



Joint Committee
on Vaccination
and Immunisation



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Contents

- 1 Chairman's foreword**
- 2 Background**
- 3 The Committee**
- 4 Focus of this report**
- 5 The addition of pneumococcal vaccine to the routine childhood immunisation programme**
- 11 The 2005/06 influenza programme**
- 15 Tuberculosis and changes to the BCG programme**
- 17 The future**
- 18 Appendix**
- 18 Declaration of members' interests 2005**
- 22 Declaration of members' interests 2006**



Chairman's foreword

This report highlights the work undertaken by the Joint Committee on Vaccination and Immunisation (JCVI) during 2005 and 2006. The report provides an insight into the priorities and key activities of JCVI. The committee aims to ensure that Ministers are advised and updated about recommended improvements to the national immunisation programme. We are determined that our advice maintains the national immunisation programme's place as one of the world's best.

The last two years have been a busy period for our committee. The culmination of its work has led to significant changes to the childhood immunisation programme.

The addition of pneumococcal vaccine to the routine programme will have a significant impact on child health and that of the general population. The addition of a 12-month booster for Hib and MenC will give greater protection for children against two causes of meningitis.

The BCG programme has been reviewed. Most cases of TB were being found in groups outside the childhood programme and the risk of TB occurring in most children is extremely low. As a consequence of this review, JCVI recommended that the BCG vaccine should be targeted at those in at-risk groups.

This committee is privileged to serve in an area that has had an important impact on the lives of all our children, and indeed, the whole of society. It is easy to forget that without immunisation many children alive today would have died from vaccine-preventable diseases.

I would like to thank all those who serve on the main committee and the individual sub-groups. They continue to ensure that Ministers are given the very best advice, so guaranteeing that the national immunisation programme remains one of our country's most effective healthcare programmes.

I hope you find this report interesting and useful.

Professor Andrew Hall
Chairman, JCVI

Background

Immunisation is one of the most important public health initiatives of the last 60 years. It has improved the quality and chance of life for many, both in the UK and internationally.

Participation by everyone in this programme is crucial, as every child that dies without immunisation, from one of the targeted diseases, represents a death that could have been prevented.

Ensuring and encouraging high rates of uptake of vaccines from across the community is essential, as immunisation protects the individual, the family and the community.

“ The two public health interventions that have had the greatest impact on the world’s health are clean water and vaccines. ”

The World Health Organization

A successful immunisation programme also protects the most vulnerable groups and those who cannot be immunised because of a pre-existing medical condition.

The UK’s immunisation programme has had a major impact in preventing illnesses and deaths from a range of diseases that previously presented considerable risk to the population. Table 1 shows the substantial reduction in disease rates after the introduction of specific vaccines in the UK.

Running a national immunisation programme requires careful planning, monitoring and review.

This report sets out the priorities and important activities of JCVI over 2005 and 2006. As the key adviser to health departments on immunisation, the committee plays an important role in continually improving the UK’s immunisation programme and ensuring that it safeguards the nation’s health.

Table 1. The reduction in disease rates after the introduction of immunisation and vaccination programmes

Disease	Pre-vaccination notifications or laboratory confirmed*	Post-vaccination notifications or laboratory confirmed*
Diphtheria	46,281 (1940)	2 (2006)
Mumps	20,713 (1989)	4408 (2006)
Measles	409,521 (1940)	736 (2006)
Pertussis	53,607 (1940)	553 (2006)
Polio	1066 (1940)	0 (2006)
Rubella	24,570 (1989)	30 (2006)
CRS	73 (1971)	1 (2006)
Tetanus	19 (1969)	2 (2006)
Hib	655 (1989)	93 (2006)
Men C	883 (1998/99)	30 (2005/06)†

*Data is based on notifications of each disease, with the exception of Hib and Men C which are based on laboratory confirmed cases (2006 data is provisional).

†Data given as epidemiological year to ensure whole meningococcal season covered

The Committee

To advise the Secretaries of State for Health, Scotland, Wales and Northern Ireland on matters relating to communicable diseases, preventable and potentially preventable through immunisation. (Terms of Reference of the Committee)

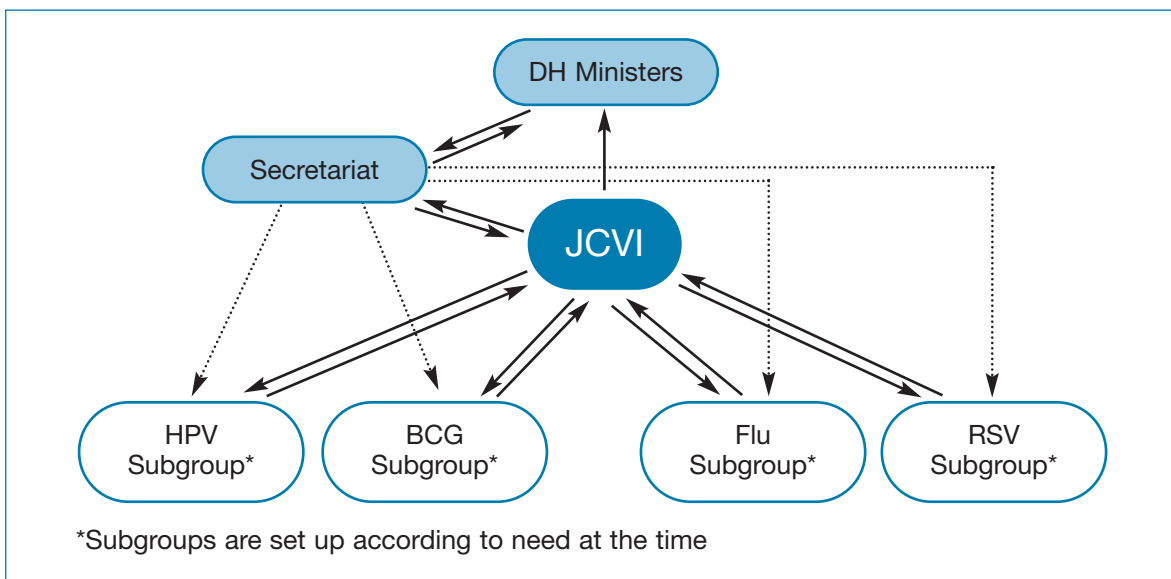


Figure 1. How JCVI works

The role of the committee

JCVI was set up in 1963 as an independent advisory committee and has continued since that time to advise health departments on their immunisation strategy and programme.

