

Interview with Dr. Jeff Kwong

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Dr. Jeff Kwong

Dr. Jeff Kwong is an epidemiologist, a specialist in public health and preventive medicine, and a family physician. He is the Program Leader of the Populations and Public Health Program at ICES (a research institute that houses a large array of linkable health-related databases), a Scientist at Public Health Ontario, and a Professor at the University of Toronto. As a Clinician-Scientist, he practices family medicine one day per week and devotes the rest of his time to research and teaching at

the interface between primary care and public health. His research interests include infectious diseases epidemiologic research using large linkable databases, influenza vaccine and vaccination program evaluation, and assessing the health and economic burden of infectious diseases.

UTMJ: Can you tell our readers a bit more about your work and career in infectious disease and public health thus far?

JK: I'm trained as a public health physician and I'm a clinician scientist, and I do research on the epidemiology of respiratory viruses including influenza. I also work as a family physician 1 day per week at the Toronto Western Family Health Team. For my research, I work at ICES and also at Public Health Ontario. At ICES, we link many large health-related databases at the individual level to do epidemiologic research studies.

UTMJ: With COVID, what does your day-to-day look like?

JK: We're doing lots of analyses of laboratory COVID testing data, generating estimates like percent positivity at different levels of geography, providing these data to the Ministry of Health and local public health units to inform their decision making. I've also been involved in research studies looking at predictors of COVID testing and diagnosis, doing some media interviews to help with the pandemic response, and seeing patients in clinic.

UTMJ: Many countries, such as Canada and the US are experiencing a second or third wave of COVID. What are your thoughts on this in general and what do you think we could have done better to prevent this?

JK: There is a lot we could have done: greater adherence to public health measures (wearing masks, hand-washing, physical distancing), because all of these things definitely help prevent local transmission. I think we could have done more for travelers coming in, such as enforcing quarantine. Some countries have made it mandatory for travelers to quarantine in hotels for 14 days before going anywhere. That is something we could have done more of in Canada in my opinion. I think we could have been more aggressive in our testing, although I do appreciate that we were limited by laboratory capacity. More investments in public health for both laboratory testing and contact tracing probably would have been helpful as well. So, all of these are things we wish we could have done earlier, but now it's a lot harder that we're seeing so many cases. Other things we can still be doing are ensuring that everyone has paid sick leave, especially essential workers who often have no choice of staying home if they're sick—they have to go to work to provide income for their family. Or providing isolation centers for individuals who can't adequately isolate, such as a crowded family of 7-8 people in a 2-bedroom apartment. It's very hard to properly self-isolate under such circumstances, so providing isolation supports would be helpful. I think these are some of the things that could be done to try and mitigate the second wave.

UTMJ: Especially with the holidays coming up, do you think there's anything we can do regarding airline restrictions?

JK: They've been talking about requiring testing for people who are flying. I think that would be helpful, but not the only solution to the problem as you could still be incubating at the time you get tested. I've heard of some places where, when you arrive, you get tested and then go into quarantine and then get tested 5-7 days later and then you're released, so that could be one solution. In the Atlantic provinces, now you can't quarantine with anyone or if you do quarantine with somebody, then everyone in the entire household needs to go under quarantine for the entire period. I think we just need to take the lessons learned from these places and apply them everywhere else.

UTMJ: How has your practice changed during the pandemic? How do you counsel patients on topics like herd immunity and the role of vaccination?

JK: We're trying to do as much virtually as we possibly can, so I do lots of phone calls and video calls with patients. We only bring people in for essentials, such as vaccines or when we need to examine patients. We do standard counseling around minimizing social contacts and following physical distancing and masking recommendations. When people do come in, everyone is masked up, clinicians wear PPE (mask, face shield) and are washing hands frequently, and we wipe down surfaces after seeing each patient. So, it hasn't been a huge change. I think in a way it has accelerated the move towards virtual care, which is probably a good thing. It's generally not efficient for patients to take half a day off work, drive to the doctor, and then sit in the waiting room, all for a 10-minute appointment. A lot of people are actually much happier with virtual care because they can be at home and just wait for the doctor to call them. I think there is a lot of good that has come out of this in terms of healthcare delivery, at least in the out-patient setting.

UTMJ: What are your thoughts on "The Great Barrington Declaration", a statement written by public health experts from Harvard, Stanford, and Oxford urging government officials to lift lockdown measures and let the virus run its course to promote herd immunity?

