It is important that we distinguish between avian influenza and seasonal influenza. Avian influenza is a zoonotic disease that has caused outbreaks around the world and might well occur in our nation and/or cause a pandemic through the H5N1 strain or one of any number of other viruses in the future. Seasonal influenza kills an average of 36,000 Americans annually. It does not cause nearly the same fear as a pandemic yet it kills many more people than the current zoonotic outbreak of avian influenza has around the world. I am hoping, as many of you are, that the plans and preparedness we develop for a pandemic also will make us better prepared for bioterrorism and other natural outbreaks and will help us take seasonal influenza “off the table.” Clearly pandemics do happen and are a real threat. They are primarily prompted when there is a new virus in the neighborhood, a virus that we’ve never seen before, because that is an essential requirement of a pandemic, that we as a species are naïve to that particular virus.

1968 was the last time we had a pandemic and, as I look out across this room, I imagine there are many in this room that were alive at that time. We also had a pandemic in 1957 and I am sure that many of us experienced that as well. The truth of the matter is that we got through those pandemics but that it’s a recurrence of the 1918 pandemic that we are really worried about. If a pandemic virus, whether it be the H5N1 strain or some other virus, were to appear tomorrow and if it was similar to the one in 1918, the impact on our communities and nation and world could be dramatic. If it developed the ability to spread efficiently from human to human and it happened today we could see dramatic numbers of individuals infected. It’s kind of scary when you start thinking about a potential scenario where 90 million people are infected with the flu, perhaps not simultaneously, but across the course of a year and half. It is also scary to think of the number of deaths that could occur if that kind of virus appeared today. Some projections have it close to 2 million deaths in our nation alone. Fortunately when we look at these predictions of what a 1918-like virus might do today we sometimes forget that it would be spread out across the course of 18 months; that is how long a pandemic occurs. Perhaps the disease would spread out in two or three waves. That doesn’t take away the tragedy of 19 million who become sick or 2 million people who might die but we begin to realize that perhaps we could manage this. I’ll talk about that just a little bit more in a second.

I have traveled the nation with Secretary Michael Leavitt in trying to prepare states and communities for the potential of a pandemic. There are a number of different strategies and concerns that we hear about. It is important to remember that no one answer will make us a nation prepared; there is no single silver bullet that makes us ready to take on the next pandemic.

One of the hardest things to do, as with hurricanes, is to predict what kind of pandemic we will face the next time one comes to our shores. When you see that swirl off in the Atlantic at the beginning of hurricane season, it is really hard to predict whether or not that tropical storm is going to become the next hurricane. Many tropical depressions burn out, dissipate, and do not become hurricanes. However, many do go on to become hurricanes. This analogy is intended to illustrate how some viruses become pandemics.

So let’s presume that the H5N1 strain is that tropical storm offshore in the Atlantic that goes on to become a hurricane. You really cannot predict when that might occur. You really cannot predict when that hurricane might come ashore. At best, it is a guess. Some of the
models help, but they aren’t absolutely predictive. So when anyone asks when the H5N1 strain is going to become a pandemic, the answer is, “I don’t know, I have no idea.” It might not become a pandemic. That is also a strong possibility. The other important point is that when it becomes a hurricane you don’t know if it is going to hit land as a category six hurricane, which would be analogous to the 1918 pandemic, as a category one hurricane, the 1957 pandemic, or as a category two hurricane, the 1968 pandemic. You can’t tell in advance; each is a possibility. The next pandemic might be so mild that we barely notice it. It might visit our shores and feel like a bad flu season, a bad seasonal flu. Just as 1968 and 1957 did. Or it conceivable could be even worse than the 1918 pandemic. That was the worst that we have on record, the worst that we have studied. But biology has this uncanny way of proving everyone wrong. Although we call it the worst-case scenario, I think the purest of scientists in the room would probably concur that it doesn’t necessarily mean that it is the worst that can ever happen in the future of mankind. So you have to pick a target. When you are planning for a pandemic, you have to question what exactly you are planning for. Are you planning for a category one hurricane or a category six?” Most would agree that you pick something extraordinary as your planning target. You use planning assumptions that define what you think might be the worst case-scenario and you hope you never have to use everything in your plan. And that is why pandemic influenza planning has to be such that we aim for something like 1918: that we get ready for the worst-case scenario or at least the worst-case scenario that we have data on, that we have science on.

