



**H E A L T H
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INTRODUCTION

We Are

An independent expert organisation established by Parliament.

We Are Here

To protect people from hazards to health, including infections, chemicals or radiation. From 2009 the HPA will also incorporate the standards and biological control functions of the National Biological Standards Board.

What We Do And Why

- We develop science into sound evidence and advice and provide leadership to ensure that our advice is turned into practice.
- We provide a full range of medical, scientific and technical services to fulfill our health protection role.

We are Committed To

- Providing independent evidence based, expert advice without bias or prejudice.
- Acting on sound evidence and translating science into new ways of protecting the population – being measured by our impact on public health.
- Widening the public health base by working with and training others.
- Providing a trusted effective interface with government, other health organisations and the public - including vulnerable and disadvantaged groups, thus helping to reduce inequalities.
- Setting health protection standards for ourselves and others to employ.

What We Aim To Achieve By 2013

- Uppermost is our pursuit of measurable improvements to health; providing high quality, efficient and effective day-to-day health protection leadership, services and advice.
- At the same time, there will be areas of particular concern to be tackled. These will inevitably change over time as major issues are resolved and others emerge.
- Health inequalities and inequities remain a prime concern and we will focus on vulnerable and disadvantaged groups where the health burden is often disproportionate.
- To ensure our ability to meet these goals, we will be more integrated, flexible and resilient, improving our core expertise and developing and applying top class science to meet new challenges.
- We will take into account key external issues affecting public health (appendix 1), including the views of the public and our national and international stakeholders, and we will raise our international profile and reputation by working with partner organisations to make an impact on critical health issues.

This Strategic Plan sets out how the Health Protection Agency will build on its current strengths to meet the challenges of the future.

1. Delivering a High Quality, Flexible Health Protection Service

The Agency provides 24/7 essential services across the United Kingdom to protect against infectious diseases and other environmental hazards, in particular, radiation and chemicals. These services – based on expert science, advice and leadership – are provided to the NHS, local authorities and the public through local and regional health protection teams, through diagnostic and reference laboratories and through specialist teams at the HPA's National Centres. The services include:

- Preparing for and responding to infection, radiation and chemical incidents and emergencies.
- Maintaining local, regional and national vigilance to detect and investigate the emergence of threats through state-of-the-art diagnostics, monitoring and surveillance, modelling and horizon scanning and field epidemiology.
- Providing scientifically based and proactive risk assessment, advice and leadership to tackle new and ongoing problems.
- Setting standards and providing training in key areas of health protection.
- Carrying out translational scientific research, development and manufacturing to support new healthcare interventions.
- From 2009, as a result of the merger with NBSC, our activities will be extended to include assuring the quality of biological medicines through development of tests and reference standards, and control of licensed products.

Strategic Health Aims for 2008-2013

- **All health protection emergencies will be recognised early and managed effectively.**
- **Continually improve the quality of services as assessed by stakeholders.**

The Agency's emergency response capability has been developed over the past four years and has been tested during the emergencies involving avian influenza, polonium-210 and flooding. The next phase of development is consolidation, auditing of lessons identified, training and risk assessment.

We will continue to refine emergency response plans and protocols to ensure protection against new and re-emerging threats and new challenges such as providing effective support for the London Olympics 2012. We will continue to train Agency staff working with other emergency response partners and we will underpin this through a doctrine of risk assessment and risk communication.

We recognise that other agencies and government departments, in particular the NHS and local authorities, also have key functions in the leadership and delivery of health protection.

- **We will develop robust and resilient working arrangements in which all parties understand their roles and responsibilities and work towards agreed health goals.**

Over the next five years, we will continue to deliver our services and activities to exacting standards of quality and timeliness, striving to improve wherever possible. We will ensure that all parts of the country are served by resilient, skilled and nationally accredited health protection teams and have access to public health microbiology and environmental hazards services that meet the needs of local stakeholders.

- **We will ensure that systems of accountability and performance review are in place throughout the organisation, actively seeking feedback on our performance. We will develop robust quality assurance systems to cover all our public health functions.**

The Agency is committed to involving the public and other stakeholders in the planning and delivery of its day-to-day business. We will demonstrate that we listen and respond to the feedback we receive. The Agency aims to become the source of choice for the public, health professionals and the media for the provision of expert, impartial, independent, health protection advice and information. We are committed to ensuring people have easy access to timely, relevant, authoritative health protection advice and guidance so they are empowered to make informed choices about protecting their own and their families' health.

- **We will develop a new system for two-way public communication and carry out biennial public opinion and stakeholder attitudes surveys, using the research that began in 2007 as a baseline for improvement. We will also extend lay membership representation to all key Agency committees.**

Health protection threats occur particularly in specific settings such as hospitals, nursing and care homes, schools and prisons. They affect specific groups disproportionately, such as the elderly, children, pregnant women and disadvantaged groups. In order to protect the whole population, we will develop strategies and programmes that address the particular needs of these groups.

- **In partnership with the Prison Health Service, we will help ensure, that national targets for vaccination, screening and treatment of prisoners for hepatitis, tuberculosis and sexually transmitted infections are reached in all prisons.**
- **A national quality assurance programme with nationally agreed standards for community infection control in care homes and schools will be in place, in partnership with local authorities, the NHS and regulators.**
- **We will develop a modernised national network of Food, Water and Environmental Microbiology Services working with the Food Standards Agency, local authorities and port health authorities.**

We have identified migrant health and border control as a major strategic issue and we have recently taken over responsibility for the Port Health Service.

- **We will strengthen port health services to ensure that travel poses a minimal risk to public health.**

2. Key Health Protection Priorities

In addition to delivering a high quality, day-to-day health protection service, the Agency will also address specific key priorities. These will inevitably change over time as major issues are resolved and others emerge and we will be prepared to be flexible to meet the challenges. Initially, these priorities will include:

Infections - Support the NHS in:

- i. Reducing the incidence and consequences of healthcare associated infections and antimicrobial resistant infections.
- ii. Reducing the incidence and consequences of infection and hepatitis B and C.
- iii. Reducing the incidence and consequences of HIV and sexually transmitted diseases.
- iv. Reducing the incidence and consequences of infection with vaccine preventable diseases.
- v. Reducing the incidence and consequences of tuberculosis.
- vi. Combating pandemic Influenza.

Environmental hazards

- vii. Protecting against the adverse health effects of acute and chronic exposure to chemicals, poisons and other environmental hazards.
- viii. Improving protection against the adverse effects of exposure to ionising and non-ionising radiation.

However, no single public health or professional body can achieve such improvements alone. It requires partnership working of the highest order. The Agency has an important leadership role and a role in advocating for appropriate resources and services nationally and locally.

In identifying measurable health improvements we will work with partners, sharing goals, agreeing our contribution, the criterion for our success and what we will promise beforehand. The following sections of the plan are based on this approach.

Infections

2.1(i) Outline Strategy for Healthcare Associated Infections

What should be achieved nationally?

The prevalence of healthcare associated infections (HCAIs) is about 8% in hospitals in England. About 1 in 80 patients acquire Methicillin-resistant *Staphylococcus aureus* (MRSA). In 2006, the total number of cases of *Clostridium difficile* infection (CDI) reported in patients over 65 years of age by NHS trusts in England was 55,681. This was a rate of 2.45 cases per 1,000 bed days, with an average increased length of stay of 21 days.

Sustainable reductions in HCAIs, like MRSA and *Clostridium difficile*, require the proactive involvement of every member of staff across all healthcare settings. However, these two infections spread in different ways and require different control measures. The Agency is already working with many NHS Trusts to identify best practice and to provide them with HPA national guidelines for the control of *Clostridium difficile*.

In addition to MRSA and *Clostridium difficile*, there is a wide spectrum of other pathogens causing HCAIs. These include noroviruses and multi-resistant (MR) Gram-negative organisms such as Extended-Spectrum Beta-Lactamases (ESBLs), MR-*Acinetobacter* spp and

glycopeptide resistant enterococci. Rates of infections vary with clinical specialty and setting and it is recognised that the spread of these infections in the community is of increasing importance.

Strategic Health Aims for 2008-2013

- **Support the NHS in reducing the number of cases of MRSA bacteraemia by 50% (DH target) by 2008 and support the NHS in reducing this percentage even further by 2013.**
- **Support the NHS in reducing the burden of *Clostridium difficile* in England by 30% (DH target) by 2011 and support the NHS in reducing this percentage even further by 2013.**
- **Reduce the impact of new and emerging problems, including new antimicrobial resistance through effective detection and response.**
- **Continually improve the quality of services.**

Working in Partnership to deliver success

The reduction of HCAs is primarily the responsibility of individual NHS trusts and success in the control of HCAs very much depends on the culture, behaviour and ownership within trusts. We will work proactively with the trusts, Strategic Health Authorities (SHAs) and Primary Care Trusts (PCTs) and support key stakeholders, including the Department of Health (DH), the Healthcare Commission, the National Patient Safety Agency, Monitor, the Health and Safety Executive and the NHS. The DH has retained operational responsibility for overseeing the NHS HCAI programme, but the HPA will work to improve monitoring and control.

