

Five Nations Health Protection Conference



Tuesday 28 - Wednesday 29
April 2009



Session Chairs

Dr Charles Saunders

Consultant in Public Health Medicine
Fife NHS Board, Leven

Dr John Cowden

Consultant Epidemiologist
Health Protection Scotland, Glasgow

Dr Neil Irvine

Regional Epidemiologist
Communicable Disease Surveillance Centre
Northern Ireland, Belfast

Dr Martin Schweiger

Consultant in Communicable Disease Control
West Yorkshire Health Protection Unit
Leeds

Dr Meirion Evans

Consultant Epidemiologist
National Public Health Service for Wales
Communicable Disease Surveillance Centre
Cardiff

Dr Dilys Morgan

Consultant Epidemiologist
Health Protection Agency
Centre for Infections, London

Conference Organising Committee

Ms Michelle Clark

Courses and Conferences Coordinator
Health Protection Scotland, Glasgow

Dr John Cowden

Consultant Epidemiologist
Health Protection Scotland, Glasgow

Dr Meirion Evans

Consultant Epidemiologist
National Public Health Service for Wales
Communicable Disease Surveillance Centre
Cardiff

Dr Kirsty Foster

Consultant in Health Protection
North East Health Protection Unit (NTW team)
Newcastle upon Tyne

Mrs Yvette Howell

Training and Events Coordinator
Health Protection Agency
Centre for Infections, London

Dr Neil Irvine

Regional Epidemiologist
Communicable Disease Surveillance Centre
Northern Ireland, Belfast

Mrs Lynda Lewis

Administrator
National Public Health Service for Wales
Communicable Disease Surveillance Centre
Cardiff

Dr Lorraine Lighton

Consultant in Communicable Disease Control
Greater Manchester Health Protection Unit,
Manchester

Dr Paul McKeown

Specialist in Public Health Medicine
HSE - Health Protection Surveillance Centre,
Dublin

Dr Dilys Morgan

Consultant Epidemiologist
Health Protection Agency
Centre for Infections, London

Dr Margaret O'Sullivan

Consultant in Public Health Medicine
Department of Public Health
HSE-South, Wilton, Cork

Dr Charles Saunders

Consultant in Public Health Medicine
Fife NHS Board,
Leven

Dr Martin Schweiger

Consultant in Communicable Disease Control
West Yorkshire Health Protection Unit
Leeds

Ms Alison Williamson

Administrator
Health Protection Agency North East
(Northern Office), Newcastle upon Tyne

Mrs Gloria Wilson

Training and Events Coordinator
Health Protection Agency
Centre for Infections, London

We would like to acknowledge the generous sponsorship received from our sponsors who have contributed to the administration costs of this conference.

Wyeth
Vaccines

Supported by an unrestricted educational grant from Wyeth vaccines



City eHealth Research Centre (CeRC)

Aims and Objectives

The aim of the Conference is to provide a focus for Continuing Professional Development for Consultants in Communicable Disease Control, Consultants and Specialists in Public Health Medicine and their colleagues in the epidemiology, and control of infectious, non infectious diseases and environmental hazards.

The objectives are:

- 1 To refresh participants' knowledge of the recognition, investigation and control of important infections and other environmental hazards.
- 2 To inform participants about significant new and emerging problems in infectious disease and advances in methods of their investigation and control.
- 3 To stimulate discussion of the practical problems that may confront those responsible for carrying out investigations and implementing control procedures.
- 4 To foster the maintenance and development of professional networks among those working in control of infection and environmental hazards.
- 5 To contribute to the development of policies and standards.
- 6 To provide a focus for health protection issues across the Five Nations.



CPD

The Faculty of Public Health no longer accredits meetings for CPD purposes. Individuals should assess the content of external meetings in relation to their own personal development plan (PDP) and make a judgement about its value. Having attended a meeting, if it provides good quality learning, they should write a reflective note and claim CPD credits.

Five Nations Health Protection Conference

Tuesday, 28 April - Wednesday, 29 April 2009

Newcastle Civic Centre, Barras Bridge, Newcastle-Upon-Tyne

Tuesday, 28 April 2009

09.00-10.00	Registration Desk Opens Coffee available	
10.00-10.15	Welcome and Introduction	Lord Mayor and Lady Mayoress, Councillors David and Margaret Wood
10.15-11.00	Keynote Address Challenges of partnership working - shifting sands, pitfalls and the importance of doing lunch	Dr Tricia Cresswell

SESSION I

11.00-12.00	Immunisation Session Organiser: Dr Charles Saunders Chair: Dr Charles Saunders	
11.00-11.15	Evaluation of the MMR catch up campaign in Greater Manchester	William Welfare
11.15-11.30	Factors underlying parental decisions about childhood vaccination: a systematic review	Katrina Brown
11.30-11.45	Updating HPA guidance on control of hepatitis A to take account of new evidence	Peter Sheridan
11.45-12.00	Vaccination coverage and uptake in a youth offender institution: our achievements and the way forward	Ashesh Modi
12.00-12.30	Attended Poster Session	

12.30-13.30	Lunch	
-------------	-------	--

SESSION II

13.30-15.00

Outbreaks and Incidents

Session Organiser: Dr John Cowden

Chair: Dr John Cowden

13.30-13.45

An investigation into transient rash illness in children attending nurseries across England – an example of multidisciplinary working and lessons learned

Karthikeyan Paranthaman

13.45-14.00

An outbreak of Legionnaires' disease associated with self-reported Pontiac fever morbidity in office workers, Dublin, 2008

Mary Ward

14.00-14.15

An outbreak of *E.coli* O157 in North-East Scotland

Catriona Hughes

14.15-14.30

CHaPD: a response to the flooding in Morpeth

Simon Griffiths

14.30-14.45

Difficult to prove, necessary to act: listeria, hospitals and sandwiches

Ashesh Modi

14.45-15.00

Is contact tracing a waste of scarce resources?

Mark Temple

15.00-15.30

Tea

SESSION III

15.30-16.45

International Health

Session Organiser: Dr Neil Irvine

Chair: Dr Neil Irvine

15.30-15.45

Implementation of a tuberculosis cohort review process in order to improve treatment outcomes of patients in NHS Lothian, Scotland

Janet Stevenson

15.45-16.10

A case of human rabies in Northern Ireland

Maureen McCartney
Hilary Kirkbride

16.10-16.45

Diarrhoea and despot

Ben Lopman

16.45-17.45

Posters available for viewing

Public Health Medicine Environmental Group Annual General Meeting

Evening events to be held at the Discovery Museum, Blandford Square, Newcastle

18.30-19.30

Pre-Dinner Quiz at Turbinia Hall, Discovery Museum

Session Organiser: Dr Lorraine Lighton

Quiz Master: Dr John Cowden

19.45

Conference Dinner - Great Hall, Discovery Museum

Northumberland Themed Menu

Dusk 'til Dawn Ceilidh Trio

Wednesday, 29 April 2009

08.00-09.00 Registration Desk Opens - Poster Session

SESSION IV

09.00-10.15

Sex, Saunas And Sport – The Risks Of Leisure Activities

Session Organiser: Dr Lorraine Lighton
Chair: Dr Martin Schweiger

09.00-09.15

A cluster of syphilis in young people in Rochdale,
Greater Manchester

William Welfare

09.15-09.30

The hazards of the natural environment: an outbreak of diarrhoeal
illness in mountain bikers

Sian Griffiths

09.30-09.45

Tattoos on the cheap

Lorraine Lighton

09.45-10.00

Something for the weekend: sexual health behaviour and attitudes in
Portsmouth

Carolyn Watts

10.00-10.15

Outbreak of a flu-like illness after a hen party weekend

Ashesh Modi

SESSION V

10.15-11.15

Surveillance

Session Organiser: Dr Meirion Evans
Chair: Dr Meirion Evans

10.15-10.30

Clostridium difficile associated diarrhoea in the community: audit 2008

Huda Mohamed

10.30-10.45

Legionnaires' disease: 14 year review of epidemiology and outcomes in
the West Midlands

Yasmin Rehman

10.45-11.00

HPV surveillance in Scotland: monitoring a new national immunisation
programme

Katy Sinka

11.00-11.15

The future of communicable disease surveillance in Wales

Mike Roberts

11.15-11.45

Coffee

SESSION VI

11.45-13.00

Late Breakers And Hot Topics

Session Organiser: Dr Dilys Morgan

Chair: Dr Dilys Morgan

11.45-12.05

No gravy strain

Mark Evans

12.05-12.25

Hepatitis E – how was the cruise otherwise?

Bengü Said

12.25-12.40

Delay's in the treatment of tuberculosis in the West Midlands, 2007

Adedoyin Awofisayo

12.40-13.00

An international outbreak of *Salmonella* Agona associated with a large food company

Darina O'Flanagan

13.00-14.00

End Of Conference - Lunch

Presentation Abstracts

Tuesday 28 April 2009

SESSION I

Immunisation

Evaluation of the MMR catch up campaign in Greater Manchester

N Bhardwaj¹, W Welfare², R McCann², G Marsh³, D Edwards⁴, G Munslow⁴, N Moran⁵, C Khiroya⁶, S Webster⁷, L Tickle⁸, T Hart⁹, J Pieske⁹, J Annakin¹⁰, K Murdock¹¹

1 MPH Student, University of Manchester, UK.

2 Greater Manchester Health Protection Unit, Manchester, UK

3 NHS Ashton, Leigh & Wigan

4 NHS Bolton

5 NHS Bury

6 NHS Heywood, Middleton and Rochdale

7 NHS Manchester

8 NHS Oldham

9 NHS Salford

10 NHS Tameside and Glossop

11 NHS Trafford

Background

In August 2008, the Chief Medical Officer announced a MMR catch up campaign in England and Wales to prevent a country wide measles outbreak. There is limited evidence on the most effective local approach to such catch up campaigns, we report on the experience in the Greater Manchester, a conurbation including ten PCTs.

Aims

To determine the effectiveness of the MMR catch up campaign in Greater Manchester

To compare the effectiveness and cost effectiveness of different approaches to catch up

Methods

A workshop was facilitated by Greater Manchester Health Protection Unit for all immunisation co-ordinators in Greater Manchester. Each co-ordinator presented

- Details of the local implementation of the catch up campaign
- Outcomes
- Number of children receiving MMR1
- Number of children receiving MMR2
- Change in coverage
- Costs of their programme
- Cost Effectiveness: cost per child vaccinated and per child protected
- Lessons learned

The information collected was used to assess the overall impact on MMR coverage in Greater Manchester and to compare the success of different approaches.

Results

We report on the overall impact and the comparative outcomes of the different approaches taken across the 10 PCTs in Greater Manchester.

Conclusions

We make recommendations for future catch up campaigns based on the comparative effectiveness of approaches taken and the lessons learned.

Contact: william.welfare@hpa.org.uk

Factors underlying parental decisions about childhood vaccination: a systematic review

KF Brown¹, JS Kroll², M Hudson³, M Ramsay⁴, J Green⁵, S. Long¹, C Vincent¹, G Fraser⁶, N Sevdalis¹

1 Clinical Safety Research Unit, Imperial College London, England

2 Department of Paediatrics, Division of Medicine, Imperial College London England

3 Health Protection Agency Centre for Emergency Preparedness and Response, Wiltshire, England

4 Health Protection Agency Centre for Infections, London, England

5 Central and North-West London NHS Foundation Trust, England

6 Health Protection Agency London, London, England

Aims

A substantial literature explores parental vaccination decision-making, however the quality and findings of this literature were last assessed and synthesised systematically before the UK MMR controversy. This review focuses on combination vaccines and provides guidance for clinicians and policymakers on issues salient to parents, and to researchers on improving immunisation decision-making studies.

Methods

A comprehensive search strategy around the facets parent, decision, child and immunisation, along with hand searching, identified 440 articles. 409 articles were excluded following assessment against inclusion criteria (kappa for inter-rater reliability 0.71, $p < .001$). 12 qualitative and 19 quantitative studies were reviewed. Methodological quality was assessed using revised versions of validated scales. Content analysis was used to identify themes in the data, and code data to those themes.

Results

Study quality was frequently poor, with unrepresentative samples, self-report outcome measures and qualitative analyses open to bias, and a lack of prospective studies. There was substantial variation in factors reported and reporting/analysis methods, precluding systematic assessment of their predictive strength; however general safety concerns about vaccines were the most commonly assessed factor and these were consistently linked to lower uptake. Other factors linked to lower

uptake were the perception that the vaccine is effective; that the disease is serious and the child is susceptible to it; and trust in healthcare system/ Government policies around vaccination.

Conclusions

Parents acted in line with their attitudes and beliefs about vaccination. Interventions should focus on improving perceptions of vaccine safety and disease consequences. Research quality needs substantial improvement.

Contact: Katrina.Brown@imperial.ac.uk

Updating HPA guidance on control of hepatitis A to take account of new evidence

P Sheridan¹, L Thomas², K Balogun³, M Ramsay³, J Woodhouse⁴

1 Bedfordshire & Hertfordshire Health Protection Unit

2 North West London Health Protection Unit

3 HPA Centre for Infections, Immunisation Division

4 HPA Regional Director, North East

Aim

To evaluate a randomised control trial comparing Hepatitis A vaccine to Human Normal Immunoglobulin (HNIG) as post exposure prophylaxis and its implications for health protection practice.

Methods

We reviewed the literature on the use of hepatitis A vaccine and HNIG as post exposure prophylaxis. An expert Guidelines Development Group met to review this evidence and advise on the use of Hepatitis A vaccine and HNIG in the child and adult population (1-50), children under 1, and people at high risk from hepatitis A (with chronic liver disease, immune deficiency or over 50). The Regional Hepatitis Leads and The Regional Microbiology Network were consulted for their views and the document with final approval being sought from HPA Hepatitis Programme Board. There would be dissemination of the guidelines through regional leads, national health protection conferences and educational events.

Results

Recent evidence of the non-inferiority of hepatitis A vaccine for use as prophylaxis for up to two weeks pointed to a change from HNIG to hepatitis A vaccine as prophylaxis in first two weeks. Additionally, when there was a particularly high risk from Hepatitis A, HNIG and vaccine was recommended. The guidelines stress hygiene and other environmental health measures and offer advice on management of outbreaks in care settings such as nurseries.

Conclusion

An organisation-wide approach to implementing change in post exposure prophylaxis for hepatitis A has involved Local & Regional Services, Centre for Infections and Regional Microbiology Network working with clinicians in the guideline development group under auspices of the Regional leads Group and Hepatitis Programme Board. Further work is needed to evaluate the implementation of the guidelines and audit will reveal the concordance of practitioners in the field with these guidelines.

Contact: peter.sheridan@hpa.org.uk

Vaccination coverage and uptake in a youth offender institution: our achievements and the way forward

A Modi¹, J Baldwin², M Orlans², G Marsh², G Dodds³, V Bothra¹, J Chaloner¹

1 Greater Manchester Health Protection Unit, UK
2 Ashton, Leigh and Wigan Primary Care Trust, UK
3 HMYOI Hindley, UK.

Aim

Vaccination programmes in prisons tackle health inequalities by presenting an opportunity to improve the health of a population group which has worse outcomes for vaccine preventable diseases and poor uptake of childhood immunisation. The importance of Hepatitis B vaccination in prisons is widely recognised and its routine monitoring has become mandatory for prisons in England. However, there is a lack of published literature on uptake and coverage of childhood vaccinations in prison and the effectiveness of offering missed childhood, and

other vaccines in prisons. We describe uptake and coverage of individual vaccines in a youth offender institution (YOI) over a calendar year and a system for routine monitoring.

Methods

Clinical activity is routinely recorded in the YOI on the TPP (IT clinical system) software. This data was used to calculate vaccination uptake and coverage in the YOI and in different population subgroups based on age and ethnicity during 2008.

