Dr. Delgado COVID-19 Update 5-28-20

Remains steadfast

Greater than 100,000 fatalities and still rising. More than 80% are those 65 or older.

Social distancing and wearing masks does work and continues to be — along with frequent hand washing — the most impactful means to protect against transmission of the virus. Science shows this offers practical and effective measures.

Loosening the rules of social distancing will only work if people act responsibly. This past holiday weekend across our nation showed too few masks, too little physical distancing and too much self-assured feelings of invulnerability.

Masks are not about just protecting the wearer, but protecting others from the wearer. Many of those who transmit the virus are asymptomatic, so we need wear mask out of concern for not only ourselves, but for others.

A study just released today on JAMA Network Open looked at 78 patients who tested positive for coronavirus. More than 42% - 33 of the patients — were completely asymptomatic. Those asymptomatic individuals tended to be younger (from their late 20's to early 40's), but

fortuitously were noted to shed the virus only half as long. They still likely remain the primary mode of transmission as they don't tend to isolate themselves or seek medical care.

Adhering to social distancing and wearing masks has somehow become an ideological and political divide. Science and data is now interpreted by many through a lens that suits their beliefs or ends. Civil liberties and individualism should not be at the expense or exclusion of others in society.

Public health is defined as "the health of the population as a whole, especially as the subject of government regulation and support." Continue to think and act communally and safely.

More on antibody testing

Recently, the CDC issued an update in regard to antibody testing. Essentially, they do not believe that its accuracy is enough for any general policy-making decisions or to ensure immunity. They recommended that patients may need to be tested several more times to have a more accurate reading of their serological status.

This echoes my previous recommendations. Sequential testing is indicated and that any one test results may not only be erroneous, but provide a false sense of security if

positive. Everyone will at minimum need to be retested this fall as we head into the flu season.

The accuracy — both sensitivity and specificity — will continue to improve. The data as to the quantitative and qualitative thresholds needed to suggest ‘true” immunity still remains elusive at this time.

Vaccine allocation

The ethical challenges that have arisen so far in the coronavirus pandemic largely boil down to the societal balance between individual freedoms and the public good. Issues like restricting one’s movements and commerce to protect community health or requiring health care workers to treat infected patients, even at the risk of getting infected themselves, are specific examples of this larger dilemma. These debates have been settled for the most part in favor of the common good. Ethical questions raised in the next phase of the pandemic are bound to be more fractious.

When a vaccine comes on the market, the U.S. Centers for Disease Control and Prevention and other advisory groups will issue guidelines on who should get priority. The top tier will include health care and other workers whose jobs are considered essential in the pandemic. People or groups more likely to die if stricken may also get priority.

But these are just guidelines. The ultimate decisions on whom gets vaccinated will be made by state and local health departments and community hospitals & clinics interpreting those guidelines. There will certainly be subjective interpretation and disagreements.

When we eventually reach the point of having a vaccine in hand it will certainly be in short supply at the onset of its distribution. The decisions will be fraught, as different groups angle for their place in line. If health care providers are prioritized for getting the vaccine, will the grocery store clerks, first responders or home health aides who deliver care also be included in this initial distribution?

Rationing antiviral drugs and other therapies has largely been absent in the U.S. during the Covid-19 pandemic, largely because no treatment has been shown to be of clear-cut benefit. That will change if and when a vaccine becomes available, and difficult choices will need to be made about allocation.

To meet that challenge head on, the CDC and other regulatory bodies must develop a plan — with input from the states and localities — to ensure that the vaccine is available wherever it is most needed. The plan must communicate clearly why certain groups will receive priority for early vaccination and why others will not. It should also include a means to evaluate and rapidly

redress grievances in the allocation process. A unified message must be delivered early and often.

If we are to avoid worsening mistrust in health care and in government and possibly even social strife, we need transparent and ethical federal guidelines for distributing a Covid-19 vaccine now, before we must begin making the difficult decisions about allocating it.

Is a vaccine a panacea?

With a little luck and a lot of science, the world might in the not-too-distant future get vaccines against Covid-19. But those vaccines won't necessarily prevent all or even most infections.

In the public imagination, vaccines are often seen effectively as cure-alls, like inoculations against measles. Rather than those vaccines, however, the Covid-19 vaccines in development may be more like those that protect against influenza — reducing the risk of contracting the disease, and of experiencing severe symptoms should an infection occur. The influenza vaccination, in a year when its especially efficacious, offers about 50% protection and in bad years only about 30% and yet we still use it.

Ideally, vaccines would prevent infection entirely, but early work on some of the vaccine candidates suggests

they may not stop infection in the upper respiratory tract — and they may not even stop an infected subject from spreading the virus by coughing or speaking.

A vaccine could likely only mitigate the severity of any future Covid-19 pandemic and not offer the blanket of security many seek or expect. If we can even push Covid-19 from a pneumonia requiring hospitalization to a common coronavirus-like "common cold" then it would still be a monumental step forward.

The rush to develop vaccines means that ideal solutions may be out of reach in the immediate term: many anticipate seeing second-generation vaccines that could be far more protective both to onset and duration of immunity.

Lifelong or "sterilizing" immunity will likely not be possible for Covid-19. Experience with human coronaviruses — and with multiple pathogens that cause colds — shows immunity that develops after the infection is not lifelong. In some cases, the duration is measured in months, not years.

Not everyone who receives the vaccine will get full immunity, some none at all and others everywhere in between. Setting public expectations of what these vaccines will be able to achieve is critical. It would not be helpful if the type of perception that exists about flu

vaccines — that they don't work very well — sets in with Covid-19 vaccines. People don't credit flu vaccines for what they prevent; they deride flu shots for not protecting them on the occasions when they contract influenza, even though they have been vaccinated.

True immunity? Early promise

Studies on macaques suggest that infection with the coronavirus grants some immunity to catching it again—and that vaccines also seem to offer some protection.
Does getting infected by the coronavirus make you immune? And can a vaccine do the same job?

In two studies published last week in Science, a group led by researchers at Harvard University's Beth Israel Deaconess Medical Center is attempting to answer those questions.

First, the team infected nine monkeys with the coronavirus; they developed pneumonia, just as people do. Then, after five weeks, the researchers tried infecting them again, but this time the virus didn't take hold. That means monkeys (and possibly people) are probably immune to the virus after they catch it, although how long the immunity may last remains the open and central question.

Secondly, the group then tried out four different DNA vaccines on monkeys. These are a quick-to-design type that involve an injection into the muscle of genetic instructions to make a part of the virus called the spike protein. They found that the vaccines gave the 35 additional monkeys granted some level of protection from the virus—the ones that got a shot had much lower levels of virus in their respiratory tracts.

Previously, two other vaccines, one from SinoVac in China and another developed by Oxford University, were also shown to protect monkeys. All told, it's a promising signal a human vaccine could work, but time will tell.

In the race to find a vaccine for billions of people, scientists need to learn more about what a correct immune response looks like, including the type and amount of antibodies that need to get generated. These results in monkeys are an early step toward defining what these "correlates" of immunity may be.

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