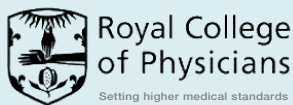




Standards for HIV Clinical Care

in partnership with

The Royal College of Physicians, London
British Association of Sexual Health and HIV
British Infection Society



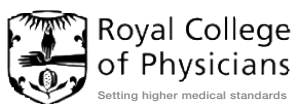
March 2007

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Standards for HIV Clinical Care

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March 2007

British HIV Association

Standards for HIV Clinical Care

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Foreword

This report represents the outcome of a project that was initiated by the British HIV Association (BHIVA) with the aim of developing standards for the organisation of NHS care services for adults with HIV infection. Following a process of consultation and discussion it has been fully endorsed by BHIVA, the Royal College of Physicians (RCP), the British Association for Sexual Health and HIV (BASHH) and the British Infection Society (BIS) and co-badged by all four organisations.

BHIVA thanks its partner organisations and other relevant stakeholders for their active engagement in, and support for, this initiative.

The project and production of the report have been funded via an unrestricted grant from BHIVA.

1

Summary of key recommendations

1.1. Background and principles

This report offers a limited set of focused, auditable standards addressing key aspects of the organisation of NHS clinical care for adults with HIV infection. It should be read alongside other relevant standards, recommendations and guidelines. The standards it describes are applicable to the care of all adults living with HIV in the UK. They seek to address HIV as a complex, chronic medical condition while recognising that it retains some exceptional features not applying to other such conditions. The report's recommendations are designed to reflect the level of care expected to be achieved throughout the NHS.

1.2. Commissioning, service networks and levels of care

Clinical care for diagnosed HIV infection in adult patients should be delivered through managed clinical networks each covering a defined geographical area and group of NHS organisations. These networks should comprise two types of clinical services: HIV units providing outpatient care for the majority of patients with uncomplicated HIV infection; and a single-site or virtual/cluster HIV centre within each network providing services for patients with more specialised needs, including complex outpatient care, inpatient care and referral/advice services.

1.3. Clinical training, experience and commitment

All future appointments to consultant posts providing HIV care should be made in the context of a defined clinical network, with a job description specifying the role the post occupies within the network. Future consultant appointees to posts providing HIV care must have and maintain specialist certification in a relevant specialty. Those whose posts involve providing inpatient care and/or on call advice must have and maintain competency in acute and internal medicine in accordance with relevant standards.

1.4. Records and information sharing

HIV care records should reflect the same access protocols as for other chronic diseases. While respecting the right of individual patients to opt out from record sharing, information relating to HIV treatment and care should be recorded in ordinary NHS records.

1.5. The patient pathway

Each HIV clinical network should adapt the report's more detailed recommendations in order to develop referral protocols and patient pathways to ensure the highest quality of care. All general practices and acute medicine services should provide diagnostic HIV testing, and such testing should routinely be considered for patients coming in contact with secondary care. Patients should be offered assessment by a doctor who provides HIV care within 2 weeks of HIV diagnosis, irrespective of the place of testing. Patients needing inpatient care for HIV-related disease should ordinarily be admitted to an HIV centre or the relevant tertiary service in liaison with the HIV centre.

1.6. Implementation and audit

We expect to work with relevant stakeholders towards the implementation of this report's recommendations. Some key criteria should be rigorously audited at the national level, and individual clinical networks should develop their own audit programmes according to local priorities.

2

Background and principles

2.1. Scope of standards

In preparing this report, we have sought to produce a limited set of focused, auditable standards that address key aspects of the organisation of NHS clinical care for adults with HIV infection.

Well-organised services are necessary but not in themselves sufficient to achieve high-quality care, so this organisationally focused report is not intended as a comprehensive guide to good practice in HIV medicine. It should be read alongside BHIVA's clinical guidelines¹ and other relevant standards, recommendations and guidelines, including earlier standards developed by the Medical Foundation for AIDS and Sexual Health that give a broader perspective on good practice². The clinical guidelines make recommendations about what treatments/interventions patients should receive, whereas this document focuses on where and by whom care should be provided.

Although this document mentions PCTs and other NHS organisations that exist only in England and Wales, we believe that the principles and approach it sets out are broadly applicable across the UK as a whole. Further work may be needed in adapting some recommendations to the particular circumstances and organisational arrangements applying in Scotland, Wales and Northern Ireland, and certain low prevalence areas in England.

There have been dramatic changes since HIV emerged in the 1980s, which necessitate corresponding changes in service provision. These standards aim to define a new care paradigm in line with the following principles.

2.2. Entitlement to care

We believe that every person with HIV is entitled to a uniformly high standard of medical care. These standards are therefore applicable to the care of all adults living with HIV in the UK.

2.3. Patient and public partnership

Clinical care should be provided through partnership between clinicians, NHS organisations, patients and the wider public. This entails patient and public involvement in planning and helping to design services, together with education and personalised information to support patients in taking part in shared decision-making about their individual care.

2.4. The chronic disease paradigm

HIV has become a complex, chronic medical condition, and the model of care should be based on that of other such conditions. However, HIV remains an incurable condition with uncertain prognosis, and retains other exceptional features, which are reflected in the standards recommended below:

- Even the routine elements of HIV care are relatively complex and rapidly developing, involving specialised tests and combinations of drugs with significant potential for toxicity and interactions.
- The prevalence of HIV is increasing through new diagnoses and improved survival, but remains patchy and low in some areas. In 2004, 40,265 HIV patients of all ages were seen for care in England, Wales and Northern Ireland, 22,642 within the London SHAs, and 1911 HIV-infected persons were receiving specialist care in Scotland (see 9: Annex 2, p.27).

1. Regularly updated, available from www.bhiva.org/

2. Medical Foundation for AIDS and Sexual Health. *Recommended Standards for NHS HIV Services*. 2003. (www.medfash.org.uk/publications/)

- HIV continues predominantly to affect minority groups – gay men, people from sub-Saharan Africa and other high prevalence regions including some categories of refugees and asylum seekers, and injecting drug users – who are vulnerable to stigma, and in some cases severely disadvantaged. It is itself a stigmatised condition. Particular attention is therefore required for issues of trust, confidentiality and reducing inequalities.
- A high proportion of people with HIV experience social exclusion problems related to housing issues, immigration status or financial hardship. These problems are likely to have a significant impact on mental health, treatment adherence, self-management and the ability to live well with HIV.
- HIV is an infection that is transmissible to sexual partners, and through sharing injecting equipment. It is highly associated with mutually complicating infections including TB and hepatitis B and C and with other STIs.
- HIV can be a family condition with both parents and children infected, since it is also transmissible from mother to infant. Increasing numbers of women with HIV are bearing children, requiring specialist care both for their own health and to minimise vertical transmission. More infected children are surviving into adolescence and adulthood and this group have complex and specialised needs.
- HIV disease can affect any or all bodily systems and present via a wide variety of conditions, for example malignancies, opportunistic infections or renal failure. No single clinician can be expected to have the expertise to manage all possible manifestations and complications of HIV disease.
- Proper treatment and management of HIV infection is among the most cost-effective interventions available in the UK. Despite high drug costs, its dramatic impact on survival, quality of life^{3,4} and onward transmission of infection represents an excellent return on money spent.

2.5. Quality of care

The recommendations set out in this document are designed to reflect the level of care expected to be achieved throughout the NHS, not a gold standard of perfection. Some of the recommendations are supplemented with illustrative examples of good practice. The latter are not requirements, and may not represent the only satisfactory model of service delivery.

2.6. Efficiency

Efficient use of public resources should be sought through streamlining and modernising service provision wherever this can be achieved without detriment to patient care.

2.7. Individual and public health

Planning of HIV treatment and care services must have regard to public health protection through prevention of HIV, other STIs and related infections including TB, in addition to the best interests of the individual patient.

3. Trueman P, Youle M, Sabin CA *et al.* The cost-effectiveness of triple nucleoside analogue therapy antiretroviral regimens in the treatment of HIV in the United Kingdom. *HIV Clin Trials*, 2000, **1**, 27–35

4. Beck EJ, Mandalia S, Gaudreault M *et al.* The cost-effectiveness of highly active antiretroviral therapy, Canada 1991–2001. *AIDS*, 2004, **18**, 2411–2418.

3

Commissioning, service networks and levels of care

3.1.

Recommendations

3.1.1.

Commissioning and clinical networks

NHS commissioners must collaborate in planning HIV treatment services across geographical boundaries and multiple providers to make best use of resources and expertise. For England, this means that HIV treatment and care services should remain within the Specialist Services National Definitions Set and Strategic Health Authorities should take an active lead through their Specialised Commissioning Groups⁵.

Although this document is primarily concerned with clinical services for adults with diagnosed HIV infection, commissioning plans must encompass the full range of services necessary for HIV care, management and control, including:

- Voluntary and community development organisations for communities particularly affected by HIV.
- Social care and welfare advice for people with HIV and members of affected groups, including asylum seekers and other migrants.
- Services for families affected by HIV, including but not confined to specialist paediatric care for children and adolescents with HIV and transition from adolescent into adult services.
- Public education, sexual health promotion and HIV prevention services, including access to condoms, sterile injecting equipment and post-exposure prophylaxis for sexual and occupational exposures.
- Drug and alcohol services.
- Services for prisoners and detainees, commercial sex workers and other vulnerable groups.
- Mental health and psychosocial care services.
- Expansion of access to HIV testing and diagnosis.

Standards for these wider services for people with HIV should be developed where feasible, for example by the Social Care Institute for Excellence in the case of social care provision.

Clinical care for diagnosed HIV infection in adult patients should be delivered through managed clinical networks each covering a defined geographical area and group of NHS organisations. Each network should have an identified consultant clinical lead and a network manager, with sufficient time and funding allocated for these to perform their respective network leadership roles.