Results

1517 inmates were received in 2008. 17% of the receptions refused vaccination but refusal was highest (21%) in those under the age of 18. The coverage and uptake of Diphtheria, Measles and Hepatitis B containing vaccines were higher than that of Meningitis C and Hepatitis A. Coverage for childhood vaccines was lower in those over the age of 18 years and those from black and ethnic minority groups. Overall coverage for Hepatitis B vaccination was higher in older prisoners but uptake was higher in younger prisoners.

Conclusion

Offering the full range of vaccines to prisoners is both effective and feasible. The TPP software potentially offers an easy way of monitoring vaccination activity in prisons. Monitoring trends helps in identifying potential barriers, thus allowing a more targeted approach. As prison staff collect, collate and calculate vaccination rates themselves, it increases ownership and provides an incentive to improve performance.

Contact: a.modi@nhs.net

Tuesday 28 April 2009

SESSION II

Outbreaks and Incidents

An investigation into transient rash illness in children attending nurseries across England – an example of multidisciplinary working and lessons learned

K Paranthaman¹, S Pooransingh¹, N McCarthy¹, PJ Saunders², E Haworth¹

¹ Thames Valley Health Protection Unit, Oxford
² Chemical Hazards and Poisons Division, Chilton

Introduction

We report the investigation into several incidents of rash illness in nursery age children across England. The index case was notified to Thames Valley Health Protection Unit (TVHPU) by a parent. Her 18 month old child developed a transient rash after eating lunch prepared at a nursery in Oxfordshire.

Methods

An initial investigation undertaken by TVHPU was escalated when similar incidents were reported in nurseries in other parts of England. The nursery headquarters was contacted and a full scale investigation involving Environmental Health Officers (EHOs), other HPUs, Chemical Hazards and Poisons Division (CHaPD), clinical colleagues, the Food Standards Agency (FSA) was commenced under the leadership of TVHPU. This constituted a level 2 incident on the HPA IRIS system.

Results

Investigations revealed 11 incidents affecting 164 children between July and November 2007 in 6 nurseries operated by one of two companies.

The symptoms included a transient rash around mouth and hands of children who ate meals prepared on site by the nurseries. The rash lasted no more than 2 hours unaccompanied by clinical sequelae.

Consumption of the lunch main course appeared to be a strong etiological factor as many of the nurseries had a common supplier of meat and vegetables and several incidents occurred on days when a particular dish was served.

Expert clinical, chemical and toxicological opinion pointed to biogenic amines (e.g. histamine) as possible causes for the symptoms displayed; chemicals found on inspection of some premises were highlighted but it was noted that cooking would negate any harmful effects of these.

Conclusions

Issues raised by this incident were:

- the need for good working relations within division and between divisions of the HPA;
- inconsistent reporting of nursery incidents to local PH agencies;
- clarifying the responsible agency for funding chemical testing;
- access to information from Ofsted.

Contacts: kparanthaman@nhs.net

An outbreak of Legionnaires' disease associated with self-reported Pontiac fever morbidity in office workers, Dublin, 2008

Mary Ward¹, Mairin Boland¹, Nathalie Nicolay^{2,3}, Helen Murphy¹, Jackie McElhiney¹, Maureen Lynch⁴, Cathal Collins⁴, Marie McCarthy⁵, TG Harrison⁶, Joan O'Donnell³

- ¹ Department of Public Health, Health Services Executive, Dublin, Ireland
- ² Health Protection Surveillance Centre, Dublin, Ireland
- ³ European Programme for Intervention Epidemiology Training, (EPIET)
- ⁴ Mater Misericordiae University, Hospital, Dublin, Ireland
- ⁵ Environmental Health Services, Health Services Executive, Dublin, Ireland
- ⁶ Respiratory & Systemic Infection Laboratory HPA Centre for Infections, Collindale, UK

Aims

Over a ten day period, two cases of Legionnaires disease (LD) were reported to the Department of Public Health HSE-East in male office workers employed in a new 'green' building. Co-incident with

reporting of the second case LD, many co-workers attended GPs and ED with symptoms of Pontiac Fever (PF). The aims of our investigation were to determine the source of the outbreak, prevent further cases and carry out an epidemiological investigation into the cluster of PF cases.

Methods

We actively looked for further cases of LD by questionnaire and subsequent telephone contact of employees with symptoms of illness. Employees with symptoms suggestive of PF, or who attended their GP/ED with symptom concerns were offered legionella serology. We also carried out a cohort study to document the extent of PF and to determine the source of illness. In addition, extensive environmental investigation was undertaken.

Results

There were two confirmed LD cases. Fifty-four employees attended GP/ED with symptoms of PF. Of these, 37 had legionella serology, all of which were negative. In the cohort of employees with symptoms of PF, we demonstrated a risk among smokers associated with smoking adjacent to the cooling towers and among non-smokers with working in office floors with air-conditioning. A very high level of *L.pneumophila* was reported from one cooling tower by PCR at 73,200,000GU/L, in contrast the *L.pneumophila* culture from this tower was 100 cfu/l.

Conclusion.

(a) Early control measures likely prevented further cases of LD. (b) inconsistency between culture and PCR results for *L.pneumophila*. (c) the occurrence of Legionellosis in new buildings. (d) difficulty in diagnosis of PF. (e) uncertainty whether self reported morbidity in employees was associated with LD cases, PF or hysteria

Contact: mary.wardbarrett@hse.ie

An outbreak of *E.coli* O157 in North-East Scotland

C Hughes¹, H.Howie¹, C Flood²

¹ NHS Grampian, Aberdeen;

² Aberdeenshire Council

Aims

To describe an outbreak of *E.coli* O157 infection in the North-East of Scotland which was epidemiologically, environmentally and microbiologically linked to a private water supply. The investigation has resulted in changes to local Environmental Health policy whilst the incident highlights the importance of raising public awareness to both the risks of, and support available to improve, private water supplies.

Methods

Following the identification of an outbreak of *E.coli* O157 detailed epidemiological, environmental and microbiological investigations were carried out to identify the source, extent of the outbreak and the route of contamination of this borehole water supply.

Results

E.coli O157 phage type 32 was isolated from 15 of the 30 individuals exposed to this supply. Although the borehole was not shown to be contaminated at the time of the outbreak, *E.coli* O157 phage type 32 was isolated in water samples from three other points on this supply. These environmental isolates and the human isolates were indistinguishable on pulsed field gel electrophoresis.

The water supply was untreated. Contamination may have been from animal troughs on the supply or the infiltration of contaminated water to the borehole from surrounding farmland.

Conclusion

The outbreak of *E.coli* O157 was clearly linked to the private water supply. Simple treatment measures on the water supply to this modern development could have prevented the outbreak. Strengthened planning requirements for new developments served by private water supplies have resulted from this outbreak alongside changes in local risk assessment of borehole supplies.

This incident highlights the risks associated with untreated private water supplies. The Private Water Supplies (Scotland) Regulations 2006 makes provision for Local Authority support to those on private water supplies both in terms of risk assessment and financial assistance for improvements. There is a need to encourage the public to make use of these services.

Contact: catriona.hughes@nhs.net

CHaPD: a response to the flooding in Morpeth

S Griffiths, J Bond

Chemical Hazards and Poisons Division (Nottingham Unit), 29 Bridgford Road, West Bridgford, Nottingham, NG2 6AU

Aims

The presentation looks at the initial response to a flooding incident from the point-of-view of a CHaPD unit who had to risk assess the potential implications from chemical loss to the general environment and the potential impact on public health. The Morpeth flooding event of September 2008 tested the risk assessment methodology piloted in the South Yorkshire floods and highlighted where some critical information for the risk assessment was missing and attention needed.

Methods

Discussion of the incident looking at the approach taken and the information sought to complete the risk assessment methodology.

Results

Access to critical information was not insurmountable but still a challenge as there was no ready access to it.

Conclusion

Essentially two datasets are needed for the risk assessment: the location of chemical 'stores' and, the location and extent of the flooding. The former was reasonably easy to ascertain from local knowledge and can be pre-prepared but the latter was hard to obtain at the time the incident was ongoing and will always be specific to that flooding

event. Information sources need to improve for speedy and accurate risk assessment to take place. Steps are being taken to provide this information by both the EA and the HPA.

It is important to note therefore that accurate information on flood water levels are crucial to this form of risk assessment. Accurate levels cannot always be quickly determined; thought should be given to identifying surrogate (such as defined flood-interval events) or marker levels where known reference points can be extrapolated to represent wider areas.

Contact: simon.griffiths@hpa.org.uk

Difficult to prove, necessary to act: listeria, hospitals and sandwiches

A Modi, W Welfare, Jeanette Kempster, Rosemary McCann

Greater Manchester Health Protection Unit, Manchester, UK

Aim

The proportion of cases of invasive listeriosis in those over the age of 60 has doubled in the last 25 years. We describe measures to minimise risk of *listeria monocytogenes* in healthcare settings.

Methods

Investigation of three cases of *L. monocytogenes* septicaemia in the same hospital, over a 5 week period.

Results

In 2008, there were three cases of *L. monocytogenes* septicaemia in the same hospital in 5 weeks. All three cases were immunocompromised and two died. All had been inpatients in the hospital for a significant proportion of the incubation period. Food histories were difficult to obtain and incomplete. The cases had three different strains of listeria, suggesting it was not a common source outbreak. Two of the patient isolates were indistinguishable from samples isolated from sandwiches supplied to the hospital. One of these was indistinguishable from an isolate from a sandwich cutter blade at the factory. All isolates were at a legally acceptable level of <100 cfu/g. There was lack of compliance with correct storage of foods at ward level.

Conclusions

The outbreak may have been caused by consumption of sandwiches contaminated by listeria which were not stored at the correct temperature. Proving this was difficult because of limited food histories and lack of contemporaneous environmental and food sampling. Listeria is ubiquitous in the food-processing environment. The current acceptable levels of listeria may not be appropriate for healthcare settings. Recommendations should be made to care providers, including hospitals, to minimise the risk of listeriosis. Following further cases of listeriosis in inpatients, the control measures used in this outbreak are being recommended to other healthcare settings. The message about listeria and pregnancy is well known. Further efforts are required to update this message to reflect the current epidemiology of listeria - especially recommendations to risk groups and their clinicians.

Contact: a.modi@nhs.net

Is contact tracing a waste of scarce resources?

JMF Temple

CSDC(Wales), NPHS, Temple of Peace and Health, Cardiff, Wales.

Aim

This paper compares the relative success of both population wide and the contact tracing approach in identifying high risk subpopulations in two outbreaks of TB in South Wales.

	Outbreak A		Outbreak B	
	Local	Distant	Local	Distant
Total numbers requiring therapy	27	27	27	7
Total contacts Identified	162	159	361	121
Rate in network (cases/100,000 person years)	1388.9	1415.1	1068.5	826.5
Total population at risk (person years)	33,538	2,682,950	93,645	1,026,355
Population incidence related to this outbreak only (people with evidence of infection/100,000 person years)	80.5	10.1	28.8	0.7

Theoretical models suggest that when prevention of onward transmission is possible, contact tracing and control is the most cost effective approach to use, this study tests the theory in practice.

Method

Information obtained as part of contact tracing of identified cases of TB in two outbreaks in indigenous populations in South Wales permits the incidence rate in the geographical area of the outbreak and the remainder of the Local Authority within which the outbreaks occurred can be compared to that in the traced contacts.

Results

Within the contact population the incidence rate is at least ten times higher than within the local population. Furthermore, both cases and contacts live outside the outbreak locality. (One linked case was identified whilst overseas.)

Conclusion

Contact tracing more successfully identifies those at high risk of developing TB than a geographical approach. It has the added benefit of detecting important contacts a considerable distance away.

However, contact tracing is dependent on good information from cases so the resources (trained enthusiastic people) to do it properly need to be readily available.

This simple examination shows that good contact tracing, though expensive, is a good use of scarce resources.

Contact: mark.temple@nphs.wales.nhs.uk

Tuesday 28 April 2009

SESSION III

International Health

Implementation of a tuberculosis cohort review process in order to improve treatment outcomes of patients in NHS Lothian, Scotland.

Laura F Anderson, Ceri McSparron, Sian Gilhooley, Janet Stevenson

NHS Lothian, Edinburgh, Scotland

Setting

The tuberculosis (TB) cohort review process was introduced in USA in 1993 and has since become a valuable tool for evaluating the performance of TB control programmes in real time. It has not been used in the UK despite there being a good enhanced surveillance system that forms a strong foundation for the review process.

Objectives

To assess the feasibility of implementing a local tuberculosis treatment outcome cohort review process in a region of Scotland with a low incidence of tuberculosis and a population of 800 000.

Methods

Enhanced Surveillance of Mycobacterial Infections data was used to examine the demographics, clinical characteristics and outcomes of respiratory patients. Multidisciplinary team meetings were held and patient's records were reviewed if they had not completed treatment at 12 months.

Results

79% of respiratory cases completed treatment at 12 months, which is below the target of 85%, set by the CMO action plan in England. Treatment completion was lowest in < 65 year olds and in those born outside the UK due to loss to follow up and still being on treatment. Those lost to follow up were mainly from the Indian subcontinent, employed or in further education and had been in the UK for < 5 years. Extended follow up at 15 months improved treatment completion by 3% to 82%.

Conclusion

Regular treatment outcome tuberculosis cohort review is recommended for NHS Lothian as a tool to review treatment completion. Cohort review meetings should be conducted half yearly. It is important to ensure that foreign born patients at high risk of loss to follow up, or those leaving Scotland, are transferred to clinics elsewhere in the UK or abroad, in order to reduce losses to follow up and prevent development of secondary drug resistance.

Contact: janet.stevenson@nhslothian.scot.nhs.uk

A case of human rabies in Northern Ireland

M McCartney¹, H Kirkbride², L Doherty³, N Irvine⁴, M Zambon², A Walsh²

¹ Department of Public Health, Eastern Health and Social Services Board, Belfast, Northern Ireland

² Centre for Infections, Health Protection Agency, London

³ Department of Health, Social Services and Public Safety Northern Ireland

⁴ Communicable Diseases Surveillance Centre, Health Protection Agency, Northern Ireland

Aims

This paper describes the public health management of a case of human rabies in Northern Ireland in December 2008.

Methods

On notification of a suspected case of rabies a public health outbreak control team including national experts and Department of Agriculture and Rural Development colleagues was convened. A range of investigation and control activities were undertaken. The case had potential risk exposure in an endemic area.

Results

The likely exposure and the wider implications of this exposure are described.

The patient had been working in a cat welfare centre in Belfast and the management of the workplace is described. Veterinary inspection of the cat welfare centre raised no concerns.

Post-exposure prophylaxis was advised for healthcare staff and relatives/friends in line with recommendations from the Health Protection Agency.

There was extensive media interest and the management of this is reviewed. The rarity of the diagnosis and the nature of the media coverage raised some confidentiality issues.

Measures were taken to improve public awareness of the importance and availability of health travel advice, specifically for rabies.

Follow-up of other potentially exposed persons was undertaken by means of an international alert and this is also described.

Conclusions

This case highlighted a number of issues about the awareness of rabies in travellers, and the importance of appropriate pre- and post-exposure management. Local, national and international partnership working is demonstrated.

Contact: maureen.mccartney@hscni.net

Diarrhoea and despots

Ben Lopman

Centre for Infections, Health Protection Agency

Zimbabwe is currently experiencing the largest outbreak of cholera in Africa in the last 20 years. Due to the collapse of the water and sanitation services in the country the outbreak has spread widely; high mortality has resulted from a crumbling healthcare system coupled with malnutrition and high HIV prevalence. The epidemic started in August 2008 in the township near the capital Harare. In February, at the height of the epidemic, I was in Zimbabwe working as an epidemiologist with the WHO's Global Outbreak Alert and Response Network. In this presentation, I'll talk about the causes of the epidemic, the reasons for high levels of mortality, the response of international agencies as well as Zimbabweans, and reflect on my personal experience working in this highly politically charged environment.

