Update 22 - COVID-19 – From Office of the Medical Director 22 MAY2020 1400

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

Key Content:

- **Educational Resource – COVID-19: The CIDRAP Viewpoint – Part 3**
- **Educational Resource – The Osterholm Update – Episode 9**
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- **Challenges of COVID-19 Spread in a Short Video - CDC**

Happy EMS Week 2020. It's not the 2020 any of us anticipated this time last year. You continue to rise to new medical challenges and I am particularly grateful for your dedication and willingness to serve our patients in a time where definitive answers to COVID-19 are increasing in some aspects yet expectedly at present elusive (as in a vaccine or "cure") in other realms.

Educational Resource – COVID-19: The CIDRAP Viewpoint – Part 3

Dr. Michael Osterholm, Director of the Center for Infectious Disease Research and Policy at the University of Minnesota and his team of accomplished public health professionals continue to produce great work in helping us evidence-based navigate this viral pandemic.

Some of you have already had testing for COVID-19, either the nasopharyngeal swab to look for virus (active infection) or a blood test to look for presence of anti-SARS-CoV-2 antibodies (past exposure/infection). If not, within the next year, I predict nearly every single one of you will get tested. That makes our ongoing education about testing and what the results mean (or do not mean) incredibly important.

A key point that gets lost too easily in the refrain of "more testing, more testing, more testing" is the limitations of what any test can do in relation to the "prevalence" of a disease - in other words, how common the disease is in the community or population being tested. This is closely related to "pre-test probability" or "predictive value" of the test.

Let's use this example: Smallpox is for all intents and purposes eradicated from Planet Earth. Thank goodness. Yes, there are some samples under tight control in a very few reference laboratories, but only for the purpose of new study and therapies IF smallpox were to somehow resurface in the population spontaneously. So with that, if I told you I was highly concerned because I took a smallpox test this week and I had been told I was "active smallpox positive," you should be highly skeptical of the test result rather than running a safe distance away.

I have no symptoms of smallpox – fever, rash, malaise, myalgias, etc. AND here's the kicker: we just said smallpox is fundamentally eradicated from Planet Earth. You

might ask if I have recently traveled outside of Planet Earth to be incredibly thorough in your patient history taking, but you can reliably estimate my answer is I haven't even traveled outside some contiguous zip codes for over two months now.

In sum, because the prevalence is zero, my pre-test probability or predictive value of an accurate "positive" result in the example I just used is…well, pretty much zero!

Now, for consistency's sake, let's use the same smallpox example, but let's travel not Back to the Future but Back to the Past and put me in an area of widespread smallpox. Now I DO have textbook symptoms – fever, rash, malaise, myalgias. My history includes several family members I live with that have been diagnosed with smallpox in the last 2 weeks. What do you think happens to the same test's pre-test probability and predictive value? Exactly. Sky high. And rather than saying, "What in the heck are you talking about, Doc?" in the first example of my smallpox positive test result, now you'd say, "Duh! I didn't even need a test to tell me you have smallpox!" THAT's the importance of prevalence, pre-test probability, and predictive value. A test is more than just positive/negative; its result must be put in these perspectives to have real value in making treatment and public health decisions.

So, with that explained the best I know how, the link to the latest *COVID-19: The CIDRAP Viewpoint*, "Smart Testing for COVID-19 Virus and Antibodies" is here: https://www.cidrap.umn.edu/sites/default/files/public/downloads/cidrap-covid19-viewpoint-part3.pdf

Educational Resource – The Osterholm Update – Episode 9

Dr. Osterholm has his latest podcast, now in its ninth episode of The Osterholm Update – Smart Testing, posted on the CIDRAP website with release date 20 MAY.

You can access it at this link: https://www.cidrap.umn.edu/covid-19/podcasts-webinars/episode-9 or The Osterholm Update is available on Spotify, Apple Podcasts, or Google Play.

I encourage you to invest the 50 minutes in this latest compilation of knowledge and insight from Dr. Osterholm. There are insights about risks of activities outdoors, particularly useful as this is unquestionably the time of year when those become more common in our personal lives.

The Impact of "Social Distancing" Timing Estimated

Then there's this from *The New York Times*: https://www.nytimes.com/2020/05/20/us/coronavirus-distancing-deaths.html?campaign_id=9&emc=edit_nn_20200521&instance_id=18657&nl=the-morning&regi_id=124174734&segment_id=28666&te=1&user_id=dec09bd022377f1e560dd9bc6f6c521c

Depending on how you read it, you might detect a politicized statement or two, BUT forget those, just concentrate on the mathematical modeling. This is sobering. It helps us understand that what we and our fellow citizens have been doing in later March and throughout April really did have an impact. It also creates a stark possibility of what benefits could have been realized had we done so coast-to-coast earlier than we did. Invisible foes, as in viruses, can sure prove difficult in real-time strategy.

Also, check out the link within this report (didn't we just talk about the gems of understanding via links found within a report of interest in Update 21?) that is titled "Hidden Outbreaks Spread Through U.S. Cities Far Earlier Than Americans Knew, Estimates Say." As an attendee of a medical conference in New York City in early March, my highly scientific reaction to this was, "Yikes!" (okay, that's the printable clean version of my highly scientific reaction)

Challenges of COVID-19 Spread in a Short Video – CDC

If a picture can share 1,000 words, here's a few million "words" at https://www.youtube.com/watch?v=9pVy8sRC440, but don't worry, it's only a 2 minute 36 second video! You might want to rethink birthday parties after watching this…at least until 2021.

Finally, a note of remembrance and incredible gratitude to all members of our amazing U.S. Military, past and present. Though many Dr. G relatives have admirably served, I most often equate Memorial Day military thoughts to my Great Uncle William Grimes, U.S. Navy, World War II. His role on a destroyer in the Pacific fleet was "Head Baker/Assistant Gunner." Try that on for multi-tasking. God Bless Great Uncle Bill and all the souls that perished in preserving our freedoms. Freedom most certainly isn't free.

Vigilance. Safety. Evidence-Based Service to Others.

Let's be careful out there.

Dr. Goodloe