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Update 31 - COVID-19 – From Office of the Medical Director 02 JUL2020 1100

To: All EMS Personnel in the EMS System for Metropolitan Oklahoma City & Tulsa

Key Content:

- **A View from “The True North” – The Toronto Star**
- **Crap-Tastic Investigations – The Toronto Star**
- **Think You Know How N95 Respirator Masks Work? – New Mind**
- **Educational Resource – The Osterholm Update – Episode 14**

Sometimes if you want a view of the reality in America and beyond, it's better found in responsible news organizations based outside the US. We all have our preferred news sources for day to day items, more than ever, many of those are web-based. I'm still a daily newspaper aficionado and often read The Toronto Star for its volume of American news content that is surprising to many. Given the severity of SARS in Toronto in 2003, it's a community filled with folks that have acute interest in this latest SARS, SARS-CoV-2. Update 31 includes summaries of a couple of articles (unfortunately only accessible to subscribers) that help us stay educated about this viral pandemic.

A View from “The True North” – The Toronto Star

This is an excellent article about first waves and possible second and other numerical “waves” of this viral pandemic with some history about relevant comparisons to the pandemic influenza of 1918-1919 and the SARS outbreak in 2003. I think this context can help us view the ups and downs and ups again of new cases we are seeing both in Oklahoma and the United States as a whole.

The highlight quote from this article is: “When fatigue sets in and people start relaxing, ‘it comes back, it’s as simple as that,’ expert says.”

That influenza pandemic of 1918 (which really involved waves over 1918-1919) crested and fell three times, starting in July, not a time we typically think about flu. It infected an astounding 500 million people worldwide, sadly killing somewhere between 20 – 50 million. That’s a wide margin but looking at the challenges we have today with data accuracy, imagine a century ago and the limitations on speed and confirmation of communications then.

This article points out how easily a communicable disease can re-ignite, so to speak. In Toronto, as the first wave of 1918 influenza was ending, they traced the start of their unexpected second wave to a single person, an unfortunate individual that remained infectious longer than the norm. The article goes on to point out the numerous countries worldwide today that are experiencing undesired second waves of COVID-19 after seeing their first waves recede through combined efforts of physical/social distancing, business closures, masks/facial coverings worn in public

and other measures. We are not alone in the US. (source: <https://www.thestar.com/news/gta/2020/06/25/will-canada-see-a-second-wave-of-covid-19-this-is-what-other-countries-are-seeing.html>)

Crap-Tastic Investigations – The Toronto Star

This one just has to be read (or at least its summary read) to be believed. Who knew the sewer had so much potential to protect us? This article starts out with this: “In Amsterdam, it appeared weeks before the first case was confirmed. In the northern Italian cities of Milan and Turin, it was already there in wastewater in December, well before patients started showing up sick in hospitals.” What is this “it” all about?

“It” is remnants of the SARS-CoV-2 in sewer water. Researchers at Ryerson University in Toronto are studying samples of sewer water in the Toronto area, looking for earlier warning signs of second waves, hot spots, and beyond. The Ryerson team is one of many worldwide looking for clues that we all unknowingly contribute in the wastewaters of our communities in which we work and live.

These researchers are looking for the “RNA signature” of SARS-CoV-2 fragments for good reason. In the asymptomatic or pre-symptomatic individual with COVID-19 – that by definition doesn’t know they have it yet – they are already shedding these viral fragments in feces. Studying samples of untreated sewage doesn’t replace other forms of public health investigations, but it adds another tool to detection and focusing efforts towards areas of impending outbreaks.

Looking at the level of these viral fragments can help to determine if a community’s infections are increasing, decreasing, or stabilizing in a different way than simply counting hospitalizations or deaths. This method of looking at community burden of disease could help inform more precise limitation of business activity or where to increase public nasopharyngeal swab testing sites.