The following activities should be managed at the network level:

- Development and implementation of clinical and communication protocols and referral pathways, including liaison with Connecting for Health regarding IT to support communication across the network (see also 6: The patient journey, p.17).
- Continuing professional development regarding clinical aspects of HIV.
- Clinical audit related to HIV, including sharing of outcomes and action planning arising from the BHIVA national audit programme and other relevant national and local audit programmes.
- Public and patient involvement, including in helping to design services.
- Allocation of resources in a fair and transparent manner.
- Planning of new service developments.

5. See: Department of Health. *Health reform in England – update and commissioning framework*. 13th July 2006. (www.dh.gov.uk/)

- Ensuring collaboration with HIV surveillance programmes managed by the Health Protection Agency, Health Promotion Scotland, National Public Health Service for Wales and Communicable Disease Surveillance Centre (Northern Ireland).
- Linkage with the Children's HIV National Network to ensure effective care for affected children, families and adolescents.
- Coordination of research including ensuring equitable access for eligible patients to multi-centre clinical trials.

Two types of clinical services must be clearly identified and interlinked through these managed clinical networks:

- HIV units providing outpatient care for the majority of patients with uncomplicated HIV infection. This should be available locally in most areas within each network. Patients should have a choice of which HIV unit to attend.
- A single-site or cluster HIV centre within each network providing services for patients with more specialised needs. These services include complex outpatient care, inpatient care and referral/advice services⁶.

Where appropriate, HIV units and centres may be formally designated by Specialised Commissioning Groups, based on these and other relevant standards and on criteria developed between commissioners, clinicians and service users.

3.1.2.

HIV units providing outpatient care

Ongoing clinical care for adults with diagnosed HIV infection should be under the direction of a consultant qualified to provide such care. Services for ongoing HIV care should include the following required provision:

- Case management for HIV as a long-term medical condition, with a focus on self-management and enabling adherence.
- Assessment and routine monitoring of HIV patients and initiation and monitoring of HAART in accordance with BHIVA and other relevant national and local guidelines.
- Appropriate laboratory services to support access to all relevant tests recommended in BHIVA guidelines⁷ for monitoring patients on and off HAART.
- Access to health advisor/counsellor as required.
- Access to peer support.
- Treatment support including patient education, delivered in partnership with community or voluntary providers.
- Personalised information and discussion to support and enable patients in sharing in decisions about their individual care.
- Facilities for partner notification.
- GU/sexual health screening and services.
- Access to contraception and pre-conception care.
- Clearly defined arrangements for network access to all HIV centre services including 24-hour advice.
- Health promotion services.

6. See: 6: The patient journey, p.17 below, for categorisation of different aspects of clinical care.

7. Guidelines are subject to change as evidence evolves, but currently this includes HIV diagnostics, viral load and resistance testing, and CD4+ lymphocyte counts. If abacavir-based HAART is considered, genetic testing for the HLAB*5701 allele is also necessary to minimise the risk of hypersensitivity reactions.

- Good links with mental health services.
- Access to specialist nursing within the local area.
- Specialist pharmacist support, either through local staff or via outreach from the HIV centre.

Non-clinical aspects of these services may be delivered outside clinical settings and in partnership with a range of NHS and non-NHS providers, but there must be effective overseeing and co-ordination of multi-agency work to deliver the various service components, including clearly defined arrangements for liaison with generic and voluntary services.

3.1.3. HIV centres

More specialised aspects of HIV should be provided through an HIV centre, which may be on a single site or may take the form of a 'virtual HIV centre' comprising an interlinked cluster of a small number (e.g. 2–4) of providers within a network. In the case of such a virtual HIV centre, the role of each individual provider should be clearly defined, in particular whether it includes:

- Acute medical HIV inpatient care.
- Other specialised services excluding acute medical HIV inpatient care only.

The medical staff of the HIV centre (whether virtual or single-site) should include a substantive body of consultant expertise covering a range of clinical aspects of HIV, able to provide care directly and to advise and support colleagues at HIV units and other clinical services within the network area. Other staff should include one or more dedicated HIV specialist pharmacists and one or more consultant or equivalent senior clinical nurses able to work across organisational boundaries and support colleagues elsewhere in the network.

Each provider of acute medical HIV inpatient care must be staffed by enough consultants qualified to provide HIV inpatient care to enable a sustainable rota for 24-hour cover. Each such provider must be located at a hospital with a full range of general medical services including intensive care on-site. The HIV centre consultants must have direct access to inpatient beds. Day case/ambulatory facilities should also be available within the HIV centre.

When planning HIV centres, consideration should be given to co-location with:

- Hepatology.
- Respiratory medicine for diagnosis and tuberculosis management, including negative pressure facilities.
- Oncology.
- Neurology and neurosurgery.

In addition to the above services there must also be direct access to, and close liaison with, the following related services:

- Endocrinology.
- Renal medicine.
- Haematology/haemato-oncology.
- Mental health for patients with significant mental health needs – including clinical psychology and liaison psychiatry able to engage with community mental health services in patients' place of residence.
- Dermatology.
- Otorhinolaryngology.
- Gastroenterology, especially endoscopy.
- Lipid, hypertension and cardiovascular medicine.
- A full range of diagnostic imaging and pathology services.

- HIV virology including interpretation of resistance patterns.
- Ophthalmology.
- Dental/oral medicine.
- Dietetics, physiotherapy, occupational therapy and clinical psychology.
- Obstetrics and gynaecology – including liaison midwifery, subfertility and colposcopy.
- Access to bone marrow transplantation (for lymphoma patients).
- Palliative care medicine.

Arrangements must be in place to enable referral access to quaternary and supra-regional services:

- Liver and renal transplantation.
- Therapeutic drug monitoring and its interpretation.
- Specialist management of multi-drug resistant TB.
- More specialised HIV virology services.
- Specialist histo/cytopathology via referral access to appropriate experts for diagnostic advice on difficult cases.
- HIV autopsy service with an interested pathologist who takes part in mortality meetings with the clinical team, if not available within the HIV centre itself.

There must be network-wide arrangements for 24-hour on-call/referral advice, provided via the HIV centre. These must be publicised to acute medical and accident and emergency departments within the area covered by the network, as well as to HIV units.

3.1.4. General practice and primary care

GPs should coordinate care for non-HIV-related conditions affecting people with HIV as for other patients, in accordance with relevant national service frameworks, standards and guidelines, and wherever possible in liaison with HIV services.

HIV services should strongly advise patients to register with a GP and to inform their GP of their HIV diagnosis. Unless patients refuse consent, HIV services should keep GPs updated regarding their patients' clinical status and medication.

3.2. Background and rationale

3.2.1. Commissioning and clinical networks

Because of relatively small numbers and a high level of complexity, efficient planning of health services for people with HIV requires a strategic approach across substantially larger areas than individual PCTs or health boards. This is best achieved through managed clinical networks with defined roles for each provider, with the following activities managed at the network level:

- Development and agreement of referral triggers and pathways to deliver care safely and efficiently and to ensure patients have equal access to services according to their clinical needs, irrespective of their usual provider within the network (*see also* the recommendations in 6: The patient journey, p.17).
- Mutual professional support and ongoing clinical education to enable all clinicians to maintain up-to-date skills and knowledge appropriate to their clinical roles.
- Governance including quality assurance and audit.
- Development of IT and communication pathways to support patient care, including arrangements for 24-hour advice on the management of complex cases.

It is anticipated that a later stage of this project will include mapping service provision (in collaboration with commissioners) to identify network boundaries and sites for HIV centres.

Each network should have a consultant clinical network lead (with protected time in his/her job plan) whose roles will include facilitating protocol development and decision-making among the centres/units participating in the network. A funded non-clinical manager post is also needed to coordinate network activities.

Outside the main scope of this document, there should also be a broader service network encompassing community and social care providers working in liaison with the clinical network. This requires health commissioners to develop strong and effective strategic partnerships with local government and other partners serving their local populations, in addition to working across geographical boundaries to commission clinical services. The interface between health and social care is especially important in view of the increasing impact of poverty and social exclusion among people with HIV infection in the UK⁸. Deprivation frequently inhibits people's ability to access and use treatment effectively, and nurses and other health staff are compelled to spend time addressing social problems that fall outside their professional sphere of responsibility. We would therefore welcome development of standards for social care provision for people with HIV.

3.2.2. HIV units providing outpatient care

As for other chronic diseases, case management can play a key role in keeping people with HIV well and avoiding complications or symptomatic disease and hence the need for more specialised services or emergency hospital admission. A proactive approach is needed that places the person with HIV at the centre and integrates routine monitoring, self-management, primary and social care. However, case management for HIV differs from other conditions:

- Patients are younger and overwhelmingly from specific minority groups, for example gay men and people from sub-Saharan Africa. While some experience day-to-day symptoms that are disabling to a greater or lesser extent, many do not.
- Monitoring relies on interpretation of specific blood tests that are not used in other areas of medicine.
- HIV therapy is exceptionally complex, and rapidly developing. Patients, as well as clinicians, need highly specific knowledge about HIV to take part in decision-making and adhere well to their therapy.
- Case management is concerned with helping the patient to prevent onward transmission of HIV as well as maintaining personal and sexual health.

Because of these differences and low prevalence, it is more efficient for case management to be overseen and coordinated by the HIV outpatient service, where possible in partnership with voluntary/patient-led organisations⁹, than by general practice or other generic provision¹⁰. This does not necessarily mean delivering services in conventional hospital outpatient clinics¹¹. The key issues are the skill and knowledge-set and facilities, rather than location. Some outpatient providers are modernising to provide routine monitoring by nurse specialists in a variety of settings; this is good practice that appears to be well liked by patients, may reduce pressure on clinic facilities and may be cost-saving.