Now for those that say that this is perhaps Y2K all over again and that we are all crying wolf. I’ll respond the way as Secretary Leavitt responds: “I hope so. I pray so.” But, I also know for a fact that there is going to be a pandemic in the future, maybe 100 years out, maybe 10 years out, well, you have to pick a target. When you are planning for a pandemic, you have to question what exactly you are planning for. Are you planning for a category one hurricane or a category six?” Most would agree that you pick something extraordinary as your planning target. You use planning assumptions that define what you think might be the worst case-scenario and you hope you never have to use everything in your plan. And that is why pandemic influenza planning has to be such that we aim for something like 1918: that we get ready for the worst-case scenario or at least the worst-case scenario that we have data on, that we have science on.

As many of you know, the current technology for vaccines today is a little bit vulnerable. We produce our vaccine in eggs. This particular H5N1 strain causes us significant concern because it loves to kill chickens. We realize that we need a more predictable way of producing vaccine so we are investing $1 billion in five companies that will produce cell-based vaccines. Cell based technology is an alternative way to make vaccines. U.S.-based plants are making vaccine today but there is considerable unpredictability about the adequacy of supply given that we have a limited number of manufacturing companies. The cell-based strategy changes that. It also takes off the table the distribution and manufacturing problems that we have had with seasonal vaccines for seasonal flu and helps fix that recurring issue once and for all.

Will the next pandemic start abroad or here in the U.S.? The fundamental point is that when a pandemic occurs anywhere it, in effect, is occurring everywhere. Ultimately, even if it starts half-way around the world, the significance for us is exactly the same as if it started right here in Atlanta. The way we respond may be slightly different, but the implications are the same. Once that bell starts ringing that a pandemic has started, that means a pandemic has started in every nation. It is only a matter of time before you see your first cases. The truth of the matter is pandemics travel anywhere human beings travel.

Now, our doctrine and current plans dictate that if we see that a pandemic occurs in some other nation
and we have a presence there, we'll throw everything at it. If we see that it is happening, the entire force of public health around the planet will descend upon that zone and try to stamp out that little spark. But you know what? If that spark occurs in the middle of North Korea or in the steppes of Russia, in Angola, or elsewhere in the world that is not protected by an adequate public health presence, we are unlikely to see that spark and it could become a roaring conflagration before we realize what has happened. Unfortunately, that's a much more likely scenario. So chances are we are going to be dealing with a strategy that says it is already started, the fires are already burning out of control, how should we approach it? Our strategy today is to try to slow its entry into the U.S. and our communities to buy time, although modeling indicates that, at best, those strategies would buy us a week or two. Nonetheless, those are important weeks because they allow you and your communities to begin implementing the plans you have written, practiced, and exercised. I know all of you have exercised your plans and identified the weaknesses in those plans. Exercises allowed the legal counsel with us in this conference to whip out those pre-written executive orders and to re-brief the governor that they have already briefed numerous times on their executive authorities and their county governments on what they can and should do as well as on what they cannot and should not do. Slowing the pandemic's onset will give us the few extra weeks to remind people that haphazard, geographic quarantining of communities very rarely offers any public health advantage and quite often causes great concern and disruption. It will allow us an opportunity to reeducate people as to the fact that we have a response plan. Fundamentally, we'll be relying on tried and true public health interventions, many of which rely on legal tools and on their wise and effective use.