We will seek to strengthen our working relationships with those agencies responsible for the surveillance and control of HCAI and antimicrobial resistance (AMR) in the devolved administrations.

The HPA will:

- **Support Trusts, PCTs and SHAs by providing an overview of risks and identifying early adverse trends within Trusts, and providing expert advice to infection control committees.**
- **Continue to improve rapid diagnosis of HCAI and enhance specialist typing services for investigation and control.**
- **Strengthen surveillance systems to describe the burden of HCAI within Trusts and at population level in a way that informs public health actions.**
- **Develop and evaluate specific interventions such as new cleaning agents and new vaccines.**
- **Contribute to infection control training and control strategies that seek to reduce HCAs in the total health economy.**

We will put in place measures to monitor the quality of Agency outputs, and the impact of these, working in partnership with others. Key performance indicators will include turnaround times of rapid diagnostic tests, timeliness of surveillance data, effectiveness of advice and support to NHS, and effectiveness of partnership working with other organisations.

HPA Strategic Plan 2008-2013

The Agency will produce an annual report of all surveillance of HCAI and AMR initiatives for which the Agency is responsible and provide regular updates to the DH.

2.1(ii) Outline Strategy for Hepatitis B and C

What should be achieved nationally?

Chronic hepatitis B infection is estimated to affect 300 million people world-wide and about 0.3% (180,000) of the UK population. For hepatitis C, around 170 million people world-wide are estimated to be chronic carriers, including an estimated 0.4% (250,000) of the UK population. Chronic carriers of either virus may develop chronic liver damage, cirrhosis or liver cancer.

For both hepatitis B and C a large pool of chronically infected individuals already exists, especially for hepatitis C in injecting drug users. New migrants from high prevalence countries will continue to contribute to this pool. Highly effective prevention measures, that reduce the number of new cases of hepatitis acquired in the UK, will have limited impact on the amount of illness and death in the short to medium term. Therefore, detection of existing cases (infection can remain silent for many years) to ensure treatment is more likely to be effective in this timescale, and may also help to interrupt transmission. A number of measurable targets will be set, which if met, will contribute to the overall aim of reducing hepatitis.

Strategic Health Aims for 2008-2013

- **Reduce the prevalence of infection of hepatitis C in individuals injecting for less than three years from 21% to 15% or below.**
- **Reduce the national incidence of acute hepatitis B to below 500 cases per year in England.**
- **Increase the number of people receiving treatment recommended by the National Institute for Health and Clinical Excellence (NICE) to more than 4,000 per year for hepatitis C.**
- **Continue the drive to increase the number of people in high risk groups being tested for hepatitis C so that specific treatment can be offered.**
- **Reduce the number of people developing severe liver disease due to hepatitis C infection. In England, this number is currently predicted to be 1,890 in 2010 and 2,670 in 2015.**

Working in Partnership to deliver success

Ensuring a high rate of case detection and diagnosis, and then referral for treatment, will involve primary care staff in a range of settings (general practice, prison, genitourinary medicine clinics), pathology services, and secondary care. Health promotion services and the voluntary sector will also play a critical role in raising awareness and disseminating advice, as well as being powerful advocates for improvement in services. Critical commissioners of key services are Drug Action Teams and PCTs.

A co-ordinated approach will only be successful if appropriate, cost-effective services are provided and regulated to a high standard. In this regard, the Agency will need to work closely with a range of commissioners, service providers, policy makers and performance managers. In addition to PCTs and Drug Action Teams, these will include the DH, the Advisory Group on Hepatitis, the Joint Committee on Vaccination and Immunisation (JCVI), the National Screening Committee, the National Institute for Health and Clinical Excellence, the National Treatment Agency for Substance Misuse and Strategic Health Authorities.

The Agency will:

- **Monitor hepatitis B and C at national and local level to identify better those most at risk of acquiring these infections:**
 - Provide information on acute hepatitis B incidence by risk groups,
 - Provide information on prevalence of hepatitis C in key risk groups.
- **Ensure implementation and monitoring of primary prevention measures at national and local level:**
 - Hepatitis B vaccine uptake in men who have sex with men, prisons, injecting drug users and babies born to positive mothers,
 - Needle exchange activity,
 - Behavioural measures (including needle sharing) at national and local level.
- **Monitor and assess the effectiveness of secondary and tertiary prevention at national level:**
 - Rates of hepatitis C testing and diagnosis,
 - Trends in numbers of individuals receiving anti-viral treatment,
 - Estimating the number of individuals dying from HCV-related end stage liver disease.
- **Provide also an improved estimate of the burden of disease of hepatitis C, in England and provide local information to aid in commissioning services. Further, we will monitor the uptake and effectiveness of anti-viral treatment and the rate of hepatitis C testing and diagnosis.**

Ensuring a high rate of case detection and diagnosis, and then referral for treatment will involve primary care staff in a range of settings (general practice, prison, genitourinary medicine clinics), pathology services, and secondary care. Health promotion services and the voluntary sector will also play a critical role in raising awareness and disseminating advice, as well as being powerful advocates for improvement in services. Critical commissioners of key services are Drug Action Teams and PCTs.

A co-ordinated approach will only be successful if the services are regulated and provided to a high standard. In this regard, the Agency will need to work closely with a range of regulators and performance managers. It is essential that measures are put in place to monitor the quality of Agency inputs and the overall impact of these actions and those of others. Performance indicators of Agency responsibilities will include appropriate completeness, timeliness, and end customer value of its surveillance and performance monitoring activities, as well as the accuracy and speed of its laboratory diagnosis and viral characterisation functions. Markers of the effectiveness of the joint action of the Agency and partner organisations will be achievement of the five-year targets, with an associated aim of reducing the number of people who inject drugs, as they are the major contributor to the current high incidence.

The Agency will provide an annual report of all of the surveillance and performance monitoring information that falls within its responsibility, as well as co-ordinate inclusion of progress reports for targets within the DH Hepatitis C Action Plan.

2.1(iii) Outline Strategy for the HPA Sexual Health Programme

What do we recommend should be achieved nationally?

While there have been some recent encouraging developments in HIV and Sexually Transmitted Infection (STI) prevention, the overall picture has worsened in England. Estimated HIV prevalence has increased to more than 73,000, with up to a third of HIV infections remaining undiagnosed. About £650M is spent annually on HIV services and the infection is one of only a few topics for which specialised commissioning is implemented within the NHS. Each HIV infection prevented saves lifetime treatment and care costs of between £500K and

£1M. There has also been a consistent rise in diagnoses of STIs made in genitourinary-medicine (GUM) clinics, so that well over half a million diagnoses are now made annually. Much of these adverse trends are attributable to the disturbing rates of new HIV diagnoses and STIs in men who have sex with men (MSM). There is also concern about the steady increase in heterosexual HIV transmission within the UK, especially in the black population.

Despite the increasing impact of HIV and STIs in society, there has been a marked improvement in services aimed at reducing transmission. GUM clinics in England now provide a sexual health service on more than 1.5 million occasions annually and waiting times have been reduced so that more than four-fifths of attendees are offered an appointment within 48 hours. Although progress with opportunistic chlamydia screening in young adults has been slower than hoped, the programme is steadily expanding. An effective vaccine against the two sexually transmitted genotypes of human papilloma virus (HPV) that cause 70% of cervical cancer is about to be incorporated within the national vaccination programme.

One of the aims of the Government's National Strategy for Sexual Health and HIV (2002-07, and now under review) was to reduce the spread of HIV and STIs. This has not been achieved. However, a specific sexual health target of reducing GUM clinic waiting times, incorporated within local health development plans (LDP), was achieved. A new LDP target is likely to focus upon the outcome of chlamydia screening in young adults. Achieving a number of measurable targets (see box) over the coming five years would give a substantial improvement in sexual health.

Strategic Health Aims for 2008-2013

- **Reduce HIV incidence in men who have sex with men.**
- **Reverse the recent upward trend in the incidence of STIs in men who have sex with men.**
- **Reduce the prevalence of chlamydia and of chlamydia attributable to pelvic inflammatory disease in young adults in areas where screening of more than 35% of the target group has been maintained for two or more years.**
- **Reduce the risk of HPV-induced cervical cancer.**

Working in partnership to deliver success

Health promotion services and the voluntary sector have a vital role in raising awareness and disseminating advice, and are powerful advocates for service improvement. Multi-agency local and national primary prevention through sexual health promotion will be necessary to achieve behavioural change and incidence reduction. Ensuring a high rate of case detection and diagnosis, and then referral for treatment and partner notification will involve primary care staff in a range of settings (GUM clinics, general practice, family planning clinics, etc), pathology services, and secondary care (ante-natal clinics). Implementation of a major expansion to the national vaccination programme requires extensive multi-level and multi-disciplinary co-ordination. PCTs and sexual health commissioners are critical to the creation and sustenance of effective local services.

