



Draft Equality Analysis

*Management of HIV-infected Healthcare
Workers*

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Prepared by the Infectious Diseases and Blood Policy Branch, Department of Health

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Title: *Management of HIV-infected Healthcare Workers*

Relevant line in [DH Business Plan 2011-2015](#): not applicable

What are the intended outcomes of this work?

The intended outcome of this consultation is to obtain views on expert advice from the tripartite working group of the Expert Advisory Group on AIDS, the UK Advisory Panel for Healthcare Workers Infected with Blood-borne Viruses and the Advisory Group on Hepatitis about the management of HIV-infected healthcare workers. This follows the working group's review of current national guidance on the management of healthcare workers infected with HIV. The working group's report is being published alongside the consultation paper, consultation impact assessment and this draft equality analysis.

The working group has examined accumulated evidence about the very low risk of HIV transmission from infected and untreated health care workers to patients. Their expert advice is that the risk of HIV transmission from an undiagnosed and untreated HIV-infected healthcare worker to patient during an "exposure prone procedure" (EPP) * is extremely low or negligible, depending on the invasiveness of the clinical procedure, and that this risk can be reduced further by continuous combination antiretroviral drug therapy (cART).

The working group has recommended that HIV-infected healthcare workers should be allowed to perform EPPs, which they are currently restricted from doing if known to have HIV in order to protect patients. This recommendation is subject to the healthcare worker being on cART, demonstrating a sustained very low or non-detectable viral load and being under regular occupational health and specialist medical supervision.

The consultation will assist the Department in deciding on how it should respond to the working group's advice, and whether it should revise existing guidance that restricts healthcare workers with HIV from performing EPPs to protect patient safety. It will also enable a final impact assessment and equality analysis to be produced.

* Exposure prone procedures are those where there is a risk that injury to the healthcare worker could result in their blood contaminating a patient's open tissues with the consequent risk of infection. These include procedures where the worker's gloved hands may be in contact with sharp instruments, needle tips or sharp tissues (e.g. spicules of bone or teeth) inside a patient's open body cavity, wound or confined anatomical space where the hands or fingertips may not be completely visible at all times. Exposure prone procedures occur mainly in surgery, obstetrics and gynaecology, dentistry and some aspects of midwifery and specialist nursing.

Who will be affected?

A. Healthcare Workers

If the policy were to be changed, it is estimated that a small number of healthcare workers who have HIV infection (of the order of about 110 in total in England) would be eligible to do EPPs subject to the recommended criteria

B. Patients

At the moment, there is a very low risk of transmission of HIV to patients from undiagnosed HIV infected healthcare workers during EPPs. No transmissions have been reported in the UK, despite over 30 patient notification exercises in which about 10,000 patients treated by HIV-infected healthcare workers have been tested. There have only been 4 such transmission incidents reported world-wide.

Acknowledging the uncertainties in this area, such as the prevalence of HIV in healthcare workers who do EPPs, the current risk to any patient having the most invasive type of EPP¹ performed by any healthcare worker is estimated to be between 1 in 1,672,000 and 1 in 4,680,000.

If the tripartite group's recommendations were implemented, there would be a very small additional risk to patients from diagnosed, treated HIV infected healthcare workers, assuming that the proportion of undiagnosed HIV-infected healthcare workers remained the same. It is estimated that this would result in a small increase in risk to between 1 in 1,671,000 and 1 in 4,076,000, or one additional HIV transmission every 40 to 2,500 years. It is possible that these estimates overstate the risks, as there have been no HIV transmissions from infected healthcare worker observed in this country.

However, if the tripartite working group's recommendations were implemented, it could lead to more healthcare workers with HIV being diagnosed with HIV and treated with cART. This would reduce the proportion of undiagnosed HIV-infected healthcare workers doing EPPs and the overall risk to patients because cART suppresses an HIV-infected individual's viral load to very low or undetectable levels. Therefore, if there was a large enough increase in the diagnosis of HIV-infected healthcare workers, this could offset the additional risk partially or completely - or the total risk could be reduced compared to the current position.

Although there is no evidence about this, it is one possible outcome, since the proposed new policy would no longer mean an end to an HIV-infected healthcare worker's EPP career and there may be greater incentive for healthcare workers who consider that they are at risk of infection to come forward for HIV testing.

In summary, the total risk to patients of HIV transmission may increase by a very small amount, not change, or decrease.

