EPI-INSIGHT

IONAD NAISIUNTA FAIRE GALAIR

DISEASE SURVEILLANCE REPORT OF NDSC, IRELAND

Volume 1, Issue 2, July 2000 ISSN: 1393-9548

IN THE NEWS!

Editorial comment: Measles

The epidemic of measles in Ireland this year has, thus far, been mainly confined to the Northern Area Health Board of the Eastern Regional Health Authority. The majority of cases have occurred in children under five years who have not received any MMR immunisation. Given the pockets of very low uptake in inner city Dublin, it is not surprising that the outbreak started here. Given the inadequate uptake of MMR in other health board regions (range of current uptake at 2 years of age 68% - 86%), it is not surprising to see early evidence of spread to other regions of the country.

Immediate steps to prevent further spread of this epidemic include recall of all defaulters from primary MMR immunisation and implementation of the new Royal College of Physicians of Ireland guidelines where the age of second MMR is reduced from 11-12 years down to 5-6 years. A catch up programme should target the 5-12 year olds and thus prevent circulation in primary schools. The Royal College of Physicians of Ireland have endorsed the reduction in age of the first dose of MMR to 6 months in areas where the incidence of measles in 6-12 months old children is high, emphasising that all children vaccinated with MMR before the age of 12 months should be revaccinated with MMR at the usual age of 15 months and again at school entry. It is imperative that this measure is not allowed to interfere with the uptake of MMR at 15 months and these children must be actively followed to ensure a high uptake at 15 months.

Recently, fears have been expressed about a possible relationship between the use of MMR vaccine and Autism. While it is important that further work is undertaken to validate the latest as yet unpublished reports from Wakefield et al. in the UK, the Royal College of Physicians of Ireland, the Medical Research Council in the UK and the Centers for Disease Control in Atlanta have stated that the current scientific evidence does not support the hypothesis that MMR vaccine causes the development of Autism. It is important that we learn the lessons of the pertussis vaccine scare in the 70s and 80s where loss of confidence in the vaccine resulted in hundreds of deaths worldwide.

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Update: Illness in injecting drug users-Ireland, Scotland and England.

Since the 19th April, 2000, health authorities in Ireland, Scotland, England and the United States have been investigating an outbreak of illness and death among injecting drug users in Ireland and the United Kingdom. As of the 23rd June, 2000 a total of 19 cases (8 deaths) have been identified in Dublin. There have been a further 52 cases (21 deaths) in Scotland and 21 cases (12 deaths) in England and Wales. Date of hospitalisation is shown below. Initial testing of specimens has identified *Clostridium species* in 18 patients, nine of which were *Clostridium novyi*[1]. No definitive laboratory results clearly identify a cause for the Dublin cases to date. The significance of isolating clostridial species from the tissue of the patients remains unclear, but the presence of these organisms may suggest soil contamination of the drugs or other materials used by these patients and may provide the causative explanation for their illnesses. Case-control studies are being conducted in Dublin and Glasgow.

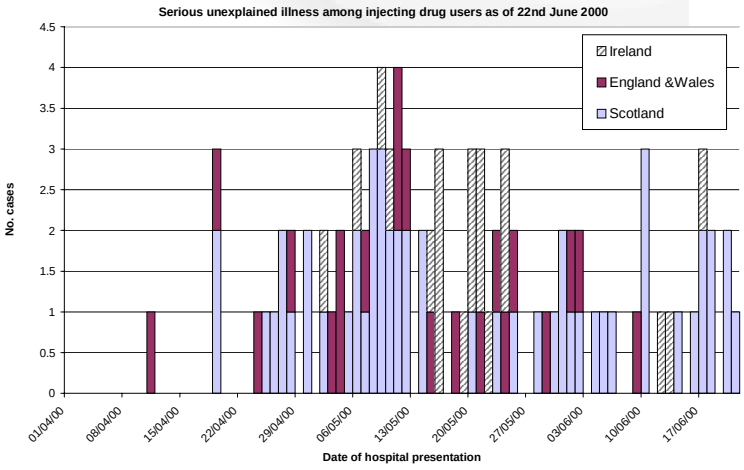

Figure 1: Illness among injecting drug users as of 22nd June 2000 §

1. CDC. Update: *Clostridium novyi* and unexplained illness among injecting drug users-Scotland, Ireland and England, April-June 2000. MMWR 2000;49:543-545.

