EPI-INSIGHT

IONAD NAISIUNTA FAIRE GALAIR

DISEASE SURVEILLANCE REPORT OF NDSC, IRELAND

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IN THE NEWS!

Welcome to EPI-INSIGHT!

EPI-INSIGHT is a monthly report on infectious disease in Ireland. The purpose is to improve the health of the Irish population by providing the best information on disease. It aims to publish timely data on infectious disease for use locally, regionally and nationally. The publication is targeted at those with an interest in the diagnosis, surveillance, control and prevention of infectious disease, everywhere. This report will serve as the main interface between the National Disease Surveillance Centre (NDSC) in Ireland, and our partners in disease control and prevention. This purpose closely reflects the mission statement of NDSC – *"Working in partnership with other health service providers, to improve the health of the Irish population by the provision of the best possible information on disease including infectious diseases through surveillance and independent advice, epidemiological investigation, research and training."*

In this first issue, Dr Alan Smith reports on tuberculosis (TB) in Ireland. This is topical and timely given recent changes in the approach to surveillance of TB here, namely the adoption of the National TB Surveillance System, (NTBSS 2000). The Editorial Board is a multi-disciplinary team, consisting of staff at NDSC and representatives nominated by clinical microbiologists, public health medicine, general practice and medical laboratory science. NDSC is grateful to those representatives who give their time to participate in this venture.

The fields of infectious disease, public health and epidemiology are rapidly changing in Ireland. It is expected that in the coming months and years, EPI-INSIGHT will grow and evolve. Preliminary issues will seek to inform and update the readership of the developments in national disease surveillance. Work is already underway, at national level, on several major projects: computerised infectious disease notification, review of infectious disease reporting legislation and a strategy to address antimicrobial resistance in Ireland. In addition, working groups are established on legionellosis control, cryptosporidium, preventing nosocomial outbreaks of aspergillosis during building works, and viral haemorrhagic fever guidelines. Some of these will be profiled in forthcoming issues. Later, the report will publish data on infectious disease notifications and eventually it is envisaged that it will publish combined data from notifications and laboratory confirmed infections. EPI-Insight will feed back data from regional sources that are reported to NDSC in a timely manner.

EPI-INSIGHT will be distributed electronically as a PDF (Acrobat Reader compatible) to anyone with e-mail. It would be preferable, for environmentally friendly purposes, to use this means, if possible. If you have e-mail and can download Adobe Acrobat Reader from "the web", please send us your address and we will substitute your e-mail for the postal address. Anyone experiencing problems with viewing/printing may contact us to receive a printed copy. **We would like to encourage as wide a readership as possible, please circulate your copy to any staff who may be interested in the contents.**

The PDF file is also available to download from NDSC website: http://www.ndsc.ie

Darina O Flanagan, Managing Editor Dominic Whyte, Editor §

Unidentified severe illness in drug injectors in Ireland

As at May 22nd, 27 cases of severe unexplained illness among drug injectors in Scotland (mainly Glasgow) have been identified, according to the SCIEH Weekly Report (23rd May 2000). There have been twelve deaths. On May 19th, a rapid alert was issued from the European Commission to all EU countries, and this alert was cascaded to all Departments of Public Health and acute hospitals in Ireland. Following this, a number of cases were identified in Dublin. Since the beginning of May, thirteen cases have been identified and six heroin users have died due to an unidentified severe illness. The illness includes tissue damage ranging from oedema at the site of injection to severe tissue necrosis. Severe cases have developed a septic shock-like syndrome. The Eastern Regional Health Authority (ERHA) has advised users who notice an abscess, redness or swelling at the area of injecting to seek medical help immediately. The ERHA is working with the Gardai, the National Disease Surveillance Centre and the Scottish authorities to address the issue.

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Tuberculosis in Ireland in 1998

Introduction:

In 1996, The National Working Party on Tuberculosis recommended that information on TB cases be collated at national level using a standard dataset. This recommendation was made so that greater detail would be available in the national statistics to accurately identify high risk groups and trends within such groups in Ireland, and to enable valid international comparisons[1]. In Ireland, any medical practitioner diagnosing a patient as having tuberculsosis, whether laboratory confirmed or clinically presumed is statutorily required to notify details of the case to the Medical Officer of Health/Director of Public Health in each Health Board. Public Health Doctors in each Health Board then complete and collate individual notification forms using the clinical microbiological and histological data available to them and these are sent to the National Disease Surveillance Centre for analysis. 1998 is the first year for which national epidemiological data is available.