8. See: Green G, Smith R. The psychosocial and health care needs of HIV-positive people in the UK following HAART: a review. *HIV Med*, 2004, **5**(Suppl. 1), 5–46.

9. While there is much scope for mutual learning, the general consensus is that HIV patient education cannot be fully addressed via generic expert patient programmes, but requires a substantial HIV-specific component. HIV voluntary/patient organisations have a key role in this.

10. 'HIV/AIDS has become ... "a chronic, manageable disease," perhaps not unlike diabetes, hypertension, or hyperlipidemia. Unlike these conditions, AIDS is a contagious, infectious disease, that if left untreated, almost invariably leads to death within eight to 10 years. It is a disease whose control depends on potent antiviral medications and whose natural history will not be affected significantly by dietary or lifestyle changes.

There are concerns about current routine care, since around one in five patients with advanced immunosuppression (CD4 count under 200 cells/ μ l) are not on ART¹². Such patients are at high short-term risk of opportunistic illness, which HAART could prevent, and also likely to be highly viraemic and infectious to sexual partners. Uptake of HAART among such patients varies greatly by region as well as by age and clinical stage, though not by sex, ethnicity or HIV exposure category. Recently diagnosed patients account for a relatively small proportion of those with low CD4 counts not on treatment.

We believe that better network support is needed to ensure clinicians do not practise in isolation; all outpatient providers need explicit network links with larger centres. One approach is to have a regular (weekly) day on which HIV unit consultants attend an HIV centre to take part in a ward round, network meeting and CME or clinical governance event. It is also good practice for clinicians working in HIV centres to undertake outreach and travel to outpatient HIV units, for example to provide a regular monthly joint clinic.

The problem of isolation may be particularly severe for HIV specialist nurses working in HIV units, since nurses are traditionally employed by a single trust without a recognised need for external professional contact¹³. Within each network there should therefore be at least one senior (e.g. nurse consultant) HIV specialist nurse whose contract explicitly provides for cross-boundary working to liaise with and support colleagues in other trusts. Service modernisation towards more care being delivered through nurse-led clinics makes this increasingly important. Home-care dispensing of HIV drugs is also increasing and it is important for these services to be integrated with clinical network arrangements and to meet all relevant pharmacy standards.

Peer support forms an integral part of good HIV care, in view of the chronic nature of HIV disease and continuing stigma. Even among high prevalence groups such as gay men and people from sub-Saharan Africa, most newly diagnosed people with HIV are unlikely to know other infected individuals (other than perhaps the person who infected them) so clinical service providers should actively foster access to peer support, while taking account of patient preference, local epidemiology and confidentiality.

Treatment support is essential in enabling patients to cope with their condition and its therapy, including adherence to HAART. There is no one model for provision of treatment support, which can involve specialist nurses, pharmacists, clinical psychologists, counsellors and community treatment advocates. In one study specialist pharmacist input was found to be independently associated with improved HIV viral load response¹⁴, which in turn is associated with less risk of symptomatic disease. Larger HIV units benefit from having their own specialist HIV pharmacist(s), and specialist HIV pharmacists based at HIV centres have a distinct role in training HIV unit pharmacy staff to ensure correct prescribing and dispensing, as well as providing treatment support to patients. An example of good practice would be for HIV centre specialist pharmacists to provide sessional outreach to outpatient services.

... Currently, 20 drugs are available to treat HIV. Although guidelines for their use exist, decisions about treatment are complex. These include the decision to start antiretroviral therapy as well as the selection of a specific regimen. What follows is long-term monitoring for efficacy, compliance, adverse events, and resistance. In many cases, based on toxicity or new clinical trial data, a patient's antiretroviral regimen must be changed one or more times. *These are issues most family physicians will not have the training, time, clinical experience, or desire to cope with.* [emphasis added] Kirchner J. Who should care for patients with HIV/AIDS? *Am Family Physician*, 2006, **73**, 215–216.

11. 'Currently there are nearly 45 million outpatient appointments every year in England. Estimates vary by specialty, but for some specialties up to half of these could eventually be provided in a community setting.' Department of Health. *Our health, our care, our say: a new direction for community services*. London: Department of Health, Cm 6737. 2006. (www.dh.gov.uk/)
12. Bryant V, Chadborn T, Patel B, Delpech V. Adults with low CD4 cell counts that were not receiving antiretroviral therapy in England, Wales and Northern Ireland in 2004. *HIV Med*, 2006, **7**(Suppl. 1), 1(abstr. O1).
13. 'When you look at outside London, the periphery of London, if you are talking about specialist nurses you talk about specialist nurses working in isolation ... how would you then make sure that the level of care is ... equitable, that is on the same standard?' Nathaniel Ault, at 24 July workshop.
14. Castillo E, Palepu A, Beardsall A et al. Outpatient pharmacy care and HIV viral load response among patients on HAART. *AIDS Care*, 2004, **16**, 446–457.

Laboratory services are important in the routine care of HIV patients and should be of high quality, assured by participation in the Clinical Pathology Accreditation (UK) Ltd programme¹⁵.

Some HIV units, especially those serving large caseloads, may exceed these requirements and are able to provide some more specialised aspects of HIV care. These standards should not be used as a reason for downgrading existing providers whose services are needed by patients.

3.2.3.

HIV centres

Outpatient provision through HIV units represents the mainstay of HIV care and most patients can be safely managed through these services¹⁶, in some cases with occasional advice from more specialist clinicians. However, at any time a minority will have complex needs that can only be safely managed at a larger centre with a sufficient concentration of HIV specialist expertise. The most common such complex needs relate to:

- Opportunistic infections and TB, in some cases leading to respiratory failure.
- Liver disease associated with hepatitis B or C co-infection¹⁷ and/or alcohol.
- HIV-related tumours.

Within each network there must be a core team of HIV centre specialists large and diverse enough to cover these main areas directly, and to work with and advise HIV unit colleagues on other specialised needs such as non-standard medication regimens for patients with HIV drug resistance, interactions, toxicity or other similar issues. The core team should also include dedicated HIV specialist pharmacists and nurses both to manage patients with complex needs directly and to support professional colleagues across the network. In addition, as HIV may affect any body system the core team will require input from a very wide range of other clinicians who combine an active interest in HIV with their own main specialty. The management of more complex HIV-related needs should thus be concentrated within a small number of providers both to achieve critical mass within the HIV team itself and to give clinicians in related specialties sufficient HIV exposure to maintain their competence.

In addition, for inpatient care, because patients may be extremely unwell a core requirement is for reliable 24-hour cover by specialists who are experienced in HIV and also skilled in acute general medicine, together with a strong nursing team. On-site access to intensive care is essential for life-saving care for critically ill patients, who often recover to enjoy long-term good-quality life. As a very rough estimate, at any time there may be fewer than one patient requiring inpatient care per 100 adults with diagnosed HIV infection; this suggests that the minimum desirable caseload for a network to enable a viable dedicated inpatient unit may be upwards of 500–750 adults with diagnosed HIV infection¹⁸. The optimum caseload for a network may be substantially larger. In certain areas geographical considerations make such a caseload unfeasible, so specific local arrangements will be needed to meet inpatient care standards.

Specialist laboratory-based services including virology and therapeutic drug monitoring are important in optimising HAART for patients with complex treatment problems such as multiple drug resistance, so preventing morbidity and maximising the long-term effectiveness of costly third and subsequent-line regimens. Clinicians must be able to engage directly with experts in these areas to discuss and interpret problems jointly in the light of the individual patient's clinical history. Job plans for virologists and other relevant experts should allow specific time for such direct clinical engagement. Ongoing investment in specialist laboratory services is needed for the development of new assays to meet future needs.

15. See: www.cpa-uk.co.uk

16. For example, about 60% of HIV patients on HAART are receiving first or second-line regimens. C Sabin, UK Collaborative HIV Cohort Study.

17. See also: British Society of Gastroenterology. *Care of patients with gastrointestinal disorders in the United Kingdom: a strategy for the future*. 2006. (see Clinical Practice, Publications at www.bsg.org.uk)

18. Note this represents the caseload for an entire clinical network including all HIV units, not solely the HIV centre.

HIV-related diseases present in diverse and often atypical ways, requiring specialist pathology expertise for correct diagnosis. Autopsies are an important source of learning about disease presentation and often reveal conditions not recognised before death by the treating clinicians, while the accuracy of tissue diagnostics should be monitored via regular (e.g. 6–12-monthly) clinico-pathological reviews. This requires referral access to an interested specialist pathologist if one is not available within the HIV centre.

Most providers forming part of HIV centres are also likely to provide routine outpatient care identical to that available in HIV units, although this may change over time with the shift towards community provision of outpatient and non-acute services. In terms of planning and monitoring service provision, it is important to distinguish patients receiving routine outpatient care from a provider that also offers more specialised HIV centre services from patients with a clinical need for such specialised HIV centre services.

Virtual or cluster HIV centre examples

Greater Manchester area: there is a managed clinical network comprising several outpatient care providers, two hospitals that provide some more specialised services including inpatient care to their own patients but do not accept incoming referrals, and one large main centre that provides comprehensive services including referrals. The latter three providers can be viewed as a virtual or cluster HIV centre arrangement. Current staffing may not fully meet the recommendations in this report for provision of inpatient care, but the existence of a well-managed and structured network gives scope for development to address this.

North East London: There are a number of outpatient HIV units and two hospitals provide inpatient care, one of which receives incoming referrals and provides a full range of specialised services for all provider units. However, appropriate local expertise in certain specialisms, such as pregnant women, has developed at other providers based on local need. Service planning may therefore proceed by developing some or all of this group of providers as a virtual or cluster HIV centre within which each has an appropriately defined role.