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The epidemic demands a review of current immunisation structures in Ireland. A major overhaul of the computerised child health system is required in all health boards to ensure a single co-ordinated approach. Regional immunisation co-ordinators are required to ensure implementation of new vaccines, changes to the schedule and to enable a quick response to vaccine scare stories. The importance of a target based remuneration system for general practitioners should be realised. The last 20% of a target group to be vaccinated requires 80% of the effort. Due to a combination of factors including forgetfulness, apathy, mistaken beliefs about contraindications or genuine concerns about side effects of vaccines, this group will not bring their children forward spontaneously and need active encouragement. It is important that any remuneration scheme recognises this and rewards the greater effort in reaching the last 20% in the target group. Finally, there needs to be adequate health promotion material available for those who request additional information on vaccine safety. Accurate information on the balance of risks from vaccines as compared with diseases is required to enable parents make the right choice in an informed manner. Serious consideration should be given to a no fault compensation scheme where children suffer one of the rare adverse reactions from the state sponsored vaccination scheme. In summary there are a number of factors that can be applied to improve our vaccination uptake. §

Measles Outbreak, Dublin 2000

Background

On 18th January 2000, the Consultant Clinical Microbiologist at The Children's Hospital, Temple St, Dublin, contacted the Department of Public Health, Eastern Health Board*, to report that 12 children had been admitted to the hospital since 22nd December 1999 with a diagnosis of clinical measles. In the Eastern region, there were 30 cases of clinical measles notified during January 2000, compared with 107 cases during the whole of 1999. The last outbreak of measles in Dublin occurred in 1993 when there were over 2500 cases notified. Updates on the present outbreak were reported on in four articles in *Eurosurveillance* in the first months of 2000[1].

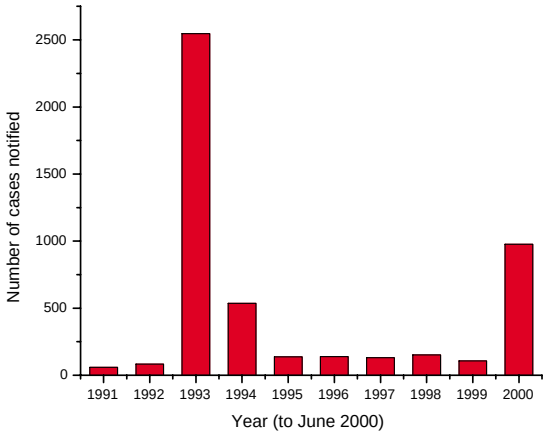

Figure 1: Measles notifications EHB/ERHA: 1991-2000 (June)

On 27th January 2000, the Director of Public Health, Eastern Health Board*, wrote to all general practitioners in the region to alert them to the outbreak of measles and to ask that they encourage parents to vaccinate their children. The suboptimal uptake of MMR vaccine, (current mean uptake for the first quarter is 74.7% for children at 24 months in the Eastern region) is serious cause for concern. An outbreak control team (OCT), chaired by a Specialist in Public Health Medicine was convened and met for the first time on 11th February 2000. Membership of the team includes: Senior Area Medical Officers, Directors of Public Health Nursing, General Managers, a representative from the Regional G.P. Unit, the Consultant Clinical Microbiologist and Infection Control Sister from The Children's Hospital, Temple St, the Director of the National Disease Surveillance Centre and a virologist from the Virus Reference Laboratory (VRL), University College, Dublin (UCD). It was arranged that, where possible, convalescent salivary samples from clinically notified cases would be submitted to the VRL, to test for measles specific antibodies. The VRL intends to develop tests to detect measles IgM in oral fluid samples collected using a foam swab[2].

Epidemiology

Figure 2 shows the numbers of cases, by week of notification, for each of the three area health boards. There has been a decline in the number of cases since the beginning of May. Most of the cases occurred in the north Dublin city area, which is part of the Northern Area Health Board (NAHB).

