

IN THE NEWS

Syphilis Outbreak in Dublin

Contents:

Syphilis Outbreak

Computerised Infectious Disease Reporting System (CIDR)

EARSS Update in Ireland

Over the past two years, there have been reports of increases in syphilis among men who have sex with men (MSM) from the U.S. and Europe.^{1,2,3,4} The syphilis outbreak in Dublin first came to the attention of the Department of Public Health, Eastern Regional Health Authority (ERHA) in November 2000. The outbreak, among MSM, probably started in early 2000, although the numbers were small until late 2000.^{5,6} There are also recent reports from our Northern Ireland colleagues of an increase in the number of syphilis cases among MSM in Belfast. Some of the cases appear to be linked to the outbreak in Dublin (personal communication: Dr Brian Morgan, Consultant in Communicable Disease Control, Eastern Health and Social Services Board, Belfast).

An enhanced surveillance system for syphilis in the Republic of Ireland was put in place in March 2001, involving the completion of a detailed questionnaire on all cases of syphilis diagnosed since the beginning of 2000. Since January 2000, 189 cases (174 males, 14 females, 1 case data missing) of early syphilis (primary, secondary or early latent syphilis) have been reported. Of the 174 males, 48% (n=84) were 35 years or older and 24% (n=41) were 40 years of age or older. Figure 1 illustrates the number of reported early syphilis cases by sexual orientation and month.

A total of 160 (84.7%) of the 189 early syphilis cases are MSM, (131 homosexual, 29 bisexual). Twenty five (16%) of these cases were HIV positive. Twenty seven of the early syphilis cases are heterosexual. Two of the female heterosexual cases can be epidemiologically linked to bisexual MSM, who are part of the outbreak.

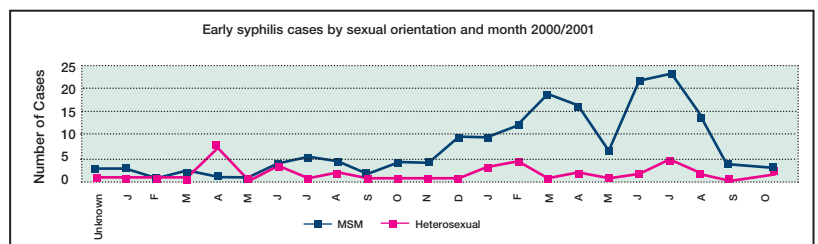


Figure 1: The number of early syphilis cases by sexual orientation and month 2000/2001. * Figures for August to October are incomplete.

Data were available on the number of self-reported sexual contacts during the previous 12 months in respect of 117 early syphilis cases among MSM. Thirty six (30.8%) people reported 2 to 5 sexual contacts in the previous year, 55 (47.0%) reported between 6 and 40 contacts and 11 (9.4%) reported over 40 contacts.

An Outbreak Control Team was established in December 2000. The team is chaired by a Specialist in Public Health Medicine from the Department Public Health, ERHA and includes representatives from the Genitourinary Medicine and Infectious Disease Services, St James's and the Mater Hospitals, Dublin, the National Disease Surveillance Centre (NDSC), Gay Men's Health Project (GMHP), the voluntary gay community sector and communications and administrative personnel from the local health board.

Actions to date have been:

- A publicity/information campaign targeted at the Dublin gay community. Outreach workers from the GMHP have been actively involved in disseminating information. A renewed, more intensive communications strategy is being drawn up at present.
- Follow up of all sexual contacts named by cases for screening and education. A designated health advisor at the GUIDE Clinic, St James's Hospital, has been allocated to this task.
- Active case finding by encouraging those at risk to come forward for testing.
- Extension of the capacity of GUM clinic services.
- Dissemination of information about the outbreak to health professionals.
- On-site testing for syphilis in some of the gay bars and saunas in Dublin. This initiative was agreed with the commercial sector who have been co-operative at all stages. Blood sampling was carried out by medical and nursing staff from the GUIDE clinic, St James's Hospital, Dublin, on 9 weekend nights in gay clubs and saunas. A total of 528 men were tested, of whom 29 were newly identified as early syphilis cases. The initiative was successful both in terms of raising awareness of the outbreak among the gay community who attend the pubs and clubs and identifying new cases of the disease. Further testing is planned.

