Computerised Infectious Disease Reporting (CIDR)

Gillian Cullen
on behalf of the CIDR team at HPSC & CIDR users

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What is CIDR?

CIDR is the national information system for the statutory surveillance of notifiable infectious diseases in Ireland.

It was developed to manage the surveillance and control of infectious diseases.

It is a web technology-based system using a custom application, a Microsoft SQL Server database and SAP Business Objects reporting software.

What does it do?

Objectives

- Collects information on notifiable diseases (77 of 84) from Public Health Departments, clinical laboratories and reference laboratories across the country in a single shared national database
- Provides near real time infectious disease surveillance notifications to CIDR users locally, regionally and nationally
- Facilitates early detection of outbreaks
- Allows appropriate public health action to be taken at local, regional and national level
- Enables reporting to international agencies such as ECDC and WHO

A Brief History

CIDR partners

safefood

Food Safety Authority of Ireland

An Roinn Sláinte
Department of Health

HSE
Feidhmeannacht na Seirbhíse Sláinte
Health Service Executive

Managing organisation: hpsc

cidr

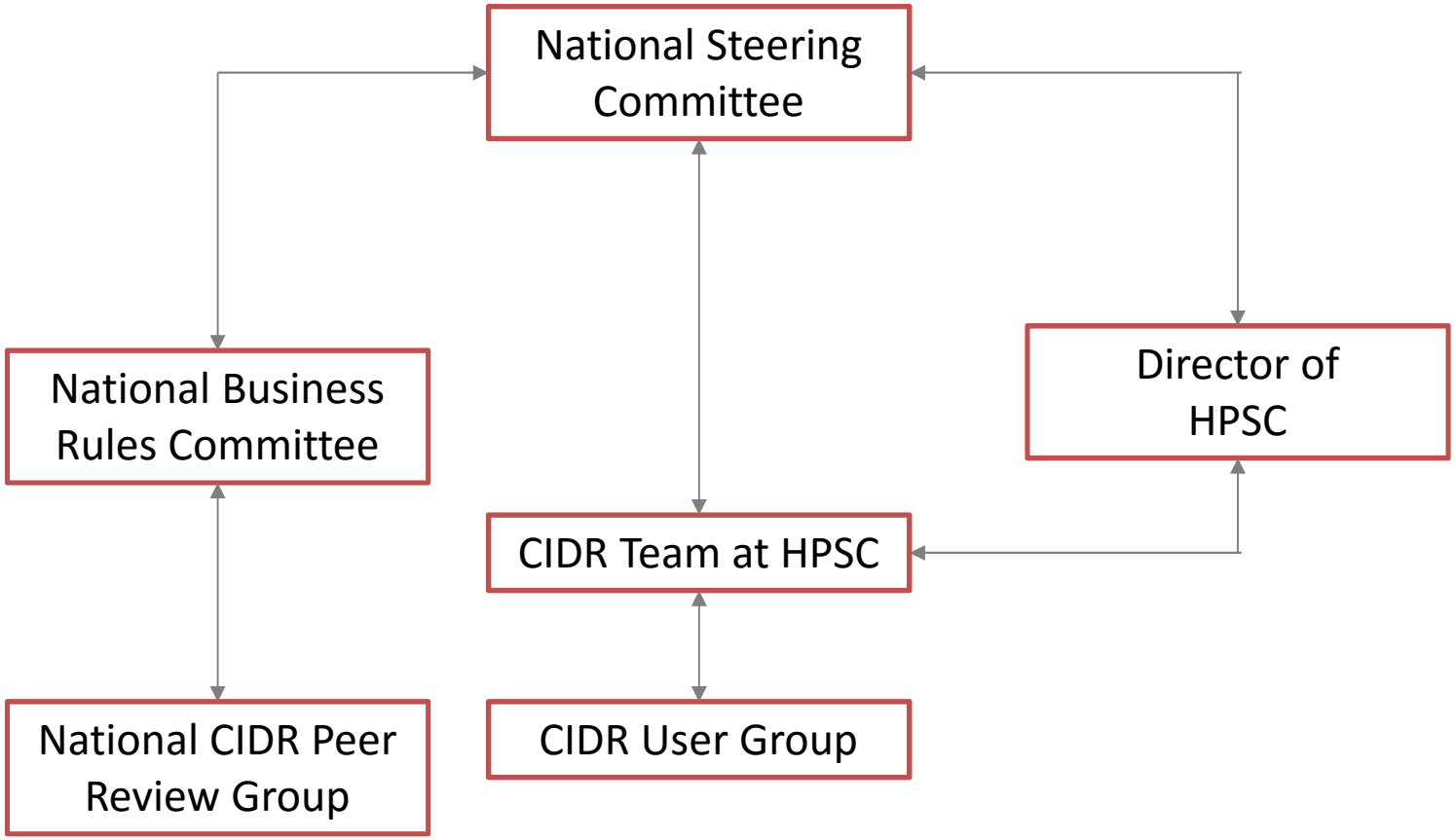
A Brief History

Timeline

- 2000 System needs analysis
- 2002 Design
- 2003/4 Build
- 2004 Pilot
- 2005 National implementation began
- 2011 National implementation completed - 8 DPH's, 37 Labs
- 2013 Sexually Transmitted infections included

CIDR Governance

Structure



CIDR Governance

Legislation/Codes of practice

Legislation

- S.I. No. 276/2016 - Infectious Diseases (Amendment) Regulations 2016
- European Directive (2119/98/EC)
- International Health Regulations 2005
- National Data Protection Act (1988/2003)
- EU Directive / Regulation (95/46/EC)

Information Security Management externally accredited to

- IS17799 (2004/5)
- then to IS 27001 (2007, 2010, 2013 and 2017)

CIDR Governance

Business Rules

- Nationally agreed CIDR Business Rules v3.0 specify data access rights and levels of service
