Active surveillance of Influenza in Hospitalized patients in Brazil,

As part of the:

"GIHSN - Global Hospitalized Surveillance Network"

Laboratory of Emergent Pathogens
Fondation Mérieux

GABRIEL network

Type of activity:
Surveillance and Epidemiology

Regions/Beneficiary countries:

Brazil

Partners:

Laboratory of Respiratory Viruses FIOCRUZ in Rio de Janeiro, Brazil

Hospital Infantil Alber Sabin Public Hospital, in Fortaleza, Brazil

Hospital Quinta D'Or in Rio de Janeiro, Brazil

Hospital de Clínicas/Universidade Federal do Paraná in Curitiba, Brazil

Hospital NossaSenhora da Conceiçao in Porto Alegre, Brazil

FISABIO - "Fundación para el Fomento de la Investigación Sanitaria y Biomédica, Valencia, Spain

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Update July, 2015

INTRODUCTION

According to the World Health Organization (WHO), seasonal influenza epidemics affect an estimated 5–15% of the total population worldwide, with 3–5 million cases of severe illness, resulting in 250,000–500,000 deaths. However, few data are available for many parts of the world where active surveillance is lacking. In addition, the viruses and the severity of influenza epidemics vary greatly between years and geographical areas. To inform policy decisions, national health authorities need to understand the burden of influenza disease and the impact of current vaccination programs in their countries.

High-quality, active surveillance networks are needed to better understand influenza epidemiology and therefore better control influenza epidemics, and for highlighting the often-underestimated impact of influenza.

In 2013, the Emerging Pathogens Laboratory (LPE), via the GABRIEL network, joined the Global Influenza Hospital Surveillance Network (GIHSN), an international platform that generates epidemiological based evidence on the burden of severe influenza and the public health impact of vaccination. The GIHSN is animated and coordinated by the FISABIO institute in Valencia, Spain. The GIHSN is based on a public-private partnership between FISABIO, Fondation Mérieux and several coordinating sites affiliated with national health authorities. GIHSN has protocol running sites in Spain, Russia, Turkey, Czech Republic, China and Mexico and via the GABRIEL network in Brazil, country in which four hospitals located in various country latitudes are actively participating.

The network counts with the unrestricted financial support of Sanofi Pasteur.

STUDY OBJECTIVES

This is a multi-centre, prospective, active surveillance, hospital-based epidemiological study. A harmonized protocol is implemented across participant sites, enabling homogeneous multisite data pooling nationally in Brazil and internationally within the Global network of GIHSN.

The study objectives are:
I. Evaluate the burden of severe influenza disease, defined as hospitalization related to community-acquired influenza or complications following an influenza infection;
II. Quantify the distribution of the different influenza viruses (A(H1N, A(H3N2), B/Yamagata, and B/Victoria) among these severe cases; and
III. Measure the effectiveness of influenza seasonal vaccines to prevent these hospitalizations using a test-negative design.
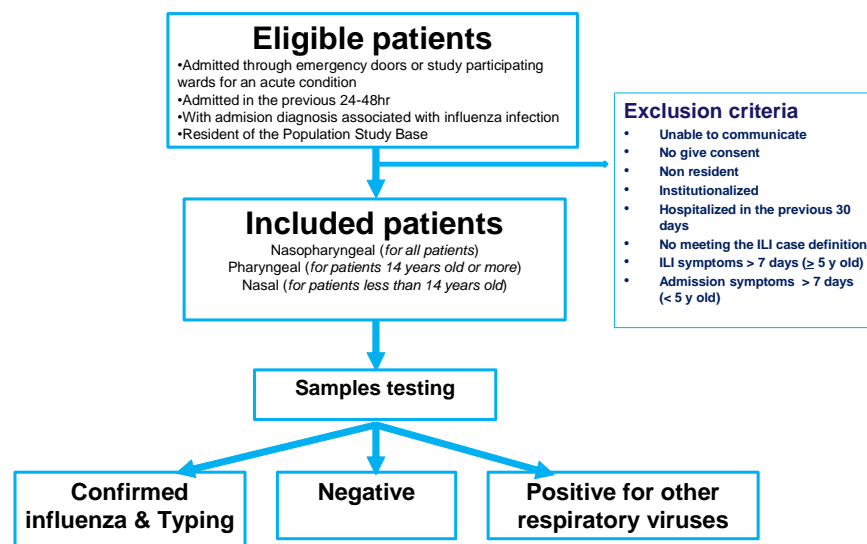
PROTOCOL FLOW PRINCIPLE

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 laboratory confirmed cases of influenza and controls).

A pooled analysis is performed yearly by FISABIO and discussed at a global stakeholders meeting.

Each country is owner and has proprietorship of the data generated and pooled and can issue with self-authority the desired publications that might emerged from the worked performed.

ALGORITHM

Eligible patients
•Admitted through emergency doors or study participating wards for an acute condition
•Admitted in the previous 24-48hr
•With admision diagnosis associated with influenza infection
•Resident of the Population Study Base

Exclusion criteria
• Unable to communicate
• No give consent
• Non resident
• Institutionalized
• Hospitalized in the previous 30 days
• No meeting the ILI case definition
• ILI symptoms > 7 days (≥ 5 y old)
• Admission symptoms > 7 days (< 5 y old)

Included patients
Nasopharyngeal (*for all patients*)
Pharyngeal (*for patients 14 years old or more*)
Nasal (*for patients less than 14 years old*)

Samples testing

Confirmed influenza & Typing

Negative

Positive for other respiratory viruses