Methodology

A notified case of TB referred to clinically active disease due to infection with organisms of the *Mycobacterium tuberculosis* complex. A definite case of TB was a case with culture confirmed disease. An other than definite case of TB was a case where the clinicians judgement was that the person had TB, and a decision had been made to treat with a full course of anti-TB treatment. A recurrent case of TB was defined as a patient who had TB in the previous calendar year and received anti-tuberculosis treatment for at least a month. Population data were taken from the 1991 and 1996 census of population. A X^2(chi square) test was used to compare proportions in groups and 95% confidence intervals were used to compare rates between groups of interest. Direct methods of age standardisation were used to allow comparison of rates between geographical areas, using the Irish population as the standard population.

Results

Four hundred and twenty four cases (**424)** of TB, 262 males (61.8%) and 162 females (38.2%) were notified in1998. This is a notification rate of **11.7/100,000**, a slight increase on 1997 (11.5/100,000) and a reversal of the steady downward trend in the yearly notification rate seen since 1991. (Table 1)

Table 1. Notified cases of Tuberculosis in Ireland 1991-98

Year	Number	Crude Rate per 100,000	3 year moving average.
1991	640	18.2	
1992	604	17.1	621
1993	598	16.9	581
1994	524	14.5	526
1995	458	12.6	468
1996	434	12.0	438
1997	416	11.5	426
1998	424	11.7	

A three year moving average was calculated by applying the formula (a+2b+c/4) to each three successive points a, b and c (each letter represents a year) in the series and using the result as the smoothed value of b.

Age & sex

The age standardised TB incidence rate did not differ significantly by health board. One region, the Midland Health Board (4.8 per 100,000) had a significantly lower rate than the national rate (11.7 per 100,000). (Table 2)

Table 2. Total Cases and Age standardised TB incidence rate in Ireland 1998 by health board.

Health Board	TB Cases	Age standardised incidence rate/100,000	Confidence Interval
WHB	54	14.9	10.9-18.9
MWHB	47	14.8	10.6-19.1
SHB	78	14.1	11.0-17.2
EHB	152	12.0	10.0-13.9
NEHB	29	9.3	5.8-12.7
SEHB	35	8.9	5.9-11.8
NWHB	19	8.6	4.7-12.6
MHB	10	4.8	1.8-7.8
Ireland	**424**	**11.7**	**10.6-12.8**

Two hundred and twenty three cases (52.6%) were aged over 45 years with just under a third of all cases occurring in the over 65 age group (31.4%).

The age and sex specific rates per 100,000 population in Ireland in 1998 are illustrated in Figure 1. The highest rate was observed in those over 65 years.

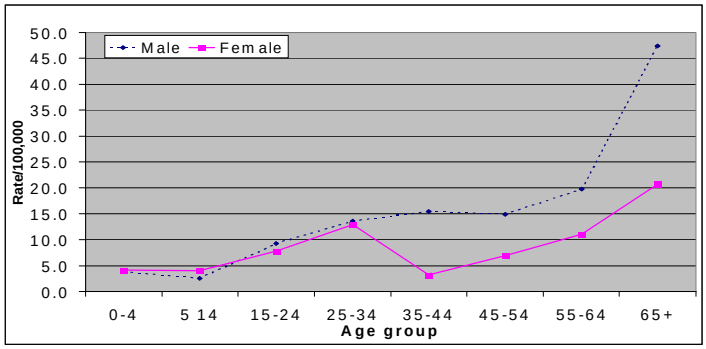

Figure 1. Age & sex specific rates of notified cases of TB/100,000

Diagnostic and clinical details

Of the 424 TB notifications, 241 (56.8%) were definite cases, i.e. culture confirmed (6.7 per 100,000) and 183 (43.2%) were other than definite cases (5.1 per 100,000).

Of the 424 TB notifications, 284 were pulmonary TB (67%), 102 cases were extra-pulmonary TB (24%), 31 cases were pulmonary+extra-pulmonary TB (7.3%) and 7 cases were primary TB (1.7%). The diagnostic breakdown in each Health Board is shown in Table 3.

