GIHSN currently includes more than 100 hospitals in 20 countries, collecting, analyzing, and sharing epidemiologic, clinical and laboratory data on influenza and other respiratory viruses. The network operates under a public-private partnership governance: the Foundation for Influenza Epidemiology (FIE). FIE provides catalytic funding that complements other financial sources (e.g., local ministry of health, WHO, CDC etc.)

The executive Committee is the decision maker, in charge of the strategic directions related to the project

Methods

• An independent multidisciplinary scientific committee manages the scientific direction of the network, but sites remain owner of their data.
• Using standard protocols, the sites collect demographic and clinical information from patients admitted with respiratory illnesses, including clinical outcomes by discharge
• Respiratory specimens are collected to test for influenza and other respiratory virus by multiplex RT-PCR
• The GIHSN promotes sharing of surveillance data with local health authorities, WHO and the scientific community at large. The network has evolved over time to focus on linking epidemiologic and clinical data with whole genome sequencing (WGS) information to facilitate exploring viral phenotypes as they relate to severity or vaccine-breakthrough cases
• Despite the pandemic, the network has been able to pursue its activities with limited disruption and it is currently active year-round

Results

• A total of 110,827 patients hospitalized with respiratory illness have been enrolled so far, including laboratory-confirmation of 21,159 Influenza cases and 30,125 patients with other respiratory viruses
• The annual positivity rate for influenza has ranged from 29% in 2018-19 to 2% in 2020-21 (COVID-19 pandemic period)
• The network has contributed to more than 20 published manuscripts and numerous local and international meetings and conferences since its initiation
• More recently, the FIE is also supporting research activities that leverage the community of scientists to use data gathered through the GIHSN and expanding collaborations to better understand the burden of influenza. GIHSN data are also shared with WHO to support vaccine strain selection

Conclusion

• The COVID-19 pandemic has highlighted the need for resilient and ready surveillance systems, targeted genetic sequencing scale up and a multi-stakeholder approach
• The pandemic has also shown the critical importance of understanding the circulation and burden of respiratory viruses to guide public health decision making and research and development initiatives
• Emerging infectious diseases represent an ongoing threat and GIHSN illustrates the feasibility and pertinence of public and private sector coming together to optimize global efforts under economy of scale approach
• GIHSN is above all a community of local researchers sharing their expertise and data, and contributing to the global public health arena