## Case Study of Swine Flu 1976

David Makram Bishai, MD, MPH, PhD

The University of Hong Kong School of Public Health

February 2, 2025

David Lewis started to come down with the local crud that was going around boot camp. Coughs, fevers, aching, and sore throats were reaching a crescendo at Fort Dix, New Jersey in February of 1976 [1]. The 19-year- old private went to the dispensary with flu symptoms [2]. He was ordered confined to his quarters. Young strong healthy men usually recover from flu. But that night his commanding officer ordered the whole platoon on a 50-mile night hike through the New Jersey snow. Whether out of bravado or browbeating, Private Lewis ended up hiking when he should have been in bed [1]. After 13 miles, Lewis collapsed and died on February 4. He would later test positive for a novel flu virus resembling the strain that set off the great 1918 flu pandemic—swine flu.

One week earlier, just by serendipity, Martin Goldfield, New Jersey’s chief epidemiologist had been chatting to Colonel Joseph Bartley, Fort Dix’s health officer, when they met at a county medical society meeting on January 27. The Army doc was complaining about the large number of soldiers complaining of sore throats and runny noses. Goldfield bet Bartley that there was a flu pandemic and offered to culture some samples. Bartley sent 8 throat washings on January 29 and 11 more on the 30th [1]. Nineteen specimens were in the state public health lab by January 30. The state public health department, the Army, and the CDC met all their marks in responding with speed to protect the nation. As shown in the timeline, government epidemiologists rapidly proved beyond doubt that the virus was swine flu and that it was spreading from human to human. Back in the 1970s vaccines for flu took six months to produce them and test for efficacy and safety. If there was to be enough vaccine to protect Americans from a pandemic the doctors felt they had to talk to vaccine manufacturers right away. In addition, they had to get federal funds lined up to prepare for vaccine production and distribution.



Figure 12 Timeline of 1976 Swine Flu

The CDC chief at the time, David Sencer was a seasoned public health professional with an MPH degree from Harvard. He had led the CDC since 1966. Whether or not America was prepared for a massive pandemic was riding on him [3]. This was happening in late 1970s America under President Gerald Ford. Recent memories of the Vietnam war, Watergate, and the pardoning of Richard Nixon had eroded citizen’s levels of trust in Presidents, in President Ford, and in universities. But in early 1976 the CDC was widely respected and trusted. Sencer used this clout to do his job. He wrote a memo for the cabinet secretary of Health Education and Welfare (HEW) that started with the facts about the outbreak and the potential risk of the deaths of hundreds of thousands. It added a key assumption:

“The situation is one of “go or no go”. If extraordinary measures are to be undertaken there is barely enough time to assure adequate vaccine production and to mobilize the nation’s health delivery system. Any extensive immunization program would have to be in full scale operation by the beginning of September and should not last beyond the end of November 19 six. A decision must be made now.” [1]

 Team “public health” raised the stakes by cc’ing the memo to many members of the government. As the memo circulated around HEW and then to President Ford, its very presence pre-empted questioning. If the scientists were right, their course of action could not be second-guessed. Even so much as getting a second opinion bore the risk that someone might see that as obstruction and leak the memo. As one White House staffer put it, “That memo’s a gun to our head.” [1].

 CDC officials could have de-coupled the make vaccine decision from the give vaccine decision and scheduled on the calendar future dates when there actually had to be a go-no go decision on actually committing to a plan to recommend that the vaccine should be administered [4]. Sencer could have said to the American people, “In an abundance of caution we are stock-piling 200 million doses, enough for everyone, and we will monitor the situation. If outbreaks start up anywhere in the fall we will be ready to swing into action.” When the idea of just storing the vaccines was raised to CDC planners in 1976 it was shot down. As one adviser put it, "it was better to store the vaccine in people than in warehouses" [5]. That was the moment when team public health tipped its hand about their approach to protecting the people from swine flu. They had uncertainty about the size of the risk of swine flu, but rather than share uncertainty, their plan was to steam ahead and say “Just take this shot.” Being up front about uncertainty and sharing it actually builds trust much more than a stonewall position of “Trust me, I am a scientist.”