Contact: Ben.Lopman@hpa.org.uk

Wednesday 29 April 2009

SESSION IV

Sex, saunas and sport – the risks of leisure activities

A cluster of syphilis in young people in Rochdale, Greater Manchester

WS Welfare¹, L Lighton¹, H Lewis-Parmar², H Lacey³, S Rowbotham², E Okereke⁴, H Lamont⁵, M Petrovic¹

1 Greater Manchester Health Protection Unit, Manchester, UK

2 NHS Heywood, Middleton and Rochdale, UK

3 Department of Genito Urinary Medicine, Pennine Acute Hospitals NHS Trust, UK

4 West Yorkshire HPU, Leeds, UK

5 HPA North West, Liverpool, UK

Aim

To investigate and respond to a cluster of syphilis in young people.

Methods

Outbreak investigation.

Results

Greater Manchester Health Protection Unit (GMHPU) was notified in December 2008 of four cases of confirmed early infectious syphilis in young people (18 years of age or under) in Rochdale. Three of the cases were diagnosed in November/December. Two were known to be linked, with an untraceable index case from West Yorkshire. Two were asymptomatic. A further two contacts were treated for incubating syphilis, and contact tracing is ongoing. The network of links and results of contact tracing are presented.

A multiagency group was convened, including the Primary Care Trust, HPU and GUM. The following control measures were agreed:

Finding and Investigation of additional cases

- Contact tracing
- Increase awareness among relevant services
- Implementation of syphilis testing in young people clinics and for young people attending contraception clinics, in addition to chlamydia and gonorrhoea testing
- Increase public awareness

Primary Prevention: a health promotion campaign aimed at primary and secondary prevention of syphilis and other STIs targeted at sexually active young people aged <20.

Conclusions

In Greater Manchester the majority of cases of syphilis are in men who have sex with men. Syphilis is uncommon in heterosexuals, especially in this age group. Some young people have a pattern of very high risk sexual behaviour including recreational sex with unknown partners.

The high proportion of asymptomatic cases highlights the need for young people's services to consider syphilis to ensure detection, appropriate treatment and health protection response. This incident has promoted collaborative working between the PCT and GUM.

The promotion of HIV testing (under the new BASHH/BHIVA/BIS guidelines) provides an opportunity to test for syphilis.

Contact: william.welfare@hpa.org.uk

The hazards of the natural environment: an outbreak of diarrhoeal illness in mountain bikers

SL Griffiths¹, R Salmon¹, B Mason¹, CC Coombes¹, D Thomas¹, M Walapu², C Davies³

1 CDSC Wales, NPHS, Temple of Peace, Cardiff

2 NPHS Carmarthen

3 Powys County Borough Council

Background

In July 2008, the National Public Health Service for Wales (NPHS) and Powys County Council received reports on their website feedback facilities of a diarrhoeal illness outbreak in participants of a Mountain Bike Marathon held in the County two weeks previously. The two day event attracted entrants from all over the country and was affected

by heavy rain. The course traversed farm land grazed by sheep. Many participants stayed at the event campsite which was located on a farm.

Methods

We conducted a cohort study. We developed an electronic questionnaire exploring exposures occurring both during the ride and on the campsite. The password protected questionnaire was posted on the NPHS website and remained open for 18 days. We e-mailed invitations to participate to all bikers for whom addresses were held and sent two e-mail reminders. Responses were automatically downloaded into a secure database. We analysed the data using Stata version 10 and posted a preliminary report on the website within three days.

Results

664 invitations were issued and 355 responses received (52.7% response rate). 347 individuals were entered into the analysis, 161 of whom had been ill. 10 riders reported a diagnosis of *Campylobacter* and the outbreak curve was consistent with this organism's incubation period. Univariate analysis identified increased relative risks associated with ride related exposures. Logistic regression confirmed the inadvertent ingestion of mud and eating 'other food' during the ride as significant factors (Odds Ratio 2.72 [$p < 0.001$] and 2.16 [$p = 0.006$] respectively).

Conclusions

Our investigation concluded that mud contaminated with sheep faeces was the vector in this outbreak, with *Campylobacter* the likely responsible organism. We disseminated handwashing, food hygiene and course re-routing recommendations via national and specialist biking media. Our work demonstrates that the internet is now an important and efficient Public Health tool.

Contact: Sian.Griffiths@nphs.wales.nhs.uk

Tattoos on the cheap

L Lighton¹, Sharon Smith², Ian Saxon²

¹ Greater Manchester Health Protection Unit

² Tameside Metropolitan Borough Council

Background

In October 2006 Tameside Metropolitan Borough Council (MBC) received a complaint from a woman

whose 16 year old daughter had had a tattoo at the home of an unregistered tattooist along with several friends. On inspection, the practices, premises and equipment were such that there was considered to be a significant risk of transmission of infection. A multi-agency incident team was convened to address:

- offering tests for blood borne viruses to clients
- identification of other unregistered tattooists in the area
- advice to the public
- specific concerns around young people using unregistered tattooists

Methods

The tattooist kept no records so the incident team did not know who had been tattooed or how many people were involved. A 'lookback' exercise was arranged using letters and the media to alert those who might have had a tattoo or piercing, with a help-line set up by the local Primary Care Trust (PCT). Letters were sent to the parents of 2500 children attending three secondary schools in the vicinity of the tattooist. A press statement was released to local press then to regional press during the same week and there were radio and television interviews to publicise the help-line.

Results

Over 200 people telephoned the help-line and 181 were tested. Two people had evidence of past resolved hepatitis B infection. None tested positive for hepatitis C.

Conclusions

This incident posed challenges because it was not known beforehand how many people were involved and because many of those involved were children. The low number of positive results is discussed. In response to the incident Tameside MBC developed materials for a publicity campaign in schools and GP surgeries during 2007 in collaboration with the PCT and Health Protection Agency. The tattooist was fined £250 by the Crown Court for offences related to this incident in January 2009.

Contact: Lorraine.lighton@hpa.org.uk

Something for the weekend: sexual health behaviour and attitudes in Portsmouth

CR Watts¹; S Pallikdavath²

1 Portsmouth City Teaching PCT

2 School of Health Sciences and Social Work,
University of Portsmouth

Following a Sexual Health Needs Assessment undertaken for Portsmouth City Teaching Primary Care Trust during 2007, the 'Something for the Weekend' sexual health road shows were commissioned to take messages about condom use and sexually transmitted infections to 10,000 adults in Portsmouth during three weeks in October 2008. The opportunity of accessing people with targeted information was also used for data capture. 600 adults responded to the questionnaire, undertaken using touch screen technology to promote privacy and confidentiality. The road shows visited Portsmouth Football Club for a home game, the large shopping centre, bars and clubs and the University Freshers' Fayre. Preliminary findings (final report due mid-February 2009) show that 45% of respondents were male, 56.9% were aged between 18 and 24 and they came from right across Portsmouth. They answered questions about their sexual behaviour; their consideration of consequences of having sex; their use of contraception; their knowledge of local sexual health services and reasons for using or not using them; the impact of either drugs or alcohol upon their sexual health decision making; their experience of having accessed Emergency Hormonal Contraception and choice of location for doing so; and their knowledge of the provision of free condoms in various services across the City. The findings from this piece of work will be used as part of the scoping for a social marketing campaign planned for 2009/10 and the subsequent compilation of a Sexual Health Strategy for the people of Portsmouth.

Contact: carolyn.watts@ports.nhs.uk

Outbreak of a flu-like illness after a hen party weekend

A Modi¹, J Gardner², L Lighton¹, N Coetzee³

1 Greater Manchester Health Protection Unit,
Manchester, UK

2 Stockport NHS Foundation Trust, Stockport, UK

3 West Midlands North Health Protection Unit,
Stafford, UK

Aim

To investigate simultaneous presentation of flu-like illness in six women who accessed healthcare at different sites

Methods

Epidemiological, microbiological and environmental investigation.

Results

Seven women went to a cottage complex consisting of a sauna, spa and swimming pool to celebrate a hen party weekend. Six of them developed flu-like symptoms within 24 hours of returning home. Five of them were admitted to three different hospitals and one presented to a General Practitioner. Inquiries revealed that the owner of the cottage complex also reported flu-like illness at the time after exposure to wet side facilities. *Legionella pneumophila* serogroup 1 subtype Pontiac (mAb2) was confirmed in two of the six cases using urinary antigen testing. One further case was confirmed by seroconversion detected by 4-fold increase in *Legionella* antibody titer in the twinned acute and convalescent serum samples. Investigations revealed that a day prior to the hen party weekend, the spa pool's automatic chlorine-dosing pump was not in working order and hyperchlorination shock treatment had been reportedly carried out. However, record keeping of maintenance at the spa was inadequate.

Conclusion

This point source outbreak involved three confirmed and four probable cases of Pontiac fever linked to the use of an inadequately maintained spa pool. It is likely that hyperchlorination of the spa pool shortly before the taking of water samples limited the ability to isolate *L. pneumophila* from the spa-pool balance tank. This report highlights the importance of proper maintenance of spa facilities, the need for clinicians to be aware of Pontiac fever and the value of notifying the Health Protection Agency to co-ordinate investigations. It also reminds us of the difficulties in obtaining laboratory confirmation of Pontiac fever.

Contact: a.modi@nhs.net

Wednesday 29 April 2009

SESSION V

Surveillance

***Clostridium difficile* Associated Diarrhoea (CDAD) in the community audit 2008**

I Awad^{1,2}, H Mohamed¹, S Larkin¹

1 West Midlands East Health Protection Unit, Warwick
2 Regional Surveillance Unit, HPA WM, Birmingham

Background

Clostridium difficile is the most common bacterial cause of hospital acquired diarrhoea in the developed world. Once thought to be an infection only acquired in hospitals, an increasing number of cases is seen in the community as well. The route of transmission/ acquisition in the community is largely unknown.

Aim & Objectives

We aimed to review all cases of community acquired *clostridium difficile* in the period 1st January – 30th June, 2008 to describe their characteristics and identify possible risk factors. The term 'community acquired' refers to all positive cases where the patient has not been in hospital in the 3 months prior to the diagnosis being made.

Objectives:

1. To identify positive cases of community acquired *clostridium difficile* in the period 01.01.2008 to 30.06.2008 from the lab database
2. To review the case notes of the community acquired set to identify their characteristics and relevant risk factors
3. To report the findings to Warwickshire PCT director of infection prevention and control (DIPC)
4. To pilot a surveillance tool for collecting information on community acquired cases on a regular basis

Methods

Clostridium difficile positive cases on the laboratory database at Warwick hospital were identified and assigned one of three categories of acquisition:

(a) hospital acquired, (b) hospital acquired within 48 hours of admission, (c) community acquired. The details of cases in category (c) were obtained and their GPs contacted. Their notes were reviewed and information extracted using a questionnaire on demographic and risk factors.

Participants:

All cases of positive *clostridium difficile* diagnosed at Warwick hospital microbiology lab in the period 01.01.08 to 30.06.08

Data analysis:

Descriptive statistics were used to describe patients' characteristics and risk factors.

Results and Conclusion

These will be presented in the conference

Contact: huda.mohamed@warkpct.nhs.uk

Legionnaires' disease – 14 year review of epidemiology and outcomes in the West Midlands

S Pooransingh¹, Y Rehman¹, F Naik², B Olowokure¹

1 Regional Surveillance Unit, HPA West Midlands
2 HPA Centre for Infections

Aim

Legionnaires' disease (LD) creates public concern and attracts considerable media attention, particularly during outbreaks. In the West Midlands (WM) Region, the rise in the annual number of cases has led health protection professionals to review the epidemiology and consider what measures if any are needed to address this. This paper describes the epidemiology of LD in the WM from 1994 to 2007.

Methods

The National Surveillance Scheme for LD is an enhanced system which collects epidemiological and microbiological information on LD in residents of England and Wales. The data for the WM were extracted from the regional and national databases and analyses undertaken for the period 1994-2007.

Findings

A general upward trend was seen in WM incident cases. The incidence rate increased significantly from 5.3 (95% CI 5.1 – 5.5) per million population in 1994 to 12.3 (95% CI 12.0 – 12.6) per million in 2007. The majority of cases are sporadic and appear to be increasing over time. Cooling towers were the likely source of infection in outbreak associated cases. The mean age of cases has increased. Males predominate but the proportion of females is increasing. The case fatality rate has decreased. An association with travel has declined in recent years. An increasing number of cases were confirmed by urinary antigen testing (UAT), rising from 21% in 1994 to over 90% in 2005. This fell to 69% in 2007 as confirmation by serology began to increase.

Conclusion

Some parameters appear to have changed over time in comparison with the national picture. We have identified a need for exploring reasons for the increase in female cases, non-travel related cases and the fall in mortality; and reasons for the rise and fall of UAT as a diagnostic test.

Contact: yasmin.rehman@hpa.org.uk

HPV surveillance in Scotland: monitoring a new national immunisation programme

K Sinka¹, M O'Leary¹, C Robertson^{1,2}, M Donaghy¹

¹ NHS Health Protection Scotland, Glasgow

² University of Strathclyde, Glasgow, Scotland

Background

Human papillomavirus (HPV) immunisation began in Scotland in 2008 to prevent infection with two types of HPV that cause 70% of cervical cancers. Girls aged 12-13 are routinely immunised at school and girls up to 17 will be offered a one off "catch-up" immunisation. It will be some years before the impact of immunisation on cervical cancer is seen. In the meantime it is essential to monitor vaccine uptake and safety, and to establish interim measures to detect the expected decrease in HPV prevalence and cancer pre-cursors.

Methods

Established systems are in place for monitoring vaccine uptake and safety. Patterns of uptake will be assessed to monitor equitable access to immunisation. Over time the incidence and prevalence of abnormal cervical smears, pre-cancerous lesions and invasive cervical cancers will be monitored among women attending for screening. Data will be captured from the Scottish Cervical Cancer Call and Recall System and will be linked to immunisation history using the Community Health Index number. Trends in HPV prevalence will also be monitored via the cervical screening programme, which in Scotland begins at age 20. Complementary surveillance of the "unscreened" population will use targeted cross-sectional surveys. Periodic testing of a representative sample of CIN 2+ biopsies will monitor the HPV types associated with these high grade pre-cancerous lesions.

Following pilots in 2009, the surveillance system will operate from September 2010 when the first vaccinated birth cohorts enter the screening programme.

Conclusions

Information from HPV surveillance will contribute to the body of evidence to inform the optimum mix of cervical cancer screening, immunisation and HPV testing to continue to prevent, detect and treat cervical cancer in Scotland.

Contact: katy.sinka@hps.scot.nhs.uk

The future of communicable disease surveillance in Wales

R Henry, M Roberts

NPHS, Cardiff, Wales

The daily responsibility for communicable disease control and surveillance lies with a number of public health professionals across Wales, namely clinical microbiology laboratories, health protection teams, environmental health officers, and the Communicable Disease Surveillance Centre. Although these partners use data for different purposes, it is in fact the same data they use and consequently would benefit from an integrated approach. The existing tool CoSurv, which is still used across Wales, no longer meets the needs of these partners. Problems with CoSurv include a high burden of maintenance, and as newer staff have come into post a loss of knowledge about its operation and facilities, e.g. that it can transfer reports between sites.

A replacement to CoSurv must remove the organisational barriers that cut across the process of communicable disease surveillance. Thus, instead of trying to further improve the efficiency of each separate module we intend to restructure the entire process. This will take the form of an Information Bureau for Infectious Diseases (IBID), which will replace the existing distributed network of CoSurv modules by a centralised computer system.

The provision of IBID is a key component of NPHS's strategy for supporting all partners involved in the monitoring and control of infectious disease in Wales. It will be a web-enabled database and will build on the systems already in place (DataStore and LabExpert) for the extraction of all laboratory reports to standardised databases, and semi-automated selection and delivery of reports of significance to public health professionals.

Using web browsers, EHOs and CCDCs will be able to access IBID to enter and add to notifications and link them to laboratory reports where possible. These changes and additions will become immediately available to all other partners where appropriate.