The committee draws on a wide range of experience and expertise. Our members come from many different fields and practice areas and include academics and practitioners from microbiology, bacteriology, epidemiology, virology, infectious diseases, paediatrics, nursing, public health and senior management. Individual members and a declaration of their interests are listed in the Appendix.

As the principal adviser for vaccine preventable diseases to health departments, the committee has an extensive agenda of programmes to review. It manages this workload by setting up sub-groups to focus on specialist areas. These can be activated as circumstances dictate. They draw from different expert and interest groups that have relevance to their nominated specialist field. This means that the committee keeps up to date with the latest research and expert opinion and is responsive to the latest events. The subgroups that have been active during 2005-06 include the BCG, and seasonal influenza groups.

Focus of this report

This report focuses on three key areas of work covered in 2005 and 2006

- **The addition of pneumococcal vaccine to the routine childhood immunisation programme**

This was the next new vaccine introduced into the routine childhood programme after meningococcal C conjugate vaccine in 1999. Pneumococcal vaccine will play an important part in preventing one of the two most common causes of meningitis in children.

- **Reviewing the 2005/06 influenza programme**

Influenza remains a serious disease particularly to high-risk groups such as older people, with potentially fatal consequences. The programme is reviewed annually by the JCVI to ensure that it provides the best protection for vulnerable groups.

- **Tuberculosis and changes to the BCG programme**

The routine BCG programme for teenage children was replaced with a programme targeted at those most at risk.

In this report, the committee's approach to and considerations of each of these priorities will be reviewed. Particular attention will be paid to the challenges and successes behind each of these activities.

The addition of pneumococcal vaccine to the routine childhood immunisation programme

Pneumococcal disease

When pneumococcal infection enters the bloodstream (invasive pneumococcal disease (IPD)), it can cause serious illnesses such as meningitis, septicaemia and pneumonia. IPD is most common in babies, young children and the elderly. At the start of this century, there were around 5000 cases of IPD in England and Wales each year, with about 530 of these

being in children under two years of age. About one third of these 530 were cases of pneumococcal meningitis. Estimates vary but around 50 children under two years of age died from IPD each year. Two thirds of those deaths were from pneumococcal meningitis. In addition, up to 50% who survive pneumococcal meningitis will be left with permanent disabilities including deafness, cerebral palsy or blindness.

Table 2. The diseases caused by pneumococcal infections

Disease caused by pneumococcal infection	Symptoms	Serious complications
Pneumonia	Cough, breathing difficulties, chest pains, fever, headache, confusion	Can lead to septicaemia (bacteria in the bloodstream) where the infection can spread to the lining of the heart (pericarditis) or brain (meningitis)
Septicaemia (blood poisoning)	Fever, confusion, low blood pressure (shock)	Can cause death
Meningitis (inflammation around the brain)	Confusion, fever, headache	Can cause death. Five out of ten cases of meningitis result in permanent damage including deafness, intellectual impairment, speech and language problems, paralysis, cerebral palsy, epilepsy and blindness.
Bronchitis	Coughing, mucus secretion	Can lead to more serious complications
Peritonitis (inflammation of the abdomen)	Abdominal pain, fever	Can cause death
Otitis media (inflammation of the middle ear)	Severe earache	‘Glue ear’ requiring insertion of grommets. Perforation of the eardrum. Both of these can lead to hearing loss which may result in speech and language delays. Children with pneumococcal acute otitis media can also go on to develop invasive disease.

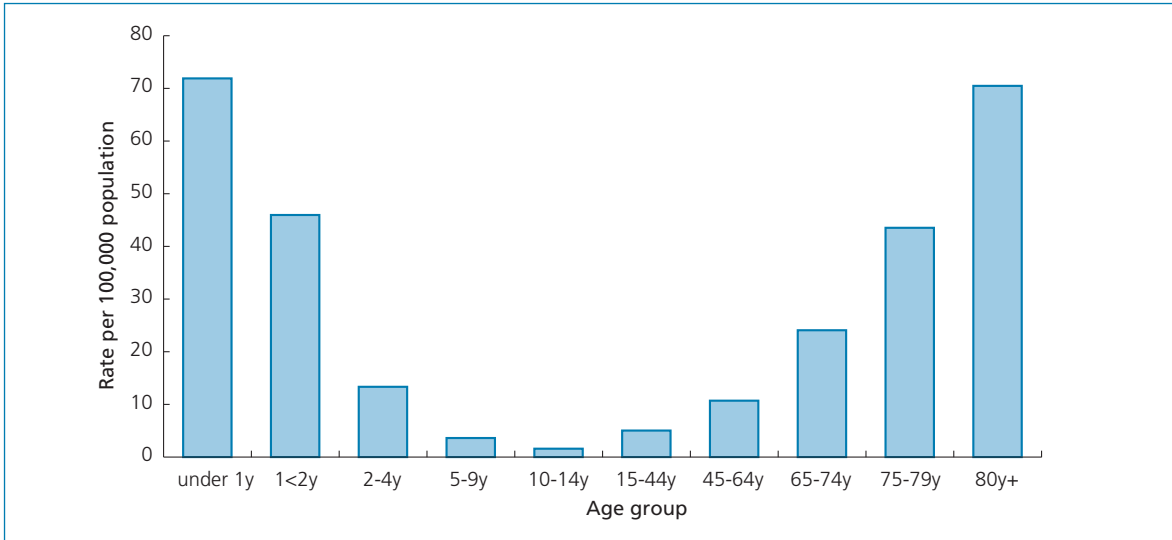


Figure 2. Invasive pneumococcal disease (IPD) rates by age per 100,000 population
 (Data from epidemiological year 1 July 2003 to 30 June 2004) Source: Health Protection Agency

The challenges and successes in introducing this new childhood vaccine

The pneumococcal conjugate vaccine (PCV) protects against seven common strains of pneumococcal bacteria that are responsible for around 82% of IPD in young children in England and Wales.

In recommending this vaccine to be introduced into the UK programme, the committee not only had to be convinced that the vaccine was safe and that it would have a significant impact on childhood health, it also had to review many other considerations. In the last Annual Report the committee recognised the potential benefits of the vaccine, i.e. ‘that the data presented in UK clinical trials and US surveillance data suggested likely benefit from a two-dose pneumococcal immunisation’, it still had a number of concerns and considerations:

- could PCV be combined with other vaccines – would it interfere with the other vaccinations?

- the possibility that protection against the serotypes contained in the vaccines would result in the serotypes not included becoming more common (termed ‘serotype replacement’)
- would it be possible to add more injections into the current UK childhood schedule?
- the degree to which infant immunisation would confer protection upon adults through reducing the chances of being in contact with a potential source of infection.