3.2.4.

General practice

People with HIV infection experience many concurrent health problems including other chronic conditions such as asthma, hypertension etc. The standard of care for HIV patients with such diseases should be no lower than for other patients. HIV specialist clinicians generally lack the expertise to manage all such conditions safely in line with relevant standards; GPs are better qualified to do so. They may also have appropriate skills in managing some conditions related to HIV and/or its treatment, for example dyslipidaemia, metabolic syndrome and cardiovascular disease; erectile dysfunction and other sexual and relationship problems and some other aspects of sexual and reproductive health; alcohol and substance misuse; depression, dementia and other mental health problems.

GPs need ready access to HIV specialist advice when treating patients who are on HAART and/or have advanced HIV disease, even for routine problems, because of the scope for serious interactions between some HAART drugs and a wide range of other medications and because of the risk of underestimating the seriousness of certain conditions in the immunocompromised patient. Hence patients need to understand that care can only be safely delivered if the GP is kept informed about their HIV and is able to liaise with the HIV specialist. Unless a patient specifically objects, HIV services should routinely update the GP regarding the patient's state of health, test results and medication.

There is no universal model for effective primary care for patients with HIV. Some HIV services have established links with GPs interested in HIV and encourage their patients to register with these; where geographically feasible, this is good practice in facilitating liaison. Some HIV services offer sessional work by GPs within the HIV clinic setting. All should be proactive in advising patients to register with a GP and in liaising with the GP of the patient's choice.

There is also scope for increased primary care involvement in management of HIV itself, on a shared-care basis. For example patients who require frequent monitoring for conditions such as anaemia may find it much more convenient to attend a general practice than a hospital provider, while specialist nurse-led outpatient clinics could potentially be held in primary care premises. A minority of interested GPs with substantial numbers of HIV patients may provide clinics themselves, although this should only be in conjunction with a qualified HIV consultant and on a basis of full integration alongside other providers within the HIV clinical network. Commissioning arrangements should be developed to support such flexible ways of working.

Enhanced primary care example

In Brighton, the HIV service links with primary care providers in a PCT-funded Local Enhanced Service (LES). Primary Care Teams can join the LES if at least one GP and one practice nurse have attended a local CPD course aimed at diagnosis of both HIV and primary-care related problems in patients with HIV infection. LES practices take on the management of cardiovascular risk factors (e.g. smoking cessation, hypertension, hyperlipidaemia) and non-antiretroviral prescribing while the HIV team concentrate on monitoring and management of HIV disease.

4

Clinical training, experience and commitment

4.1. Recommendations

4.1.1. Network roles

All future consultant appointments¹⁹ for posts providing HIV care should be made in the context of a defined HIV clinical network. The job description should specify the role the post occupies within the network, including whether it covers provision of:

- HIV outpatient care, with or without more specialised aspects of such care.
- On-call advice and care for HIV inpatients.

Job plans for all consultants providing HIV care must include defined time for HIV network activities.

Each network should have a designated consultant clinical lead. This role may rotate within the network but the current holder's job plan must allow sufficient time for network leadership.

4.1.2. Medical training and continuing professional development

Future appointees to consultant posts providing direct clinical care must have and maintain specialist certification in a relevant specialty, which will ordinarily be ID or GUM. Those appointed in future to posts that involve providing inpatient care and/or on-call advice and care for HIV inpatients must also have and maintain competency in acute internal medicine to the standards that the ID and GUM specialist advisory committees and PMETB require for consultants responsible for the care of acutely ill medical patients.

Relevant training should be adequately resourced and delivered by all deaneries for all trainees in those specialties requiring it.

Possession of the Diploma in HIV Medicine is evidence of postgraduate knowledge related to HIV. It has the potential to become a standard requirement for specialists who provide direct HIV clinical care, if it is adopted as part of the knowledge-based assessment of trainees in the relevant specialties in curricula approved by the PMETB.

All consultants providing HIV care must participate in CME directly related to HIV on at least an annual basis. For those involved in provision of more specialised HIV centre services, this must include activities at the national and/or international level.

In addition, those consultants who provide 24-hour on-call advice and care for HIV inpatients must participate in CME related to general internal medicine on at least an annual basis.

Job plans for consultants who provide more specialised HIV centre services should include a substantial commitment to HIV, for example at least two PAs/week in total for HIV^{20,21}. Those with a current inpatient commitment²² should undertake, for example two inpatient PAs/week, not all of which need be for HIV patients, and must ensure they fulfil the criteria for re-validation.

4.1.3. Non-medical specialists

Standards, roles and competencies should be defined for clinical specialists in HIV nursing, pharmacy and other relevant disciplines.

19. New posts and replacement appointments for existing posts.

20. Full-time consultants are contracted on the basis of 10 3–4 hour PAs/week of which 7.5 (7 in Wales) are clinical and 2.5 (3 in Wales) are for supporting professional activities, other NHS responsibilities and external duties. Network on-call work and advising professional colleagues about the care of individual patients count towards clinical PAs while, for example, attending network meetings, developing network protocols, CPD and clinical governance count as supporting professional activities.

21. Limited exceptions may be necessary where geography dictates a very small network caseload (e.g. Northern Ireland).

22. When undertaking a continuous phase of inpatient work.

4.2.

Rationale

A recent large clinical review in the US indicates that clinicians who manage larger numbers of HIV patients and self-identify as 'expert' in HIV adhere more closely to guidelines and use HAART more appropriately, but found no difference in quality of care delivered by 'expert' general physicians and by infectious diseases specialists²³. Similarly a Canadian study found patients' adherence to HAART was associated with their physicians' experience of HIV care²⁴. These studies confirm evidence from earlier in the course of the epidemic, that clinician experience of caring for people with HIV/AIDS, rather than formal specialty, is a significant determinant of quality of care.

However, the core clinical skills needed for HIV inpatient care include specific expertise both in HIV-related disease and the general care of very sick patients whose condition may rapidly deteriorate and become unstable with life-threatening complications such as sepsis, renal failure or respiratory failure. Patients therefore want to be assured that clinicians providing planned HIV inpatient care directly, and advising colleagues who may provide such care in emergencies (e.g. for previously undiagnosed patients) have a solid grounding and regular updating in acute and internal medicine.

The Diploma in HIV Medicine of the Worshipful Society of Apothecaries of London has been developed to demonstrate competence in the medical management of patients with HIV. The curriculum and format of the Diploma should be subject to regular review, with advice being sought from BHIVA, BASHH and BIS. The Diploma may become a qualification that PMETB would want to consider adopting in the future as a standard qualification for consultants who provide HIV care.

Under recent proposals²⁵, specialist certification will be subject to regular renewal based on assessment against standards set by the relevant medical Royal College. Together the RCP and relevant specialty training and education committees, BHIVA, BASHH and BIS will develop appropriate methods of assessment for specialists providing HIV care. Participation in clinical governance, including via HIV network meetings, should be among the criteria for re-certification.

The National HIV Nurses Association²⁶ (NHVNA) is working to develop appropriate competencies for nurses specialising in aspects of HIV care, in addition to core competencies for all nurses who come into contact with HIV patients. The HIV Pharmacy Association²⁷ (HIVPA) is undertaking similar initiatives with respect to pharmacists, and further work should be encouraged in relation to other professional groups. Professional standards and competencies are already in place for some other disciplines²⁸.

23. Landon BE, Wilson IB, McInnes K *et al.* Physician specialization and the quality of care for human immunodeficiency virus infection. *Arch Intern Med*, 2005, **165**, 1133–1139.

24. Delgado J, Heath KV, Yip B *et al.* Highly active antiretroviral therapy: physician experience and enhanced adherence to prescription refill. *Antivir Ther*, 2003, **8**, 471–478.

25. Department of Health. *Good doctors, safer patients: Proposals to strengthen the system to assure and improve the performance of doctors and to protect the safety of patients*. 14th July 2006. (www.dh.gov.uk/).
Note recommendation 31: *Specialist certification should be renewed at regular intervals of no longer than five years. This process should rely upon membership of, or association with, the relevant medical Royal College, and renewal should be based upon a comprehensive assessment against the standards set by that college. Renewal of certification should be contingent upon the submission of a positive statement of assurance by that college. Independent scrutiny will be applied to the processes of specialist re-certification operated, in order to ensure value for money.*

26. Website: www.nhivna.org/

27. Website: www.hivpa.org/

28. See: for example the British Psychological Society Division of Clinical Psychology's clinical psychological competencies in HIV/sexual health, 2004.

5

Records and information sharing

5.1. Recommendations

5.1.1. HIV care records

Information relating to HIV treatment and care should be recorded in ordinary NHS records alongside that relating to any other conditions and identified by the patient's name, NHS number and date of birth. Information regarding a patient's sexual history (including circumstances of acquisition of HIV) and other STIs may be stored separately in genitourinary medicine records.

5.1.2. The electronic health record

Development of electronic health records (EHR) should proceed on the basis that HIV diagnosis and all current medication will ordinarily be included in the summary section of the EHR. The right of individual patients to opt out of record sharing or to place this information in a sealed envelope should be respected, but clinicians should not encourage this practice.

Detailed HIV care records should be developed on the basis of the same access protocols as for other chronic diseases. Priority should be given to enabling network-wide access so that clinicians at HIV centres providing 24-hour advice can review the detailed records of individual patients attending any service within the HIV clinical network.

5.1.3. Epidemiological reporting

Those responsible for health records should ensure that HIV surveillance data are collected locally and provided confidentially in a timely manner to the relevant national surveillance agencies.