JK: I don't think it's a good idea. There are a lot of vulnerable people and it's not possible to separate them entirely from everyone else. Bottom line is if we tried this, we'd see a lot of deaths as a result and we certainly do not want that. There's also a lot of uncertainty about how long immunity lasts for, so even for people who have been infected, we don't know how long until they can be re-infected. There hasn't been any country that has tried this and proven it will work, and I think for good reason. I don't think they'd want to suffer the number of deaths that would result if they proceeded with that route.

UTMJ: How can we address anti-vaccination especially now when the issue has seemed to have shifted away from vaccine safety to patient autonomy and civil liberties - is science losing the battle against the anti-vaccination movement?

JK: I would say no—there is a small but vocal minority who are truly anti-vaccine, but what we should pay more attention to is vaccine hesitancy. There are a lot of people who may have some hesitations about getting vaccines, but I think it's about understanding the risks and burden of the disease and the safety and effectiveness of the vaccine. When most people are presented with the facts on any disease and the accompanying vaccine, most choose to get vaccinated. In the context of COVID, I think mostly everyone is aware that COVID can cause serious illness and right now we don't know how safe and effective the

vaccines are. In the news of the past week or so though, a couple of candidate vaccines seem to be highly effective. Hopefully these and the other vaccines that complete the clinical trials are shown to be effective and safe. When people know a vaccine against a serious disease is safe and effective, I think vaccine hesitancy won't be a huge problem. I actually think vaccine supply will be a bigger problem – how many doses of vaccines will we have available as we try to roll out vaccination campaigns. So, I'm not as worried about vaccine hesitancy as I am about vaccine supply.

UTMJ: How can we provide equitable supply of the vaccine if some may require special storage facilities (such as extremely cold temperatures) that are not available in all areas?

JK: For storage, the Pfizer vaccine has to be kept at -70C and you'd need specialized freezers, but they can stay at standard fridge temperatures for 5 days. If you can ensure that you can get them into people's arms quickly, then that would be okay. There is the Moderna vaccine that can be stored at regular fridge temperatures for 30 days, so perhaps you have the Pfizer vaccines for urban centres where they may have those specialized freezers and then use the Moderna vaccines in rural settings where there is a longer time to transportation and they might not go through as many doses as urban centres.

UTMJ: How do we decide which vaccine is safe to use?

JK: The process is undertaken by Health Canada. They approve each vaccine and review effectiveness and safety data to decide which vaccines to approve.

UTMJ: How can we improve our communications to the general public, especially those without expert knowledge or who don't have a scientific background?

JK: I think this is where you have to get people specialized in communications to prepare materials to communicate the message effectively. There are some obvious things like translating the materials into as many languages as possible so people can understand what is being said, and then also making the messages accessible to people at a level they can understand and coming up with messages that they will react positively to. The latter aspects are easier said than done.

UTMJ: How do you navigate information that seems potentially contradicting? For example, early on in the pandemic, wearing masks was discouraged whereas now they are essentially seen as a necessity and have been mandated in many areas.

JK: I think that's a reflection of the evolution of our understanding of COVID and also the reality that initially we were facing a shortage of masks and other PPE, so we initially wanted to reserve them for healthcare workers. Now there is more supply and we can also use cloth masks. We know now that wearing masks both protects the wearer and is a form of source control as it prevents spread from someone who may be infected but is not aware they're infected. If we all wear them, we can reduce overall transmission, and if you do get exposed while wearing a mask, we think there is less viral inoculum, which may lead to a milder infection, so that's why we now encourage everyone to wear masks. I think we have to accept that sometimes we don't know and we have to make decisions based on the best evidence available at the time and that these recommendations can change as we get more knowledge. So, I don't think we should think of them as contradictory guidance, but more as an evolution of guidance as we gain more knowledge.

UTMJ: Pandemics build sudden interest and new plans for our health systems that seem to be ignored after the pandemic subsides. How can public and global health physicians and scientists take advantage of the window of opportunity provided by the COVID-19 pandemic?

JK: That's a really tough question. I was a PGY-1 during SARS in 2003. After the SARS pandemic, there was a lot of investment and they created Public Health Ontario and the Public Health Agency of Canada. Since the 2009 H1N1 pandemic, there has been slippage in ongoing investment in public health resources and capacity. It's hard because the politicians are looking at the next political cycle, so their horizon is much shorter, so they may say, "well, we can use this money to invest in public health and pandemic preparedness that may not happen during our time in office, or we can use this money in other areas that have a more immediate impact." That is why there is a natural tendency for public health resources to wax and wane in between pandemics. I think the lesson to be learned from it is to not allow that to happen and to maintain a higher level of preparedness because we don't know when the next one will be. We don't know what will happen in the future, but having preparedness is vital. I think we are seeing the consequences of not having adequate laboratory and public health capacity at this time with COVID.