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[Background to The Jakarta Pandemic](#)

A Brief History of the Avian Flu Pandemic of 2008

During the spring of 2008, World Health Organization officials received alarming information, acquired from an undisclosed source deep within the Chinese Health Ministry. This highly classified intelligence underscored a troubling resurgence of widespread pneumonic illness in the Qinghai province, one of the provinces at the core of a major international controversy during 2005.

In 2005, thousands of suspected avian flu cases were reported in the Qinghai and Sichuan provinces by Xining News and Boxun, both underground internet-based Chinese news sources. Based on these reports, WHO officials asked the Chinese government to open the preliminary examination of these cases to the international community and formally invite the world's combined scientific resources to guard against the pandemic potential of the H5N1 virus.

WHO scientists were predominantly concerned with H5N1's potential adaptation to human-to-human transmission, since strains of H5N1 had already demonstrated a rapid acceleration in animal-to-human transmission. Predictably, the Chinese government gave little tangible cooperation, prevented effective WHO investigation, and eventually misinformed the world regarding the outbreak of avian flu in 2005.

Official Chinese press releases denied a widespread avian flu problem, though health ministry officials announced that a highly contagious and potentially deadly illness had spread throughout the region, resulting in hundreds of deaths. Surprisingly, Chinese government officials blamed swine streptococcus, a rare human pathogen, for the outbreak, quickly announcing that the epidemic had been contained. The WHO remained puzzled by the unusually high incidence and mortality rates, and soon grew extremely skeptical of the Chinese story.

At the very onset of the crisis, WHO scientists, working unofficially with sympathetic Chinese virologists in Hong Kong's Centre of Public Health, had examined hundreds of virus samples sent to the Centre's labs from the concerned provinces. They determined with certainty that the H5N1 virus had caused the epidemic. The results of their investigation were buried in China, most probably along with the collaborating Chinese scientists. WHO scientists and representatives were immediately expelled from the country, and when confronted by the WHO regarding these scientific findings, Chinese health officials denied that the tests were ever conducted, maintaining that their expulsion was due to misconduct. It became immediately clear to the international community that the Chinese government intended to keep the real facts of the 2005 epidemic inside China.

Most worldwide government health organizations quietly acknowledged the 2005 Chinese cover-up as a dangerous threat to world safety. However, with China on the rise as a major economic power, fully entangled with the world's economy, the international community never overtly pushed China to further involve WHO investigators. Instead, the international community quietly concurred that the Chinese could not be trusted to take the responsible and effective actions necessary to prevent the spread of H5N1, should the virus shift to effective human-to-human transmission. Subtle plans were activated, which would at least provide the

world with advanced warning of a coming pandemic. In April 2008, one of the plans yielded startling information. This information immediately activated the international community.

Intelligence deemed highly credible by U.S. and European intelligence agencies was received by British agents in early April 2008 and immediately disseminated to the WHO and U.S. intelligence agencies. The information contained a warning that the Chinese government had mobilized the largest Health Ministry response in history to the Qinghai province. The official reason given by Chinese health officials was once again swine streptococcus, but the source strongly disputed the Chinese explanation. The source stated that the massive Health Ministry response was due to the confirmed presence of a quickly developing H5N1 flu epidemic in the Qinghai province, already larger than the outbreak in 2005.

Most alarmingly, the majority of the cases appeared to be individuals that were never in contact or near birds discovered to carry H5N1, and the infection spread easily among human contacts within close-knit rural villages. The source stressed the high likelihood that a major antigenic shift occurred within the known H5N1 virus, evolving into a strain easily passable between humans. Also notable, neither Xining News nor Boxun ever reported the 2008 outbreak of the Qinghai province epidemic. Apparently, these underground reporting services had been quickly and efficiently silenced, adding to the complexity and sensitivity of the diplomatic situation. The world needed to address the issue with the Chinese without admitting that they had been spying.

Several nations' diplomatic services immediately contacted Chinese diplomatic officials, softly pressing for information, citing that rumors have persistently circulated about a new epidemic. The Chinese denied the presence of a problem in Qinghai, blaming anti-government factions for leaking false information in an attempt to sabotage the 2008 Summer Olympics in Beijing.

Hoping to quickly disintegrate the Chinese cover-up, the WHO, backed by several major governments, took several immediate controversial steps within a few weeks of receiving the information. First, the WHO revoked several million doses of an effective H5N1 vaccine that had been promised to the Chinese Health Ministry for the control of an avian flu epidemic. These doses were pre-staged in several east-Asian nations, ready for immediate deployment to China, but now would be allocated to the surrounding region in an initial effort to contain the virus. The international community had plausible reason to believe that these doses would be misused if delivered. Nearly 20,000 doses had been delivered to China in 2006 to be used for first responders and healthcare teams assigned to directly work in close proximity to any suspected H5N1 virus. Instead, numerous reports surfaced from China in late 2006, indicating that the vaccine doses had been given to national and regional Chinese Communist Party leadership. In 2008, China did not have any capacity to produce a flu vaccine.

