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Embedding social and behavioural science expertise in public health decision-making within the interim Australian CDC

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With Australia having established an interim Centre for Disease Control (CDC), government needs to ensure that social and behavioural science (SBS) and communication expertise is incorporated in all aspects of public health decision-making. Building on insights from the pandemic and international academic and government professionals from CDCs around the world, we have a once in a lifetime opportunity to ensure SBS data and effective risk communication is integrated across the CDC to optimise Australia's pandemic preparedness and response to infectious disease threats.

Background

Utilisation of social and behavioural science (SBS) expertise by governments strengthens research knowledge and activities on health perceptions, communication, behaviour and policy measures to improve public health programs through design and implementation of effective public health interventions.

The COVID-19 pandemic clearly demonstrated how a lack of understanding of the knowledge, attitudes and behaviours of different populations led to poor adherence to public health advice. As a result, there was inequity in the health, economic and social outcomes and politicisation of the response.[1] Data to understand how and why people make decisions is needed for infectious disease control and to inform effective pandemic policy measures.

Through the pandemic, Commonwealth and state governments, public health agencies and the health and education sectors lacked the mechanisms to undertake routine collection, synthesis and use of social and behavioural science (SBS) data. As a result, public health decision-making was primarily informed by health expertise and lacked the broader social, psychological and educational perspectives. For example, many policy response measures during COVID-19, such as prolonged lockdowns and business closures were based on virology and epidemiology advice to ensure optimal health outcomes without adequate consideration of the potential negative social and economic impacts (e.g. decline in face to face learning and education, worsening mental health, business closures, etc). Bringing social scientists to the table early would have ensured diverse perspectives were considered to inform more balanced policy measures. Direct health impacts, as well as the indirect mental health and wellbeing, education and economic impacts, could have been more carefully considered.

Communication expertise is also needed to mitigate the impacts of public health emergencies and positively impact public health. During COVID-19, effective risk communication by government and public health leaders was often lacking despite recognition of the pressing need to update public health advice frequently.[1] Ensuring the public understood the issues and how to respond to them was a key challenge of the pandemic. Government and public health leaders often struggled with poor transparency and capacity to acknowledge uncertainty. As the pandemic progressed, they did not adequately prepare the public to expect changing public health advice in response to changes in COVID-19 epidemiology. As a result, trust in government and our academic institutions was eroded.[1] This was best exemplified by government communication of Australian Technical Advisory Group on Immunisation (ATAGI) advice to the media and public. ATAGI's advice changed appropriately in response to new evidence on effectiveness of public health strategies to reduce COVID-19 transmission and on vaccine safety and effectiveness, often with understanding by the media and public as to why.

To achieve effective infectious disease control in Australia, an effective and equitable immunisation program will be central to the new CDC. The COVID-19 pandemic severely disrupted immunisation services, reduced vaccine confidence and increased the spread of misinformation in Australia and globally.[2] Most countries in the Asia Pacific Region have gaps in routine immunisation coverage and Australia has also seen a decline in overall support and coverage for childhood vaccination, particularly for Aboriginal children. Ongoing collection of social and behavioural science data will be needed to understand the drivers of vaccination and develop tailored responses to improve coverage.

As part of my Churchill Fellowship, I visited leading global public health organisations, including WHO headquarters (HQ) in Geneva, UNICEF HQ in New York, US CDC, and Yale Institute of Global Health to access world leading social and behavioural science and risk communication experts. The Australian Government has an opportunity to build on this global best practice and learn from the innovation, global collaboration and resources that were mobilised for vaccine development, implementation and communication during the pandemic.

What is needed now?

The interim Australian Centre for Disease Control (CDC) commenced in the Department of Health and Aged Care on 1 January 2024. Previously, Australia was the only OECD country without a Centre for Disease Control (CDC) or equivalent organisation.

Post COVID-19, WHO has identified the inclusion of SBS as crucial to pandemic preparedness and response. The Australian Government now has an opportunity to utilise SBS expertise and ensure strong interdisciplinary collaboration within public health and disease control decision-making processes across the CDC, and learn from Australian and international expertise.

