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From the PHLS Communicable Disease Surveillance Centre

Policy and practice

Head lice

Head lice among primary school children cause a great deal of parental anxiety and work for health care professionals. Because of this, the Public Health Medicine Environmental Group has produced a working document on head lice control.[1] This document provides guidance on management within school and families. It covers the detection of lice and suitable treatment regimes. (The main findings are summarized later in this review.)

Group B Streptococcus Working Group

The Centers for Disease Control and Protection, Atlanta, GA, USA, have produced guidelines on the prevention of perinatal invasive group B streptococcal disease (GBS).[2] The PHLS Systemic and Respiratory Infections Advisory Committee has set up a Group B Streptococcus Working Group which aims to produce guidelines for the United Kingdom. This process will be informed by an assessment of current data on GBS in England and Wales, and new enhanced surveillance of GBS.[3] For further details, contact Dr Androulla Efstratiou (PHLS Respiratory and Systemic Infection Laboratory, CPHL, 61 Colindale Avenue, London NW9 5HT).

Trends in morbidity

Notifiable diseases

Notifications of tuberculosis rose by 20 per cent compared with the corresponding quarter of 1997. The total number of notifications of tuberculosis, at 1627, was the highest quarterly total since September 1984. Comparing 1998 as a whole with 1997, the greatest proportional rises in cases of tuberculosis were seen for non-respiratory forms of the disease, although these continue to account for only a minority of all cases. The increase in tuberculosis notifications between the fourth quarters of 1997 and 1998 was not seen in all regions; the greatest proportional rises in notifications in tuberculosis were seen in the West Midlands (57 per cent) and Wales (160 per cent). In contrast, falls in notifications were reported from South and West region (16 per cent) and North West region (20 per cent).

Notifications of hepatitis B infection also rose substantially between the final quarters of 1997 and 1998, the number of notifications in the final quarter of 1998, at 251, being >30 per cent above that in the corresponding quarter of 1997. In contrast, notifications of hepatitis A fell by 15 per cent between the final quarter of 1997 and the final quarter of 1998. Of the 885 notifications of viral hepatitis reported in the final quarter of 1998, 47 per cent were reported as hepatitis A, 28 per cent as hepatitis B and 19 per cent as hepatitis C, the remainder being made up of other forms of viral hepatitis.

Notifications of whooping cough continue to fall, the total for the final quarter of 1998, at 360, being 50 per cent lower than that in the corresponding quarter of 1997. There were also significant declines in notifications of scarlet fever, measles, mumps and rubella. The total number of notifications for measles and rubella in the last quarter of 1998 were the lowest ever recorded in a quarter for each of these diseases.

There were modest falls in notifications of meningococcal septicaemia, by 6 per cent compared with the corresponding quarter of 1997, and of meningococcal meningitis, by 9 per cent compared with the corresponding quarter of 1997. Notifications of all forms of meningitis fell by 4 per cent between the final quarters of 1997 and 1998.

Fall in HIV-related deaths

Data presented to mark World AIDS Day showed a fall in the number of new AIDS cases and HIV-associated deaths since the introduction of highly active antiretroviral therapy (HAART).[4] In contrast to this news, there have been a sustained number of reports of new HIV infections. Significant HIV transmission is continuing between men who have sexual intercourse with men, and some transmission of HIV is occurring within African communities in the United Kingdom. Considerable numbers of HIV infections are not diagnosed until the disease is at an advanced stage, and mother to child transmission is not being prevented. Risky sexual behaviour has not declined, and rates of acute gonorrhoea, acquired homosexually and heterosexually, have risen since 1994. In addition, there is still the potential for a resurgence of HIV through injecting drugs.

Outbreaks and incidents

Legionnaires' disease

Two separate outbreaks of Legionaires' disease were reported in this quarter. Seven cases of Legionnaires' disease were reported from Glastonbury, Somerset, in August and September.[5] A further five cases were reported from London in October. No common source was identified in either outbreak.

