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MEMORANDUM

To: Everyone
From: Jeff Kepple MD, NorCal EMS Medical Director
Date: March 7, 2020
Subject: COVID-19 Update

Hello Everyone,

I hope you received and reviewed the [email sent](#) by NorCal EMS specialist, Shawn Poore, this past week regarding [COVID-19](#).

Please continue to reference official, credible sources for updates, primarily the CDC and the WHO. Just yesterday, State EMSA Medical Director, Dr. David Duncan, posted comprehensive Interim EMS Guidelines to the state website (<https://emsa.ca.gov/wp-content/uploads/sites/71/2020/03/COVID-19-Memo-to-EMS-Partners-007-1.pdf>). This document contains a myriad of links to additional information and resources.

The two most common questions I receive are, "*How concerned should we be?*" and the second being "*Isn't this just like Influenza or colds that we deal with every year?*"

To the first question I would answer, concerned enough to follow guidance, and adhere to evidenced based practices that will continue to evolve as the situation evolves. COVID-19 (an RNA virus called SARS-CoV-2) is mild in about 80% of cases. However, 1 in 5 infected individuals can have severe illness, 1 in 25 critical illness, and 1 in 50 will die. So, addressing the second question, this is more like the seriousness of a flu (Influenza A, B) than a cold, although mild cases can present like a cold. Here is a quote from UpToDate, a powerful evidence-based reference:

"Specifically, in a report from the Chinese Center for Disease Control and Prevention that included approximately 44,500 confirmed infections with an estimation of disease severity, 81 percent were mild (no or mild pneumonia), 14 percent were severe (eg, with dyspnea, hypoxia, or >50 percent lung involvement on imaging within 24 to 48 hours), and 5 percent were critical (eg, with respiratory failure, shock, or multiorgan dysfunction) [36]. The overall case-fatality rate was 2.3 percent; no deaths were reported among noncritical cases. According to a joint World Health Organization (WHO)-China fact-finding mission, the case-fatality rate ranged from 5.8 percent in Wuhan to 0.7 percent in the rest of China [14]. Most of the fatal cases have occurred in patients with advanced age or underlying medical comorbidities."

What makes this different than Influenza is at least twofold. First, we have no vaccine and likely will not for months to a year. Second, we can only provide "supportive care" without the aid of a proven anti-viral, such as Tamiflu, which has proven efficacy against Influenza. Furthermore, since this is a "novel" virus, which simply means "new", there are many unknowns, though much is known about other corona viruses.

So is this a bunch of media hype? Yes and no. Influenza kills hundreds of thousands worldwide each year (The Spanish Flu about 80 million in 1919). We are currently at just over 3000 deaths worldwide for COVID-19 which seems low in comparison. The problem is, we are now dealing with "community spread" that is unrelated to specific travel in endemic areas. This opens up a can of worms for those who are doing their best to contain the outbreak and give direction to the public. Do we shut down all international travel? Do we cancel domestic flights? Do we shut down schools? Do we gather for conferences? Currently, there is no right answer to these questions. Already, the global economy is taking a huge hit, and this has far reaching repercussions with possible adverse impact on healthcare delivery in general.

My advice is to follow the credible sources globally and regionally (CDC, WHO, State EMSA). Dr Duncan's document linked above is particularly helpful. Make sure you know your specific role and what to do in an at risk situation. This virus is mainly deadly to the elderly, those with chronic medical conditions and the immunocompromised. Therefore, if you are healthy, your risk of serious or critical illness is markedly less than the stats above.

So, let's all keep doing our jobs to the best of our abilities, keep informed, follow evidenced-based protocols, and use good common sense.

Thanks for all that you do.

Best Regards,

Dr K

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