The committee had to consider each of these issues carefully before it could give an unqualified recommendation to extend the childhood vaccination programme to include this new vaccine.

Could PCV be combined with other vaccines?

Trials were commissioned in the UK to study whether the vaccination schedule was safe and provided children with the level of protection required. These trials provided evidence that the new vaccines worked as well

when given with other vaccines as they did on their own. It was also important to demonstrate that the immune responses to the existing vaccines were not reduced due to the introduction of this new vaccine. The committee was reassured that studies carried out by the Health Protection Agency thoroughly tested all these issues and proved that the proposed new immunisation schedule would be effective.

Would new serotypes emerge ('serotype replacement')?

The committee wanted to consider whether this vaccine could lead to a long-term rise in non-vaccine preventable strains of pneumococcal bacteria because the vaccine protects against some bacteria strains, but not all. This has been closely studied in the US. The very large reduction in vaccine preventable pneumococcal infection has been accompanied by only a small increase in non-vaccine type disease reported in children.

A similar phenomenon has been reported in older adults particularly those with HIV infection. This would have to be an integral part of the surveillance of the disease if pneumococcal conjugate vaccine was introduced into the UK.

Is it possible to add more injections to the current UK childhood schedule?

Trials of the new schedule indicated that three injections at one appointment were acceptable to the nurses carrying out the immunisations and most importantly to the child's parents. This was consistent with findings on past occasions when three injections had been necessary as part of the UK routine programme, e.g. when MenC vaccine was introduced in 2000 and during the Hib vaccine booster campaign in 2003. Also, experience from the

USA indicates that this is not a problem, where the routine programme requires three and sometimes four different injections at the same visit.

Would the childhood immunisation confer benefits on adults?

Pneumococcal conjugate vaccine (Prevenar) has been used in the USA since 2000. Since its introduction, the incidence of IPD caused by the seven serotypes in the vaccine has fallen by 94% in children under five years of age and by 62% in individuals aged five and over who had not been vaccinated (CDC, 2005).

This experience of the use of the vaccine in the USA over the last seven years indicates a significant decline in IPD in individuals who have not been vaccinated and points to a more widespread population effect ('herd immunity'), similar to the UK experience after the introduction of meningococcal C vaccination.

JCVI recommendation

After carefully reviewing the available scientific literature and data from the trials conducted in the UK, the committee recommended the addition of pneumococcal conjugate vaccine to the UK childhood immunisation programme. This was implemented by the Department of Health starting on 4 September 2006.

Other changes to the childhood immunisation programme

The addition of a booster dose of Hib vaccine in the second year of life

The Hib vaccination programme has been a public health success. The introduction of the vaccine in 1992 resulted in a marked reduction

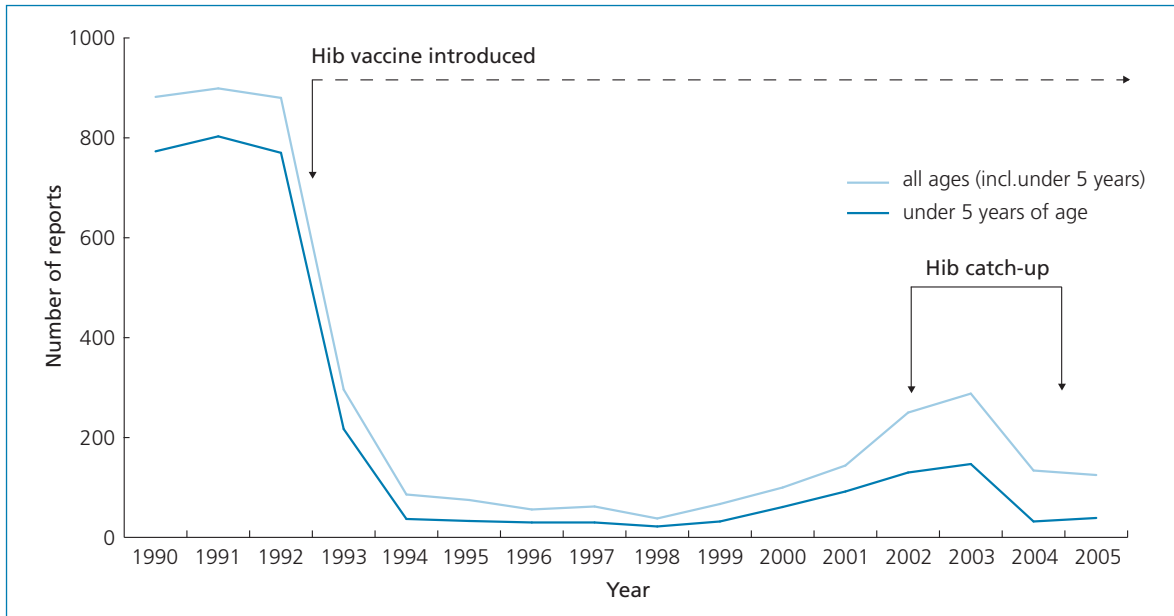


Figure 3. Laboratory reports of Hib disease in England and Wales 1990–2005
Source: Health Protection Agency

in Hib disease in children, particularly in cases and deaths from Hib meningitis.

From 1998, a gradual rise in Hib disease was detected and was successfully reversed through the Hib vaccine catch-up programme in 2002-2003. Rates of disease are now back to low levels (Figure 3). The Hib vaccine catch-up programme also reduced the incidence of Hib disease that had occurred in older children and adults.

To ensure that protection against Hib disease is maintained throughout early childhood, and to reduce the risk of a further resurgence of the disease in future, the committee recommended that a routine Hib vaccine booster dose should be introduced in the second year of life.

Amending the MenC vaccination schedule to give two doses of vaccine in the first year of life and a booster dose in the second year

The MenC vaccination programme has been a major public health success. Before 2000, meningococcal C infection was a significant cause of illness and death in children and young adults. Figure 4 illustrates the impact of the vaccination programme, with reductions of over 90% of cases in all age groups.

Research showed that protection from MenC vaccines given in the first year of life waned and therefore a booster was needed to extend protection. Also, research showed that two doses of MenC vaccine provide the same level of protection as three doses in the first year of life.

