HEALTH CHECK

ON THE STATE OF PUBLIC HEALTH

ANNUAL REPORT OF THE CHIEF MEDICAL OFFICER 2003

DH Department of Health

BEAUTY
IS ONLY SKIN DEEP

The major effects of smoking on your skin


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ON THE STATE OF

The post of Chief Medical Officer has a long tradition. Fifteen people have held this office since 1858. The post has a unique position within the government of the day. The Chief Medical Officer is not simply an advisor, although giving advice to Health Ministers and other government ministries is an important part of the job.

The Chief Medical Officer is also expected to identify health issues and health problems that need action and to lead and implement changes that will bring about improvements. In addition, there is a role to champion and advocate action in relation to the big health challenges of the day.

Early Chief Medical Officers were instrumental in championing the need for sanitary reform in the Victorian and Edwardian eras. Then, infectious diseases killed many people, particularly infants and children. My predecessors have played a significant part in addressing the health challenges of their day for example, in introducing comprehensive vaccination programmes in childhood, in the creation of the National Health Service and in combating the threat of the Acquired Immune Deficiency Syndrome (AIDS) when it first emerged.

During my time in office, I have set out to ensure that today's health problems are firmly in the country's sights as we move through

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the first years of a new century. When I came into post in the autumn of 1998, I was very concerned that the problems of population health were consistently taking second place to the understandable need to treat patients in hospitals. Goals and targets for the local NHS emphasised the need to treat more and more patients. Not surprisingly, local NHS managers felt that continuation in their jobs depended on getting higher numbers of patients into their hospitals in the short-term, rather than laying the foundations to keep people out of hospital by preventing disease and promoting better health over the long-term.

Over the last few years, this imbalance is gradually being corrected. There is an unprecedented interest in population health across government. Increasingly, other government departments are joining the Department of Health in playing their part in promoting better health and reducing long-standing health inequalities. An important landmark was the decision by the Chancellor of the Exchequer to designate health inequalities as a cross-cutting theme in the 2002 spending review.

This led to a cross government action plan[1] to address health inequalities. Most recently, the Health Secretary, John Reid, announced a major consultation on public health[2] that will lead to a White Paper in 2004. This, and many other developments, are producing a mainstreaming of public health activity so that it is no longer the 'poor cousin' of NHS services. The Report of the Chancellor of the Exchequer's adviser Derek Wanless[3] has also emphasised the importance of better population health and prevention of disease to the sustainability of the health service in the future.

In making my personal contribution to addressing current health challenges, I have continued to promote the importance of high quality and safe patient care. As waiting times for access to NHS services are cut, increasingly what will matter to patients is the quality and safety of the care that they receive. Quality of healthcare is the predominant theme of the healthcare systems of developed countries around the world.

There is growing international interest in the quality and patient safety programmes that are being implemented in the NHS. Central to this work is the concept of clinical governance – the creation of local NHS organisations with the culture, the leadership, and the systems to ensure that quality assurance and quality improvement are part and parcel of the everyday routines of every clinical team, every hospital and every primary care service.

The implementation of clinical governance within the NHS has been led by the Clinical Governance Support Team (CGST). In all, over a thousand local NHS teams have been through a national development programme. This good work continues.

Amongst other important developments on the healthcare quality front has been the launch of a public consultation on new standards for the NHS [4]. A range of standards has been proposed to cover seven domains (patient safety, clinical effectiveness, governance, patient focus, accessible and responsive care, environment and amenities, public health). Criteria for assessing these standards within the NHS are being developed with the new Healthcare Commission that started work on 1st April 2004. The Commission is an independent body responsible for assessing the quality of local NHS services and private healthcare and making public reports.

One aspect of the quality agenda that I have championed very actively is patient safety. It is well established that medical error might be associated with as many as 10% of admissions to hospital in developed countries. This was acknowledged in my 2000 Report, *An Organisation with a Memory*[5]. Since then the emphasis has been on learning from errors as a way of preventing harm and reducing risks to patients. The work of the National Patient Safety Agency (formed in 2002) is vital to improving patient safety.

This is an area where the NHS remains in the forefront internationally. Last year, I reported that the United Kingdom had sponsored a resolution on patient safety that was adopted by the World Health Assembly. This has led to the establishment of an International Alliance on Patient Safety[6]. The level of international interest and commitment to addressing this problem is unprecedented. Patients all over the world are set to benefit as the patient safety movement goes global. I am pleased to be able to play my part, on behalf of the United Kingdom, in leading this process.

A third area, that I have pushed forward since coming into post, is the development of the capacity and capability to protect the population against the threat of major infectious diseases and other environmental hazards. In January 2002, I produced the first comprehensive strategy on infectious diseases (and wider aspects of health protection) since the establishment of the NHS over 50 years ago [7]. This proved timely as we were soon to have the global threat caused by the Severe Acute Respiratory Syndrome (SARS) and the outbreak of Avian influenza in the Far East. The latter could yet be the tinder box that starts the first influenza pandemic in nearly 40 years. This area of health now has a darker side as the spectre of a deliberate release by terrorists of a biological, chemical, radiological, or nuclear (CBRN) agent is looming ever larger.

Extensive further planning and preparatory work has taken place on health protection this year. Our country has worked with other countries to develop international plans and work has also been undertaken to strengthen local resilience. New plans were published [8,9]. The new Health Protection Agency is also now underpinned with legislation. It is an international first bringing together functions to protect the health of the population against infectious diseases, chemical and radiation hazards. It was formed from the merger of four pre-existing organisations. I am delighted that this key recommendation of my strategy *Getting Ahead of the Curve* [7] has been successfully implemented.

In December 2003, I produced *Winning Ways: Working together to reduce healthcare associated infection in England* [10] in which I have set out a clear direction on the action necessary to reduce the relatively high level of healthcare associated infections and to curb the proliferation of antibiotic-resistant organisms (such as methicillin-resistant staphylococcus aureus, MRSA).

In June 2003, I published *Making Amends* [11], a consultation paper setting out proposals for reforming the approach to clinical negligence in the NHS.

In this, my Annual Report for 2003, I have begun by reviewing progress on the issues highlighted in the 2001 and 2002 Annual Reports. In many areas good progress continues to be made. However, I highlight areas where action still needs to be strengthened. Also I spotlight some problems that need to be addressed around the regions.

Two of the subjects I highlighted in my 2002 Annual Report have hardly been out of the headlines in the year since the report was published. I described the problem of obesity as a 'time bomb' for the health of our country. This phrase has been echoed again and again in extensive media coverage of the growing problem of obesity. It is indeed a central public concern and it is good that this is so. Such a profile for a public health problem creates the right environment to ensure that commitment to tackle it is also sustained. I highlighted the gains that could be made in reducing the deaths caused by tobacco if we moved to create smoke-free public places and workplaces. This subject has also remained in the public eye since my 2002 Annual Report was published. Moreover, public attitude polls have shown consistent support for such a policy.

I have selected five new topics for attention in this year's Report.

Firstly, I have reviewed evidence on the damaging effect that smoking has on people's skin. Many people are aware that smoking causes premature death and serious diseases like heart disease and cancer. Few know that smoking can prematurely age the skin. Those in their teens and early twenties tend to be image conscious. By highlighting the harmful effects of smoking on skin I hope to encourage more people to give up smoking.

Secondly, I return to the subject of second-hand smoke. When last year I recommended creating smoke-free public places and workplaces, one of the key arguments against such a policy was that businesses in the hospitality and leisure sectors would suffer financial hardship. This year's report considers these arguments further. Not trusting the evidence of my own eyes when on my visits to the `smoke-free' cities and countries of Ireland, California and New York City, I found bars and restaurants thronging with people, I commissioned a formal economic analysis. In this Annual Report, I take a probing look at the economic implications of our country following the lead of others around the world and going `smoke-free'. The evidence and analysis shows that concern about falling profits is unfounded. In other parts of the world where legislation to create smoke-free public places and workplaces has been introduced, profits in the

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hospitality and leisure industries actually rise. A major plank in the argument against smoke-free public places and workplaces is thus removed. The only remaining reason not to do it in the face of majority public opinion in favour is on grounds of defending the smoker's rights.

Thirdly, early detection and diagnosis is important in preventing the spread of HIV, but estimates show that a third of those infected with HIV are unaware of their infection. Opportunities are not being taken to test people who attend genitourinary medicine clinics. Waiting times for such clinics around the country are too long. Worst of all, people who are eventually diagnosed as HIV positive have had their disease for an average of six years. More needs to be done to ensure that people who are infected with HIV are detected at an earlier stage so that they do not then infect other people, and so that their own health care treatment can commence earlier to reduce progression of the disease.

Fourthly, whilst clinical research and medical student intake have recently received a major boost through extra investment, the successful delivery of a programme of continued excellence in teaching and research depends on a strong academic base. The numbers of posts in academic medicine is falling and there is no proper career structure for young doctors wanting to go into research. Indeed, there are some disincentives. A number of influential reports in recent years have drawn attention to the gathering crisis in academic medicine but no satisfactory solution has yet been found. It is important that one is. In this Annual Report, I highlight the main issues and say that the time has come for focused attention on this problem.

Finally, I draw attention to the need for improvements in the way we use blood. Blood transfusion can be, and is, life-saving. It is a precious resource given by voluntary donation as a 'gift' from one person to another. Overall, blood transfusion is much safer in this country than many others. But like a lot of other medical procedures it is not free of risk. My assessment is that risks of transfusion could be reduced still further if all hospital and clinical teams adopted the procedures of the safest. Moreover, the 'gift' of blood is too often squandered by its unnecessary and inappropriate use. Improvements are being made too slowly. I make recommendations for action in this area.

In compiling this report, I am grateful for the help of a number of colleagues in the Department of Health. I am also indebted to several individuals outside the Department of Health who were kind enough to give their comments and advice on various drafts of the Report. In particular I would like to thank Dr Kevin Fenton, Dr Angela Robinson, Dr Kenneth Fleming, Professor Gerard Hastings, Professor Martin Jarvis, Dr Alastair Scotland and Paul Ward. I should make clear, however, that the conclusions and opinions expressed in this Report are my own.

I hope you enjoy reading this report as well as finding it of interest and value. Please try to play your individual part in addressing the issues I have raised as well as trying to interest others in them.

By working together on the themes in this and previous Annual Reports we can improve the health of our country and make the quality of care experienced by NHS patients even better.

I would welcome your comments (email: cmo@doh.gsi.gov.uk).

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11. Chief Medical Officer. Making Amends. London: Department of Health, 2003.

2001 ANNUAL REPORT PROGRESS CHECK

I covered five topics in my 2001 Annual Report and recommended action on each of them.

Despite being a common and serious problem affecting up to 400,000 people in this country, I pointed out that services for people with **epilepsy** were generally poor and fragmented. This, despite the production of six expert reports since 1953 that had said much the same thing. Since my 2001 Annual Report, a wide range of action has been initiated including: a national epilepsy action plan `*Improving services for people with epilepsy*' published in February 2003; a £1.2 million investment in the NHS Modernisation Agency-led *Action on Neurology programme* to improve access to, and quality of, services; *National Institute for Clinical Excellence* (NICE) guidance on new epilepsy drugs for children and adults; a new general practitioner contract that contains a target and incentives for effective management of epilepsy in primary care; an epilepsy information card *Be Epilepsy Aware* produced by the Department of Health in collaboration with the Joint Epilepsy Council. In addition, a forthcoming National Service Framework on Long Term Conditions will focus on improving services for people with neurological conditions (including epilepsy). This is an impressive range of measures that are aimed at improving a neglected area of healthcare. Progress must continue to be monitored so that these policies and plans can be shown to make a genuine difference for people with epilepsy.

High blood pressure (hypertension) is inadequately controlled in the population. Only half of all sufferers are effectively treated, leaving five million vulnerable to heart attack

or stroke. Since my 2001 Annual Report was published, the proportion of men with uncontrolled high blood pressure has fallen from 38% to 33%. For women, it has fallen from 30% to 29%. The new General Medical Services contract Quality and Outcomes Framework rewards the control of hypertension through a set of quality indicators for general practitioners to address. Practices choosing to be measured against these indicators receive a payment based on the level of achievement.

I am keen to see real progress towards the population target of 6 grams of salt per day. This is an enormous challenge with a current average intake of 9 to 10 grams per day and 75% of salt is found in processed food. The Food Standards Agency has set realistic targets to reduce average salt intakes by 10% – about 1 gram per day – by 2005/6, and in the long-term, to reduce average intakes by 40% over the next five years to meet the recommended 6 grams per day.

At a Salt Summit in November 2003, Public Health Minister Melanie Johnson asked key stakeholders from across industry, consumer groups and health professionals to send her plans on how they could contribute to reducing salt intakes in the population. She received 44 plans, 34 of which were from industry. This response shows that stakeholders are committed to salt reduction, with plans demonstrating a number of positive undertakings.

However, an initial assessment of industry plans suggested that – taken together - they are not going to deliver the changes required to meet this target. In general, the plans were often too short on detail and specific actions, and data in the current plans covered only a few categories of food. More information is required to make a robust assessment and monitoring of proposed reductions in each sector.

More concerted action is needed so the Department of Health and the Food Standards Agency are working with industry and other stakeholders to develop plans that will contribute to meeting these targets.

I also highlighted the problem of ***E.coli* O157,** the cause of a major outbreak of food poisoning in Lanarkshire in which 496 people became very ill and 17 died. I made a range of recommendations to tackle this problem including higher standards of food hygiene as well as better hygiene by staff and children in schools and nurseries. A Food Standards Agency strategy to reduce food-borne illness is also being implemented. In my 2001 Annual Report, I highlighted data from the year 2000 when there had been 10 outbreaks of *E.coli* O157 (three in nurseries) in England with a total of 850 cases. In 2003, there were six outbreaks (one in a nursery) and 656 cases. The trend is therefore moving in the right direction but there is still room for improvement.

The subject that attracted most media coverage in the 2001 Annual Report was my finding that **liver cirrhosis** was increasing and striking at younger ages. I discussed the link with **alcohol** and particularly **binge drinking** in young people. Much of the action needed to combat the problem requires major change in behaviour, attitudes and societal culture. It remains the case that patterns of drinking in this country, particularly amongst young people are very different to some other European countries. The Cabinet Office *'Alcohol Harm Reduction Strategy'* published in March 2004 is a step forward but it is a framework for action, rather than an action plan. During production of the Public Health White Paper, it will be important to decide whether the Cabinet Office strategy needs to be broadened and enhanced by other measures, to address what is a very deep-seated problem with complex causes.

Finally, my 2001 Annual Report took a hard look at the long-standing problem of **health inequalities**. I drew attention to the large gap in health between people in affluent sections of society and those in the most disadvantaged. In one analysis, I showed that some communities had levels of death comparable to the national average in the 1950s. The map of England for health largely shows a North-South divide with people living in the North being much worse off in health terms. Health inequalities have lasted for a hundred years or more. There is little sign that they are narrowing and in some fields (e.g. cancer and heart disease) the gap between the social groups seems actually to be widening.

A great deal of action has been set in hand over the last few years to tackle health inequalities. *Tackling health inequalities: A programme for action*[1] published in July 2003 joins different government departments together in this endeavour. Strong action is also being taken at regional and local levels. This is all very encouraging but sustained commitment is essential and progress should be rigorously audited and reported publicly. Reducing health inequalities is a long-term task but maintaining it as a priority for government as well as for all statutory and other agencies is vitally important. ✚

[1] Uncontrolled high blood pressure means treated but not controlled plus untreated.

2002 ANNUAL REPORT PROGRESS CHECK

Two subjects in last year's Annual Report received extensive media coverage. The epidemic of obesity, which I described as a 'time bomb' for the future health of our country and the need to take action to protect people from the impact of second-hand smoke.
Both subjects have hardly been out of the headlines in the last year as a major public debate has ensued on what we should do about them. Definitive action will be set out in a Public Health White Paper due for autumn 2004 release.

Early this year the Government launched a consultation on public health in *Choosing Health?*. Meantime, a range of actions is in hand to address diet and physical activity: including action to increase breastfeeding through a national target; a reformed Welfare Food Scheme that will include fruit and vegetables; the 5 A DAY programme including the National School Fruit Scheme that provide over one million children with free fruit), the eight Food in Schools Programme pilots and, 10 Local Exercise Activity Pilots, and, 10,000 pedometers distributed to 110 Primary Care Trusts.

Action is being taken throughout the world to create smoke-free workplaces and public places. Our neighbour, Ireland, has introduced legislation to protect workers in the hospitality and leisure industries as well as the public from second-hand smoke. Norway, New Zealand, and many cities, countries and states of the United States of America have acted similarly. In a historic first for any health issue the Presidents of all 13 medical Royal Colleges on 25th November 2003 called for legislation to make public places smoke-free.

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Public opinion in this country has swung behind the need for action. Numerous polls have been conducted in the last year to gauge public attitudes to smoke-free legislation:

- **The Big Smoke Debate in London attracted 35,000 responses: of these 74% said they wanted all enclosed public spaces to be smoke-free, 64% wanted smoke-free restaurants and 43% were in favour of completely smoke-free bars and pubs.**
- **In the East Midlands, of the 24,000 participants 80% supported the idea of a law against smoking in workplaces, cafes and restaurants.**
- **High levels of public support for smoke-free legislation were also found in surveys in the North West, North East and South East.**

Moreover, support for legislation is strong across all social classes. A MORI poll [2] conducted in the spring of 2004 showed levels of support for smoke-free workplace law was:

86% of social class AB (professionals and civil servants)
82% of social class C1 (non-manual)
79% of social class C2 (skilled manual)
72% of social class DE (semi-skilled, unskilled and unemployed)

In last year's Report, I also highlighted the problem of **West Nile virus**, an 'old world' infection that struck New York City in 1999 and has now become endemic across the United States of America and Mexico. For the disease to become a threat in this country would require a particular pattern of climatic conditions together with the virus becoming established in the bird and mosquito populations. At present, this risk is assessed as 'low' by experts. Nevertheless, in the 2002 Annual Report, I called for a contingency plan. This was published recently[3] and provides a clear framework for action should the level of risk change.