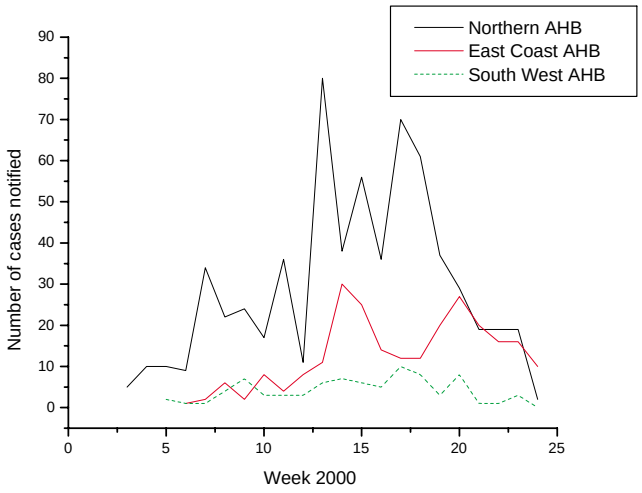

Figure 2: Measles by week of notification by Area health Board 1/1/2000 to 23/6/2000

Figure 3 shows the age specific attack rates per 1000 population, for cases notified from 01/01/2000 to 06/06/2000, for each of the three health boards in the Eastern region. Twenty-eight percent of notified cases were under 15 months; 37% were 15 months to 4 years; 28% were 5-12 years and 8% of notified cases were over 12 years.

*From March 1st 2000, the Eastern Regional Health Authority (ERHA) is the statutory body with responsibility for health and personal social services for the 1.3 million people who live in Dublin, Kildare and Wicklow. Three Area Health Boards (AHBs) have responsibility to deliver in their own areas the services previously provided by the Eastern Health Board.

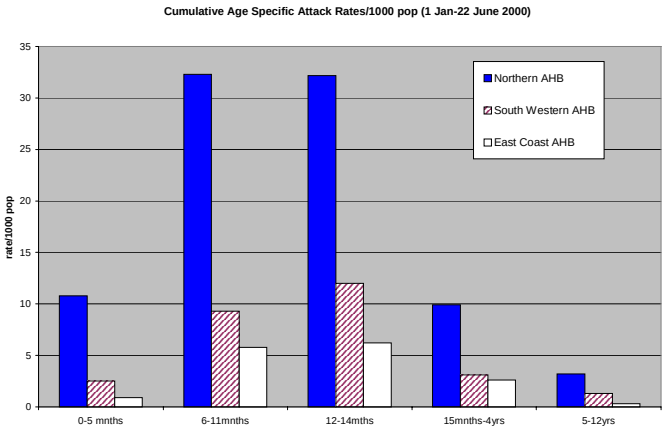

Figure 3: Measles age specific attack rates by Area health Board 1/1/2000 to 23/6/2000

Geographic Status

Each District Electoral Division (DED) in the region was categorised in terms of MMR uptake in children aged 2-12 years was as follows: >80%, 70-79%, <70%. There was a clustering of measles notifications in areas of low MMR uptake.

MMR Status

In the Northern Area Health Board, data from the Child Health Information System and in addition in one Community Care Area, parental recall, was used to establish the immunisation status of cases notified. In 12 % of cases it was revealed that one dose of MMR had been given.

Morbidity

Since the 1st January, 2000, over 100 children with measles have been admitted to the Children's Hospital, Temple St, Dublin. Six of the children required intensive care and there have been two measles related deaths. Complication rates are in line with those seen elsewhere[3].

Control Measures

The outbreak control team (OCT) has been meeting every two to three weeks to review the epidemiological data and to institute and review control measures. The control measures are as follows:

• Press releases urging parents to have their children vaccinated. These generated a lot of interest from both local, national and U.K. media and a good response from parents. It was fortuitous that a Vaccination Awareness Campaign, which was launched on 12th March by the Irish Pharmaceutical Healthcare Asssociation (IPHA) in conjunction with the Department of Health and Children, heightened media interest in this outbreak of measles.

• Parents/guardians of children for whom there was no record of MMR immunisation on the Child Health Information System (system has records of children born since 1989) were written to, advising that they should contact their G.P. to arrange for immunisation of their child/children.

• A decision was taken at the first meeting of the OCT, to recommend that the age for the first dose of MMR vaccine be reduced to 12 months on the northside of Dublin for the duration of the outbreak, because of the high age specific attack rate in the 12-14 month age group. The recommended age for first MMR was subsequently reduced to six months in the Northern Area Health Board and 12 months in the East Coast Area and South Western Area Health Boards.