Salmonella enteritidis phage type 4

A large outbreak of gastro-intestinal illness affected 186 people who ate food items produced by a delicatessen in North London.[6] Twenty-six of the cases were confirmed as having Salmonella food poisoning. Food prepared at the delicatessen was distributed at more than 20 outlets in north London, Hertfordshire and Essex. A survey of cases showed that 90 per cent reported eating chopped liver from the delicatessen during the Jewish New Year. Some of the cases were confirmed as *S. enteritidis* phage type 4.

Escherichia coli O157

An outbreak of seven cases of *E. coli* O157 was reported in October.[7] Four of the cases needed to be admitted to hospital. The outbreak was associated with the consumption of unpasteurized milk from a farm in West Sussex. Supplies of cream were withdrawn from sale, distribution was halted and environmental health officers served a pasteurization notice.

Syphilis

The final follow up from the Bristol outbreak of syphilis was reported in November.[8] A total of 45 new cases of confirmed early syphilis were diagnosed between January 1997 and May 1998, compared with only one or two cases per year in the preceding three years. The female cases outnumbered the males, and no infections were homosexually acquired. All cases were thought to have acquired their infections in the United Kingdom.

Drinking water contamination

The mains drinking water in Bolton, Lancashire, became contaminated during investigations of sewage discharge in November.[9] The outbreak of gastro-intestinal illness affected up to 80 children.[9] There was no microbiological confirmation of the cause of the illness among the children despite a high school absentee rate.

News from abroad

Salmonella enteritidis phage type 21 in Belgium

Sixty-five British tourists became ill while on coach trips to Ostend in Belgium last October.[10] Three coaches travelled from Chichester, Hull and Cannock, and 65/135 people on the coaches became ill. Twenty-six of the cases were confirmed as having *S. enteritidis* phage type 21 infections. The days and times of onset made it likely that these people acquired their infections in Belgium.

Publications of interest

British Paediatric Surveillance Unit: 12th annual report

The British Paediatric Surveillance Unit co-ordinates active surveillance of a varying selection of rare but important diseases of childhood. Paediatricians throughout the United Kingdom and the Republic of Ireland participate in this surveillance scheme and its 12th annual report has recently been published.[11] This includes reports on congenital rubella, haemolytic uraemic syndrome, hepatitis C infection, HIV infection and AIDS, invasive *Haemophilus influenzae* infection, neonatal meningitis, progressive intellectual and neurological deterioration, and subacute sclerosing panencephalitis (SSPE).

The PHLS website

The PHLS launched its new website in November (http://www.phls.co.uk).[12] This site contains surveillance information including the CDR Weekly and the Communicable Disease and Public Health Journal. Web surfers can also visit the Eurosurveillance Weekly site (http://www.eurosurv.org), an electronic bulletin of communicable disease across Europe. Other communicable disease websites to visit include the Centres for Disease Control (http://www.cdc.gov/) and the World Health Organization's Weekly Epidemiological Record (http://www.who.ch/wer/wer_home.htm).

Influenza

The PHLS Surveillance Influenza group produces Influenza Activity Updates that are available on the PHLS website. These updates summarize clinical and virological indicators of influenza activity in England and Wales. The updates also include some international information.

Waterborne cryptosporidiosis

The government's expert group on cryptosporidiosis has recently published a new report.[13] This emphasizes that outbreaks of waterborne cryptosporidiosis are not just random, but result from inadequacies in water treatment. The report includes a series of recommendations for water companies, health authorities and local authorities. These cover epidemiology, microbiology, water treatment and research.

Infection risks associated with blood transfusion in England

Despite the success of strategies that have been implemented to prevent transmissions of infections by blood transfusion, the

risk of infectious donations entering the blood supply and transmitting infection to the recipients of blood components continues to warrant vigilance. The range of possible strategies to exclude infections from the blood supply has increased in recent years and debate about appropriate actions to take has become more complex. Transfusion-transmissible infections of most concern to public health are those that have long periods of infectivity in the absence of any clinical signs or symptoms of infection, are stable in stored blood and are likely to cause new disease in transfusion recipients [for example, hepatitis B virus (HBV), HIV and hepatitis C virus (HCV)]. The risk of bacterial contamination is also a major concern.