Web enabled reports will be made available to all other health professionals

Contact: mike.roberts@nphs.wales.nhs.uk

Wednesday 29 April 2009

SESSION VI

Late Breakers and Hot Topics

No gravy strain

M Evans¹, M Dudek², A Wallensten³, Julian Hemming⁴,
Helen Parsons², Deirdre Lewis³

1 Wiltshire HPU, West Lavington, Wiltshire

2 Salisbury DC Environmental Health Department

3 Regional HPA, Stonehouse

4 Microbiology Dept, Salisbury Foundation Trust

Aim

To Control & Investigate *Salmonella* enteritidis outbreak in a Primary School.

Wiltshire HPU were informed of 5 cases *Salmonella* enteritidis phage type I in different aged children in a Salisbury primary school on 1st December 2008. Eventually 16 children & 1 school cook had laboratory confirmed *Salmonella* enteritidis phage type I and 1 child from a nearby primary school. Food was cooked on site and sent to other schools. 1st case presented 21st November '08.

Method

All those children with diarrhoea were asked to submit stool samples. All confirmed *Salmonella* cases answered trawling questionnaire conducted by SW Regional team. All cases had eaten school meals, although only ~ 40% pupils eat school meals. No outside shop food implicated. 2nd questionnaire conducted for the cohort eating school meals. EHOs inspected kitchen & record of kitchen practices.

Results

Epidemic curve suggested that if school meal responsible, then meals served 19th / 20th November implicated. Sponge prepared Nov 19th using raw eggs, but cooked thoroughly. Eggs used supplied to ~500 other premises - no other reports of *Salmonella*. Kitchen & cooking practice very good – only possible procedure implicated was the use of same bowl for mixing raw eggs & serving gravy. Reported that bowl washed thoroughly in between. Infected cook had 3 clear negative stool samples before returning to work.

Conclusion

No definitive cause found. Epidemiological investigations limited with no significant difference found between meals eaten by cases and non cases, as most children ate same food. Asymptomatic infected cook insisted she had no prior symptoms and may have been part of the outbreak rather than the cause. Separate bowl now introduced for mixing eggs and not used for making gravy. Further discussion on other possible causes invited.

Contact: Mark.Evans@wiltshire.nhs.uk

Hepatitis E – how was the cruise otherwise?

B. Said

Hepatitis E Incident Investigation Team Health Protection Agency

Background

Hepatitis E Virus (HEV) is a relatively uncommon cause of viral hepatitis in the United Kingdom. An investigation was launched after a small number of hepatitis E cases were identified among passengers who had returned to Southampton after a world cruise.

Methods

The overall incident investigation was led by the Hampshire and Isle of Wight HPU (HIOWHPU) with the environmental investigations conducted by the Southampton Port Health Authority (SPHA) and the epidemiological investigation led and coordinated by Centre for Infections (CfI) through the Local and Regional Services (LaRS) regional hepatitis leads network. The study was commissioned by the HPA Hepatitis Programme Board.

Over 2850 UK passengers who had been on the cruise at any point between 7 January and 28 March 2008 were contacted and invited to participate. Volunteers were requested to give

a blood sample and complete a questionnaire giving information on demographic characteristics, potential risk factors and co-factors for disease (medical conditions, eating preferences, excursions, and water exposure) and any relevant symptoms. Blood samples were tested for HEV IgM and IgG, with further molecular analysis on all HEV seropositive samples and genotyping of HEV RNA isolated. Univariate and multivariate analysis was used to investigate risk factors and possible sources of exposure.

Results

Over 1100 passengers volunteered and we were able to contact a total of 851 within the time period that acute recent infection would be detectable (response rate 30%). Blood samples were provided by 789 participants and 659 provided both blood sample and completed questionnaire. Of the 789 blood samples, 594 (75%) were negative with no indication of hepatitis E infection; 162 (21%) indicated past infections (IgG positive only for HEV) and 33 (4% - including those who were diagnosed on board the cruise ship) also had high IgM levels indicating a recent acute infection likely to have been acquired during the world cruise. Only 11 of the 33 reported symptoms compatible with HEV infection with onset dates between 6 March and 24 March 2008. Of those with recent HEV infection 76% were male, compared to an even gender distribution for those with past HEV infection.

Genotyping of RNA sequences obtained from three cases found genotype 3 virus with close homology to other genotype 3 viruses reported throughout Europe.

The analysis for risk factors and possible sources of exposure compared the questionnaires of the 33 HEV positives to 493 HEV negatives. There was a positive association between recent HEV infection and the consumption of certain foods on board, but only the consumption of shellfish on board the cruise ship remained significant in the final multivariable model (OR=4.27; 95% CI: 0.99-18.48; p=0.019).

Conclusion

This was an unusual outbreak of hepatitis E on board a cruise ship which is likely to have been a common source foodborne outbreak caused by HEV genotype 3. The success of the investigation was made possible by the excellent

response of passengers and the coordinated incident investigation comprising HIOWHPU, Cfl, and SPHA. The epidemiological investigation exemplified joint working between LaRS and Cfl; conducting the investigation through the regional hepatitis network is recommended as a model for future investigations.

Contact: benhu.said@hpa.org.uk

Delay's in the treatment of tuberculosis in the West Midlands, 2007

Adedoyin Awofisayo, Helen Bagnall, Babatunde Olowokure

HPA West Midlands Regional Epidemiology Unit, Birmingham

Background

An essential tool for the control of tuberculosis (TB) rests on early diagnosis and prompt treatment. Delay in the treatment of patients with tuberculosis (TB) increases the risk of poor clinical outcomes, including death and continued transmission of disease, and may be reducible. This study was conducted to estimate delays in TB treatment in the West Midlands multiethnic population and to examine factors associated with longer time to treatment.

Methods

Cases of active TB from January 2007 to December 2007 obtained from the West Midlands TB Database were obtained. Delay in initiation of TB treatment was defined as the number of days between symptom onset and treatment. Where date of treatment initiation was unknown, date of diagnosis or death were used. Cases with no known dates were excluded.

Results

Data from 410 TB patients were analyzed. Mean time to treatment was 167 days, and those aged 45-64 years (mean delay 100 days) and those with extra-pulmonary disease (mean delay 130 days) experienced the longest mean delay periods. Seventy-eight per cent (321/410) of patients had delay of >30 days, and delays of >30 days to treatment were most significantly associated with being: female (Odds Ratio 2.39, 95% CI 1.43 to 3.98); aged 65 years or more (OR 4.51, 1.45 to 14.06) and being managed within certain health districts.

Conclusion

A time to TB treatment of 30 days or more is common in the West Midlands, and may be associated with a number of factors. Further research is required to build on these findings in order to decrease delay and improve individual and public health outcomes.

Contact: Adedoyin.Awofisayo@hpa.org.uk

Results from the epidemiological investigation justified closure of the plants and recalls on 1st August 2008. The globalisation of food distribution increases the risk of international outbreaks; standardised epidemiological approaches coupled with close and timely international collaboration are necessary to control them.

Contact: hpssc@hse.ie

An international outbreak of *Salmonella* Agona associated with a large food company

D. O'Flanagan

Health Protection and Surveillance Centre (HPSC),
Dublin 1, Ireland

In July 2008 an upsurge of *S. Agona* cases with a new specific PFGE profile was identified in Ireland and the UK. Three months previously, this specific clone had been isolated from precooked meat produced by an Irish food company whose products were distributed internationally. Plant cleaning resulted from the contamination. The appearance of the cases in July caused concerns that the company may be the source. An international control outbreak team, chaired by Ireland, investigated the outbreak.

A confirmed case was defined as an individual with an isolate of *S. Agona* with the outbreak-specific PFGE profile. Alerts were posted through the Food and Waterborne Division of ECDC and the Early Warning Response System as part of international case finding. Confirmed cases received a descriptive questionnaire. A matched case control study on the Irish cases tested the association between the disease and exposure to food produced by the company. Food samples taken at the company and in outlets were tested and isolates compared with the profile of the outbreak clone.

A total of 163 confirmed outbreak cases were diagnosed in 10 European countries; Ireland had 11 cases. Median age was 27 years (3 months to 87 years), 57% were male. Eating sandwiches with precooked meat from the company was associated with infection (matched OR 18.3, 95%CI 2.2 - 149.2). The outbreak strain was isolated in samples of precooked beef and bacon taken in the plants and outlets.

Poster Abstracts

Immunisation

Gemma's Journey. Accurate recording of childhood immunisation data on the child health system

N Joyce¹, C Powell², A McGowan¹, Roberts RJ¹

¹ Vaccine Preventable Disease Programme, National Public Health Service for Wales Temple of Peace, Cardiff, Wales;

² Vaccine Preventable Disease Programme, National Public Health Service for Wales, Preswylfa, Mold, Flintshire Wales;

Aim

This document is a visually stimulating training resource. It aims to demystify the process of recording immunisations within the childhood schedule by offering guidance to practitioners and child health officers to improve knowledge around data collection of childhood immunisations in Wales.

Method and results

The original resource was produced to meet an identified need from Health Organisations for guidance on reporting immunisation data to the Child Health System (CHS) to ensure the accurate and comprehensive capture of all vaccines given to children in Wales.

The CHS is responsible for scheduling the call and recall of children for routine childhood immunisations at appropriate ages and intervals. The same system, CCH2000, provided by Health Solution Wales, is used in all NHS Trusts in Wales and also in many PCTs in England.

Accurate data capture is essential as the system also generates the statistics used for all childhood immunisation statistics at local, national, UK and WHO level to monitor and compare uptake of childhood immunisation.

This simple, useable, logical guidance follows Gemma (Gemma was a real child, now an adult) through her immunisation journey to the age of 16 years. Key points are highlighted to alert practitioners on how to avoid errors such as incorrect personnel details or incomplete data

collection.

Conclusion

This resource has been made available across NHS Wales, and in some regions successfully used to help train new staff employed in Child Health Departments. It has also proved a useful tool in training health care professionals and General Practice staff. A PowerPoint slide set which summarises the guidance is also now available.

Contact: nicola.joyce@nphs.wales.nhs.uk

One jab or two

J Waller¹, F Al-Durrah², S Boachie-Ansah², K Jordan²

¹ North East Health Protection Unit, HPA-NE;

² NHS South of Tyne and Wear

Introduction

Following a report that a child had received inappropriately mixed vaccines administered by a Health Care Worker in the North East, the PCT supported by the HPU, carried out an investigation to identify if other children immunised at the practice had received mixed vaccines potentially leaving them at increased risk of a range of vaccine preventable diseases.

Methods

The Health Care Worker was approached and confirmed that mixed vaccines had been administered. Paper and electronic records of 206 children registered with the practice, born between 1st July 1999 and the 31st October 2007, were reviewed in conjunction with information on the Child Health Information System (CHIS). Advice on the re-immunisation of children was sought from the HPA Centre for Infections.

Results

68 children were initially identified as having potentially received a combination of mixed

vaccines. Further assessment confirmed that 29 children still registered with the practice had received one or more mixed vaccine and were re-immunised. Arrangements were made for 13 children who had transferred out of the practice to be further assessed and immunised as appropriate. Record keeping within the practice, transfer of information between the practice and CHIS, and recording anomalies on the CHIS complicated the investigation.

The Health Care Worker had not received any recent immunisation training.

Conclusions

This incident highlights the following important issues:

- Effective partnership working between the PCT and HPU ensured successful management of the incident
- the need for accurate data recording within practice and on the CHIS
- lessons learned should be shared widely to prevent similar incidents occurring in the future
- HPA Immunisation Leads should work with SHAs and PCTs to improve access to high quality immunisation training for all staff involved in immunisation in line with the National Minimum Standards for Immunisation (HPA 2005).

Contact: julia.waller@hpa.org.uk

Outbreaks and Incidents

A Scotland wide outbreak of *Salmonella* in association with Chinese restaurants

JR Morling¹, J Cowden², L Willocks³, J Stevenson³, K Black³,
on behalf of the outbreak control team

1 ISD, NHS National Services Scotland, Edinburgh, Scotland

2 Health Protection Scotland, Glasgow, Scotland

3 NHS Lothian, Edinburgh, Scotland

Aim

To describe the investigations and actions of an Outbreak Control Team (OCT) in relation to an outbreak of *Salmonella* enteritidis PT4 (PFGE ENTXSc57) in association with Chinese restaurants involving eight Scottish health boards.

Methods

The epidemiological investigation centered on people who were identified as having *S. enteritidis* PT4 by regional microbiology laboratories from the beginning of September 2008 until the outbreak investigation was concluded. Environmental Health Officers from the Local Authorities conducted inspections of the involved Chinese restaurants.

The Scottish Regional Laboratory (SSRL) highlighted all cases of *S. enteritidis* PT4 to the OCT and provided PFGE typing for all samples, allowing local authorities to investigate for links with Chinese restaurants.

Results

The SSRL confirmed 17 isolates of *S. enteritidis* PT4, PFGE type ENTXSc57. Twelve cases had eaten at three different Chinese restaurants within their incubation period, two had eaten from external caterers and three had no plausible exposure. One Chinese restaurant accounted for ten of the cases with two other Chinese restaurants associated with one case each. There were no common food suppliers to the involved restaurants.

Residents from eight different NHS board areas were affected. It was not possible to calculate attack rates given the unknown number of people exposed, however, it was determined to be very low. No specific deficiency was identified at any of the restaurants attributing to the outbreak.

Conclusions

The hypothesis generated, and supported by the OCT was that the outbreak had been caused by kitchen hygiene deficiencies in at least three Chinese restaurants. There was probably more than one vehicle of transmission, and although there was no evidence to confirm a source, it was most likely on the basis of biological plausibility to be contaminated poultry or eggs supplied to the suspected restaurants. The possibility of the source and vehicles being a ready to eat food, such as salad, could not be completely excluded. The OCT declared the outbreak over on 3 November 2008.

Contact: joanne.morling@nhs.net

An investigation of *Clostridium difficile* incidence and mortality in all acute hospitals in Scotland (2008)

G Allardice^{1,2}, C Wiuff¹, G Codere¹, A Banks¹, A Eastaway¹

1 Health Protection Scotland, Glasgow

2 University of Strathclyde, Glasgow

Aims

Following a report of an unexpectedly high number of deaths associated with *Clostridium difficile* Associated Disease (CDAD) at the Vale of Leven (VOL) Hospital, the Scottish Government (SGHD) required all NHS boards to collect retrospective data on cases of CDAD and associated mortality in the period Dec 2007-May 2008 in all acute hospitals in Scotland.

Methods

Funnel plots were used to identify hospitals that had excess rates of incidence or case fatality. The funnel illustrates the improvement in precision of an average rate with increasing sample size. Incidence and case fatality rates at hospital level were superimposed on the funnel plot to identify any rates lying outside the funnel limits.

Results

In the 6-month period 3174 cases of CDAD were reported; an incidence rate of 1.52 per 1000 acute occupied bed days (AOBDs). The funnel plot identified only one hospital (Aberdeen Royal Infirmary) with an excess of cases over this period.

The number of deaths with CDAD mentioned as a cause of death was 285 giving a case fatality rate of 9.0%. Of those 285; 86 were classified as underlying cause of death and 199 as contributory causes. In the 6-month period only Vale of Leven showed an excess case fatality rate. The excess case fatality rate at the VOL is already the subject of a police investigation so no further comment is made here.

Conclusions

This study showed that VOL had an excess mortality rate from CDAD but did not have an excess incidence rate of CDAD. However, there were a number of limitations to this study, particularly the use of historic hospital data for denominators and the attribution of cause of death from death certificates.