AN INCREASING NUMBER OF LOCAL NHS ORGANISATIONS NOW CONTACT THE NATIONAL CLINICAL ASSESSMENT AUTHORITY FOR ADVICE – AROUND 75% OF THE TOTAL HAVE NOW DONE SO. IN 85% OF CASES, A SUSPENSION WAS AVERTED, WHILST ALLOWING PATIENTS TO BE PROTECTED

Last year, I also highlighted two important areas of healthcare. The need to deal more effectively with the small proportion of **doctors whose practice is poor** and hence poses a risk to patients. I reviewed progress in this area and drew attention to the key role of the National Clinical Assessment Authority in identifying problems early, advising on them, carrying out an expert assessment of the doctor's practice where necessary and producing an action plan. The National Clinical Assessment Authority is playing a vital role and has now handled over 1000 cases – this represents about 1% of the active medical workforce in the NHS.

An increasing number of local NHS organisations now contact the National Clinical Assessment Authority for advice – around 75% of the total have now done so. In 85% of cases, a suspension was averted, whilst allowing patients to be protected.

The work of the National Clinical Assessment Authority has transformed the way that poor clinical performance is dealt with by the NHS. It was only a few years ago that such cases dominated headlines revealing serious problems that had not been acted upon at local level.

My last Annual Report also focused on the problem of **intrathecal (spinal) injection errors**. The drug vincristine is intended for intravenous use only. Although rare, incidents where this drug has been injected intrathecally by mistake, have had catastrophic effects for the patients, their families and for the clinical teams concerned.

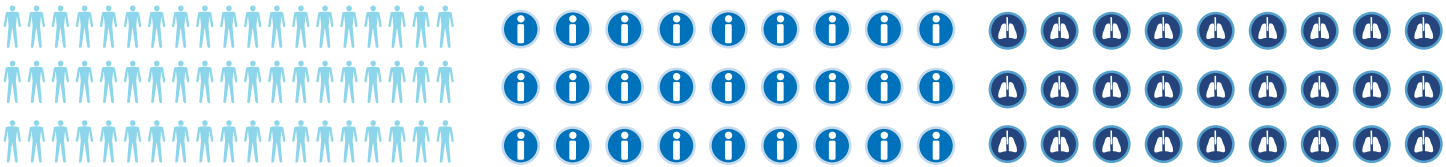
I am reassured that the 2002-3 programme of follow up peer-review visits, noted in last year's report, assured compliance with the Department of Health's 2001 national guidance on the safe administration of intrathecal chemotherapy in all NHS Trusts.

This extremely valuable exercise allowed clarification and identification of further best practice – reflected in updated national guidance[4], issued in October 2003 together with a training toolkit and award winning video to support local implementation.

Ongoing work to further reduce the risks of intrathecal injection errors forms just one part of the broader drive for safer and higher quality NHS care. The NHS patient safety programme, established in my 2000 report *An organisation with a memory,* and the work of the National Patient Safety Agency (NPSA) have gained international recognition and praise.

Healthcare organisations' progress in continuously improving patient safety – in acting on national safety guidance, in reporting, analysing and learning from adverse errors or mistakes, in ensuring that learning from incidents that endanger patient safety becomes the norm for all NHS staff and organisations – will be reviewed by the Healthcare Commission as a key area within the new NHS Standards. ✚

REGIONAL UPDATE



For the first time in last year's Annual Report I spotlighted a problem in each of the Public Health Regions. Action has been under way in each Region to respond to the concerns I raised.

In the **North East**, I asked in my 2002 Annual Report, why Sunderland should have shown the largest increase in deaths from cancer over recent years of anywhere in this country. Following on from my Report, detailed investigation locally has confirmed that the increase was in women not men, and affected only three cancers, breast, lung and (to a lesser extent) stomach. Sunderland Teaching Primary Care Trust has identified and implemented a five-point action plan to address the issue. Breast screening services provided by the City Hospitals Sunderland NHS Trust have been extended. Work has begun to raise awareness of breast screening services and to promote attendance (this has been extended to cervical screening, as uptake rates are low in Sunderland).

Anti-tobacco messages have been targeted specifically at women and young people. Work has been undertaken with general practitioners to increase referrals to smoking cessation services locally. Finally, because there was some evidence that patients were not seeking medical advice as soon as they might, information was provided through general practitioners' surgeries to promote earlier consultation and referral. These initiatives should be effective in reversing the unwelcome trend in cancer deaths in Sunderland, although it is too early to detect a change.

In **London**, I drew attention to the poor performance of virtually all disease prevention services (immunisation, breast and cervical cancer screening, smoking cessation) compared to the rest of the country. The NHS in London has acknowledged that the statistics show a poorer uptake than elsewhere in the country in respect of women's cancer screening services. The five Strategic Health Authorities in London, together with the Regional public health group and the Quality Assurance team have developed an action plan covering a package of proposals to increase coverage. For example, building on the initiative in Croydon where a breast screening service has been integrated into Allders department store and exploring whether this approach in shops would be feasible elsewhere across the capital. A range of other initiatives are being explored including: utilising the new general practitioners' contract, centralisation of call-recall processes, as well as the role of regeneration and similar initiatives to encourage take-up of screening. Further developments are likely once digital mammography evaluations are complete and information systems are updated. An approach successfully used to increase uptake in cervical screening by focusing on women who have never attended or have not responded to the invitations is being examined for breast screening. Further analysis of data is being undertaken to see whether in some parts of London the NHS uptake is poor because women are getting the service from the private sector. These actions demonstrate the importance that is being placed on cancer screening across London's NHS.

Action plans to address low vaccine uptake rates has also been set in hand including: reviewing particularly low uptake within geographical areas; working with general practitioners and health visitors to ensure appropriate information to parents; and, working with local groups and parents to ensure vaccination messages are understood. The Greater London Authority Assembly scrutinised childhood immunisation across London. The final report's recommendations are being addressed. On a pan-London basis, the Health Protection Agency working with the Department of Health, national experts and the NHS have developed an approach to a Primary Care Trust-based 'catch-up' programme for measles immunisation in primary school children, because of the potential risk of an outbreak given the low uptake rates.

The **Yorkshire and Humber Region** contains the district with the highest death rate from bronchitis and emphysema in the country. My highlighting of this problem in last year's Annual Report led to further investigation locally. Analysis under a broader definition of chronic obstructive pulmonary disease has confirmed that, although rates in Doncaster are not as extreme as originally reported, this is a significant local health issue. The men's death rate in Doncaster for

chronic obstructive pulmonary disease (excluding asthma) was 73 per 100,000 population in the period 1998-2000. In England as a whole it was 43.6 per 100,000. More recent data for 2000-2002 show it lower: to 57 per 100,000 for Doncaster (England average 41.2). The Doncaster Primary Care Trusts have appointed an additional respiratory nurse and community physiotherapist. They have funded 40 places on a chronic obstructive pulmonary disease diploma course, and are using chronic obstructive pulmonary disease to pilot both Chronic Disease Management and an Accelerated Development Programme. All three Primary Care Trusts in Doncaster are now part of the National Primary Care Collaborative chronic obstructive pulmonary disease programme. This initiative supports practices in meeting new General Medical Services targets. There has also been significant investment in smoking cessation services in order to achieve quit rate targets.

I pointed out in my 2002 Report that Essex Strategic Health Authority (in the **Eastern Region**) had the lowest number of consultants per 100,000 population. Like all Strategic Health Authorities, Essex has agreed targets with the Department of Health for increasing the number of consultants in the area. Essex has exceeded it's target for the last year with a 10.6% increase in consultant numbers. Over a longer timescale, Essex has increased its consultant numbers by 180 consultants since 1999 – a 38% increase in all.

Last year, I highlighted the worrying outbreak of syphilis in one of the major conurbations in the **North West Region** of England. There have been 615 cases of syphilis in Greater Manchester between January 1999 and March 2004. Men who have sex with men made up over 80% of the cases, and 45% had previously had a sexually transmitted infection. Almost a quarter of all cases were also HIV positive. Reported condom usage for oral and anal sex was low. Almost 90% of the gay men infected never used a condom for oral sex, compared to the 79% who regularly used a condom for anal sex. This is very high risk behaviour for acquiring syphilis. There are no indications that the number of cases of syphilis in Greater Manchester is falling. Syphilis amongst heterosexuals appears to be increasing. Continuing efforts are needed to improve the effectiveness of health education amongst at risk groups and to ensure better access to services.

The 2002 Annual Report highlighted that Rutland within the **East Midlands Region** had the highest rate of deaths from motor vehicle accidents in the whole of England, at over three times the rate for the country as a whole. Six of the ten local authorities in England with the worst records were East Midlands authorities.

The most recent figures show that the East Midlands still has the highest death rate of all English regions from land transport accidents but the regional rate is falling faster than the national rate. The number of East Midlands local authorities featuring in the 'top ten' list has fallen: from six to four. Department of Transport figures show the East Midlands on course to deliver its share of the government's 2010 targets for reducing road deaths and injuries.

Reducing the incidence and severity of accidental injury is one of the five 'priority' objectives of the East Midlands Public Health Strategy, 'Investment for Health'. A regional multi-agency task group has been set up to take forward this objective.

Amongst the various road safety initiatives being implemented across the region, safety cameras have been shown to be effective contributors to reducing death and injury. All counties in the East Midlands now have extensive safety camera networks. As an example of their success, installation of cameras at selected sites in Lincolnshire reduced the numbers killed or seriously injured at those locations by some 54%. Surveys in Lincolnshire show that there is overwhelming support for the use of cameras, with around 90% of the community in favour of their use.

Northamptonshire safety camera partnership has introduced 'Speed Workshops' which are offered to those offenders detected in a 30-mph limit at lower speed thresholds. These offenders can be diverted from the judicial system into an educational process and attend a three-hour course for which a fee of £60 is charged. To date, over 20,000 drivers have taken advantage of this offer, and the initiative is now being followed elsewhere in the region. There is no question that this problem is being taken very seriously in the East Midlands Region and good progress is being made.

SINCE LAST YEAR, THE SOUTH WEST CANCER INTELLIGENCE SERVICE TOGETHER WITH THE SOUTH WEST PUBLIC HEALTH OBSERVATORY HAVE UNDERTAKEN FURTHER ANALYSIS OF THE PROBLEM. THE AIM HAS BEEN TO RAISE AWARENESS OF THE DANGERS OF MELANOMA AMONG THE PUBLIC AND PROFESSIONAL GROUPS.

The high rate of melanoma in the **South West Region** was highlighted in last year's Annual Report. Since last year, the South West Cancer Intelligence Service together with the South West Public Health Observatory have undertaken further analysis of the problem. The aim has been to raise awareness of the dangers of melanoma among the public and professional groups. Data have been presented to two Skin Cancer Network Steering Groups, at a Regional Skin Cancer Study day as well as at a number of major scientific seminars. Local Dermatologists, Plastic Surgeons and others are considering their practice in the light of the findings. The need for further targeted prevention work is also under consideration. The Director of the South West Cancer Intelligence Service and Public Health Observatory, Dr Julia Verne, has Chaired the National Institute for Clinical Excellence (NICE) Guidance Development Group for skin cancer. Significant changes to services in the South West will follow publication of this guidance in 2005.

Last year's Annual Report showed that eight of the 13 health authorities in the **West Midlands Region** had a higher than average percentage of abortions performed on their residents at 13 or more weeks of gestation (i.e. `late' abortions).

The Regional Director of Public Health for the West Midlands commissioned a leaflet on key issues relating to teenage pregnancy that included late abortions. Its public launch generated a great deal of publicity. Data on abortions were circulated to the local NHS. All Strategic Health Authorities and Primary Care

Late legal abortions in West Midlands Region, 2002

		LEGAL ABORTIONS (ALL AGES)		
		Total	13+ weeks	Proportion over 13 weeks
ENGLAND		166,898	21133	12.7
WEST MIDLANDS REGION		17064	2725	16.0
Primary Care Trust				
Above national average	Wolverhampton City	948	214	22.6
	South Stoke	282	61	21.6
	Heart of Birmingham Teaching	1,721	370	21.5
	North Stoke	313	62	19.8
	Dudley Beacon and Castle	371	73	19.7
	Eastern Birmingham	885	172	19.4
	South Birmingham	1,408	271	19.3
	Oldbury and Smethwick	428	79	18.5
	Newcastle-under-Lyme	219	40	18.3
	Rowley Regis and Tipton	331	57	17.2
	Wednesbury and West Bromwich	422	71	16.8
	Dudley South	468	75	16.0
	Walsall	761	119	15.6
	Rugby	276	42	15.2
	North Birmingham	556	82	14.8
	Wyre Forest	217	31	14.3
	Shropshire County	576	80	13.9
	Telford and Wrekin	503	67	13.3
	Solihull	453	60	13.3
	Coventry	1,553	205	13.2
	Cannock Chase	344	45	13.1
	South Western Staffordshire	488	62	12.7
	North Warwickshire	567	71	12.5
	South Worcestershire	636	79	12.4
	Staffordshire Moorlands	195	24	12.3
	East Staffordshire	269	31	11.5
	South Warwickshire	663	70	10.6
	Redditch and Bromsgrove	424	41	9.7
	Burntwood, Lichfield & Tamworth	431	40	9.3
	Herefordshire	356	31	8.7

Source: Abortion Statistics, England & Wales 2002, Department of Health

Trusts were asked to review their position in relation to the services provided. Local action is under way but the late abortions in parts of the West Midlands remain well above the national average (see table). There is also considerable variation within the Region. Action to address this problem needs to continue to be vigorously pursued.

The area around Brighton and Hove in the **South East Region** had the second highest drug related mortality in the country at the time of my last Annual Report. I drew attention to the figure of a death rate of 13.7 per 100,000 compared in 2001 to a national average of 3.1 per 100,000.

Brighton and Hove Drug and Alcohol Action Team, with the support of treatment providers, has continued to address the high incidence of drug related deaths in the area. A steering group of key stakeholders meet monthly with the regional National Treatment Agency to monitor progress. Key developments over the last year have included:

- a new triage system has been implemented to ensure users are routed to appropriate treatment as swiftly as possible. During 2003/4, all average waiting times reached or fell below National Treatment Agency targets.
- a total of 506 people in Brighton and Hove entering structured treatment in 2003/4. This is an increase of 12 per cent on the previous year and exceeds the targets set in the national drug strategy.
- overdose training continues to be rolled out with drug users in the area.
- the Drug and Alcohol Action Team has developed a new ambulance protocol aimed at reducing drug related deaths, which was launched along with National Treatment Agency Drug Related Death prevention materials in Brighton by the council chief executive early in 2004.

There has been little change in the number of drug related deaths in the Brighton and Hove Unitary Authority; in 2002 there were 33 deaths (13.2 per 100,000 population) compared to 34 deaths in 2001. The national average of 3.0 per 100,000 population in 2002 is also little different from 3.1 per 100,000 in 2001.

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SMOKING AND HEALTH: GETTING THE MESSAGE ACROSS

SMOKER'S FACE

BEAUTY IS ONLY SKIN DEEP

Key points

Smokers tend to look older than non-smokers of the same age  Smokers' facial skin is more likely than non-smokers to have: wrinkles, crow's feet and a sallow, yellow-grey colouring  Smokers' skin can be prematurely aged by between 10 and 20 years  The damaging effects of cigarette smoke on skin are irreversible but it is likely that further deterioration will be avoided by stopping smoking  The underlying biological changes that lead to 'smoker's face' are not yet fully understood but may be due to damage to small blood vessels in the skin and to the protein matrix (or architecture) of the skin brought about by cigarette smoke or the toxic chemicals in cigarettes  Smoker's skin is more likely to slough after surgery than that of non-smokers  The skin ageing effect of cigarette smoke is likely also to result from second-hand smoke albeit at a reduced rate; young people working in bars, clubs and restaurants need to be aware of this potential risk  The use of smoking as a cachet in the modelling and fashion industry is totally incompatible with one of its principal aims – to promote beauty →

◀ Transformed image on opposite page: Task Force for Tobacco-Free Women and Girls in New ork State, USA, in collaboration with C.O.R.E. Digital Pictures, Inc. and the Ontario Science Cenre in Toronto, Ontario, Canada.

Cigarette smoking is causally linked to: fifteen types of cancer (lung, lip, mouth, pharynx, larynx, nasal cavity and nasal sinus, oesophagus, pancreas, bladder, stomach, liver, kidney, cervix, myeloid leukaemia), as well as coronary heart disease, stroke, chronic obstructive lung disease, peripheral vascular disease, still-birth, low birth weight, sudden infant death, infant mortality, congenital abnormalities and miscarriage.

Surveys have shown that the overwhelming majority of smokers are aware that smoking causes premature death and serious diseases like heart disease and cancer. Relatively few are aware of the evidence that smoking prematurely ages the skin.

Those who know smokers as family members or friends may have observed that they look older than their chronological years. This effect has been examined more objectively by scientists who have studied the skin of smokers in comparison to non-smokers to assess its wrinkling, elasticity, colouring and chemical content.

This research has provided considerable scientific credence to the observation that there is a 'smoker's face'.

In the early 1970s, a study carried out in California[1] noted an association between cigarette smoking and skin wrinkling that was striking in both sexes. Smokers were observed to be as wrinkled as non-smokers who were 20 years older. Further research was called for.

