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Preventing seasonal influenza worldwide through vaccination, education, and international cooperation: research, findings, and recommendations from the Global Influenza Initiative

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This supplement to IORV, dedicated to the Global Influenza Initiative (GII) and associated research, covers many of the key challenges involved in influenza disease prevention, management, and treatment. This supplement shares the latest data and current thinking on a range of issues including epidemiology and burden of disease, case definitions, vaccination of pregnant women, and the potential public health impact of quadrivalent influenza vaccines (QIV) versus trivalent influenza vaccines (TIV).

The studies reported within this supplement have been conducted by members of the GII, and the GII members have utilized the group’s global reach to report on both expert experience and the latest data from around the world.

In a report based on global surveillance data, Caini et al. describe the epidemiologic characteristics of influenza A and B epidemics. In this study, the authors obtained data from the Northern and Southern hemispheres, including data from tropical and subtropical regions. The authors also examine the frequency of influenza B, the age distribution of influenza B versus influenza A, the epidemiologic impact of influenza B versus influenza A, and vaccine mismatches over the past decade.

Cheng et al. present an important study on the burden of influenza-associated deaths between 2002 and 2008 in the Americas. This research examines whether influenza remains an important cause of mortality in the Pan American Health Organization region, and the outcome is clear.

As the detection and diagnosis of influenza is paramount, Falsey et al. reviewed the currently used clinical case definitions in the elderly population and report here their findings regarding the different definitions and their respective sensitivity and specificity. The authors also suggest what the case definition should include, and what the optimal fever threshold should be to characterize influenza in the elderly.

Vaccination of pregnant women continues to be the subject of interest and debate, and additional data have become available in recent years. Macias et al. undertook a literature review, supplemented with data from GII members, and have developed recommendations for the vaccination of pregnant women against seasonal influenza.

Finally, Crépey et al. used a dynamic model to estimate the relative public health benefit of using QIV versus TIV for routine influenza vaccination in the United States. An elegant aspect of the authors’ analysis is that they have integrated the potential cross-protection against a mismatched B lineage conferred by the TIV, an important factor that potentially limits the added value of QIV over TIV.

About the Global Influenza Initiative

Founded in 2012, the GII is a global expert scientific forum chaired by Prof. Stanley Plotkin and composed of scientists, researchers, and clinicians with expertise in epidemiology, infectious diseases, immunology, and public health (see http://www.globalinfluenzainitiative.org/). Our aim is to strengthen and communicate scientific evidence on the epidemiology and disease burden attributable to influenza. Indeed, our mission is as follows:

1. To prevent seasonal influenza worldwide through vaccination, education, and international cooperation, as informed by virologic, epidemiologic, public health, and health economic data.

2. As a priority, to establish the scientific evidence on the worldwide burden of disease attributable to influenza and to raise the profile of influenza as an important preventable disease that warrants greater public health attention and improved vaccination strategies.

3. To make recommendations on seasonal influenza vaccine strategies, how influenza vaccines should be
delivered, and which population cohorts should be vaccinated.

The activities of the GII are supported by extensive data compiled by national and hospital surveillance networks, in addition to health economic modeling approaches. Critical questions identified by the group are integrated into research agendas that aim to address key knowledge gaps. GII activities include steering committee meetings to define objectives and agendas; roundtable meetings of all GII members, which meet at approximately yearly intervals; and global dissemination of recommendations and communications. Some GII members are also part of the Global Influenza Hospital Surveillance Network, which aims to improve understanding of global influenza epidemiology and provide a framework for estimating effectiveness of seasonal influenza vaccines in preventing severe cases in various age and risk groups.

GII roundtable meetings have been held annually since 2012. The second GII roundtable meeting was held in July 2013, and the objective of the meeting was to review the latest data on a variety of influenza-related clinical and scientific subjects (such as the epidemiology of influenza, vaccine effectiveness, and vaccination of special patient populations such as pregnant women, patients with HIV, and healthcare workers). There were more than 20 participants from 14 countries (Argentina, Brazil, Canada, China, the United States, France, Italy, Mexico, the Netherlands, New Zealand, South Africa, Spain, Turkey, and the United Kingdom). Based on these latest data, the group developed the manuscripts reported herein, and during the third GII roundtable meeting (July 2014), the manuscripts were discussed, refined, and updated with the latest data and expert opinion.

The GII works on an ongoing and committed basis to develop materials and tools to assist in the prevention of seasonal influenza, and introduce optimal vaccines and vaccination strategies.

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