

So where do we go from here?

Welcome to SBH Bronx Health Talk produced by SBH Health System and broadcast, albeit remotely, from the beautiful studios at St Barnabas Hospital in the Bronx. I'm Steven Clark.

The good news is that the numbers of deaths in New York City this week have reached its lowest levels in months. A couple of weeks ago St. Barnabas Hospital discharged its 500th Covid patient, proving that even very sick people are getting well. In addition a drug Remdesivir looks promising in early clinical trials. The not-so-good news is that the virus over time has become increasingly unpredictable and with the economy beginning to open up throughout the country there was a growing concern among health experts that we could be moving too fast back.

Back with us today to discuss these and other relevant topics about the coronavirusis Dr. Ed Telzak, chair of the Department of Medicine at SBH and a longtime infectious disease specialist. Welcome Dr. Telzak.

I'd like to start off by reading a portion of an article from The Washington Post about coronavirus that was a little disconcerting so listen to this and I'd like your comment. "It attacks the heart, weakening its muscles and disrupting its critical rhythm. It savages kidneys so badly some hospitals have run short of dialysis equipment. It crawls along the nervous system destroying taste and smell and occasionally reaching the brain. It creates blood clots that can kill with sudden efficiency and inflames blood vessels throughout the body. It can begin with a few symptoms or none at all then days later squeeze the air out of the lungs without warning. It picks on the elderly, people weakened by previous disease and disproportionately the obese. It harms men more than women but there are also signs it complicates pregnancies. It mostly spares the young until it doesn't. Late last week doctors warned of a rare inflammatory reaction with cardiac complications among children that may be connected to the virus.

So are you seeing this? Does this concern you as well?

*We've been seeing Covid in its most mildest presentations and its most florid destructive*

*presentations. Every institution, every hospital in New York has seen the gamut of presentation. I think the tenor of what you read was that the virus, the disease, has the potential to be enormously destructive and cause multi-organ failure. That's absolutely true. But I would say that the and I still hold on to this as terrible as this virus can be, the majority of patients remain, I would say, mildly symptomatic, an increasing number are recognized to be asymptomatic and the remainder are mostly moderately symptomatic, that it's a relatively small proportion that wind up in the hospital. Having said that, that small proportion has completely crippled our healthcare system, our economy and our society. I've thought that this singular up until very recently that the singular and perhaps most important positive thing that I could say about the virus is that it's spared children. It's terribly destructive for older people, for adults with comorbidities for people who live in very crowded conditions which is part of the reason why it took hold in New York City and other urban areas, but it seemed to really spare the very young and children and adolescents. With the most recent description of what's now called, and the name will likely change over time, but it's currently called pediatric multi-system inflammatory syndrome, we're recognizing that a small proportion of children who become infected with the virus can have a very fulminate course with systemic inflammation. In New York State, for example, there are now over a hundred children that have been described; 70% have been in intensive care units, 20% have been intubated. The overwhelming majority have evidence of current or past coronavirus infection. So now no one is spared, no age group is spared, no race ethnicity is spared and so that one singular area that the virus seem to have spared no longer seems to be true. We have come to recognize that if a virus is sufficiently penetrated within a population it only takes a relatively modest proportion of individuals who get sick from the virus and need hospital care to bring society to its heels. We have been, there we are there, but there is I would say a measure of hope in New York City in particular I would say in New York State that things are heading in the right direction.*

Having said that now I know things have improved dramatically and St. Barnabas Hospital and in the Bronx. But the country is opening up and none of the original guidelines presented by the White House are in effect. It's like the testing, the need to wait until the number of infections went down, number of deaths went down, seems to have been thrown out the window. The country is opening up rather quickly are you concerned that we're gonna be in this position we were in a month ago that this is going to come back again?