5.2. Rationale

Although usually sexually transmitted, HIV differs from other STIs in being a long-term condition potentially affecting all bodily systems. Case management requires a multi-disciplinary and at times multi-specialty approach. Even at the level of routine monitoring, some investigations (e.g. chest X-ray) involve hospital departments other than the specialty providing direct HIV care. For patients with more complex needs, record sharing within the HIV network becomes a vital tool to enable smooth transition back and forth between HIV units and centres according to current clinical need. This requires considerable new IT development. There may also be a potential role for patient-held record summaries.

Currently there is no consistent practice as to how HIV care records are held even within individual providers – in some departments HIV care records are integrated with main hospital notes while in others they are held separately in GUM records identified by the patient's clinic number rather than name. This reflects historical practice as well as concern about the particular sensitivity of an HIV diagnosis. Such secrecy may tend to reinforce stigma within health services²⁹, as well as carrying risk in terms of:

- Potential for pathology/radiology requests and results going astray.
- Inappropriate care and/or drug interactions if the patient also receives care from other departments where his/her HIV status is not known.

In view of these issues, we believe information relating to ongoing HIV care should be managed similarly

29. 'I think we do have to tackle the continued stigma about stigma, by which I mean the worry about confidentiality which often prevents record sharing, it prevents people being offered HIV testing in the first place and I think we have to work on that a lot more.' Gus Cairns, at 24 July 2006 workshop.

to other chronic long-term conditions. This requires strong assurances about the confidentiality of health records in general, backed by robust security and information governance arrangements. In particular, for HIV status and medication to be included in the summary EHR on the national spine, which is ultimately desirable, systems must ensure that every instance of inappropriate access to information will be actively identified and acted upon. Role-based access protocols that offer tiered access to clinical and administrative information for different groups of staff are also important³⁰. Opt-outs from information sharing will remain necessary for individuals with particular needs or concerns, for example health workers who are themselves HIV positive. All patients should be given information about health records to enable them to make informed choices about information sharing, and this is particularly important for those with HIV.

It should not be assumed that electronic information storage and communication are inherently less secure than more traditional methods. Many patients welcome receipt of information via email or mobile phone text message and this can be more confidential than a hospital envelope arriving on the doormat where it is visible to other household members. Patient choice in this area should not be restricted.

The UK is fortunate in having excellent epidemiological data for developing public health policy and planning, commissioning and evaluation of HIV prevention and care activities. This relies on continuing full reporting to the Health Protection Agency and Health Promotion Scotland of new HIV diagnoses, new AIDS diagnoses, people receiving care for prevalent HIV infection, deaths among HIV-infected individuals and, for GUM clinics, statutory KC60 returns.

30. Concerns are often expressed about general practice receptionists having unnecessary access to clinical information.

6

The patient journey

6.1. Recommendations

6.1.1. Network pathways and protocols

Each HIV clinical network should develop referral protocols and patient pathways to ensure the highest quality of care. The following recommendations should be adapted to reflect the particular expertise and facilities available at different units and centres within a particular network.

6.1.2. HIV testing and diagnosis

All general practices and acute medicine services should provide direct HIV testing for diagnosis of patients with symptomatic disease that may be HIV-related. Such testing should be routinely considered for patients coming into contact with secondary care, and should be recommended for all patients with presenting conditions that are epidemiologically associated with HIV but frequently occur in HIV-uninfected individuals, in addition to those with recognised indicator diseases.

Moves towards an 'opt-out' basis for HIV testing in all relevant clinic settings should be accelerated. Alternative sites for HIV testing, including voluntary sector provision, should be expanded. Opt-out testing of antenatal clinic attenders should continue.

6.1.3. Assessment after diagnosis of HIV

All patients should be assessed by a doctor who provides HIV care within 2 weeks of a positive HIV test result, irrespective of the place of testing, unless the patient chooses to defer this. Arrangements for more rapid access must be in place for those with symptoms and/or particular needs or high levels of anxiety.

In routine cases post-diagnosis assessment falls within the scope of outpatient HIV unit services. However, if HIV is diagnosed during the course of an acute medical inpatient admission, advice must be sought immediately from a consultant qualified to provide HIV inpatient care. Consideration must be given to transferring the patient to the inpatient HIV centre.

6.1.4. Patient education and shared decision-making

The process of involving patients and supporting shared decision-making about their individual care should start from the post-diagnosis assessment onwards and continue throughout the course of their HIV infection. It requires patient education and personalised information provision to be integrated as part of all HIV unit and centre services, including delivery in partnership with community or voluntary providers.

6.1.5. First-line HAART prescribing

Initiation of first-line HAART falls within the scope of outpatient HIV units, but arrangements must be made through clinical networks for 24-hour access to advice from a consultant qualified to provide HIV care, typically via an HIV centre. Patients starting HAART for the first time must be given information on how to seek such advice if needed (e.g. attend A&E and give telephone number to staff there). Clinical networks should develop protocols for HAART initiation, including patient education and support and the appropriate choice of drugs.

6.1.6. Patient monitoring

Monitoring of patients with uncomplicated asymptomatic HIV infection, on or off HAART, forms part of outpatient HIV unit services.

6.1.7. Changing HAART for reasons other than failure

Uncomplicated changes of HAART in patients with undetectable viral load and no history of drug resistance (e.g. for minor toxicity, patient choice or treatment simplification) form part of outpatient HIV unit services. Clinical networks should develop protocols for appropriate choice of therapy in such circumstances.

6.1.8. Failure of HAART

All patients who fail to achieve or maintain virological suppression on HAART should be reviewed regularly within the network to enable advice and input from HIV centre specialists. Ongoing care for these patients will usually fall within the scope of the outpatient HIV unit, but clinical networks should develop protocols for appropriate choices of therapy and for identification of more complex cases requiring joint assessment with the HIV centre before prescribing.

6.1.9. HIV drug resistance

All patients testing positive for HIV resistance to any HAART drug should be discussed jointly between HIV unit and HIV centre clinicians. Ongoing care will usually fall within the scope of the outpatient HIV unit, but advice should be sought from an HIV centre specialist for all subsequent changes in therapy for patients who have ever shown resistance to any HAART drug (including changes for toxicity in the absence of new resistance or failure).

6.1.10. Pregnancy and delivery

Normal pregnancy and delivery in women with uncomplicated HIV infection should ordinarily be managed within generic midwifery/obstetric services, with a named consultant obstetrician and paediatrician and support from HIV liaison midwifery. Provision of ART falls within the scope of the outpatient HIV unit but the birth plan and plans for paediatric care should be developed in consultation with the HIV centre and regional paediatric HIV clinic.

6.1.11. Acute illness requiring inpatient care

Patients who need inpatient care for opportunistic illnesses, HIV-related tumours or other serious HIV-related disease should ordinarily be admitted to an HIV centre under the care of a consultant qualified to provide HIV inpatient care, or to the relevant tertiary service in liaison with the HIV centre.

Admission under general acute medical care may be considered for patients with non-opportunistic conditions and otherwise uncomplicated HIV infection. If such patients have not shown a good response to treatment within 24–48 hours of admission, advice must be sought from an inpatient HIV centre, and transfer must be considered.

6.1.12. Hepatitis B or C co-infected patients

Patients co-infected with HIV and hepatitis B or C should be managed at the appropriate HIV centre provider, unless a specialist hepatology service is available at the outpatient HIV unit and network protocols are in place to ensure effective input from a specialist in HIV and co-infection.

6.1.13. Tuberculosis

Any form of active tuberculosis in an HIV patient requires joint assessment by the lead tuberculosis centre and the appropriate HIV centre provider. Depending on local protocols and the outcome of this assessment, ongoing care for some patients may be provided through outpatient HIV units.

6.1.14. Lymphoma or suspected lymphoma

The care of patients with diagnosed or suspected lymphoma, of any type, should be transferred to the HIV centre provider of specialised HIV oncology services.

6.1.15. Kaposi's sarcoma

The care of patients with diagnosed or suspected Kaposi's sarcoma should be transferred to the HIV centre provider of specialised HIV oncology services.

6.1.16. Neurological disorder or brain impairment

The care of patients with diagnosed or suspected neurological disorder or HIV-related brain impairment, of any type, should be transferred to the appropriate specialised HIV centre provider.

6.1.17. Significant renal dysfunction

The care of patients with significant renal dysfunction should be transferred to the appropriate HIV centre provider.

6.1.18. Step-down

Local network protocols must include explicit arrangements for transfer from HIV centres or other tertiary/quaternary care to HIV units when the patient's condition no longer requires more specialised care.

6.2. Rationale

6.2.1. HIV testing and diagnosis

Late diagnosis is a major contributor to HIV-related morbidity and mortality. The one single change that could have the greatest impact on HIV outcomes would be to recognise the infection earlier in its course. The aim should be to move towards a situation where the vast majority of cases are diagnosed before the onset of ill-health, to facilitate planned and effective case management. All providers of HIV testing should contribute to ensuring surveillance data is collected locally and provided confidentially and in a timely manner to national agencies.

Currently, GPs and other clinicians frequently fail to recognise when patients present with minor or treatable HIV-related illnesses (e.g. skin conditions, chest infections, shingles and other non-AIDS-defining diagnoses), with the result that patient remains undiagnosed until a major opportunistic illness occurs. Routine testing of patients with these early sentinel conditions (most of whom will be uninfected) is a reasonable strategy for preventing more serious AIDS-indicator diseases³¹.

HIV testing should also be readily accessible on request and promoted to high prevalence groups including gay men and people from sub-Saharan Africa. All GUM clinic attenders should routinely be offered an HIV test³², and both statutory and community/voluntary providers have a major role in making voluntary testing easy to obtain, ideally in a choice of settings.

