



Global Influenza  
Hospital Surveillance  
Network



# THE GLOBAL INFLUENZA HOSPITAL SURVEILLANCE NETWORK (GIHSN)



Foundation for  
Influenza  
Epidemiology

Sous l'égide de

Fondation  
de  
France

# INITIATIVE & OBJECTIVES

Network of country sites affiliated with **health authorities** coordinating several hospitals and using **a standardized surveillance protocol**

Yearly assessment of : (i) **influenza virus circulation**,(ii) **lab-confirmed severe flu burden** (iii) **vaccine protective effect** (when coverage allows)

Building of a surveillance platform through **catalytic funding** from the Foundation for Influenza Epidemiology

- **60 hospitals in 18 countries** (20 sites) in 2017-18 season
- More than **2,500 documented cases of hospitalizations from influenza** in the 2016-17 season (>1,000 RSV cases)
- Already **6 consecutive seasons of data generated** including NH and SH data (>50,000 patients records collected)



○ Current members and implementing sites

# AN OPERATIONAL PLATFORM FOR DATA GENERATION, CAPACITY BUILDING AND DATA SHARING/VALUATION

## Type of data data generated

- Influenza activity and lengths of epidemics
- Pattern of strain circulation by subtype by region
- Burden of severe influenza (lab confirmed and requiring hospitalization) by regions, subgroups and risk factors (e.g. pregnancy)
- Genetic characterization
- Benefit of flu vaccination
- Similar data on other respiratory viruses (e.g. RSV)

## Annual experts meeting

40+ participants from 15 countries including important flu experts and representatives from international health authorities (WHO, US CDC, Chinese CDC)



## Annual peer-reviewed publications & international conferences presentations

Puig-Barberà et al. *BMC Public Health* 2016, 16(Suppl 1):757  
DOI 10.1186/s12889-016-3378-1

BMC Public Health

MEETING REPORT

Open Access



Influenza epidemiology and influenza vaccine effectiveness during the 2014–2015 season: annual report from the Global Influenza Hospital Surveillance Network



Institució per a l'Assessorament de la Investigació Sanitària i Biomèdica de la Comunitat Valenciana



Global Influenza Hospital Surveillance Network

Keywords: influenza, influenza vaccine and Epidemiology

Global Influenza Surveillance Network, epidemiology and influenza vaccine effectiveness, in three influenza seasons, 2012-2015

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A dedicated website [www.gihnsn.org](http://www.gihnsn.org)

# PROTOCOL

**Patients hospitalized during the flu season** are asked for recent influenza-like-illness (ILI) symptoms (<7 days)

**All ILI cases are swabbed** and tested by PCR for flu

**All flu positive PCR samples are sub-typed** to identify A/H1N1, A/H3N2, B/Yamagata, B /Victoria

When vaccine coverage is sufficient, **vaccine effectiveness is assessed using a test negative design** (comparison of vaccine coverage between lab confirmed case of flu and controls)



# RECENT PUBLICATIONS (1/2)

## Manuscripts

- Genetic characterization of influenza viruses from influenza-related hospital admissions (St. Petersburg & Valencia) of the Global Influenza Hospital Surveillance Network during 13/14 influenza season (journal of clinical virology, 2016)
- Influenza epidemiology and influenza vaccine effectiveness during the 2014–2015 season: annual report from the Global Influenza Hospital Surveillance Network. (BMC Public Health, 2016)

## ESWI Sept 2017 conference

- Assessment of the effect of repeat vaccination on current season influenza vaccine effectiveness in patients 60 years old or older over three consecutive seasons (2013-2014, 2014-2015 and 2015-2016) in the Valencia Region (Spain) (Oral presentation)
- Description of the burden of severe influenza in diabetic patients during four consecutive seasons from 2011 to 2016 in the GIHSN Poster).
- Respiratory viruses associated admissions during four consecutive seasons (2012/13 – 2015/16) in the global influenza hospital surveillance network (poster)