Contact: gwen@stams.strath.ac.uk

An outbreak of measles in a hard to reach community in Warwickshire – a challenge for prevention and behaviour change

L Dyke¹, S Larkin¹, H Mohamed¹, J Ashdown², K Janmohamed², B Spraggett², H King²

1 HPA West Midlands East, Warwickshire

2 Warwickshire PCT, Warwick

Aims

- To control and prevent transmission of measles in the hospital and local community.
- To raise awareness about measles and potential complications amongst the general population
- To encourage uptake of the MMR vaccination amongst unvaccinated population in the short, medium and long term.

Methods

- Setting up an Outbreak Control Team to include representatives from the NHS Trust Infection Control Team, Occupational Health, the local PCT

Public Health and Communications Departments and members of the Local Authority.

- Enhanced surveillance, case-finding, and management of cases and contacts including staff and patients who may have been exposed to measles at the local hospital.
- Raising awareness of measles, potential complications and need for protection through immunisation across the health economy, teachers and parents of children in schools and nurseries across Warwickshire.
- Targeted immunisation at local schools and a traveller site
- Setting up a LES to enhance the MMR campaign
- Literature review of methods to improve MMR-uptake amongst hard-to-reach groups
- Mapping of MMR-uptake by GP practices and schools including a cost-comparison exercise to assist long-term planning.

Results

Results from confirmatory testing of notified cases are still awaited. Findings and conclusions from the epidemiological analysis and project evaluation are currently being analysed and further action is being planned to monitor and review uptake of the MMR vaccine in light of the increased efforts address the problem of low uptake.

Contact: louise.dyke@warkpct.nhs.uk

Applying social marketing to reduce tuberculosis inequalities

D Crisp¹, H Mohamed², J Ashdown^{1,2}, J Berry¹, T Davis¹, R Jones¹

1 NHS Warwickshire

2 Health Protection Agency West Midlands East

Aim

The identification of social marketing as an appropriate model for reaching anonymous individuals at high risk of *Mycobacterium tuberculosis* (TB) in the face of a TB outbreak.

Methods

To control the outbreak we raised awareness of the risk of this treatable disease using audience segmentation, proactive case finding, contact

screening and case management. A literature search assessed good practice and models used in previous outbreaks; an outbreak control team was identified and included membership of key local partners including; homeless voluntary groups, local TB service, Drugs and Alcohol Team, media, local GP's, DPH, mental health services, acute hospital and HPA.

The team identified a management strategy based on the social marketing approach in terms of product, price, placement, promotion and partnership. By offering mass one stop screening with mobile chest x-ray and, uniquely, gamma interferon testing methods in a trusted and accessible venue along with food and drink.

Results

We maximised the uptake, attracting 75 hard to reach individuals to attend; raised awareness and identified high-risk individuals for further investigation.

Conclusions

This process has successfully begun to identify vulnerable individuals who require targeted resources to carefully monitor their progression from TB infection to disease. Continual awareness among key partners and the hard to reach group has to be maintained. The long-term impact will be measured by no further deaths and an initial increase in case finding, then decline in the TB cases notified from this hard to reach group.

Contact: Debbie.Crisp@Warkpct.nhs.uk

Challenges of a workplace tuberculosis contact investigation in a large open plan office environment

T Shryane, A McCormick, L Cullen and A Breslin

Dept of Public Health Medicine, HSE NW, St. Conals Hospital, Letterkenny, Co. Donegal, Ireland

Aims

A case of open pulmonary tuberculosis (TB) was notified to the Dept. of Public Health Medicine in a patient who worked for a company with over 600 employees in large open plan office environments. The aims of this study were to determine the prevalence of TB in this setting and to identify those requiring treatment.

Methods

Contacts were identified as those who had 8 or more hours cumulative exposure with the index case. 144 employees fulfilled the case definition and required screening for TB infection.

Each contact completed a questionnaire detailing exposure, BCG status, and symptoms of TB disease. Contacts were offered initial screening by Tuberculin Skin Test (TST). Those with positive TST were further evaluated for active TB with chest radiography.

Results

37 contacts had a positive TST giving a latent TB infection (LTBI) rate of 26%. No contact had evidence of active TB disease. 95% (35) of contacts had evidence of BCG vaccination, 41% (15) had resided in high endemic TB areas during the previous 5 years.

Prior to chemoprophylaxis hepatic and renal function were checked. 17 contacts commenced treatment, 8 declined treatment, 10 deferred until after the Christmas holidays and 2 had medical contraindications.

Conclusions

In this study 144 work place contacts were identified, challenges encountered included:

- Confidentiality issues with regard to both the index case and those with LTBI,
- Anxiety in the work force,
- Logistics of arranging hospital appointments and dispensing prescriptions,
- Communications; liaising with GPs and informing the media
- Compliance
- On call issues

Previous studies have utilized the gamma-interferon (GIF) blood test as an alternative to the TST. Using the GIF test may have afforded the opportunity to significantly reduce the number of cases offered treatment and reduce the significant follow up costs.

Contact: louise.cullen@hse.ie

Close encounters with aluminium phosphide in West Yorkshire

M Gent¹, R Harman², F Goodfellow³

1 Consultant in Communicable Disease Control, West Yorkshire Health Protection Unit, Health Protection Agency

2 Regional Incident and Emergency Planning Manager, Environment Agency

3 Environmental Public Health Scientist, Health Protection Agency, Chemical Hazards and Poisons Division (Nottingham Unit)

Aims

This poster describes West Yorkshire's experience with the substance aluminium phosphide, which is used as a total pesticide / fumigant inside shipping containers, usually arriving from the Far East and China carrying hardwood garden furniture, clothing and tyres. Our experiences have started when self presenters arrive in our Emergency Departments; sometimes they bring a sample of the material in, with or without its packaging.

Methods

The uses of aluminium phosphide as a fumigant, and the incidents that have occurred in West Yorkshire are described. The health effects of acute exposure to phosphides and phosphine are explained.

Results

Lessons learnt from this type of incident are reported, with a discussion regarding appropriate decontamination and disposal procedures necessary in such situations.

Conclusion

Fumigated shipping containers should be labelled "UN 3359" under the International Maritime Dangerous Goods (IMDG) Code. The added costs and paperwork involved may contribute to containers under fumigation not being declared and properly labelled, resulting in unsuspecting staff at the final destination entering containers without taking necessary precautions.

The precautions required at Emergency Departments, with regard to patients potentially exposed to aluminium phosphide, are discussed, along with local efforts to generate better knowledge and understanding of how to deal with these incidents or better still, prevent them occurring in the future.

Contact: faith.goodfellow@hpa.org.uk

International spread of measles from a UK boarding school

M Kliner, F Anaman, J Butcher, J Gilman, L Morley

Bedfordshire and Hertfordshire Health Protection Unit, Letchworth, Hertfordshire, England

This review outlines an outbreak at a co-education boarding school with 520 boarders and 255 day pupils. The outbreak involved a number of international students with vaccination status showing two doses of MMR obtained from outside the UK.

Cases were reported to the Health Protection Agency between 10/11/08 and 15/01/09. To date, 22 pupils at the boarding school have serologically confirmed measles, with a further 19 probable cases with outstanding serological results. Outside the boarding school, four confirmed cases of measles and one probable case have been epidemiologically linked to the outbreak at the school.

From the total 46 confirmed and probable cases, the median age is 15 year (range 0-33 years). 26 cases were male. No deaths or major complications were reported; three hospital admissions were required for dehydration, all in confirmed measles cases.

Overall of the 46 cases, 20 (43%) had no previous vaccination, 5 (11%) had one previous vaccination, and 6 (13%) had two doses with 10 (22%) of unknown MMR status.

Seven pupils (17%) with suspected or confirmed measles were born outside the UK: three of which are confirmed serologically.

Three pupils with two MMR vaccinations prior to admission to the school are serologically confirmed to have measles, two of which have documentation of vaccination from outside the UK.

Boarding schools are high risk for spread of infection, therefore, additional care must be taken to ensure adequate vaccination for all students attending. To enhance immunity in all students and staff and thus reduce outbreaks, it may be appropriate to review vaccination policies for admission to boarding schools.

Contact: jenny.butcher@hpa.org.uk

Investigation of an outbreak of cryptosporidiosis associated with a school farm visit and subsequent work raising awareness with all schools within the LEA

MR McGivern¹, A Robbins², S Lipscombe³, P Davison¹

1 North East HPA, Durham, England

2 Health & Safety Executive Newcastle, England

3 Durham County Council, Durham, England

In April 2008, routine surveillance of *Cryptosporidium* cases identified a case of cryptosporidiosis in a child who lived in Easington district but went to school in Sedgefield. When Easington EHOs contacted the Sedgefield EHOs, a second case who also attended the school was identified.

Enquiries were made at the school and it was reported that a number of other children and adults who had been on a farm visit with the school had reported illness over the Easter holiday period.

Investigations identified 20 people who visited the farm, 11 of which developed symptoms (including the 2 confirmed cases). Further investigation of the farm was undertaken in conjunction with the EHOs and the HSE. Although the risk assessment conducted by the farm was found to be in order, further action was required in relation to risks posed by infection through contact animals.

A series of recommendations made to the farm outlining actions that should be taken to reduce risks for future visits. These included a range of suggested improvements to facilities, changes in practises for farm visits and information to be provided to farm visitors.

As a result of the outbreak, several lessons were also identified to be taken forward by members of the OCT:

- Recommendation for the HSE to include issues relating to school visits were in future routine training provided for farms.
- Review and reissuing of guidance to schools in Durham and Darlington regarding farm visits. Development of a quick reference sheet for individuals supervising farm visits, including parents and teachers.
- Clarification of responsibilities regarding investigation of farms. HPU procedures have been updated to ensure future issues are promptly referred to the appropriate enforcing authority.

Contact: mark.mcgivern@hpa.org.uk.

Is it a bird? Is it a plane? No! Its influenza A! Or is it?

S Teoh^{1,2}, N Premaratne¹, B Whiteman-Hoyte¹

1 South East London Health Protection Unit

2 Public Health Department, Bromley Primary Care Trust

Working with the South East London Health Protection Unit, we have been involved in the management of an outbreak of flu-like illness in December 2008/January 2009 a 120 bed residential home. Initial results confirmed influenza A in one half of the home only. However, shortly after commencing treatment and implementing infection control measures, the other half of the home subsequently developed flu-like symptoms. Repeat testing was positive for RSV but fortunately not Influenza A. This was not the end of it, however, as the original batch of residents with Influenza A began once again to develop flu-like symptoms...

With no trained medical staff working at the home, and only one GP, one district nurse and 120 residents, this case presented many interesting challenges not only to us, but also the Centre for Infections. With a little scabies and some diarrhoea and vomiting thrown in for good measure, we look at our management of this residential home and the problems we encountered

Contact: nimal.premaratne@lambethpct.nhs.uk

Legionnaires' disease cluster linked to a metal product aqueous pre-treatment process, Staffordshire, England, in April and May 2008.

N Coetzee¹, W-K Liu², N Astbury³, P Williams⁴, S Robinson¹, M Afza¹

1 HPA West Midlands North Health Protection Unit, Stafford, UK

2 Health & Safety Executive, Birmingham, UK

3 University Hospital North Staffordshire, NHS, Stoke-on-Trent, UK

4 JC Bamford, Staffordshire, UK

Aims

To investigate a Legionnaires' disease cluster of two cases at the same construction equipment manufacturing plant (plant X).

Methods

A confirmed case of Legionnaires' disease (LD) worked at plant X with clinical signs of pneumonia, and detection of *Legionella pneumophila* serogroup I antigen in urine. Worker sickness absenteeism and reports of respiratory illness at plant X during the preceding month were reviewed. Cases and their close family members were interviewed to elicit sources of potential recent *Legionella* exposure. Water systems at the plant were inspected and samples taken for *Legionella* culture.

Results: Searching did not yield any further cases. Both cases were full time production workers at plant X with no external *Legionella* exposure or risk factors. There were no cooling towers near or at the plant, and no air conditioning units. Water systems in the plant consisted of: 1) two fully functional domestic systems 2) a wet paint spray booth and 3) an aqueous metal pre-treatment spray tunnel. *Legionella* was not isolated from 1 & 2 but 3. Before metal parts are powder-coated or spray-painted, they undergo pre-treatment degreasing with chemical solutions (>55 deg C) and several water rinses. Solutions and water are recycled in respective tanks. *Legionella pneumophila* serogroup I (Mab 2b) was isolated from 3 water tanks (range: 25-38 deg C) at count >3.0x10,000 cfu/L and confirmed upon subsequent testing. Both cases could be linked to exposure by this system. Biocide treatment of this water system proved effective.

Conclusions

Both cases could be linked to water aerosol exposure from the aqueous pre-treatment process, which was not identified as source of *Legionella* previously. Assessing the risks for LD in similar systems, common in the metal manufacturing industry, is recommended.

Contact: nic.coetzee@hpa.org.uk

Norovirus at the local level - an improved health protection approach

A Docherty¹, H Mohammed²

¹ Birmingham East and North PCT

² West Midlands East Health Protection

Aim

To understand the perceived role and function of the local health protection unit with regards to the control of norovirus within both hospital and community settings and identify recommendations for future change.

Methods

Qualitative study comprising semi structured interviews with 7 infection control leads across a mixture of hospital (4) and community settings (2 residential, 1 nursing home) who had experienced a norovirus outbreak during the period December 2007 to February 2008. Interviews focused in particular upon implementation and effectiveness of local control measures and perceived satisfaction with local health protection input.

Results

All settings were compliant with the majority of control measures currently supported within the wider literature. Satisfaction with health protection input regarding the quality and consistency of advice was high. However, a number of areas were identified where further support around preventive action to reduce the likelihood of a norovirus outbreak were identified. These focused in particular upon increased educational provision, the importance of a locally based, HP led media campaign, the ongoing development and strengthening of relationships with local organisations / leads and increased dissemination of information resources across all settings.

Conclusions

Local health protection units must ensure they have a strong presence during the norovirus season, in particular that they are perceived as a lead in the prevention and control of outbreaks. This requires the use of a multi faceted approach to allow for maximisation of information sharing, notification and relationship strengthening.

Contact: Andrea.Docherty@benpct.nhs.uk

Toxigenic *Corynebacterium ulcerans*: public health dilemmas

A Modi¹, S De Martin², V Bothra², R Vivancos², M Petrovic¹, D Baxter³

1 Greater Manchester Health Protection Unit, UK

2 Cheshire & Merseyside Health Protection Unit, UK

3 NHS Stockport, UK

Aim

In the UK, the frequency with which toxigenic *Corynebacterium ulcerans* has been isolated as a causative agent for diphtheria appears to be increasing. Recent studies suggest that cats and dogs could be potential reservoirs for this organism. We describe some of the challenging issues this raises in the public health management of diphtheria.

Methods

Three cases of diphtheria caused by toxigenic *Corynebacterium ulcerans* in North West England in 2008 are described including the investigations and control measures taken.

Results

All three cases presented with mild sore throat without features of 'classical diphtheria' and were diagnosed only after isolation of toxigenic *C. ulcerans*. All cases were treated with antibiotics as well as anti-toxin and vaccination where indicated and made a full recovery. Two of the cases were fully vaccinated and none had known risk factors like contact with a case of diphtheria, recent overseas travel, consumption of unpasteurised milk or visits to farms. Human contacts were offered nasopharyngeal swabs, passive self-surveillance, information leaflets, prophylactic antibiotics and diphtheria containing vaccine where indicated in line with national guidance. The swabs from all human contacts were negative. All cases reported contact with companion animals like dogs and cats. The animals with which cases had the closest contact were swabbed and found to be negative for *C. ulcerans*.

Conclusion

These cases represent sporadic isolates of toxigenic *C. ulcerans*. As Diphtheria is a rare disease in the UK it is important to raise awareness amongst clinicians of diphtheria presenting without a pseudomembrane. In the absence of other recognised risk factors, companion animals were

suspected as being the source of the infection and investigated. The testing of animal contacts raised a number of challenging issues. These investigations suggest that diphtheria public health management guidelines need to address issues around the screening and management of domestic animals.