6.2.2. Assessment after diagnosis of HIV

All patients with newly diagnosed HIV infection are likely to be worried. Currently a significant proportion have advanced immuno-suppression with a high short-term risk of symptomatic disease, although it is hoped that this will reduce through wider access to testing earlier in the course of infection. Prompt specialist assessment is therefore warranted and a 2-week target is appropriate, in line with that for suspected cancer patients. In all cases, assessment should be carried out by a doctor who provides ongoing HIV care, although for newly diagnosed pregnant women the antenatal clinic may provide a more appropriate setting for initial assessment than the HIV unit or centre.

31. See also: Turner-Stokes L (ed.) *Concise Guidance to Good Practice. Number 3. HIV Testing for Patients attending General Medical Services*. London: Royal College of Physicians. 2006.

32. Clinical Effectiveness Group (British Association for Sexual Health and HIV). *United Kingdom National Guidelines on HIV Testing 2006*. (www.bashh.org/).

For a minority of patients worry and anxiety can develop into an adjustment disorder, in which case referral to an appropriate mental health specialist is advisable.

At present, late diagnosis during acute illness accounts for a substantial proportion of HIV-related deaths. Some of these deaths are medically unavoidable in that they reflect very late presentation by the patient in a moribund state. However, many people who survive acutely life-threatening presentations of HIV disease go on to enjoy excellent lifespan and quality of life on HAART, so optimum medical care is imperative to maximise the chance of initial survival. Hence immediate advice is needed from a specialist qualified to provide HIV inpatient care when HIV is diagnosed during acute illness, for example via a three-way consultation involving the local general physician, the HIV unit outpatient consultant and an inpatient consultant based at the HIV centre. Transfer to the inpatient HIV centre should be considered. On successful discharge following the acute episode, most such patients will prefer to attend a local outpatient HIV unit for ongoing care.

6.2.3. First-line HAART prescribing

Patients starting HAART for the first time can be at risk of adverse effects including potentially life-threatening immune reconstitution inflammatory syndrome or drug hypersensitivity reactions. Prompt access to specialist advice is needed to manage these risks.

Many such patients will be anxious and a high proportion will experience adverse effects that, although not medically serious, may undermine adherence. Specialist advice and reassurance to support patients in establishing good adherence from the outset may impact on the long-term success of therapy.

6.2.4. Failure of HAART

If not addressed promptly, incomplete suppression of HIV replication on HAART can lead to increasing levels of drug resistance which prejudice the long term effectiveness of therapy and increase the likelihood of further failure leading to declining health status, and need for expensive salvage drugs. Therefore it is important for all cases of failure to be reviewed to ensure adherence or other possible reasons for failure have been investigated and an appropriate next-line regimen selected. Clinical networks may develop their own protocols for such circumstances.

6.2.5. HIV drug resistance

Specialist assessment is needed to investigate reasons for the development of resistance and to advise on future regimens. Resistant virus may be 'archived' such that it will rapidly reappear under drug pressure. Hence specialist advice is needed for all drug changes in a patient who has demonstrated resistance at any time, whether or not resistance is currently detectable. Where appropriate, advice may be given by telephone or email so the patient need not attend the HIV centre.

6.2.6. Acute illness requiring inpatient care

Specialists continue to report poor outcomes associated with inpatients being managed locally by general physicians with input/advice from an outpatient HIV clinician who does not personally have a regular inpatient commitment. This is also inefficient as calling an outpatient consultant to the wards can be highly disruptive to busy clinic schedules. Hence the HIV centre should be the main resource for managing patients needing inpatient care, both directly by admission to the inpatient HIV centre and via network advice from the consultant on call.

Some patients will continue to be admitted locally under the care of general physicians (e.g. those with previously undiagnosed HIV). The key to effective management in such circumstances is to seek advice promptly from the HIV centre, and to consider early transfer if there are signs that the patient is not responding well to treatment. This minimises the risk of the patient's condition deteriorating to such an extent that transfer becomes medically unsafe or involves costly ITU-to-ITU procedures with monitoring by

an anaesthetist during the transfer. Inevitably, however, there will be some patients who present so late and deteriorate so rapidly that ITU admission is needed before transfer can be arranged – these are typically the patients at imminent risk of death and thus in most critical and urgent need of HIV centre expertise in acute HIV medicine. To manage such cases network arrangements must be in place either for ITU-to-ITU transfer to the HIV centre or for HIV centre consultant outreach to the hospital where the patient has been admitted.

6.2.7. **Step-down**

Unnecessary over-centralisation of care risks undue pressure on capacity at HIV centres and causes resentment among outpatient providers; it is as detrimental to efficient networks and good case management as under-specialisation. Not all patients are suitable for step-down, for example those with malignancies are likely to require ongoing tertiary care, but most prefer to attend outpatient HIV units for ongoing care.

7 Implementation and audit

7.1. Implementation

Following publication of this document we expect to work with clinicians, SACs, other specialist societies, commissioners, SHAs, the Department of Health and other stakeholders towards implementation of the recommendations. This needs to be a gradual and evolutionary process, which in some cases may be linked to broader reconfigurations of NHS acute and specialist services.

7.2. Audit

Audit is a necessary part of implementation, to assess the extent to which current services meet recommended standards and identify where change is needed. However, it is impracticable to audit and regularly re-audit against all recommendations in this document and in clinical guidelines. Hence while some key criteria should be rigorously audited at the national level, including through routinely collected surveillance data, individual networks should develop their own programmes for auditing other criteria according to local priorities.

The list of suggested topics below is not exhaustive, and is subject to change to reflect local and national guidelines and policies.

7.2.1. Suggested key criteria to be audited nationally

Managed clinical networks

Proportion of providers participating in the BHIVA national audit programme (or otherwise known to provide ongoing care to adults with diagnosed HIV) able to:

- Name the HIV clinical network of which they are a member
- Self-describe either as outpatient HIV units or as providers within an HIV centre offering complex and inpatient care
- If an HIV unit, name one or more HIV centre providers to which they would refer patients requiring complex care.

— Direction: aim to maximise.

— Rationale: basic indicator of network participation.

Proportion of providers participating in the BHIVA national audit programme who report sharing and discussing their results within their clinical network.

— Direction: aim to maximise.

— Rationale: provides evidence of network-level engagement in clinical governance.

HIV testing/diagnosis

Proportion of newly diagnosed HIV patients whose CD4 cell count is below 200 cells/μl when measured for the first time after testing positive for HIV.

— Direction: aim to minimise.

— Rationale: need for earlier diagnosis to institute case management and prevent symptomatic illness.

Initiation and use of HAART

Proportion of patients starting HAART for whom an HIV drug resistance test result has been obtained.

Proportion of patients starting HAART for the first time whose hepatitis B status is either immune or has been determined within preceding year.

Proportion of diagnosed HIV patients whose CD4 cell count has ever been under 200 cells/ μ l who are currently on HAART.

Proportion of patients starting HAART for the first time who attain an undetectable HIV viral load within 6 months.

— Direction: aim to maximise.

— Rationale: these key indicators reflect compliance with BHIVA clinical guidelines.

7.2.2.

Suggested audit topics for managed clinical networks

The following additional criteria are suggested to enable clinical networks to audit their own performance in specific areas. These should be read alongside BHIVA and other relevant clinical guidelines that include auditable criteria for interventions for the individual patient.

Partnership and peer support within the network

Among HIV units and centres, proportion able to describe their arrangements for public and patient involvement and for access to peer support and their partnerships with community and voluntary care providers, and the contribution these make to service provision.

— Direction: aim to maximise.

— Rationale: evidence of an inclusive approach and commitment to public and patient involvement.

General practice

Among HIV patients under care, proportions (a) known to be registered with a GP; (b) whose GP has been informed of their HIV status; and (c) whose GP has been sent information following the patient's most recent outpatient attendance or inpatient episode.

— Direction: aim to maximise.

— Rationale: importance of effective GP care in liaison with HIV services.

General practices may also wish to audit: proportion of known HIV-positive patients for whom the practice has a record of recent CD4 cell count and HIV viral load test results as a proxy marker of good communication from specialists; proportion of known HIV-positive patients receiving annual influenza vaccination; availability to patients and prospective patients of the practice's policies on confidentiality and equal access to healthcare.

HIV testing/diagnosis

Among newly diagnosed HIV patients, proportion who had previously presented to general practice or acute medical services within the preceding year with sentinel conditions and had neither been tested for HIV nor had a documented refusal of consent for such testing.

— Direction: aim to minimise.

— Rationale: indicates previous missed opportunity for diagnosis.

Assessment after diagnosis of HIV

Among newly diagnosed HIV patients, proportion assessed within a specialist HIV service within 2 weeks of positive test result.

— Direction: aim to maximise.

— Rationale: need for prompt assessment of newly diagnosed HIV patients.

Patient education and shared decision-making

Among patients receiving ongoing care for diagnosed HIV infection, proportions taking part in patient education activities and reporting satisfaction with their understanding of and involvement in clinical decision-making.

- Direction: aim to maximise.
- Rationale: evidence of partnership with patients.

Appropriate use of different types of service

Among HIV patients receiving care from a provider forming part of an HIV centre, proportion who are identifiable as being in receipt of either routine outpatient care or of specialised services not available at HIV units.

- Direction: aim to maximise.
- Rationale: audit of network effectiveness and use of resources requires patients who receive routine outpatient care from a provider forming part of an HIV centre to be distinguishable from patients who receive more specialised HIV centre services.

Among patients with diagnosed HIV infection across a managed clinical network, proportion who are receiving a level of care (routine outpatient care, or more specialised services) appropriate to their current clinical needs.

- Direction: aim to maximise.
- Rationale: improve service uptake, and appropriate use of different types of provision including step-down.