At the beginning of the 1990s researchers from the University of Utah in the USA[2] assessed and graded the degree of facial wrinkling in a group of smokers and non-smokers. They concluded that cigarette smoking was a risk factor for the development of skin wrinkles and 'crows feet'. Moreover, smoking acted as a risk factor independent of age and sun exposure (both of which, as might be expected, also increased wrinkling). Furthermore, premature skin wrinkling increased with the amount smoked and the duration of smoking.

In the mid 1990s, a well-designed study[3] of smoking status and facial wrinkling was carried out in California by researchers from the University of California, the Department of Veterans Affairs and the Kaiser Permanente Medical Group. After adjusting for age, average sun exposure and body mass the risk of moderate or severe facial skin wrinkling was more than twice as high for men who smoked than those who had never smoked and three times higher for women smokers. These results have been broadly replicated in more recent studies[4,5].

Other research has sought to discover the underlying mechanisms of these skin ageing effects amongst smokers. One of the earlier studies[1] had reported the detailed characteristics of smokers' skin. Compared to non-smokers their skin has a yellow-grey pallor, rarely did they have pink cheeks and they almost never blushed. Scientists have suggested damage to the small blood vessels in the skin or toxic effects of the chemicals in cigarette smoke on the tissues under the skin could be the cause of the classical 'smoker's face'. This damage to the blood supply of the skin makes it 12 times more likely to slough off during surgery (e.g. cosmetic surgery) for a smoker than a non-smoker[6].

The precise mechanisms are not yet properly understood but more recent studies have shown an increase in 'elastosis' (degenerative change in the elastic tissue of the skin) amongst smokers[7]. An increased concentration of an enzyme (matrix metalloproteinase-1) was found in the skin of smokers compared to non-smokers in another study[8]. This enzyme is known to degrade collagen, the protein matrix or 'architecture' of the skin. Research in this area is promising but more is needed to elucidate fully the biological mechanisms responsible for the skin ageing effects of smoking.

The effect of cigarette smoke on the skin ageing process could be a particularly salient issue for adolescents and young adults. We know that self-esteem, social image and peer pressure are crucial influences on their smoking behaviour. This partly reflects their sensitivity to these issues as they enter adulthood and have to face many difficult changes and challenges.

It also reflects decades of exploitation of these vulnerabilities by the tobacco industry which has deliberately created evocative brands and associated powerful imagery with their products. Even following the legislation to outlaw advertising and promotion of tobacco, these emotional hooks persist through packaging, ubiquitous distribution accompanied by appealing point of sale promotion and sponsorship. Furthermore they are aided and abetted by a fashion industry whose models smoke in public (a phenomenon that is completely at odds with their overall aim of enhancing beauty) and media – particularly those targeted at young men – that all too often thoughtlessly promotes smoking as a natural and attractive lifestyle choice[9].

Three responses are needed here. First the risks of skin damage from cigarette smoking should be a stronger feature of health information and health education campaigns, particularly those directed at girls and young women. This should cover the damaging impact of second-hand smoke as well as active smoking. In addition, the many young people who are considering taking jobs in restaurants, bars pubs and other leisure environments where smoking is permitted have a right to be fully informed of all the health and physical hazards they will encounter.

Second, the marketing activities of the tobacco industry should be scrutinised with great care. Branding is a particularly powerful tool in their continuing battle to recruit new smokers and every step should be taken to combat and weaken it. Generic packaging, bigger and pictorial health warnings and limitations on distributions should all be considered.

Finally, I call on the fashion and media industries to distance themselves from tobacco and the tobacco industry. They have much to offer our young people – they understand how to communicate with them and help them make astute lifestyle choices. They can and should use this power to help them avoid the profound physical and health hazards of smoking. +

Action recommended

- Smokers and non-smokers need to be made more aware of the risks of cigarette smoke for the skin ageing process.
- Health education campaigns directed at young people, particularly girls and young women, should emphasise the irreversible toxic effects of cigarette smoke on facial skin.
- Non-smokers, particularly women, considering employment in environments (e.g. bars, restaurants) where the workplace is not yet smoke-free should be aware of the potential impact on skin ageing of prolonged exposure to second-hand cigarette smoke.
- Smokers undergoing surgery should be aware of the much higher risk of skin sloughing because of the poorer quality of their skin.
- The powerful branding used by the tobacco industry to recruit new smokers should be curtailed through generic packaging and tighter controls on distribution.
- The fashion and media industries should use their influence with the young to discourage rather than encourage smoking.

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Key weblinks to tobacco policy and giving up smoking: http://www.dh.gov.uk/PolicyAndGuidance/HealthAndSocialCareTopics/Tobacco/

GOING SMOKE

THE ECONOMIC

FREE CASE

Key points

- A policy of creating smoke-free workplaces and public places would yield an overall net benefit to society of £2.3 billion to £2.7 billion annually, equivalent to treating 1.3-1.5 million hospital waiting list patients.
- Smoke-free laws help rather than hinder the hospitality industry. For example, New York has seen an increase in both taxable sales from eating, drinking and hotel establishments and restaurant employment (up 18% compared to 5% in the area round about) since going smoke-free; and New York City, Los Angeles and San Francisco have seen tourism revenues and employment continue to grow.
- The vast majority of good quality, published research confirms this positive result for business. Studies that claim to show that going smoke-free is bad for business tend to be poor in quality and sometimes funded by the tobacco industry.
- As well as the financial benefits, making public and work places smoke-free would have enormous public health benefits, preventing non-smokers – many of them children – from inadvertently breathing in over 50 cancer causing chemicals.
- Research also shows that far fewer young people will take up cigarettes if their workplace is smoke-free. As around 300,000 16 year olds start work each year this presents a unique public health opportunity.
- Perhaps most basically of all, going smoke-free is fair to the majority of public opinion. The two thirds of our society who are non-smokers have a right to socialise and work without unnecessarily imperilling their health. This far outweighs the right of the minority to smoke in the presence of others.

In my Annual Report for 2001, I highlighted the potential benefits of creating smoke-free public places. Exposure to other people's cigarette smoke means breathing in over 50 known or suspected cancer causing agents and a wide range of chemical poisons.

Clearing the air of second-hand cigarette smoke in restaurants, bars and other enclosed public places would protect the health of both workers and customers in these environments. It would reduce the risks of an asthma attack for children and adults and lower the chances of triggering a heart attack for people with heart disease. It would also improve air quality and make many of our common leisure activities pleasanter and more enjoyable.

On top of all this, the creation of smoke-free public places would be an honest reflection of the prevailing non-smoking social norm. Although non-smokers outnumber smokers by four to one, non-smokers actually believe they are in the minority. A recent survey showed that most people thought that smokers ranged from 50% to 65% of the population and surprisingly young people especially thought it was as many as 70%[1]. This is because smoking is still so visible in places of leisure and entertainment.

Going smoke-free would also help the two thirds of smokers who want to quit to do so, partly by reinforcing non-smoking norms and also by reducing the temptation to smoke during the average day. Evidence from a recent review of the literature shows that smokers in smoke-free work places are nearly four times as likely to quit smoking as other workers, and those who continue reduce their consumption by more than three cigarettes a day. These figures increase the longer the policy is in place[2]. In this way going smoke-free would drive down smoking even further and, as a result, hundreds of thousands of lives would then be saved in the years ahead from smoking related diseases like coronary heart disease, cancer and chronic bronchitis.

These reductions in smoking prevalence are likely to be most marked among young people. A substantial number of people take up smoking during their first job. In this country, 300,000 16 year olds join the labour force every year. Smoking prevalence is already high at age 15 years (21% in boys, 26% in girls). Research in the USA has shown that a third fewer young people will smoke if they work in smoke-free environments compared to those who do not. The creation of comprehensive smoke-free workplaces would have a major benefit in reducing the numbers of young people who take up smoking, helping us reach the extremely important but very challenging target of reducing the appeal of tobacco to teens.

It is no surprise, therefore, that strong action on creating smoke-free environments for workers and the public is advocated by the vast majority of public health professionals. It remains an anachronism that the NHS itself is not entirely smoke-free. A national NHS directive was issued by the then Government in October 1992[3] stating that NHS premises should be 'virtually smoke-free' by 31 May 1993. Sadly the aim of a virtually smoke-free NHS has still not been achieved.

This overwhelming health case in favour of smoke-free places is backed by strong public support for action. Between 70% and 80% of people want to be able to work and socialise without unnecessarily imperilling their health with second-hand smoking.

Despite these compelling arguments, two principal stances are adopted to try and justify inaction. The first is financial: smoke-free public places, it is claimed, would be bad for businesses that operate in the leisure, catering and hospitality fields. The second is philosophical: the smoker has a basic human right to smoke in public places.

In the last year, I have seen with my own eyes the success of smoke-free policies in New York City, California and Ireland. However, to formally assess the first of the two counterarguments against action, I commissioned the Economics and Operational Research (EOR) Division of the Department of Health to conduct an economic analysis to assess the costs and benefits of England going smoke-free. Their findings are

Smoke-free laws elsewhere: impact on business

New York City – taxable sales from all eating, drinking and hotel establishments increased more than surrounding areas.

New York City – restaurant employment increased by 18% compared to only 5% in surrounding areas.

California – sales at places selling beer, wine, liquor increased every quarter after the ban.

California – sales in the hospitality sector outpaced by 8% all other types of retail outlets.

New York City, Los Angeles, San Francisco, Miami - no adverse impact on tourism.

Source: The New York City Department of Health and Mental Hygiene, Michael R. Bloomberg, Mayor and Thomas R. Frieden, M.D., M.P.H., Commissioner http://www.nyc.gov/html/ doh/html/smoke/tc1.html

THERE IS NO DOUBT THAT GOING SMOKE-FREE WOULD BENEFIT THE NATIONAL ECONOMY.

summarised in Table 1.

The economic experts calculate the overall benefit in monetary terms of going smoke-free as between £2.3 billion and £2.7 billion per year. And this does not take into account the monetary gains from the fall in smoking prevalence that was predicted by the Wanless report as 4%[4]. There is no doubt, then, that going smoke-free would benefit the national economy.

Crucially, the analysis also confirms that going smoke-free can help the hospitality business, or at least that the effects would be financially neutral. There is no reliable evidence to back up the frequently made assertion that creating smoke-free public places would be bad for businesses in bars, restaurants and other places of leisure. The only studies that conclude this are typically low in quality and funded by the tobacco industry[5].

The review of research evidence is supported by experience in New York City and California State, both of which have introduced smoke-free workplace laws which have been accompanied by rising revenues in the hospitality and tourism sectors. It was this evidence that encouraged the Irish to take a European lead in this issue and go smoke-free earlier this year. Early indications are that the move is both popular and well respected.

This leaves the final argument against acting now: that in a free society smokers have a right to consume a legal product where they choose. However, as always, any human right has to be balanced against the rights of others – in this case the two thirds of non-smokers to work and relax in an atmosphere that does not imperil their health. Furthermore, this is not a new issue. Society already restricts where people can use a whole raft of legal products – from alcohol to fire arms – in the public interest. Indeed it already puts limitations on when and where people can smoke. When I was in California on holiday last year, I spoke to Californians about smokers' freedom. In one such conversation, a young woman working in a bar on the Californian coast expressed her view on this rather pithily. She said: "Your zone of freedom ends at my nose". Making public places smoke-free does not present novel philosophical challenges: it is simply the logical extension of current policy.

In conclusion, there are compelling arguments in favour of making all enclosed public places and workplaces in this country smoke-free: it will bring enormous benefits to health both directly by protecting people from airborne toxins and indirectly by reducing prevalence; the public want and have a basic right to work and relax in a healthy environment and, from a fiscal perspective, both the national economy and the hospitality industry will get a boost. The time has come to act and grasp the benefits that are already being achieved elsewhere in the world. ✚

Table 1 Costs and benefits for employers and employees by legislating to introduce smoke-free workplaces

ANNUAL BENEFITS	£M
Health benefits (reduced absenteeism)	70-140
Health benefits (reduced costs of healthcare)	4
Health benefits (averted deaths from second-hand smoke amongst employees)	21
Health benefits (reduced uptake, particularly new young employees)	550
Health benefits (smoking cessation)	1600
Safety benefits (damage, deaths, injuries)	57
Safety benefits (cost to fire services)	0.2
Safety benefits (administration costs)	6.3
Cost savings to NHS from smoking cessation	Not estimated
Cleaning costs and damage to equipment avoided	100
Production gains	340-680
Total	2700-3100
ANNUAL COSTS	**£M**
Production losses (smoking breaks)	430
Losses to continuing smokers (loss of satisfaction)	(155)
Losses to quitters (loss of satisfaction)	(550)
Losses to the Exchequer	(1145)
Total	430
ANNUAL NET BENEFIT	**£M**
Total	2300-2700

No weight is attached to the estimated losses linked to smokers who cut down or stop following legislation (figures in brackets).

Action recommended

- Smoke-free workplaces and smoke-free enclosed public places should be created as a priority through legislation.
- National Health Service premises should be made entirely smoke-free by the end of 2004.

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A PRECIOUS GIFT

BETTER BLOOD TRANSFUSION

Key points

● Blood can save lives but its inappropriate or unsafe use can cost lives ● Blood is donated voluntarily in this country: about three million units of blood components are produced each year ● The proportion of the adult population who donate blood is around 6% and the pool of donors has fallen over 20% since 1999, currently standing at 1.64 million ● Strict precautionary measures are used to reduce the risks of disease transmission through blood (including donor health screening and deferral and blood donor testing and blood treatment) but more stringent precautions reduce the availability of blood; the importance of the balance between blood stocks and exclusions needs to be recognised ● Too much blood is used unnecessarily or inappropriately, wasting donations and money; clinical and managerial performance in this area need to improve ● 'Wrong blood' incidents (in which the wrong blood is given to someone) have increased by 21% in the last year; some of the increase may be due to better reporting but the trend is worrying ● The risks of transfusion errors are higher than they should be in some hospitals because of failure to comply with well-established safety procedures ● Information systems to underpin safe, effective and efficient use of blood and blood products are terribly weak and in urgent need of improvement ● →

The first transfusion of blood from person-to-person was made in 1818 by Dr James Blundell, an obstetrician working at St Thomas's and Guy's Hospitals in London. He transfused blood into a patient suffering from post-partum haemorrhage using the patient's husband as the donor. The English social scientist Richard Titmuss described blood transfusion as a 'gift' and spoke of the 'gift relationship' between donor and recipient. Titmuss explored the altruistic act of blood donation in his celebrated work *The Gift Relationship* (published in 1970) and commented, "To the giver, the gift is quickly replaced by the body. There is no permanent loss. To the receiver, the gift may be everything: life itself."

Around the world, the collection and transfusion of blood and blood products has become a mainstay of modern medical care. Transfusion can be life-saving in many situations, for example: saving the life of a road accident victim who has lost a lot of her own blood; saving the life of someone who has ulcerative colitis and has a major acute bleed from their bowel. Moreover, blood and blood products can be essential to maintaining life, for example for patients with leukaemia, who, after bone marrow transplantation, cannot for a period produce their own blood cells.

In this country, unlike some others, the donation of blood remains a `gift' (as Titmuss portrayed it) with no money being offered or taken. This is not the case in some other countries where blood donors are paid. As a result there are concerns about safety and quality of the blood collected in some parts of the world.

The collection and supply of blood products in England and North Wales is managed by the National Blood Service.

The quality and safety of blood and blood products in this country is amongst the best in the world. Nevertheless, the use of blood, like most other medical procedures, can never be free of risk. Blood should only be used when necessary. Undoubtedly, too much blood is used at present than should be and efforts over recent years have not had much impact on inappropriate blood use.

Blood availability and supply

Blood is donated voluntarily and is a limited resource. Each year approximately 2.2 million units of blood are collected from which 3 million units of components (red cells, fresh frozen plasma and platelets) are produced (Table 1). The proportion of the adult population donating blood is 6%. The number of donors has declined since 1999 (2.1 million) to 1.64 million (2004). The main reasons for the decline are fewer donations from younger people and the adoption of more stringent safety criteria for donation (reducing the number of people eligible to give blood). Since 1999, the demand for red cells has stabilised (compared to the early 1990s) and then fallen by approximately 1% in the last two years (Figure 1).

Despite the dwindling pool of donors, blood supplies have been contained at acceptable levels. The risk of shortages is ever present if an emergency should occur. A serious accident, a large outbreak of disease, a winter influenza epidemic or a major terrorist incident would all cause a run on the blood stocks.

The National Blood Service has continued a very active programme of marketing and advertising to attract new donors and to retain existing ones.

Blood safety

The safety of blood is an important aspect of the whole national blood programme.

There are potential risks of transmitting disease via transfusion (Table 2). Some of these have been recognised for a long time

Table 1 Issue of Blood and Blood Products (number of units) in 2003-2004

Adult red cells	2,148,698
Paediatric and babies red cells	51,911
Adult fresh frozen plasma	396,081
Paediatric fresh frozen plasma	8,670
Adult platelets	217,438
Children's platelets	10,990

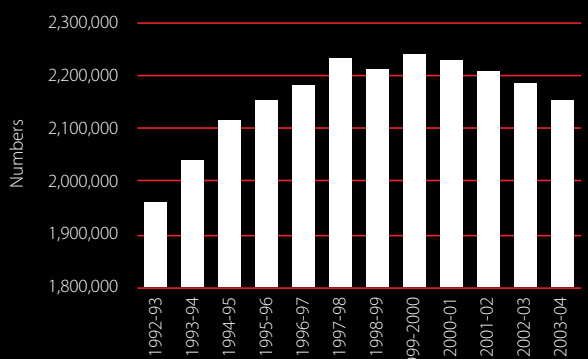
Source: National Blood Service

Table 2 Incidence of complications in red blood cell transfusions

Complication	Frequency (per units transfused)
Blood group incompatibility	1 in 30,000
Bacterial infection	1 in 500,000
Allergic reaction	1 in 3,293
Severe/anaphylactic reaction	1 in 57,000
Overall	1 in 25,000

Source: National Comparative Audit of Blood Transfusion. London: National Blood Service and Royal College of Physicians, November 2003.