Evidence *The Government's commitment to transparency requires public bodies to be open about the information on which they base their decisions and the results. You must understand your responsibilities under the transparency agenda before completing this section of the assessment. For more information, see the current [DH Transparency Plan](#).*

What evidence have you considered? *List the main sources of data, research and other sources of evidence (including full references) reviewed to determine impact on each equality group (protected characteristic). This can include national research, surveys, reports, research interviews, focus groups, pilot activity evaluations etc. If there are gaps in evidence, state what you will do to close them in the Action Plan on the last page of this template.*

¹ Such as open cardiac surgery, hysterectomy or caesarean section.

The main source of data in assessing equality issues is the Health Protection Agency's (HPA) annual report , *HIV in the United Kingdom: 2010 Report* (November 2010). The HPA is the expert national agency responsible for surveillance of HIV and other infectious diseases.

We have also sought advice from the HPA on whether particular population groups:

- (i) might be more likely to acquire infection if exposed to HIV compared to others; and
- (ii) might have a more rapid disease progression compared to others.

The HPA has advised there is no documented evidence as to whether poor immunological function in the patient (e.g. connected with age or other diseases) is related to increased risk of HIV acquisition following exposure or not (**see Annex**). Given the rarity of such exposures, it is extremely difficult to investigate what happens when individuals with poor immunological functions are exposed to HIV compared to matched healthy controls

There is some evidence that patients infected at older ages are more likely to have rapid disease progression compared to those infected at younger ages. Host genetic factors are known to affect disease progression, but there is no evidence that these markers are found disproportionately among specific population groups (e.g. particular ethnic groups).

We request comments on other information or sources of information relevant to this draft equality analysis that the Department should consult.

Disability *Consider and detail (including the source of any evidence) on attitudinal, physical and social barriers.*

Patients with disabilities

There is no evidence available as to whether people with poor immunological function may be more at risk of potential acquisition of HIV infection following exposure to HIV through an EPP. Although there is no evidence about this, if patients with poor immunological function were at greater risk of transmission then the policy could have a particular effect on these patients. Such patients may have poor immunological function due to a condition that would be classed as a disability, such as cancer.

Any policy change is likely to have a greater impact upon those groups who use the NHS more. Although we have been unable to identify any specific data about this, It may be a reasonable assumption that those people with certain health conditions that are classed as disabilities, are more likely to require more EPPs than other groups (cancer being one possible example). Any change in risk (whether an increase or decrease) could therefore have a greater impact upon those groups who do require more EPPs.

As explained above, the overall level of patient risk may either increase or decrease by a small amount or stay the same. Although we have considered two potential examples above where a change in risk could potentially have a greater impact upon those with a disability, we have identified no specific evidence for these examples. Therefore, if patient risk increased then there is no evidence that people with disabilities would be more affected overall than other people. If patient risk decreased, then people with disabilities would benefit in the same way as other people.

Healthcare workers with disabilities

HIV is considered a disability under the Equality Act 2010. At present, healthcare workers living with HIV are unable to perform EPPs, which may restrict them from being able to start or continue their chosen career. Changing the policy could advance equality of opportunity, as it would allow individuals living with HIV to carry out EPPs subject to the conditions mentioned above to protect patient safety.

Sex Consider and detail (including the source of any evidence) on men and women (potential to link to carers below).

We have no evidence to judge whether the recommendations of the tripartite working group and an increase or decrease in risk would affect male or female patients in different degrees. We have identified no evidence as to whether male or female patients undergo more EPPs overall.

In relation to healthcare workers with HIV, estimates from the HPA suggest that the prevalence rate of HIV in the general population is higher in men than in women in the UK.

Race Consider and detail (including the source of any evidence) on difference ethnic groups, nationalities, Roma gypsies, Irish travellers, language barriers.

In the UK, the majority of heterosexually-acquired HIV infections are diagnosed in people who are from countries in sub-Saharan Africa. In 2009, an estimated 63% of new diagnoses acquired heterosexually were among Africans and 68% of these acquired their infection abroad, mainly in sub-Saharan Africa (HPA 2010).

Therefore, current policy has a particular impact on healthcare workers from a sub-Saharan African background or other parts of the world where HIV infection is common. Changing the policy could advance equality of opportunity, as it would allow healthcare workers from a sub-Saharan African background or other minority ethnic background who are living with HIV to perform EPPs, subject to the conditions mentioned above to protect patient safety.

Age Consider and detail (including the source of any evidence) across age ranges on old and younger people. This can include safeguarding, consent and child welfare.