- Every site accessing CIDR has signed up to this document
- Includes:
  - Access control policy
  - Data ownership e.g. conditions for publication
  - Requirements and responsibilities for users and Local CIDR Managers
  - Defines terms of reference for National Peer Review Group

CIDR Users

Training

- Currently, there are approximately 260 active users
    - approx. 150 Public Health users
    - approx. 85 Laboratory users
    - 27 HPSC users
- Annual user account confirmation audit with Local CIDR Managers
- To access CIDR each person must complete
    - CIDR training
    - Data protection training
- Role-based access control (role, location and disease)
- Organisations sign confidentiality agreements and users are bound to this under the Business Rules

System Availability

Business Continuity

Resilience/Business continuity

- CIDR available 24/7
- Resilience built into infrastructure hosted at HPSC
- Comprehensive data backup processes
- Individual server and full system backup processes
- Backups maintained on-site and off-site
- Internal failover possible
- External failover possible to Disaster Recovery site

Ongoing

- System Monitoring / Tuning
- Preventative Maintenance

System Availability

Downtime

System availability is monitored and reported to the CIDR User Group and the National Steering Committee.

Downtime for system maintenance is scheduled usually over lunch or in the evenings.

Both scheduled and unscheduled downtime is included when calculating the system availability during working hours.

- 2014: 98.7%
- 2015: 99%
- 2016: 99.3%

Data Quality

Definitions & Standards

Core data elements were based on a National General Practice Information Technology (GPIT) demographic data set developed in 1999

Nationally agreed data sets for infectious diseases allows meaningful comparison across regions.

Absence of standard coding in LIMS systems.

Case definitions used to apply case classifications.

Dropdowns populated with standard lists where possible

- ISO list of countries
- CSO intermediate list of occupations
- Ethnicity from UK census

