



COVID-19: Dire Costs and Alternative Strategies

A peer-reviewed commentary by Scott Field, MD, FCP

The views expressed in this commentary are those of the author and do not necessarily represent the views of the American College of Pediatricians.

The astronomical costs of the pandemic caused by the second severe acute respiratory syndrome coronavirus (SARS-CoV-2) are apparent to all. In the U.S. alone, over 120,000 lives have been lost to it,¹ many after weeks of intensive life support. About 600 healthcare workers have been estimated to have lost their lives to this virus.² After shutting down the economy, the Federal Government has added 2.4 trillion dollars to the National debt with the Cares Act in order to counteract the devastating effects of lockdowns and social distancing, and even that may not be enough for a good recovery. The principal diagnostic test using a ribonucleic acid (RNA) reverse-transcriptase polymerase chain reaction (RT-PCR), which is mainly useful during the first week of symptoms, has been extensively used on people with low risk of exposure. That test, which is often repeated multiple times in individuals, is what experts are wanting to ramp up in efforts to “safely reopen the economy.”

Certain interventions, such as Remdesivir,³ convalescent plasma infusions,^{4,5} and dexamethasone or Tocilizumab,⁶ hold some promise in reducing morbidity and mortality, but only for individuals who have become severely ill with COVID-19. Nothing, short of the potential of expensive plasma infusions and perhaps earlier steroid administration, has yet been found to effectively treat symptomatic patients prior to onset of severe symptoms. Knowing that a patient has COVID-19 and isolating known close contacts can be useful, yet testing at onset of symptoms (that are more often from other pathogens) and certainly testing those without symptoms, is of little proven benefit to the individuals tested. On the other hand, people with fever and cough, *lacking any significant nasal symptoms*, often have *Mycoplasma pneumoniae*, which generally responds well to azithromycin. I have seen several children in the past few months with suspected COVID-19 that had nucleic acid detection-confirmed mycoplasma instead. It is a treatable pathogen that should be high in the differential diagnosis.

For individuals who were suspected of having been infected with SARS-CoV-2, either by symptom complex or by known significant exposure, doing validated antibody testing at least 2 weeks after onset of symptoms or 3 weeks after last exposure, could be helpful in confirming if

they had indeed been infected. As early as one week after symptom onset, antibody testing (even with IgG tests – see my 6/1/20 update) can become as reliable as RNA PCR testing in confirming present or past COVID-19 infection. Because even people with mild symptoms can have prolonged viral shedding (although probably at low levels) from both respiratory and G.I. tracts,^{7,8,9} those with suspected or confirmed COVID-19 infections should take extra precautions in bathroom hygiene and respiratory/salivary control (face mask or shield) for several weeks after developing symptoms to avoid infecting others. If their symptoms have resolved, they are very unlikely to infect anyone else (including in the work place) *if* they take those precautions.

Contact tracing will be extremely difficult for those who contract or spread SARS-CoV-2 at large public gatherings. Transmission from asymptomatic individuals is well documented.¹⁰ Even though social distancing is effective, more emphasis should be focused on blocking transmission with facial masks¹¹ and shields,¹² because the consequences (mainly economic) of prolonged social distancing are dire. Public education is sorely needed to promote these effective measures of transmission reduction.

References

1. Elflein J. Coronavirus (COVID-19) in the U.S. Statistics and Facts. Statista. Online 1 July 2020. <https://www.statista.com/topics/6084/coronavirus-covid-19-in-the-us/>
2. Jewett C, Bailey M, Renwick D. Lost on the Frontline. *The Guardian*. Online 6 June 2020. <https://khn.org/news/exclusive-investigation-nearly-600-and-counting-us-health-workers-have-died-of-covid-19/>
3. Beigel JH, Tomashek KM, Dod LE, et al. Remdesivir for the treatment of Covid-19 – preliminary report. *New Engl J Med*. Online 22 May 2020. DOI: 10.1056/NEJMoa2007764
4. Rajendran K, Krishnasamy N, Ranjarajan J, et al. Convalescent plasma transfusion for the treatment of COVID-19: systematic review. *J Med Virol*. 2020,1-9. <https://doi.org/10.1002/jmv.25961>
5. Ling L, Zhang W, Yu H, et al. Effect of convalescent plasma therapy on time to clinical improvement in patients with severe and life-threatening COVID-19: a randomized clinical trial. *JAMA*. Online 3 June 2020. DOI: 10.1001/jama.2020.10044
6. Low D. Dexamethasone for coronavirus infection. *SciTransl Med*. Online 17 June, 2020. <https://blogs.sciencemag.org/pipeline/archives/2020/06/17/dexamethasone-for-coronavirus-infection>
7. Lee Y-L, Liao C-H, Liu P-Y, et al. Dynamics of anti-SARS-CoV-2 IgM and IgG antibodies among COVID-19 patients. *J Infect*. Online 23 Apr 2020. Doi: 10.1016/j.jinf.2020.04.019
8. Wang B, Wang L, Kong X, et al. Long-term coexistence of SARS-CoV-2 with antibody response in COVID-19 patients. *J Med Virol*. Online 28 Apr 2020. Doi: 10.1002/jmv.25946
9. Wolfel R, Corman VM, Guggemos W, et al. Virological assessment of hospitalized patients with COVID-2109. *Nature*. Online 1 Apr 2020 <https://doi.org/10.1038/s4186-020-2196-x>
10. Gao Z, Xu Y, Sun C, et al. A systematic review of asymptomatic infection with COVID-19. *J Microbiol Immunol Infect*. Online 15 May 2020. DOI: 10.1016/j.jmii.2020.05.001.
11. Liang M, Gao L, Chang C, et al. Efficacy of face mask in preventing respiratory virus transmission: a systematic review and meta-analysis. *Travel Med Infect Dis*. Online 28 May 2020. DOI: 10.1016/j.tmaid.2020.101751
12. Perencevich EN, Dikema DJ, Edmond MB. Moving personal protective equipment into the community: face shields and containment of COVID-19. *JAMA*. 2020;323(20):2252-2253.