*Yes, I recall having this discussion at the last podcast when Georgia had just*

*opened and there were governors in at least three regions that were developing a more coordinated effort so the Northeast, the north Midwest and the west coast. I would say that unfortunately there are many experiments that are happening in the United States. The United States is a big country. As we've discussed previously, the federal government has really abdicated responsibility and it's left it for the governors to decide. There are different political points of view about this virus. You know the red-blue divide seems to have taken hold about attitudes toward the virus as well. About whether we need a strict, focused, slow unwinding of restraints that have been put on the mitigation of the virus that seems to have been effective in many places or whether we can in a much less systematic way open up. We're going to have lots of experiments in this country. I feel fortunate to be living in New York, even though New York has been really you know represents a quarter of the cases and very disproportionate number of deaths. The approach in New York State I think is a very forward-looking approach. I wouldn't say that if I was speaking for weeks ago because the approach that New York State and New York City took was not at all forward-thinking. The response was late and there was not always the attention paid to the public health community about what needed to be shut down to prevent widespread transmission within the community. Nevertheless, at this point, New York State I think is really behaving in a way that takes into consideration many of the recommendations that the Centers for Disease Control has put forth that have not been adopted by the White House and by many governors throughout the country. So it's really worth, I think spending a little bit of time just briefly going over some of the metrics which I think are relatively straightforward, you know I think, very thoughtful metrics about Really the discussion is when can mitigation, when can lockdown be loosened? There's no question that mitigation has moved New York State and many other areas in the country that were disproportionately affected have moved forward and for states that haven't been that affected mitigation has prevented them from rapid transmission of the virus throughout the population.*

*But the guidelines for reopening are really I think quite modest. It has to do with a decrease in hospitalizations over 14 days, a decrease in deaths over 14 days. I just want to emphasize that we were seeing up to 800 deaths a day in New York State. Most recently it's 20 percent of that, we've seen a 166 deaths yesterday so that is really a dramatic decrease. The idea that you would related to Covid-19 have to be decreased dramatically and the number that's been chosen are less than two admissions per hundred thousand population in New York State. That represents 160 new Covid-19 hospital admissions before mitigation lightens up. As mitigation lightens up there's a very real likelihood that transmission will occur and that within one, two or three weeks we will begin to see increasing admissions to a hospital both to the general medical floors and to the intensive care units which have also been disproportionately impacted and so among the*

*guidelines are that there needs to be a buffer. There need to be 30 percent capacity to deal with the possibility of increasing admissions to hospitals and increasing admissions in particular to ICUs and current with the lightening up of mitigation are the ability to do containment and so testing capacity which is also quantified as a measure of decreasing mitigation needs to be enhanced and contact tracing which we've spoken about before needs to be up and running with having a minimum of 30 contact tracers for a hundred thousand population. So New York State which has been divided into seven regions is allowing three regions beginning tomorrow or Monday but very shortly three regions to begin phase one of opening up and you know we will see how phase one works. It's a four phase program with phase four being I think many, many months away and likely awaiting a vaccine or some dramatic treatment, some dramatic beneficial change in the virus but phase four would be being able to go to Yankee Stadium.*

Yeah Dr. Telzak, nobody else doing it though the 40 other states that opened up over the last two weeks basically just said you know what let's open up and we'll take it slow but you know these criteria were forgotten about.

*You know I think different states are doing it very differently and I think it's a great fault of the federal government that they have not issued very clear guidelines for the entire country. These guidelines that are currently present in New York State allow areas to move at very different rates through the phases, but at least they give you some metrics to aspire, to adhere to that will allow you to slowly open up. You're right that there are states that are being much more cavalier. There are populations within states that are being much more aggressive about pushing the state governments to open up at a less thoughtful manner from my point of view, but we will see over the next you know month two or three whether or not the you know the New York State model, the Massachusetts model will ultimately be more effective or whether other models Texas, Georgia will succeed. I have a very strong bias, as it is clear, this is an experiment; there are multiple different approaches trying to achieve the same outcomes and I think we will see at the end of the day if we could influence other state governments that would be one thing but we have absolutely no control, the CDC doesn't have control, the federal government has abdicated control and so we'll see at the end of the day which of these models of slowly loosening up by mitigation or much more quickly loosening up on mitigation with or without contact tracing available works for the various populations. It's my very strong feelings that despite the enormous economic hardship that so many people are going through then ultimately if we don't contain the virus and we don't deal with this first and foremost as a public health issue we're*

*going to be dealing with it for a much longer period of time with the economic impact for a much longer period of time.*

I would tend to agree with you because the reality is that we're not separate entities we are all interconnected and if you know one state, if Florida decides to flaunt it people from Florida guess what they live in New York in New Jersey during the summers. They bring it back you know what it seems like to me it's almost like the government has assumed almost a harm reduction strategy you know which is something talked about for substance abuse you know as long as you don't shoot up every day you're making improvements.