I understand that Dr. Carmona spoke a little bit about the historical experiences of 1918 on a community-by-community basis. Many communities learned lessons that we have forgotten and I'm hoping through the work of historians and epidemiologists and modelers that we can begin to relearn those lessons and begin to build them into our community plans. There is a growing body of thought regarding the notion of school closure as a valuable “social distancing” measure: close schools before cases appear and keep them closed for two or three or four weeks during the peak of the epidemic. There are others that say it won't work unless you add a somewhat draconian intervention like keeping children at home so that they don't spread infection between each other and serve as a bridge from one family to another. Modelers are trying to apply that notion to community outbreaks to see whether or not it has a dramatic impact. There is another line of thought that says if you follow that argument, through this notion of preempting disease spread with routine public health interventions, that we would have to look into our businesses as well. We would have to change businesses and the way business is conducted by inserting social distancing into the workplace. For example, every other chair around these tables here today could be kept empty so as to avoid close contact. This type of public gathering would have to be avoided. If you were on a bus, every other chair might have to be empty in order to afford distance between human beings. As a purely hypothetical example, if you were working on an automobile manufacturing line, rather than have three people inside the tiny confines of an automobile putting up the paneling, you might do one at a time to avoid the close contact of three people in the automobile. I'm trying to illustrate the notion of how social distancing might have to be inserted into work places in a way that changes the way you do daily work. You can't simply turn everything off for 18 months. Business has to go on as usual. Unlike a hurricane or an earthquake that starts and ends in a brief period. If schools are closed for up to 18 months, you have to figure out how you are going to continue students' education: whether that's Internet-based education, public television-based classes or public radio-based classes or whether you turn the school buses around so instead of taking the children to class, school buses spend the day taking lessons to people's homes from school. There are different ways at the community level that we can begin to intervene. Some of the modeling that is underway would suggest that if we can get it so that there is a certain level of compliance with these strategies and if we can layer these strategies one upon the other, that we might actually be able to, as someone said, cut the legs out from under a pandemic.

Antivirals are another strategy. We are stockpiling antivirals today and we are well on our way to making sure that if 30% of the population potentially gets infected in a pandemic we have enough antivirals on hand to treat anyone who needs to be treated. But there are realities. One of the realities is that the key problem with stockpiling any counter measure is distribution. It is not only about how much you have; it also is about how effectively you can distribute it into a community. That typically is where the bottleneck is going to be. And that is where you'll be involved because distribution systems—from large stadiums or airports into people's arms all way down to pills into their palms—are all about local preparedness. No two communities have the same logistics and challenges.
No two communities have the same infrastructure or the same priorities, or the same values or resources so it is critical that every state and community contemplate how to distribute its allocation of antivirals. How would we get it from this big box into those twenty neighborhoods? That is a big challenge that I’m hoping the next layer of preparedness will be the exercising of those distribution channels.

Let’s talk a little bit more about quarantine and some of the related legal issues. An influenza pandemic will affect every community simultaneously, all 300 million Americans. It is not enough to have the legal authority to declare a quarantine. You have to figure out how you would implement and enforce. In a pandemic there isn’t really a way to do that simultaneously across every community in the same way, in a way that protects people’s rights, and in a way that is effective. Quite frankly, there may not be a need for enforcement as such. One of the things we have begun to learn is that quarantine, in the context of a pandemic, may be most effective when implemented on a voluntary basis. It is about educating the public as to the value of voluntary quarantine. Most of our modeling would indicate that 100% compliance is not required for success. One of the things that we are going to struggle with when the time comes is not so much about what we have the authority to do, but about the steps and the measures that we have in place to avoid using the coercive measures. I’m not sure we have spent as much time as we should focusing on the notion of how to pre-educate citizens, the courts, law enforcement officers, legislators, and others in the value of voluntary social distancing in the context of an influenza pandemic.

The notion of geographic quarantining—or cordon sanitaire—will come up in a pandemic. We may want to throw a barrier around an infected neighborhood, county, or city so the people that are in those areas cannot bring their nasty virus with them out into the clean and relatively pristine surroundings. But we have to remember that the kind of viruses that can trigger a pandemic may be infective before you have symptoms. You can be completely healthy, spend all day at work manning that barrier as a police officer, and then go home in the evening, feel a little achy and have a headache. The truth of the matter is that you may have infected many people during the course of the day when you were feeling just fine and showed no symptoms. So this notion of screening people and separating out the sick from the unsick doesn’t really work. It might serve to slow spread but anyone who thinks it prevents spread probably hasn’t the way that flu viruses typically spread in a community.