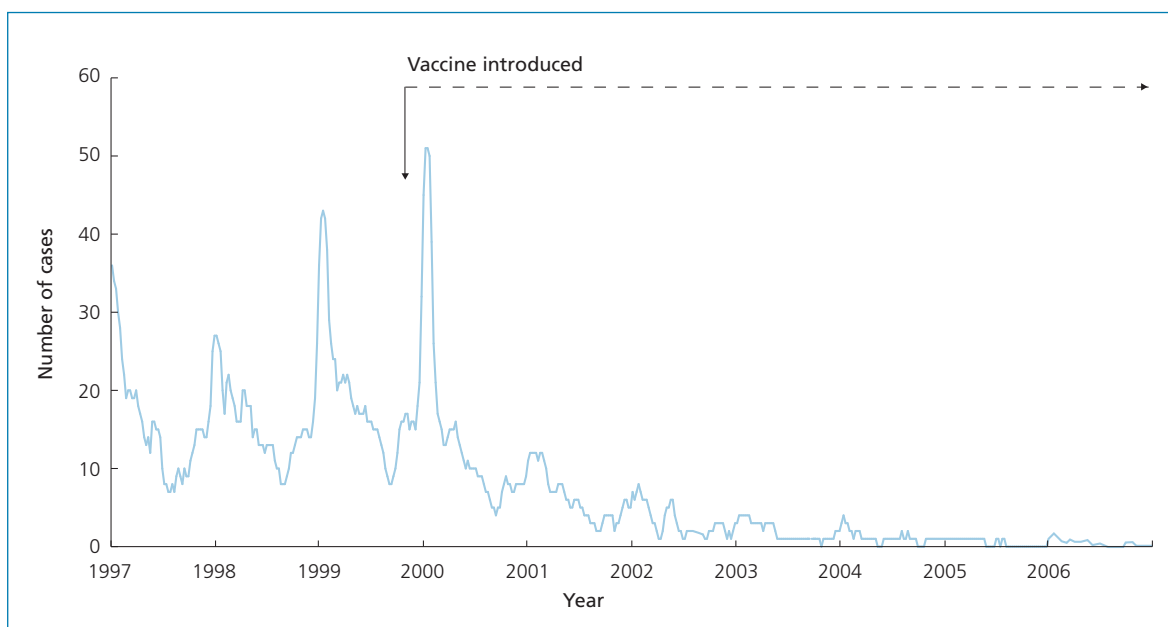


Figure 4. Laboratory reports of meningococcal C disease in England and Wales 1997–2006.
Source: Health Protection Agency North West, Manchester Laboratory

Therefore, the committee recommended that two doses of MenC vaccine are given in the routine immunisation schedule in the first year of life and that a MenC vaccine booster dose should then be offered in the second year of life. This would extend protection against this serious disease through the early childhood years.

This change was recommended by the committee and implemented by the Department of Health.

Summary of changes

The committee recommended that infants would now be offered different combinations of vaccines at the two-, three- and four-month visits. At the four-month visit three injections would be offered and a new 12-month vaccination introduced.

The Committee’s expectation for 2007 and beyond

The committee expects that the immunisation programme will maintain zero cases of polio in children. As the pneumococcal vaccine impacts on the population, the committee expects to see a significant reduction in IPD in young children and a reduction in cases in older groups through improved community protection.

The committee expects the new Hib immunisation schedule to increase protection beyond the first year and through the early years. This should result in a reduced risk of Hib disease in children over one year of age in the UK. Also, the very low rates of MenC

disease should remain at their current levels with the new vaccine schedule.

The committee will continue to review disease surveillance data carefully and monitor the impact of the revised programme.

Table 3. The new JCVI-recommended routine childhood immunisation schedule

When to immunise	Diseases protected against	Vaccine recommended by the JCVI
Two months old	Diphtheria, tetanus, pertussis, polio and <i>Haemophilus influenzae</i> type b (Hib) Pneumococcal infection	DTaP/IPV/Hib PCV
Three months old	Diphtheria, tetanus, pertussis, polio and <i>Haemophilus influenzae</i> type b (Hib) Meningitis C	DTaP/IPV/Hib MenC
Four months old	Diphtheria, tetanus, pertussis, polio and <i>Haemophilus influenzae</i> type b (Hib) Meningitis C Pneumococcal infection	DTaP/IPV/Hib MenC PCV
Around 12 months	<i>Haemophilus influenzae</i> type b (Hib) Meningitis C	Hib/MenC
Around 13 months	Measles, mumps and rubella Pneumococcal infection	MMR PCV
Three years four months to five years old	Diphtheria, tetanus, pertussis and polio Measles, mumps and rubella	dTaP/IPV or DTaP/IPV MMR
Thirteen to 18 years old	Tetanus, diphtheria and polio	Td/IPV

The 2005/06 influenza programme

Context

Monitoring the annual influenza immunisation programme is an ongoing priority for the committee. The population at large tends to consider flu to be more of a discomfort than a life-threatening condition. However, it can be a serious disease, particularly in high-risk groups such as older people, with potentially fatal consequences. The most common complications of influenza are bronchitis and bacterial pneumonia. These illnesses may require treatment in hospital and can be life threatening, especially in older people and for example, asthmatics.

In those recent winters when the incidence has been low, 3000–4000 deaths have been attributed to influenza. Severe epidemics were last recorded in 1975/6 and 1989/90 resulting in around 29,000 and 23,000 deaths respectively. This means that implementing an effective vaccination programme that encourages high uptake levels by at-risk group, is both an important public health issue and a key challenge.

Successes and challenges

The largest at-risk group is all those persons aged 65 years and over. Encouraging this group to seek vaccination has been a top priority. Excellent take-up was seen across the UK in 2005/06 with all countries showing a consistent increase since 2000/1 (see Table 4 and Figure 5).

In 2003, the World Health Assembly urged member states with influenza vaccination programmes to increase vaccination coverage of all people at high risk and to aim to achieve vaccination coverage levels of elderly people of at least 50% by 2006 and 75% by 2010.

The committee was pleased to note that England, Scotland, and Northern Ireland exceeded the 2010 World Health Assembly target of 75% uptake for people aged 65 years and over in 2005/06. The future objective is to maintain and increase where possible, uptake for over 65s and to increase uptake in younger at-risk groups.

Influenza can cause significant disruption to health services. Therefore, healthcare workers form another important at-risk group. It has proved an ongoing challenge to convince this group to participate in the vaccination programme. Although there has been an increase in uptake from 16% in 2004/05 to 18.6% in 2005/06, the committee advises that this is still a cause for concern and is committed to increasing uptake in healthcare workers.

Encouraging healthcare workers to participate in the programme is a challenge that is not unique to the UK. Indications from the US show that achieving high levels of up-take amongst this group is a long and slow process. The uptake level in healthcare personnel in the US in 2005/06 was still only 42% after more than 20 years of sustained action.

Overview

Overall there was a significant increase in the number of doses of seasonal vaccine made available for 2005/06. By the end of the period, more than 14 million doses had been distributed.

