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.

PS26.03 (378)

Using Epidemic Intelligence to Inform UK Public Health Response to Infectious Disease Threats, such as Ebola Virus Disease

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Purpose: Having an established framework to detect and assess infectious threats as they emerge enables appropriate resources to be directed to preparedness and response. Public Health England's (PHE) Emerging Infections and Zoonoses (EIZ) Section gather epidemic intelligence to detect, risk assess and manage infectious disease threats to UK public health. This is carried out through a daily horizon scanning process. Incidents with public health significance are communicated to relevant stakeholders within PHE and cross-government for situational awareness; particularly those involving high consequence infectious diseases, such as Ebola virus disease-(EVD).

Methods & Materials: Approximately 100 publicly available online resources, including media, surveillance reports and scientific literature are systematically reviewed each weekday. New epidemic intelligence is reviewed by the EIZ Section to determine if it affects the current assessment of the public health risk for incidents being monitored globally. Information is validated by ensuring, where possible, that it is obtained from a reputable source and cross-referenced with other available intelligence.

Results: Horizon scanning detected media reports of newly confirmed EVD cases in the Democratic Republic of the Congo (DRC) and Guinea, on 07 and 14 February 2021. Official confirmation of these reports was obtained through WHO. The EIZ Section subsequently produced daily situational reports to inform a Strategic Response Group (SRG); established on 16 February 2021 to coordinate PHE's enhanced incident response to both outbreaks. Targeted horizon scanning was used to obtain epidemiological information on each outbreak, each country's political and humanitarian situations and ongoing national and international responses. This information informed formal UK Risk Assessments containing predetermined 'triggers' used to indicate the level of risk these outbreaks posed to UK public health. Additionally, PHE's SRG and Port Health team relaunched the returning worker scheme (RWS) on 19 February 2021; aimed at protecting and monitoring the health of those travelling to EVD-affected areas for their work.

Conclusion: The EIZ Section's epidemic intelligence process continues to play a key role in the monitoring of EVD outbreaks and other emerging infectious disease incidents globally. The rapid identification, assessment and communication of potential emerging infectious disease threats is essential to inform appropriate public health responses.

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PS26.04 (602)

High Yield Pedagogy and FOAM as Dynamic Drivers of Building Human Capital and Successful Pandemic Rapid Responses in a Low Middle Income Country

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Purpose: We hypothesized that utilizing a High Yield Pedagogy Model of our own design would result in a successful self-sufficient pandemic response capacity in a Resource Limited Environment by promoting rapid upscaling of skilled clinician-educators and complex knowledge translation into clinical practice.

Methods & Materials: In response to the eruption of SARS-CoV2 in Guyana, which resulted in a surge of patients combined with a paucity of trained Critical-Care Medicine / Pulmonology Providers, we developed a blended learning Mechanical Ventilation course to rapidly upscale Human Capital and Critical-Care Medicine capacity. Our course primarily utilizes U.S. Special Operations Medicine Force Multiplier Train the Trainer strategies combined with a dynamic flipped classroom High Yield Pedagogy approach based in cognitive neuroscience to optimize rapid knowledge acquisition, retention and translation into clinical practice. We incorporated two on-line Free Open Access Meducation (FOAM) resources (one purely didactic and the other a ventilator simulator), several novel self-study clinical scenarios that dynamically progressed in tandem with assigned learning, and we culminated with an in person clinician-student driven intensive scenario based training (SBT) exercise in which each student was not only required to present a variety of complex cases, but also to effectively conduct training in an environment emphasizing Psychological Safety, Dynamic Process Improvement and a continuum of 360 degree feedback mechanisms.

Results: Our High Yield Pedagogy model rapidly and successfully produced a sustainable and self-sufficient Critical-Care Medicine Capacity. We were able to provide comprehensive just in time, turnkey SARS-CoV2 Mechanical Ventilation didactic and clinical training for Guyana's Ministry of Health, which in turn allowed them to dynamically pivot, rapidly upscale human capital, and successfully manage their initial surge of COVID-19 patients.

Conclusion: High Yield Pedagogy with a focus on sustainable self-sufficiency utilizing a flipped classroom, FOAM, and Psychological Safety is an effective mechanism to promote rapid knowledge translation and upscaling to increase critical-care capacity and optimize complex clinical outcomes under pandemic surge conditions in Low Middle Income Countries and severely Resource Limited Environments.

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Topic 27: Political Factors in Disease Emergence and Response

PS27.01 (953)

Pandemic Parallels: Common Threads between the emergence of SARS-CoV-2 and HIV

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Purpose: This analysis explored the parallels between the emergence of human immunodeficiency virus (HIV) and its associated disease (acquired immune deficiency syndrome [AIDS]), and SARS-CoV-2 and its associated disease (Coronavirus disease 2019 [COVID-19]) in order to highlight common patterns that enabled the epidemics of novel pathogens.