 Maybe there is a parallel universe where David Sencer is a huge hero for saving millions of lives with his March 13 memo. The difference between that universe and the one we now share might come down to a few base-pairs in the RNA of the 1976 flu virus. In the real world, the 1976 strain of swine flu was a dud. Epidemiologists looking back over the Fort Dix epidemic found that it only had an R0 of 1.2 in the setting of a military platoon with men living in close quarters in a barracks[[1]](#footnote-1) [7]. In that setting, the time from getting the virus to being able to spread it was as short as 1.9 days [7]. Because the platoons only had 50 men each, the outbreaks burned out. The soldiers did not have enough contact with the civilian population and ultimately only 200 men got sick and only one died. This 1976 virus, called A/New Jersey/76 did not transmit well in ordinary populations and never spread outside Fort Dix. It had a case fatality of 0.5 per 100 among young healthy men, which does make it as fearsome as COVID-19. In retrospect the 1976 strain’s ability to generate an outbreak depended on there being young men in close quarters in a military barracks [7]. But when Sencer and CDC leadership had to make difficult decisions, none of this was yet known.

 In the parallel universe where Sencer is a global hero, the A/New Jersey/76 would have caused ongoing outbreaks elsewhere in the country for the remainder of 1976. In the parallel universe, skillful media appearances would have disclosed all of the knowns and unknowns about the risks and the science of careful vaccine development. The strain would have returned ferociously in the fall and there would have been widespread urgency to vaccinate a grateful public.

 But none of that happened. A/ New Jersey/76 never recurred after February. The scientists’ assumption that all swine flu strains are equally dangerous was not defensible given scientific knowledge at the time. The critical mistake in the memo quoted above was that making 200 million doses of swine flu vaccine and actually vaccinating people with it were linked “go, no go” decisions. Nobody in the CDC vaccine development program questioned the mysterious disappearance of the epidemic enough to put a hold on the decision to use all of the newly developed vaccine. Nobody said, let’s wait and see if swine flu outbreaks come back.

 Because of that key unjustifiable assumption, when swine flu did not ever come back there was very loud grumbling that got much louder after the vaccine was found to have side effects. In late November a doctor in Minnesota diagnosed a form of paralysis called Guillain-Barré syndrome in a recently vaccinated patient. It turned out that Guillain-Barré was 11 times more common with vaccination than without—even though the risk of getting flu was as low as 1/105,000 people and the risk of death was 1 for every 2 million people. By December, 1976 that small risk of Guillain-Barré outweighed the basically non-existent benefit of preventing a swine-flu because swine-flu had disappeared.

 It is not fair to blame Sencer and the 1976 public health leaders for taking steps to prevent what could have been an immense pandemic. The world was lucky that year and from the perspective of March of 1976 it was absolutely correct to begin to produce and have on hand enough vaccine for the entire country. Indeed, one should actually be critical that the US did not do more to help other countries around the globe also prepare vaccine.

The mistakes of 1976 lay in insisting that no matter what the virus did, everybody had to get a swine flu shot. Public health stuck with that line even though they were stumped by the mysterious disappearance of the virus after its outbreak at Fort Dix. The lens of hindsight shows all the signs of single-minded missionary zeal to vaccinate the entire country come hell or high water. A Gallup Poll in August of 1976 showed the CDC that 93% of Americans were aware of swine flu, but only 53% intended to be vaccinated. That is exactly the sort of frustrating data that would make the priesthood of public health double-down with preachiness. They were modern-day Noah’s faithfully warning about a coming flood and asking people to board an ark. Just like in the Bible story, doubters appeared who questioned that such a flood could ever happen. And just like Noah, they saw no storm clouds, but could not stop preaching. To publicly doubt that swine flu was coming to destroy the country might only lower the number of lives they could save. As the vaccinating started there was no let up and might never have been if not for the Guillain-Barré cases associated with the vaccine.