Table 4. Flu vaccine uptake % in the UK 2000–2005

	England	Scotland	Wales	Northern Ireland
2000/01	65.4	65	39	68
2001/02	67.5	65	59	72
2002/03	68.6	68.9	54	72.1
2003/04	71.0	72.5	63	73.4
2004/05	71.5	72	63	72.7
2005/06	75.3	78	68	76.8

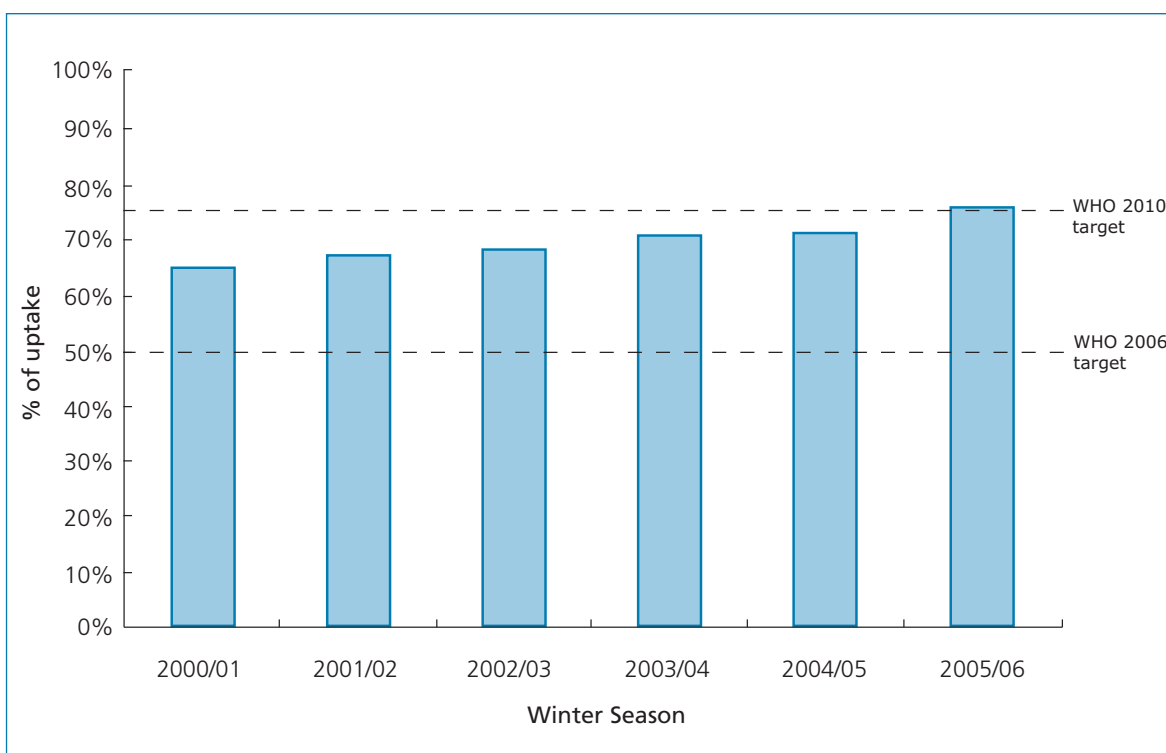


Figure 5. Flu vaccine up-take in England since 2000

There were some vaccine shortages reported within the first few weeks of the start of the programme in October 2005. Manufacturers had announced in late July that there would be a delay in vaccine deliveries. Consequently, the Department of Health contacted GPs to alert them to the vaccine supply situation and also made its contingency stock available to GPs to help alleviate the situation.

During the 2005/06 influenza season, the predominant influenza strain in circulation was the milder influenza type B. As well as the normal at-risk groups many cases were reported in the younger 5-14 year old age group.

Review of 'at-risk' groups

As well as monitoring uptake levels within 'at-risk' groups recommended for vaccination, the committee is continually reviewing other potential 'at-risk' groups to consider whether they should be added to the programme. Since the last Annual Report, the following 'at-risk' groups have been considered.

People with chronic liver disease

This group includes people with conditions such as cirrhosis, biliary atresia and chronic hepatitis. The committee advised Ministers that this group would benefit from inclusion in the programme. It was added to the list of risk groups in February 2005 and is now an integral part of the programme.

Neurological risk groups

The committee has been examining a general neurological 'at-risk' category for the seasonal flu vaccination programme and recommended the following conditions for inclusion:

- multiple sclerosis and related conditions
- hereditary and degenerative and neuromuscular disorders of the central nervous system
- cerebrovascular disease.

The committee's recommendation is under consideration by Ministers for future implementation into the seasonal flu programme. As part of this process, the Department of Health is reviewing the expected benefits and cost effectiveness of adding these qualifying groups to the programme.

Young children

The committee is considering the evidence to justify the introduction of universal vaccination of young children with inactivated flu vaccine. This group represents a significant potential increase in the programme both in terms of costs and logistics, and therefore needs to be considered carefully.

The committee is reviewing work commissioned by the Department of Health to assess the current burden of influenza in young children in England and Wales. This study looks at both the potential impact on child health and the cost effectiveness of such a programme.

Review of the 2005/06 seasonal influenza immunisation programme

Although this is a long-standing programme, the influenza immunisation programme's logistics are complex and the committee needs to continually monitor and review performance

to ensure improvements are made. This objective was highlighted when, in November 2005, the Secretary of State of Health called for a comprehensive review of the arrangements for the seasonal influenza programme in England. The review, by an independent panel, was published in March 2007 and is available at www.dh.gov.uk.

Pandemic influenza

JCVI has supported and emphasised the importance of planning for a pandemic and of taking all the possible steps to facilitate vaccine development. The committee has been regularly updated on developments, both globally and nationally. The Committee was in favour of exploring further the strategy of using pre-pandemic vaccination for significant sections of the population and clearly recognised the role that an effective vaccine could play in protecting the public and recognised the limiting factors in the production of a pandemic vaccine. The Committee also noted that anti-viral drugs had a role to play in protecting the population and that the Department was purchasing a significant stockpile of antiviral drugs to treat those ill with pandemic flu. In light of the current risk assessment of pandemic flu occurring, JCVI endorsed the DH decision to purchase supplies of H5N1 vaccine.

The revised UK Influenza Pandemic Contingency Plan was published in March 2006.