Ms L Domegan and Dr M Cronin, NDSC, Dr S Hopkins, GUIDE Clinic, St James's Hospital, Dr L Thornton, ERHA.

Acknowledgement

The authors would like to thank Ms Eilish Creamer, Department of Public Health, ERHA, for her assistance in compiling the data.

References

1. CDC. Summary of notifiable diseases, United States, 1999. *MMWR* 1999; 48 (53).
2. De Schrijver K. Syphilis outbreak in Antwerp, Belgium. *Eurosurveillance Weekly*, [Serial online] 2001 [cited, 10 May 2001] 19. Available at <http://www.eurosurv.org/2001/010510.html>
3. Doherty L, Fenton K, O'Flanagan D, Couturier E. Evidence of increased transmission of syphilis among homosexual men and heterosexual men and women in Europe. *Eurosurveillance Weekly*, [Serial online] 2000 [cited, 14 December 2000] 50. Available at <http://www.eurosurv.org/2000/001214.htm>
4. Fenton K. Syphilis continues in gay men in Greater Manchester, England. *Eurosurveillance Weekly*, [Serial online] 2001 [cited, 19 April 2001] 16. Available at <http://www.eurosurv.org/2001/010419.html>
5. Syphilis increase in Dublin. *Epi-Insight*, January 2001; 2(1). Available at http://www.ndsc.ie/epi_insight.htm
6. Hopkins S, Bergin C, Mulcahy F. Update: syphilis outbreak. *Epi-Insight*, April 2001; 2(4). Available at http://www.ndsc.ie/epi_insight.htm

Content of EPI-INSIGHT should not be reproduced without permission. © NDSC, 2001 All Rights Reserved.

In Partnership for Prevention and Protection



Editorial Board:

Dr D O Flanagan

(Managing Editor) NDSC

Dr D Igoe, NDSC

Dr L Kyne, RCPI (Paed)

Dr D Nolan, ICGP

Mr J O Leary, AMLS

Dr N O Sullivan, ISCM

Dr J Quinn, NVRL

Dr L Thornton, FPHMI

Dr L Hickey (Editor) NDSC

National Disease Surveillance Centre,
Sir Patrick Dun's Hospital,
Lr. Grand Canal Street,
Dublin 2, Ireland
Tel: +353 (0)1 661 7346
Fax: +353 (0)1 661 7347
info@ndsc.ie
www.ndsc.ie

A NATIONAL COMPUTERISED INFECTIOUS DISEASE REPORTING SYSTEM (CIDR)

A major partnership project to introduce national electronic reporting of laboratory and clinical information on infectious diseases is in progress. This project involves the National Disease Surveillance Centre (NDSC), the Health Boards, the Food Safety Authority of Ireland (FSAI), the Food Safety Promotion Board (FSPB) and the Department of Health and Children (DoHC).

Why do we need CIDR?

CIDR will introduce a quality information system for infectious diseases. We need quality information in order to maximise our ability to prevent and control infectious disease. Quality information is timely, accurate, and includes both clinical and laboratory notifications of infectious disease in the one system. It is efficient, removing the need for multiple entry of information; there are no islands of information or multiple non-integratable databases to maintain.

What are the potential benefits of CIDR?

The system will transmit laboratory information electronically in a secure manner to public health and to other CIDR partners, following authorisation. It will allow the review of epidemiological information by the laboratory, enabling comparisons within region and with national information.

CIDR will provide timely information for public health action. It will provide automated secure linkage of laboratory and clinical information. In other words, clinical and laboratory information on the same event will be merged. There will only be one surveillance system to maintain, not many as at present. The effectiveness of prevention and control programmes will be evaluated locally and regionally, and it will enable comparison of local information with neighbouring and national information. It will provide information to plan prevention and control programmes.

CIDR will provide accurate timely information on the incidence and burden of infectious diseases nationally. This information will be used to describe the epidemiology of infectious disease and to provide information to influence national policies related to infectious disease and vaccine-preventable disease.

How will CIDR work?