For international comparisons, WHO requires all cases with a pulmonary component be classified as pulmonary cases. Of a total of 315 pulmonary cases according to WHO criteria, 192 cases (61%) were definite, i.e. culture confirmed (5.3 per 100,000). There were 121 cases (38.6%) of sputum smear positive pulmonary cases (3.4 per 100,000)

Table 3. Diagnostic categories of TB by Health Board in 1998

Health Board	Pulmonary	Pulmonary +Extrapul-monary	Extrapul-monary	Primary	Total
EHB	110	12	29	1	152
MHB	8	0	2	0	10
MWHB	35	6	6	0	47
NEHB	21	2	5	1	29
NWHB	14	2	3	0	19
SEHB	23	1	10	1	35
SHB	38	8	29	3	78
WHB	35	0	18	1	54
Ireland	**284**	**31**	**102**	**7**	**424**

Of the 241 definite, culture confirmed cases 96.7% of isolates were *Mycobacterium tuberculosis* (n=234) and 2.5% were *Mycobacterium bovis* (n=6). One isolate was not available

Sensitivity data were available on 234 of 241 definite cases (97.1%). Resistance was documented in 4 *M.tuberculosis* isolates. Two were resistant to isoniazid alone and two were resistant to streptomycin alone. There were no multi-drug resistant cases of TB in 1998.

Two patients had HIV in association with TB. Both cases were pulmonary TB and both were culture positive for *M.tuberculosis*, which were sensitive to standard TB chemotherapy.

There were 35 patients (8%) born outside Ireland: 13 from Asia, 10 from Africa, 8 from Europe, 2 from America and 2 from Oceania.

There were 41 deaths (9.7%) amongst the 424 notified cases of TB in Ireland in 1998. In 6 cases (1.4%) TB was the recorded cause of death giving a crude death rate of 0.2/100,000. The ages of these 6 cases ranged from 47 to 77 years with a median age of 60.5 years.

A summary profile of the epidemiology of TB in Ireland for 1998 is shown in Table 4.

Table 4. Profile of TB in Ireland 1998

Summary profile of the Epidemiology of TB in Ireland 1998	
Total number of cases	424
Notification rate /100,000	11.7
New cases	421
Recurrent cases	3
Foreign born TB patients	35
Culture positive cases	241
Smear positive pulmonary cases	121
Cases resistant to isoniazid alone	2
Cases resistant to rifampicin alone	0
Cases resistant to ethambutol alone	0
Cases resistant to streptomycin alone	2
Multi-drug resistant cases	0

TB Surveillance-The Future

On 1/1/2000 the National Disease Surveillance Centre (NDSC), in consultation with the eight Irish health boards and the National Working Group on TB, implemented an enhanced TB surveillance system based on the European minimum dataset [2]. It is called the National TB Surveillance System (NTBSS 2000). An important feature of NTBSS includes a newly designed TB notification form to record individual case data, with an increased emphasis on the collection of outcome data. Regional participants also have the added option of recording individual case data on a stand-alone Epi-Info based TB notification database at regional level. Regional data is transferred to NDSC quarterly for analysis and dissemination of information to providers and to policy makers.

What difference will implementation of this system make to our knowledge of TB? From the first year of national data analysis we now know that in Ireland, TB is more common in older agegroups, and in men. However, it is important to note that almost 50% of cases occurred in those aged under 45 years, indicating considerable ongoing transmission of tuberculosis in Ireland. A small proportion of cases occurred in patients of foreign origin (8.3%), much lower than that reported for other countries in the EU. In addition there were no cases of multi-drug resistant TB. TB in HIV positive patients was not common. There was some regional variation in the rate of TB. The proportion of patients with culture confirmed disease 61%, was similar to that found in other EU countries, 58%. With implementation of NTBSS, it will be possible to accurately monitor the outcome of TB treatment, which is of great importance in controlling spread of this disease.

This is the first year since 1991 that there has been an increase in the crude number of notified cases. Although the increase is small, experience in other countries with resurgent tuberculosis would indicate that every effort to combat tuberculosis in Ireland needs to be maintained if not enhanced.

Acknowledgement:

I would like to thank all those who participated in the collection of information in each health board: notifying physicians, public health doctors, microbiologists, nurses and laboratory staff, without whom this report would not have been possible.