Figure 1 Demand for red cells in England & North Wales, 1992-2004



IN THIS COUNTRY, UNLIKE SOME OTHERS, THE DONATION OF BLOOD REMAINS A 'GIFT' (AS TITMUSS PORTRAYED IT) WITH NO MONEY BEING OFFERED OR TAKEN. THIS IS NOT THE CASE IN SOME OTHER COUNTRIES WHERE BLOOD DONORS ARE PAID.

(e.g. syphilis). Others have been recognised more recently (e.g. HIV infection). Yet others remain possible but not fully proven (e.g. vCJD).

Measures are in place to prevent blood with the potential to be infectious from being collected and used.

Guidelines are in place to refuse or defer donors where the act of donation would do harm to the volunteer donor or to the recipient. For example people with bleeding disorders who do not have some of the essential blood factors and people with anaemia may be excluded. Also those with a medical history of diabetes mellitus or epilepsy or certain other diseases may be excluded. It is mandatory that all blood donors are screened with a blood test for syphilis, HIV, HTLV, Hepatitis B and C viruses. Selected donors, such as travellers to malaria zones, may have to have additional screening. Blood donations intended for people who are immunosuppressed (e.g. those receiving cancer treatment) are screened for cytomegalovirus which can be potentially fatal.

A range of measures have been introduced specifically to reduce the risk of variant Creutzfeldt-Jakob disease (vCJD). All white blood cells have been routinely removed from blood and blood components since October 1999, a process known as `leucodepletion' in order to reduce the possible risks of vCJD transmission. Experts considered that white blood cells were more likely to be the cells that would carry the infective agent. Also plasma has been sourced from the United States of America since 1999 because that country has a low incidence of Bovine Spongiform Encephalopathy (BSE). In December 1997, withdrawal and recall of any blood components, plasma derivatives or tissues obtained from any individual who later develops vCJD was implemented. Importation of fresh frozen plasma from the United States for patients born on or after 1st January 1996 was introduced in spring 2004.

In addition, from April 2004 people who have received a blood transfusion in the United Kingdom since 1980 are no longer able to donate blood. This is a further precautionary measure against the possible risk of vCJD being transmitted by blood and blood components. It comes in the light of the first possible transmission of vCJD by blood transfusion which was reported in December 2003[1]. This precautionary measure has reduced by 3.3% the number of donors.

Despite the concern about all these possible risks, the chances of transfusion transmitted infections remains very low indeed.

A second area of safety – other than transmission of infection – which is a cause for concern is the risk of a blood transfusion error. The size of this phenomenon has been identified through a special surveillance scheme called SHOT (the Serious Hazards Of Transfusion).

Transfusion of the incorrect blood or blood component to a patient is the largest category of incident reported to the survey: 343 incidents (72% of all reports). Moreover, there was a 21% increase in such reports over the previous comparable 12-month period. Part of this increase may be due to better reporting but a rise in the number of 'wrong blood' transfusions is a worrying adverse trend in safety.

Aside from the risks of transmitting infection and transfusion error, blood transfusion has other adverse effects, notably on the immune system (e.g. transfusion related acute lung injury and transfusion-associated graft versus host disease).

Table 3 Use of red cell transfusions by clinical specialties

	Admissions in which red cells were used (%)	Red cell units (%)
Medicine	67.5	58.0
Surgery	27.5	37.0
Obstetrics and gynaecology	5.0	5.0
TOTAL	100	100

Source: EASTR study. National Blood Service/Medical Research Council Clinical Studies Unit (Interim report, May 2004).

Table 4 Reasons for use of red cells in medical specialties

Use	Red cell units (%)
Treatment of cancer	51
Diseases of the digestive tract	19
Non-malignant blood disorders	13
Other	17

Source: EASTR study. National Blood Service/Medical Research Council Clinical Studies Unit (Interim report, May 2004).

RESULTS FROM THIS STUDY SHOW THAT MORE THAN HALF OF ALL RED CELLS ARE USED FOR TREATING PATIENTS WITH MEDICAL CONDITIONS (E.G. ANAEMIA, GASTROINTESTINAL BLEEDING) AND THE REST DURING OR AFTER SURGERY OR IN GYNAECOLOGY OR OBSTETRIC PRACTICE.

Table 5 Reasons for use of red cells in surgical specialties

Use	Red cell units (%)
Orthopaedic procedures (mainly joint replacements)	18
Cardiac surgery	18
Abdominal surgery	16
Other	48

Source: EASTR study. National Blood Service/Medical Research Council Clinical Studies Unit (Interim report, May 2004).

Blood use

The information system for tracking subsequent blood use is very poor. Such data as are available derive from ad hoc audits, regional surveys and research projects.

A study is under way, run jointly by the National Blood Service and the Medical Research Council called the *Epidemiology and survival of transfusion recipients* (EASTR), which will collate information on the age, sex, diagnosis, reason for transfusion and 10 year survival of 1200 blood transfusion recipients.

Results from this study show that more than half of all red cells are used for treating patients with medical conditions (e.g. anaemia, gastrointestinal bleeding) and the rest during or after surgery or in gynaecology or obstetric practice **(Tables 3, 4 and 5).**

The same study also showed that the average age of a recipient of a transfusion of red cells was 60 years (6% of transfusions were to children or young people aged 16 years or below). The average recipient of fresh frozen plasma was 61.5 years (3.1% of such transfusions were to a child or young person aged 17 years or below).

A study in the Northern Health Region of England tracked survival after transfusion **(Figures 2 and 3)**. Information on survival after transfusion and demographics was collected for all patients transfused during the study period.

Median survival after transfusion was 51 months overall. Of all transfusion recipients, 59% were alive at two years and 47% at five years.

Multivariate analysis demonstrated that age, sex, number of red cells transfused and transfusion of non-red cell components are all independently associated with survival. Survival was poorer for non-surgical patients.

The decision as to whether to transfuse before, during or after such surgery is largely based on the patient's haemoglobin level. Although the normal range of haemoglobin is from 13.5 to 17.5 g/dL for males and from 11.5 to 15.5 g/dL for females there is certainly no evidence that transfusion of someone with a haemoglobin level of 10 g/dL or above will improve their post-operative recovery. There is little evidence that transfusion of someone with a haemoglobin level of 8 g/dL is necessary. A study in hospitals in the Oxford region examined the use of blood for primary hip joint replacement. It showed considerable variation in transfusion practice. Overall 41%

Figure 2 Survival after transfusion: actual versus expected

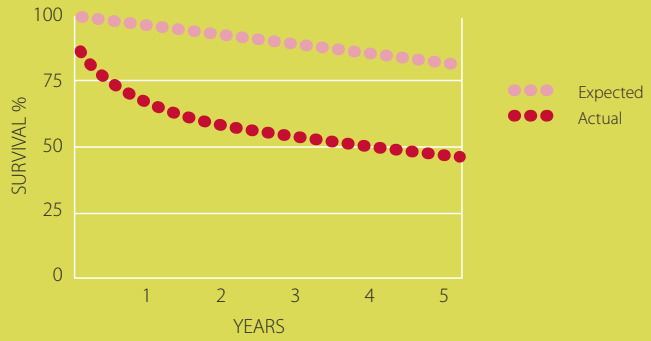
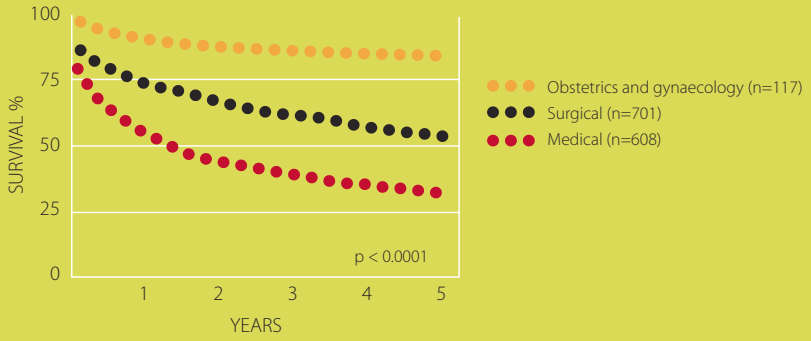


Figure 3 Survival after transfusion: by clinical specialty in which treated



Source: Wallis JP et al. Long-term survival after blood transfusion: a population based study in the North of England. Transfusion 2004; 44: 1025-32.

of patients were transfused but the percentage ranged from 23% to 58% between the Oxford hospitals **(Table 6)**. The mean level of haemoglobin on discharge for untransfused patients was 10.8 g/dL and was virtually the same for those who were transfused. The majority of patients who were transfused received one to two units of blood and the majority were discharged with a haemoglobin level of above 10 g/dL. In other words, had they not been transfused they would still have had a haemoglobin level above 8 g/dL. Moreover, the average cross-match to transfusion ratio was 3.36 (range 1.7 to 6.0) well above the acceptable level of 2.0. Cross-matching means preparing blood in case it might be used. Although most units of cross-matched blood which are not used can be recycled for other patients, some units nearing their expiry date are wasted.

As a result of the audit in Oxford, guidelines were issued to the surgical teams. A re-audit was carried out two years later. There was a change in practice. Less blood was being cross-matched but there had been no improvement in the appropriateness of blood use.

Action taken so far

A United Kingdom Chief Medical Officers seminar was held in 1998. A second follow up seminar was held in 2001. Each was followed by the publication of a Health Service Circular 'Better Blood Transfusion'. HSC 1998/224 'Better Blood Transfusion' issued in December 1998 was based on recommendations from the first seminar following wide consultation. Actions for NHS Trusts and clinicians included:

- Establishment of a Hospital Transfusion Committee to oversee all aspects of transfusion
- Participation in the SHOT blood safety scheme
- Development of agreed and disseminated local protocols for transfusion practice, based on national guidelines and supported by in-house training
- Consideration of the use of autologous transfusion, particularly peri-operative cell salvage.

These actions were considered to be a first step towards safer and more effective blood transfusion in the NHS.

Following the second seminar held in October 2001 and again after wide consultation HSC 2002/009 'Better Blood Transfusion – Appropriate Use of Blood' issued in July 2002 required the NHS to:

- ensure that Better Blood Transfusion is an integral part of NHS care
- as part of clinical governance responsibilities, make blood transfusion safer
- avoid unnecessary use of blood in clinical practice
- provide better information to patients and the public about blood transfusion.

Table 6 Audit of blood usage in hip joint surgery

	Mean of results for seven hospitals	Range
% patients transfused	41	23-58
Crossmatch:transfusion (C:T) ratio	3.36	1.7-6
Discharge Hb (g/dl) – untransfused patients	10.8	8.6-13.5
Discharge Hb (g/dl) - patients transfused with 1-2 units of blood	10.9	8.9-13.1
% patients transfused with 1-2 units of blood with a discharge Hb >10g/dl	72	50-75

Source: Oxford Blood Centre

The circular included an action plan and an ongoing programme for Better Blood Transfusion to be taken forward by each NHS Trust.

Progress in the implementation of HSC 2002/009 was recently assessed by the National Blood Transfusion Committee. The responses indicated that progress is mixed. Good progress is being made with some of the recommendations but there is a lack of progress with others.

In response to the guideline 'ensuring that Better Blood Transfusion is an integral part of NHS care', 98% of NHS hospitals and 78% of private hospitals had a Hospital Transfusion Committee. This is an improvement on information obtained from a questionnaire issued in August 2001 when only 85% of hospitals had a Hospital Transfusion Committee. In all, 97% of NHS and 89% of private hospitals had a policy covering the transfusion process from sampling to administration that was in date and regularly reviewed. Improvements have also been made in adverse event reporting. In response to the guideline 'ensure that reporting of serious adverse events related to blood transfusion and near misses is being undertaken' 100% of NHS hospitals and 94% of private hospitals claimed they were participating in the Serious Hazards Of Transfusion (SHOT) reporting scheme. In August 2001, only 72% of hospitals participated and the latest SHOT report for 2003 shows that 85% hospitals actually participated but only 47% demonstrated active participation by sending in reports of adverse and near miss events. This means that 53% hospitals sent in nil returns, suggesting they did not have any adverse events or near misses to report. This needs further investigation by the SHOT team.

British Committee for Standards in Haematology (BCSH) guidelines on the administration of blood state that it is essential that any patient receiving a blood transfusion has an identification wristband in place. A recent national comparative audit of blood transfusion **(Table 7)** found that 90% of patients were wearing wristbands. Baseline pre-transfusion observations are also important. Without them, it is impossible to detect any subsequent change in observations that can be an early warning of a potentially severe transfusion reaction. In the comparative audit, observations were found not to be being carried out completely. Temperature and pulse observations were

Table 7 Blood Safety: audit findings

- **10% of all patients not wearing wristbands**
- **1 in 7 unconscious patients not wearing wristbands**
- **In some hospitals, 30% of patients had no wristband**
- **The absence of a wristband substantially increases the risk of injury or death from a misidentification error**
- **47% of patients receiving a transfusion had neither temperature nor pulse observations within 30 minutes of the start of the transfusion, 28% had neither within an hour and 11% had no observations during the whole of the transfusion**
- **Most transfusion reactions start within 15 minutes of the commencement of a transfusion, observations starting later than this risk missing such a reaction or losing the opportunity to reduce its impact.**

Source: National Comparative Audit of Blood Transfusion. London: National Blood Service and Royal College of Physicians, November 2003.

Table 8 Training in the blood transfusion process in NHS and private hospitals

	NHS (%)	Private (%)		NHS (%)	Private (%)
MEDICAL STAFF			NURSING STAFF		
Induction	66	33	Induction	70	44
Annual update	25	17	Annual update	46	44
PHLEBOTOMISTS			PORTERS		
Induction	70	50	Induction	50	17
Annual update	33	39	Annual update	30	6

carried out in only 53% of patients within 30 minutes of the transfusion commencing.

One area where progress was poor was staff training (Table 8). At least four staff groups are involved with the blood transfusion process in hospitals: medical staff prescribe the blood transfusion, phlebotomists take the blood sample, portering staff collect the blood from the blood fridge or blood transfusion laboratory and nursing staff administer the transfusion. An error can occur at any point usually in relation to the identification of either the correct patient or the correct red cell unit. Therefore, training and education of these staff is integral to the safety of the transfusion process.

There is also scope for improvement in the use of protocols for transfusion. Protocols are important in blood conservation strategies because they identify appropriate evidence-based clinical situations for blood transfusion

requirements. Whilst the majority of hospitals have a surgical blood order schedule in place, only a minority have protocols for red cell transfusions.

Although 51% of hospitals now have a transfusion practitioner to help support the actions associated with Better Blood Transfusion, many hospitals identified the lack of a transfusion practitioner as a key factor which stopped full implementation of the plan. Other key factors in preventing full implementation included a lack of information technology staff and resources, the lack of a transfusion consultant, and inadequate management support.

An action in HSC 2002/009 included 'ensure that hospitals participate in the Blood Stocks Management Scheme (BSMS).' This is a partnership scheme between hospitals and the National Blood Service implemented to increase understanding of the blood supply chain. It is a unique initiative worldwide. Membership has grown from 147 hospitals in 2001 to 258 currently. Integral to the functioning of the scheme is a database that stores data on issues, inventory, wastage and shelf life. Data are entered either through downloads from computer systems or manual data entry via a secure page on the website (hospitals).

Participating hospitals and National Blood Service staff can access real-time graphical displays of inventory, wastage and shelf life of stock. Graphs show data for the individual hospital or blood centre and an average of data for a comparable group of participants. Performance can then be compared with peers.