The three main strategies for minimizing infection risks associated with blood transfusion in England are recruitment and selection of blood donors with no known increased risk of infection, testing of donations for serological markers of infections and the control of cleanliness during component production. Risks can also be prevented by avoidance of transfusion as a treatment unless absolutely necessary and by inactivation of viruses by heat or solvent detergent treatment (available for certain components only). The provision of prophylactic treatment (e.g. HBV immunization)[14] can prevent disease in those exposed.

Donor recruitment and selection aims to select a group of individuals with a low prevalence and incidence of infection. In general, voluntary donors are considered a lower risk than paid donors, and repeat donors are considered a lower risk than new donors. Hence the exclusive use of voluntary donors in the United Kingdom and an emphasis on recruitment of donors rather than donations. However, for new infections or for infections with changing epidemiology, these general rules may not always apply. Comparison of donors with other population groups shows that selected donors do have far lower prevalence of infection, for example, the prevalence of HIV antibodies in all new female donors in England and Wales during 1997 was 0.4/10 000, while the prevalence of HIV antibodies in pregnant women tested by unlinked anonymous surveys in England during 1997 was 5.5/10 000.[15]

Testing for HBsAg as a marker of transmissible HBV infection began in the early 1970s and a subsequent fall in post-transfusion acute HBV infections was observed.[16] Anti-HIV1 testing of blood donations began in October 1985 and combined HIV1 and HIV2 tests were introduced in June 1990. Anti-HCV testing began in September 1991. During 1997, 124 HBsAg-positive donations (1 in 21 710), 29 anti-HIV-positive donations (1 in 92 079) and 236 anti-HCV-positive donations (1 in 11 315) were detected by donation testing in England and Wales[17] and prevented from entering the blood supply. In some other countries, additional serological tests are performed to detect infections missed by current testing (e.g. anti-HBc), transfusion-transmissible infections that are currently not tested for in the United Kingdom (e.g. HTLV), or surrogate markers of infection (e.g. ALT).[18] The frequency of infections in donations in England and Wales has tended to be lower than in countries where additional tests have been adopted. Factors such as the expected risk of disease occurring in recipients, the amount of public concern about blood safety and the infection in question, and the availability of resources have also determined differences in blood testing strategies in different countries. Nucleic acid technology (NAT) testing now provides the opportunity to detect infectious donations that can not be detected by serological tests. NAT tests are soon to be used in England for HCV RNA in mini-pools of plasma samples.[19] This development was driven by new regulations for the plasma product manufacturing industry but is now being implemented to enable the identification of HCV RNA reactive (anti-HCV-negative) donations and withdrawal from the blood supply of fresh components made from these donations.

Quantifying the risk of transfusion-transmission of infection in England has become more difficult as risks have declined. Surveillance systems monitor diagnosed transfusion-transmitted infections,[20,21] but several factors contribute to a lack of clinically apparent symptoms and therefore to under-diagnosis and under-reporting of infections. During the year from October 1, 1996 to September 30, 1997, eight transfusion-transmitted infections (1 HIV, 1 HBV, 1 HCV, 1 HAV, 3 bacteria and 1 malaria) were diagnosed and reported to the Serious Hazards of Transfusion (SHOT) surveillance system.[22] During the following year, four transfusion-transmitted infections (2 HBV, 1 HCV and 1 bacteria) were reported.[23] In order to obtain direct and precise estimates of current infection transmission rates by transfusion in the United Kingdom, the number of recipients that must be followed up is very large and such studies have become prohibitively expensive. A recent study of 21 800 units found no transfusion-transmitted HIV, HBV, HCV or HTLV infections.[24] Estimations of the number of infectious donations that enter the blood supply are becoming more common, and more commonly used.[25] The probability of a donation being collected during the window period when serological tests do not detect the infection, of a false-negative test result and of erroneous release of a positive donation can be estimated if the incidence of the infection, the length of the window period, the prevalence of the marker, the sensitivity of the testing system and the error rate are known. Estimations using data for England suggest that less than 1 in 2 million and less than 1 in 200 000 donations entering the blood supply during 1993–1995 may have been infectious for HIV and HCV, respectively.