The CDC was widely criticized after 1976 and the words “swine flu” would forever be paired with the word “fiasco”. Too many people focus on swine flu as a simple case of “overreach” where the public health crowd went power hungry and wanted to bend society to its will for society’s own good. Another wrong lesson would be to second guess the need to decide and act in the face of incomplete data. In public health, decision-makers need to do the best they can with the data they had. There had been a swine flu outbreak in Fort Dix, there was no telling if it would return to be as bad as 1918, but it could have been.

The “swine flu” story is often used in public health as an object lesson in how to stay out of trouble [8]. The traditional moral of the 1976 story is that for public health professionals, danger lies in politics so it is safer to stick to science [5]. In this vein, David Sencer should have stuck to verifiable facts like “The genes in a virus seen at Fort Dix resemble the 1918 strain”. Then after announcing the facts, a safe approach would be to take a seat on the sidelines. Today’s public health ranks are full of safe players who want to stay in the science lane and leave politics to politicians. So the 1976 lesson is often said to be that risk assessment is for scientists and risk management is for politicians [5].

That simple approach denies the reality of uncertainties around facts and what to do about them. Some uncertainties are biological, like whether an outbreak will recur. Many uncertainties are social and political related to whether people will rally to the cause and adhere to the plan. In this telling of the story, a science-based public health advisor is overreaching if they offer advice on what to do, especially if they load up a memo with strong language like “ mass-death unless …”. The public health ethics of staying on the sidelines is unclear. There was too much fear that telling President Ford what the CDC does not know would have led the president away from maximal risk reduction. There was too much fear that truthfully saying, “We actually don’t know if swine flu of 1978 will really be as bad as 1918” would lower vaccine uptake. The public health scientist, aware of risks to large numbers of people, can be drawn to inject themselves into the politics. Indeed, this courageous willingness to engage can and does save lives and does not always lead to a fiasco. Staying on the sidelines could mean watching politicians actually choose actions that lead to higher risk. In that case, the choice of the public health professional to stick to just the science discredits them among activist onlookers who can accuse that sticking to just the science, prioritizes one’s own professional safety above the need to protect the public.

There is a middle ground that can only come if the distinction between a problem’s facts and a problem’s values and uncertainties is recognized. Spending the time to tell the difference allows for clearly announcing facts and doing the hard work of explaining uncertainty to decision-makers and to a public that deserves to be treated like adults.

 The enduring lesson of swine flu needs to be about building a public health workforce that is skilled in not just science, but in the special skill of recognizing the uncertainties about facts and the uncertainties about social reactions to facts. The practical skills in this area and how to spread their mastery have been neglected as a topic for students and teachers of public health. It is so different in medical school and nursing school where there are years of mentored training in how to engage in empathic listening and how to communicate the nature of illness and the uncertainty about the best treatments.

The public health management of swine flu in 1976 exposed public health arrogance and condescension. What went wrong was the shrillness of saying “We know best. Take this vaccine.” In the end, there was uncertainty about the advice and distrust that the public and the politicians were equipped to make a choice that was appropriately risk averse under uncertainty. But how risk averse to be is a value judgement that people need to choose—there is no scientific fact dictate how much risk to take and what measures to take to control risk after one is fully informed. Not leveling with people is the essence of condescension. Not publicly sharing that there are many things unknown about whether a policy will work is a form of political manipulation and is bound to build mistrust. On the other hand, in politics, overselling a policy is part of how the game is played. A party or a politician can choose to take those risks. When the CDC oversells a policy, the stakes are much higher because they put their reputation on the line. In retrospect, the threat of the swine flu pandemic of 1976 was not worth risking CDC’s reputation as a sober voice of risk assessment.

