

MANAGING UNCERTAINTIES AT PERSONAL AND POLICY LEVEL IN PANDEMIC SITUATION: THE NEEDED GUIDING PRINCIPLES

MD Abu Bashar¹, C.P.Mishra²

^{1,2} Department of Community Medicine, Institute of Medical Sciences, BHU, Varanasi, India

Article Info: Received 27 November 2020; Accepted 02 January 2021

DOI: <https://doi.org/10.32553/ijmbs.v5i1.1567>

Corresponding author: MD Abu Bashar

Conflict of interest: No conflict of interest.

Abstract

The complexity of science and policymaking in the background of uncertainty has been brought into shrill attention by the Covid-19 pandemic. Currently, the evidence base for effectiveness of interventions, either preventive or therapeutic, remains patchy and limited with respect to the Pandemic. In these conditions, we all may need to make decisions based on “balance of probabilities” rather than “evidence beyond reasonable doubt”, and consider how it fit together with existing interpretations, values, and priorities.

Keywords: Science; Policy; COVID-19; Pandemic; Evidence

Introduction

Science is most often represented as a methodical, painstaking quest for fact, and good policymaking as the translation of those evidence-based realities into action for overall good of everyone. In pre-pandemic times i.e. before the current ongoing pandemic of COVID-19, these assumptions every now and then held true. But the complexity of science and policymaking in the background of uncertainty has been brought into shrill attention by the Covid-19 pandemic.¹

This disease was totally new and unknown to the whole mankind. Some recent research findings can possibly be given the status of facts, but overall, the evidence base for effectiveness of interventions, either preventive or therapeutic, remains patchy and limited. The extent to which research findings from other diseases (and even other coronaviruses) can be extrapolated to covid-19 is also challenged.

As each country’s covid-19 response moves from an acute national disaster to a chronic policy crisis, we all—clinicians, scientists, policymakers, and citizens—also need to shift on from envisioning that the uncertainties can be resolved. They may could never be.

This is for the reason that Covid-19 is a quite complex problem in a complex system.² Complex systems are, by definition, made up of multiple interacting machineries. Such systems have open boundaries, are unsolidified and difficult to outline, evolving dynamically (elements in the system feedback, positively or negatively, on other elements), unpredictable (a fixed input to the system does not have a fixed output) and self-organizing (the system responds adaptively to interventions). Complex systems can be properly understood only in their entirety; isolating a part of the system in order to “solve” it does not produce a

solution that works across the system for all time. Uncertainty, tension, and paradox are inherent; they must be acknowledged and accommodated rather than resolved.³

In circumstances like this, uncontested facts—things that are ascertainable, reproducible, transferable, and predictable—tend to be slim. Most of the decisions may be based on information that is faulty (imperfectly measured, with missing data), uncertain (contested, perhaps with low sensitivity or specificity), proximate (relating to something one stage removed from the real phenomenon of interest) or scant (only available for some aspects of the problem).⁴

Data that are trustworthy, certain, definitive, and plentiful can be presented as facts and evidence-based decisions can be stemmed from them. These are the data we hope for and search for; the science that will inform the ultimate exit strategy from this pandemic.⁵ But seeing the current situations, the current pandemic requires us to work with the kinds of imperfect data described above, so many different approaches are required.⁴

All of us making use of such data should be mindful of our own confirmatory biases, avoiding group-think and applying the same standards of scrutiny to findings that appear to support our prior beliefs or personal biases as to those which challenge them. In such conditions, we all may need to make decisions based on “balance of probabilities” rather than “evidence beyond reasonable doubt”, and consider how it fit together with existing interpretations, values, and priorities.⁶

Instead of seeking—or faking—certainty, we should be wide open and honest about the prevailing uncertainty, and should be transparent in the ways in which we acknowledge the limitations of the imperfect data we have no choice but to use. Teams should be urged to admit lack of knowledge, explore paradoxes, and reflect collectively.⁷ This would

increase the quality of decision-making by encouraging constructive scrutiny and make us more open towards revising our decisions once new data and evidence emerge.