There’s already interest in doing something similar in the US. This could have applicability to college campuses, which might be able to track outbreaks to a dormitory level or similar. Far from “CSI” TV fiction, this is real science in a way most of us wouldn’t have imagined. It’s good to see dedicated researchers considering all helpful options in data that help drive evidenced-based decisions for community health. (source: <https://www.thestar.com/news/gta/2020/06/25/how-what-we-flush-down-the-toilet-could-provide-early-warning-of-a-second-wave-of-covid-19.html>)

Think You Know How N95 Respirator Masks Work? – New Mind

How hard can this be? Basically, these masks are a screen door we wear on our face to keep undesirable things from entering our nose and mouth. Right? Interestingly, and fortunately, it’s a lot more sophisticated than that. Check out this brief video on N95 functionality. If you’re like me, you’ll have more confidence in your mask after watching this: <https://www.youtube.com/watch?v=nQmZou7TaVc&t=338s>

Educational Resource – The Osterholm Update – Episode 14

Dr. Osterholm’s latest podcast, episode 14 of The Osterholm Update, Viral Gravity, is posted on the CIDRAP website with release date 01 JUL. I believe this is his longest discussion about this viral pandemic yet, coming in at 66 minutes, which upfront gives you indication there is a lot to share from the CIDRAP team and its wise leader.

He makes a comment early in this episode about being at an inflection point: “Now’s the time for us to understand what’s we’re really up against. I don’t think we have to date.” Even as close as I listen to these weekly podcasts, I had to stop and rewind it just to make sure I heard that exactly as shared. It’s a sobering, though not surprising time.

We must move forward with facts and caution – for ourselves, for our families, for our patients, for each other, for our communities - more than ever. Estimates to date are 5-7% of the US population has been infected with SARS-CoV-2. The US population today is estimated at 329,885,130 (source: <https://www.census.gov/popclock/>) and continuously growing. That 5-7% translates to 16.5-23.1 million persons. Dr. Osterholm estimates without an effective vaccine,

before community immunity (aka “herd immunity” as soon say) can be achieved, it will require... 160 million persons having been infected with SARS-CoV-2.

Many of you have seen short news reports this week about growing concerns of a flu strain in China, first in swine, now showing transmission to humans, and what it could mean for a pandemic – an influenza pandemic – of its own. What if this occurred concurrent with the SARS-CoV-2 pandemic in the late Fall/Winter ahead? This podcast includes Dr. Osterholm’s first podcast comments on this. I am pleased to share with you, via a personal communication with Dr. Osterholm, that he has been appointed as the Chair of the World Health Organization Influenza Vaccine Research Task Force. No one has all the answers. There’s an old, and good, adage about: “No one cares what you know, until they know that you care.” I’m confident Dr. Osterholm cares about our health – yours and mine. I’m glad to see him leading up this team for the WHO. His comments here will certainly be followed by many, many more as we all learn about this latest H1N1 strain of flu. This podcast is a great place to start your learning about it.

Life is busy and time away from work can prove preciously rare. It’s the easier thing to do to auto-delete these Updates or scan their headlines and quickly move on to a cheerier email. Many of you may have looked at the length of The Osterholm Updates and understandably thought, “35 -45- 55 minutes? Pass.” I’m asking you to find the 66 minutes for this one – doesn’t have to be all at once – take it about 10 minutes at a time, for instance. The whole purpose of these Updates is to help you stay safe, to help you keep your families safe, to help you keep our patients safe. These 66 minutes of learning will help in those regards. Please listen and discuss with your colleagues to promote all of us understanding its content. You can access it at this link: <https://www.cidrap.umn.edu/covid-19/podcasts-webinars/episode-14> or The Osterholm Update is available on Spotify, Apple Podcasts, or Google Play.

There’s so much more in my helpful “inbox” of news sources to share, but as always, we’ve got to take this journey in mentally digestible bites. For those wondering, I truly wish the scientific-analyzed news was/is different. I wish I could say, “Hooray, a vaccine is found and will be available next week!” or “If we just wear masks, everything will be solved.” Neither of those is true. You’re a trained medical professional and you deserve and need facts that have been vetted by someone that cares about your mental and physical health. I’m honored to serve as the Chief Medical Officer and this is what a CMO does in times of challenge – providing the news you need you hear, even if unpleasant or inconvenient. The road ahead is not fully known. It most accurately and most safely will be paved with fact, not wishes or fiction. Thank you for everything you are thoughtfully doing for yourself and for others. As I approach Independence Day 2020 my ardent hope is that we can celebrate together our independence (or at least something much closer to it) from SARS-CoV-2 on Independence Day 2021.

Vigilance. Safety. Evidence-Based Service to Others.

Let’s be careful out there.

Dr. Goodloe