A co-ordinated approach will only be successful if sexual health services are developed, provided, regulated and performance managed to a high standard. In this regard, the Agency will need to conduct regular liaison meetings with non-governmental organisations and work closely with relevant regulatory, advisory and performance management bodies including the Sexual Health Independent Advisory Group, the Expert Advisory Group on AIDS, the Joint Committee on Vaccines and Immunisation, the National Screening Committee, the National Institute for Health and Clinical Excellence the Health Care Commission, Strategic Health Authorities, the Clinical Pathology Accreditation and the National External Quality Assurance Scheme.

The HPA has a vital role to support the improvement of sexual health services, commissioned by the NHS, through its advocacy for appropriate resources and services. This requires the Agency to facilitate and support national agencies, local providers and the public by providing information, expert advice and training. The Agency must deliver timely and accurate epidemiological and performance management information, as well as work with the NHS and local authorities to identify and control outbreaks and clusters of STIs.

The HPA will:

- **Facilitate and support HIV and STI prevention programmes.**
- **Provide surveillance of HIV and STI outcomes.**
- **Monitor and evaluate prevention programmes.**
- **Provide quality improvements in diagnostic services.**
- **Carry out research to support the evidence base.**

The Agency will provide an annual report of all the surveillance and prevention monitoring data that falls within its responsibility and will co-ordinate the inclusion of progress reports for targets within the revised DH Strategy for Sexual Health and HIV. We will also provide local information to aid in commissioning and evaluating services. Further, we will monitor the uptake and effectiveness of anti-viral treatment, rates of HIV testing and diagnosis and chlamydia screening rates.

Performance indicators of Agency responsibilities will include the completeness, timeliness, and end customer value of its surveillance and prevention monitoring and evaluation activities, as well as the accuracy and speed of its laboratory diagnosis and bacterial and viral characterisation functions. Markers of the effectiveness of the joint action of the Agency and partner organisations will be achievement of the five-year targets described above, together with monitoring and evaluation of prevention programme outputs especially with regard to reduction in the number of people who indulge in high-risk sexual behaviours, increasing the numbers tested for HIV and screened for chlamydia, and achieving 90% uptake of HPV vaccine by the target group.

2.1(iv) Outline Strategy for Vaccine Preventable Diseases

What should be achieved nationally?

The WHO European Region was declared polio-free in 2003. The Regional Office for Europe has established a target for measles and rubella elimination in the region by 2010, which has been agreed by all Member States, including the UK. A strategic plan for measles and rubella elimination has been developed by WHO with several key strategies including achieving very high (>95%) routine coverage with two doses of measles-containing vaccine, addressing older susceptibles, strengthening surveillance and providing high quality information to the public and healthcare workers.

Following the UK's success in measles control in the early 1990s, there was a decline in routine uptake of MMR vaccine that has now been reversed. However, there has been a recent increase in cases of confirmed measles. This has particularly affected certain geographical areas such as London and particular hard-to-reach populations. Strengthening the routine immunisation programme to achieve these specific WHO targets will also reduce the disease burden due to other vaccine preventable diseases.

Strategic Health Aims for 2008-2013

- **To reach the WHO target of measles and rubella elimination by 2010.**
- **To maintain polio elimination status.**
- **To decrease the incidence of other diseases covered by the national immunisation programme e.g. invasive pneumococcal disease due to vaccine serotypes.**

Working in Partnership to deliver success

No single body can achieve these targets alone. Partnership working will be critical. Healthcare staff in primary care and secondary settings will be responsible for delivering vaccination services. The targets will only be reached if vaccination services are delivered to a high standard in England and the devolved administrations (Scotland, Wales and Northern Ireland). The agency will need to work effectively with a range of stakeholders including:

- NHS in particular PCT staff and PCT immunisation leads,
- Department of Health and Joint Committee on Vaccination and Immunisation,
- Department for Education and Skills,
- Devolved administrations,
- National Institute of Biological Standards and Control,
- Medicines and Healthcare Products Regulatory Agency.

The HPA will provide expertise, leadership and advocacy including:

- **Provision of expert evidence for JCVI to consider when advising DH on vaccine policy, including the potential introduction of new vaccine programmes.**
- **Support to the NHS and DH in the implementation of new vaccine programmes both nationally and locally.**
- **Support the NHS to increase routine vaccine uptake in children and adults (including >95% routine uptake of two doses of MMR).**
- **Support to the NHS to decrease inequalities in vaccination uptake with a particular focus on:**
 - a. **targeting hard to reach or excluded groups (travellers, migrants),**
 - b. **radical improvements in routine vaccine uptake in London.**

The Agency will take a key role in supporting the NHS; advocating and leading at local and national level. We will:

- Undertake surveillance to guide control strategies:
 - a. Data on laboratory confirmed cases (new lab technologies such as oral fluid diagnostics for measles, rubella and pertussis);
 - b. Data on vaccine coverage (including inequalities by e.g. geographical area and social groups);
 - c. Data on age- and sex-specific seroprevalence of key infections including measles and rubella.
 - Provide high quality expert advice, best practice guidance and training support for healthcare professionals.
- Work with the NHS and others to support improvements in the delivery of the routine immunisation programme, including better access for hard-to-reach groups.
- Conduct applied research to:
 - a. Identify effective strategies to increase coverage,

- b. Provide preclinical and clinical evaluation of new vaccines/combinations of vaccines,
- c. Investigate vaccine safety concerns,
- d. Measure the projected impact of future programmes through modelling and economic evaluation.

The Agency will co-ordinate the provision of a national annual report covering all relevant activities linked to these targets and falling within its responsibility.

Measures of success will include timeliness and completeness of surveillance activities. Outcome indicators will be achievement by the HPA and partner agencies of the disease control targets outlined above, including measles and rubella elimination.

2.1(v) Outline Strategy for Tuberculosis

What should be achieved nationally?

Nearly nine million new cases of tuberculosis (TB), and nearly two million deaths from TB, are estimated to occur around the world every year. It is the leading cause of death among curable infectious diseases. The World Health Organization declared TB a global emergency in 1993.

In the United Kingdom, there are about 8,000 new cases of TB each year. More than two thirds of cases occur in people born in parts of the world with high rates of disease. Most cases occur in major cities, particularly in London where high rates of disease are seen in certain vulnerable groups including the homeless, drug users and prisoners, as well as among new entrant groups. The infection can lie dormant for years (latent infection) before erupting. The reasons for this are still not well understood.

The key health interventions for the prevention and control of TB are rapid identification and treatment of infectious cases (and related infection control), prophylactic treatment of people identified to be latently infected with *Mycobacterium tuberculosis*, and protection by immunisation.

The TB action plan, Stopping Tuberculosis in England, identified ten key areas to strengthen TB control. The HPA has developed its strategy to support activity in the areas identified in the action plan. The long term goal of the action plan is to reduce, and ultimately eliminate, TB in this country. The immediate aims of the plan are to (a) reduce the risk of people being newly infected with TB in England, (b) provide high quality treatment and care for all people with TB and (c) maintain low levels of drug resistance, particularly multidrug resistant TB.

Strategic Health Aims for 2008-2013

Support the NHS and DH action plan to achieve:

- **A progressive decline (of at least 2% per year) in rates of tuberculosis in population groups born in England.***
- **A reduction in the incidence of disease among people who entered the country and became resident here within the previous five years.***
- **No more than 7% of new cases resistant to the anti-tuberculosis drug isoniazid and two per cent multidrug resistant. ***
- **At least 70% of patients with pulmonary tuberculosis have the diagnosis confirmed by laboratory culture of the organism. (WHO target)**
- **All patients diagnosed with tuberculosis have the outcome of their treatment recorded, and at least 85% successfully complete their treatment.***
- *Stopping Tuberculosis in England, An Action Plan from the Chief Medical Officer, October 2004.*

Working in Partnership to deliver success

Services for the diagnosis and treatment of TB in patients in England and Wales are provided by the NHS in hospitals and primary care. The Department of Health takes the lead in setting policy for the control of TB but a wide range of groups contribute to policy development, standard setting and audit. Successful TB control requires effective co-ordination between these groups which include the DH TB Action Plan Implementation Group and subgroups, the Joint Committee on Vaccination and Immunisation, the National Institute for Health and Clinical Excellence, the British Thoracic Society Joint Tuberculosis Committee, the Health Protection Agency Tuberculosis Programme Board and the Strategic Health Authorities.

The HPA contributes across all aspects of TB prevention and control including leadership and raising awareness, tracking disease and laboratory services, disease control at the population level and teaching, research and International partnership.