Contact: a.modi@nhs.net

Tuberculosis outbreak associated with a mosque: challenges of large scale contact tracing

S Duthie¹, C Black^{1,2}, G Douglas³, A D Jackson⁴, D Webster¹

1 Health Protection, NHS Grampian, Aberdeen, Scotland

2 University of Aberdeen, Aberdeen, Scotland

3 Aberdeen Royal Infirmary, Aberdeen, Scotland

4 Health Protection Scotland, Glasgow, Scotland

Aim

We describe the investigation and management of an outbreak of tuberculosis (TB) associated with a mosque, the importance of providing culturally sensitive communication and the implications of large-scale TB contact tracing.

Methods

Sixteen close contacts were screened by either a CXR or a tuberculin skin test, dependant on age. Three (18.8%) were found to have active TB disease. It was considered necessary to identify and offer screening, by the same methods, to casual contacts. These included those who regularly attended a local mosque for a Friday lunchtime prayer meeting or a Friday evening meeting.

Results

Of the 3 (18.8%) found to have active disease; two were children and one was an adult. Due to the high transmission rate (>10%), casual contacts, including the mosque attendees, were offered screening. It was anticipated that between 400 and 500, predominantly males, may require screening. Just over 600 people came forward and 438 were deemed as having had sufficient potential contact to require screening with only approximately half of these adult males. 86% attended and 2 (0.53%) cases of TB (one active, one latent) were identified. An additional 2 cases were identified as linked to

the outbreak through review of recent local cases who also attended the mosque. 2 further cases have since been identified as having a genetically identical bacterial profile, one in England with no known link to the mosque and one who was a household contact but whose original CXR had been normal at the time of screening.

Conclusion

The screening of casual contacts in this setting was both complex and time consuming and we experienced some difficulties in communicating risk. This resulted in a large proportion of those considered to be at highest risk, not coming forward for screening. This may have contributed to the low case detection rate.

Contact: susan.duthie@nhs.net

Using email to improve uptake of MMR amongst students during a mumps outbreak in a third level institution

A Ryan, F Cooney, N Schinaia, A Breslin

Department of Public Health, Sligo, HSE West, Ireland

Aims

To evaluate the acceptability of the use of email to inform third level students about special MMR clinics during an outbreak of mumps.

Methods

An outbreak of mumps occurred in North West Ireland during which time over 160 cases were notified from October 2008 to January 2009. Among these, over 130 cases were linked to a local third level institution which has a student population of 4,600. In order to control the outbreak, special MMR clinics were held on campus. We used email in addition to leaflets and posters to inform students about the clinics. These emails were sent to all students and staff. Appointment only clinics were held over two successive days and the following week a walk-in clinic was held, again over two successive days. Students were required to make an appointment electronically for the first clinic. We asked each attendee to fill out a questionnaire. The results were analysed using SPSS.

Results

The questionnaire response rate was 89% of the 177 who attended the clinics. Respondents' main source of information regarding the clinic was email for 60%, word-of-mouth for 14%, posters/leaflets for 5% and other sources for 5%. Email was the main source of information for both clinics; appointment-only 62% and walk-in 58%. Respondents rated the way email was used to inform them about the clinic as very good/excellent (73%), good (22%) or poor/fair (5%). Further analysis provided details on students' preferred methods of communication.

Conclusions

The use of email is an acceptable and useful way of informing third level students about special immunisation clinics in an outbreak situation.

Contact: AidanA.Ryan@hse.ie

Using the Internet in the investigation of communicable disease outbreaks

CC Coombes¹, SL Griffiths², RL Salmon¹, BW Mason¹, DRh Thomas¹

¹ NPHS CDSC, Cardiff

² NPHS Swansea

Background

In a 2008 survey, 71% of UK adults reported recent use of the Internet. Of these, 69% access it daily/almost daily. Usage varies by age from 93% in 16-24yrs to 31% in over 65yrs. These statistics illustrate the popularity of this media, particularly in certain age-groups, for acquiring and sharing information. Of interest to public health practitioners is whether the Internet can be used in the investigation of communicable disease outbreaks and what benefits it offers.

Case study

In 2008 the NPHS received a report via its website feedback of an outbreak of diarrhoeal illness in participants of a mountain bike event. The bikers, from all parts of the UK, established that many of them reported similar symptoms through using a post-event Internet discussion forum. As this group demonstrated high fluency in electronic media and

e-mail addresses for the majority were available, the outbreak investigation was undertaken using the Internet as the data collection tool.

A password-protected web questionnaire was constructed and 664 initial emails were sent inviting participants to complete it. Responses were automatically entered, date and time stamped and stored in a secure database. 355 responses were received (52.7% response rate). These were of sufficient number and detail to derive statistically significant risk factors associated with illness in this outbreak and to make recommendations for future events.

Discussion

This work demonstrates the capabilities of the Internet as a public health epidemiological investigation tool. Benefits of using on-line questionnaires are quicker turnaround times, lower costs and reduced administration in comparison to paper-based or telephone questionnaires. This approach may not be suitable for all investigations particularly if older populations are involved. The Internet also provides a facility for the public to alert authorities to incidents which may never be picked up through usual reporting channels.

Contact: clare.coombes@nphs.wales.nhs.uk

International Health

Epidemiological approach to develop an enhanced *Mycobacterium tuberculosis* service in Coventry

H Mohamed¹, JB Licorish²,

¹ HPA West Midlands East Health Protection Unit

² HPA West Midlands Regional

Aims

This report identifies the characteristics of a population of asylum seekers and refugees and their need for tuberculosis services. Refugees, asylum seekers and failed asylum seekers are a diverse group with specific health needs related to pre-migration factors such as the burden of infectious disease in their host country and post migration factors such as access to health services, language issues and the asylum process. The Home Office policy of dispersal has led to the introduction of refugees and asylum seekers in increased numbers into areas other than London and the South East. One method of addressing these health needs has been by the use of dedicated GP practice commissioned by PCT's often with additional health and non-health services. We examine the health needs of such a practice population in the West Midlands.

Methods

We determined general demographic information, the incidence of tuberculosis and HIV co-infectivity in such a population using surveillance and practice data.

Results

The refugee and asylum seeker population showed demographic and epidemiological differences with an already diverse local population. The number of patients in the practice was 1571. There were 17 patients with tuberculosis. The incidence of tuberculosis infection was 1082/100,000 and HIV prevalence in clients incident with tuberculosis of 12%.

Conclusions

There is a very high incidence of tuberculosis in this population of refugees and asylum seekers. There is also a high level of HIV co-infectivity. These

findings have consequences in terms of screening and appropriate follow-up for refugees and asylum seekers who are from areas of high risk. It also highlights the unmet need in many refugees and asylum seekers who may have inadequate access to care and the potential risk to their contacts.

Contact: John.licorish@dh.gsi.gov.uk

The threat of rabies in Ireland

M Boland¹, J McElhinney¹, P McKeown²

¹ Department of Public Health East, HSE Eastern Region Dublin, Ireland ;

² Health Protection Surveillance Centre Dublin, Ireland ;

Rabies is endemic in wild and domestic animals in many parts of the world. It causes a vaccine-preventable acute viral encephalitis. Case fatality rate in humans and animals is 100% if post-exposure treatment is not administered. Ireland is considered rabies-free since 1903 and practises strict quarantine of imported animals. Recent rabies in dogs occurred in France following an import from Morocco.

A five month old kitten bought by a Polish couple over the Internet from a Polish supplier presented with salivation and aggressive encephalitis of five days in March 2008. It bit the attendant vet, nurse and owners. A provisional diagnosis of rabies concerned both the Department of Agriculture and Public Health. If born outside Ireland and the UK, the kitten was an illegal import. The four people exposed were referred urgently for post-exposure prophylaxis to the Chief Medical Officer at Cherry Orchard Hospital to receive rabies-specific immunoglobulin and vaccination over a period of 21 days. No other human exposure was ascertained.

The kitten was euthanised and brain tissue samples sent to the UK for direct fluorescent antibody tests, tissue culture isolation tests and mouse inoculation tests were negative.

The potential threat of rabies in Ireland remains, with the possibility of illegally imported pets being a concern. Amended guidelines from the National Immunisation Advisory Committee include an

expanded group of individuals who might be potentially at risk of rabies in Ireland: those who handle exotic animals, and those who may be exposed to bats.

Contact: mairin.boland@hse.ie

Transfer of knowledge to developing countries through expatriate nationals: experience from the Sudan Health Consultancy group

M Abdel Aziz¹, H Mohamed², I Awad³

¹ NHS Sheffield

² West Midlands East Health Protection Unit, Warwick

³ Regional Surveillance Unit, HPA WMM, Birmingham

Background

Sudan, the largest country in Africa, is squeezed by poverty, war and politics.

These have resulted in poor infrastructure, stark inequalities and poor health.

Public health practice is low profile, under-resourced and has limited impact. We are a group of ten public health specialists in the UK; active from 2006 as 'Sudan Health Consultancy'. Collectively, we have experience of working in the NHS and UK universities.

A voluntary group, we endeavour to share knowledge, skills and ideas with colleagues and organisations in Sudan. We believe a sound public health approach is the shortest way to a rapid improvement of health in Sudan.

Aim

The aim of our submission is to share our experiences of making a systematic Diaspora contribution to Sudan.

Methods

We reflect on the main methods we use to transfer learning and skills:

- **Influencing policy:** We were consulted on Sudan's 25 year Health Strategy and contributed to the National Health Policy Consensus Building Workshop, 2007.
- **Educational:** We publish a quarterly newsletter and a regular article (Postcard from UK) in the Sudanese Journal of Public Health Distance

learning: We participate in the Peoples-Uni initiative: providing affordable distance learning for developing countries.

- **Training - Sudan:** We ran training workshops on project management, outbreak control and summary measures of population health
- **Training - UK:** We endeavour to organise service placements for Sudanese PH professionals. We run regular International Health workshops in UK universities.

Conclusion

Supporting international public health can be done in various ways. Our experience is recognized as a good practice model, greatly facilitated by:

- How we organise ourselves, our collective skills and expertise.
- How we have systematically partnered with influential organisations in Sudan and UK.
- How we plan and track our work programme, and ensure we deliver contributions to deadline.

Contact: huda.mohamed@warkpct.nhs.uk

Travel health care in the 4 countries of the UK

N Joyce, RJ Roberts

Vaccine Preventable Disease Programme, National Public Health Service for Wales, Temple of Peace, Cardiff, Wales

Aim

To investigate activity and indicators of provision of travel medicine services within the four countries of the UK.

Methods

The UK public continue to travel with increasing frequency, crossing geographical boundaries, exposing themselves to a variety of health risks. This questionnaire based study investigated travel health care delivery and support in the UK with national representatives, and by interrogating available evidence it identified activity at an operational level, available training and also support at national level for clinicians. This was considered by examination of current literature, available resources and measurable outputs of activity. Differences between the four countries of the UK are highlighted.

Results

The most common health care setting for the British traveller to access travel health advice continues to be in NHS primary care, and it is most likely to be delivered by the practice nurse.

The number of Yellow Fever Vaccination Centres varies from 1 per 17,023 of the general population in England to 1 per 39,581 in Northern Ireland. Specialist travel health training is available at diploma level in Scotland and England only.

This UK membership of the British Travel Health Association (570) is spread across the UK with wide variations in membership from the four UK countries. The International Society of Travel Medicine has a directory of travel health clinics in which there are currently 43 clinics registered in the UK. Within England there were 35 clinics, Scotland had 5, Northern Ireland 1 and Wales had none.

Conclusions

Greater activity around most aspects of travel medicine is demonstrated in England, followed respectively by Scotland, Wales and Northern Ireland. The impact of this on travel health care delivery to the public of each country is unknown.

Recommendations for further study into delivery and support of travel medicine in the UK are offered.

Contact: nicola.joyce@nphs.wales.nhs.uk

Sex, saunas and sport – the risks of leisure activities

Look what I've brought back from my holidays

D Wilson, K Foster, J Waller, K Lloyd

North East Health Protection Unit

Introduction

Following anecdotal reports of heterosexual acquisition of acute hepatitis B in travellers to Thailand we explored the risk factors and travel history of cases in the North East.

Methods

Acute hepatitis B cases are interviewed by a member of HPU staff and both paper and electronic records created. Demographic and risk factor information was collated from these records for cases during 2007 and 2008.

Results

26 (59%) of the 44 cases of acute hepatitis B were male. Ages ranged from 16 to 53 years (median 33 years).

Twenty-four (55%) cases were acquired via heterosexual sex – seventeen in the UK and seven in Thailand. All seven cases acquiring infection heterosexually in Thailand were White British men aged 22 to 53 years (median 43 years).

Conclusion

Over a two-year period in the North East seven cases of acute hepatitis B were acquired by White British men having heterosexual sex in Thailand - 1 in 6 of all cases.

Some opportunities for pre-exposure immunisation to prevent infection have not been realised in this newly recognised risk group.

Recommendations

The Health Protection Agency should identify ways to improve health protection messages to inform individuals (and healthcare workers) about the risks of hepatitis B and other sexually transmitted

infections when having unprotected sex in high prevalence countries and ways to reduce the risks. Options include:

- developing messages for travel health websites used by individuals and healthcare providers
- improving training for healthcare workers who provide travel advice
- more innovative techniques – e.g. asking men who have been infected in this way about how they could have been better informed about the potential risks. It may be possible to target messages directly to individuals visiting countries via specific websites or chatrooms.

Contact: deborah.wilson@hpa.org.uk

Sexual health promotion in the North West of England in 2008

WS Welfare, L Lighton

Greater Manchester Health Protection Unit, Manchester, UK

Aim

To map sexual health promotion activity and resources across the North West of England

Methods

A multiagency group designed and piloted a survey of sexual health promotion in groups other than those targeted by the National Chlamydia Screening Programme (NCSP) and Teenage Pregnancy initiatives. This pilot was unsuccessful and a survey of all sexual health promotion activity was carried out using a simplified questionnaire for completion by Primary Care Trust (PCT) sexual health commissioners in the North West.

Results

Sixteen PCTs responded (out of 24). Some PCTs had difficulty in identifying the relevant commissioner.

Sexual Health Promotion Activity:

Most activity was focused on young people, especially around NCSP and Teenage Pregnancy, and particular high risk groups-Lesbian, Gay and Bisexual people, those living with HIV and sex workers. All PCTs commissioned education and training, and a condom distribution service. Other common activities included outreach work, and producing and disseminating materials.

Most services were confined to one PCT.

Most PCTs were unable to identify the resources committed to sexual health promotion.

Service Development Ideas and Comments:

The emergent themes all linked to commissioning: Commissioning and Strategy; Funding; Needs assessment; Service development and provision; Contracting and monitoring; Evaluation and evidence; and Regional Perspective.

Conclusions

Piloting surveys is essential.

A simple tool to map sexual health promotion activities commissioned by PCTs was developed.

Many PCTs could not identify a commissioner for sexual health. Most could not identify the resources committed to sexual health promotion. Sexual health promotion activity focuses on young people (linked to NCSP and Teenage Pregnancy) and particular high risk groups, with resultant gaps and a mismatch with the epidemiology.

The most frequently commissioned activities were training and education, and condom provision (despite the limited evidence base).

PCTs need to develop needs led, evidence based strategies for sexual health promotion

Contact: william.welfare@hpa.org.uk

Surveillance

Survey of clinical laboratory practices for the detection of rotavirus in England and Wales: aiding the interpretation

CA Atchison¹, BA Lopman^{1,2}, CJC Harris³, CC Tam¹, M Iturriza Gomara⁴, J Gray⁴

- 1 Infectious Diseases Epidemiology Unit, Department of Epidemiology and Population Health, London School of Hygiene and Tropical Medicine, London, England
- 2 Gastrointestinal, Emerging and Zoonotic Infections Department, Centre for Infections, Health Protection Agency, London, England
- 3 Standards Unit, Department of Evaluations and Standards, Centre for Infections, Health Protection Agency, London, England
- 4 Enteric Virus Unit, Virus Reference Department, Centre for Infections, Health Protection Agency, London, England

Aims

Rotavirus is the most common cause of gastroenteritis in children under 5 years. Two rotavirus vaccines are now licensed for use in Europe. If surveillance data based on routine laboratory testing data is to be used to evaluate the impact of vaccination programmes, it is important to determine how the data are influenced by laboratory testing policies. This study aims to examine how laboratory policies for rotavirus testing in England and Wales affect rotavirus national surveillance data.