There will be one national data repository for all notifications, including both laboratory and clinical notifications (Figure 1). This information will be case-based - keyed on individual patients. Appropriate security and confidentiality mechanisms will be in place to protect the data and ensure it is used in an appropriate and ethical manner. CIDR will collect data from laboratories, clinicians and other parties and provide on-line access to information for partners in a timely fashion - as required by all partners.

Laboratories will upload data into the CIDR database, either manually or via an electronic link from their laboratory information system. This information will be translated into

the CIDR data structure and the integrity of the information validated by the laboratory.

This information will then be passed within the CIDR system to public health professionals who determine if this needs to be linked to existing records (whether clinical or laboratory notifications) or whether a new 'event' needs to be created. When a new 'event' is created, this information will become available to CIDR partners. The format of this information, disaggregate or aggregate, with or without personal identifiers, will be determined by business rules detailing justification of purpose for use of the information.

An initial report from either a clinician or a laboratory will be recorded in the system. Additional information relating to that 'event' i.e. a particular episode of infectious disease, will be linked to the original record as it becomes available. For example, an initial 'event' may be created on foot of a report of salmonellosis with additional epidemiological and laboratory information subsequently linked to the original record.

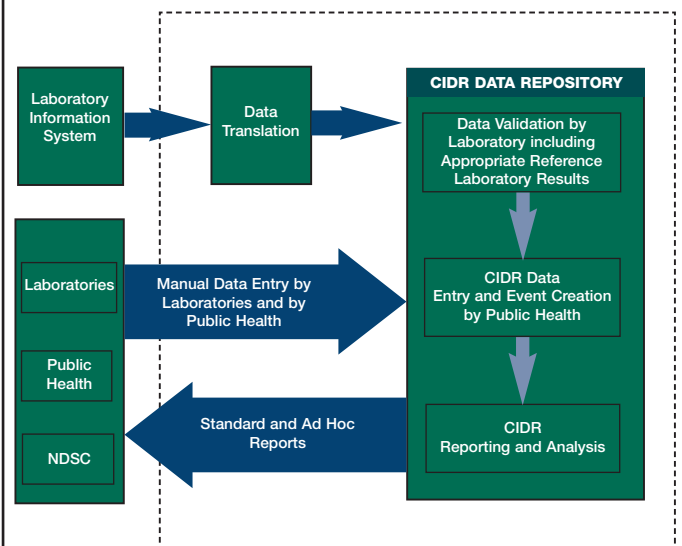


Figure 1: Data flow in CIDR, the shared national infectious disease data repository.

It is essential that CIDR is able to deliver information where and when it is needed and to those partners with a need to know. The format of reports will reflect existing needs and the business rules agreed for the operation of the CIDR system. For example, all partners providing information should be able to review this for accuracy and completeness. Access to personally identifiable data, to disaggregate or locale-specific information will need to be controlled on the basis of the agreed business rules. These reports will enable each of the partners in CIDR to carry out their responsibilities. They will allow laboratories to view their information in an epidemiological manner and to compare this with trends in adjacent areas and nationally. They will allow public health professionals to identify and control instances of infectious disease within their area. The NDSC will obtain reports to describe the national burden of disease and to provide information to influence national policies related to infectious disease and vaccine-preventable disease.

How will CIDR be delivered?

Three separate tenders/procurements are planned in order to deliver the CIDR system. Tender 1 is the tender for the design of the core system, including the specification of the hardware configuration and software infrastructure required to operate CIDR, and a costed plan for development and implementation. Tender 2 is the tender for building the core system, using the design developed in Tender 1. Tender/Procurement 3 is the tender for designing and developing the interface between Laboratory Information Management Systems (LIMS) and CIDR.

The process of delivering CIDR is complex. As well as defining the hardware and software required to support the data-flows needed, a parallel process of defining the business rules for the appropriate and ethical sharing of this information is essential.

A CIDR Development Committee was established in September 1999 to assist and advise the NDSC and other CIDR partners, on an ongoing basis, on the development and introduction of a national system for electronic surveillance (Figure 2). Members of this strategic committee act as advocates and promote CIDR within their own organisation / profession.

The CIDR Project Team, (Dr Derval Igoe, Dr John Brazil and Emma Baldwin) has been dedicated on a fulltime basis from June 2001 to deliver CIDR and external IT consultants have been engaged to assist in the process.