There is no evidence that any particular population group may be more at risk of potential exposure to HIV through EPPs. However, there is some evidence that patients infected at older ages are more likely to have rapid disease progression compared to those infected at younger ages.

It is also possible that people of older age may be more likely to require an EPP (e.g. cardiothoracic surgery or orthopaedic surgery).

As explained above, the overall level of patient risk of potential exposure may either increase or decrease by a small amount or stay the same. If the risk increased, people of older age may be more likely to be affected because they may have a greater need for surgery or affected to a greater extent than others if they acquired HIV infection from an infected healthcare worker during an EPP. If the risk decreased, the potential benefit for people of older age would be greater.

Gender reassignment (including transgender) *Consider and detail (including the source of any evidence) on transgender and transsexual people. This can include issues such as privacy of data and harassment.*

We have no evidence to judge whether the recommendations of the tripartite working group would affect this group.

Sexual orientation *Consider and detail (including the source of any evidence) on heterosexual people as well as lesbian, gay and bi-sexual people.*

A high proportion of the people estimated to be living with HIV in the UK are men-who-have-sex-with-men (MSM). Therefore, current policy has a particular impact on healthcare workers in this group. Changing the policy could advance equality of opportunity by allowing healthcare workers who are MSM with HIV to perform EPPs, subject to the conditions mentioned above to protect patient safety.

Religion or belief *Consider and detail (including the source of any evidence) on people with different religions, beliefs or no belief.*

We have no evidence to judge whether the recommendations of the tripartite working group would affect this group.

Pregnancy and maternity *Consider and detail (including the source of any evidence) on working arrangements, part-time working, infant caring responsibilities.*

There is no evidence that any particular population group may be more at risk of potential exposure to HIV through EPP.

Carers *Consider and detail (including the source of any evidence) on part-time working, shift-patterns, general caring responsibilities.*

We have no evidence to judge whether the recommendations of the tripartite working group would affect this group.

Other identified groups *Consider and detail and include the source of any evidence on different socio-economic groups, area inequality, income, resident status (migrants) and other groups experiencing disadvantage and barriers to access.*

We have no evidence to judge whether the recommendations of the tripartite working group would affect other identified groups.

• Engagement and involvement

Was this work subject to the requirements of the cross-government [Code of Practice on Consultation](#)? (Y) This analysis is to support a consultation that will be undertaken in line with the Code of Practice on Consultation.

How have you engaged stakeholders in gathering evidence or testing the evidence available?

This is the purpose of the consultation. The draft equality analysis will be reviewed in the light of the consultation responses.

How have you engaged stakeholders in testing the policy or programme proposals?

This is the purpose of the consultation. The draft equality analysis will be reviewed in the light of the consultation responses.

For each engagement activity, please state who was involved, how and when they were engaged, and the key outputs:

Not applicable

Summary of Analysis *Considering the evidence and engagement activity you listed above, please summarise the impact of your work. Consider whether the evidence shows potential for differential impact, if so state whether adverse or positive and for which groups. How you will mitigate any negative impacts. How you will include certain protected groups in services or expand their participation in public life.*

There is no evidence to judge whether particular population groups may be more at risk of acquisition of HIV infection if exposed to HIV through EPPs or not.

However, expert advice is that the risk of HIV transmission from an undiagnosed and untreated HIV-infected healthcare worker to patient during an EPP is extremely low or negligible depending on the invasiveness of the clinical procedures, and that this risk can be reduced even further if the healthcare worker is diagnosed and on combination antiretroviral drug therapy.

If the tripartite group's recommendations were implemented, then there would be a very small additional new risk to patients from an increase in the number of diagnosed, treated HIV infected healthcare workers performing EPPs.

However, if there was a large enough increase in the diagnosis of HIV-infected healthcare workers then the reduction in undiagnosed healthcare workers performing EPPs could offset the additional risk partially or completely - or the total risk could be reduced compared to the current position. Although there is no evidence about this, it is one possible outcome, since the proposed new policy would no longer mean an end to an HIV-infected healthcare worker's EPP career and there may be greater incentive for healthcare workers who consider that they are at risk of infection to come forward for HIV testing.

If the advice of the tripartite working were to be accepted and implemented, it could advance equality of opportunity for healthcare workers with HIV infection in the context of:

- the protected characteristics of disability (as HIV is a disability under the Equality Act 2010);
- race (as HIV is more common in certain population groups); and
- sexual orientation (as HIV is more common in MSM).

Now consider and detail below how the proposals impact on elimination of discrimination, harassment and victimisation, advance the equality of opportunity and promote good relations between groups.