• For the duration of the outbreak, when a case occurs in a school on the northside of Dublin, the parents/guardians are being advised that their child should have MMR vaccine now, whether this is a primary or booster immunisation. Parents are being given the option of attending their G.P. or special health board clinic which have been set up.

• Managers of pre-school facilities were written to, alerting them to the outbreak and asking that they encourage parents to have their children vaccinated. Managers were asked to alert the Senior Area Medical Officer in their local health board offices if a case occurred in their facility so that specific control measures could be put in place to prevent secondary cases among other children attending the facility.

• When a case of measles is notified in a child attending a pre-school facility, it is recommended that attendees over 12 months of age should receive two injections of MMR vaccine at least 28 days apart. Children under 12 months should receive one dose of MMR vaccine. Seroconversion rates are significantly lower in children vaccinated before their first birthday than are rates in older children[3], therefore, children vaccinated before their first birthday should receive a second MMR vaccine at 15 months and a third shot at school entry.

• Because of the number of cases of measles which have been acquired nosocomially, The Children's Hospital, Temple Street is recommending that children due for admission for elective procedures (estimated 40% of all admissions) or who are frequent attenders (e.g. children with cystic fibrosis), should have two MMR shots (at least 28 days apart) prior to admission.

Acknowledgements:

I would like to thank the following for their assistance during this outbreak: Community Care Medical, Nursing and Administrative staff of the ten Community Care Areas, particularly those in the Northern Area Health Board; General Practitioners, Northern Area Health Board; the Administrative staff in the Dept. of Public Health, ERHA; Dr Howard Johnson and Mr Eugene O'Boyle, HIU, ERHA; Dr Darina O'Flanagan, Director, National Disease Surveillance Centre; Dr Tom O Connell, Specialist Registrar in Public Health (ERHA); Dr Jeff Connell, VRL; Ms. Catherine O'Donovan, Infection Control Sister, The Children's Hospital, Temple St; Dr Mary Cafferkey, Consultant Clinical Microbiologist, The Children's Hospital, Temple St and all the members of the Outbreak Control Team.

References:

1. Cronin M, et al. Measles outbreak in Republic of Ireland. *Eurosurveillance.* 2000; 4: 4, and 4; 11, and 4; 16, and 4; 22.

2. Connell J, *Virus Alert* May 2000, Issue 1.

3. Recommendations of the Advisory Committee on Immunisation Practices (ACIP) Measles, Mumps and Rubella - Vaccine use and control strategies for the elimination of measles, rubella and congenital rubella syndrome and control of mumps. *MMWR* 1998; 47 (RR-8); 1-57.

Dr Mary Cronin, Specialist in Public Health, ERHA. §

AFP Surveillance

A Key Player in Polio Eradication

Background

The global effort to eradicate polio by the end of 2000 has become the largest public health initiative in history and is spearheaded by the World Health Organisation (WHO). Polio is one of only a limited number of diseases that can be eradicated. This is because polio only affects humans, an effective, inexpensive vaccine is available and immunity is life-long. There are no long-term carriers of the disease, no animal or insect reservoir and the virus can only survive for a short time in the environment.

The maximum benefits of this global eradication of polio will only be realised when immunisation against poliovirus will no longer be required. Prior to cessation of polio immunisation it will be necessary to certify the absence of wild poliovirus circulation from every country in the world. WHO has appointed an independent Global Commission to manage the certification process. The most important criteria for certification of a region of the world, is the absence of wild poliovirus for at least three years under conditions of certification-standard surveillance.

Acute Flaccid Paralysis (AFP) Surveillance

Acute flaccid or floppy paralysis is defined as any case with new onset of hypotonic weakness in a child aged less than 15 years of age. This includes possible illness due to Guillian-Barré syndrome, transverse myelitis, traumatic neuritis, viral infections caused by other enteroviruses, toxins and tumours. Isolated facial paralysis is not included. In the early stages of disease polio may be difficult to differentiate from other forms of AFP. To insure that no case of polio goes undetected surveillance targets a symptom (AFP) rather than a specific disease (e.g. polio).