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This includes extensive expertise within the Collaboration on Social Science in Immunisation (COSSI) in Australia, a group which provided important guidance to government during COVID-19 on effective communication and use of mandates to optimise vaccine uptake, as well as the US CDC and other similar international organisations.[3,4] SBS capacity exists among academic and private organisations across Australian states and territories. Government need to provide a clear channel for this expertise to reach decision-makers and for SBS data to be utilised alongside clinical and epidemiological data. This was highlighted in a briefing document for the Public Health Association of Australia (PHAA) by COSSI.[5]

Building expertise in effective mechanisms to collect and use SBS data and in risk communication in Australia will support adherence to public health advice and behaviour change for infection prevention. Understanding what drives public decision-making and behaviour amongst diverse and communities will enable policymakers to respond more effectively and improve the trust and acceptability of community-led strategies.[1]

Consideration of the issues

The initial focus of the interim Australian CDC will be preparing for public health emergencies, improving the national public health surveillance system and building capability in One Health and health security. SBS and communication expertise can be embedded across all these areas and draw on existing national capabilities to optimise our response to public health challenges.

Five core objectives of the CDC have been identified including to:

- Increase independence and strengthen evidence-based and transparent decision-making to maintain trust;
- Improve national coordination of effort and efficiencies by building stronger partnerships, including across Commonwealth agencies and between the Commonwealth and state and territory governments;
- Support national action through enhanced national capabilities, underpinned by the distinct and complementary roles and responsibilities of the Commonwealth, state, and territory governments;
- Enhance international connections;
- Increase and productively use resources to support preparedness and response across all Commonwealth, state, and territory governments, including nationally.

The first objective relies on utilising leading SBS science and communication expertise within Australia. Planning needs to define the core skill sets required and ensure the best model to embed diverse expertise within multi-dimensional teams that incorporate epidemiology, infectious diseases, communication and the breadth of social science, including behavioural economics.

Effective public communication expertise needs to be underpinned by the cardinal principles of risk communication,[6] with trusted spokespeople engaged and messaging that educates and resonates with target audiences, taking health literacy into account. Greater transparency from government officials is needed, with public health professionals and health authorities often the preferred voices to communicate about health issues rather than politicians.[7]

A key thematic priority of the new CDC is immunisation and preventative health, underpinned by cross cutting functions such as communication, health equity, impacted communities, data and surveillance and

health promotion. Systematic collection, synthesis and use of SBS data will be needed to close immunisation coverage gaps across the lifespan and ensure equitable access to vaccines. The CDC will build capacity and strengthen partnerships, to inform immunisation policy and planning to reach target populations. Effective communication will ensure public trust in vaccines is built and sustained. Trust needs to be built through partnerships with strong community engagement and a range of communication channels and platforms, with information tailored to specific groups to reach a diverse range of communities.[8] Misinformation should be addressed and communication coordinated with consistent messaging and minimal ambiguity, prioritising equity.[9]

COSSI have instigated a project to inform inclusion of social science in the structure of the CDC, with data triangulated across three main areas: a scoping review of global best practice, a desk review of grey literature pertaining to other OECD Countries' CDCs or similar organisations and key informant interviews to understand their CDC structure and function and how social science is used for decision-making in their countries. These data have informed country cases examples[10] which will help to inform the proposed structure and ensure the Australian CDC aligns with global best practice. The key informant interviews provide perspectives from international academic and government professionals involved in pandemic public health responses, using linkages with the US CDC from my Churchill Fellowship. Three main organisational types were identified from this work including: (i) embedded where social science data was generated, analysed and translated within the organisation (e.g. USA); (ii) hub and spoke where social science data is generated by external groups and assesses and presented to decision-makers centrally (e.g. Denmark, Ireland) and (iii) hybrid where elements of both models existed (e.g. Netherlands, Finland). Many of these processes have only been formalised within government structures or legislation post COVID.

Discussions I held with the US CDC as part of my Churchill Fellowship revealed that federal agencies should coordinate to integrate SBS and other program data and that the collection, analysis and use of SBS data requires designated funding, separated from politics. Additionally, the US CDC experience found that multi-dimensional teams, comprising behavioural experts with varying expertise (such as anthropologists, social psychologists, behavioural economists), health promotion experts, ethicists, lawyers, epidemiologists, and data experts, are essential. They advised that social science expertise should be present on every committee across the CDC coupled with a clear mechanism for the synthesis and translation of social science data for government and policy makers. Social scientists should provide technical and program implementation advice through regular policy briefs, to rapidly inform changes in practice.

Drawing together the outputs of my Churchill Fellowship and the COSSI project, we can see that in the US, an embedded model is utilised where social science data is generated internally and then integrated into different departments and committees. Diverse expertise, including communication expertise and behavioural epidemiology is drawn upon, to develop and translate advice for decision-makers and the public. Alternatively, the Netherlands (**Figure 1**)[10] uses a hybrid model where social science data is collected externally by commercial and academic centres and universities and provided centrally to be assessed alongside internally collected data, to be collated and synthesised for presentation to government and policy makers. After COVID a behavioural science unit was established within the government's public health institute to drive the research agenda for government, provide recommendations based on internal and external data and advise government on areas with missing data.