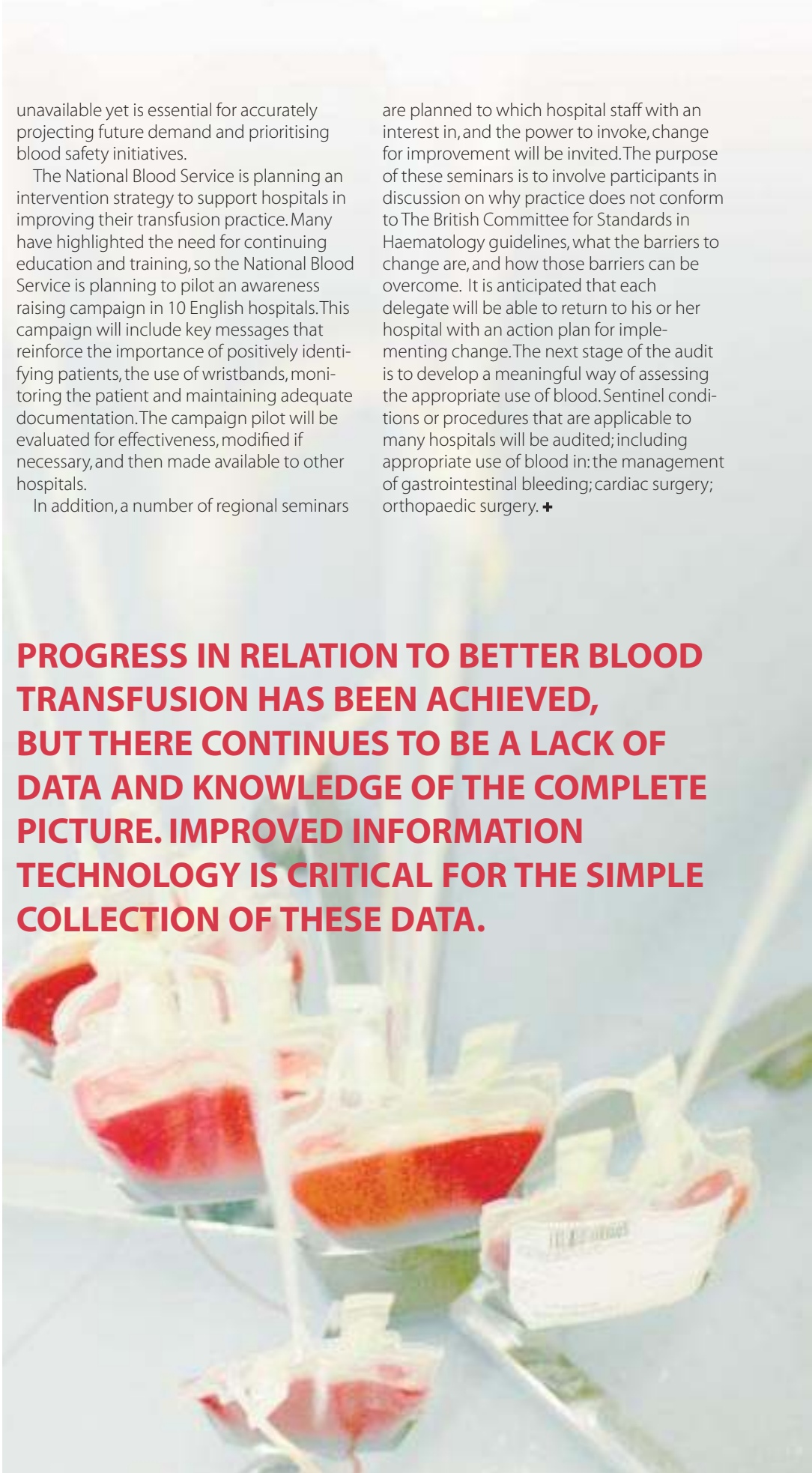
From the outset it was decided that the Blood Stocks Management Scheme would act not only as a monitoring system but also as a driver for improvement in blood inventory management. Data can be analysed down to individual hospital and blood centre level and is used in the investigation of trends and patterns for use in strategic decision making. For the first time, it also enables detailed analysis of the whole blood supply chain.

Progress in relation to Better Blood Transfusion has been achieved, but there continues to be a lack of data and knowledge of the complete picture. Improved information technology is critical for the simple collection of these data. Information on the diagnosis and long-term survival of patients receiving a blood transfusion is largely unavailable yet is essential for accurately projecting future demand and prioritising blood safety initiatives.

The National Blood Service is planning an intervention strategy to support hospitals in improving their transfusion practice. Many have highlighted the need for continuing education and training, so the National Blood Service is planning to pilot an awareness raising campaign in 10 English hospitals. This campaign will include key messages that reinforce the importance of positively identifying patients, the use of wristbands, monitoring the patient and maintaining adequate documentation. The campaign pilot will be evaluated for effectiveness, modified if necessary, and then made available to other hospitals.

In addition, a number of regional seminars are planned to which hospital staff with an interest in, and the power to invoke, change for improvement will be invited. The purpose of these seminars is to involve participants in discussion on why practice does not conform to The British Committee for Standards in Haematology guidelines, what the barriers to change are, and how those barriers can be overcome. It is anticipated that each delegate will be able to return to his or her hospital with an action plan for implementing change. The next stage of the audit is to develop a meaningful way of assessing the appropriate use of blood. Sentinel conditions or procedures that are applicable to many hospitals will be audited; including appropriate use of blood in: the management of gastrointestinal bleeding; cardiac surgery; orthopaedic surgery. ✚

PROGRESS IN RELATION TO BETTER BLOOD TRANSFUSION HAS BEEN ACHIEVED, BUT THERE CONTINUES TO BE A LACK OF DATA AND KNOWLEDGE OF THE COMPLETE PICTURE. IMPROVED INFORMATION TECHNOLOGY IS CRITICAL FOR THE SIMPLE COLLECTION OF THESE DATA.



Action recommended

- Clinical governance reviews in every hospital in the country should ensure that best practice guidance, protocols and safe procedures are being complied with for blood and blood product use.
- Orders for blood or blood products for individual patients should usually be made only by a consultant (not a junior doctor).
- Postgraduate education and training programmes for doctors, nurses and other relevant health professionals should place more emphasis on safe, appropriate use of blood and blood products.
- Participation in the Serious Hazards of Transfusion (SHOT) scheme should be demonstrably active with reports of adverse events and near misses made by all hospitals.
- Hospital contingency planning should include plans for potential blood shortages.
- Hospitals must improve their information technology systems to facilitate better blood stock management, ensure traceability from donor to recipient (and vice versa) as well as to routinely monitor blood usage by clinical specialty.
- Financial incentives to encourage hospitals to use blood more appropriately should be explored.

KEY WEB RESOURCES AND REFERENCES

[1] *Further precautions to protect blood supply.* Department of Health Press release (2004/0104), March 2004.

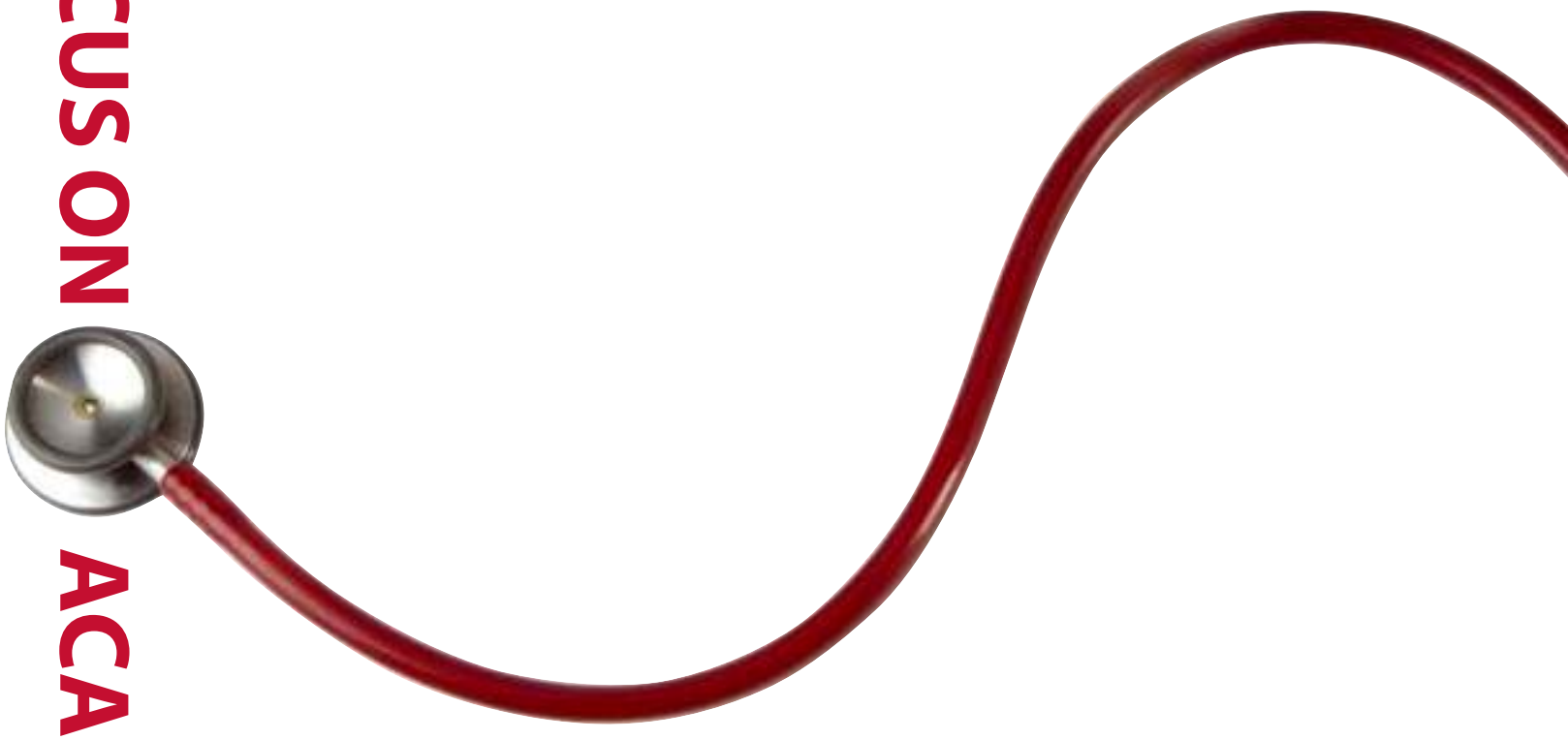
Murphy MF, Edbury C, Wickenden C. Survey of the implementation of the recommendations in the Health Service Circular 1998/224 'Better Blood Transfusion'. *Transfusion Medicine* 2003; 13: 121-125.

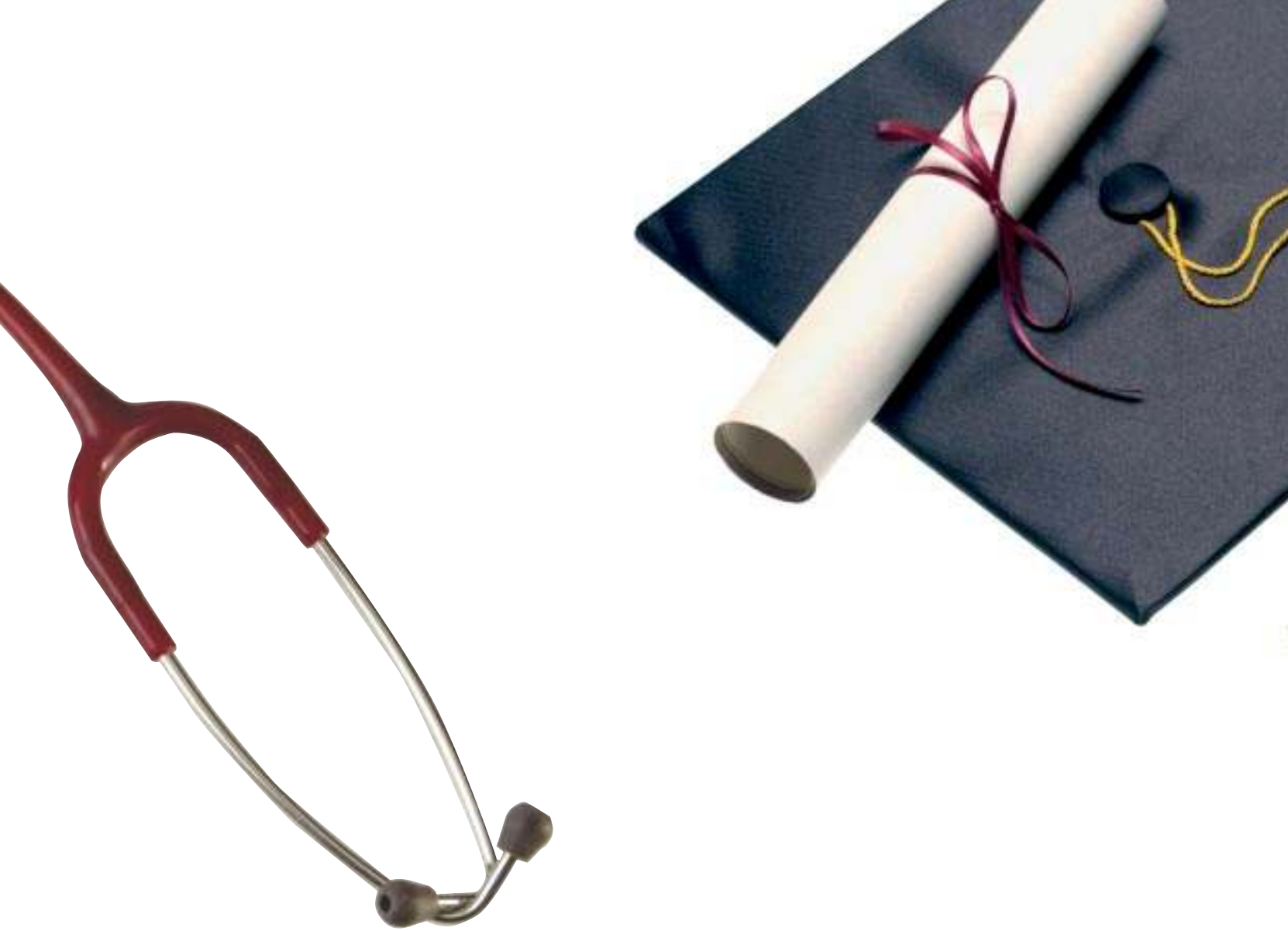
Chapman JF and Hick R. Monitoring the Nation's Blood Supply. *Transfusion* 2003; 43: 1639.

Murphy MF, Wilkinson J, Lowe D, Pearson M. National audit of the transfusion process. *Transfusion Medicine* 2001; 11: 363-370.

Better Blood Transfusion
http://www.doh.gov.uk/blood.bbt.htm
National Blood Transfusion Committee
http://www.doh.gov.uk/blood/nbtcommittee.htm
Serious Hazards of Transfusion
http://www.shotuk.org
Blood Stocks Management Scheme
http://www.bloodstocks.co.uk
National Comparative Audit
http://www.blood.co.uk/hospitals/services/ClinAud/NatCompAud.htm

FOCUS ON ACADEMIC MEDICINE





PRESERVING A PRECIOUS NATIONAL RESOURCE

The record of academic medicine in this country is one of excellence, in both research and teaching. Scientific opportunities for better understanding of health and disease and its management have never been greater. Opportunities have opened up from rapid advances in cell and molecular biology. Science has enabled us to take increasingly detailed images of the structure and function of the human body. The Government has confirmed its belief in the central importance of health to Society by investment that is creating more health professionals, more medical schools, more science and more innovation. →

Key points

- Medical research quality in England ranks second worldwide to the United States of America, a remarkable record given the relative size of our country and the resources available.
- Retaining the country's record internationally for medical research excellence and meeting the training requirements of the increased numbers of medical students means having a strong academic medical sector. The number of clinical academic posts has declined by 14% in only three years (2000-2003) whilst the number of medical students has increased by 28%.
- The worst declines have been in clinical lecturers (down by 36%) and clinical researchers (down by 17%) yet these younger researchers are the main source of the next generation of senior researchers.
- Serious declines have occurred in some academic specialties: psychiatry (down 28%), medicine (down 9%), surgery (down 13%), yet some of these areas are NHS priorities as reflected by National Service Frameworks.
- In the past, clinical academics were required to fulfil multiple roles (researcher, teacher, administrator, professional leader) but the growing demands in all these areas means that today's 'jack of all trades' will be master of none.
- There is no proper career structure for young doctors wanting to pursue a career in clinical academic medicine, and significant barriers and disincentives stand in the way of even the most enthusiastic.
- Almost half of all the 'best' medical research staff are in only five universities.
- A welcome new major government drive to give priority and funding to clinical research and expansion of medical student numbers will not be sustainable unless the decline in the infrastructure of academic medicine is reversed.

Yet for a decade warning voices have been raised about the state of academic medicine. The early voices were few and they were barely heard. Today there is an unprecedented level of concern. The capacity of academic medicine is in decline and is seriously compromising the capability to deliver high quality research and undergraduate teaching in the 21st century.

The United Kingdom punches above its weight in the outputs from research in biomedical sciences compared with other countries. It is second only to the United States of America in most areas of medical research, a superb record given the relative sizes of the countries and the resources allocated to research. Our medical research does even better in international terms than other prestigious academic disciplines (such as engineering and computer science) (Tables 1 and 2).

The recent increase in the number of medical schools in England[1] has been important to improve the infrastructure of the NHS. However, their strategy of retaining the teaching of all undergraduates in medicine in research-active institutions means that it will be a demanding and slow task for the new schools to build excellence in relevant research. This is especially so given the shortage of first class young clinician scientists.

The heritage of the past sustains a general perception of a healthy academic medical sector, but the reality is different. Current capability cannot be driven any harder.

THE UNITED KINGDOM PUNCHES ABOVE ITS WEIGHT IN THE OUTPUTS FROM RESEARCH IN BIOMEDICAL SCIENCES COMPARED WITH OTHER COUNTRIES

The academic clinician

Until quite recently, a professor in a clinical academic discipline combined a number of roles. He or she: saw and treated patients in the NHS; taught medical students and post-graduates, carried out research and led a research team; served as administrative head of the academic department; was the leader of the clinical specialty in the health region and may also have had wider responsibilities in the university or in a medical Royal College.

It is now accepted that this model of the multiple-role clinical academic is unsustainable. The growing volume and complexity of clinical care, the expansion of managerial and planning activities requiring professional input to the NHS and the universities and, particularly, formal systems to assess research and teaching quality, have brought home the need for clinical academics to focus on one or more areas with the emphasis increasingly on producing high quality research.

As a result, academic careers in medicine have become much less attractive. This is reflected in the growing number of vacancies in clinical academic posts. There are now 3,500 people employed in clinical academic posts in the United Kingdom. Clinical lecturers and clinical researchers hold the more junior research posts but they are the cohort who will form the next generation of senior clinical academic researchers. They are the bedrock of high quality clinical research and teaching. As a group, their numbers have declined by 36% (clinical lecturers) and 17% (clinical researchers) since the year 2000 (Table 3).

Although overall professorial numbers have increased in recent years, the number of vacancies has increased. There are now 100 vacant professorial posts and 123 vacant Reader and Senior Lecturer posts[2]. This is at a time when medical student numbers have increased (Table 3).