The Agency will:

- **Provide authoritative guidance and leadership in the assessment and management of TB in local populations, working in partnership with the NHS and other local groups. We will further develop our TB website as the primary source of national information on TB. We will produce national and local annual reports and provide advice to local, national and international groups working on TB.**
- **Continue to develop disease monitoring to provide information for revision of national policy and to inform the provision of services at the local level. We will carry out and further develop rapid microbiological investigation of specimens submitted to our laboratories to determine species identity, antibiotic resistance and strain fingerprint. We will provide this information not only for the management of the individual patient but also for disease control.**
- **Further develop support to the NHS so as to strengthen not only the diagnosis and clinical management of individual patients but also the services required to control and prevent the disease. Examples of tuberculosis control services where the HPA provides added value include contributing to, and where appropriate, leading the control and investigation of outbreaks (including the use of molecular strain typing), local planning and commissioning of services, and increasing awareness.**
- **Maintain its position as one of the leading organisations globally in research on clinical, epidemiological and microbiological aspects of TB.**

As most new cases of TB in this country are the result of infection caught either many years previously or in other parts of the world, the impact of specific control measures are heavily influenced by factors such as migration patterns and may take a number of years to be apparent.

The HPA is working in collaboration with the NHS and other partners to develop and provide successful TB control. Measures of success will therefore reflect the contribution of all partners. The quality of the Agency's contribution to the overall effort will be assessed by monitoring specific aspects of tuberculosis control particularly microbiological diagnosis, surveillance, and population control at the local level. We will undertake as a minimum to provide:

- local and national information on numbers of cases as quickly as possible,
- microbiological confirmation of diagnosis,
- analysis of information on outcome of treatment,
- evaluation of TB vaccine candidates, provided as part of multi-partner collaborative studies, and inform the selection of best candidates for vaccines for human clinical trials.

2.1(vi) Outline Strategy for Avian and Pandemic Influenza

What should be done nationally?

Seasonal influenza occurs annually and epidemics affect the UK during the winter months, typically at some point in the period October through March. Seasonal influenza causes approximately 12,000 deaths per year mainly in older people, although in a particularly severe epidemic up to 26,000 excess deaths may occur in England and Wales.

These excess deaths, together with a large morbidity affecting up to 35% of the population, presented significant challenges in previous epidemics; the last such severe epidemic in the UK occurred in 1989-90.

In planning for the next pandemic, in which we will not know the mortality or attack rates until any new virus emerges, government advice is to prepare for a range of attack rates between 25-50% and mortality rates of 0.4-2.5%.

Pandemic influenza occurs much less frequently than seasonal influenza, but it can arise at any time of the year. A pandemic begins when a new sub-type of influenza evolves that can cause human infections across the world because there is no immunity to the virus. The last pandemic in 1968 caused only slightly more deaths in the UK than a bad seasonal influenza epidemic (approximately 20,000 deaths in the UK). However, the worst pandemic of the 20th century, in 1918-19, resulted in more than 198,000 excess deaths in the UK. These excess deaths, together with morbidity affecting up to 35% of the population, present significant challenges for the provision of healthcare, the implementation of interventions and the continuation of business and normal life for the public.

Avian influenza A/H5N1 is currently causing concern as these viruses have the potential to evolve into pandemic strains. Influenza A/H5N1 has infected more than 300 people, with a case fatality rate of approximately 60%. The majority of cases have been in Southeast Asia, but some have occurred in Africa and in Turkey, and the virus was responsible for an outbreak in UK poultry in February 2007. Other avian influenza viruses such as A/H7N2, A/H7N3 and A/H7N7 are also of concern and the prevalence of these viruses in animal reservoirs is being monitored.

Relieving the impact of pandemic influenza in the UK will be mediated through:

- **Risk reduction** - reducing the conditions which might encourage the spread of virus, and rapid control of outbreaks involving the H5N1 virus by using some pharmaceutical countermeasures. However, there can be no safe assumption that H5N1 will produce the next pandemic and other influenza viruses should also be considered.
- **Mitigation/treatment** - reducing the severity of cases and the number of deaths in the UK through a range of pharmaceutical measures aimed at treating the pandemic. Although this strategy is expected to reduce the number of severe cases and deaths (and to a limited extent, the amount of illness generally) the UK pandemic would still be significantly worse than the usual seasonal influenza. This has been the main focus of the UK's response strategy and cross sector planning work to date.
- **Suppression/prevention** - reducing the number of cases and deaths in the UK through a range of pharmaceutical and social measures aimed at interrupting transmission of the virus in the community.

Strategic Health Aims for 2008-2013

- **Contribute to the national target of relieving the impact of pandemic influenza in the UK in terms of morbidity and mortality.**

Working in Partnership to deliver success

The HPA is working with many other national and international bodies to reduce the impact of pandemic influenza and prepare to mitigate effects should one happen. The HPA supports the Department of Health in the pursuance of a range of measures to reduce the impact of a pandemic on the health service, the public and businesses. The HPA works with the devolved administrations in these activities. We also work closely with the Cabinet Office, the NHS (at PCT level), the European Commission, the European Centres for Disease Prevention and Control (ECDC) and the World Health Organization (WHO). It will be important to provide support locally to PCTs, SHAs, and the resilience fora.

The HPA will:

- Contribute to the prevention of pandemic influenza through a network of laboratories across the UK providing 24/7 early diagnosis of influenza (H5N1, H7 and other sub-types).
- Reduce the societal affect of pandemic influenza by improving preparation and the speed of response.
- Develop the antiviral and antibiotic susceptibility testing capability and scalable capacity.
- Co-ordinate the collection and reporting of UK-wide influenza surveillance data.
- Provide detailed epidemiological data on emerging influenza viruses from WHO Phase 4 to Phase 6 (UK Alert Level 2) and thereafter aggregate data.
- Provide real-time modelling to understand the effects of interventions on the first few hundred pandemic cases in the UK.
- Provide advice and guidance based on a robust science evidence base to the DH and the NHS.
- Provide scientific advice to government in support of policy development.
- Maintain a close watch on international developments in:
 - Epidemiology of H5N1
 - Vaccine development
 - Antiviral strategies
 - Public health countermeasures
 - Surveillanceand report routinely to UK actors.
- Contribute to the development of the scientific evidence base.
- Conduct research into early development of vaccines.
- Contribute to solutions to speed up vaccine manufacture.
- Conduct research into the efficacy of vaccines.

Exercises, lessons identified and audit will provide a measure of the effectiveness of the HPA input into the Pandemic Influenza National Framework. Key performance indicators include turnaround times of rapid diagnostic tests, timeliness of surveillance data, effectiveness of advice and support to the NHS, and effectiveness of partnership working with other

HPA Strategic Plan 2008-2013

organisations. The HPA provides regular updates and reports to the HPA Board and Executive Group, and to the Department of Health on national and international developments.

2.2 Environmental Hazards

It is generally accepted that exposure to environmental agents together with life-style factors can make a substantial contribution to the burden of non-infectious diseases in the population, although the extent of this burden is not quantified in all cases. Ionising radiation, ultraviolet radiation (UVR) and a number of chemicals are known to cause cancer. Other chemicals, and all frequencies of radiation, have a number of known health effects. There are also public concerns about possible associations between exposure to environmental radiation or chemicals and health effects. The Agency is responsible for understanding these effects, improving protection against hazardous agents and for improving public understanding of how environmental factors affect health. The Agency acts as a major contributor to national actions which serve to ensure that exposures within the population are appropriately restricted, that the potential for health effects is minimised and that the public have confidence in these health protection measures.

Strategic Health Aims for 2008-2013

- **Reduce the impact of accidents and incidents involving radiation and chemicals.**
- **Improve our understanding of the effects of the environment on health.**
- **Reduce the risk of cancer and other health effects.**
- **Identify new technologies that could potentially have harmful effects.**
- **Address public anxiety by risk assessment and communication.**

To do this we will:

- **Decrease the public health impact of accidents and incidents by delivery of timely advice and action. This work includes completion of the contribution of the Agency to the development of a public health chemical incident advisory service.**
- **Undertake exposure assessments and advise on the possible health effects of novel materials/technologies, including those for which there is a significant level of public anxiety a such as WiFi and nanotechnology.**
- **Undertake scientific assessments and provide guidance on environmental hazards and protective measures associated with drought, flooding and other aspects of climate change that impact on environmental health.**
- **Work with partners to develop and implement a Children's Environmental Health Action Plan for the UK.**

Radiation

- HPA advises the Government on implementation of advice from the International Commission on Radiological Protection (ICRP). In the period of the plan, the Agency will advise on the implementation in the UK of new recommendations from the ICRP.
- Radon is a natural radioactive gas that seeps into buildings from the underlying ground. Radon is a risk factor for lung cancer. The Agency will respond to the report of its Advisory Group on Ionising Radiation (AGIR) on health risks of radon and make appropriate evidence based recommendations to improve protection. The Agency will work with partners to further develop the HPA radon programme in line with these recommendations.
- UVR from the sun or artificial sources is a risk factor for skin cancer and other diseases. The Agency will continue to encourage partner organisations to run health promotion programmes and advise on regulatory controls to decrease adverse effects from UVR exposure.
- Contribute to the understanding of long term effects of exposure to low levels of ionising radiation exposures of the UK population from environmental, occupational or medical sources. Use this information to inform health protection strategies.
- Provide technical support and protection advice in the event of a government decision to further develop nuclear energy generating capacity.
- Provide scientific advice relevant to the implementation in the UK of EU Physical Agents in the Workplace Directives which will serve to restrict exposures to electromagnetic fields and optical radiations.
- Develop greater understanding of the potential health effects of non-ionising radiations and further characterise electromagnetic field exposures in order to advise on the possible association with childhood leukaemia.