Failure of HAART

Among patients starting HAART, proportion who have neither achieved undetectable HIV viral load (VL) nor been discussed with an HIV centre (e.g. at a network meeting) within 9 months of starting HAART.

- Direction: aim to minimise.
- Rationale: need for prompt specialist review of the reasons why patient has failed to achieve VL undetectability.

Among patients on HAART with previously undetectable VL who have two consecutive VL results over 400 copies/ml, proportion who have not been discussed with an HIV centre within 3 months of the first such result.

- Direction: aim to minimise.
- Rationale: need for prompt specialist review of the reasons for VL rebound.

HIV drug resistance

Among patients with positive resistance test results, proportion being discussed with an HIV centre within 6 weeks of the date the sample was taken.

- Direction: aim to maximise.
- Rationale: need for specialist review of reasons for resistance and advice on appropriate regimen.

Among patients who have ever shown evidence of HIV resistance, proportion of changes of HAART therapy made in consultation with an HIV centre.

- Direction: aim to maximise.
- Rationale: need for specialist advice on appropriate regimen.

Acute illness requiring inpatient care

Among HIV in-patients admitted under general acute medical care, proportion transferring to an inpatient HIV centre more than 48 hours after admission.

- Direction: aim to minimise.
- Rationale: in most cases it should be apparent within 48 hours whether the patient is responding well to therapy, and can continue to be managed locally, or whether transfer for more specialised care is indicated.

Patients with active TB, or with hepatitis B or C co-infection, lymphoma, Kaposi's sarcoma or significant renal dysfunction

Among all relevant patients across network, proportion managed in accordance with recommendations.

- Direction: aim to maximise.
- Rationale: these are complex conditions requiring more specialised care, including joint assessment/management with other specialties.

Step-down

Among all patients currently receiving HIV centre or other specialised care, proportion whose suitability for planned step-down has been reviewed and assessed within the last 3 months. Among those assessed as suitable for step-down, proportion for whom step-down is proceeding on schedule.

- Direction: aim to maximise.
- Rationale: avoid unnecessary over-specialisation of care.

Death of people infected with HIV

Among all deaths of adults with HIV, proportion formally reviewed within 1 year of death.

- Direction: aim to maximise.
- Rationale: improve understanding of potentially avoidable factors leading to mortality.

Among deaths of adults with HIV occurring during inpatient care other than at an inpatient HIV centre, proportion formally reviewed at a meeting of the full managed clinical network within 1 year of death.

- Direction: aim to maximise.
- Rationale: review at the network level facilitates discussion of whether death might have been prevented if advice had been sought more promptly from HIV centre specialists and/or if the patient had been transferred to the HIV centre.

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Annex 1: Glossary

ART	Antiretroviral therapy using drugs that inhibit replication of HIV. With the exception of some pregnant women receiving ART purely to reduce the risk of mother-to-baby transmission of HIV, under current guidelines therapy should be in the form of HAART (<i>see below</i>).
BASHH	British Association for Sexual Health and HIV.
BHIVA	British HIV Association.
BIS	British Infection Society.
CME	Continuing medical education.
Consultant	Except where nurse consultants are mentioned explicitly, the word 'consultant' is used in this document to refer to medical consultants.
GU or GUM	Genitourinary medicine. GUM is unusual among specialties in having two routes of entry; trainees in either acute medicine or obstetrics and gynaecology may enter higher specialist training leading to specialist certification in GUM, although recruits from obstetrics and gynaecology will have done at least a year of acute medicine pre-specialist training.
HAART	Highly active antiretroviral therapy (ART) using combinations of three or more drugs with the aim of suppressing replication of HIV below the limit of detection.
HIV	Human immunodeficiency virus.
ID	Infectious diseases, as a medical specialty.
LES	Local Enhanced Service, an arrangement whereby selected general practices are able to contract to provide specified services in addition to routine primary care provision.
MMC	Modernising Medical Careers, new arrangements for post-graduate training in medicine.
PA	Programmed activity, a 3–4-hour unit of activity making up part of a consultant's work plan.
PMETB	Postgraduate Medical Education and Training Board, an independent statutory body responsible for promoting the development of medical education and training.
PCT	Primary Care Trust.
RCP	Royal College of Physicians.
SHA	Strategic Health Authority.
STI	Sexually transmitted infection.
TB	Tuberculosis.

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Annex 2: Geographical caseload data

9.1.

Survey of prevalence of diagnosed HIV infection and disease (SOPHID) 2004

Strategic Health Authority (to 2006)	People seen for medical HIV care within SHA	SHA residents seen for HIV care anywhere in England, Wales or Northern Ireland
Avon, Gloucestershire and Wiltshire	713	742
Bedfordshire and Hertfordshire	808	1134
Birmingham and the Black Country	1393	1312
Cheshire and Merseyside	683	641
County Durham and Tees Valley	156	202
Cumbria and Lancashire	545	638
Dorset and Somerset	350	437
Essex	445	616
Greater Manchester	2294	2087
Hampshire and Isle of Wight	532	667
Kent and Medway	377	498
Leicestershire, Northamptonshire and Rutland	815	871
Norfolk, Suffolk and Cambridgeshire	703	711
North and East Yorkshire and Northern Lincolnshire	232	272
North Central London	5536	3931
North East London	3313	4031
North West London	7882	4932
Northumberland, Tyne and Wear	519	448
Shropshire and Staffordshire	278	342
South East London	4005	5400
South West London	1906	2367
South West Peninsula	323	375
South Yorkshire	511	475
Surrey and Sussex	1849	2077
Thames Valley	1124	1292
Trent	701	780
West Midlands South	475	535
West Yorkshire	927	939
Wales: Mid and West	139	186
Wales: North	97	137
Wales: South East	386	353
Northern Ireland	248	239
England, SHA of residence unknown		17
Wales, SHA of residence unknown		1
Country of residence unknown		490
Other/abroad		90
Overall total	40,265	40,265

9.2.

SOPHID and other data mapped to new SHAs (post 2006)

SHA or country	Total HIV patients under care in 2004	2004 population mid-year estimate	Estimated HIV patients under care in 2004 per 100,000 population
East Midlands	1516	4,280,000	35
East of England	1956	5,491,000	36
London	22,642	7,429,000	305
North East	675	2,545,000	27
North West	3522	6,827,000	52
Northern Ireland	248	1,710,000	15
South Central	1656	3,922,000	42
South East Coast	2226	4,188,000	53
South West	1386	5,038,000	28
Wales	622	2,952,000	21
West Midlands	2146	5,334,000	40
Yorkshire and the Humber	1670	5,039,000	33
Scotland	1911	5,078,000	38
Total	42,176	59,833,000	70

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Annex 3: Process

This document has been prepared by a small core operations group, working under the auspices of the BHIVA Audit and Standards Sub-Committee. Membership of the group is as follows:

- Professor Margaret Johnson (chair), BHIVA chairperson
- Hilary Curtis PhD, BHIVA audit and standards co-ordinator
- Nathaniel Ault, Nurse Consultant, Barts and the London NHS Trust
- Gus Cairns, UK Coalition of People Living with HIV and AIDS
- Dr Colm O'Mahony, Consultant Physician in Sexual Health, Countess of Chester Hospital NHS Foundation Trust
- Dr Celia Skinner, Associate Clinical Director HIV Medicine, Barts and the London NHS Trust
- Paul Ward, Deputy Chief Executive, Terrence Higgins Trust
- Rosy Weston, Senior Principal Pharmacist, St Mary's NHS Trust.

An initial draft was prepared on the basis of consultation with a limited number of selected individuals, and was then opened to a wider consultation at a stakeholder workshop held at the Royal College of Physicians on 24 July 2006. After substantial revision in the light of discussion at the workshop and other input from interested parties, the document was opened for general public consultation from September 29 to 7 November 2006. This final version reflects comments received in the course of the consultation process.

10.1. Key informants and personal discussions

British Association for Sexual Health and HIV: Dr Simon Barton, Dr Anton Pozniak

British Infection Society: Dr Nick Beeching

Royal College of Physicians: Dr Mary Armitage, Clinical Vice President

Clinical Effectiveness and Evaluation Unit, Royal College of Physicians: Professor Michael Pearson, Penny Irwin, Jane Ingham and colleagues

Joint Committee on Higher Medical Training, Royal College of Physicians: Dr Chris Clough

UK Coalition of People Living with HIV: Gus Cairns, Bernard Forbes

Positively Women

Care Record Development Board, Connecting for Health: Dr Gillian Braunold, Professor Mike Pringle, Dr Laurie Slater

London HIV Commissioners' Consortium: Judy Hague, Stephen Tucker

Brighton and Sussex University Hospitals NHS Trust: Dr Martin Fisher

Mildmay Hospital: Dr Veronica Moss and colleagues

Pathology: Professor Sebastian Lucas

Professor Brian Gazzard

Dr Ed Wilkins

Dr Gary Brook

Dr Jane Anderson

Scottish clinicians: Dr Clifford Leen, Dr Rak Nandwani

Participants at the 2006 BHIVA spring conference: Dr Michael Brady, King's College Hospital;

Dr Mary Browning, Cardiff; Drs Claire Dewsnap and Claire Ryan, Royal Hallamshire Hospital,

Sheffield; Dr Jyoti Dhar, Leicester; Dr Andrew Freedman, University Hospital of Wales, Cardiff;

Renata Hewart, Bolton Centre for Sexual Health; Dr Benedict Holden, Hillingdon; Martin Jones,

Eastbourne Downs PCT; Heather Leake Date, Brighton and Sussex University Hospitals NHS Trust/HIV Pharmacy Association; Dr Carlos Oroz, Edinburgh Royal Infirmary; Dr Harish Patel, Ore Clinic, Hastings; Dr Steve Taylor, Birmingham Heartlands Hospital; Dr Chris Woods, North Middlesex Hospital; and clinicians from St George's Hospital, Hull and Southport