*You meet people where they are. The government is meeting states where they are but in fact there are very different political impulses in different states. I do think it's very unfortunate for the country as a whole that there's not a much more unified approach by a unified approach. I really mean that there are metrics that can be agreed upon by which states or counties or cities will go through the process of opening up economically and socially. It doesn't mean that every state every county is going to be doing the same thing at the same time. That's not the approach that this country has taken. Clearly other countries that took a much more aggressive stance early on, that have really invested very heavily in testing capacity and contact tracing, in isolation, in social distancing and using masks. Taiwan, South Korea immediately come to mind, Germany and those countries are opening up much more quickly. They're still dealing with outbreaks, but they have developed the infrastructure over the last relatively short period of time to be able to deal with those outbreaks and to increase mitigation, to go back and forth as needed, but the societies are opening up. economic activity is increasing throughout these countries, not so in the United States I predict in many of the states that have taken a much more wait-and-see attitude and let's open up and see what happens. This is a virus that's highly transmissible that's*

*transmissible prior to people being symptomatic, it's a very hard virus to contain and really very clear systems need to be in place to be able to contain it. I do think that ultimately New York State will be a leader in this. You know once again these are multiple experiments going on in one country at the same time. The outcomes will unfold over the next handful of months. Once again unless visitor came to the virus, there is highly effective treatment that's developed and that's not immediately apparent, or of course vaccine development. I would stay in three to four weeks we will begin to have somewhat of an understanding of how the different strategies of lifting mitigation or working in the different states and I think that will be you know very*

*revealing. I'm sure that everyone will have their own spin but I think that the epidemiologist to public health people, the clinicians will be able to evaluate the data in a more objective way and I'm very very excited to see what that shows. We will learn a lot.*

Do you have much faith that in the near future we're going to identify either a really effective treatment or a vaccine is only a few months away or is that just wishful thinking?

*I don't think anyone says a vaccine is a few months away. I think the most you know traditionally it takes multiple years to develop, go through phase one phase two and then large phase three studies both for efficacy and for safety. It takes many years before a vaccine is ultimately approved. I think the timeline 2021, let's say early to mid-2021 is an extremely extremely optimistic timeline. You know I'm not a vaccinologist. I think people that are very involved in the vaccine world, I've heard some people being somewhat optimistic but leaving lots of room and really characterizing their optimism modifying their optimism with statements that there is far from a guarantee that a vaccine will be developed within you know the next year so that's a year away. Treatment, so it's worth noting that the initial treatment that was used, the hydroxychloroquine, in the last week or ten days there have been two major observational studies, one in the New England Journal, one in JAMA that have shown that hydroxychloroquine is not an effective intervention and the one study in JAMA also indicating that the combination of hydroxychloroquine and aztromycin which were really interventions but were picked up by the medical community because there was nothing else to offer and patients were having very bad outcomes and there was you know a minimal amount of data mostly in vitro data showing you know some efficacy that actually the one trial in JAMA showed that there was increased cardiac toxicity. I think the likelihood that we're gonna find a great treatment over the you know next six months I think is possible but unlikely. Treatments take a long time to be evaluated. I think even Remdesivir, which I think the trial that was recently released start of it in early February and you know was released at the end of April, it was released before the planned final analysis and there are many people who disagree with releasing the data because the outcome of Remdesivir was that it saved patients admitted to a hospital three or four days of hospital stay and it didn't reach the mortality endpoint, meaning does it save lives. It would have taken longer to make that determination that it did or did not have a mortality benefit and that's really the benefit we're looking for. We're not looking to save a couple days in a hospital.*

I know Dr. Fauci in his testimony the other day was saying that he saw Remdesivir as having modest promise. I mean it's nice but it's not a game-changer.

*I think it's a B-minus, C-plus drug. You know it's not going to change the course of this pandemic. You know it's a proven concept that an antiviral drug can have some benefit. You know just to reflect on the HIV experience, the hepatitis C experience which ultimately had drugs that were either close to curable or curable you know it took many years of progressively better drugs to come up with the outcomes that we were interested in to get the benefits that we wanted. There was great urgency with those two diseases as well I think there's even more urgency with this. I think clinical trials will be ongoing; we'll be enrolling very quickly. The fact is it takes a long time to show that a drug does what we need it to do and in this instance what we need it to do is to really have a mortality benefit.*

There was talk about taking blood you know from people who have tested positive in antibody tests. Is there any promise in that?

