Developing Evidence-Informed Non-Pharmacological Interventions during Public Health Emergencies

Purpose: To identify, develop and implement strategies to generate high-quality evidence for non-pharmacological interventions (NPIs) during public health emergencies to inform policy and care decisions.

Rationale: The COVID-19 pandemic has identified important strengths and limitations of science and knowledge exchange during public health emergencies. Pharmacological interventions, including vaccines and antiviral therapies for COVID-19 were developed, tested and disseminated worldwide with impressive timeliness and effectiveness. At the same time, decisions for many NPIs, including individual and community based public health interventions (e.g., masking, physical distancing, closures of schools, airport screening) and medical care measures (e.g., acute care organization, long-term care organization, triage, vaccine delivery, personal protective equipment delivery, access to services) appear to have been made with limited evidence. The result is that four years after the WHO characterized COVID-19 as a pandemic, there remains limited understanding of the potential short- and long-term benefits (e.g., reduced disease transmission and mortality) and harms (e.g., declines in mental health, drug overdoses, isolation, delayed cancer care, prolonged surgical wait times, educational performance of children/youth) of many NPIs and how to best organize patient care. Current approaches to research and knowledge exchange for NPIs are likely to result in a similar lack of strong evidence to inform decision-making during future public health emergencies. In this context, we propose to establish a collaboration of leading independent academic evidence-based medicine centres from around the world to address this knowledge gap.

Principles:

- The focus will be on NPIs and their application to improve population health and health service delivery.
- Public health emergencies will be considered any urgent and critical situation that endangers a population's lives, health and/or safety (e.g., pandemics, natural or human-made disasters).
- Establish a global based collaboration of evidence-based centres to build individual scientist (current and future), system level and organizational capacity for future public health emergencies.
- Equity, diversity, inclusion and accessibility will be considered in all aspects of the work.
- Members of the evidence-based collaboration† will have demonstrable conviction and strength in high-quality research and knowledge exchange with academic-societal partnerships to bidirectionally inform research and policy/care decision-making.
- Members will maintain a strong position of equipoise and produce generalizable knowledge at a low risk of bias.

†Defining evidence-based collaboration: (adapted/modified from the original founding principles within the Cochrane Collaboration) https://www.cochrane.org/about-us

- ✓ Maintain co-operation, teamwork, integrity, openness, transparency, scientific rigour and independence
- ✓ Create continuous support and training of all members with a focus on young investigators and the next generation of evidence-based experts
- ✓ Ensure duplication of effort does not occur
- ✓ Focus on minimisation bias with every endeavour
- ✓ Promotion of relevance in all workstreams
- ✓ Provide open access for all outputs
- ✓ Strive for excellence in the quality of all outputs
- ✓ Ensure continuous review of all strategies

Questions to be answered:

- How do we generate high-quality evidence (including, but not solely limited to, randomized controlled trials) for NPIs during a global public health emergency?
- How do we foster effective and efficient knowledge exchange during a global public health emergency so that scientists and public health officials address the most relevant policy and care questions, and policymakers and health system leaders incorporate the resulting evidence into decision-making?
- How do we study the short- and long-term consequences of NPI policies, including inequities, on health (e.g., length and quality of life), economic (e.g., income, housing and food security), psychosocial (e.g., community cohesion) and environmental (i.e., natural and built environment[1] – e.g., biosafety and waste management)

[1] https://www.gchu.org.uk