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Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

which regions are most affected and which regions will encounter outbreaks as well as support decision making processes.

PS04.14 (950)

Contact patterns during the COVID-19 pandemic: findings from British Columbia, Canada

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Purpose: Interpersonal interaction between infectious and uninfected individuals facilitates the spread of COVID-19. Physical distancing measures could prevent COVID-19 transmission by reducing the contacts among individuals in the population. In this study, we describe contact rates of residents of British Columbia, Canada to assess the impact of COVID-19 related physical distancing measures in the province.

Methods & Materials: We used data from the BC COVID-19 Population Mixing Patterns survey (BC-Mix) to investigate the contact patterns of residents of British Columbia from September 2020 to July 12, 2021. The BC-Mix is an ongoing repeated online survey with approximately 60,000 participants. Survey respondents provided the number of close contacts made in a single day in response to the question "How many people did you have in-person contact with between 5 am yesterday and 5am today?" In-person contact was defined as "face-to-face two-way conversation with three or more words, or physical skin-to-skin contact such as a handshakes, hugs, kisses and contact sports". Survey weights were applied in the estimation of overall contact rates and contact rates stratified by age, sex and health region.

Results: A total of 31, 696 respondents were eligible for analysis. Overall average daily contacts decreased by about 28% in response to the physical distancing measures that went into effect on November 19, 2020 (from an average of 6.42 contacts per person prior to this date to 4.62 contacts per person after this date). From September 2020 to February 2021, the average number of daily contacts were higher among female respondents compared to male respondents. However, no notable difference in the average number of daily contact rates was observed between male and female respondents in subsequent weeks. Over the study period, younger age groups (< 55 years) reported higher daily contact overall than older age groups (≥ 55years years). There was also a marked difference in contact rates by health regions over the study period.

Conclusion: Contact patterns in British Columbia varied between September 2020 and July 2021, with a marked decline in average daily contacts noted immediately following the introduction of stricter physical distancing measures in November 2020.

PS04.15 (25)

COVID-19 Transmission Under the Public Health Radar: High Prevalence in Young Adults for COVID-19 Pandemic Wave 1

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Purpose: Compare reported data on age specific rates of SARS-CoV-2 infections in countries from several continents to identify differences in age specific incidence of reported cases in different countries.

Methods & Materials: Data on age-specific case incidence of SARS-CoV-2 derived from publicly available databases from selected countries in Europe, North America, Australasia, and Asia were collected and analysed to identify and evaluate trends in reported age specific distribution of morbidity from SARS-CoV-2 in countries for which data was available.

Results: Data for laboratory confirmed COVID-19 cases from South Korea, Australia, New Zealand, Japan and the Netherlands exhibited essentially identical profiles, with a bimodal distribution that shows highest rate of confirmed SARS-CoV-2 infections among individuals in the 20-29 years age cohort (21%-27% of total), and a second lower peak for the 50-59 or 60-69 age cohorts (16-18% of total), while preliminary data from China, United States and Sweden exhibited a unimodal distribution with highest rate of positive individuals for the 50-59 age cohort.

Conclusion: There is increasing evidence that individuals < 30 years of age may be playing a highly significant role in the facilitation and amplification of COVID-19 transmission in countries worldwide. Data reported from the first wave of the COVID-19 Pandemic in at least 5 countries (South Korea, Australia, New Zealand, Japan, Netherlands) demonstrated that greater attention should be paid to the frequency and epidemiological importance of COVID-19 infections among young adults in the 20-29 year age cohort, because individuals in this age range comprise a large proportion (21%-27%) of the known laboratory confirmed COVID-19 cases in these countries, and perhaps other countries for which reliable data are not yet available. The epidemiological importance of COVID-19 infections among young adults and adolescents in amplifying and facilitating the proliferation of the COVID-19 Pandemic has been systematically underestimated in many countries, because of low rates of testing among asymptomatic individuals and low rates of severe disease or mortality among individuals <30 years of age. Clarifying and understanding the epidemiological dynamics of SARS-CoV-2 transmission among individuals in younger age cohorts will help in determining control strategies at the individual and population levels.

PS04.17 (396)

Evaluating the Quality of Federal SARS-CoV-2 Diagnostic Testing Data

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Purpose: In April 2020, the US Department of Health and Human Services (HHS) and the US Centers for Disease Control and Prevention established the COVID-19 Electronic Laboratory Reporting program (CELR) to collect data on SARS-CoV-2 laboratory tests. Over the course of the following year, the federal government, partnering with the Association for Public Health Laboratories, on-

boarded every state to submit laboratory results to this system—the first of its kind in the US. We set out to evaluate the quality of data collected by CELR.