Methods & Materials: Our laboratory developed a core set of ten questions that focused on common features found in major disease epidemics, including the affected populations, the response parameters and dynamics of governments, the natural source of the infectious agent, and the impacts of epidemics on societies as a whole. We utilized contemporary accounts including news cover-

age, written descriptions, documentary accounts, and primary literatures to determine full answers to the core questions.

Results: Eight of the ten questions identified commonalities between the AIDS and COVID-19 pandemics. These include slow government policy responses that negatively impacted the timing and the epidemic trajectory, involvement of marginalized populations of societies who were disproportionately affected by the diseases, discovery of existence of persistent economic and social inequalities, and introduction of lifelong morbidities in patients. Most importantly, this analysis found the importance of collaborative, scientifically driven political leadership as evidenced by the improved pace of disease control measures and research for therapeutic and vaccine discovery following adoption of evidence-based policy.

Conclusion: This analysis identifies multiple factors that paralleled the trajectory of the HIV/AIDS epidemic and SARS-CoV-2/COVID-19 pandemic. In order to prepare for potential pandemics or large-scale outbreaks in the future, policies mindful of these lessons outlined will help provide guidance for future responses to emerging pathogens.

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PS27.02 (954)

Pandemic Parallels: Common Threads between the COVID-19 Pandemic and the Ebola Virus Disease Epidemic of 2014

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Purpose: This analysis explored the parallels between the 2014-2016 Ebola virus disease (EVD) epidemic in West Africa and SARS-CoV-2 and its associated disease (Coronavirus disease 2019 [COVID-19] in order to compare and contrast patterns that enable or exacerbate epidemics of novel or non-endemic pathogens.

Methods & Materials: Our research team developed a core set of ten questions focused on features common to major disease epidemics, including the natural reservoir of the infectious agent, the initially impacted populations, resulting societal impacts, the political response parameters and dynamics, resulting scientific discoveries, long-term morbidity in patients, and disproportionately impacted populations. We utilized both the primary literature and contemporary accounts such as news coverage and documentary accounts to determine full answers to the core questions. Commonalities between the emergence of Ebola and SARS-CoV-2 were identified.

Results: Seven of the ten questions identified positive parallels between the Ebola and COVID-19 pandemics. These include the the damaging effects of public mistrust of health officials on disease transmission, negative impact of slow country-level responses, the introduction of lifelong morbidities in patients, disproportionate disease impacts on vulnerable populations, and the positive impact of governmental research funding on the pace of vaccine development and distribution.

Conclusion: This analysis identifies multiple common factors that influenced the epidemic dynamics and disease burdens of Ebola Virus Disease and SARS-CoV-2/COVID-19, despite the differences in transmission dynamics. Policies mindful of these impacts can guide future responses to rapidly growing outbreaks.

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Topic 28: Public Communication of Outbreaks and Emerging Diseases

OP28.01 (331)

Investigating SARS-CoV-2 Test Positivity Calculations Across US Jurisdictions

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Purpose: Throughout the COVID-19 pandemic, many US epidemiologists and policymakers turned to an indicator called test positivity, or the percent of tests coming back positive for SARS-CoV-2, to contextualize COVID-19 case counts with testing volume. But the nation's patchworked health data infrastructure, composed of 56 systems managed by each state and territory, complicated efforts to calculate the metric in a comparable way across US jurisdictions. We set out to map jurisdictional reporting differences in test positivity and investigate whether they interfered with its effectiveness and comparability as an indicator. Understanding these differences is important because jurisdictional test positivity informed consequential policy and individuals' understanding of risk in their communities.

Methods & Materials: We surveyed the health department websites of all US states and territories to examine how these jurisdictions were presenting test positivity on COVID-19 dashboards. When details about definitions were unavailable on jurisdictional websites, we reached out to jurisdictional public health officials for clarification. We also scored jurisdictions' presentations against best practices we identified for calculating the metric.

Results: Among the 48 states and territories posting test positivity values, we observed no consensus on how to calculate the metric—jurisdictions used different units, test types, averaging techniques, and dating schemes. By looking at data for jurisdictions that posted multiple test positivity metrics, we observed that these definitional differences could result in variations from 31% to 300%. Only four states were following all ten of the best practices for reporting test positivity.

Conclusion: The sheer number of ways states and territories define test positivity is alarming, given how much the indicator influenced US COVID-19 policy. Based on our survey, we believe the confidence of regulators in the precision and national comparability of test positivity is misplaced: The metric's value reflects state and territorial reporting decisions as much as actual viral prevalence. These findings underscore the need to invest in centralized public health infrastructure and create national reporting standards to improve unity of state reporting.

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