Chemicals

- Develop, in consultation with others, systems for the assessment of the public health impact of acute and protracted exposures.
- Develop the UK contribution to Children's Environmental and Health Action Plan for Europe and the Environmental and Health Information System. Priorities include long term effects of chronic exposures and safe homes.

The Agency will need to work with the EU, a range of other international bodies, other UK agencies, the NHS, academic partners and commercial associates to provide the necessary evidence to underpin advice. Acceptance and implementation of this advice will demand close consultation with government departments, devolved administrations, regulatory agencies and others to ensure the practicability of actions and their timelines.

The principal contributions from the Agency are the unique combinations of skills, knowledge and experience that are necessary to anticipate future needs in environmental health protection and to gather and evaluate the multiple strands of relevant data necessary to develop evidence-based advice. The Agency will also assume an advocacy role to persuade others about the need for policy development and other actions.

The Agency will publish all evidence to support its advice and will ensure that these R&D reports and scientific reviews are of the highest quality. The Agency will consult fully with stakeholders/customers on major aspects of its advice and emphasis will be placed on explaining this advice in terms that are readily understood by the general public.

Improved control of environmental exposures to radiation and chemicals in the UK is unlikely to result in measurable changes in the incidences of diseases such as cancer and respiratory disease over the five-year period of the plan. Other measures of success, particularly the impact of HPA advice, will therefore be applied, including:

- Timely provision of high quality scientific evidence.
- Success of stakeholder/customer consultation – judged from the views received on the evidence base, and the clarity/practicability of advice.
- Success of advocacy – judged on the acceptance of advice by regulators and others.
- Success in implementation of advice – judged from feedback from regulators, the public and others, and, where possible, evidence that controllable exposures are as low as reasonably/practicably achievable.

2.3 Standardisation and Control of Biological Medicines

The Agency acquired statutory responsibility for standardisation and control of biological medicines in 2009 on merger with the National Institute for Biological Standards and Control.

Biological Medicines are made using biological production systems, rather than by conventional chemical methods. They are much more complex than chemical drugs and hence require special techniques and tools for their analysis. The fact that they are usually made from living systems means that there are additional risks to be considered, such as contamination from infectious agents present in the starting materials. They include many of today's most successful and widely-used pharmaceuticals, as well as some of the most exciting potential future products. Although such products already provide huge clinical benefits and offer great potential for the future, they also continue to raise major challenges, based on real or perceived risk, that can have very serious clinical, economic and political consequences.

Examples of Biological Medicines

Vaccines
Blood products
Medicines made using DNA technology
Cell and gene therapeutics

Important public health issues involving Biological medicines

*Vaccine safety (eg MMR))
Blood safety (eg Hepatitis c, vCJD)
Pandemic Influenza
Stem cell Research*

Standardisation and control is therefore necessary both to ensure that existing biological medicines continue to be as safe and effective as possible and to facilitate the development of new medicines and innovative technologies in the future. Expertise in this field is therefore of great importance to health authorities, regulators and product manufacturers. It is also vital for maintenance of public confidence in the use of key public health protection tools, such as vaccines, at a time when expectations of medicine safety are extremely high and confidence in health authorities and manufacturers remains fragile. Policy decisions on biological medicines are at the heart of public health and can have profound consequences. It is therefore vital that such decisions are based on the best scientific information possible.

Analysing and testing these medicines relies on the availability of Reference Standards; these are physical materials used as 'benchmarks' to measure different aspects of product quality, such as how much active product is present, and how pure it is. Accurate and reproducible measurement is vital to ensure consistency between different batches of product, and administration of the correct dose to patients. Since the pharmaceutical business is increasingly a global enterprise, it is essential that common bench-marking systems are used internationally.

NIBSC has been the global leader in the field of biological standardisation for many years, developing and producing over 90% of the International Standards in use around the world to assure the quality of biological medicines in close collaboration with WHO. This position carries substantial prestige and influence, not only supporting national public health and economic goals but also helping to fulfil the UK's commitment to the international community and to shape policy at an international level.

The Institute is also the UK's Official Medicines Control Laboratory (OMCL), responsible for testing of biological medicines within the framework of the European Union. Failure to ensure the safety of biological medicines, such as childhood vaccines and blood products, would be potentially disastrous. Maintenance of a quality-controlled and timely product testing programme is thus of fundamental importance. From time to time unexpected safety and efficacy issues emerge relating to products already marketed or in clinical trials, with immediate and potentially serious impact. Longer term, the plethora of new medicines under development, and the introduction of new production technologies will undoubtedly raise completely new

problems of quality assurance. Mounting an effective response to such issues requires a research-orientated organisation of the highest quality, with the flexibility, capability and commitment to recognise, assess and deal with emerging issues as early and rapidly as possible.

Strategic Health Aims for 2008-2013

- To fulfil national and international needs for independent product testing in order to safeguard public health
- To maintain world leadership in biological standardisation
- To anticipate and respond to emerging quality and safety issues associated with existing and future biological medicines
- To facilitate the provision of novel biological medicines
- To promote science-led policy making in the field of biological medicine

These aims will be met through four key scientific activities:

Development of Tests and Standards: We will strive to remain the world's leading developer and supplier of high quality International Reference Materials for biological medicines and to be recognized as the world's foremost centre of expertise and excellence in biological standardisation.

Product testing (control): We aim to be acknowledged as world leading experts in assessing and testing biological products, providing high quality product testing services to manufacturers and regulators around the world. We will also maintain our position as a leading, influential and respected member of the European OMCL network carrying out batch release testing of products in areas of major public health impact.

Research: We will maintain an active high quality research programme directly related to standardisation and control of biological medicines, carried out by internationally respected scientists, attracting significant external funding and generating an impressive publication output.

Provision of advice: We aim to be the organisation to which product developers, regulators and policy makers turn first for advice on product quality, and to make our expertise available to key decision-making bodies with respect to safety and efficacy of biological medicines.

Our specific goals for the next five years will be to:

- Continue to meet customer and stakeholder requirements for supply of reference materials and for product testing to exacting standards of timeliness and quality
- Establish at least 10 new or replacement international standards and reference materials each year in line with public health needs
- Develop and introduce product tests that offer superior performance and efficiency compared with current tests, especially those that are animal-based
- Maintain and build where appropriate world-leading expertise and throughput in batch release testing, focusing particularly on products with high public health impact/risk, and novel and/or complex products
- Produce at least 100 scientific publications each year
- Expand standardisation activities with respect to cell-based medicines, genetic testing, and viral diagnosis
- Maintain the scientific capability to respond to emerging product safety and efficacy issues that pose a significant threat to public health
- Develop NIBSC as the global hub for expertise, advice and training in biological standardisation

3. Global Health Protection

Global Health Protection

Globally, infectious diseases are a major cause of mortality. In a 2006 report, they were estimated by the World Health Organisation (WHO) to have caused 41% of all deaths in 2002, with a disproportionate effect in resource-poor countries. For example, in the African Region, the proportion was 72%. Projecting to 2030, WHO estimated that infections would still cause 31% of deaths, with one of the top three causes of death being HIV/AIDS. This would be the case in middle income countries as well as poor countries, even with an estimated coverage of 80% with antivirals. Pandemic influenza remains a concern which would have a global effect with again, poor countries unable to respond as effectively as rich ones, for example in stockpiling. The health effects of environmental contamination and pollution are increasingly recognised, although data is much less available. Globally, the effects of climate change, particularly in terms of floods and droughts could have a devastating effect, especially poor countries with less resilience to adapt. Major emergencies, whether natural or man-made can effect all countries.

Many parts of the Agency have been contributing to global health through training, research, consultancy, contributing to setting international standards and responding to emergencies. However, with our considerable expertise and knowledge we should be able to do more.

Strategic Health Aim for 2008-2013

- **The Agency will contribute to reducing the global burden of disease from infections, environmental hazards and major emergencies with a particular emphasis on resource-poor and middle-income countries.**

The major emphasis for this work will be through strengthening the public health capacity of countries for sustainable change. As now, much of this work will be through international agencies such as the WHO and the International Association of Public Health Institutes. However, within the UK, there is little co-operation and collaboration across public health agencies, academic departments and funders to ensure the most effective UK input to international health. This has been identified in major national reports as a weakness. Early discussions with others demonstrate a willingness to bring together our complementary skills and expertise to increase our impact. The Agency has a number of international obligations on which we have a duty to deliver, but with our considerable expertise we are able to do more.