A CIDR Project Board (including representatives from the Health Boards, the DoHC, the FSPB and the NDSC) will manage the project and ensure it achieves business objectives within the budget, resources and timescales allocated.

A National Supervisory Committee has been established to act as a national forum to facilitate the Health Boards, the FSAI, the FSPB, the DoHC and the NDSC develop business rules for participation in CIDR. This committee will also ensure that there

is co-ordination at national level to allow for efficient and effective working of CIDR.

Regional and agency business rules committees are consulting widely, and preparing business rules, using nationally agreed templates, developed from international best practice, to aid them in this task. Business rules committees are also identifying the resources committed to surveillance in their regions and identifying current and anticipated surveillance needs as CIDR develops.

What do we mean by business rules?

CIDR is a partnership project. Sharing of information between the partner organisations must be on a basis of correct and appropriate sharing of information and on justification for use of the information shared. The view of information in the CIDR repository seen by any partner organisation will depend on their right and justification for use of this information. Each partner organisation is examining this issue in detail in preparation of the business rules. It is anticipated that the business rules will contain agreements on confidentiality, codes of practice, access control, security, data ownership, levels of service agreed by the CIDR operating team and by each partner organisation.

When will CIDR be delivered?

It is expected that the core system will be built in 2002. Once built, pilot health board(s) / site(s) will be selected for a limited period (3-6 months) to identify all the resource implications for interaction with the system before national rollout. Electronic Laboratory Reporting (ELR) will be implemented initially on a pilot basis and rolled out nationally as quickly as possible.

If you have any queries or comments, please contact the CIDR team at cidr@ndsc.ie

Dr John Brazil and Dr Derval Igoe, NDSC.

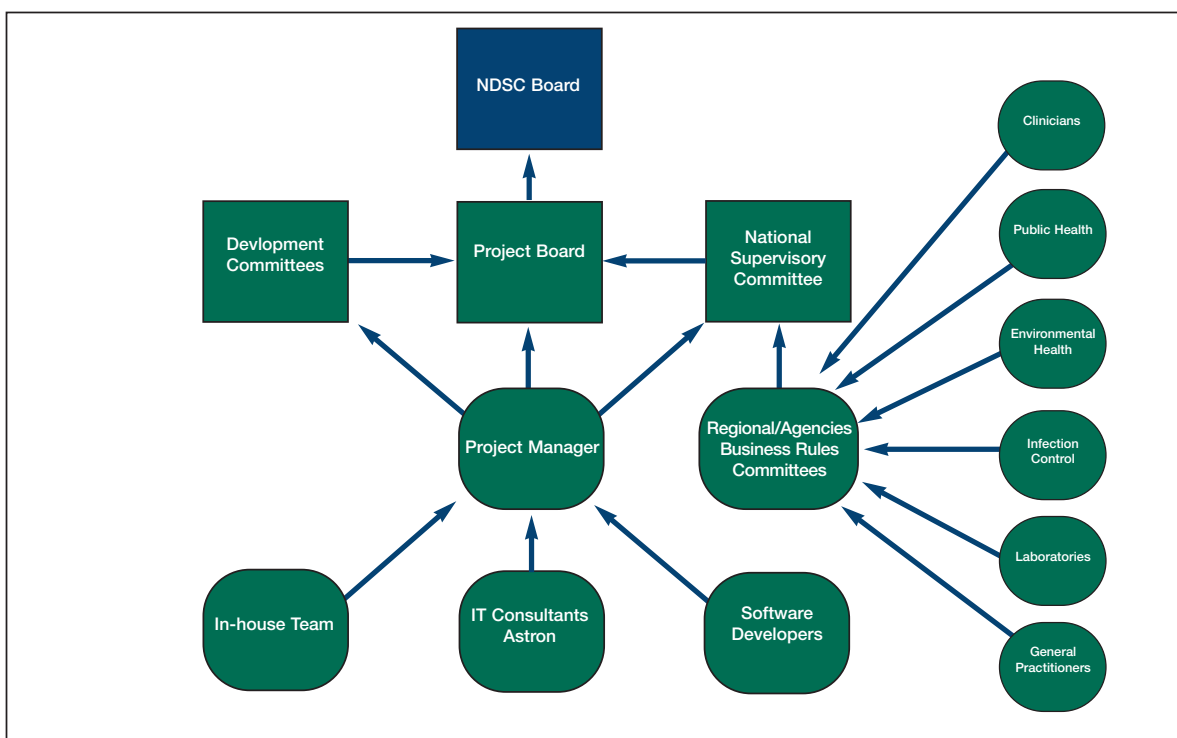


Figure 2: Project management structure for CIDR.