# RECENT PUBLICATIONS (2/2)

## Local sites publications

- İnfluenza Benzeri Hastalık Nedeniyle Hastaneye Yatış Gerektiren Hastalarda Mortaliteyle İlişkili
- Faktörler Mikrobiyol Bul 2017; 51(1): 20-31
- Unpredictable local trends: Epidemiology of patients hospitalized for influenza like illness in 2015-16 influenza season in Turkey (ESWI poster)
- Waning protection of influenza vaccination during four influenza seasons, 2011/2012 to 2014/2015 -Valencia site- accepted in Vaccine
- Outcomes of adult patients hospitalized for influenza like illness in 2015-16 influenza season in Turkey







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## CALL FOR TENDER AND NETWORK MEMBERS



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# DATA INTERPRETATION AND SURVEILLANCE INFORMATION FROM SITES (2016-17 SEASON)

**Catchment area population** is known 10 /15 sites

- With differences between sites i.e cat of age

**Others respiratory viruses information** is available in 12/15 sites

- Including RSV, rhinovirus, metapneumovirus...

**Laboratory Sequencing capacity** 6/15 sites

**Vaccination status** 13/15 sites

- Mainly declarative information from patients

**Use of the GIHSN data** in interactions with WHO or national surveillance system 12/15 sites

- Or key national surveillance institutions (i.e NICD South Africa)





# 2017-2018 CALL FOR PROPOSAL

**20 dossiers were received** using a standard template form

- Africa (n=4); Asia (n=2); Eurasia (n=3); Europe (n=7); South-America (n=3) ; North-America (n=2)
- 6 new applications compared to the previous season

## NOTATION GRID

### Relevant expertise and experience of the applicant (15 pts):

- Expertise in influenza and in vaccines (5 pts)
- Experience in conducting epidemiological studies, in particular similar active surveillance studies (5 pts)
- Role in the national/regional influenza surveillance system (5pts)

### Proposed implementation into the GIHSN (30 pts):

- Presentation of the catchment area, type of population, participating hospitals and expected sample size (15 pts)
- Scientific relevance of the proposal and the proposed design (5 pts)
- Team organization and dedicated staff for active surveillance (5 pts)
- Institution infrastructure and laboratory capacities to test influenza strains by RT-PCR; sequencing capacity is a plus (5 pts)

### Level of co-funding from the applicant (15 pts)

All applications were evaluated and quoted by the Executive committee members. Experts did not quoted dossiers when there was a specific on-going collaboration with the applicant.

# LIST OF PUBLIC INSTITUTIONS AND MAIN INVESTIGATORS 2017-2018 SEASON (1/2)

## NORTH AMERICA

- **Canada:** SOS Network, Pr Shelly McNeil
- **Mexico:** Institution nacionales de Salud, Dr Ruiz Palacios

## LATIN AMERICA

- **Argentina:** National Reference Laboratory for Viral Respiratory Diseases, Elsa Baumeister
- **Peru:** CITBM, Dr Alberto Laguna

## EUROPE

- **Czech rep:** National Institute of Public Health, Dr Jan Kyncl
- **France-Paris:** REIVAC Hôpital Cochin, Pr Odile Launay and **Lyon:** Hôpital Edouard Herriot, Pr Philippe Vanhems
- **Poland:** Warsaw Medical University, Aneta Nitsch-Osuch
- **Romania:** National Institute of infectious diseases, Dr Draganescu
- **Serbia:** Institute of Public Health of Vojvodina, Dr S.Medić
- **Spain:** FISABIO, Dr Javier Diez-Domingo

# LIST OF PUBLIC INSTITUTIONS AND MAIN INVESTIGATORS 2017-2018 SEASON (2/2)

## AFRICA

- **Ivory Coast:** Institut National d'Hygiène Publique, Dr Coulibaly
- **Kenya:** Kenya Medical Research Institute (KEMRI), Dr. G.O. Emukule
- **Tunisia:** Institut Pasteur de Tunis, Dr Ben Salah
- **South Africa:** Respiratory and Meningeal Pathogens Research Unit, Dr M. Nunes

## EURASIA

- **Kazakhstan:** National Influenza Center, Dr Kuatbayeva
- **Russian Federation-Moscow:** Ivanovsky Institute of Virology, Dr Bursteva
- **Russian Federation-St Petersburg:** Research Institute of influenza, Pr Sominina

## ASIA

- **China:** Fudan University, Dr Tao Zhang
- **India:** Sher-i-Kashmir Institute, Dr Koul