Therefore the Agency is planning to establish Health Protection Global as a focal point of the Agency's global activity, and explore the potential for this to be a collaborative venture with other bodies. The Agency will be seeking to obtain substantial supporting funding from other bodies and agencies to support this programme of work.

Under this arrangement, the Agency will set out, potentially with others, major projects that will be more likely to attract funding from the major foundations. This will be done in consultation with bodies such as the WHO to ensure they respond to the real needs of a small number of key countries. The following proposals have been identified as areas where the Agency is particularly well placed.

Support For Implementing The New International Health Regulations

All countries are required to implement these new regulations, which now not only cover infections, but all major hazards including chemical and radiation that could have international

implications. These require an integrated system of surveillance, diagnosis and response, appropriate for the Agency's comprehensive service.

Strengthening Of Vaccine Programmes

Immunisation programmes have been one of the most successful public health interventions on a global scale. However, effective vaccines are not available for all conditions and where they are, the systems for delivery are not always optimal. The Agency is able to support vaccine programmes across the whole spectrum. The potential for vaccine development will be even stronger following the merger with the National Institute for Biological Standards Centre.

The impact of this work will be assessed through monitoring global work, a shift in the balance of work to more resource poor countries, an increase in external funding to support the work, and feedback from countries supported.

*Health is Global - Proposals for a UK Government-wide Strategy
A Report from the UK's Chief Medical Adviser, Sir Liam Donaldson, October 2007*

4. Developing Our Underlying Core Competencies and Building Capacity

To achieve our health protection aims, we will develop our expertise and capacity. Key in this development will be:

- the science base,
- the exploitation of our assets,
- our workforce strategy, and
- the supporting infrastructure.

4.1 Developing The Science Base For Delivering A High Quality, Flexible Health Protection Service

The Agency is charged with engaging in and commissioning research to ensure that the advice and services it provides are based on the best available scientific evidence. Research carried out by the Agency is at the centre of public health research both in the UK and internationally. We will:

- Enhance the frontline services currently delivered by the Agency and enable them to develop additional services to protect the UK population against new and emerging threats to public health and to inform public health protection policy;
- Support the HPA Programmes and focus on the eight Key Health Protection Priorities described in Section 2;
- Contribute to research on key international public health issues, especially those that could pose a threat to the UK in the near future, e.g. pandemic influenza, vector-borne diseases and travel-associated infections.
- Enhance the Agency's ability to help prevent terrorist attacks and mitigate their effects, and co-ordinate its work with that of other government agencies, both in the UK and overseas.
- Develop, improve and assess public health interventions.

Strategic Aims 2008-2013

1. To raise the profile of the HPA research programme by facilitating publication in high-impact journals, alerting the media to our work and engaging with the general public. Also to improve and increase the Agency's research capacity, especially in LARS and RMN, and stimulate collaborations across the Centres, LARS and the RMN and with partners in academic centres of excellence and the NHS.
2. To ensure that all research carried out by the Agency is subject to independent expert peer review and conforms to national guidelines on research governance and quality assurance.
3. To increase the contribution of the Agency to tackling current and emerging international threats to public health.

These aims can be achieved by:

- Developing a new national public health R&D strategy, by building upon the current five-year strategy and incorporating recommendations from stakeholders

and the DH Review of HPA R&D. The new R&D strategic plan will run from 2011 to 2018 and coincide with the Agency's next five-year strategic plan.

- Creating additional internal funding streams to enhance internal research collaborations and increase collaborations with academic centres of excellence. All internally funded research will be subject to peer review; by introducing independent review groups for new research proposals and a five-year review for ongoing programmes.
- Reviewing current mechanisms to ensure that all research conforms to research governance guidelines.
- Facilitating the development of a co-ordinated Agency-wide research programme by providing information on current research activities, new funding opportunities, governance guidelines and national and international strategic priorities for public health; through a variety of vehicles such as databases, theme-specific scientific conferences and newsletters.
- Increasing interactions with other government departments, government agencies and funding organisations, through membership of advisory committees, working groups, and cross-government organisations such as the Inter-Lab Forum.
- To integrate the research programmes of NIBSC into the research framework of the Agency.
- Providing a supportive environment where inexperienced research workers can develop their practical skills, improve the dissemination of their work and gain professional and managerial expertise and experience. Provide professional advice and training to enable successful scientists to progress their careers.

4.2 HPA Strategic Goal - Exploiting Our Assets For The Development Of New Evidence Based Interventions

Introduction

The Health Protection Agency has unique capabilities and resources within the public sector in that it has the ability to translate scientific excellence into healthcare interventions. The effective translation of the UK science base into healthcare products has been identified in the Cooksey report as one of the major gaps. The Agency can make an enormous contribution to filling this gap.

The Agency carries out research and development that is internationally recognised, being particularly strong in the infectious disease area. The aim is to create a better understanding of the pathogenesis of existing and emerging disease and to create intellectual property (IP). Research findings have been applied to the development of new interventions such as of state of the art diagnostics and detection methods to improve monitoring and surveillance and very importantly, to plan and respond to emergencies such as deliberate release of a pathogen or an emerging disease. Research has also identified targets for the development of novel vaccines and immunotherapeutics which have the potential to dramatically improve public healthcare.

One of the bottlenecks in the demonstration of clinical proof of principle of potential new biological products such as vaccines is the ability to carry out the complex development work and manufacturing in compliance with strict regulatory requirements. This capability is largely confined to the larger pharmaceutical companies and contract research organisations and is not always aligned with the effort to develop new interventions for UK public health needs.

For organisations such as the NHS, academia and small biotech companies, the development, manufacturing and regulatory capabilities are lacking because of the financial investment required. This represents a gap in their ability to translate intellectual assets into product candidates. To invest in these capabilities at an early stage does not make financial sense for small private biotech companies because they usually have an early stage portfolio of products which have a high attrition rate. They would rather look to contracting with organisations such as the HPA to provide the development capability.

HPA research and development in the chemical and radiation fields also provides intellectual assets which offer the potential for the development of new intervention strategies to protect public health.

As such, the capabilities of the Agency, which have been established over a number of years, represent a national asset that could act as catalyst for translational research. These capabilities could be used to pull potential healthcare products from the UK research base through the early development phase. The results could provide proof of concept enabling partnership with the private sector or NGO's who can complete the development. A good example of this already exists in the development of a novel meningococcal B vaccine, one of the major paediatric unmet healthcare needs. The Agency has been responsible for developing and manufacturing the product for clinical use and this product is now attracting a lot of interest from industry, both nationally and internationally.

Strategy

This ability to develop new healthcare interventions should become central to the Agency's mission over the next five years, shifting the organisation from not only providing knowledge, expertise and advice, but also driving the development of new interventions which could make an impact in some of the key areas identified in the strategic goals. Exploiting our assets in this

way will continue to generate income which will broaden the funding base of the HPA. Substantial income is already generated through the execution of research, development and manufacturing contracts and through the ability to attract substantial amounts of revenue through grants and provision of other services such as training and expert advice. It is essential that we continue to build our income stream to enable us to achieve our goals effectively.

Strategic Aims 2008-2013

- **Identify and develop appropriate assets in order to develop health interventions and solutions aligned with HPA strategic goals to improve health outcomes.**

The guiding principles in prioritising how we exploit our assets will be:

- **To protect public health and focus on the development of interventions aligned with our strategic goals.**
- **To ensure, while carrying out these activities, that we maintain and enhance our reputation through excellent science.**

The key priority areas are detailed below and represent a summary of the areas where the development of potential interventions may be focused.

HPA Goals	Our Assets	Outputs
Delivering a high quality service <ul style="list-style-type: none"> • Emergencies • Emerging threats <ul style="list-style-type: none"> ○ Infectious disease • CBRN 	Vaccines/Therapeutics	Products
The Key Health Protection Priorities	Diagnostics	Services
Healthcare Acquired Infections: <ul style="list-style-type: none"> • MRSA • <i>C.difficile</i> • <i>E.coli</i> • <i>Norovirus</i> 	Decontamination	IP
Hepatitis B & C	Manufacturing	
TB	Emergency Planning	
Flu Pandemic	Data & Knowledge	
HIV & STD's <ul style="list-style-type: none"> • Chlamydia 	Specialist Facilities	
Environmental Hazards <ul style="list-style-type: none"> • Radiation • Chemicals 	Relationships/Networks	
Global Health <ul style="list-style-type: none"> • Vaccines 	Capacity	
	Training	

4.3 Developing Our Workforce Strategy To Develop Appropriate Core Competencies

Strategic Aims for 2008-2013

- Improve the expertise of HPA staff to deliver better public health.
- Strengthen public health, scientific and managerial leadership.
- Achieve better skill mix of HPA staff.