Data Quality

Validation

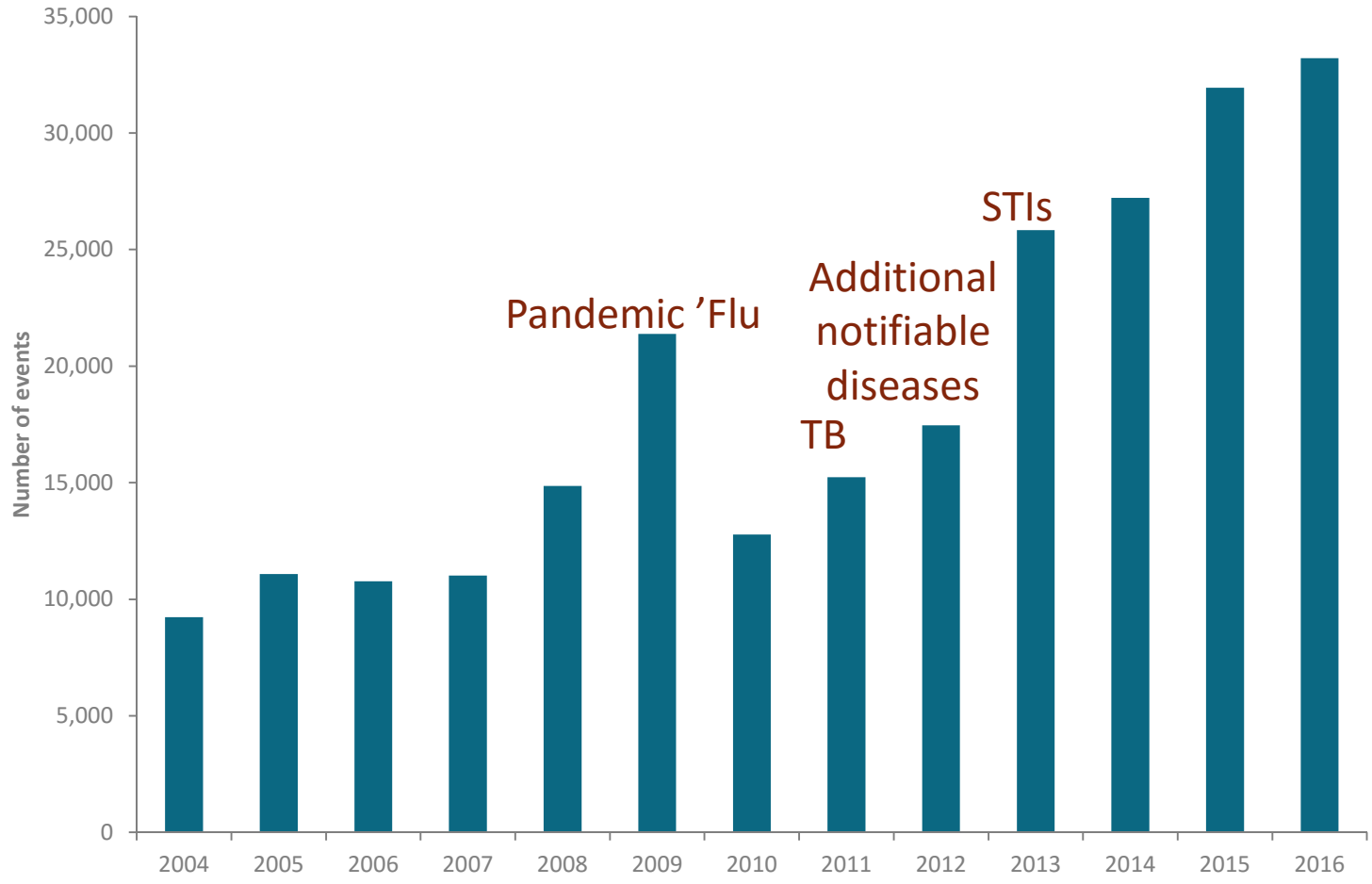
Data validation

- Data entry
- Weekly validation of core data items
- Ongoing review of events as they are created
- Disease-specific validations quarterly or annually, depending on frequency of reports, for example to ECDC
- Majority of extracts from laboratory systems are generated using rules

Evaluation of individual disease surveillance systems, including the role of CIDR, to determine data quality, data set, coverage etc.

The Data

Trend since 2004



And approx. 500 outbreaks/ year

The Data

Disseminating data

Standard suite of reports are available to users (Corporate Documents)

- Public health, laboratory & HPSC reports
- Ad-hoc reports via CIDR helpdesk

5 weekly surveillance reports produced by HPSC & detailed annual epidemiological reports

National Peer Review Group seeks to

"promote and encourage the collaborative use of CIDR data for research and other purposes whilst at the same time ensuring confidentiality and data protection issues are appropriately addressed"

Data for action

Public health response

Increase in cases in a cohort of the population:

- Pertussis in infants
- MSM outbreak response group

Outbreak detection, investigation and control

- National measles outbreak
- Antibiotic resistant *Shigella flexneri*

Collaborating with international colleagues on investigation & control measures

- Hepatitis A

Reporting to ECDC, EFSA and WHO

Challenges

The future

- Managing user expectations
- Developing new or enhanced functionality e.g. STI clinic use
- Keeping apace with technological advancements and upgrades
- Budget
- Human resource constraints

Thank you