This data was also published recently in Eurosurveillance, 2000; 5: 4.

References

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2. Rieder HL, Watson JM, Raviglione MC, Forssbohm M, Migliori GB, Schwoebel V et al. Surveillance of tuberculosis in Europe. Eur Resp J 1996; 9: 1097-1104.

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Dr Alan Smith, NDSC §

Computerised Infectious Disease Reporting

Over the past few years Ireland has undergone dramatic changes. The rapid developments in our economy have been accompanied by considerable changes in lifestyles and eating habits, together with increasing strains on infrastructures. At the same time the closer integration of Ireland into the global economy is evident by increased foreign travel to all parts of the World and an influx of visitors from overseas. These changes pose a significant challenge to people living in Ireland, giving new and re-emergent microorganisms the opportunity to cause human disease. Surveillance of communicable diseases in Ireland has been limited by the absence of a national computerised infectious disease reporting system.

There is limited quality information available on a national basis for the analysis and interpretation of national trends, and for provision of appropriate information for policy makers. In September 1999 NDSC, with the agreement of the health board Chief Executive Officers, established the Computerised Infectious Disease Reporting Working Group (CIDR) to develop an integrated national electronic communication system to collate, analyse and disseminate laboratory-based information and clinical notification data on communicable disease in humans in Ireland.

This working group includes representatives from:

- NDSC
- Public Health Departments
- Laboratories
- Regional IT Departments
- Technical
- Food Safety Authority
- Medical
- Food Safety Promotion Board
- Department of Health and Children

The work of the group is divided into a number of phases.

Phase 1, which will be completed in September 2000, involves consultation with partners to identify their infectious disease information need, the development of functional specifications for an Irish system, together with an evaluation of three systems in development elsewhere, namely CoSurv (England and Wales), E-COSS (Scotland) and LITS+ (USA) to see what might be incorporated into an Irish system. External business analysis/IT consultants are currently helping NDSC and the CIDR Working Group to complete this process by September 2000.

Phase 2 is dependant on the results of Phase 1. This will entail either the localisation of elements of existing models or the design of a new system. Because existing models do not yet integrate clinical notifications with laboratory data it will be necessary to test any proposed system on a 'pilot' basis.

Phase 3:

- National roll-out.
- Data/Information Issues
- Collection
- Minimum Necessary Dataset
- Coding/Mapping
- Validation
- Transmission
- Security
- Confidentiality
- Storage
- Regional database
- National database
- Analysis
- Software tools
- Statistics
- Geographical Information Systems
- Training
- Reporting
- Communications/ Security/ Confidentiality Infrastructures

A National Public-Sector Virtual Private Network is being proposed which may be available next year. This will offer the opportunity to implement secure communications within and between public sector bodies, including Health Boards and national agencies such as NDSC. Additional security will be required for sensitive information. Implementation of a Personal Public Service Number will facilitate matching of data obtained from diverse sources

The goal of CIDR is to facilitate timely electronic transfer of information between key partners in communicable disease control so that preventive and control measures are maximised and that the burden of morbidity and mortality from infectious diseases is reduced.

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Eurosurveillance

Eurosurveillance is a project dedicated to the surveillance, prevention and control of infectious and communicable disease. It is funded by the European Commission. Two bulletins are produced by the Anglo-French scientific and production team in collaboration with an editorial team of representatives of EU countries and Norway.

Eurosurveillance Monthly publishes original articles that analyse data from national and European programmes on infectious disease surveillance, compare national public health policies, and draw international lessons from the results of outbreak investigations. It is available free on the internet:

Eurosurveillance Weekly publishes news of infectious disease incidents and surveillance data as they are released, at least once a week, reporting on outbreaks as they happen. News is gathered from a network of public health centres in the EU and beyond. Both are available free on the internet at either of the following sites: http://www.ceses.org/eurosurv

http://www.eurosurv.org

Visit the NDSC Website!

www.ndsc.ie

The internet is a powerful tool for communication of data and information. Timeliness of communication is a key aim of the National Disease Surveillance Centre. The NDSC plans to utilise the website to enable timely feedback and broad consultation. At the website, you will find press releases, publications, consultation documents, facts about NDSC, facts about Ireland and projects underway at NDSC. This site will evolve and develop on a continual basis.§