We will do this by:

The Knowledge and Skills Framework (KSF)

- The Knowledge and Skills Framework (KSF) associated with Agenda for Change has provided a basic framework to support the development of job competencies. But it is an unwieldy and overly bureaucratic process.
- It is therefore essential to critically review the KSF and produce a more user-friendly process which reflects core competencies relevant to individual development specifically related to the HPA and supporting a programme of relevant training modules, including succession planning for minority specialisms. The programme of formal academic qualifications begun with various institutes of higher education and professional bodies will continue to be developed.

The Leadership Development Programme

- The Leadership Development Programme for the identification and development of future leaders has been progressed around the competencies reflected in the Cabinet Office and NHS Leadership proposals. Phase One Assessment Centres have been completed and the first 40 nominees have begun their individually designed development programmes.
- The Agency will commence work with the NHS Institute for Innovation and Improvement, and possibly with Birkbeck College London, to design and launch a post graduate management qualification for those at middle levels in the Agency, hence further enhancing executive potential.
- The Agency will continue to scrutinise skills mix at all levels across the Agency to develop operational efficiency but also achieve interchangeability across Centres and traditional employment groupings.

4.4 Creating The Supporting Infrastructure To Deliver Our Health Goals

CREATING THE SUPPORTING INFRASTRUCTURE TO DELIVER OUR HEALTH GOALS

Information Systems

Since the Agency's establishment, the information systems (IS) strategy has concentrated on developing an harmonised, reliant and resilient information technology (IT) infrastructure enabling the Agency to carry out its core business efficiently and effectively. This has involved upgrading and replacing local area networks (LAN), building a countrywide wide area network (WAN), combining eight e-mail systems and more than 20 web sites and internets. The Agency has also replaced or introduced corporate systems for finance and resource management, payroll, laboratory management and for managing adverse incidents.

The work of the Agency necessitates a robust and resilient IT infrastructure. The IS strategy for the next five years will seek to continually enhance the corporate IT systems and infrastructure by taking account of new opportunities and technologies, keeping abreast of operational need and by working with NHS systems wherever appropriate. The IS strategy will ensure that the needs of staff, in carrying out their day-to-day business, are prioritised and will provide flexible support arrangements tailored to the needs of our operations.

The priority high-level objectives during this five-year plan period include:

- a) Improving customer communication by developing the Agency web site into a customer-focused site aiming to be the premier source of health protection advice in the UK.
- b) Improving support to frontline delivery by implementing a field management system which will support Agency professionals in the management of health protection incidents and in assessing risk profiles to aid decision-making.
- c) Improving core business functions by providing a sustainable information system development and support infrastructure that will support the design and implementation of surveillance systems that will strengthen the Agency's ability to collate relevant, accurate and timely information on the occurrence of health events, hazards, and exposures related to infectious diseases, chemicals and radiation.
- d) Further increasing the reliability, security and availability of the core IT infrastructure by creating duplicate centre services and systems for disaster recovery, and by upgrading the full range of remote access services.

Estates

The Agency's property is valued at £130 million and incurs about £30 million of annual costs. It consists of specialised laboratories, manufacturing facilities and office accommodation. From April 2009, the Agency's estate will also include the National Institute of Biological Standards and Control site at South Mimms.

The Agency's estate is an important corporate asset and the estates and its associated facilities will be actively managed in order that the Agency is provided with the most appropriate physical

environment to carry out its work efficiently, effectively and safely. This includes our specialist laboratories and other facilities at all our sites.

The priority high-level objectives during this five-year plan period include:

- a) Initiating a major ten-year re-development of the Agency's Porton Down site.
- b) Continuing the reduction in the Agency's portfolio of offices to accord with its operational needs, whilst ensuring our overall estate remains efficient and fit for purpose.
- c) Embracing new ways of working, to include laboratory and office-based work, in order to meet the Office of Government Commerce targets for accommodation possession and usage and to ensure compliance with our overall environmental strategy.

Finance

The basic systems for managing the Agency's finance and resources have now been put in place. During the next five-year plan, the Agency will develop these systems in order to enhance the support to operational users and improve the level of financial information routinely available in a timely manner whilst also reducing the cost of processing transactions.

The priority high-level objectives during this five-year plan include:

- a) Strengthening financial management and improving financial control by providing financial analysis which accurately reflects the utilisation of resources and is directly related to the Agency's strategic goals.
- b) Improving decision support by refining our accounting policies and practices so that all parts of the Agency receive full cost and income information, including appropriate analysis, in a consistent manner in real time.
- c) Improving cost-effectiveness and compliance by developing our procurement function in order to provide continuous best value in acquiring non-payroll resources.

N.B. Financial targets are included within the Financial Strategy, section 6

5. Governance

As a statutory public body, the Agency is committed to meeting all relevant legislative and regulatory requirements. The Agency is also expected to comply with Government, Treasury and Department of Health (DH) guidelines wherever applicable. The predecessor bodies to the HPA thus met (and the Agency continues to meet) a wide range of external regulatory standards.

Although the HPA is not an NHS body (it is an executive non-departmental public body), the HPA Act which established the Agency dictates that, for the purpose of the healthcare services it provides, the HPA will be treated as an NHS body. This brings the Agency under the purview of the DH Standards for Better Health monitored by the Healthcare Commission.

The HPA is new to this framework and during the plan period, the HPA will move to compliance with the core Healthcare Standards. The key 'governances', covering clinical, research and corporate governance activities, will be maintained and developed as necessary, together with the strategies for environmental sustainability set out by the Government. The Agency will also consider appropriate organisational quality systems in support of its functions.

Strategic Aims for 2008-2013

- **The HPA will meet all core Healthcare Standards.**
- **The HPA will implement the sustainability development strategy set out by the Government.**
- **The HPA will review organisational quality systems and consider adoption of the most appropriate to the needs of the Agency.**

FINANCIAL STRATEGY

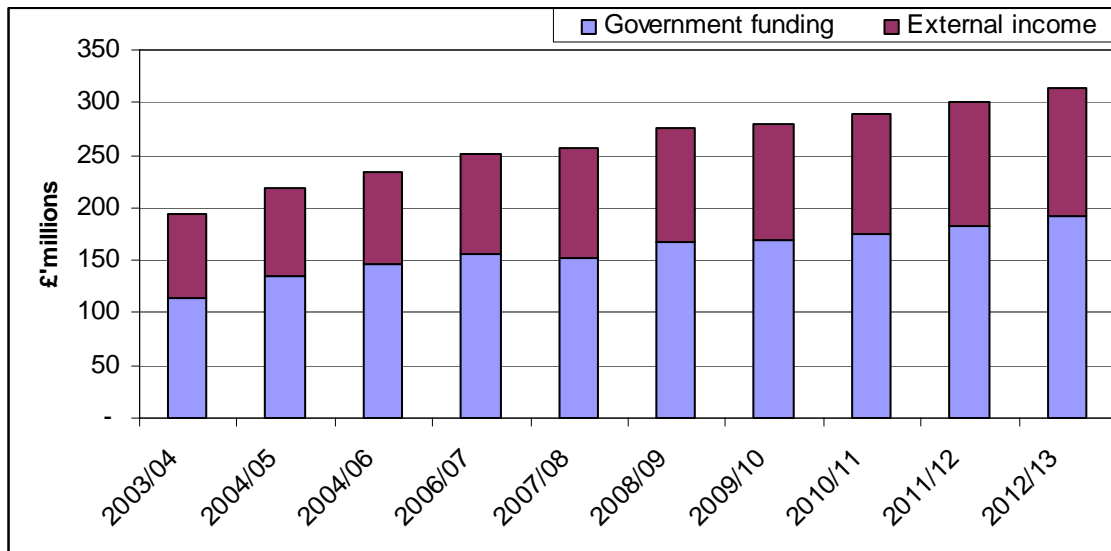
Background

1. The first five years since the establishment of the Agency on 1 April 2003 have been financially challenging. The Government provided no extra financial resources to create the Agency and to support the merger of the various units that came together to form the Agency.
2. As well as moulding together the various disparate units which included staff from more than 80 different employers across the UK, the Agency had to maintain the day-to-day work to a high quality, shift resources to new and previously under-resourced areas such as emergency preparedness, the chemical functions and external communication and put in place Agency-wide systems to support the new Agency. All of this had to be carried out at a time when we started to experience severe cost pressures derived from factors outside our control such as the introduction of the Consultants' Contract, Agenda for Change and the rationalisation of the Department of Health's Arms Length Bodies.
3. Although we experienced small deficits in our first three years, we have managed our financial resources efficiently and we are now in a much sounder financial position to deliver our next five-year strategic plan. But, there is still much to do and our continued financial viability depends on the base government funding (from the Department of Health and the devolved administrations) remaining at least at the 2007/08 level in real terms for the foreseeable future. Any reductions will inevitably lead to a reduction in the work of the Agency. This cannot be contemplated at a time when the need to protect communities from the health threats derived from biological, chemical, radiological and environmental hazards is increasing.
4. Hence, the primary financial strategy for the Agency over this five-year strategic plan period is to maximise the financial resources available to enable the Agency to carry out more of the work required to deliver its function of protecting communities against infectious disease and other dangers to health.
5. We will do this by:
 - a. Protecting our base government funding by demonstrating value for money and ensuring the Government and the public are aware of the importance of the outputs delivered by the Agency;
 - b. Seeking further government funding to carry out additional work as priorities change;
 - c. Continuing to broaden our funding base outside of government so that our work can benefit from economies of scale and participating in partnership projects;
 - d. Creating as much flexibility as possible in the use of our financial resources to enable the transfer of funds to priority areas as these emerge;