Policy on poultry workers

The committee was asked to consider its advice on influenza immunisation for poultry workers in the context of a heightened risk of H5N1 avian flu entering the UK. The committee agreed that if the assessment of the risk rose for H5N1 avian flu coming into the UK, then seasonal flu vaccination should be offered routinely to all at-risk poultry workers. Seasonal flu vaccination would not protect the poultry workers from H5N1 avian flu but would minimise the risk of a poultry worker becoming infected with both human and avian influenza viruses. Co-infection increases the possibility of re-assortment between the two strains and a virus emerging with greater potential for human to human transmission.

The Committee was overall in favour of annual vaccination of poultry workers with seasonal flu vaccine.

Tuberculosis and changes to the BCG programme

Context

TB is a serious disease. It mainly affects the lungs, with potentially serious consequences. Even today, it kills more than two million people per year globally. Virtually all these deaths, however, are confined to developing nations, or specific risk groups, with connections to these countries.

In the UK, TB is now usually only found in certain risk groups, rather than in the general population. This is significantly different from when the universal immunisation was originally introduced more than 50 years ago. Then TB was found in people across all sections of society.

The risk to the general population is now extremely low. The committee therefore advised that offering the vaccination to all children was no longer appropriate. However, the committee was mindful that some children in the population were at greater risk from the TB bacteria. In order to ensure their protection, it recommended specific targeting of specific at-risk groups.

This recommendation has brought the UK into line with the policies in most other countries, where, like the UK, the disease has been eliminated from the general population. Many of these countries have reviewed and revised their immunisation programmes to move away from universal vaccination to targeting specific at-risk groups (see p.16).

Acting on our advice the government has replaced the BCG programme with a new policy of targeting at-risk groups.

The challenge

In recommending the end of this universal vaccination, the committee had to ensure that the revised programme effectively targeted at-risk groups. As part of this process, the committee has reviewed both NICE recommendations and national policy regarding at-risk groups to ensure the criteria are evidence-based.

Consideration of these risks is not always straightforward and available data requires careful analysis. For example, BCG vaccination for at-risk groups where there is also a risk of HIV infection could cause problems, as BCG is contraindicated in people who are immuno-compromised. This could impact on the requirement for HIV testing.

Defining ‘at-risk’ groups

New entrants

The key at-risk group includes new entrants from places with a high incidence of TB. One of the regions with the highest incidence is Sub-Saharan Africa. The committee looked at various definitions of a threshold level of disease incidence that qualified an entrant’s country of origin to be deemed as high incidence.

The committee agreed that new entrants from countries with an incidence of TB of more than 40 in each 100,000 of population in any one year should be vaccinated.

New borns

It was recommended that the vaccination should be offered to all those born in areas of high incidence of TB, i.e. more than 40 new cases per 100,000 population in any year. Also, to those who have one or more parents or grandparents born a country with high incidence.

Recommendation to change the BCG programme

After thorough consideration of all evidence the committee was convinced that the time was right to recommend the cessation of the universal vaccination programme and made the following two recommendations to Ministers.

- The BCG schools programme should cease at the end of the school year (2005). This was because TB now occurs in clearly defined risk groups rather than across the whole population.
- The targeted neonatal BCG vaccination programme based on individual and geographical risk factors should be enhanced.

The future

Looking forward to the priorities and challenges of 2007 and beyond

We are determined to ensure that JCVI continues to be at the forefront of best practice in 2007 and that the UK continues to be one of the leading members of the WHO in terms of the effectiveness of our immunisation programme.

In 2007, a key priority will be to monitor the effectiveness of the present changes to the childhood immunisation programme and to ensure that they meet their objectives. We will expect to find a significant reduction in IPD in young children and a reduction in cases in older groups through overall improved protection.

It will be important to review the influenza programme. Considering how to increase take-up amongst healthcare workers remains a priority as well as continuing to review the evidence for extending qualification to further significant at-risk groups such as pregnant women and young children.

The shift away from universal to targeted immunisation of TB risk groups will require careful monitoring, both in terms of the effect on the incidence of TB in the general population and definition and extent of take-up by the identified risk groups.

It is likely that attention will continue to be focused on preparedness planning for pandemic flu in 2007 and the committee will ensure it provides relevant and accurate advice on this topic.

In considering the possible extension of the immunisation programme, a range of vaccines is under constant review, including rotavirus vaccine, HPV vaccine and varicella vaccine. HPV vaccine will be a key priority for detailed review in 2007. All available evidence will be thoroughly reviewed before any recommendations are made.

Appendix

Declaration of members' interests 2005

Chairman **Professor Michael Langman**
 Professor of Medicine, University of Birmingham

Personal interests

- **Consultancies**
None
- **Fee-paid work**
None
- **Shareholdings**
None
- **Other**
None

Non-personal interests

- **Fellowships**
None
- **Industrial support**
Astra, Novartis, Merck Sharp & Dohme.
- **Other**
None

Professor Keith Cartwright
 Microbiologist/Bacteriologist Group Director,
 Health Protection Agency

Personal interests

- **Consultancies**
Consultancy work for
Wyeth Lederle
- **Fee-paid work**
None
- **Shareholdings**
Celltech
- **Other**
None

Non-personal interests

- **Fellowships**
None
- **Industrial support**
Vaccine trials including products
of Wyeth Lederle, Chiron,
Baxter, RIVM, Aventis Pasteur
- **Other**
Medical Consultancy to New Zealand Department
of Health regarding meningitis B vaccine

Professor Jonathan Cohen
 Dean, Brighton & Sussex Medical School and Professor of
 Infectious Diseases

Personal interests

- **Consultancies**
GlaxoSmithKline; Lilly; Baxter; Pfizer
- **Fee-paid work**
ICOS (Data Safety Monitoring Board)
- **Shareholdings**
Cambridge Antibody Technology (and member of the
Scientific Advisory Board)
- **Other**
Zen VC (Scientific Advisory Board, potential share
entitlement. Company involved in scientific research)

Non-personal interests

- **Fellowships**
None
- **Industrial support**
Baxter
- **Other**
None

Dr Yvonne Doyle
 Director of Public Health & Medical Director,
 South East London Strategic Health Authority

Personal interests

None

Non-personal interests

None

Professor Alan Emond
 Professor of Community Child Health at the University
 of Bristol. Director of the centre for child and adolescent
 Health, Bristol.

Personal interests

None

Non-personal interests

None

Professor David Goldblatt

Professor of Vaccinology and Immunology, Director of Clinical Research and Development, Institute of Child Health and Great Ormond Street Hospital, London

Personal interests

- **Consultancies**
Occasional member of expert panels for Glaxo SmithKline Biologicals, Wyeth Lederle Vaccines and Pasteur Merieux Connaught
- **Fee-paid work**
Produced a clinical expert report on meningococcal C conjugate vaccine produced by Wyeth Vaccines.