In addition, increasing numbers of clinical professors are being funded by the NHS rather than directly by university funds (269 in the year 2000 rising to 336 in 2003, up 25%).

The increasing pressures on clinical

Table 1 International research quality rankings for selected academic disciplines

ACADEMIC DISCIPLINE	USA	England	Canada	France	Germany	Australia	Japan
Clinical Laboratory Sciences	1	2	3	6	4	5	7
Community Based Clinical Subjects	1	2	3	6	7	4	5
Hospital-Based Clinical Subjects	1	3	2	5	6	4	7
Pre-Clinical Studies	1	2	5	4	3	6	7
Pharmacology	2	1	3	4	6	5	7
Biological Sciences	1	2	5	4	3	7	6
Computer Science	1	5	2	3	6	4	7
General Engineering	1	4	6	2	3	7	5
Law	1	5	2	6	7	3	4

Source: Adams J et al. Benchmarking of the International Standing of Research in England: Report of a consultancy study on bibliometric analysis. Centre for Policy Studies in Education, University of Leeds, Philadelphia, 1997.

Table 2 Nobel Prizes in Physiology or Medicine 1901-2003

Nobel laureates from the United Kingdom	**27**
Nobel laureates from other countries	**184**
Percentage of nobel laureates who were British	**15**

Note: Both countries are counted where a Laureate has joint nationality

Table 3 Changes in number of clinical academic posts and medical students, United Kingdom Medical and Dental Schools, 2000-2003

YEAR	PROFESSOR	READER SENIOR LECTURER	CLINICAL LECTURER	CLINICAL RESEARCHER	MEDICAL STUDENT INTAKE
2000	1042	1663	844	1443	5629
2003	1089	1419	540	1193	7204
% change 2000-2003	+ 5%	-15%	-36%	-17%	+28%

Source: Council of Heads of Medical Schools and Department of Health.

academic staff, the lack of clarity about a new model of clinical academic practice to replace the generation that combined multiple roles and the absence of a clear career structure for young doctors are the main factors responsible for this decline.

A young clinical academic must first complete a medical undergraduate course and qualify as a doctor. Many are driven to do this by a fascination with the sciences underpinning medicine. Many also feel a vocation to be involved in the care of patients. No doctor wishes to deliver sub-standard care so the academic doctor has to be as good a clinician as his or her NHS counterpart.

Modern medical training is demanding, highly regulated and changing. Once specialist training is completed, the major contractor, the NHS, will expect a dedication to improving the quality of care. Someone who wants to combine clinical work with science and research – in other words practise academic medicine – will want to excel in research, but also to be a good doctor. He or she will also be expected to teach. Sustaining externally funded research also carries a considerable administrative load.

In his report to the Academy of Medical Sciences[3] Professor John Savill identified six disincentives and difficulties to pursuing a clinical academic career:

- **The absence of a clear career structure for academic medicine compared to a career in the NHS.**
- **Insufficient flexibility within junior NHS and academic posts to combine post-doctoral research training and clinical training.**
- **Prolonged uncertainty arising from the lack of certainty about whether a senior post will be obtained after lengthy research and clinical training.**
- **Limited research training opportunities.**
- **Lack of suitable flexible training opportunities.**
- **Pressure to seek research training before entering specialist training because of bottlenecks in available training posts.**

Today's young clinician scientist is at the centre of a triangle regulated and funded by three groups of bodies with seemingly different aims and objectives.

Employers must take a realistic view of what can be expected of a clinical academic staff member. There are clinical academics who are outstanding clinicians, brilliant teachers, researchers of the highest international standing and first class managers. However, given the pressures of modern professional life, many will only be able to achieve excellence in only some of these areas. The diversity of outputs required from a modern clinical academic department are delivered by teams with a range of skills and responsibilities.

The research assessment exercise

The Research Assessment Exercise (RAE) is a national exercise which provides ratings of the quality of research conducted in universities, to inform the selective allocation of public funds for research by the four UK higher education funding bodies. It is generally regarded as having contributed to raising the standard of research in this country. However, excellence is not evenly distributed throughout the medical research centres. In the latest (2001) Research Assessment Exercise, the highest research rating (5*) in the hospital-based clinical subjects was attained by only five universities. Almost half of all research staff active (and assessed) in this area of research were in these five institutions.

Nor is excellence distributed evenly throughout all medical specialities. Universities with medical schools have always been faced with the conflict between concentrating on achieving research excellence and maintaining the breadth of capability to teach undergraduates. Some disciplines and types of research have not fared well in the Research Assessment Exercise. There is little direct evidence of systematic bias in the assessment process but results of successive Research Assessment Exercises reduced investment by Universities in public health, health services research and the so-called 'craft' specialities (e.g. surgery, anaesthetics, obstetrics and gynaecology, radiology, and cardiology). These are some of the priority clinical areas for the modern NHS (Table 4). Whilst individual universities are free to determine their own areas of focus for medical research, it is important nationally to ensure that there is no relevant specialty from which all withdraw.

The other factor that affects the level of research income from the funding councils is the number of staff who are research active at national or international level. This is easier to achieve if research activity is not displaced by the demands of clinical specialist training. This has led to universities converting existing clinical lectureship to non-clinical lectureships. Indeed, the former

posts are rapidly disappearing.

Discussions with the Higher Education Funding Council for England about the criteria to be used in the next Research Assessment Exercise in 2008 have been very encouraging. There is every indication that in the future utility and national relevance will be valued as well as novelty in research outputs.

Teaching and training

Academic staff in medical schools are responsible for curriculum design, teaching and the organisation of examinations. Much of undergraduate teaching (in fact the greatest number of teacher/student contact hours) is also undertaken by NHS staff. To an even greater extent, this is so for postgraduate teaching. Thus, the major academic contribution of some medical school staff and many NHS staff is to teaching rather than to research. This is vital work and these staff not only impart knowledge, experience and expertise but they provide the role models which are powerful determinants of the characteristics of the doctors of the future.

A Teaching Quality Assessment runs in parallel to the Research Assessment Exercise but the assessment is at the level of a medical school as a whole. Medicine has performed well on curriculum design, variety of educational settings, experience of the subsequent workplace (the NHS) and the support given to students by their teachers. Yet, an assessment of excellence in teaching rarely translates into rewards for teachers in promotion and performance related pay. Continuing commitment to this work is vital to the future of medicine and the NHS. This must be recognised in relation to new contracts for clinical medical staff.

Towards solutions

During 2003, two influential reports proposed a way forward for research. The Biosciences Innovation and Growth Team (BIGT) and the Academy of Medical Sciences[4,5], both analysed the issues facing clinical research and made recommendations. They emphasised the importance to our country and the

Table 4 Changes in number of clinical academics (whole time equivalents) in selected specialties in the United Kingdom, 2000-2003

YEAR	PUBLIC HEALTH	PSYCHIATRY	PHYSICIANS/ MEDICINE	SURGERY	PAEDIATRICS & CHILD HEALTH	ALL MEDICAL SPECIALITIES
2000	214	393	973	332	246	3549
2003	146	283	884	288	270	3048
% change 2000-2003	-32%	-28%	-9%	-13%	+10%	-14%

Source: Council of Heads of Medical Schools and Department of Health.

NHS of working effectively with industry in the research endeavour.

These important reports also stressed the potential of the NHS as an environment for clinical research both for academic-led studies and to deliver the important pivotal and licensing studies for the pharmaceutical and biotechnology sectors. This means that further and considerable investment in research infrastructure will be necessary. Such investment must take three main forms: research network development (building on the success of the cancer research networks), additional programme resources to NHS R&D and to research councils, as well as an increase in the numbers of well trained clinical researchers (no infrastructure can be utilised without them). In addition, there will be a need to streamline the regulatory processes and bureaucracy that can impede or delay research.

The Government's response to these reports was to set up the Research for Patient Benefit Working Party[6] to develop practical proposals for taking the recommendations forward. The Working Party produced its final report in April 2004. In the Budget, the Chancellor of the Exchequer and the Secretary of State for Health announced two of the key developments, the creation of the United Kingdom Clinical Research Collaboration (UKCRC) and the granting of annual increases in the NHS research and development budget so that by 2008 this will have grown by £100 million per year (with a further £100 million per year to be spent through the Research Councils on Clinical Research).

It was also decided that the research network approach should initially be used to take forward research into mental health, medicines for children, diabetes, stroke and Alzheimer's disease. The Wellcome Trust and the Department of Health are reviewing the existing clinical research facilities this year and further expansion of experimental research facilities will be based on the outcome of this review. The United Kingdom Clinical Research Collaboration will start work on the regulatory framework, which must now take account of the European Union Clinical Trials Directive which came into force in the United Kingdom on 1 May 2004 as well as the forthcoming Human Tissue Act. However, ways of standardising the local interpretation of national laws and guidelines and communicating and spreading best practice must be found.

Perhaps the most critical piece of work to reverse the decline in clinical academic medicine concerns the training of clinical scientists. This work is being led by Dr. Mark Walport, director of the Wellcome Trust, on behalf of both the United Kingdom Clinical Research Collaboration and the Modernising Medical Careers programme of the Department of Health. Never has there been a better opportunity to achieve the desired developments for this group of doctors, who will contribute greatly to academic medicine, both teaching and research, which in their turn contribute greatly to innovation and developments in the ways in which we prevent, diagnose and treat disease and deliver health services.

Much remains good about clinical academic medicine in this country but high quality teaching is not as extensive as it should be and clinical research is threatened throughout our universities. There is an air of determination now in the communities involved to do something about it. The additional resources and structures are being put in place, and in spite of the complex arrangements for clinical research, teaching and training there has never been a better opportunity to resolve the problems. Everyone involved must now remain totally committed to finding solutions.

THE WELLCOME TRUST AND THE DEPARTMENT OF HEALTH ARE REVIEWING THE EXISTING CLINICAL RESEARCH FACILITIES THIS YEAR AND FURTHER EXPANSION OF EXPERIMENTAL RESEARCH FACILITIES WILL BE BASED ON THE OUTCOME OF THIS REVIEW.

Action recommended

- The NHS, the university sector and those that fund research should do everything in their power to ensure that the UK Clinical Research Collaboration is a success.
- There should be extensive and creative partnership working by all concerned to ensure that clinical academic medicine is attractive to medical students and junior doctors.
- The judgement criteria used and membership of the panels and sub-panels for the next Research Assessment Exercise should be such as to ensure that excellence is practice-based, and applied research is properly recognised.
- The role of the clinical lectureship must be redefined in any 're-engineering' of academic medicine and such posts properly supported.
- Universities, NHS Trusts and Foundation Trusts should develop a mutual respect for the teaching, training and research undertaken by each other's staff and should work together to reward this.
- There should be a clear recognition in doctors' job plans that it is rare for excellence to be achievable in clinical care, research, teaching and management by single individuals.
- A culture of research and innovation should be developed throughout the NHS, primarily to continuously improve patient care, but also to contribute to UK-based industries.
- A group must be established, with members from diverse back-grounds to work out ways of facilitating the granting of approvals and authorisations for clinical research.

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DOCTOR'S WAITING ROOM

NO TIME TO WAIT

THE IMPORTANCE OF EARLY DIAGNOSIS OF HIV

In the early 1980s the world was confronted with a new and potentially deadly disease. It began to emerge during 1981 in the United States of America. Increased incidence of rare infections and unusual tumours was reported amongst previously healthy gay or bisexual men. It became clear that a previously unrecognised virus, Human Immunodeficiency Virus (HIV) was responsible for causing this serious and, at the time, rapidly fatal disease, Acquired Immune Deficiency Syndrome (AIDS).

The initial response of the United Kingdom Government was robust. Led by one of my predecessors, Sir Donald Acheson, a major public education campaign was launched using the slogan `Don't die of ignorance'. Heavy use was made of the mass media: television, radio, cinema and posters. A leaflet was delivered to every household in the country giving information about HIV infection and AIDS. A national AIDS helpline was established. Counselling, testing and treatment services were promptly developed within the NHS. The strong governmental response was mirrored and supported by an equally strong response from the communities most affected by HIV.

The people in the photo are portrayed by actors.

Key points

- The incidence of HIV infection in England has been lower than in many other developed countries, partly because of the high profile public education campaigns launched in the mid-1980s.
- Recent trends have been worrying with a 55% increase in new diagnoses between 2000 and 2002.
- One key element in controlling the spread of HIV infection is prevention through safer sex and other behavioural action but another is diagnosing the infection early.
- An estimated 33% of people with HIV infection in England remain undiagnosed.
- Half of HIV positive men who had sex with other men have been infected for more than six years before diagnosis; the figure is even worse for some other groups; 70% for black African heterosexuals and 54% for non-African heterosexuals.
- Testing for HIV when someone attends a genitourinary medicine clinic with a sexually transmitted disease is an important opportunity to detect undiagnosed HIV infection, yet an estimated 59% of men who have sex with men leave the clinic with their disease undiagnosed; the figure is 36% for HIV infected heterosexuals born in sub-Saharan Africa.
- HIV diagnosis rates in pregnant women have improved since the late 1990s but 25% remain undiagnosed in London, meaning that babies are still becoming HIV infected.
- Waiting times for genitourinary medicine clinics are longer than they should be: an estimated 28% of emergencies were not seen within 48 hours and 29% of symptomatic patients waited for more than two weeks for an appointment.
- A relatively large proportion of people are being diagnosed late in the course of their HIV disease leading to avoidable illness and death, and creating opportunities for the disease to spread more widely within the population.

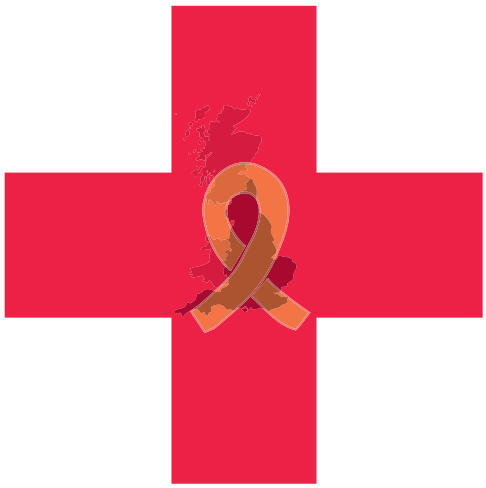


Table 1 Number of people living with HIV/AIDS in England

Year	1997	1998	1999	2000	2001	2002	% change 1997-2002
Number	14514	16258	18375	20797	24264	29044	100%

Source: Health Protection Agency, Survey of Prevalent HIV Infections Diagnosed (SOPHID). Refers to diagnosed individuals only – living in England and accessing services for HIV related care within the survey year.

Table 2 Number of people diagnosed HIV positive in England

Year	1996	1997	1998	1999	2000	2001	2002	2003+	% change 1996-2002
Number	2479	2521	2630	2884	3629	4786	5615	5486	126.5 %

+ provisional: final figure will be higher

Source: Health Protection Agency

Meantime, the disease began to strike on a global pandemic scale, causing devastating effects particularly in sub-Saharan Africa. In 2003, HIV/AIDS killed more than three million people, whilst an estimated five million acquired the Human Immunodeficiency Virus (HIV), bringing to 40 million the number of people living with the virus around the world. Experts point to an even greater catastrophe looming as the disease is set to take hold in the massive populations of India and China. Last year official estimates of the number of HIV cases in China showed an increase of 30% to 840,000 people, 80,000 of whom have AIDS. It is further estimated that only one in ten of those infected have been identified [1].

The availability of HIV treatment in developing countries is much less than in the developed world, however action is being taken to address this. The World Health Organisation has recently launched an initiative to get three million people in developing countries on HIV treatment by 2005 (the '3 by 5' initiative). This is fully supported by the UK Government which has substantially increased its funding for international HIV/AIDS programmes since 1997/98. There is a Global Fund for AIDS, TB and malaria whose purpose is to attract, manage and disburse resources to fight these diseases in all regions of the world. Funding for prevention and treatment is based on locally determined needs. The United Kingdom has been a consistent supporter of the Global Fund since it was set up in 2002. It has pledged around £154m for the first seven years of its operation. Three-quarters of countries awarded HIV/AIDS funds will use at least a portion of their grants to provide antiretroviral treatment.

In England, HIV must continue to be regarded as an important public health problem **(Table 1)**. The virus continues to be transmitted. The human costs of treatment are high for those who are infected. The majority of people who have been infected with HIV in England are gay men. However, the risk is ever present of the disease breaking through and infecting significant numbers of people in the heterosexual population in our country.

There has been an increase of 126% in the number of people diagnosed as HIV positive since the mid-1990s whilst more effective treatment has meant that the number of people living with HIV has also increased sharply over recent years. It is now the fastest growing serious health condition in England **(Table 2)**.

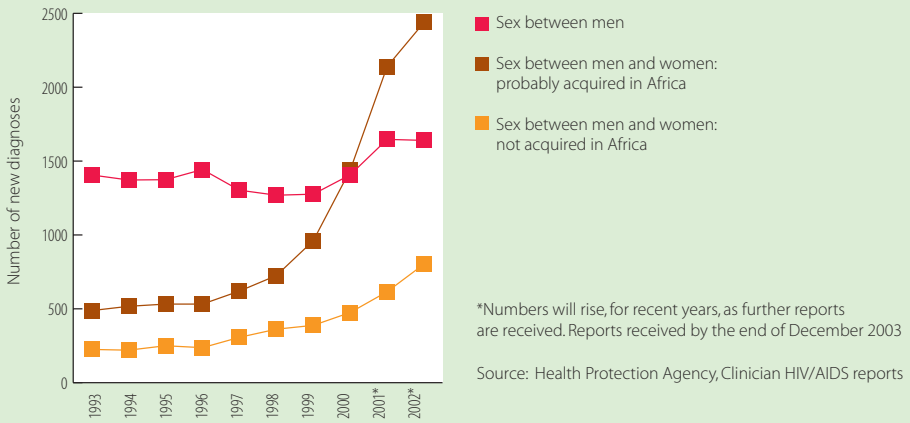
At the end of 2002, an estimated 43,500 people living in England were infected with HIV. A third of them were unaware of their infection. In recent years, about 400 people a year have died as a consequence of HIV, with some of these deaths being avoidable had they been diagnosed earlier.

