Global Influenza Surveillance and Response System (GISRS)

Gina Samaan
Global Influenza Programme

World Health Organization
How well do you know GISRS?

Quiz!

1. What year was GISRS started?
Recommendation in 1952 to start GISRS...

In the official records of the World Health Organization:

EXECUTIVE BOARD
ELEVENTH SESSION
HELD IN GENEVA FROM 12 JANUARY TO 4 FEBRUARY 1955

RESOLUTIONS
REPORT OF THE EXECUTIVE BOARD
INCLUDING THE REPORT ON THE PROPOSED PROGRAMME AND BUDGET ESTIMATES FOR 1956
ANNEXES

World Health Organization
Palais des Nations
Geneva
April 1955

Significant scientific advance has been made in the past in the study of influenza and may reasonably be expected in the future through the efforts of private or institutional initiative. There are certain areas of activity, however, in which the accomplishment may be greatly augmented through active participation of WHO:

1. First is the continued and expanded programme for collection, correlation, and distribution of information regarding occurrence, epidemiology, and laboratory findings from places not presently covered. Such information is needed to provide the bases upon which methods for prevention and control of influenza may be developed. There is also need for greater and more rapid dissemination and exchange of scientific information among the various workers throughout the world. Provision for purchase and distribution of reprints of published papers may assist materially in this regard.

2. Second is the provision for training of qualified persons who will collect essential information on strain occurrence and epidemiological data from areas of the world in which there is no representation at the present time. Means should also be found to provide support and laboratory space for the trained person in his area of observation.

3. Third, provision should be made to supply diagnostic materials to designated laboratories which are unable to supply their own. It is felt that such material should be prepared in a single laboratory (preferably commercial) and that it be distributed free of charge to the user. Consideration should also be given to the supplying of antisera to the basic prototype strains for rapid preliminary analysis of newly isolated strains in these laboratories.

Another item of supply urgently needed is a suitably insulated shipping container of light weight which may be used for transport of frozen virus or clinical specimens by air.
How well do you know GISRS?

Quiz!

1. What year was GISRS started?

2. Which was the first WHO CC?
London - 1948
All pictures Common Cold Folder WHO

SCHMIPER, Lukas, 20/11/2012
For the purpose of typing any prevailing influenza viruses and of furthering research, the World Influenza Centre in London and 38 regional centres have been established. Many of the latter still lack equipment essential to their proper functioning. Supplies of sera and antigen are prepared by the State Serum Institute, Copenhagen, and expert training facilities are at present available at the World Influenza Centre and at the National Influenza Strain Study Center, Brooklyn.

For 1951 the following is proposed:

Regular Programme: Working grant to the World Influenza Centre.

Technical Assistance Programme: Convening of an expert committee of eight to assess results and propose future lines of research.

Fellowships for study and training at centres willing to undertake such training. (This is provided for under ‘Professional and Technical Education’, see table, page 266.)
Third World Health Assembly, Geneva 8-27 May 1950.

Committee on Programme
From left to right: Dr. Don Juan Allwood-Paredes (El Salvador), Dr. J. Zozaya (Mexico, representative of the Executive Board), Dr. J.A. Höjer (Suède), Chairman, Dr. W.P. Forrest (WHO), Secretary of the Committee, Dr. Y. Biraud (WHO), Assistant-Secretary, Dr. G.W. Miller (WHO). (WHO Photo Public Information Office).

Source: WHO Archives, 4th and 3rd WHA

SCHEMPER, Lukas, 22/11/2012
How well do you know GISRS?

Quiz!

1. What year was GISRS started?
2. Which was the first WHO CC?
3. How many NICs are there today?
GISRS: the backbone of influenza control in the last 65 years

Birth of GISRS 1952

1962
2 WHOCCs
59 NICs/42 countries

1984
3 WHOCCs
108 NICs/76 countries

2004
5 WHOCCs
112 NICs/83 countries

2008
5 WHOCCs
121 NICs/93 countries

2012
6 WHOCCs
136 NICs/106 countries

June 2016
6 WHOCCs
143 NICs/113 countries
OBJECTIVES

- Global monitoring of the evolution of influenza viruses
  - Recommendations on policy and operations in areas including laboratory diagnostics, vaccines, antiviral susceptibility

- Surveillance, risk assessment and response for epidemic and pandemic influenza

- Global alert mechanism for the emergence of novel influenza viruses with human pandemic potential
Value of GISRS: Increasing Contribution Over Time

- Virus monitoring
- Vaccine composition recommendation
- Building knowledge of influenza epidemiology

- Risk assessment
- Diagnostics
- Antiviral susceptibility monitoring

- Virological/laboratory support to all aspects of influenza surveillance, preparedness and response, pharmaceutical and non-pharmaceutical
- Higher expectations
GISRS: day-to-day

- Virus monitoring and risk assessment
- Laboratory diagnostics
- Vaccine support
- Capacity building
- Communication, networking
Surveillance

- Setting standards for surveillance for influenza
  - ILI and SARI sentinel surveillance
  - Investigation and risk assessment guidance

- Providing electronic platforms for information gathering and sharing:
  - **FluNet**: real time lab data sharing since 1997
  - **FluID**: real time epi data sharing since 2010

- Routine surveillance reports
  (http://www.who.int/wer/2015/wer9028.pdf?ua=1)
### SEARO Countries/ Labs reporting in FLUNET

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### SEARO Countries reporting in FLUID

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Influenza surveillance report

Number of specimens positive for influenza by subtype

Number of influenza-like illness (ILI) cases and proportion of ILI cases by 1000 patient visits

Number of severe acute respiratory infections (SARI) cases and proportion of SARI cases by 100 hospitalized patients
Information sharing

- GISRS Information Centre: 390 registered users
- EZcollab: 128 countries, areas and territories
Strengthening capacity and quality

- **Specimen transport and virus sharing**
  - Workshops for handling infectious substances

- **Capacity**
  - Influenza laboratory training – coordinated by the regions
    - RT-PCR
    - BSL-3
    - Virus culture
    - Antiviral susceptibility testing
    - Sequencing

- **Quality**
  - Influenza EQA Project for detecting influenza viruses by PCR: 14 panels to date, report published in WER annually
  - Influenza EQA Project for detecting influenza viruses by isolation: In preparation
Virus sharing: Shipping Fund

Submission of influenza specimens from NICs to WHO CCs

- Each NIC can make at least four shipments per year, to support the VCM making and risk assessment:

- In situations with more shipments than 4 times in a year is needed, the laboratory should contact the WHO GISRS team.
Virus sharing (2011 – 2016)
Challenges

- Poor sentinel surveillance in some areas with good labs
- Geographical gaps in surveillance
- Sustainability in lower resource areas (flu fatigue)
- Lack of recognition of GISRS value: 65 years of a voluntary global surveillance system with critical outputs:
  - Risk assessment, information feedback, response actions
  - Recommendations (diagnostics, vaccine composition, antivirals etc)
- Funding
Summary

- GISRS is the key laboratory network for global influenza surveillance, coordinated by WHO

- Need strong epi and virology surveillance to respond quickly to outbreaks
  - Global surveillance has strengthened over recent years

- Challenges exist but 65 years is a testament to its value!
Acknowledgements

- Many thanks to all the National Influenza Centres which make the GISRS such a successful network!

- Partner agencies, donors and beneficiaries