The other notion being talked about would be to throw a barrier up around our clean community and not let anyone enter who might import the infection. This would be a kind of reverse quarantining of communities. However, not many communities today are islands unto themselves to the degree that they can manufacture everything that they need locally to be completely self-sufficient and isolated from the outside world while the rest of the world is engaged in a pandemic. I can’t see a scenario where that might work. Indeed, there are some that would say a pandemic keeps going until 30% of the population is either infected or immune and that geographic quarantining in the initial stages of a pandemic is at best an opportunity to slow the spread.

Another consideration when you put up a barrier is when are you going to take it down? It is one thing to say that “these are the indicators for throwing up our barriers,” but what are the indicators and authorities that we will use to take them down? The act of taking down such a barrier itself may be challenged. People will think you are taking down the barrier too soon. Where did you get the authority to place us all at risk by dropping that barrier? We need to think about the switch off question as well.

Against this background, it is important to recognize that the President is totally committed to full preparedness for a potential pandemic as is the Congress is totally committed. One clear indicator is the $3.8 billion provided for pandemic preparedness in the first year; and Congress has received another request as well. The public health community, governors, and other leaders get it as well. We just completed 55 summits in every single state of the nation except for New York, Maine, and Arkansas and we hope to visit those states before this month is done. It is clear that communities across the country are beginning to understand the importance of pandemic preparedness. They are beginning to understand something that I think the public health community understood back in 1998 and 1999 when CDC first started funding pandemic influenza planning in state public health agencies around the country. I know that the general public became aware of the challenge more recently but if you were in public health, you were talking and thinking about pandemics years ago, almost a decade ago. The expanded awareness of the problem means, in a sense, that the biggest barrier is behind us. We have the attention of the world. If you are in the public health community, you now have what you wished for, the attention of leadership.

There comes an obligation with this, however, the obligation to understand and communicate that a
pandemic is not just a public health emergency. Assuring public health’s preparedness for an influenza pandemic is not enough; the vast majority of our work needs to be done in key sectors outside of traditional public health. Businesses need to have plans for their employees and their continuity of operation. Community-based organizations and faith-based organizations need to do the same. As I noted earlier, schools and your community’s entire education system will be singularly affected by a pandemic either because they are integral to the community’s planning or because they are ground zero after the fact. The infrastructure of your community is going to be critical. Power and water and sewage and other municipal services are an essential part of pandemic preparedness.

An absolutely critical part of planning for the next influenza pandemic is strengthening legal preparedness. This needs to be done at all levels. Congress and the Executive Branch have enacted new laws and regulations for this purpose and the emergency preparedness program the Department of Health and Human Services directs, including significant funding starting as early as 2002, has encouraged the states to review their legal preparedness. I want to applaud state and local public health policy makers and legal counsel for their important contributions to legal preparedness in the form of new laws and exercises that have tested the adequacy of those laws. Beyond public health organizations, however, we need to make sure that other key sectors also are prepared – and legally prepared – for a pandemic. For example, have the general counsel for your local power plants been involved? Have the general counsel of your school districts gotten into the discussion? Are the lawyers in your local businesses thinking about the legal implications of a pandemic for the businesses? I would venture to say that most have not and I urge public health leaders to reach out to those partners to help them understand both how to minimize the disruption that a pandemic would cause and how to strengthen their understanding of the laws and legal responsibilities relevant to their roles during an actual pandemic.

Let me close by urging all of you to develop partnerships with your peers in other sectors at the community, state, and national levels to strengthen our systemic preparedness and resilience vis-à-vis an influenza pandemic. I urge you to also recognize that we’ll get through this. I have no doubt we will get through the next pandemic successfully, and the one after that, and the one after that. It is a part of living on this planet.