Eliminate discrimination, harassment and victimisation *Where there is evidence, address each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation).*

We do not consider that either the current policy or the proposed policy, as recommended by the tripartite working group, are unlawfully discriminatory.

Advance equality of opportunity *Where there is evidence, address each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation).*

At present, healthcare workers with HIV infection are unable to perform EPPs, which may restrict them from being able to start or continue their chosen career. There is evidence that HIV affects individuals born in high prevalence parts of the world – particularly sub-Saharan Africa - and MSM disproportionately. HIV is considered a disability. The advice from the tripartite working group, if implemented, could advance equality of opportunity for these groups.

Promote good relations between groups *Where there is evidence, address each protected characteristic (age, disability, gender, gender reassignment, pregnancy and maternity, race, religion or belief, sexual orientation).*

We have no evidence to assess this.

What is the overall impact? *Consider whether there are different levels of access experienced, needs or experiences, whether there are barriers to engagement, are there regional variations and what is the combined impact?*

The advice from the tripartite working group suggests that overall there is likely to be no or a negligible adverse impact on patients. As explained below, there may in fact be a positive impact on patients.

Even though HIV transmissions have been documented in four cases world-wide, there have been no instances of people becoming HIV-infected during EPPs within the UK, despite over 30 patient notification exercises connected with HIV-infected healthcare workers since 1988, with nearly 10,000 patients tested for HIV.

National surveillance of HIV diagnoses in this country by the Health Protection Agency has not identified cases of infection acquired from infected healthcare workers despite widespread testing in antenatal, genito-urinary medicine and blood donation clinics, and follow-up of unexplained HIV diagnoses

Expert advice is that the risk of HIV transmission from an undiagnosed and untreated HIV-infected healthcare worker to patient during an EPP is extremely low or negligible depending on the invasiveness of the clinical procedures, and that this risk can be reduced even further if the healthcare worker is diagnosed and on combination antiretroviral drug therapy.

If the tripartite group's recommendations were implemented, there would be a very small additional risk to patients from an increase in diagnosed, treated HIV infected healthcare workers performing EPPs, assuming that the proportion of undiagnosed HIV-infected healthcare workers remained the same. However, if there was a large enough increase in the diagnosis of HIV-infected healthcare workers, this could offset the additional risk partially or completely - or the total risk could be reduced compared to the current position.

Although there is no evidence about this, it is one possible outcome, since the proposed new policy would no longer mean an end to an HIV-infected healthcare worker's EPP career and there may be greater incentive for healthcare workers who consider that they are at risk of infection to come forward for HIV testing.

It is possible that estimates by the tripartite working group and the Department overstate the risks, as there have been no HIV transmissions from infected healthcare worker observed in this country.

The overall impact for HIV-infected healthcare workers would be relatively small because of the low numbers affected

Addressing the impact on equalities *Please give an outline of what broad action you or any other bodies are taking to address any inequalities identified through the evidence.*

The Department will determine this once it has had the benefit of considering the responses to the consultation.

Action planning for improvement *Please give an outline of the key actions based on any gaps, challenges and opportunities you have identified. Actions to improve the policy/programmes need to be summarised (An action plan template is appended for specific action planning). Include here any general action to address specific equality issues and data gaps that need to be addressed through consultation or further research.*

The need for an action plan will be assessed when the Department has considered the responses to the consultation.

Please give an outline of your next steps based on the challenges and opportunities you have identified. *Include here any or all of the following, based on your assessment*

- *Plans already under way or in development to address the **challenges** and **priorities** identified.*
- *Arrangements for continued engagement of stakeholders.*
- *Arrangements for continued monitoring and evaluating the policy for its impact on different groups as the policy is implemented (or pilot activity progresses)*
- *Arrangements for embedding findings of the assessment within the wider system, OGDs, other agencies, local service providers and regulatory bodies*
- *Arrangements for publishing the assessment and ensuring relevant colleagues are informed of the results*
- *Arrangements for making information accessible to staff, patients, service users and the public*
- *Arrangements to make sure the assessment contributes to reviews of DH strategic equality objectives.*

- **For the record**

Name of person who carried out this assessment:

Gerry Robb, Infectious Diseases and Blood Policy, Department of Health

Date assessment completed:

16 September 2011

Name of responsible Director: Helen Shirley-Quirk

Date assessment was signed:

19 September 2011

Annex

ADVICE FROM THE HEALTH PROTECTION AGENCY

1) *Is there any evidence about factors that may make individuals more susceptible to acquiring HIV infection if exposed to blood/body fluid from a positive source?*

The risk of acquiring HIV infection varies by the transmission route. This is summarised in table 1². There have been no instances in the UK of people becoming HIV-infected following an exposure prone procedure, where there is a risk of the HIV infected health care worker sustaining a needlestick injury.