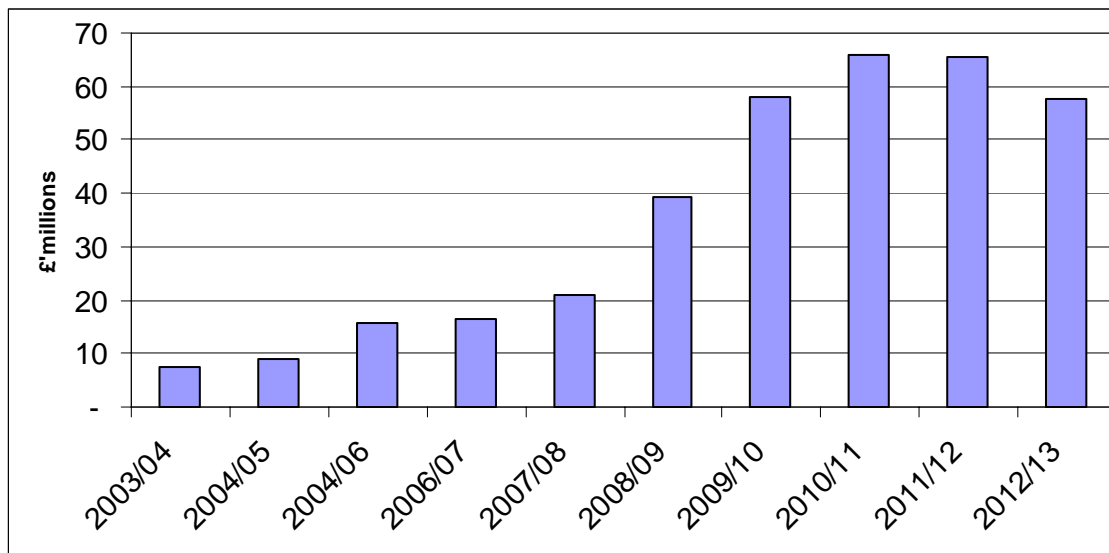
- e. Constantly reviewing our systems and the way we work to ensure that we maximise the value from every pound we spend.

Financial plans

- 6. Over the next five years we plan to increase our available revenue funds to £312 million per annum. This increase, set against the past five years, can be illustrated as follows:



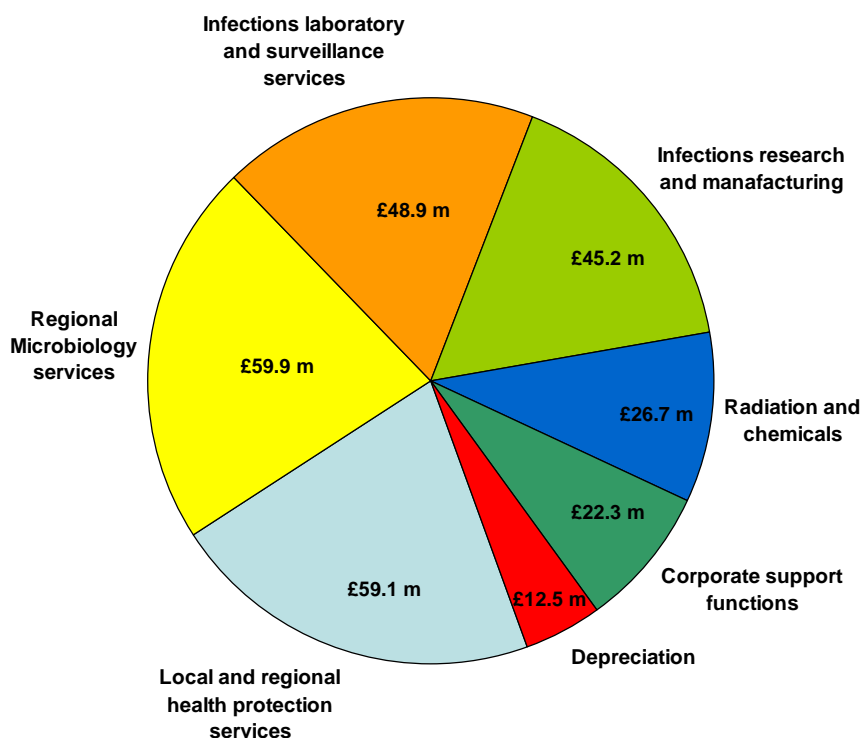
- 7. These plans assume that the base government funding remains at least the same in real terms and that the non-government income increases by 4% in 2008/09 from our forecast income in 2007/08 and then keeps up with inflation for the remainder of the strategic plan period.
- 8. We plan to keep our expenditure in line with the funding and hence delivering balanced budgets on a cumulative basis year on year. Subject to legislation, the Agency will merge with the National Institute for Biological Standards and Control on 1 April 2009. We anticipate that this will add a further £14 million to the government funding and £11 million to the external income from the 2009/10 financial year.
- 9. The Agency’s inherited property portfolio and equipment required significant upgrading. Over the past five years we have made significant strides in modernising this important asset. However, we now need to make a step change, especially in re-developing our specialist laboratory facilities at Porton Down and we are working with the Department of Health on the options for financing a ten-year re-development programme. Our preliminary estimates for our capital programme over the five-year strategic plan period, set against the past five years may be illustrated as follows:



10. We expect that the proposed merger with the National Institute for Biological Standards and Control on 1 April 2009 will add a further £7.4 million of capital funding in 2009/10, £9.3 million in 2010/11 and £3.9 million in 2011/12 and 2012/13.

Allocation of financial resources

11. The planned total financial resources of £274.6 million available in 2008/09, the first year of this strategic plan, will be allocated to our activities as follows:



12. In line with our strategic aim to create as much flexibility as possible in the use of our financial resources, the allocations in future years will be adjusted as change.

Appendix 1.

In preparing the 2008-2013 Strategic Plan, the Agency reviewed the “big issues”, the forces and drivers that would impact on the future of the Agency. They informed the approach taken to setting the Strategic Goals.

Summaries of these reviews cover the following:

- (i) **National Issues** - *Wider government changes and their impact on the work of the HPA.*
- (ii) **International Changes** - *International developments and globalisation and recognition of their importance for health and the work of the HPA.*
- (iii) **Knowledge Management** - *The effectiveness of knowledge management has significant implications for the effectiveness of the Agency’s activities in protecting the public and improving health.*
- (iv) **Public Expectations** - *The impact of public expectations upon various strands of the Health Protection Agency’s public-facing agenda including public involvement, the media, the use of a growing range of technologies in influencing public understanding, and international information.*
- (v) **Natural Events** - *Natural events can act as major forces that can strongly shape future work within the Agency. Attention is given not only to climate change and zoonoses but also to risk assessment and preparedness for other events.*
- (vi) **Industrial Change & Technological Developments** - *In some instances, technological development will provide the Agency with new tools to tackle health protection issues. In others, such developments together with industrial change pose real or potential hazards.*
- (vii) **Border Health** - *Border health, including ‘port health’, is a big issue for the UK population and for the HPA. The changing pattern of travel and migration is a force that must be recognised*
- (viii) **The Olympics** - *The HPA contributed to the successful bid for London to host the 2012 Olympic and Paralympic Games and is now part of the Olympic planning structure.*
- (ix) **Political Drivers** - *Government policy changes, the changing profiles of regional and local government and increasing regulation will all impact on the Agency’s activities.*
- (x) **Laboratory Development** - *Changes in health protection laboratories and the potential impact on the delivery of the HPA’s public health mission.*
- (xi) **Demography** - *Changes in demography within the UK and the potential impact on health and the work of the HPA.*
- (xii) **Alliances** - *The importance of establishing and managing strategic alliances.*
- (xiii) **Cultural & Societal Changes** - *The HPA needs to be aware of such changes in order to monitor changing trends in disease and identifying and mitigating risk behaviours through best advice and targeted health interventions.*
- (xiv) **Defining Core Business** - *Defining the HPA core business.*
- (xv) **Information systems** - *The implications for completing the information systems component of the HPA Strategic Plan for 2008-2013.*

- (xvi) **Finance Resources** - *The implications for completing the finance component of the HPA Strategic Plan for 2008-2013.*
- (xvii) **Core capabilities, workforce development** - *The Agency's largest single area of expenditure is on its workforce and funds an exceptional field of talent which must be constantly maintained and replenished.*