10.2. Workshop attendance list

In addition to the members of the operations group, the following invited participants attended the stakeholder workshop held at the Royal College of Physicians on 24 July 2006:

Dr Sarah Barrett, *Consultant Physician, Birmingham Heartlands Hospital*
 Mr Edwin Bernard, *Editor AIDS Treatment Update, National AIDS Manual, London*
 Professor Dame Carol Black, *President, Royal College of Physicians, London*
 Mr Garry Brough, *Patient Representative, Mortimer Market Centre, London*
 Dr Mary Browning, *Consultant Physician, Cardiff Royal Infirmary*
 Mr Paul Clift, *Board of Directors, UK Coalition of People Living with HIV and AIDS, London*
 Mr Simon Collins, *Director, HIV i-Base, London*
 Dr Matthew Cramp, *Consultant Physician and Hepatologist, British Association for the Study of the Liver*
 Dr Benjamin Cromarty, *Management Team, North Yorkshire AIDS Action*
 Dr John Day, *Consultant in General Medicine and Infectious Diseases, Southend Hospital NHS Trust*
 Mr Matt Dixon, *HIV Commissioning Manager for South West London, Croydon PCT*
 Dr Martin Fisher, *Consultant Physician, Brighton and Sussex University Hospitals NHS Trust*
 Mr Ashley Fletcher, *Director of Services, George House Trust, Manchester*
 Dr William Ford-Young, *General Practitioner and Chair of Sex, Drugs and HIV Task Group, Royal College of General Practitioners*
 Dr Patrick French, *Consultant Physician, Mortimer Market Centre, London*
 Professor Brian Gazzard, *Consultant and Clinical Research Director, Chelsea and Westminster Hospital, London*
 Dr Anna Maria Geretti, *Consultant Medical Virologist, Royal Free Hospital*
 Dr Mohamed Ghanem, *Consultant Physician, Northampton General Hospital*
 Mr Walter Gillgower, *Programme Manager, African HIV Policy Network*
 Mr Simon Henning, *Sexual Health Network Coordinator, Birkenhead and Wallasey PCT*
 Dr Jane Hutchinson, *Lead HIV Clinician and Consultant in HIV and Sexual Health, Homerton University Hospital, London*
 Ms Jane Ingham, *Director of Clinical Standards, Royal College of Physicians*
 Ms Linda Johnson-Laird, *HIV Policy Administrator, Department of Health*
 Dr Nicholas Kennedy, *Consultant Physician, Monklands Hospital, Airdrie*
 Dr Marc Lipman, *Consultant Physician, Royal Free Hospital*
 Ms Ruth Lowbury, *Executive Director, Medical Foundation for AIDS and Sexual Health*
 Mr Badru Male, *Health Promotion Manager, Brent and Harrow Community Health, London*
 Dr Kaveh Manavi, *HIV Clinical Lead, Whittall Street Clinic, Birmingham*
 Dr Mark Nelson, *Consultant, HIV Service Director and Deputy Director of Research, Chelsea and Westminster Hospital, London*
 Miss Gennifer Onyutta, *Director, South London African Women's Association*
 Dr Chloe Orkin, *Consultant Physician, Barts and the London NHS Trust*
 Ms Kay Orton, *Policy Lead, HIV Services and Sexual Health Promotion, Department of Health*

Mr Sean Overett, *Assistant Director of Commissioning, Tower Hamlets PCT, London*
 Dr Mary Poulton, *Consultant Physician, King's College Hospital NHS Trust, London*
 Dr Say Pheng Quah, *Specialist Registrar, Royal Victoria Hospital, Belfast*
 Professor Lorraine Sherr, *Professor of Health Psychology, Royal Free and University College Medical School, London*
 Dr John Sweeney, *Consultant Physician, Blackpool PCT*
 Mr Stephen Tucker, *Senior Commissioning Manager, North Central London Specialised Commissioning Team*
 Mr Brian West, *Information and Development Officer, HIV Scotland*
 Dr Ed Wilkins, *Consultant Physician, North Manchester General Hospital*
 Dr Ian Williams, *Consultant Physician, Mortimer Market Centre, London*

10.3. Written consultation responses

Written comments on the draft report were received from the following organisations and individuals:

British Association for Sexual Health and HIV: Dr Rak Nandwani, Co-chair HIV Special Interest Group, and Dr Anton Pozniak, Co-chair HIV Special Interest Group
British Association of Dermatologists: Dr Stephen Jones, Honorary Secretary
British Infection Society: Dr Nick Beeching, President
British Psychological Society: Jenny Petrak, Division of Clinical Psychology Faculty for HIV and Sexual Health
British Thoracic Society: Dr Marc Lipman, Consultant Physician in Thoracic/HIV Medicine
Children's HIV Association and HIV Young People's Network: Dr Hermione Lyall, Dr Simon Portsmouth
Greater Manchester Sexual Health Network: Priority Action Group 5
Health Protection Agency: Tim Chadborn, Senior Scientist
Healthcare at Home Ltd: Howard Lamb, Regional Business Manager (London/SE), Jon Cohen, Director
London Specialised Commissioning Group: Judy Hague, HIV Programme Director
Medical Foundation for AIDS and Sexual Health (MedFASH): Ruth Lowbury, Executive Director
 NHS Quality Improvement Scotland
 North East London HIV and Sexual Health Clinical Network
 North West London HIV and Sexual Health Service Network
Royal College of Obstetricians and Gynaecologists: Dr Naomi Low-Beer, London
Royal College of Physicians: Joint Specialty Committee in GUM
 Scottish HIV/AIDS Group
 Task Group for Sex, Drugs and HIV, Royal College of General Practitioners
 Terrence Higgins Trust
 Dr Jane Anderson, *Director, Centre for the Study of Sexual Health and HIV, Homerton University Hospital NHS Foundation Trust, London*
 Dr Guy Bailly, *Consultant and Lead HIV, Barts and the London NHS Trust*
 Dr Fiona Boag, *Consultant Physician, Chelsea and Westminster Hospital, London*
 Dr Jane Botell, *Director of Training, Institute of Psychosexual Medicine and Associate Specialist, Contraception and Sexual Health, Southampton and Isle of Wight*
 Dr John Bremner, *Consultant Virologist, Sheffield Teaching Hospitals Foundation NHS Trust and Hon Senior Clinical Lecturer, Faculty of Medicine, University of Sheffield*
 Dr Chris Carne, *Consultant in Genitourinary Medicine, Addenbrookes NHS Trust, Cambridge*

Ros Constable, Diane Stallwood, Shaun Watson, *Clinical Nurse Specialists, Community Support Team for HIV, City and Hackney Teaching PCT*

Dr John Day, *Consultant in Infectious Diseases and General Medicine, Southend University Hospital NHS Foundation Trust, Essex*

Dr Sarah Edwards, *Consultant GU Physician, West Suffolk Hospital*

Dr Amy Evans, *Locum Consultant in GU Medicine, Calderdale and Huddersfield NHS Foundation Trust*

Professor Sir Liam Donaldson, *Chief Medical Officer, Department of Health*

Dr Ray Fox, *Brownlee Centre, Gartnavel General Hospital, Glasgow*

Dr Paul Fox, *Consultant, Chelsea and Westminster Hospital and Ealing Hospital NHS Trust, London*

Professor Brian Gazzard, *Clinical Research Director, Chelsea and Westminster Healthcare NHS Trust, London*

Bhairvi Gosrani, *Specialist Pharmacist, HIV, Northwick Park Hospital, Harrow*

Dr Lina Hijazi, *Consultant GUM/HIV, Whipps Cross University Hospital NHS Trust*

Dr Jane Hutchinson, *HIV Lead Physician, Homerton University Hospital NHS Foundation Trust*

Dr Helen Lacey, *Consultant GUM, Baillie Street Health Centre, Rochdale*

Dr Harpal Lamba, *Consultant HIV/GUM, St Mary's NHS Trust*

Dr Clifford Leen, *Consultant Physician/Part-time Senior Lecturer, Edinburgh*

Dr Mark Melzer, *Consultant Microbiologist, King George Hospital, Goodmayes, Essex*

Dr Simon Portsmouth, *Consultant, St Mary's Hospital, London*

Dr Cecilia Priestley, *Consultant in GUM, Weymouth Community Hospital*

Dr Katia Prime, *Consultant in Sexual Health and Member of South Thames Speciality Training Committee*

Dr Lindsay Short, *Consultant in Genitourinary Medicine, Calderdale and Huddersfield NHS Foundation Trust*

Dr Graham Taylor, *Senior Lecturer, Imperial College, London*

Dr Nick Theobald, *Associate Specialist, Chelsea and Westminster Hospital, London*

Dr WT Andrew Todd, *Specialty Adviser, Infectious Diseases to Chief Medical Officer, Scotland and Chair of Specialty Advisory Committee (Infectious Diseases and Tropical Medicine) Joint Committee on Higher Medical Training*

Dr Alison Vaughan, *Associate Specialist Contraceptive Health/Psychosexual Medicine, Clinical Assistant GUM*

Christine Whitehead, *Nurse Consultant, Dept of Genitourinary Medicine and Dept of Infectious and Tropical Diseases, Royal Liverpool and Broadgreen University Hospitals Trust*

Matthew Williams

Dr Andy Winter, *Consultant GUM/HIV, Brownlee Centre, Gartnavel General Hospital, Glasgow*

Dr Susan Young, *Consultant GUM, The King's Mill Hospital, Sutton-in-Ashfield*

Standards for HIV Clinical Care