Figure 1: The Netherlands model.

Image: courtesy of E Campbell and COSSI CDC working group, unpublished data, 2024.[10]

This model would work well in the Australian context, drawing on regional, decentralised nodes of expertise in each state and territory in Australia to feed into a central behavioural science unit that drives its own research agenda and collects its own data. This would ensure greater responsiveness to local issues, without diluting the influence on policy and programs. To protect social science advice from political pressure and enable optimal influence on policy, the behavioural science unit could also report to an ATAGI subcommittee or other advisory committee, separate to the central communications unit in CDC.

The nodes of academic, public and private expertise in each state would collect and synthesise their own data, focusing on priority areas. This data would be fed into the data team to co-ordinate data collection with the nodes. The core multidisciplinary central social and behavioural science unit would be responsible for synthesis and translation of data into recommendations to be provided to the decision-making team and policy makers to be actioned. The core SBS unit would also enable surge capacity for crisis responses if needed. Expertise in social science, communication and policymaking expertise would also be spread across other committees and areas within the CDC. Other groups such as Academy of Social Sciences may also advise for broader public health communication and implementation issues.

Stakeholder consultation

As governments and policymakers prepare for future infectious disease threats and pandemics, mechanisms to collect SBS data with community consultation and ensure it is made publicly available are a priority. Broad consultation with key stakeholders in Australia has already occurred including:

- the broader community, healthcare providers and groups central to the delivery of vaccines, who are calling for effective and transparent communication about the risks and benefits of vaccines, accounting for health literacy and equity
- academic research groups with expertise in social science and the COSSI network of researchers, healthcare providers, policy and practice professionals and consumer representatives, who are seeking to be accessed as nodes of expertise within the CDC to optimise risk communication and work collaboratively to improve vaccine uptake. These groups provide much needed expertise in political science, behavioural economics

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- the media, who are central to clear communication with the public from CDC officials
- representatives of priority populations such as Federation of Ethnic Communities Councils of Australia, The National Aboriginal Community Controlled Health Organisation (NACCHO), and disability organisations, who are seeking effective policies to promote vaccine equity.

Discussions have occurred with Dr Paul Kelly, Chief Medical Officer for the Australian Government, and Jacob Madden, Assistant Secretary of the CDC Establishment Branch, and his team, with strong support. Further consultation with state and Commonwealth government immunisation committees, the Health Minster (the Hon Mark Butler MP) and other key stakeholders, including NACCHO and ATAGI, is now needed.

As a research leader in vaccine demand and uptake, and previous Chair and current member of COSSI, I will continue to work closely with both leading academic institutions in Australia and state and Commonwealth governments to advocate for the incorporation of SBS expertise into public health decision-making within the CDC.

Policy recommendations

During this interim development stage of the CDC, we need an evidence-based policy to ensure Social and Behavioural Science (SBS) data and effective risk communication is prioritised alongside other cross-cutting functions of the CDC. COSSI and other social science organisations need a seat at the table to provide input into the formation of the model, especially to effectively address barriers to ensure investment in cost-effective strategies to increase vaccine uptake.

To ensure the Australian CDC sits on the global stage and incorporates international best-practice, it is recommended that social and behavioural science (SBS) is a core pillar across CDC operations. Key elements of the policy should include:

- A clear strategy to embed SBS expertise within the CDC, with social scientists working alongside government, health, and academia to create a clear conduit for data to reach policymakers
- Establishment of a hybrid model within the CDC that incorporates provision of data from regional nodes of expertise in each state and territory to a central SBS Group responsible for synthesis and translation of data into recommendations for the decision-making team and policy makers. The central SBS Group would also co-ordinate surge capacity
- For immunisation, COSSI could act as a key advisor on how this could be done efficiently and work to assist the CDC in establishing a national network of immunisation social science nodes of expertise in each state and territory
- Ensure SBS is represented in all relevant committees across the CDC and that this expertise is integrated within all public health decision-making
- Ensure the central SBS group is sufficiently resourced with designated funding to retain expertise in infectious disease social science, provide optimal and timely provision of data and advice across the CDC, and deploy tools such as attitudinal surveys and qualitative studies
- Ensure SBS evidence is routinely used to understand drivers of vaccination for pandemic, new and routine vaccines and develop cost-effective strategies to increase vaccine uptake

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