Whether prion disease can be transmitted by transfusion is currently uncertain.[26] Nevertheless, in June 1998 the Bio Product Laboratory (BPL) stopped using plasma collected from UK donors for the manufacture of plasma-based products. This change followed advice issued by the Committee on Safety of Medicines to reduce the theoretical risk of new-variant Creutzfeldt-Jakob disease (nvCJD) being carried by UK donors and transmissible by plasma products. All plasma-based products available from BPL are now made from plasma collected in the USA where nvCJD is not known to be present.

In July 1998, also motivated by the possible risk of nvCJD from donated blood, the Government announced that the blood services will implement routine leucodepletion to filter white cells out of all donated blood. This decision was based on advice given by the Spongiform Encephalopathy Advisory Committee after it considered research suggesting lymphocytes might carry the infectious agent for nvCJD. Several other national blood services in Europe, e.g. in France and Austria, have introduced leucodepletion in order to prevent other known transfusion reactions.

The risks and consequences of transfusion-transmitted infections are not constant, but are changing as the range and epidemiology of blood-borne infections, the practices of the blood service and transfusion prescribers and the characteristics of blood recipients are changing. Vigilance of blood-borne infectious diseases in the general population, and in blood recipients in particular, remains an important strategy to minimize the infectious risks associated with transfusion.

The SMAC report

Antimicrobial resistance and clinical prescribing practice

In '*The Path of Least Resistance*' (September 1998), the Standing Medical Advisory Committee (SMAC) reported on the issue of antimicrobial resistance in relation to clinical prescribing practice.[27] The document was made available in three forms: an executive summary, a synopsis sent to all doctors in the United Kingdom and the full document, 150 pages long with over 300 references. The terms of reference for the sub-committee which produced *The Path of Least Resistance* included the identification of practices that might help to limit the development and spread of resistance to antimicrobial agents, the identification of priorities for changing practice in the use of antimicrobial agents and developing advice on how such changes might most effectively be achieved by both professionals and public. Given their role in ensuring that appropriate health care is delivered within both primary and secondary care environments to the population, it is clear that *The Path of Least Resistance* has implications for Health Authorities.

The Report contains recommendations that will contribute to a strategy for minimizing the development for antimicrobial resistance. For this strategy to be successful will require local commitment. Eighty per cent of antimicrobial prescriptions for humans are made in the community. This selection pressure for resistance will need to be addressed at local level if any national campaign on antibiotic treatment is to be effective. Support for appropriate prescribing in primary care will be provided by developing and promulgating evidence-based guidelines, which will need to be adapted for local use. Action on antimicrobial resistance could be incorporated in to the development of health improvement plans. The preliminary guidance on health improvement plans from the Welsh Office suggests that effective use of antibiotics might be used as one of the high level indicators to monitor Health Authority performance.[28] If Health Authorities are to be monitored against antimicrobial use patterns, they will wish to become engaged in the development and dissemination of effective guidance to general practitioners.

Sweden has had a national strategy for some years. Following its inception, the rise in antimicrobial use was arrested and then reversed. One of the key elements of the Swedish strategy was the development of local groups which involved the commitment of the local authorities, the equivalent of the CCDC and other local professionals and key interest groups such as the media. These groups engaged the local population, both professional and lay, in understanding issues around antimicrobial resistance.

Resistance can be a major problem within hospitals, particularly when infection affects vulnerable patients. Understanding the epidemiology of antimicrobial resistance issues within the hospital requires good surveillance data. There is some concern that the level of commitment to hospital surveillance, and undertaking action, amongst managers is patchy. Health Authorities are in a position to raise the issue of antimicrobial resistance and hospital infection surveillance with the Chief Executives of their Trusts. The development of hospital epidemiology should be seen as crucial if clinical care is to respond to the increasingly complex problems around antimicrobial resistance and vulnerable patients. The agenda resulting from the activities of clinical governance and the commission for health improvement make it likely that antimicrobial resistance monitoring in hospitals remains of importance not only to clinicians but also to managers.