Produced expert reports for GSK on MMR up to March 2003
- **Shareholdings**
None
- **Other**
None

Non-personal interests

- **Fellowships**
None
- **Industrial support**
Wyeth Lederle Vaccines; Glaxo SmithKline Biologicals, Baxter Aventis-Pasteur
- **Other**
None

Professor Paul Griffiths

Professor of Virology, Royal Free and University College Medical Schools

Personal interests

- **Consultancies**
Ad hoc consultancies for Pharmacia and Wyeth-Ayerst. Both concern the development of antiviral drugs; neither concerns vaccines
- **Fee-paid work**
None
- **Shareholdings**
None
- **Other**
None

Non-personal interests

- **Fellowships**
None
- **Industrial support**
None
- **Other**
Work in Professor Griffiths' Department has led to the submission of a patent application in the name of the Medical School concerning the possible prevention of cytomegalovirus infection by means of vaccine.

Professor Andrew Hall

London School of Hygiene and Tropical Medicine

Personal interests

None

Non-personal interests

None

Professor Simon Kroll

Professor of Paediatrics and Molecular Infectious Diseases, Imperial College, London

Personal interests

- **Consultancies**
None
- **Fee-paid work**
Participated on vaccine research review panel for Shire.
- **Shareholdings**
None
- **Other**
None

Non-personal interests

- **Fellowships**
None
- **Industrial support**
A current research project in his group is partly supported by Chiron Vaccines. In the past another project has been partly supported by Shire Pharmaceuticals. He has received grants (to cover travel/accommodation/registration) from Wyeth Vaccines to attend open medical scientific meetings.

- **Other**

He is Vice Chairman of the medical-scientific advisory panel for the Meningitis Trust. He sits on the Wellcome Trust Medical Microbiology Fellowship Committee. Imperial College co-holds with the Centre for Applied Microbiology and Research patent rights in some products of their meningococcal vaccine research, for which they are seeking an industrial partner

Mrs Vivienne Parry

Writer and Broadcaster

Personal interests

Baxter Fenwal: Occasional media training sessions outside Britain for the blood products division of the company.

Wyeth: Speaker for the RCGP leadership course sponsored by Wyeth. Payment will be from the RCGP.

Non-personal interests

None

Dr Richard Roberts

Consultant in Communicable Disease Control. Vaccine Preventable Disease Programme, National Public Health Service, Wales.

Personal interests

None

Non-personal interests

None

Mrs Joan Sawyer

Nurse. Project Manager Smart Care Programme

Personal interests

None

Non-personal interests

None

Professor Brent Taylor

Professor of Community Child Health, Royal Free and University College London

Personal interests

None

Non-personal interests

None

Dr Christopher Verity

Consultant Paediatric Neurologist, Addenbrook's Hospital

Personal interests

None

Non-personal interests

None

Ex-Officio

Dr Claire Cameron

Epidemiologist (Immunisation), Scottish Centre for Infection and Environmental Health

Personal interests

None

Non-personal interests

- **Fellowships**

None

- **Industrial support**

Grant from Wyeth Vaccines to develop mathematical models of pneumococcal infection.

Support from Wyeth Vaccines to attend the European Society for Paediatric Infectious Diseases Annual Conference (April 2003).

- **Other**

None

Professor George Griffin

Professor

Personal interests

Consultancies

Microscience Scientific Advisory Board. Pharmacia Scientific Advisory Board.

Fee-paid work

None

Shareholdings

None

Other

None

Non-personal interests

Fellowships

Wellcome Trust Research Fellowships

Industrial support

None

Other

None

Professor David Hill

Director, National Travel Health Network and Centre.
Honorary Professor, London School of Hygiene and Tropical Medicine.

Personal interests

None

Non-personal interests

Fellowships

None

Industrial support

Glaxo Smith Kline

Other

None

Dr Stephen Inglis

Director of The National Institute for Biological Standards and Control

Personal interests

Consultancies

None

Fee-paid work

None

Shareholdings

Xenova

Other

None

Non-personal interests

NIBSC's role is to assure the quality of biological medicines through a mixture of product testing, development of tests and reference materials, and applied research. In carrying out its role, the institute interacts with a wide range of product developers and

manufacturers. In some instances, NIBSC charges commercial organisation for its products and services, in line with guidance issued from HM Treasury ('Fees & Charges Guide' and 'Selling into Wider Markets').

Industrial support

Amgen	Product testing
Aventis Behring GmbH	Product testing
Baxter AG	Coagulation Factor Standard
Berna Biotech	Mumps serology
Bio Products	Product testing
Boots/Wellcome	Pyrogens testing
BTG Ltd	Interleukin 1 Derived Peptides, Influence Vaccines
BTG Ltd	Invention Income for Influenza Vaccines
Celsus Labs Inc	Anticoagulant Activity of Heparins
eBioscience	Hybridoma Licence
GSK	Modelling of HIV Immunopathogenesis, influenza serology testing, polio testing
Hoffmann-La Roche	Interferon Standard
Lipoxen Tech. Ltd	Influenza Vaccines
Miltenyo Biotec	Hybridoma licence
MTL	Product testing
NGI	Multiplex NAT standard
Serono, Italy	Detection of Antibodies
SNBTs	IVIgG Testing
UKTSSA	Transplant Laboratory Services, Cell Bank & Serum Bank Agreement

Dr Angus Nicoll

Director of Health Protection Agency

Personal interests

None

Non-personal interests

Fellowships

None

Industrial support

HPA (of which he is Director) receives some funding from non-Government sources.

Other

None

Declaration of members' interests 2006

Chairman **Professor Andrew Hall**
 London School of Hygiene and Tropical Medicine

Personal interests

Consultancies

Non Executive Director Health Protection Agency

Fee-paid work

None

Shareholdings

None

Other

None

Non-personal interests

None

Dr Syed Ahmed

Consultant in Public Health Medicine, and Immunisation
 Co-ordinator, NHS Greater Glasgow & Clyde

Personal interests

None

Non-personal interests

Fellowships

None

Industrial support

Grants from GSK and Sanofi Pasteur on 'Estimating the cost of existing Hepatitis B vaccination programme in Glasgow'

Other

None

Professor Keith Cartwright

Microbiologist/Bacteriologist Group Director, Public Health Protection Agency

Personal interests

Consultancies

Consultancy work for Celltech

Fee-paid work

None

Shareholdings

Wyeth Lederle

Other

None

Non-personal interests

Fellowships

None

Industrial support

Vaccine trials including products of Wyeth Lederle, Chiron, Baxter, RIVM, Aventis Pasteur

Other

Medical Consultancy to New Zealand Department of Health regarding meningitis B vaccine.