*So plasma therapy, so basically taking plasma, taking blood, spinning it, using the plasma which has the antibodies of people that have been infected and presumably have antibody in their blood that might have a potent antiviral effect for patients who have Covid. Though I think it's a very old treatment. It's a treatment that's been used for 80 years, that was used in the pre-antibiotic era. I think it's conceptually when you have nothing else it's a reasonable treatment to give. The data are not yet available to determine whether it's beneficial and it hasn't been done in the context of a randomized trial. A lot of data has been gathered on thousands of patients who have received plasma but you know an observational study while incrementally educating the provider community about the potential benefits is different than a randomized trial. There are now pharmaceutical companies who are looking to develop monoclonal antibodies or a group of monoclonal antibodies that attack certain areas of the virus when a person is infected. So I think that's another line of therapy that is of great interest. It hasn't hit prime time yet but trials will be happening. I think there are a lot of scientists who have redirected their labs to try to develop different types of therapies, conceptually different approaches to therapy so a lot will be happening over the next few months. A plasma therapy is something that could be done early and it was for example at St. Barnabas we've probably given it to you know well in excess of a hundred people. There were really no criteria and who to give it to so anyone who was sick and almost by definition everyone who's hospitalized is sick we tried to give plasma therapy but you*

*know it's very hard to determine whether or not it was beneficial. I'm looking forward to these large observational studies. It's not clear to me that we're ultimately gonna have the final answer on whether plasma therapy save lives or not.*

I guess also if you were to have an antibody test and you are found to be positive it's really unknown what it means. How long the immunity lasts? How does it protect you if it protects you? Is that a fair assumption?

*Right so the antibodies I was just speaking about are really antibodies that are used for the therapy. So that patients who have been infected, develop antibodies and we take their plasma which contains their antibodies and we give it to people who were infected who probably have not developed antibodies already and we try to see whether that can abbreviate, can blunt viral replication and the evolution of the illness. Antibodies are also important for diagnosis and let me give you a couple of examples. So that area is moving very rapidly. One aspect of it is how good are antibodies at determining whether someone has had Covid-19? The illness, whether they've been symptomatic or not symptomatic, there are different antibodies that are being measured. The virus has a multiplicity of proteins. It has a spike protein and nuclear protein, other proteins and different investigators are looking at antibodies to different parts of the virus. I think there is a very strong suggestion that at least some of the antibodies really are both very sensitive and very specific, meaning very good at determining who has been infected with Covid-19 and who has not been infected with Covid-19. Mount Sinai at the moment has been a leader in that and they have a large cohort that they're following so we can get a sense by doing sero surveys, surveys of communities what proportion of communities might be infected. As you recall, testing was very very limited at the beginning of the pandemic and still in many places is not where it needs to be. Antibodies are a way of retrospectively determining who is infected with or without clinical disease and so for example the New York State Department of Health is engaged in a large community survey of about 15,000 patients testing antibodies and it's both upstate, downstate, the different boroughs. It's not a random survey because these people were out and about and were either shopping in grocery stores or in community centers. Nevertheless, what it did show was that overall in New York State of these 15,000 individuals 12% had antibody, which means that 12% were infected with Covid. But in New York City that number was 20%. In the Bronx, that number was an excess of 30%. So close to one out of three individuals in the Bronx, which is where we are, based on this antibody sero survey have been infected with Covid. Now you're right, the great unknown is what sort of immunity do these*