Table 1: Risk of HIV transmission following an exposure from a known HIV positive individual

Type of exposure	Estimated risk of HIV transmission per exposure (%) ²
Blood transfusion (one unit)	90-100
Receptive anal intercourse	0.1-3.0
Receptive vaginal intercourse	0.1-0.2
Insertive anal intercourse	0.06
Insertive vaginal intercourse	0.09-0.3
Receptive oral sex (fellatio)	0-0.04
Needle-stick injury	0.3
Sharing injecting equipment	0.67
Mucous membrane exposure	0.09

It is established that elevated viral load in the transmission source is the key predictor for HIV transmission³, and that negligible transmissions occur between HIV serodiscordant couples where the infected partner achieves a sustained undetectable viral load through anti-retroviral treatment (ARV)^{4,5,6}. While data on HIV exposure and subsequent infection through EPP are scarce, as with sexual exposure, it is assumed that achieving a sustained undetectable viral load through ARV would reduce the HIV transmission risk during EPP to negligible levels.

There is no documented evidence that people with poor immunological function (e.g. through increasing age, co-morbidities etc) are more vulnerable to acquiring HIV infection per exposure. Indeed, the risk of HIV transmission from an individual whose viral load is suppressed through treatment is negligible, regardless of the levels of immunosuppression of the individual exposed.

² Fisher, M., P. Benn, et al. (2006). "UK Guideline for the use of post-exposure prophylaxis for HIV following sexual exposure." *Int J STD AIDS* **17**(2): 81-92.

³ Quinn, T. C., M. J. Wawer, et al. (2000). "Viral load and heterosexual transmission of human immunodeficiency virus type 1. Rakai Project Study Group." *N Engl J Med* **342**(13): 921-9.

⁴ Castilla, J., J. Del Romero, et al. (2005). "Effectiveness of highly active antiretroviral therapy in reducing heterosexual transmission of HIV." *J Acquir Immune Defic Syndr* **40**(1): 96-101.

⁵ Barreiro, P., J. del Romero, et al. (2006). "Natural pregnancies in HIV-serodiscordant couples receiving successful antiretroviral therapy." *J Acquir Immune Defic Syndr* **43**(3): 324-6.

⁶ www.hptn.org/web%20documents/PressReleases/HPTN052PressReleaseFINAL5_12_118am.pdf

2) Is there any evidence that certain population groups are more likely to experience exposure through EPP?

Even though HIV transmissions have been documented in four cases world-wide, there have been no instances of people becoming HIV-infected during EPP within the UK. There is no documented evidence that any particular population group may be more at risk of potential exposure to HIV through EPP.

3) Are there groups whose HIV infection may progress more quickly once infected?

There are limited data exploring differences in the rate of disease progression among the people living with HIV infection. There is some evidence that patients infected at older ages are more likely to have rapid progression compared to those infected at younger ages^{7,8}. While there is evidence that pregnant women and people born in resource-poor countries (such as parts of sub-Saharan Africa) are likely to have poorer immune function irrespective of HIV infection, the effect of poorer immune function at HIV infection on disease progression is not known. Host genetic factors are known to affect disease progression⁹, but there is no evidence that these markers are disproportionately found among specific population groups (e.g. specific ethnic groups).

The following characteristics, in isolation, will not impact upon rate of progression of HIV infection:

- disability
- gender reassignment
- marriage and civil partnership
- race
- religion or belief
- sexual orientation

Prepared by Alison Brown and Fortune Ncube, Health Protection Agency, 30th June 2011

⁷ Pezzotti P, Dorrucchi M, Donisi A, et al. (2003). [Survival, progression to AIDS and immunosuppression in HIV-positive individuals before and after the introduction of the highly active antiretroviral therapy (HAART)]. *Epidemiol Prev.* 2003 Nov-Dec;27(6):348-55.

⁸ Bhaskaran, K., O. Hamouda, et al. (2008). "Changes in the risk of death after HIV seroconversion compared with mortality in the general population." *Jama* **300**(1): 51-9.

⁹ Casado, C., S. Colombo, et al. "Host and viral genetic correlates of clinical definitions of HIV-1 disease progression." *PLoS One* **5**(6): e11079.