The desire to oversell confidence in a recommended course of medical treatment or public health policy might feel like love and compassion, but it can also be seen as coming from a darker place of paternalistic disrespect and disregard. How can there be compassion for a person or people unless it is accompanied by a respect for their ability to learn and choose? True compassion means that our duty to others ends when we have fully informed them of all the facts they must know. If facts are uncertain, they must know that too. Overselling a treatment plan, by not saying how uncertain it might be, undermines the humanity of others. At the core of elitism is a disrespect of the humanity of non-elites. Paolo Freire writes: “Any situation in which “A” objectively exploits “B” or hinders his and her pursuit of self affirmation as a responsible person is one of oppression[[2]](#footnote-2).” [9]. There is a pathway out of the elitism that is at the heart of public health’s trust problem. The secret lies in a willingness to be in true solidarity-- to form a “we”-- with people at risk. This willingness is vibrant in the public health profession, but it clashes with the allure of forces that diminutize, stigmatize, and “other” the people served by public health.

**CITATIONS**

1. Neustadt, R.E. and H.V. Fineberg, *The Swine Flu Affair: Decision-Making on a Slippery Disease*. 1978, Washington, DC: National Academies Press.

2. De Justo, P., *The 'Great' Swine Flu Epidemic of 1976.* Salon, 2009.

3. Sencer, D.J. and J.D. Millar, *Reflections on the 1976 swine flu vaccination program.* Emerging Infectious Diseases, 2006. **12**(1): p. 29.

4. Boffey, P.M., *Anatomy of a decision: how the nation declared war on swine flu.* Science, 1976. **192**(4240): p. 636-641.

5. Dowdle, W.R., *The 1976 Experience.* The Journal of Infectious Diseases, 1997. **176**: p. S69-S72.

6. Sertsou, G., et al., *Key transmission parameters of an institutional outbreak during the 1918 influenza pandemic estimated by mathematical modelling.* Theoretical Biology and Medical Modelling, 2006. **3**(1): p. 38.

7. Lessler, J., et al., *Transmissibility of swine flu at Fort Dix, 1976.* Journal of the Royal Society Interface, 2007. **4**(15): p. 755-762.

8. Sharfstein, J.M., *The Public Health Crisis Survival Guide*. 2018, Oxford: Oxford University Press.

9. Freire, P., *Pedagogy of the Oppressed*. 1970, New York: Bloomsbury.

# Discussion Questions.

# (This section was produced with assistance from CHAT GPT4.0[[3]](#footnote-3) Extensive edits augmented the AI backbone.)

There are Eight Options. Each small group assigned to one of them.

1. **Communicating Risk and Uncertainty:**
	* What if you were in charge of a state campaign to promote the 1978 Swine Flu vaccine in October of that year. Design the text for a brochure to be handed out in public clinics informing patients about the risks and benefits of getting vaccinated.

Your brochure needs to combine your own fear that a major global pandemic as bad as 1918 could be coming, your knowledge that there haven’t been any cases for 8 months, the fact that the vaccine is new and has only been tested for safety in less than a few thousand people, and your respect for patients as rational decision-makers.

Brochure should have one or two graphical images, a large font main message, a smaller font secondary message and then between 100-200 words of informative text. The goal of the text must emphasize respect for patients making informed choices. If the goal of the text appears directed to achieve vaccine uptake regardless of patient’s appetite for uncertainty it will be marked down.

1. **Sharing Mental Models of Policy Impacts:**
	* Re write a 200 word script for a conversation between David Sencer (DS) of CDC and President Gerald Ford (POTUS) in the Oval Office in March 1978. The first few lines are provided for you.

|  |
| --- |
| DS: Mr. President, we have a problem.POTUS: What is it?… |

In your script DS will explain his mental model of what would happen if the US does or does not commit right now to develop and deploy a Swine Flu Vaccine

POTUS will attempt to see if the mental model conforms with his political understanding of what people do when CDC tells them to get a vaccine.

Your script should show both men achieving understanding and potential disagreement about their mental models. Show how this disagreement is respectful and productive.

1. **Respecting Policymakers' Risk Tolerance:**
	* Suppose a health officer prioritizes saving lives at all costs and a politician prioritizes minimizing disruption to the economy. A small highly lethal outbreak of Ebola has started in a neighboring province and shutting the border would save 1000 lives. This health officer has come to you for advice about what to do when serving under this politician who can terminate their post at will, with no advance notice.

Write 200 words of advice to them. Should they resign? Should they go public to get other powerful allies? Should they stick to just the science? What should this health officer do?