Table 3 Geographical dispersal of people with HIV/AIDS in England

	1997	1998	1999	2000	2001	2002
In London (persons)	9,301	10,496	11,805	13,301	15,039	17,202
Elsewhere in England (persons)	5,213	5,762	6,570	7,496	9,225	11,842
Percentage outside London (%)	35.9	35.4	35.8	36.0	38.0	40.8
Total in England	14,514	16,258	18,375	20,797	24,264	29,044

Source: Health Protection Agency, Survey of Prevalent HIV Infections Diagnosed (SOPHID). Refers to the region of residence for diagnosed individuals with HIV infection who attended services for HIV related care and were reported to the survey.

Fig 1 Exposure category of HIV infections diagnosed in England, 1993-2002



*Numbers will rise, for recent years, as further reports are received. Reports received by the end of December 2003

Source: Health Protection Agency, Clinician HIV/AIDS reports

Table 4 NHS resources allocated for treatment, care and prevention of HIV infection

Financial Year	£ (million)
92/93	181.5
93/94	214.4
94/95	214.0
95/96	244.7
96/97	237.7
97/98	251.9
98/99	281.4
99/00	286.4
00/01	289.3
01/02	331.0
Change 1992/93 to 2001/02	+ 82%

The geographical pattern is also changing (Table 3). In the early 1990s, most people who were diagnosed as HIV positive were living, or receiving services, in London. In 2002, two-fifths of all HIV diagnoses in England occurred outside London.

The costs of providing services for people with HIV infection and AIDS has also grown as numbers of infected people have increased and new treatments have become available. Drug treatment costs are currently growing by about £30 million a year (Table 4).

Since 1999, new diagnoses of HIV infection in both men who have sex with men and in heterosexuals have been increasing (Figure 1). A large majority of the heterosexual infections occurred abroad in high prevalence countries (especially in people from Africa) and were sexually transmitted. The number of HIV diagnoses amongst heterosexuals infected abroad increased by 70% between 2000 and 2002 (Figure 1).

Many people with HIV do not realise they are infected and can unwittingly pass on HIV to others. The risk of this happening can increase the longer a person with HIV is undiagnosed and untreated.

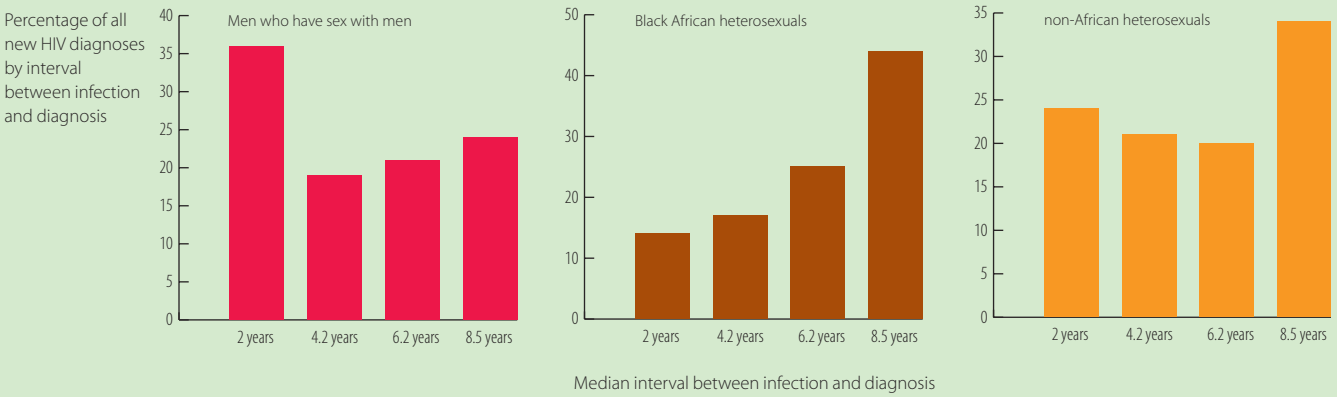
Once infected, HIV leads to a reduction in a particular type of white blood cells – CD4 cells. In turn, this reduces the body's immune response. The blood level of CD4 cells is measured as part of the national surveillance scheme for HIV and this allows estimation of the length of time someone has been infected with HIV before they are diagnosed.

Overall, for people diagnosed with HIV infection in 2002, half the men who had sex with men had been infected for more than six years before they were diagnosed. The figures for heterosexuals who were diagnosed HIV positive were even worse: 70% of black Africans had acquired their HIV infection six


"I'm having a great life and now I've had an HIV test I can get on with it."
Partying, clubbing, going out, girlfriends and boyfriends. It's great to be able to enjoy life! You want to make the most of your youth, and to make sure you can make the most of your future think about taking an HIV test. Testing is free and confidential at any sexual health clinic as part of a regular sexual health check up.
For more information call African Aids Helpline
0800 0967 500
It's better to know
For advice on living with HIV call THT Direct Helpline on
0845 1221 200
NHS
HIP
NHS

Fig 2 Distribution of new HIV diagnoses in England in 2002 according to the interval between HIV acquisition and diagnosis

Interval based on estimates of median time from infection to each CD4 count category at diagnosis*



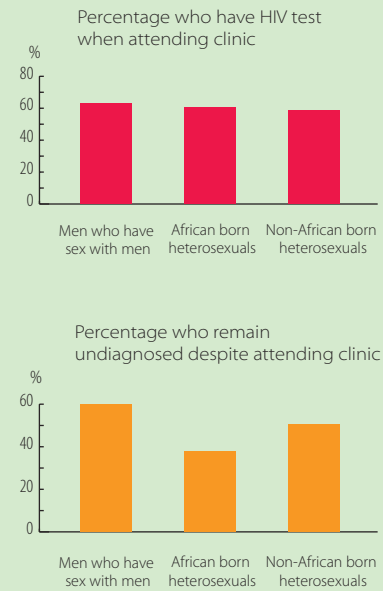
*Estimates of median time from infection to each CD4 count category: 2 yrs (>499), 4.2 yrs (350-499), 6.2 yrs (200-349), 8.5 yrs (<200).
Source: Health Protection Agency

Table 5 Waiting times from first trying to access a genitourinary medicine clinic in England (numbers and percentages of patients)

By Appointment Type	Same day	Proportion not seen within 48hrs	Proportion not seen within 2 weeks
Emergency access	417		
	42%	28%	8%
Appointment	471		
	6%	82%	41%
Walk-in clinic	2038		
	64%	21%	7%
Unknown	395		
	24%	62%	25%
England Total	3321		
	24%	62%	29%

Source: Department of Health, Health Protection Agency.

Fig 3 Percentage of attendees at genitourinary medicine clinics accepting a voluntary confidential HIV test at clinic attendance and percentage remaining undiagnosed: England 2002



Source: Health Protection Agency, Unlinked Anonymous Programme

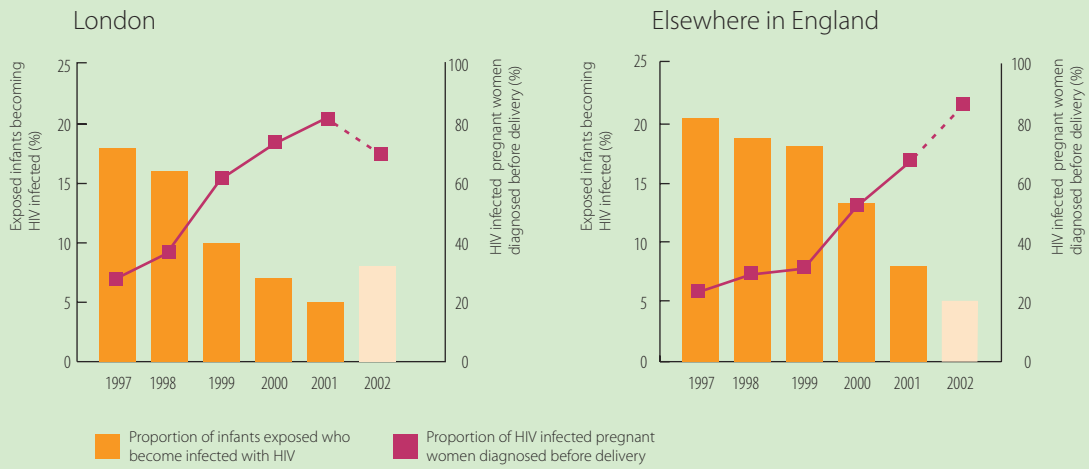
years earlier whilst 54% of non-African heterosexuals had been infected for more than six years at the time of diagnosis **(Figure 2).**

Early diagnosis of HIV infection is crucial for two reasons. Firstly it can greatly assist in reducing the risk of someone transmitting the disease to others. Secondly, it provides the opportunity of initiating treatment to prolong survival and improve quality of life.

The Department of Health's *National Strategy for Sexual Health and HIV* set the goal of increasing HIV testing amongst people attending genitourinary medicine (GUM) clinics. Currently levels of testing for HIV amongst such attendees is between 50% and 63% **(Figure 3)**. It is estimated that 59% of men who have sex with men leave a genitourinary medicine clinic with their HIV infection undiagnosed. The proportion undiagnosed is higher in London (62%) rather than outside London (45%). Amongst heterosexuals, born in sub-Saharan Africa 36% remain undiagnosed after genitourinary medicine clinic attendance. For other heterosexuals, the figure was higher at 50%.

Failure to detect HIV infection which is

Fig 4 Estimated proportion of HIV infected women diagnosed before delivery[1] and of exposed children becoming infected with HIV[2,3] 1997-2002



[1] Includes those previously diagnosed and those diagnosed through antenatal testing.
[2] Assumes a vertical transmission rate of 26.5% in undiagnosed women and 2.2% in diagnosed women (Duong T et al BMJ 1999; 319: 1227-1229).
[3] These data contain reports received by the end of September 2003 .

Data for 2002 should be considered preliminary minimum estimates, and as the number of reports rise, estimates of infants becoming HIV infected will fall.

Source: Health Protection Agency, Unlinked Anonymous Programme and the National Study of HIV in Pregnancy and Childhood (NSHPC).

present when someone attends a genitourinary medicine clinic for diagnosis and treatment of another sexually transmitted infection is an important lost opportunity. This could be remedied by stronger encouragement to take up HIV tests in genitourinary medicine clinics and by making HIV tests more widely available in non-genitourinary medicine clinic settings.

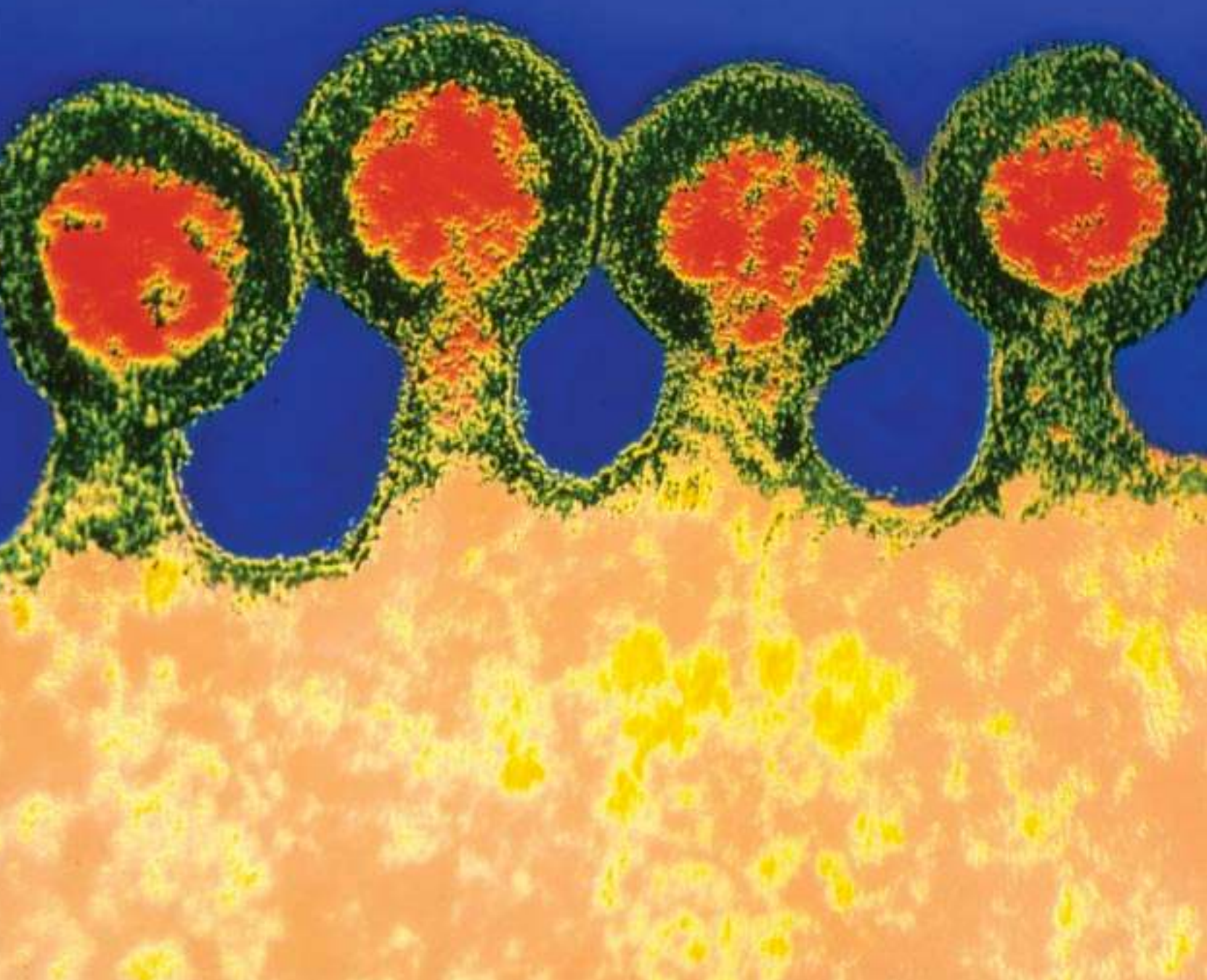
Another key area of diagnosis is during pregnancy to prevent transmission of HIV from infected mother to baby. The situation has improved since the offer (and recommendation) of an HIV test was made a component of antenatal care in 1999. Nevertheless, in a quarter of pregnancies in HIV positive women in London and 13% elsewhere in England no testing takes place. Although the number of babies becoming HIV positive has reduced **(Figure 4)**, it is a tragedy that any are occurring at all.

A key plank in the control of the HIV epidemic in England is the network of genitourinary medicine clinics. The majority of HIV diagnoses are made within genitourinary medicine clinics. Whilst all of these services are open access, waiting times do exist in many clinics. This is a serious obstacle to reducing the level of undiagnosed HIV infection in England.

The Health Protection Agency has recently undertaken a pilot study audit of waiting times in genitourinary medicine clinics in England. The survey covered 28 clinics and whilst the preliminary results cannot necessarily be assured to be representative of the country as a whole and a more comprehensive national survey is being undertaken, the early results are worrying **(Table 5)**. For example, 28% of emergencies were not seen within 48 hours and 8% waited longer than two weeks. Only 18% of people making routine appointments were seen within 48 hours and 41% waited longer than two weeks. The situation was worse outside London: over a third of people in most regions waited more than two weeks for an appointment if they lived outside London compared to 15% of London residents. Ideally, a genitourinary medicine service should be providing same-day care, anything beyond this gives sexually transmitted diseases (including HIV infection) a better chance to spread.

So whilst the rates of HIV testing are improving, almost a third of people with HIV infection remain undiagnosed and many remain undiagnosed even after visiting a genitourinary medicine clinic with symptoms of a sexually transmitted disease. Too many people are being diagnosed too late in the course of their HIV infection and this has serious implications for the HIV/AIDS epidemic in England. Urgent improvements need to be made.

RECOMMENDATIONS FOR HIV TESTING SHOULD NOW INCLUDE BOTH THE OFFER AND RECOMMENDATION OF AN HIV TEST TO ALL ATTENDEES OF GENITOURINARY MEDICINE CLINICS ON THEIR FIRST SCREENING FOR SEXUALLY TRANSMITTED INFECTIONS, AND FULL COVERAGE OF THIS INTERVENTION SHOULD BE ACHIEVED.



Action recommended

- Current national and local HIV prevention work should be strengthened with those communities most at risk of HIV, and with people living with HIV infection.
- Targeted campaigns highlighting the advantages of HIV testing should be implemented (some have already been commissioned from the African HIV Policy Network and Terrence Higgins Trust).
- Recommendations for HIV testing should now include both the offer and recommendation of an HIV test to all attendees of genitourinary medicine clinics on their first screening for sexually transmitted infections, and full coverage of this intervention should be achieved.
- HIV testing should be offered and recommended to all patients presenting at healthcare settings who meet the following criteria:
  - once every twelve months to all men who have sex with men,
  - all people with syphilis or acute gonorrhoea, or with recurrent sexually transmitted infections,
  - all heterosexuals who have had unprotected sexual exposure in a high prevalence country.
- The proportion of pregnant women screened for HIV infection should be raised from the current level of 80% to 100%.
- Research should evaluate the feasibility and acceptability of HIV testing in settings outside the genitourinary medicine clinics. (Terrence Higgins Trust has been commissioned to provide a number of pilot community based HIV testing services).
- Waiting times for genitourinary medicine clinics are unacceptably long and consideration should be given to strengthening the infrastructure of this important service.
- Urgent consideration should be given to ways of expanding non-genitourinary medicine clinic based HIV testing services in primary care and community settings.

