

acid extraction was performed with a MagNaPure LC instrument by using the total-nucleic-acid kit. Amplified products were identified using a bead based suspension array for the detection of wide range of viruses and subtypes. Data were analysed and reported as median fluorescent intensity using xMAP.

Results: Upon testing 935 nasopharyngeal swabs 451 (48%) were positive for enterovirus, 58 (6.2%) for parainfluenza type III and RSV, 48 (5.1%) metapneumovirus, 39 (4%) parainfluenza type IV, 35 (3.7%) bocavirus, 31 (3.3%) adenovirus, 30 (3.2%) coronavirus OC43, 20 (2.1%) parainfluenza type I, 18 (1.9%) influenza B, 16 (1.7%) H1N1 2009, 14 (1.5%) influenza A subtype H3N2, 9 (0.9%) corona HUK1, 8 (0.8%) parainfluenza type II, 7 (0.7%) corona NL63 and influenza A matrix, 5 (0.5%) corona 229E and 1 (0.1%) was positive for influenza A subtype H1.

Conclusion: Accurate and timely diagnosis of respiratory viruses in children using high throughput techniques has potential benefits, including improved treatment, decreasing the costs and reducing the empirical use of antibiotics thus preventing the emergence of anti-microbial resistance.

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20.009

Short period incidence study of severe acute respiratory infection (SPRINT-SARI) initial data from a global observational study to better describe SARI epidemiology in critically ill patients



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Purpose: The majority of the burden of SARI-related mortality in developed countries is within intensive care units (ICUs). Increasingly, intensive care is becoming a standard element of the health care system in low and middle-income countries. However, the availability of high-quality data for critically ill patients in the early phases of a SARI outbreak is often poor. The lack of pre-populated ethics approvals, data sharing agreements, and research infrastructure makes this data often slow to help guide clinical practice for severely affected patients. This study aims to establish a rapid clinical research response capability for a future epidemics or pandemics of severe respiratory disease

Methods & Materials: This is a multi-centre, prospective, short period incidence observational study of patients in participating ICUs with SARI. The study period will comprise a 5 to 7-day cohort study enrolling patients, of all ages, meeting a modified SARI case-definition, who are newly admitted to the ICUs at participating sites. Through this, we have developed standardized case-report forms and a data-capture platform to better establish global readiness for evidence generation for critically ill patients with SARI.

Results: As of writing, we have ethics approval in 231 institutions, representing every continent and income group, with further expansion imminent. 115 sites have opened for recruitment and data collection for the first season in the Northern Hemisphere is recently completed with Southern Hemisphere collection to be completed between July and September 2016. The primary challenge in establishing this infrastructure is in obtaining ethical approvals and ensuring data quality is maintained. Preliminary results of the first season of recruitment will be presented.

Conclusion: Through SPRINT-SARI, we are creating a sustainable infrastructure for real-time data collection for better describing critically ill patients with SARI, in all regions of the planet. Creation of this enterprise will allow for effective risk-adjustment for SARI, as well as providing new insight into the changing epidemiology of SARI and management strategies among critically ill patients around the world. This infrastructure will iteratively improve over subsequent years to ensure data quality, accuracy of denominator projections, and applicability to diverse clinical contexts.

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Cyclical patterns of flu incidence dynamics and their associations with variations in the diseases of the circulatory system in USA for the years 1993-2007



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Purpose: Multicomponent (multiannual and seasonal) variations in the dynamics of flu incidence were found earlier in different countries (e.g., cycles of 1, 2-3, 5-6 and 11 years). The first aim of this study was to test the hypothesis for the existence of such cyclical patterns in the monthly flu incidence variations in USA (1993-2007). The second aim was to extend earlier research on possible associations of such variations in the flu incidence with the dynamics of most fatal diseases of the circulatory system (e.g., acute myocardial infarction, stroke) and validate such relationships across the 4 US census regions.

Methods & Materials: Monthly data on the hospitalised cases (incidence) with the diagnosis of flu, acute myocardial infarction (AMI) and stroke for the years 1993-2007 (n=180 months) were kindly provided by Foster and co-authors (Epidemiol Infect 2013; 141(4): 735-44, doi:10.1017/S0950268812002890). The incidence time series contained information as stratified by US census region and age groups (e.g., below and above 65 years). Autocorrelation, periodogram regression (PRA), ARIMA, trigonometric approximation and cross-correlation analyses were applied. Statistical significance was assumed at p<0.05. All analyses were performed by using routine (e.g., SAS, R) and specialised (6D-STAT) software packages.

Results: A total of 123,611 cases of influenza hospitalisation had been reported over the study interval of 180 months. A mean value per region per month ranged from 102 to 248 cases (maximum from 1800 to 4992). Cyclical patterns of flu incidence variations in all 4 census regions of USA were described, including seasonality (period T = 12 months) as well as transyears (e.g., T=17 months) and other low-frequency (longer) cycles (T = 27, T = 38 months). Linear lagged cross-correlations (lag-periods $\delta T=0, 3, 12$ months, etc.) were established with diseases of the circulatory system (e.g., AMI) in the same regions and time intervals, especially among patients aged 65 and over (e.g., Pearson's r values from 0.17 to 0.36).