1. **Learning from the Past:**
	* How might the outcomes of the 1976 swine flu response have differed if public health officials had taken a more decoupled approach that separated the decision to develop a vaccine (April 1976) from a decision to promote uptake of the vaccine to as many eligible recipients as possible (September 1976)?

Write a 200 word policy memo promoting the decoupled policy and explaining what its pros and cons would be.

1. **Building Trust with the Public:**
	* What are some effective ways to build and maintain trust with the public when communicating uncertainty about potential health threats?

Suppose you are a CDC communications officer in 1978. You will write a 200 word guidance document to state health officials that offers them language on how to simultaneously build trust with the public and inform them in simple language that they will probably benefit from the vaccine. You will inform them that the risk posed by Swine Flu is not quantifiable because there have been 0 cases since Feb, but the outbreaks could recur. You will inform them that although side effects in the clinical trials were as mild as muscle aches and fever, there have not been post-marketing safety data that could inform about serious side effects that were less common than 1 per 10,000.

1. **Ethical Considerations in Public Health:**
	* How should public health officials balance the duty to protect public health with the need to respect individual autonomy and informed consent?

Write a 200 word debate between two ethicists. Name one Plato and the other one Aristotle. They disagree. Plato will argue that there is one true best choice in the setting of an infectious epidemic and that a public health officer should not rest until the maximum number of people have taken that choice. Aristotle will argue that a public health officer should respect individual judgements after they have received information about what is known and not known, even if the choices people make vary from what might be best for their health.

Your essay should end with them disagreeing, but having learned and modified their initial stance.

|  |
| --- |
| Plato: There is only one true path to virtue and everyone must pursue it without deterrenceAristotle: I disagree. People are different. What is best for you, may not be best for me.… to be continued. |

1. **Dealing with Public Skepticism:**
	* How should public health leaders address public skepticism and misinformation about vaccines and other health interventions?

Suppose you were a hospital chief in a city where there were rumors about Swine Flu vaccine side effects and you learned that some nurses and doctors were informing their patients about side effects based on these rumors. One of the rumours is that the vaccine causes Guillain Barre Syndrome. Another rumour is that the Swine Flu virus is not very contagious. Another rumour is that the vaccine causes dementia.

 Write a 200 word memo to the staff doctors about whether they are allowed to tell patients about side effects they had heard in these rumors and anecdotes. Your advice needs to balance your own uncertainty about whether the rumors are true and the need to maintain the reputation of the hospital as a science based institution.

1. **Preparing for Future Outbreaks:**
	* How can the lessons from the 1976 swine flu outbreak inform current and future public health preparedness and response strategies?

Write a 200 word essay distilling 3 important lessons for pandemic preparedness in the present era.

1. An R0­ of 1.2 means that for every 5 cases only 1 additional case would be created. In contrast the 1918 strain’s R­0 was 2.9 in the general population and each infected person infected 1.9 others [ 6]. [↑](#footnote-ref-1)
2. Freire is actually much harsher in the full passage which reads as follows: “Pedagogy which begins with the egoistic interests of the oppressors (an egoism cloaked in the false generosity of paternalism) and makes of the oppressed the objects of its humanitarianism, itself maintains and embodies oppression. It is an instrument of dehumanization. *Any situation in which “A” objectively exploits “B” or hinders his and her pursuit of self affirmation as a responsible person is one of oppression*. Such a situation in itself constitutes violence, even when sweetened by false generosity, because it interferes with the individuals ontological and historical vocation to be more fully human. With the establishment of a relationship of oppression, violence has already begun.” [Italics added]. [↑](#footnote-ref-2)
3. Prompt was: “Write 10 discussion questions about this case that help students of public health learn competencies. 1) How to communicate risk and uncertainty to the public regarding recommended policies and behaviors. 2) How public health leaders have to decide balance on the continuum between all science and no values vs. all values and no science. 3) How to share mental models of what policy impacts will be 4) How to be respectful when policy makers differ in how much or how little risk they feel comfortable with” [↑](#footnote-ref-3)