antibodies provide and it likely depends in part on which antibody is being measured so there's an *in vitro* test, meaning in a laboratory that looks for something called neutralizing antibody which is a more complicated test and which can basically in a test tube in effect decrease the amount of virus. So it shows that the antibodies at least in a test tube are active. That's not true of all of the antibodies that are being measured that look at the proportion of a community that might be infected. The neutralizing antibody has a much greater likelihood of being protected. A lot of investigators, a lot of clinicians are hopeful that patients that have neutralizing antibody will in fact have some degree of protection. We don't know if it's absolute protection. We don't know if it's partial protection. We don't know how durable the protection is and that can only be determined over different periods of time. So maybe in three months from now we'll know in a cohort of several thousand people what proportion were re-infected and if the answer is you know a very very very small number then we might conclude there can be some degree of protection. Now I don't think with that number at this time there would be recommendations that people no longer use PPE, that healthcare workers could go into rooms with patients who are actively infected and have evidence of active viral infection, but I think it would provide some degree of comfort and I would even suggest and I'm going out on a limb here you know let's say a hospitalist had evidence of neutralizing antibody that they might be a group that would be more willing to work on a Covid floor than a hospitalist who had no antibody. Both would use PPE but we would hypothesize that those with antibody might have some degree of protection. But this actually raises one of the, and I think it's worth talking, about where hospitals in New York City are at now that you know we've gone from a situation where the majority of patients in the hospital were Covid positive, the Covid negative patients were staying home, the patients who were sick with respiratory illness were presenting the overwhelming majority were Covid positive to a situation now where perhaps half of the patients in a hospital were Covid positive and half recovered negatives and working to do rapid testing at a very early stage in their hospital stay so that we can put them on Covid negative wards or Covid positive wards with them in single rooms or double rooms. We're very actively engaged in that process I think some hospitals are ahead of us there are many hospitals that are weeks away from doing what we plan on doing which is to test everyone with a rapid PCR test, a rapid molecular test for the virus that causes Covid in the emergency room, get the results in half an hour and then make a determination for those patients who are being admitted do they go to a Covid positive ward? Do they go to a Covid negative ward or are we still unsure. They test negative they have a high clinical suspicion we put them in a single room until we get additional information.

How far away off is that test? We don't have it now do we?

*We have two tests in house we've been using it for select groups so we opened up for example our detox ward. You know there are still enormous numbers of patients who opt addiction alcohol addiction and amphetamine addiction who are not getting treated and so we made a decision after closing our detox ward to prepare for the surge last week. We opened it so everyone being admitted to detox has to test through the rapid tests in the emergency room has to test negative and everyone goes into a single room. Normally we have 24 patients in roughly 12 rooms. We now have 11 or 12 patients all in single rooms so we can at least begin the process of offering detox to a group of Covid negative patients. We've expanded our mental health service. The group that came back earliest of all were those with serious mental health issues who needed an inpatient psychiatric admission. So it's very hard to restrict psychiatric patients to a room. They walk around, there's traditionally been congregate dining which is also true in detox. It's been eliminated in detox and everybody eats in their own room and wears a mask and their social distancing even though they tested negative in psychiatry that's a harder thing to enforce so everyone admitted to psychiatry also tests negatives and if there's a strong clinical suspicion they get admitted to medicine and they get psychiatric evaluations on the medical service. So yes so it is available. What's different is we're now opening up a lab in the emergency department that will do rapid testing as what's called the point-of-care test on-site by specially trained people who can do this test and only this test. They're not a typical technologist who can do many things and they'll be getting specimens from patients and getting a result back within half an hour for every patient who's going to be admitted. So this will be available on Monday. We're now talking on a Friday.*

Let me ask you if you feel you may be having a heart attack or God forbid you fall down a flight of stairs is it safe to go to the hospital? Is it safe to go to the emergency room?

*Though I would say rather than if I feel, I would say if a physician feels that a patient is having a very significant clinical illness. It could be pneumonia, it could be severe abdominal pain, could be severe dehydration, terrible headache, the worst headache of their life, it could be chest pain a stroke they should absolutely come to the emergency room. I think at this stage in the game we're pretty good in the emergency room, even with a fairly old facility we're pretty good at separating Covid from non-Covid and certainly when patients are being admitted to a hospital, whether it's a medical floor a surgical floor, or an intensive care unit bed, we will know who tests*

*positive and who tests negative so for those patients who are testing negative, who were petrified about acquiring Covid in a hospital, they should feel confident that they will be in an environment where there's little to no Covid and that the providers will be wearing full protective equipment and that among in between patients appropriate precautions will be taken but that they will be on a floor where patients have tested negative for Covid and that that floor will have a range of medical patients with medical issues but the likelihood is that they will not be related to Covid. So that should provide some reassurance.*

Yeah I think we have to wind this up again thank you for joining us today in SBH Bronx Health Talk. Hopefully in a few weeks we'll have more positive things to say but again I appreciate your coming on board today. For more information about services at SBH Health System or to donate to the hospital's coronavirus heroes visit [www.sbhny.org](http://www.sbhny.org). Thank you