STG Resilience Papers

Data, Social Sciences, and Health Resilience

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Summary:

There has been little health resilience in the face of the COVID-19 pandemic. This is due in large part to the fact that decision makers have not tapped the relevant expertise of social scientists and have not acquired, or allowed social scientists to acquire, the data needed for clear and careful responses to the pandemic. There is a need for a more systematic involvement of social scientists in data acquisition and decision making.

1. Introduction

It would be an understatement to observe that Europe and the Americas exhibited little health resilience in the face of the COVID-19 pandemic that emerged in early 2020. It is natural to think of resilience in terms of preparation: number of intensive care units (ICUs), masks and ventilators stockpiled, and so forth. This, I argue, is very wrong.

I will illustrate my point with the issue of masks. I will start with the timeline of the pandemic. On 23 January 2020, the Chinese government ordered a strict lockdown in Wuhan province in response to a rapidly rising hospitalization and death rate from COVID-19.[1] Although Taiwan had already by 31 December 2019 initiated a quarantine of flights from Wuhan and activated their Central Epidemic Command Center on 20 January, we may take it that by 23 January the world at large was on notice about the danger of the disease. For example, the first cases in Italy was reported on 31 January at

[1] Wuhan lockdown: China takes extreme measures to stop virus spread, *Deutsche Welle*, 23 January 2020.

which time flights to and from China were suspended.[2] Now I want to look into the issue of masks. By mid-March it was widely, albeit unofficially, recognized that masks were an important element of controlling the pandemic. Volunteer efforts were underway, for example, in Czechia to stitch masks at home. However, only on 24 March do we find the European Commission issuing a contract for protective equipment including masks.

Step back. Despite the bad advice of the WHO,[3] an "abundance of caution" – a term health authorities frequently use to denote the underlying rationale of their actions and recommendations – would indicate that if there is uncertainty about how the disease is spread, mask wearing is a cheap and easy precaution. Ordinary people recognized this by mid-March. It is hard to see how experts could have been confused about this in early February, and a resilient response would have been to launch an effort to produce and acquire masks at that time and not let contracts deliver them nearly two months later. The lack of resilience lay not in the absence of stockpiles of masks, but in the poor decision making that prevented the more rapid acquisition of masks once the pandemic had started.

The mask experience illustrates also a systemic failure. The apparent reason why some public health authorities and experts issued bad advice was an effort at social engineering. They were afraid if they indicated that masks were useful there would be a run on masks and not enough would be available for health workers. We have subsequently seen vaccine pauses – also against risk assessment and scientific knowledge – undertaken in an effort at social engineering: to convince people that health agencies are credible.

Health agencies have no expertise in social engineering and no knowledge or data about how people respond to information and restrictions. Shooting in the dark, they have violated common sense and decades of research in the social sciences, which indicates that the best way to gain people's trust is not to mislead them. To this should be added, especially in the case of vaccines: data is available, polls and surveys have measured public confidence and how it reacted to the various actions of medical agencies.[4] A resilient response would not merely engage in social engineering but would make some

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2 Two coronavirus cases found in Italy, *ANSA*, 31 January 2020. It should be noted that this was entirely useless as it was easy enough to enter Italy from China by passing through other EU countries.

3 It took the WHO until 6 June 2020 to stop discouraging mask use.

4 See also Matthew Smith, Perceived safety drops substantially in France, Germany, Spain and Italy, YouGov, March 22, 2021; and Michael Bang Petersen, Marie Fly Lindholt, The Development in Vaccine Acceptance, The HOPE-Project, April 21, 2021.

effort to consult with experts (social scientists) to see if it was a good idea, and indeed, if it worked. (It did not.)

One way to say it is this: Over the decades enormous social investments were made in biomedicine. These paid off in a big way with the rapid development of extremely effective vaccines. Would it not make sense to make at least a small investment in understanding what is the best way to get people to avail themselves of these vaccines?

Social scientists have developed measures of state capacity, transparency, the rule of law, and good governance. These measures can be, and should be, adapted for assessing health agencies charged with response to health crises, and these measures are an important part of measuring health resiliency.

2. Health Resilience and Decision Making

Next, I want to emphasize that stockpiling is not necessarily a good measure of either preparedness or resilience. A case in point is that of the antiviral medication Tamiflu. "By 2009, a total of 95 governments had reportedly purchased or ordered Tamiflu to cover an estimated 350 million people." Yet, clinical trials showed that "Tamiflu shortened the duration of influenza symptoms by less than a day if treatment is begun in time (i.e. within 48 h), but that the evidence of reduction in hospitalizations and viral transmission was limited". Moreover, "investigative journalists had exposed that key WHO pandemic guidance were authored by experts who had received payment for other work from Roche, and that conflicts of interest had remained undisclosed by the WHO."[5]

There are two elements of resilience. One is physical preparedness, which consists of some difficult elements such as considerations of whether it makes sense to stockpile ventilators for years in case the next pandemic should affect the lungs. Other crucial elements of physical preparedness include the ICU capacity, which is important for any serious disease.

Second are the decision-making elements. It makes no difference how many vaccines are available or how effective they are if regulatory agencies refuse to allow them to be used. Moreover, medical advice is not helping if those providing it lack credibility. In the context of COVID-19 vaccines, medical regulatory agencies throughout the world have damaged their credibility by reversing their

[5] Pharmaceutical lobbying and pandemic stockpiling of Tamiflu: a qualitative study of arguments and tactics, Andreas Vilhelmsson, Shai Mulinari, *Journal of Public Health*, 40 (3), September 2018, 646–651.

assessments several times. Besides WHO first recommending against masks then in favor, the most dramatic instance occurred in Germany. Here it was initially determined that the AstraZeneca vaccine is safe only for those under 55 years of age, and later that it is safe only for those over 55 years. Moreover, these agencies typically give vague rationales for their actions such as "an abundance of caution" or "the benefits of the vaccine continue to outweigh the risks." They do not usually share on what grounds or data their risk assessment was based. Their credibility has suffered.