Methods

In May 2008, we conducted an email-based survey of laboratory testing policies for rotavirus gastroenteritis in England and Wales. We contacted 156 NHS and regional or collaborating HPA laboratories that reported cases of laboratory-confirmed rotavirus infections to the national surveillance database. The survey included questions on diagnostic tests used for rotavirus detection, policies on screening by age and calendar month, other indications for testing and details of changes to testing policies over the last 10 years. Results: 60% (94/156) of laboratories responded to the survey. 96% (90/94) of laboratories used either rapid immunochromatographic tests (RIT) or enzyme-linked immunosorbant assay (ELISA) for rotavirus detection. 91% (86/94) of laboratories

offered routine testing for rotavirus all year round and 89% (84/94) of laboratories offered routine rotavirus testing of all stool specimens from children under 5 years old. Other indications for rotavirus testing included stool specimens sent from immunocompromised patients, nursery workers, paediatric ward outbreaks, norovirus PCR negative adult outbreaks and all liquid stool specimens.

Conclusion

Currently, rotavirus testing policies amongst laboratories in England and Wales are relatively homogenous. Therefore, surveillance based on laboratory testing data is likely to be representative of rotavirus disease trends in the community in the most frequently affected age groups (children under 5 years old) and could be used to help determine the impact of a rotavirus vaccine.

Contact: Christina.Atchison@lshtm.ac.uk

Epidemiological risks for HEV transmission in Wales

SL Cottrell¹, A Mahmood², RL Salmon¹, R Smith¹

- 1 NPHS Wales Communicable Disease Surveillance Centre, Temple of Peace and Health, Cathays, Cardiff. CF103NW
- 2 Herefordshire PCT, Ruckhall Lane, Belmont, Herefordshire. HR29RP

Aims

Over the last four years, 157 cases of laboratory confirmed hepatitis E have been reported in Wales (a likely underestimate of actual hepatitis E cases in Wales). Cases of hepatitis E have traditionally been associated with residence in, or travel to HEV endemic areas. Recently there has been an increase in the number of hepatitis E cases in Welsh residents with no recent history of travel to HEV affected areas. The epidemiology of indigenously acquired HEV infection in developed countries is not yet clearly understood although contact with animal manure has been suggested as a route for HEV transmission.

Methods

Unstructured face to face interviews were carried out with 22 consenting laboratory confirmed cases from south and mid Wales (with no recent travel history to a HEV endemic area). Common risk factors were identified from interviews and assessed using a risk factor matrix. Data were analysed using STATA 9.2.

Results

Of 22 cases (median age 66 years), 19 (86%) reported a physical contact with an animal or with animal manure. Thirteen (59%) cases were recreational gardeners. Seventeen (81%) cases lived within half a mile of a river, lake, pond or stream. Sixteen (76%) cases lived within half a mile of a farm or a park and eight (36%) lived within half a mile of woodland.

Conclusion

This investigation provides information on potential risk factors associated with indigenously acquired hepatitis E in Wales and has identified several common factors that would place cases at increased risk of coming in to contact with animal manure, such as: gardening, living within half a mile of a river, lake, pond, water stream, farm, park, or woodland. These results provide a basis for more detailed studies looking into aetiological risks for transmission of HEV in Wales.

Contact: simon.cottrell@nphs.wales.nhs.uk

Eradication of hydatid disease in Wales

Robert Smith on behalf of the Hydatid Eradication Project Board

CDSC, National Public Health Service for Wales

Aims

In the past hydatid disease caused by infestation with the larval stage of the dog tapeworm *Echinococcus granulosus*, has caused significant human morbidity in Wales, with hot spots in the rural communities of south Powys, Monmouthshire and Herefordshire. An increasing infection rate in dogs identified by Palmer et al in 1996 and Buishi et al in 2005, may in turn lead to an increase in the number of humans who contract the disease and has raised concerns that accidental infection of humans may once again start to emerge, especially in younger age groups.

Methods

Previous control schemes to eradicate infection in dogs were moderately successful but discontinued through lack of funding, with subsequent increases in dog infection rates and evidence of infection in areas previously free of hydatid disease with a possible increased risk of cases of human hydatid disease.

To finally eradicate the disease, the Welsh Assembly Government instigated an all-Wales awareness campaign in 2006 followed by a pilot eradication campaign which commenced in May 2008, funded by the Public Health and Environment divisions of the Welsh Assembly Government. This consists of supervised free dog worming in South Powys as a preventative public health measure, using praziquantel and evaluation of the efficacy by sampling faeces from dogs on farms and hunt kennels and using a coproantigen ELISA for hydatid carriage.

Results

Initial results suggest that whilst the wider human population in GB is not at significantly increased risk of hydatidosis and the prevalence in dogs remains low, further work to validate findings is essential.

Conclusion

Good husbandry and hygiene advice remain positive messages which must be continued and eradication should be continued not at an all-Wales, but at a GB level. The long incubation period for hydatid disease does however make prediction of future trends difficult.

Contact: robert.smith@nphs.wales.nhs.uk

Invasive meningococcal disease in Thames Valley, 2006-07: assessment of completeness of notification by comparison of two independent data sources

K Paranthaman¹, L Kent¹, N McCarthy¹, S Gray²

¹ Thames Valley Health Protection Unit, Oxford

² HPA Meningococcal Reference Unit, Manchester

Aims

To study the completeness and timeliness of reporting of Invasive Meningococcal Disease

(IMD) in Thames Valley region (covering Berkshire, Buckinghamshire and Oxfordshire with a population of 2.1 million) during 2006-07.

Methods

A retrospective review of suspected cases of IMD among temporary or permanent residents notified to the Thames Valley Health Protection Unit (TVHPU) between 1 January 2006 and 31 December 2007 (routine surveillance) was undertaken. This was compared with the list of suspected cases with samples sent from the acute hospitals in the region to the Meningococcal Reference Unit, Manchester.

Results

The TVHPU was informed of 185 suspected cases of IMD by formal notification (physician report) and other methods (report from members of public, nursery staff, etc.), thus giving an overall notification rate of 4.4/100000 population/year. During the same period, the reference laboratory received 624 samples at a rate of 14.9/100000 population/yr. For children less than 15 years of age, the proportion of notified cases to the number of blood samples sent was 21.6% (102/472), compared to 57.6% (83/144) for those over 15 years of age. Although the Out of Hours (OOH) team provides public health advice for 128 hours compared to 40 HPU working hours in a week, only 23.7% of cases were notified to the OOH team.

Conclusions

Only 30% of the suspected IMD cases with samples sent to the reference laboratory were reported to the TVHPU. The results suggest that notification of suspected cases was more likely in adults, while in children, more cases were investigated but not notified. Whether this indicates a low threshold for sending samples from possible cases to exclude IMD in children or a failure to notify suspected cases to the HPU requires further study.

Contact: kparanthaman@nhs.net

Prevalence of risk factors associated with invasive pneumococcal disease in North East England and immunisation of at-risk groups

V Decraene, D Wilson, R Gorton

North East Health Protection Unit

Aims

To examine the prevalence of risk factors associated with invasive pneumococcal disease (IPD) among different age groups in North East England and to investigate the levels of immunisation in at-risk groups.

Methods

A case was defined as a North East resident of any age with laboratory-confirmed IPD between 1st July 2006 and 30th June 2008 inclusive. For each case HPU staff contacted hospital and primary care to collect an enhanced dataset which included demographics, laboratory and clinical information, risk factors for IPD and previous immunisation against IPD. Serotyping results were provided by HPA Respiratory and Systemic Infections Laboratory.

Results

Of the 560 cases of IPD identified in the North East between June 2006 and July 2008, 541 had risk factor information provided. Of these, 57% had one or more risk factors. The proportion of cases with risk factors increased with age and was slightly higher in males than females. Overall, the most common risk factor was chronic lung disease, which affected more than a fifth of cases. There was some variation between age groups: in those aged over 65, chronic heart disease was the most common risk factor, whereas a history of alcohol abuse was the leading risk factor in those aged 5-64 years. The proportion of cases immunised also varied between at-risk groups: while 74% of cases with chronic renal failure were immunised, only 20% of cases with a history of alcohol abuse were vaccinated. The case fatality rate was twice as high in patients with risk factors as those without.

Conclusions

This enhanced IPD surveillance system provides valuable insight into the prevalence of different risk factors among cases of IPD in the North East of England. This information will be useful in informing regional prevention and control strategies particularly with respect to improving immunisation uptake.

Contact: valerie.decraene@hpa.org.uk

Stopping the spread: an evidence based approach to the prevention of outbreaks of norovirus disease in the West Midlands

JB Licorish¹, H Mohamed²

1 HPA West Midlands Regional Surveillance Unit
2 HPA West Midlands East Health Protection Unit

Aims

The West Midlands in recent times has suffered from many outbreaks of norovirus disease in the community and in institutions. The extent of the problem and the nature of the responses by various agencies were not well described. To address this, the HPA West Midlands Regional Management team established a project team and developed a plan of action to provide an evidence based approach to address norovirus prevention in the West Midlands Methods:

A comprehensive literature review was performed. A complete review of local surveillance data and epidemiological information was also carried out. The knowledge, attitudes, behaviours and materials used by local health protection practitioners were obtained by the use of interviewer administered semi-structured questionnaires.

Results

A report highlighting the strengths and weakness of local practice, epidemiological findings and a synthesis of the literature was produced. Three toolkits were commissioned by HPA West Midlands Regional Management Team, one for health protection units, a second for care and nursing homes and the third for schools and nurseries. These toolkits were based on the report with further stakeholder, technical and communication input. These were launched and enthusiastically received in local stakeholder events for schools, nurseries and health protection units. Dissemination and reproduction of the tool kits at sub-regional events was also initiated. An on-line version was created. There has been strong demand for the toolkits and practitioners report significant benefit in using these instruments.

Conclusion

The use of a participatory evidence based approach to norovirus prevention is an effective means of producing toolkits that practitioners and stakeholders are willing to use and is likely inform changes to their practice.

Contact: john.licorish@dh.gsi.gov.uk

Trends in chronic hepatitis B in Lothian

JR Morling¹, K Templeton², C Evans³, A Mitchell⁴

1 ISD, NHS National Services Scotland, Edinburgh, Scotland
2 Edinburgh Specialist Virology Centre, Royal Infirmary of Edinburgh, Scotland
3 Health Protection Team, Lothian NHS Board, Edinburgh, Scotland
4 eHealth, Royal Edinburgh Hospital, Scotland

Aim

To determine the trends in incidence of newly diagnosed chronic hepatitis B in order to inform the prevention of onward transmission.

Objectives

1. To determine the trends in chronic hepatitis B incidence in Lothian NHS Board, Scotland, between January 2006 and August 2008
2. To determine the characteristics associated with chronic hepatitis B in Lothian: age, sex, country of birth.

Methods

The laboratory reporting system (Apex) at the Royal Infirmary of Edinburgh was searched for all positive reports of hepatitis B virus serology for January 2006 to August 2008. All positive reports were manually reviewed to identify newly diagnosed cases of chronic hepatitis B from within the NHS Lothian area. The electronic notes of these patients where available were reviewed for age, sex, country of birth and previous knowledge of the disease.

Results

There was a total of 213 cases over the time period, of which 57% were male (1% unknown). The average age was 34.8 years (range 1-79 years). Countries of birth were available for 26% of patients the top 3 being, China 29%, UK 19% and Poland 13%. Fifty percent were already aware of their diagnosis.

Conclusions

The number of patients being diagnosed with chronic hepatitis B in Lothian is rising. This appears in part to be due to the well implemented screening programme in ante-natal clinics. The epidemiology is poorly detailed but the majority of cases are coming from overseas, particularly China. Unlike other blood borne viruses there is

currently no routine surveillance system in the UK for Hepatitis B. Such a system would inform future policies including a targeted screening programme for immigrants and a co-ordinated programme of vaccination and follow-up of contacts of cases to prevent onward transmission of infection.

Contact: joanne.morling@nhs.net

Late Breakers and Hot Topics

A multiagency approach for agreeing joint standards for improving tuberculosis care through local tuberculosis services

K Janmohamed^{1,2}, H Mohamed¹, D Crisp²

¹ Health Protection Agency West Midlands East

² Warwickshire Primary Care Trust

Aim

The aim is to develop appropriate standards for *Mycobacterium tuberculosis* against which progress can be monitored for the management of this disease over time. The objective of developing and implementing these standards is to ensure that universal high quality care is being achieved across the region and these standards cover clinical, microbiological, occupational health, and immunisation aspects of *M. tuberculosis* management and control.

Methods

The areas of focus for these standards were defined through review of the pertinent literature on this topic, including the Recent NICE guidance and department of health guidelines and the 9 'TB Standards' that have been developed by the 'North London TB Network' in 2007.

The standards themselves were developed through a multi-agency approach involving input from professionals involved with all aspects of *M. tuberculosis* care in this region. This poster outlines the process that has been undertaken in drawing up these standards along with the evidence that relates to each one. Current national guidelines for the correct management of *M. tuberculosis* is emphasised and the standards themselves are presented along with the mechanisms used to monitor progress against each one.

Results

15 standards were developed to cover clinical, microbiological, occupational health, and immunisation aspects of *M. tuberculosis* management and control. The Standards are being successfully adopted in Coventry and Warwickshire and have been subsequently shared across the West Midlands for adaptation and implementation in these areas.

Conclusions

It is possible to work towards optimal TB care through a multiagency collaborative approach that encompasses the clinical, public health and social domains.

Contact: sumi.janmohamed@hpa.org.uk

Enhanced norovirus surveillance in the West Midlands: preliminary report from a pilot study

Shakeel Suleman, Gaynor Evans, Babatunde Olowokure

HPA West Midlands Regional Epidemiology Unit, Birmingham

Background

Noroviruses are recognized as the leading cause of viral gastroenteritis and place a considerable strain on healthcare resources. The majority of recorded outbreaks occur in institutional settings such as hospitals, care homes and educational establishments but outbreaks may also occur in other settings. In recent years there has been an increase in cases and outbreaks but the extent of this increase remains largely unquantified due to underascertainment. In the winter of 2008, the HPA West Midlands Regional Epidemiology Unit (REU) put in place an enhanced norovirus surveillance system to monitor outbreaks of confirmed or suspected norovirus.

Method

An Access- based pilot reporting system was introduced by the REU to facilitate the enhanced surveillance of confirmed or suspected outbreaks of norovirus reported to local health protection units. The system is designed to capture data on health care-related as well as community-related outbreaks, and where possible link these with microbiological data.

Results

From 1 November 2008 to 31 January 2009, there have been 196 outbreaks. Of these, 45% occurred in hospitals (including 98 ward closures across 25 hospital sites); 14% occurred in schools and nurseries; 36 % occurred in nursing/ care homes, while 5% occurred in other settings such as day centres. A total of 3477 people were affected by norovirus or suspected norovirus in this 3 month period.

Comment

The pilot of the norovirus enhanced surveillance system is a significant step forward in the surveillance of norovirus and its impact on the healthcare system and in particular on the community in general. The system provides an accessible and intuitive approach to capturing data on a condition that every year places a significant burden on the healthcare system and the wider community. Initial results provide useful information on the distribution of cases and measures taken to control outbreaks.

Contact: Shakeel.Suleman@hpa.org.uk

High levels of legionella detected in patient environment in an acute hospital

Gillian Ashford, Dr M Chandrakumar

Kent Health Protection Unit

Aims

To prevent nosocomial cases of Legionnaires' disease following detection of legionella species in the water supply in an acute hospital and to eradicate legionella from the water supply.