Health Authorities are likely to hold a key role in the co-ordination and development of the local initiatives which will prove crucial if there is to be any effective national strategy for minimizing the development of antimicrobial resistance.

Head lice, is there a way forward?

Head lice are not a significant cause of physical morbidity, but in terms of parental anxiety and workload for health care professionals in the school health and communicable disease fields, this insect ectoparasite is the most prominent infectious disease problem of children of primary school age and has provoked more parliamentary discussion in recent years than any other paediatric health care condition. Discussion of treatment strategies has even reached the front page of the Wall Street Journal. As the market for head louse treatment (NHS and non-NHS) is now estimated at £25 million in the United Kingdom alone, this may not be so surprising. Head lice are perceived as a large problem in the developed world, the large number of web-sites dedicated to them (30 000 hits and rising) bearing witness to this.

The Public Health Medicine Environmental Group (PHMEG), in response to the expressed concern of members,

has produced a working document on head louse control. This was developed from the discussions of a multidisciplinary working group, convened by the PHMEG. The document itself was written by three Consultants in Communicable Disease Control (CCDC) and a scientific advisor. It has been sent to all CCDC (or equivalent in Scotland and Northern Ireland). A group looking at the problem in the Republic of Ireland has also used it.

The group's discussions were often lively and in the end it was not possible to reach a consensus, mainly on the subject of treatment, but it is important to stress there was considerable agreement on other parts of the document. The document's most important points are:

(1) There is an inadequate evidence base with respect to head louse infestation. There is, for example, no validated detection method, and scientifically valid trials have not as yet been conducted on some treatment modalities. This lack of knowledge has contributed to the confusion about control strategy and urgently needs to be addressed by quality research studies. However it has still been the case that it is difficult to obtain funding for quality research to answer the basic questions. Without a sound epidemiological evidence base, it is difficult to interpret results of treatment modalities. There also needs to be research into, and/or surveillance of, resistance patterns to insecticide treatment in the United Kingdom.

(2) In the recent past, there has been an over-emphasis on school-based transmission. Transmission occurs in schools, amongst friends out of school and within family groups. Head lice are a societal and not specifically a health care or school problem.

(3) The basis of head louse control should be teaching the population identification strategies and detection combing technique.

(4) Only people with live lice should be treated. Close contacts should be detection-combed and treated if live lice are found. Nits (empty egg cases) without live lice present are not an indication for treatment. Treatment with insecticide should be repeated after one week to kill emerging lice. If this treatment regime does not work, help should be sought from a trained health care professional rather than parents repeating chemical treatment and increasing the risk of insecticide toxicity.

(5) Schools should give consistent information on a regular basis to parents, staff and children. The use of 'alert letters' is probably counter-productive, as in a medium-sized primary school there is probably a child with head lice on any given school day.

(6) All primary health care teams should have a member of staff who is trained in head louse control. Support may need to be given to families with recurrent problems with infestations.

(7) CCDC should develop guidance and protocols for health care workers (including pharmacists) in their area.

(8) The use of rotational policies is not now recommended as they may encourage the development of resistance to insecticides.

The document itself has other recommendations and suggestions. It is important to point out that due to the lack of quality evidence it is a 'good practice' document. Copies are available on the world-wide web at HYPERLINK http// www.wilts-ha.swest.nhs.uk

Reports on Policy and practice, Trends in morbidity, Outbreaks and incidents, News from abroad and Publications of interest prepared by Drs Mike Catchpole and Nicky Connor; Infection risks associated with blood transfusion in England by Kate Soldan and Dr Mary Ramsey; The SMAC report by Dr Julius Weinberg; and Head lice, is there a way forward? by John Simpson, and edited by Dr Gervase Hamilton.

References

1 Anonymous. Working document combs out guidance on head lice. *Commun Dis Rep CDR Wkly* 1998; **8:** 405.

2 CDC. Prevention of group B streptococcal disease: a public health perspective. *MMWR Morb Mortal Wkly Rep* 1996; **45:** RR-7.