The context for all of this is one in which pandemics have not posed a common global threat for nearly a century. Earlier events in the late 20th and early 21st centuries were regionally limited, and were treated by many with a somewhat “technical” approach from the perspective of policy making. Policy making was based on consultation with medical researchers to determine effective procedures for dealing with the disease. The COVID-19 pandemic, by contrast, has occasioned economic and social harm of a new, and decidedly more global, dimension. There are many key issues about appropriate and effective responses for which medical researchers have little or no expertise. Hence, we see organizations set to make recommendations about drug safety making decisions for which they have little or no expertise. It is this history that helps explain why appropriate experts from non-medical fields were not consulted.

The troubled decision-making of medical agencies and government bureaucracies in the process of vaccination campaigns is important. Many medical safety agencies do not properly weigh the consequences of non-treatment (or do not disclose their methods of weighing). As indicated above, this has led to costly and deadly pauses in vaccination programs. Countries have engaged in strange policies, such as vaccinating lawyers and magistrates, some of which are young and low risk professionals, in several Italian regions, pushing back the elderly in the vaccination queue. The EU and Canada rather naively relied on contracts with a limited number of suppliers working hard to negotiate a favorable price and applying a less comprehensive approach than the United Kingdom or the United States who focused immediately on securing the necessary lines of production. The EU and Canada are now paying the price.

These examples show that measuring health resilience must take into account the quality of decision making, and that social scientists and data for social scientists are crucial both in assessing the quality of decision making and improving the quality of decision making.

3. The Social Science of Health Resilience

It is useful here to step through some key determinants of health resilience for which medical researchers have little or no expertise. An incomplete list includes:

- What sort of supply chain management and factory capacity is needed to provide an adequate number of vaccines in a timely way?
- Will people cheat on restrictions?
- Will people restrict themselves in the absence of restrictions?
- What is the best way to deal with political issues such as the gap between parents and teachers over the opening of schools?
- How can we best control protests that are in part responsible for spreading the disease?

Missing also are considerations of the role of individuals as opposed to government organizations. Cheating on restrictions versus self-restricting in the absence of rules is but one case in point. We can ask in this context whether business would be normal even in the absence of restrictions, or would people simply choose not to go to restaurants and movie theaters? Also crucial is whether restrictions ordered by medical experts are in fact legal: the example of the curfew in the Netherlands which was overruled by a court fleshed out looming conflicts about fundamental rights.

These are not theoretical issues, they are empirical issues, and they require experts in risk assessment, economists, political scientists, historians and lawyers to answer. So far none have been consulted in any useful or effective way, and their need for data to answer these questions has received no priority at all.

4. Access to Data is Key

The key to improving sound decision making for resilience is providing a useful data infrastructure. On the one hand we cannot measure health resilience without data: How well off are people? What are their occupations? Do health agencies have proper expertise? Are they credible? Do they collect the information needed for sound decision making?

On the other hand, by providing a data infrastructure not only is resilience better measured, resilience is also improved. This point is key: Data is needed to assess resilience, but data is also needed to provide resilience. Unfortunately, this has not been widely recognized by policy makers, and social

scientists face important data challenges and organizational challenges. Despite the lapse of time the situation now is not much better than early in the pandemic.

Again, an example is useful. A group of social scientists[6] designed and administered a survey with representative samples across six countries: China, South Korea, Japan, Italy, the United Kingdom and the four largest states in the United States. They asked about:

- work and living situations,
- income,
- behavior (such as social-distancing, handwashing and wearing a face mask),
- beliefs about the COVID-19 pandemic,
- exposure to the virus,
- socio-demographic characteristics,
- pre-pandemic health characteristics.

Now, such a survey would be particularly useful administered to a sample of those who are hospitalized with COVID-19. Needless to say, there is no support or help from the medical side in carrying this out. The same agencies that relied on one-sided advice and data and ended up making a number of poor decision refused for a year in the face of a pandemic to allow the acquisition of new and diversified data that would feed better decision making.

5. A Pandemic Data Portal

In this context, the European University Institute is working on a Social Sciences and Humanities Pandemic Data Portal. This would provide a credible platform to both provide and archive data, but also to provide the social sciences with a forum to represent the views of experts on decision making and socioeconomic issues and to give input into local and global policy making – in short, to provide greater health resilience.

The portal is intended to draw data from researchers and interact with researchers and data providers. As a collaborative network, it will provide the academic community with a virtual forum to share results, apply scrutiny and peer review, and find opportunities to conduct joint research across

[6] Socio-demographic factors associated with self-protecting behavior during the COVID-19 pandemic,Nicholas W Papageorge, Matthew V Zahn, Michèle Belot, Eline Van den Broek-Altenburg, Syngjoo Choi, Julian C Jamison, Egon Tripodi, *Journal of Population Economics* 34, April 2021, 691-738.

institutions, countries, and fields of knowledge. It will also help policymakers, journalists and the public who wish to explore social sciences and humanities initiatives and scientific outputs related to COVID-19 and pandemics. It can play a significant role in developing a health resilience index.

6. Conclusion

The response to the pandemic has been far from resilient. In large part this is due to poor decision making and lack of proper data. For a number of reasons social scientists who are most able to remedy this lack have been excluded from the process. This needs to stop.

The bottom line is that an initiative to involve social scientists more systematically is complementary with developing broadscale resilience measurements, such as a Health Resilience Index. A network of social scientists is needed to provide the data for computing resilience indices. By providing the data needed to improve decision making, health resilience will in fact be improved.