Update on EARSS Activity in Ireland

Antimicrobial resistance (AMR) has long been recognised as a major threat to public health. It is associated with considerable morbidity and mortality, as well as prolonged hospital stays and increased antibiotic costs. The prevalence of AMR has escalated over the past ten years resulting in infections that are increasingly difficult to treat, while the number of new antibiotics that are available or in development, are limited. The European Antimicrobial Resistance Surveillance System (EARSS) is an expanding network of national surveillance systems currently encompassing 24 countries. The establishment of a national surveillance system through participation in EARSS has played an important role in the development of the recently launched Strategy for the Control of Antimicrobial Resistance in Ireland (SARI).¹ Participating laboratories screen invasive isolates of *Staphylococcus aureus* for methicillin/oxacillin susceptibility and *Streptococcus pneumoniae* for penicillin/oxacillin susceptibility. There are now 20 and 21 laboratories, representing every Health Board in Ireland, participating in the *S. aureus* and *S. pneumoniae* arms respectively. The estimated population coverage is 80% for *S. aureus* and 90% for *S. pneumoniae*. All *S. pneumoniae* and methicillin-resistant *S. aureus* (MRSA) isolates are submitted to national referral laboratories for further susceptibility testing and epidemiological analysis.

Of the 1563 isolates of *S. aureus* reported during the 30 months up to the end of July 2001, 40.2% (95% confidence intervals: 37.8-42.7%) were MRSA. Of the 533 isolates of *S. pneumoniae*, 14.3% were penicillin non-susceptible *S. pneumoniae* (PNSP). The rates of both MRSA and PNSP found in Ireland are higher than those in most Northern European countries and are comparable to the rates found in Southern Europe.²

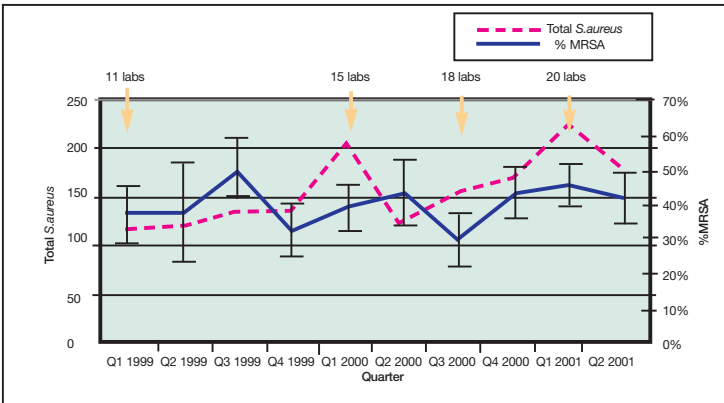


Figure 1: Total *S. aureus* isolates from invasive infections, 1999-2001.

The proportion of MRSA infections in each quarter has fluctuated from 30-50% over the 30 months (Figure 1). The gender breakdown shows that up to two-thirds of *S. aureus* bloodstream infections (BSI) occur in males and one-third in females. Although all age groups are susceptible to *S. aureus* BSI, there was a greater incidence of MRSA infections in the elderly, with approximately 50% occurring in patients over 70 years. Glycopeptides are currently considered to be the most appropriate agent for the treatment of invasive MRSA infections. *S. aureus* with intermediate susceptibility to vancomycin (VISA) has been found in other countries³ but has not been detected in Ireland to date.

