

## Covid-19: Déjà vu, All over again

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### Abstract

Since the beginning of the current pandemic both academic and public commentators have described the expansion of Covid-19, and its effects, as exceptional and indeed unprecedented. None could therefore be blamed for the overcrowded hospitals, lack of planning and preparation that have resulted. But there is in fact little new in this pandemic, neither its expansive effects or the struggle for containment while developing vaccines. It's a history seen time and again. We just forget, each time, what we experience and the lessons should have resulted.

**Keywords:** Covid-19, Epidemiology, Influenza, Poliomyelitis, Public Health.

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We've been here before: Hospitals overfull, competing vaccines and multiple viral strains, public closures and public protests. The science has advanced but the realities of pandemic management have not. It's just that ... we forget.

In 1947 New York City's public health officials vaccinated an estimated 6 million persons against smallpox vaccine in one month<sup>[1]</sup>. While the numbers are difficult to verify today, what is clear is it was an extraordinary effort based on protocols then widely known if not always employed. A decade earlier a less successful vaccination campaign in New York City was part of a national vaccination program<sup>[2]</sup>. In the 1950s two polio vaccines, an injected vaccine developed by Jonas Salk and later an oral vaccine by James Sabin, were rapidly distributed to school children nationwide in many countries, including Canada and the United States<sup>[3]</sup>.

Like today, issues of efficacy and safety of the competing vaccines

were a matter of urgent concern. Hospitals overflowed with young patients whose symptoms included limb paralysis and respiratory distress<sup>[4]</sup>. From Copenhagen to Hong Kong, gymnasiums were converted to makeshift wards in which dental, medical, and nursing students hand-ventilated patients until the crisis was over or cumbersome breathing machines, the so-called "iron lungs," could be made manufactured and distributed<sup>[5]</sup>. Their development was another example of a new technology urgently needed and rapidly developed on what was thought of as war-time urgency.

There were at that time examples of extraordinary public efforts to increase hospital capacities during the pandemic. Most famous in the US, perhaps, was the rapid, 1944 construction of a polio-dedicated hospital in Hickory, NC<sup>[6]</sup>. It was built mostly by volunteers and with publicly donated materials in the midst of a particularly virulent outbreak that existing hospitals could not handle.

Today we take for granted the triumph of science is common that is the annual influenza vaccine. Not only was it difficult to develop but, then as now, it was difficult to convince many in the public of its safety and its efficacy. And again, like today, the problem of vaccine development—for influenza and for polio—was complicated by multiple strains of those viruses existing simultaneously. Viruses replicate and any good vaccine must be capable of handling multiple strains.

The silence of city streets once filled with peoples visiting shops now shuttered is a common theme of Covid-19 journalists. The absence of activity is a recurring theme in writings on past pandemics. In Daniel Defoe's *A Journal of the Plague Year* of 1665 he described a London almost destitute of people. Quarantine restrictions were everywhere and those not sick and dying— isolated in homes marked with a cross—were cloistered in their homes<sup>[7]</sup>. The rich fled, of course, carrying the plague with them as they traveled to country sites.

And in every pandemic there has been the image of bodies piling up in hospital morgues and mortuary homes. In the plague centuries from 1300 to 1700 there were no refrigerated trucks to warehouse the fallen, of course. Cremation was not in vogue and grave diggers could not work fast enough to bury the dead<sup>[8]</sup>. Special burial grounds were created in London and elsewhere when local cemeteries could not handle the number of deaths.

There is nothing new in the cavils of naysayers sceptical of lockdowns, quarantines and disease severity. In the past many argued, as have some today, which in a pandemic the most important thing is to protect the economy, not the people themselves. In 1831, for example, *Lancet* authors attacked the idea of a British quarantine to stop the importation of cholera from continental countries. Better a bit of cholera, they concluded, than an expensive reduction in national manufacturing and trade<sup>[9]</sup>. The quarantine orders were withdrawn and in the pandemic that followed—the first of seven major cholera epidemics—more than 50,000 Britons died.

The question, shorn of ambiguities, was whether the goal of government was the protection of the economy and its revenues or, at some reformers argued, the health and welfare of the people.

If it was the latter then attention had to be paid to the living conditions of the poor. As Christopher Hamlin tells it in his *Public Health and Social Justice in the Age of Chadwick*, reformers realized that the abysmal living conditions of the poor made them more vulnerable to infectious diseases<sup>[10]</sup>. Radical physicians and reformers insisted that if infectious diseases were to be tamed for the benefit of all then better living conditions for the most vulnerable must be a priority.

Today we hear the same. The difference is that digital data and mapping have allowed us to precisely picture the relationship between higher disease rates in poorer, often ethnic communities whose members work in marginal but necessary areas. What had been the anecdotal assertion of physicians in the 19th century has become a part of the dashboard maps of Covid-19 activity in many towns and cities<sup>[11]</sup>.

It is not as if we were not warned. After the 2002-2004 SARS (Severe Acute Respiratory Syndrome) epidemic local and national governments, as well as the World Health Organization developed plans to prepare for future pandemics. When it did not appear, those plans were shelved and the resources allocated to pandemic preparedness dispersed.

In California, for example, Governor Schwarzenegger funded

a supply depot with materials to be used in the event of another pandemic. His successor, Governor Brown, decided it was an unnecessary expense. SARS hit hardest in North America in Central Canada where developed strategies of care were, by the time of Covid-19, forgotten<sup>[12]</sup>.

Clinically, we are shocked whenever an influenza-like retrovirus affects not simply the respiratory system but a patient's neurology. It's to be expected, however. Hippocrates described an outbreak in 430 B.C. with symptoms that included respiratory distress and a range of other symptoms. Historians long assumed he conflated the flu with other diseases but it is more likely those secondary symptoms were a result of complications from the retrovirus. This was certainly true in the 1918-1918 pandemic whose patients reported a complex of symptoms not unlike those Hippocrates described and patients are experiencing today<sup>[13]</sup>. Among the most serious were the encephalitis lethargica patients whose treatment Oliver Sacks described in his book, *Awakenings*<sup>[14]</sup>.

We should not be surprised that COVID-19 has spawned new and competing strains of greater transmissibility causing a range of symptoms. It is, after all, what this kind of virus always does: mutate in a manner that assures greater penetration in a population with a range of respiratory and non-respiratory symptoms. Variant strains of poliomyelitis hampered attempts to create a vaccine in the past; and today, influenza is really a viral family with at least three major types.

And yet, pandemics always catch us unaware and unprepared. We like to think of history as a victory achieved, not as a continuing lesson for the future. Ignoring history allows officials to justify a lack of preparation and a failure to assure the most vulnerable in a society will be unprotected.

What we know to a certainty is that this pandemic will not be our last. The World Health Organization speaks of "Disease-X,"<sup>[15]</sup> a global pandemic, probably viral, that will have greater transmissibility and a higher mortality than Covid-19, the latest in a long line of microbial attacks. It won't be the last. Perhaps its lessons will finally be learned and programs previously demanded will be enacted to provide a better foundation for future pandemics and their address. That would be grand but is, I suspect, unlikely. History is a set of lessons forgotten only to be remembered when it is too late [1-15].

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