Even when an evidence base seems settled up, different people will reach different conclusions based on the same evidence. When the evidence base is at best incipient, divergences will be greater. When epistemological conflicts remain unacknowledged and are suppressed, they can be devastating. But if surfaced and debated, competing explanations can help us productively to accept all options as faulty, and requiring negotiation between a range of actors in the complex system.⁸ If there is mutual respect for different opinion holders and space for negotiation, such conflicts can be directed into multifaceted solutions and adaptive actions.⁹

Conclusion

We may all face the same pandemic, but our knowledge, worldviews, and values may differ. Rather than demonizing others for their alternative interpretations, we should celebrate the different perspectives that those who engage rigorously with the science can bring to bear on the unavoidably inconsistent data we have to work with. In this context, purist pursuit of an illusory one-dimensional truth is doomed to fail. Instead, we must collaborate to achieve “practical inelegant solutions”.

Managing uncertainty in a pandemic situation: Golden rules to be followed

1. Most of the available data may be flawed or incomplete. Be honest and transparent about this.
2. For some questions, certainty could never be achieved. Consider carefully whether to wait for the definitive evidence or act on the available evidence which you have.
3. Make sense of complex situations by acknowledging the complexity, admitting lack of knowledge, exploring paradoxes, and reflecting collectively.
4. Different stakeholder groups interpret data differently. Deliberation among the various stakeholders should happen to generate multifaceted solutions.
5. Practical interventions, meticulously observed and compared in real-world settings, can generate valuable data to complement the findings of randomized controlled trials and other forms of evidence.

Declarations

Ethics approval and consent to participate Not Applicable

- *Consent for publication* Not Applicable

- *Availability of data and material* No data set generated for the paper
- *Competing interests* None declared
- *Funding* Nil
- *Authors' contributions* MAB conceived the idea for the paper, done the literature review, wrote the first draft and approved the draft for submission. Prof. CPM gave intellectual inputs for improving the paper. Both authors approved the final draft for submission.

References

1. Lancaster K, Rhodes T, Rosengarten M. Making evidence and policy in public health emergencies: lessons from COVID-19 for adaptive evidence-making and intervention. *Evidence & Policy: A Journal of Research, Debate and Practice*. 2020;16(3):477-490.
2. Hawe P, Shiell A, Riley T. Theorising interventions as events in systems. *American journal of community psychology*. 2009; 43(3-4):267-76.
3. Greenhalgh T, Papoutsi C. Studying complexity in health services research: desperately seeking an overdue paradigm shift. *BMC Med*. 2018;95.
4. Wolpert M, Rutter H. Using flawed, uncertain, proximate, and sparse (FUPS) data in the context of complexity: learning from the case of child mental health. *BMC Med*. 2020;16(1):82.
5. Farrar J. This virus isn't going away. 2020. The only way to beat it is to work together. London: Wellcome Trust. Accessed on 5th July 2020 from https://wellcome.ac.uk/news/virus-isnt-going-away-only-way-beat-it-work-together?utm_source=twitter&utm_medium=o-wellcome.
6. Fischer, A., Threlfall, A., Meah, S., et al. . The appraisal of public health interventions: an overview. *Journal of Public Health*. 2013;35(4):488-94.
7. Lanham HJ, Leykum LK, Taylor BS, McCannon CJ, Lindberg C, Lester RT. How complexity science can inform scale-up and spread in health care: understanding the role of self-organization in variation across local contexts. *Soc Sci Med*. 2013;93:194-202.
8. Tsoukas H. Don't simplify, complexify: From disjunctive to conjunctive theorizing in organization and management studies. *Journal of management studies*. 2013;54(2):132-53.
9. Mouffe C. *Agonistics: Thinking the world politically*: Verso Books. 2013.