Methods & Materials: We compared jurisdiction-level data collected through CELR and published by HHS to the testing data published by jurisdictions on their health department webpages. Because jurisdictions define their testing data differently, we anticipated some differences from federal testing data. However, jurisdictions also tend to prioritize their dashboard reporting—since it is what is used for policy decisions like reopening—so we hypothesized that differences from federal data absent a definitional explanation could point to problems with federal data. Where we found differences between jurisdictional and federal data, we conducted interviews with public health officials to understand their cause.

Results: Of the 56 states and territories, as of April 2021 (the first month when all states were onboarded to CELR), 38 had federal total data that diverges from state data by more than 5%. Of those states, the differences of 27 could not be explained by definitional factors. Based on our interviews, we identified three problems: non-electronic reporting streams, out-of-date surveillance systems, and deduplication of laboratory data.

Conclusion: The federal testing dataset displays major unresolved quality problems, and because states present testing data so differently, state-published data forms a poor alternative to federal datasets. The federal government, which is uniquely positioned to provide testing data on infectious diseases, must work to improve the quality of laboratory data submissions by states. To support better national laboratory data, the United States should invest in updating state and laboratory data surveillance infrastructure—including updates to state surveillance systems and laboratory system updates to eliminate outdated reporting methods like faxes—and in creating more national laboratory data infrastructure.

PS04.18 (606)

COVID-19 Surveillance Enhanced by an Integrated Electronic Infectious Diseases Information System in Albania

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Purpose: The objective of this paper is to showcase how COVID -19 control has been enhanced by interrelating syndromic surveillance, case based surveillance and laboratory surveillance and outbreak investigation into an integrated electronic Infectious Diseases Information System (IDIS).

Methods & Materials: Development of IDIS began in December 2016 with the goal to modernize the Albanian surveillance system by developing a user-friendly, comprehensive database for case investigation, contact tracing, and laboratory data focusing on the improvement of the timeliness indicators of disease detection and response. The platform is based on open-source software solutions featuring (1) integration of data from different surveillance systems such as indicator, syndromic and event base; (2) better investigation and management of outbreaks and reduced data-entry time and errors (3) generation of line listing and contact-tracing and workflows to appropriately follow-up of cases and contacts; (4) integration with the national vaccination registry for retrieving vaccination history and prospectively apply ring vaccinations during

outbreak control; (5) integration with laboratory information system public and private to retrieve diagnostic information; and (6) repository with qualitative and quantitative cache of epidemiological information and data;

Results: The IDIS system has assisted public health surveillance to document COVID-19 cases and to take disease control actions such as case isolation, contact tracing and contact isolation, and more recently vaccination. To date 400.000 potential cases of COVID -19 have been notified in the system has been notified 273.000 have been individually investigated. About 487.000 laboratory results have been linked with case based information and respective contacts. The system has proved useful for data analysis as a series of epidemiological indicators have been calculated to inform evidence based decision making in controlling COVID-19 epidemic in Albania.

Conclusion: IDIS implementation has improved the consistency, communication, and effective use of public health data. In particular integration of different surveillance systems and workflows which are developed within IDIS provide an array of instruments to epidemiologists to detect cases faster, make better decisions based on multiple data sources and more effectively plan response measures.

PS04.19 (781)

Quantifying Contact Patterns: Development and Characteristics of the British Columbia COVID-19 Population Mixing Patterns Survey

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Purpose: Several non-pharmaceutical interventions such as physical distancing, self-isolation, a stay-at-home order, hand washing, and schools and businesses closures were implemented in British Columbia (BC) following the first lab-tested case of COVID-19 on January 26, 2020. These interventions were aimed at minimizing in-person contacts that could potentially lead to new COVID-19 infections. The BC COVID-19 Population Mixing Patterns survey (BC-Mix) was established as a surveillance system to measure behaviour and contact patterns in BC over time to inform the timing of the easing/re-imposition of control measures. We describe the BC-Mix survey design and the demographic characteristics of respondents.

Methods & Materials: The ongoing repeated online survey was launched in September 2020. Participants are recruited through a variety of social media platforms including Instagram, Facebook, YouTube, and community group mailing lists. A follow up survey is sent to participants two to four weeks after completing the first iteration. Survey responses are weighted to BC's population by age, sex, geography, and ethnicity to obtain generalizable estimates. A survey completion rate of at least 33% AND a valid response for the sex questionnaire item AND a valid response for age questionnaire item were required for inclusion in weighting and further analysis. Additional indices such as material and social deprivation index,