3 Anonymous. PHLS Group B *Streptococcus* Working Group. *Commun Dis Rep CDR Wkly* 1998; **8:** 439–442.

4 Anonymous. As HIV related deaths fall, increased numbers need treatment. *Commun Dis Rep CDR Wkly* 1998; **8:** 421.

5 Anonymous. Outbreak of Legionnaires' disease in Somerset – update. *Commun Dis Rep CDR Wkly* 1998; **8:** 361.

6 Anonymous. *Salmonella* outbreak in North Thames linked to delicatessen. *Commun Dis Rep CDR Wkly* 1998; **8:** 369–372.

7 Anonymous. Cases of *Escherichia coli* O157 infection associated with unpasteurised cream. *Commun Dis Rep CDR Wkly* 1998; **8:** 377.

8 Anonymous. Syphilis in Bristol 1997–8: an update. *Commun Dis Rep CDR Wkly* 1998; **8:** 413–416.

9 Anonymous. Sewage contamination of drinking water in Bolton. *Commun Dis Rep CDR Wkly* 1998; **8:** 431.

10 Anonymous. Outbreak of *Salmonella enteritidis* phage type 21 among British tourists returning from Ostend. *Commun Dis Rep CDR Wkly* 1998; **8:** 389–392.

11 Guy M, Nicoll A, Lynn R, eds. *British Paediatric Surveillance Unit 12th annual report*. London: BPSU, 1998.

12 Anonymous. Blowing a trumpet for communicable disease surveillance. *Commun Dis Rep CDR Wkly* 1998; **9:** 397–400.

13 Bouchier I, chairman. *Cryptosporidium in water supplies*. Third report of the group of experts to: Department of the

Environment, Transport and the Regions and the Department of Health. London: DETR, 1998.

14 Salisbury D, Begg NT, eds. *Immunisation against infectious disease*. London: HMSO, 1996.

15 Department of Health. *Prevalence of HIV in England and Wales in 1997*. Annual report of the unlinked anonymous prevalence monitoring programme.

16 Barbara Briggs M. Hepatitis of the non-A, non-B type following blood transfusion in the North London region. *Med Lab Sci* 1981; **38:** 423–426.

17 Surveillance of viral infections in donated blood: England and Wales, 1997. *Commun Dis Rep CDR Wkly* 1998; **8:** 364.

18 Soldan K, Barbara J. The risks of infection transmission by blood transfusion in England. *JCP* 1999: in press.

19 Flanagan P, Snape T. Nucleic acid technology (NAT) testing and the transfusion service; a rationale for the implementation of minipool testing. *Transfus Med* 1998; **8:** 9–13.

20 Williamson LM, Heptonstall J, Soldan K. A SHOT in the arm for safer blood transfusion. *Br Med J* 1996; **313:** 1221–1222.

21 Soldan K, Ramsay M, Collins M. Acute hepatitis B infection associated with blood transfusion in England and Wales 1991–7: review of database. *Br Med J* 1999; **318:** 95.

22 Williamson LM, Lowe S, Love EM, *et al*. The Serious Hazards of Transfusion (SHOT) initiative – results of first year's reporting. *Br Med J* 1999; in press.

23 Williamson LM, Lowe S, Love EM, *et al*. *SHOT Annual Report 1997–1998*. Manchester: SHOT office, Manchester Blood Centre, 1999.

24 Regan FAM, Barbara JAJ, Bailey M, *et al*. Study to determine the incidence of transfusion transmitted infection in recipients of blood transfusion (abstract). *Transfus Med* 1996; **6**(Suppl. 2): 5.

25 Soldan K, Barbara J. Estimation of the infections risks of blood transfusion. *Hematology* 1999; in press.

26 Ricketts MN, Cashman NR, Stratton EE, ElSaadany S. Is Creutzfeldt-Jacob disease transmitted in blood? *Emerg Infect Dis* 1997; **3:** 155–163.

27 Standing Medical Advisory Committee (Department of Health). *The Path of Least Resistance*. Main Report. London: Department of Health, 1998.

28 Health Improvement Programmes: Preliminary Guidance. WHC (98)-43; Cardiff: Welsh Office, 1998.