There was a marked seasonal variation in the incidence of *S. pneumoniae* infections, peaking during the first quarter (Q1) of the year, with the lowest numbers observed during Q3 (Figure 2). The reduction during Q3, 2000 was not so marked due to the participation of three additional laboratories in the programme. The percentage of PNSP declined over the first year of the study from almost 24% in Q1 to just 10% in Q4. It has remained at about this level except during Q4, 2000, when it increased markedly to 20%, dropping off thereafter to 12-13%. Approximately 75% (n=58) of all PNSP isolates have thus far exhibited low-level resistance to penicillin (MIC 0.1-1mg/l). The first high-level resistant (HLR) isolate (MIC \geq 2mg/l) appeared during Q2, 2000, with nine further HLR

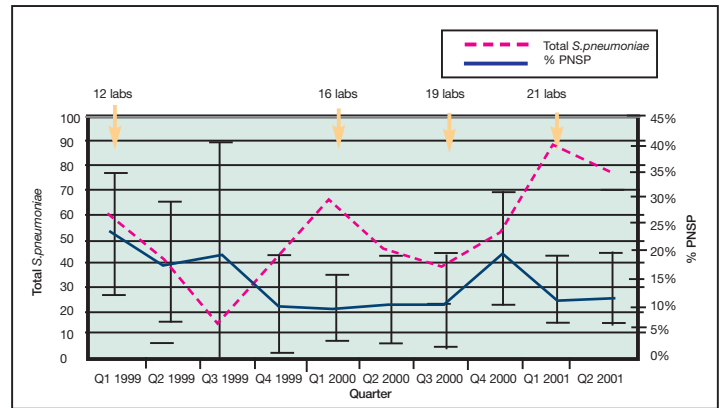


Figure 2: Total *S. pneumoniae* isolates from invasive infections, 1999-2001.

isolates subsequently identified. No MIC data were available for 10 PNSP isolates. Resistance to cefotaxime has not been detected in any isolates. Unlike other European countries,² there was no significant difference in the gender distribution of pneumococcal infections similar to that observed with *S. aureus*. Infections with *S. pneumoniae* and PNSP are both associated with the extremes of life, with the highest incidence occurring in the elderly and a second, lower peak in children less than 5-year olds.

Since January 2001, EARSS has expanded in a number of countries to include the additional pathogens, *Enterococcus faecalis* / *Enterococcus faecium* and *Escherichia coli*. In Ireland, we plan to start collecting data on these "new" pathogens from a number of currently participating laboratories. As EARSS is an ongoing surveillance system, we will also continue to collect resistance data for the "old" pathogens, *S. pneumoniae* and *S. aureus*.

Stephen Murchan on behalf of the EARSS Steering Group

Acknowledgements

We are very grateful to all the laboratories participating in EARSS and to the MRSA Referral Laboratory, St James's Hospital and *S. pneumoniae* Referral Laboratory, RCSI/Beaumont for their enthusiasm and continued support for the programme.

1. Subgroup of SAC, NDSC. A Strategy for the Control of Antimicrobial Resistance in Ireland – SARI. June 2001. ISBN 0-9540177-0-6.
2. National Institute of Public Health and the Environment (RIVM). EARSS Newsletter 2000; 3. Available at (<http://www.earss.rivm.nl/PAGINA/DOC/news3.pdf>)
3. Tenover FC. Implications of vancomycin-resistant *Staphylococcus aureus*. *J Hosp Inf* 1999; 43 (Suppl): S3-7.

Salmonella Monthly Report (October 2001):

Strains are allocated to months based on the date of receipt of the isolate from the referring laboratory. These figures are provisional as work may not be finished on particular strains at the time of publication. Data are provided courtesy of Prof Martin Cormican and Dr Geraldine Corbett-Feeney, INSRL.

Health Board	E	M	MW	NE	NW	SE	S	W	Total
S. Typhimurium	4	1	2	0	1	1	0	0	9
S. Enteritidis	7	0	2	0	4	8	4	0	25
S. Braenderup	0	0	0	0	0	0	0	1	1
S. Bredeney	0	0	0	0	0	0	0	1	1
S. Coelin	0	0	0	0	0	1	0	0	1
S. Dublin	2	0	0	0	0	0	0	0	2
S. Java	0	0	1	1	0	0	0	0	2
S. Limete	1	0	0	0	0	0	0	0	1
S. Mbandaka	1	0	0	0	0	0	0	0	1
S. Virchow	1	0	0	0	0	1	0	1	3
Total	16	1	5	1	5	11	4	3	46