Methods

Legionella species was isolated in routine water samples taken from an acute hospital. Remedial action to control legionella in the hot water supply encouraged its growth in the cold water system. Levels detected were between 100 and 495,000 cfu/l; serogroups 2-14 were isolated. Health Protection Agency (HPA) specialist advice was sought.

In December 2008, an incident control meeting was requested by the hospital; the HPA advised that:

- Immuno-compromised patients should not be cared for on the ward.
- Retrospective surveillance of cases of pneumonia transferred from the affected ward to intensive care should be carried out to establish via serological investigation cases of legionellosis.
- If necessary, the HPA Respiratory and Systemic Infections Laboratory would provide support to identify the organism.

Collaborative work involved the HPA, the hospital's Director of Infection Prevention and Control, Head of Infection Control, Consultant Microbiologist, and Head of Estates, the Health and Safety Executive, local authority and an independent microbiology laboratory.

Following a teleconference with specialist HPA advisors, further advice was given:

- Biofilters should be fitted to shower heads and taps in the affected ward.
- The Trust should identify risk factors in the water system supporting the growth of legionella and introduce an action plan to eradicate these.

Results

The Trust is implementing a plan to excise redundant pipe work, after which the system will be flushed and re-sampled. Biofilters will remain in place until sampling results are satisfactory.

Conclusion

The Trust worked with specialists from the HPA, identifying dead-legs in a redundant cold water system connected to the system in use.

No cases of legionellosis have been identified.

Contact: gillian.ashford@hpa.org.uk

Is there a link?

J. Reid, E. McAleese, Dr M. Schweiger

West Yorkshire Health Protection Unit

Aim

Two confirmed cases of meningococcal group B infection in a nursery occurred 41 days apart. This is outside the usual time frame of 28 days expected to suggest that the cases may be linked. A four year old boy died and the second case required several days of intensive care. This caused much anxiety amongst parents of children attending the nursery and the local community and resulted in media interest. The knowledge that the second case was group B infection further fuelled anxiety that the cases were linked. Establishing if there was link at this stage became a priority.

Method

The two PCR results from the cases were examined but there was only a sub type available on one of the samples so direct comparison was not possible. Further molecular testing was requested on both the samples to establish if they could be linked.

Results

The results showed that the samples were molecularly indistinguishable. However this was not absolutely definitive as the DNA configuration was one of the common types.

Conclusion

As a link could not be ruled out and taking advice from the Centre for Infections and the Meningococcal reference Unit the decision was taken to offer prophylaxis to all staff and children at the nursery, approximately one hundred in total, and take a throat swab at the same time for epidemiological purposes. Of the throat swabs taken only three were found to be positive for meningococcal infection. Only one of these was molecularly indistinguishable from the two cases. This strengthens the likelihood that the cases were linked even though they occurred after the usual time frame that would have initially suggested they were linked.

Contact: jane.reid@hpa.org.uk

'If the children and teachers had been sick on Wednesday evening instead of Friday when the children were safe at home, then the consequences for everyone would have been unthinkable' Gastro-intestinal illness after a school trip - Was it the pasties?

DW Gale¹, UN Premaratne¹, I Viudez²

¹ South East London Health Protection Unit, England

² Health Protection Agency, London; England

Aims

This outbreak investigation aims to identify the cause of over 80 cases of gastro-intestinal illness reported amongst staff and pupils within 24 hours of returning from a school trip held in June 2008. Overall, 120 pupils attended the trip, supported by 10 members of staff.

Methods

The epidemiological investigation describes the cases with respect to person, place & time; identifying particular food items that are potential risk factors for transmission of the agent; and identifying which control measures should be implemented to prevent further outbreaks. Site visits and the examination of qualitative commentary regarding the pupils' experiences of the trip provided useful supplementary data sources for understanding the risks posed by such school adventure trips.

Results

Faecal samples collected from 13 of the cases, resulted in norovirus genotype 2 being identified in 7 of these. 1 secondary case was reported and was also sampled. This result also proved positive for norovirus genotype 2. A further probable secondary case was identified as a result of information received via the food questionnaires. These detailed food questionnaires were completed by 113 of the staff and pupils who attended the trip, a response rate of 82%. Qualitative data contained therein enabled environmental and food risks to be seen in the context of the trip.

Conclusions

This was a major outbreak with not only a high number of cases, but a very high attack rate, typical of norovirus outbreaks. The remote nature of the adventure centre to the school, the range of activities within the itinerary, and the many parties involved in managing and delivering the trip and the catering made for a complex investigation into the outbreak

Contact: darrellwaynegale@hotmail.com or darrell.gale@nhs.net

Speakers and Chairs

Adedoyin Awofisayo

Adedoyin completed her Masters in Public Health at the University of Birmingham in 2008. She recently joined the Health Protection Agency and is working in the Regional Epidemiology Unit, West Midlands based in Birmingham.

Katrina Brown

Katrina is a trainee Health Psychologist in the second year of a PhD in Behavioural Science at Imperial College, London. She is researching immunisation decision-making using qualitative and quantitative methods, with the aim of producing a generalisable model of the process.

John Cowden

Consultant Epidemiologist, Health Protection Scotland, Glasgow.

John Cowden qualified from Sheffield University in 1977. He entered public health in 1981, and joined the Communicable Disease Surveillance Centre of the Public Health Laboratory Service in 1985, where he was appointed the first consultant in charge of the newly formed Gastrointestinal Diseases Section in 1989. He was appointed Consultant Epidemiologist at Health Protection Scotland (formally the Scottish Centre for Infection and Environmental Health) in 1995. Since 1995 he has been the consultant epidemiologist responsible for national surveillance of, and operational support for, infectious intestinal diseases (IID).

Tricia Cresswell

Dr Tricia Cresswell is Executive Director of Public Health for County Durham PCT and Darlington PCT. Previously she was DPH for Durham and Chester-le Street PCT and prior to that DPH in Newcastle and North Tyneside and a General Practitioner in North Tyneside. She has experience of tackling inequalities in health at policy, strategic and operational level. She has a longstanding interest in the health and wellbeing of children and young people and has published on child health, health services for children and NHS professional practice in child protection. Nationally, she is a member of the Ethics and Confidentiality Committee of the National Information Governance Board and Chair of the Fetal, Maternal and Child Health sub group of the National Screening Committee.

Mark Evans

Dr. Mark Evans MD MRCP DCH DTM&H. After Gen Med posts, gained CCST in ID & Trop Med - including an MD (on HIV & CMV) & 2 yrs in Ghana including study on Buruli ulcer (Wellcome Trust). Then CCDC training in SW London & Colindale, followed by 3 yrs at DoH. Wiltshire CCDC for last 5 yrs - inc 6 months as Acting Director AGW HPU.

Meirion Evans

Meirion is a Regional Epidemiologist at the Communicable Disease Surveillance Centre, National Public Health Service for Wales and Senior Lecturer, Department of Primary Care and Public Health, Cardiff University.

He trained in public health medicine in the West Midlands, and worked as a consultant in communicable disease control for 10 years before taking up his present post. His research interests include food-borne disease, child and adult immunisation and sexually transmitted infections.

Catriona Hughes

Catriona Hughes is a Specialty Registrar in Public Health Medicine in her second year of training at NHS Grampian. She is a medical graduate of the University of Glasgow (MBCbB, 2003) and trained in General Medicine (MRCP, 2006) before entering public health.

Sian Griffiths

Sian is a Specialist Registrar in Public Health and is based in Swansea. She worked in General Practice and Community Paediatrics before being appointed to the All Wales Public Health Training Scheme.

Simon Griffiths

Simon Griffiths is an Environmental Public Health Scientist with the Health Protection Agency's Chemical Hazards and Poisons Division. Part of the Nottingham supra-regional team, he is based in Newcastle.

Neil Irvine

Regional Epidemiologist at the Communicable Disease Surveillance Centre, Belfast.

Hilary Kirkbride

Hilary Kirkbride is a Consultant Epidemiologist in the Gastrointestinal, Emerging and Zoonotic Infections Department at HPA Centre for Infections where she has lead responsibility for the public health aspects of rabies, and other zoonotic infections. Previously she was Public Health training lead at Cfl and retains a strong interest in training.

Lorraine Lighton

Dr Lorraine Lighton was appointed Consultant in Communicable Disease Control in Tameside and Glossop in 1991 and is currently based at Greater Manchester Health Protection Unit. Her special interests include sexual health, zoonoses and information management.

Ben Lopman

Ben Lopman, PhD is the Head of the Viral Infections Section in the Cfl Gastrointestinal, Emerging and Zoonotic Infections Department and a Senior Lecturer at the London School of Hygiene and Tropical Medicine. I previously worked on HIV in Zimbabwe with Imperial College London.

Maureen McCartney

Dr Maureen McCartney is a Consultant in Communicable Disease Control with the HSC Public Health Agency in Belfast. Her special interest is bloodborne viruses and she is currently Chair of the Northern Ireland Managed Clinical Network for Hepatitis C.

Ashesh Modi

After qualifying from India, Ash completed his Basic Surgical Training with Mersey Deanery and joined the North West Public Health Training Scheme in 2006. He is currently working as a Specialist Registrar with the North West Specialised Commissioning Team and plans to obtain his Certificate of Completion of Specialist Training in 2011. A longstanding interest in the epidemiology of infectious diseases combined with his involvement in 13 outbreak investigations during his 3 month placement with the Greater Manchester Health Protection Unit has contributed to a desire to specialise in Health Protection.

Huda Mohamed

Dr H. Mohamed is currently Director of West Midlands East Health Protection Unit. She has worked in several countries over the course of her career. She studied Medicine in Egypt and worked in Sudan before coming to the UK in 1993 to work in Public Health.

Huda was appointed Consultant in Communicable Disease in Warwickshire 2000 and since then she has been an active contributor to her profession. Huda has a keen interest in inequalities and social medicine and has contributed to this field for many years.

Huda is the Regional CPD Faculty advisor for the West Midlands and has contributed to the training and development agenda in the West Midlands.

Dilys Morgan

Dilys is Head of the Gastrointestinal, Emerging and Zoonotic Infections Department at the Health Protection Agency Centre for Infections, Colindale, London. She has had an interesting career alternating between UK public health and research/field epidemiology in the more remote parts of Africa.

Darina O'Flanagan

Dr Darina O'Flanagan MB, MPH, FFPHMI, FRCPI, DCH, DOBS, Dip. Medical Management, is Director of the Health Protection Surveillance Centre. A graduate of Trinity College, Dr O'Flanagan was appointed as a Consultant in Communicable Disease Control in Wales and later returned to Ireland to take up a position as a Specialist in Public Health Medicine in the Department of Public Health, Eastern Health Board. She was appointed as Director of the Health Protection Surveillance Centre in November 1998. She has served on a number of national advisory groups to the Department of Health and Children including CJD, Meningitis, Tuberculosis, Biological Threats, Influenza and SARS. Dr O'Flanagan is a member of the EU Network Committee on Surveillance of Communicable Diseases and also a member of the Council of European State Epidemiologists (CESE).

Karthikeyan Paranthaman

Dr K Paranthaman is currently training as a Specialist Registrar in Public Health in Oxford Deanery, UK. His interests include epidemiological and applied research in communicable diseases.

Yasmin Rehman

Yasmin Rehman is an Epidemiological Scientist who has worked in the Health Protection Agency West Midlands Regional Epidemiology Unit since 1998. She is responsible for the surveillance of Legionnaire's Disease, HIV/STIs and Gastrointestinal Diseases. She provides support to the Regional Epidemiologists and HPUs in the investigation and control of outbreaks.

Mike Roberts

After nearly 20 years in the microbiology laboratory at Cardiff Royal Infirmary I joined CDSC (Wales) in 1990 as an analyst programmer, after gaining an MSc in Computer Sciences. Applications with which I have been involved include the original version of CoSurv, and more lately DataStore. Current project work centres around LabExpert, the laboratory part of the Information Bureau for Infectious Diseases development.

Bengü Said

Bengü is a senior scientist in the Gastrointestinal, Emerging and Zoonotic Infections Department at the Health Protection Agency Centre for Infections. She graduated with honours in Microbiology and Genetics from the University of Leeds and worked in diagnostic microbiology and then in the enteric reference laboratory whilst completing her PhD on the virulence factors of *Vibrio cholerae* non-O1. She moved out of the lab to work in epidemiology and surveillance; initially of waterborne diseases and currently on various emerging infections and zoonoses, including Hepatitis E.

Charles Saunders

Consultant in Public Health Medicine (Communicable Disease & Environmental Health) at Fife NHS Board since 1995. Former GP. Member of Health Protection Advisory Group, Health Protection Network, HAI Task Force, National Advisory Board Patient Safety Alliance.

Martin Schweiger

Son of a shoe maker who opted for the smell of hospitals rather than the smell of leather, but once qualified was challenged by preventable ill health. Two decades of practice as a CCDC in Leeds, West Yorkshire, leaves him convinced that there is still a lot to do. Working with others on Risk Assessment and more recently on HPZone which provides a framework for future constructive opportunities in health protection.

Peter Sheridan

A former GP and DPH, Peter has been a CCDC since 2003 and has worked in North Central London and Bedfordshire & Hertfordshire. He asked who was going to update Hepatitis A guidelines in light of new evidence and was told that he would. He is married to a public health physician and has four grown up children. Interests include skiing, cycling, sailing, theatre, reading and Five Nations Conferences.

Katy Sinka

Katy Sinka, is a senior epidemiologist at Health Protection Scotland where she has worked since 2007 on childhood immunisation.

She has been a public health scientist for 11 years. She began her epidemiological career at the Health Protection Agency, Centre for Infections in London, working on HIV and sexual health and has also worked at the Department of Health in England. HPS is responsible for coordinating childhood immunisation programmes in Scotland including the new HPV programme. Their role now continues to monitor the impact of the programme overall on reducing HPV and cervical cancer over the coming years.

Janet Stevenson

Dr Janet Stevenson has been a Consultant in Public Health with the Health Protection Team in Edinburgh since 2001. She trained in Public Health Medicine in the north east of England in the 1990s. In 2006 she moved to San Francisco for a year during which time she researched TB services in California and attended local and national TB Controllers' Conferences. She returned to Edinburgh in 2007.

Mark Temple

After qualifying from the fens of East Anglia, Mark Temple worked for a short while in London and the South East, before moving to the North West and training to be a GP in the Pennines, following a short spell on the dole in the last recession, he became a GP in a South Wales valleys practice. After a dozen years, he moved to train in Public Health and somehow managed to pass the exams. He now works in the Welsh CDSC, in the Health Protection Division of the NPHS. He tries to be useful, bringing his experience of clinical work with coal miners and their families, to the new craft of mining in seams of data, whilst hoping to develop an understanding of epidemic and outbreak dynamics.

Mary Ward

FFPHMI, MICGP, MRCGP. Consultant in Public Health Medicine in HSE-East, Dublin, Ireland since 2005. Between 2003-2005, I spent two years working in infectious disease epidemiology, as Epiet Fellow in The National Institute for Public Health and the Environment (RIVM), Bilthoven, the Netherlands.

Carolyn Watts

Carolyn Watts is a Public Health Development Manager in the Health Protection team at Portsmouth City teaching PCT. She has a remit around sexual health, screening and immunisation. She is registered as a Paediatric Nurse and Specialist Community Public Health Nurse having worked as a School Nurse for several years prior to undertaking an MSc Public Health and Health Promotion and moving into the Commissioning side of the PCT. She is a left-handed vegetarian Christian and her favourite colour is purple.

William Welfare

Will Welfare is a year 4 Specialist Registrar in Public Health, on a 2 year placement with Greater Manchester Health Protection Unit. Current areas of work include: gastrointestinal disease, radiation and measles.



Notes



Notes