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The British HIV association
http://www.bhiva.org

African HIV Policy Network
http://www.ahpn.org

Joint United Nations programme on HIV/AIDS (UNAIDS): Global updates on HIV/AIDS
http://www.unaids.org

SPOTLIGHTING LOCAL HEALTH PROBLEMS AND TRENDS

Below the Department of Health (at national level), the management structure of the NHS is organised into 28 Strategic Health Authorities that cover England. Within each Strategic Health Authority's boundaries are between five and 19 Primary Care Trusts (PCTs). These organisations receive the funds allocated by the government for the NHS. Primary Care Trusts plan and provide primary care services, public health services as well as commissioning hospital care (in accordance with the needs of their populations) from NHS Hospital Trusts, Foundation Trusts and other providers of care.

Public health teams are located in Primary Care Trusts as well as in Strategic Health Authorities. Linked to the public health services within the NHS are the public health teams (led by a Regional Director of Public Health) outposted by the Department of Health to Regional Government Offices where they work alongside senior officials from seven Government Departments: the Department for the Environment, Food & Rural Affairs; the Department for Transport, Local Government and the Regions; the Department of Trade and Industry; the Department for Education and Skills; the Department for Work and Pensions; the Home Office; and the Department for Culture, Media and Sport.

In this section of the report one local health issue is highlighted in each of the geographical areas covered by the nine public health regions in England. The purpose of this section of the report is to shine a spotlight on a particular health or health service issue, either a problem that warrants local investigation or action or a trend that is of interest.

This is not intended to be a comprehensive review of the health of each region but simply a way of drawing attention to a striking finding on analysis of the many health statistics that are collated.

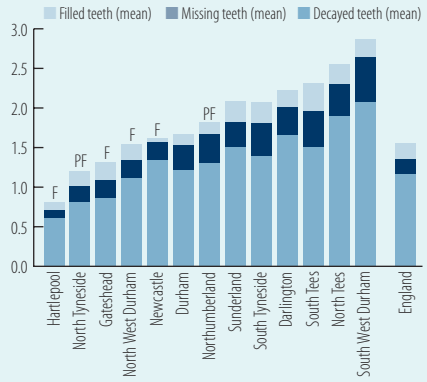
North East

In the North East, surveys have highlighted a wide range of dental health amongst five year olds. There is more than a three-fold variation in the number of decayed, missing and filled teeth between Hartlepool (average 0.86 per child) and South West Durham (average 2.82 per child). In six of the 13 areas each five-year-old already has on average more than two decayed, missing or filled teeth (Figure 1).

The main causes of this variation are fluoridation and deprivation. All six areas with fluoridated water have low levels of decayed, missing or filled teeth, even though some have high levels of deprivation. Local studies have shown that fluoridation can nullify the effects of deprivation. On Teesside, for example, the most deprived wards in fluoridated Hartlepool still have less dental decay than the least deprived wards of non-fluoridated Middlesbrough. Extending the provision of fluoridated water remains a priority in tackling inequality.

The chart also highlights a historic irony. Some of the earliest work identifying the benefits of fluoride was done by Robert Weaver, who compared dental decay in children in two very similar populations in North and South Shields. Those in South Shields, which then drew its water from naturally fluoridated wells, had much lower rates of decay. Because the wells in South Shields have now been replaced by a non-fluoridated water supply, while most of North Shields now receives fluoridated water, it will be seen that the positions in North and South Tyneside have completely reversed.

Figure 1 Numbers of decayed, missing or filled teeth in 5 year olds, 2002/2003



PF = partially fluoridated, F = fluoridated, No F indication = non-fluoridated

London

In all 2.9 million London residents are from ethnic groups other than White British, and 46% of all non-White ethnic minority groups in England and Wales live in London. New census categories provide a more detailed picture of Londoners' ethnic backgrounds, the composition of which appears to have changed between the 1991 and 2001 census.

The 2004 *Health in London* Report focused on the health of London's Black and Minority ethnic communities, assessed against 10 high-level indicators of trends in the determinants of health and health inequalities. In general, non-White groups fare worse on all the indicators for which data are available. These are unemployment, GCSE attainment, unfit housing, domestic burglary, road casualties and self-assessed health status (Table 1).

For example;

- non-White groups are more than twice as likely as White people to be unemployed
- non-White groups are more likely to be burgled, but not necessarily at greater risk of crime overall
- children from ethnic minority backgrounds suffer substantially greater risk of pedestrian road casualties, with Afro-Caribbean children at particularly high risk.

The analysis suggests that ethnic inequalities in employment, education, housing and crime are very persistent. But encouraging signs include the steady rise in the employment rate of women in non-White groups, and above-average educational attainment in specific ethnic groups. Improving the information available to plan, commission and deliver accessible and effective services for London's diverse population is essential.

This work in London (www.londonshealth.gov.uk) lends weight to the arguments for routine monitoring of self-defined ethnicity in different settings at local level to help in assessing health status and planning services.

Table 1 Indicators of health inequalities: ethnic differences

INDICATOR	London All	London White	London non-White
Ethnicity and unemployment			
overall unemployment (all ages)	6.7%	5.3%	11.3%
youth unemployment (aged 16-24 years)	12.3%	9.5%	21.6%
Educational attainment			
% of pupils aged 15 years achieving five or more A-C GCSE grades in 2002 (Maintained schools only)	47.3%	48.4%	45.3%
Proportion of people with self-assessed good health: persons reporting their health as "not good" in the last 12 months:			
aged 50-64 years	15.7%	14.5%	20.5%
aged 65 years and over	23.8%	22.9%	30.2%
Proportion of homes judged unfit to live in: % of households that fail decency standards, England 2001:			
non-decent		31.9%	40.2%
fail thermal comfort		25.7%	28.0%
fail disrepair		8.2%	13.3%
fail fitness		3.5%	8.3%
fail modernisation		2.2%	4.6%

Source: Various official sources, including 2001 Census.

East Midlands

The East Midlands has the third highest rate of tuberculosis notifications of the nine English regions (12.2 cases per 100,000 population in 2002). This represents an increase of about 20% compared with 1999, and is the fourth highest rate of increase of the English regions.

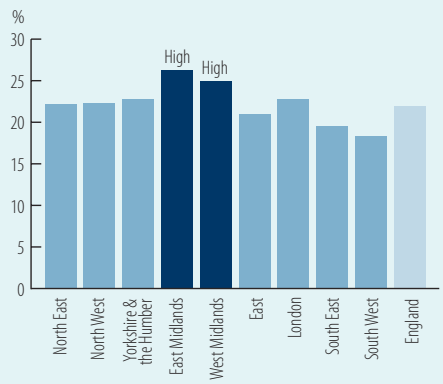
There are very significant variations between different parts of the region. Comparing counties in the East Midlands, there is a ten-fold difference (2.5 to 25.7 cases per 100,000) in overall reported cases of tuberculosis, and an eight-fold difference (1.7 to 12.8) in reported cases of pulmonary tuberculosis. In those areas with higher numbers of cases, significant demands are placed on the resources of the NHS to treat individual patients and to minimise spread of the disease. Conversely, in those (frequently rural) areas with small numbers of cases, it is often difficult to maintain appropriate levels of awareness of the disease, both amongst professionals and the public. Awareness of tuberculosis as a possible diagnosis helps lead to prompt diagnosis and treatment, which, in turn, reduces the time interval during which infected individuals may pass on the infection to others.

West Midlands

West Midlands has the second highest level of obesity for the female population aged 16 to 64 years. The figure is approaching 30% of the population **(Figure 2)**.

The region needs to review why the levels are so high and what action can be taken.

Figure 2 Age standardised proportion of women who are obese (Body Mass Index over 30), 2000-2002 three year average



High indicates that the values are significantly higher than the England average at the 95% confidence interval
Source: Health Survey for England

North West

The recent tragic deaths by drowning of migrant workers in Morecambe Bay have raised the level of public awareness of drowning risks in the North West. Deaths by drowning of North West residents over the five years from 1998 to 2002, were higher than the England and Wales average risk of accidental drowning (and rather lower than average risk of drowning due to self-harm or suicide) **(Figure 3)**. The population of the Ashton, Wigan and Leigh Primary Care Trust area has an exceptionally high risk of drowning – both accidental and self-harming; in this area 19 more deaths have occurred than would have been expected from the population size.

Residents of areas close to canals are particularly at risk (both from accidental drowning and self-harm by drowning) with the line of the Leeds & Liverpool canal (which runs through residential areas in Wigan, Blackburn and Burnley) being especially marked. The peak periods of risk for drownings in these areas are mid-summer and around Christmas. This suggests a possible association with alcohol consumption. However, because civil registration death records give very little detail as to the circumstances of death – and in particular, only identify the residence of the deceased rather than the actual place of drowning – more detailed analysis will involve extracting and analysing records of the location and circumstances of death, and cross-referencing these to actions taken in response to the event.

The Public Health Team in the North West is

Figure 3 Deaths by drowning in the North West 1998-2002: All drownings plotted by residence of the deceased

currently in discussion with the North West Coroners, the National Institute of Mental Health, the Health Development Agency, the British Waterways Board, and Primary Care Trusts, to undertake a collaborative study on deaths by drowning in the North West Region. This proposed study is timely in view of the proposed reform of the Coroner Service, and the consequent enhanced role of the Regional Director of Public Health with regard to intelligence derived from coroners' inquiries.

As a consequence of the extensive regeneration of urban communities in the North West, canal sides are becoming increasingly fashionable for residential development, while canal towpaths are being promoted as a recreational resource. In the past canals (and especially canal locks) were well recognised within local communities as presenting a drowning hazard – especially for children. It may be now that a wider appreciation of drowning risks is necessary in regeneration programmes, and in schemes to promote recreation and healthy physical activity in canal side areas.

East of England

In the past 18 months the East of England Region has seen a major increase in poly drug use being reported at services involving crack cocaine and heroin, which has followed the emergence of crack markets, the increased availability of crack cocaine and the aggressive marketing of crack in many of the Region's major towns.

Since early 2001 (and in some areas probably earlier) the availability and use of crack cocaine has increased. Initially much of this activity remained within the existing heroin dealing networks and using population.

The emergence and impact of crack cocaine has become more prolific in the past few years. During 2003, a series of high profile enforcement operations were undertaken to combat a sudden surge in the trafficking and dealing of crack cocaine in a number of cities and towns in the region, including: Norwich, Ipswich, Cambridge and Peterborough. Dealers were almost always from London. They were generally low level traffickers, who had lost markets in a variety of 'turf' wars in parts of London. They tried to run their new operations in the East of England in a similar style to the open markets found in London and Birmingham. As a result, their trafficking careers were relatively short in this region. But these shifts produced a change in the nature and extent of crack use, including:

- High incidence of crack use amongst established heroin populations.
- Increase in the number of primary opiate users with crack related problems.
- Extent of poly drug use involving heroin and crack, as reported by new referrals seeking help.
- Reported increase in offending behaviour and a change in the nature of crimes committed.
- Anecdotal reports about local manufacture of crack.

Local studies have been carried out to assess the nature and extent of crack use in different localities within the region. Findings suggest:

- Crack is used by both males and females of all ages and from different ethnic groups.
- The majority of crack users have a long history of drug use and the majority cite heroin as their preferred drug of choice suggesting that poly drug use is high.
- The proportion of problematic crack users actually receiving treatment lies somewhere between 2% and 12%.
- Crack is usually smoked through a pipe, although a small proportion (exclusively primary heroin users) inject crack.
- Amount used varies averaging 5 to 10 rocks per day, costing up to £150.
- A significant proportion of crack users reported that they shoplifted, burgled or committed credit card fraud to fund their drug habit.
- Commercial sex markets had emerged in some parts of the region. Concerns exist about the decline in use of condoms amongst street workers who are users with the consequent implications.

These findings have a number of implications for the work of regional and local public health in terms of the planning and development of relevant interventions and joint working with strategic partners.

South West

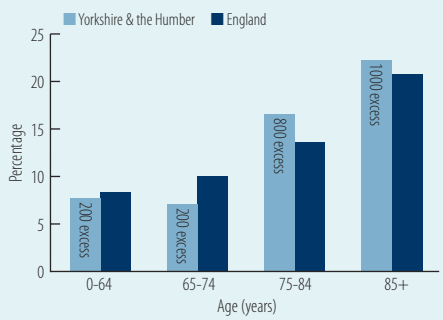
For the first time, people aged 60 years and over outnumber those aged 16 years in our country. The inter-relationship between health and crime in older adults has emerged as an issue of great importance. So far, it is poorly understood. The British Crime Survey (BCS) shows that, in 1999, over two million incidents of crime were perpetrated against people aged 60 years and over. Older adults are more fearful than others of becoming victims of crime, particularly mugging. Older adults whose health is 'bad' or 'very bad' have much greater levels of fear of crime than those who perceive their health to be good. The health effects in older victims are also more serious including loss of independent living.

Research in the South West has shown that, although the over 65s account for only 3% of admissions to hospital, because of assault, they have much longer average lengths of stay (19-40 days compared with 0.7-1.2 days for 15-24 year olds). So, they account for 14% of all hospital bed days in the region for admissions associated with assault. Routine data sources do not identify non-assault admissions amongst crime victims.

The South West Public Health Observatory (SWPHO) has appointed a police analyst, on secondment from Wiltshire Constabulary. This development combined with co-location of different government departments in the Government Office for the South West has increased opportunities for joint working between the Regional Public Health Group, the Home Office, the five Constabularies in the region and the NHS.

In the South West there are approximately 44,000 over 60 year olds with Limiting Long Term Illness who regard their health to be "not good". These older adults reside in areas of higher deprivation and poor social support infrastructures. The long-term aim of this work is to find optimal methods to identify at risk individuals, to increase the effectiveness of prevention strategies, and to enhance the multi-agency including health and social services response to older adult victims of crime, particularly to ensure a high proportion of those suffering adverse health effects can continue independent living.

Figure 4 Excess winter deaths
ONS Index* and number of deaths, 2002/03



*Number of deaths (Dec-Mar) x2 as a % of number of deaths preceding Aug-Nov + following Apr-July.
Source: Office for National Statistics

Yorkshire and Humber

Fuel poverty has been identified as a significant issue in the Yorkshire and Humber Region. A 'fuel poor' household is one which needs to spend in excess of 10% of household income on all fuel use in order to maintain a satisfactory heating regime. The main causes of fuel poverty are poor energy efficiency and low incomes. The most direct effects relate to the health of people living in cold homes, and although the risks apply to all people, particularly vulnerable groups include the elderly, young children, and those who are disabled or have long-term illness.

The Yorkshire and Humber Region has the worst figures for fuel poverty in the country. In 2001, over 11% of households in the Region experienced fuel poverty, with almost 75% of single elderly households at risk. 13% of households in the Region have no central heating (8.5% in England and Wales), rising to 19.4% in West Yorkshire. In the Yorkshire and Humber Region, 2200 extra people died over the winter months of 2002/3 compared to the non-winter months; 200 of these deaths were in the 0-64 years age group (Figure 4).

Tackling fuel poverty represents a significant challenge for the Yorkshire and Humber Region, and is being addressed on a cross-government department basis through the Regional Housing Strategy.

South East

The South East Region has the second lowest proportion of dental practices (Table 2) who are currently accepting patients for NHS treatment. Of the 49 Primary Care Trusts in the Region only nine have a higher percentage of practices accepting new patients compared to England. The Primary Care Trust with the lowest percentage is the Isle of Wight where only 2 practices out of a possible 23 are accepting new patients.

The reforms in the Health and Social Care (Community Health and Standards) Act 2003 in relation to primary dental services represent the biggest overhaul of dentistry since 1948. They will enable Primary Care Trusts to shape services to meet local needs and will give a better deal to patients and dentists. The new arrangements will be implemented from October 2005. Dentists wishing to move onto new ways of working in advance of October 2005 are being supported to do so through Personal Dental Services arrangements. In the meantime, arrangements are in place for patients to access NHS dentistry through ringing NHS Direct and some 19,000 people nationally and over 2,700 in the South East government office region are doing so each month. Difficulties remain in some parts of the country and an NHS Support Team has been set up to work with the hardest pressed areas, including the Isle of Wight. The Team is backed by £9 million nationally. A further £50 million is available nationally to be spent during 2004/5 to improve access and quality, £7.4 million of which has been allocated to the South East government office region.

On 16 July 2004 further additional resources were announced for NHS dentistry together with plans for an increase in the dental workforce, including an increase in the number of dentists equivalent to a 1000 extra dentists by October 2005. The additional financial resources amount to £250 million extra investment applying nationally from 2005-06, an increase 19.3% over two years. This will underpin the additional capacity planned to be generated through increases in the dental workforce and together should enable Primary Care Trusts to develop services locally and deliver increased access to NHS dentistry. ✚

Table 2 Number of practices accepting new patients

Region	Number of practices accepting new patients	Total number of practices	% of practices accepting new patients
ENGLAND	3,859	8,312	46.4%
South West	266	876	30.4%
South East	548	1485	36.9%
West Midlands	376	814	46.2%
London	697	1422	49.0%
East of England	436	878	49.7%
East Midlands	299	580	51.6%
Yorkshire and the Humber	409	785	52.1%
North West	562	1075	52.3%
North East	266	397	67.0%

Source: Department of Health, data refer to February 2004.

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