepatitis C in each South East LA in each risk group<sup>14</sup>



The prevalence of hepatitis B and HIV amongst PWID in England is estimated at 0.85% and 3% respectively<sup>5</sup>. There is no evidence that a member of the public in Southampton has acquired hepatitis B or C or HIV following a needle stick/splash injury. The only data available nationally is that of occupational health related transmission events of hepatitis C in healthcare settings following a needlestick exposure. There is no data available locally to estimate how many such injuries have occurred in Southampton as the follow up could be via A&E, GPs or out of hours services with some not seeking medical attention at all.

Over the next 15 to 20 years, with the introduction of routine hepatitis B vaccination in childhood, the risk of acquiring hepatitis B through needle sharing and needle stick injuries will reduce even further.

#### Who is at risk?

1. Persons who inject drugs. The greatest risk of transmission of blood borne viruses from drug litter are people who inject drugs either through their exposure to such environments or the reuse of paraphernalia in the absence of accessible needle exchange programmes. Ensuring a high uptake of hepatitis B vaccination amongst PWID and access to harm reduction services is key to preventing transmission of hepatitis C and HIV as well as conditions like bacterial sepsis from infected wounds.
2. People involved in working with PWID and the clean-up of drug litter. These individuals should be vaccinated against hepatitis B, trained in first aid following a needlestick injury and equipped to carry out their work in a safe manner.

<sup>3</sup>

[https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/648330/hepatitis\\_C\\_in\\_the\\_south\\_east\\_2015\\_data.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/648330/hepatitis_C_in_the_south_east_2015_data.pdf)

<sup>4</sup> <https://www.gov.uk/government/publications/hepatitis-c-commissioning-template-for-estimating-disease-prevalence>

<sup>5</sup> [https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/633688/hpr2617\\_uam-pwid.pdf](https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/633688/hpr2617_uam-pwid.pdf)

3. The general public would face very low risk from drug related litter if harm reduction services are working well. However in the absence of pre-existing hepatitis B immunity, members of the public are more likely to experience anxiety and stress and need more interventions than a hepatitis B vaccinated worker involved in drug litter clear up.

**In summary:**

The main health risks from injury due to drug related litter is likely to be from stress and psychological trauma. Acquisition of hepatitis C is likely to be the biggest source of concern given the high prevalence amongst persons who inject drugs and the lack of any preventive interventions. Hepatitis B vaccination uptake of PWID should be maintained. There has been no evidence of a case of a blood borne virus being transmitted to a member of the public in Southampton through a needlestick/splash injury. Nationally, such transmissions occur very infrequently in an occupational health setting which means that people engaged in the clearing up of drug litter and those working with PWID should be aware of the first aid steps to take following a needlestick injury as well as adopt safe handling procedures alongside being vaccinated against hepatitis B. The avoidance of needle sharing amongst PWID and new injectors is the mainstay of controlling the transmission and future burden to the health economy of hepatitis C.