AFP surveillance is the intelligence network that underpins the entire eradication initiative. The objective of AFP surveillance is to detect poliovirus wherever it may still circulate. It is also the key to detecting reimportation of poliovirus into polio-free areas. The quality of AFP surveillance becomes crucial in countries approaching the final phase of polio eradication and forms the basis of the documentation needed for certification of polio-free status. Without high quality surveillance, it is impossible to prove the successful interruption of wild poliovirus transmission. All cases of AFP in children <15 years and all cases of suspected poliomyelitis in individuals of any age should be reported. All AFP cases should have a full clinical, epidemiological and virological investigation.

AFP surveillance in the Republic of Ireland

AFP surveillance was introduced in the Rep. of Ireland in 1998. Under the Global Polio Eradication Programme participating hospitals here are required to complete a surveillance report form (AFP 1) each month. This report should be sent to the Virus Reference Laboratory (VRL) at UCD, even in the absence of AFP cases (zero reporting).

Surveillance for acute flaccid paralysis must meet certain stringent criteria in each country before certification can be considered.

(1) Surveillance should be sensitive enough to detect at least one case of non-polio AFP for every 100,000 children under-15 years of age. This parameter is used as a measure of the sensitivity of the surveillance system in operation in each country. Therefore, in the Rep. of Ireland when the clinician detects a case of AFP, the VRL should be notified immediately by telephone, so that no case of AFP goes unreported. An AFP 2 form should be completed and returned to VRL.

(2) At least two stool samples, taken 24 hours apart and within 14 days of the onset of illness should be collected from at least 80% of these cases. These stool samples should be sent to the VRL under reverse cold chain conditions for appropriate virological investigation (for further details contact VRL at 01-7061347).

(3) Detailed investigation of suspected polio cases should include clinical, epidemiological and virological examination as well as a follow-up examination for residual paralysis after 60 days. Once these investigations are complete the AFP 3 form should be returned to VRL.

The VRL collates data received from hospitals and reports weekly to the WHO by direct web entry. Results of the virological tests are reported by e-mail to the WHO on a monthly basis. Data on AFP surveillance is presented in Table 1. The annualised rate of non-polio AFP in children <15 years of age in the Rep. of Ireland was 0.91/100,000 in 1999, which is slightly less than the target rate of greater than or equal to 1/100,000. The fact that only 14% of the AFP cases reported had stool specimens sent to the VRL within the recommended time period, compared to the target rate of 80%, is a major cause for concern. Based on this performance indicator alone the national AFP surveillance system has performed badly in 1999. It is critical that national AFP surveillance improves in order to avoid problems when it comes to the certification process. Therefore, for those involved in the diagnosis and treatment of AFP it is imperative that the steps outlined above are strictly adhered to.

In conclusion, good quality AFP surveillance is absolutely imperative to ensure the successful eradication of polio. The full co-operation by all participants is essential, in particular, for the immediate notification of AFP cases to the VRL and the collection of stools samples within 14 days of onset. Additional information on the polio eradication initiative and AFP surveillance is available at http://www.polioeradication.org and http://cisid.who.dk/afp

Margaret Fitzgerald, NDSC & Gráinne Tuite, VRL

Table 1. Acute Flaccid Paralysis (AFP) / Poliomyelitis Surveillance Status in the Rep. of Ireland and Europe

	Rep. of Ireland		Europe	
	2000	1999	2000	1999
No. AFP cases <15 yrs	3	7	656	1704
No. confirmed polio cases	0	0	0	0
No. lab-confirmed wild polio cases	0	0	0	0
No. polio-compatible cases	0	0	3	4
Annualised rate of non-polio AFP*	0.88	0.91	1.01	1.16
% AFP cases with adequate stool specimens	67%	14%	81%	74%
Number of countries reporting to WHO	-	-	39	39

* The non-polio AFP rate shown is calculated per 100,000 population aged <15 years

Note: This data is accurate as of 12 June 2000 §

I.D. Legislation Change

On July 1st 2000, SI 250 of 2000 shall come into effect. This change to the 1981 Infectious Disease regulations will require medical officers to notify the list of notifiable diseases to the National Disease Surveillance Centre on a weekly basis rather than to the Minister for Health and Children. At the changeover, information will be collected on age and sex as well as diagnosis and so over the coming months, a more detailed profile of notifiable diseases will become available. Doctors who suspect that a person is suffering from a notifiable disease should continue to notify the medical officer in the usual way. In addition a major review of notifiable disease legislation is underway and it is expected that further more fundamental changes to the Infectious Disease legislation shall be introduced over the coming year. §