Dr Yvonne Doyle

Director of Public Health & Medical Director, South East London Strategic Health Authority

Personal interests

None

Non-personal interests

None

Professor Alan Emond

Professor of Community Child Health at the University of Bristol. Director of the Centre for Child and Adolescent Health, Bristol.

Personal interests

Consultancies

None

Fee-paid work

None

Shareholdings

Marks and Spencer Edinburgh Investment Trust

Other

None

Non-personal interests

None

Professor Jonathan Friedland

Chair: Dept of Infectious Diseases & Immunity, faculty of Medicine, Imperial College, Hammersmith campus

Personal interests

None

Non-personal interests

None

Professor David Goldblatt

Professor of Vaccinology and Immunology, Director of Clinical Research and Development, Institute of Child Health and Great Ormond Street Hospital, London

Personal interests

Consultancies

Ad hoc consultancies with Wyeth Vaccines, GSK, Sanofi Pasteur

Fee-paid work

None

Shareholdings

None

Other

None

Non-personal interests

Fellowships

None

Industrial support

GSK, Chiron, Wyeth, Merck, Sanofi Aventis

Other

None

Professor Paul Griffiths

Professor of Virology, Royal Free and University College Medical Schools

Personal interests

Consultancies

None

Fee-paid work

One lecture to GSK (Italy) on the history of the development of antiviral drugs.

International Herpes Management Forum (member of scientific board).

Wellcome Trust (member of basic immunology and infectious disease panel)

Shareholdings

None

Other

Work in his Department has led to the submission of a patent application in the name of the Medical school concerning the diagnosis of cytomegalovirus infection by means of polymerase chain reaction which began generating royalty payments in 2006.

Non-personal interests

Fellowships

None

Industrial support

AiCuris.

In 2006, Sanofi Pasteur will provide vaccine and matching placebo for an investigator led randomised controlled trial of cytomegalovirus vaccine in allograft candidates funded by a grant from the National Institutes of Health.

Other

Work in his Department has led to the submission of a patent application in the name of the Medical School concerning the possible prevention of cytomegalovirus infection by means of vaccine.

Dr Anthony Harnden

University Lecturer and Principal in General Practice, Oxford University and Morland House Surgery, Wheatley, Oxfordshire

Personal interests

None

Non-personal interests

None

Dr Paul Jackson

Consultant Paediatrician, Belvoir Ward, Royal Belfast Hospital for Sick Children, Falls Road, Belfast

Personal interests

None

Non-personal interests

None

Professor Simon Kroll

Professor of Paediatrics and Molecular Infectious Diseases, Imperial College, London

Personal interests

Consultancies

None

Fee-paid work

None

Shareholdings

None

Other

Has received a grant (to cover travel/accommodation/registration) from Wyeth Vaccines to attend the 2006 open medical scientific meeting of the European Society for Paediatric Infectious Diseases.

Non-personal interests

Fellowships

Fellow of the Academy of Medical Sciences

Fellow of the Royal College of Paediatrics and child Health.

Fellow of the Royal College of Physicians.

Industrial support

Research in his laboratory is funded by Sanofi Pasteur and by the Health Protection Agency.

Other

Chairman of the medical/scientific advisory panel of the Meningitis Trust, and a member of the scientific advisory committee of the Lister Institute.

Mrs Vivienne Parry

Writer and Broadcaster

Personal interests

Baxter Fenwal: Occasional media training sessions outside Britain for the blood products division of the company.

Wyeth: Speaker for the RCGP leadership course sponsored by Wyeth. Payment will be from the RCGP.

Non-personal interests

None.

Dr Richard Roberts

Consultant in Communicable Disease Control. Vaccine Preventable Disease Programme, National Public Health Service, Wales.

Personal interests

None

Non-personal interests

Fellowships

None

Industrial support

None

Other

Educational grant from Sanofi Pasteur MSD (October 2005) to investigate factors which improve the uptake of adult pneumococcal vaccine.

Professor Brent Taylor

Professor of Community Child Health, Royal Free and University College London

Personal interests

None

Non-personal interests

None

Dr Christopher Verity

Consultant Paediatric Neurologist, Addenbrook's Hospital

Personal interests

None

Non-personal interests

None

Ex-Officio

Dr Claire Cameron Ex-Officio

Epidemiologist (Immunisation), Scottish Centre for Infection and Environmental Health

Personal interests

None

Non-personal interests

Fellowships

None

Industrial support

Health Protection Scotland received '£40,000 per annum to buy 600 registrations for NHS surgeries in England to allow the access to Travax'. This was for the period April 2005-April 2006.

Other

None

Professor George Griffin

Professor

Personal interests

Consultancies

Fee-paid work

SAB VCB Celltech

ENZON SAB, New Jersey, USA

BIO1 occasional consultancy

NONE has any vaccine connection.

Shareholdings

None

Other

None

Non-personal interests

Fellowships

Henry Jackson fellowship held at NIH Oct-Dec 2006

Industrial support

None

Other

None

Professor David Hill

Director, National Travel Health Network and Centre.
Honorary Professor, London School of Hygiene and Tropical Medicine.

Personal interests

None

Non-personal interests

None

Dr Stephen Inglis

Director of The National Institute for Biological Standards and Control

Personal interests

Consultancies

None

Fee-paid work

None

Shareholdings

Xenova

Other

None

Non-personal interests

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Commercial contracts within the last two years:

Amison Pharma	Angel Biotechnology
Artus Biotech	Baxter
Bayer	BBT Biotech
BD Pharmingen	Beckton Dickenson
Berna Biotech	Bharat
Biofact	Biolegend Inc
Bioneedle Technologies	Boots/Wellcome
BPL	BTG
CADILA	Cambridge Biostability
Celsus Labs	Chiron Behring
CSL Ltd	Dilafor
eBioscience	Encure/Pharmacia
Endell Veterinary Group	Evans
GeneMedix	Glycart
Glycoform Ltd	Grifols
GSK	GTC Biotherapeutics
Immunobiology Plc	ISEAO
Kamada	LGC
Miltenyi Biotec	Momenta
MTL	NGI
Noavrtis Novocastra	Octapharma
Paion	Pfizer
Philogen	Plasso
Powdermed	Rhinopharma Ltd
Roche	Sanofi
Santa Cruz	Serono
Serum Institute India	Solstice
Stago	Tepnel
MSD	West Pharm
Virantive	Wockhardt Ltd
Wyeth	