Secondly, the WHO pandemic threat level was raised from phase 3 to phase 4, citing undisclosed information from Southeast Asia as the cause for the elevated threat level. This announcement provoked an immediate response from Chinese officials demanding the source of the information, and once again, completely denying the presence of an outbreak in Qinghai. The Chinese blamed the United States and several European countries for strong-arming the WHO to elevate the pandemic phase threat level in an attempt to undermine the 2008 Summer Olympics and ultimately tarnish China's reputation. Neither the WHO, nor accused nations responded to the charge.

Next, the WHO activated an accelerated vaccine production plan that would increase production of the current H5N1 vaccine, to meet a 1 billion new dose minimum by early fall

2008. Additionally, all seasonal flu vaccine production capability would convert over the next few months to producing the H5N1 vaccine. Initially, this action was viewed as a major gamble, since scientists had yet to determine if the current H5N1 vaccine would be effective against the new strain. As a final precaution, many countries began to stockpile anti-viral medications like Tamiflu, although their effectiveness against H5N1 was in question.

Three weeks after the first intelligence surfaced from China, scientific virus data was obtained from a new source, and CDC virologists confirmed that the current H5N1 vaccine would be effective against the new human-to-human H5N1 strain. Frighteningly, CDC and WHO virologists also determined that the H5N1 strain currently widespread in the Qinghai province had all of the genetic markers to indicate a highly pathogenic virus, easily transmittable from human-to-human. The WHO immediately raised the pandemic threat level to phase 5, and the world was now locked in a silent race to produce H5N1 vaccine in a quantity sufficient to prevent a worldwide disaster.

The final and most controversial step was adopted by a nearly unanimous coalition of nations within a mere week of receiving CDC and WHO confirmation of the new strain of human-to-human H5N1. Travel restrictions were instituted, severely limiting any air, sea or railway travel for passengers departing or heading to China. Regional Restricted Transit Centers were established in several nations surrounding China to screen passengers departing China by air. All air passengers originating from China were required to pass through these RRTCs for screening. Initially, these new restrictions triggered a few tense aerial standoffs, when Chinese commercial passenger jets, escorted by Chinese MiGs, attempted to force landings at unauthorized airports in Singapore, South Korea and the Philippines. The United States deployed two additional Carrier Battle Groups to the region to assist with enforcement of the travel restrictions. Despite Chinese protest of the restriction, soon all aircraft departing China were peacefully routed through the RRTCs. Sea and railway travel proved more difficult to control.

Simultaneously, with credible scientific evidence of the new strain of H5N1 in hand, numerous United Nations members called for an immediate summit with the Chinese to discuss the unfolding events and to urge China to integrate full-scale international involvement into their efforts to contain the spreading avian flu disaster. United Nations leaders also stressed the importance of cooperation in order to ease tensions and avoid an unnecessary worldwide economic disaster.

Chinese government officials were now receptive to outside assistance, likely due to the fact that they could no longer conceal the sickness of nearly 2 million Chinese citizens. Most of the illness was reported in the Qinghai, Sichuan and Guizhou provinces, with several large-sized cluster outbreaks spread throughout the rest of China, including the coastal cities Shanghai, Hong Kong, Shenzhen, Guangzhou and Fuzhou.

The coastal industrial region, Guangdong, suffered from a massive outbreak, confirming a suspected southeasterly surge of cases, from the middle-western regions of China to the coastal areas surrounding Hong Kong. Despite hiding these outbreaks from the international community for nearly one month, Chinese health officials, with massive and heavy-handed military assistance, had managed to quickly and effectively quarantine the major epidemic areas, drastically limiting human traffic from infected areas.

Although the flu pushed southeast regardless of these efforts, solid intervention and containment activity to the north prevented the flu from any large-scale sweep toward Beijing and kept the H5N1 strain from reaching its full deadly potential in China. Unfortunately, for those trapped inside the quarantined areas, the highly pathogenic H5N1 strain showed no mercy.

By the spring of 2009, nearly 20.3 million Chinese died within these areas alone. Casualties throughout the rest of China reached 9.8 million. Fortunately, the 2008 case fatality rate for the H5N1 strain turned out to be lower than predicted. During the 2005 outbreaks, H5N1 case fatality estimates in Asia ranged from 40-60%. For 2008-2009, the rate was closer to 8-10%.

While Chinese and WHO officials scrambled to contain the epidemic in China, the rest of the world continued to support quarantine travel restrictions for China and started to closely monitor their own populations for signs of the H5N1 flu. Governments began to distribute H5N1 vaccine according to national vaccination protocols and to ship limited supplies of vaccine to countries with no vaccine production capacity, as outlined by standing international protocol and pre-purchased vaccine arrangements. As of 2008, only nine countries reported vaccine production capability, with France, Germany, England and the United States providing nearly 65% of the total capacity.

In late May 2008, the summer Olympics in China were officially canceled, and in the beginning of June, the first cases of the new H5N1 strain started to surface internationally. The first significant virus clusters appeared nearly simultaneously in Siberia, Mongolia, India, Japan, Korea, Singapore, Indonesia, Australia and other countries along the western Pacific Ocean rim. However, hundreds of confirmed and suspected cases, or contained mini-clusters had already been reported worldwide.

The world braced for the seemingly unavoidable pandemic. New cases and confirmed virus clusters continued to appear worldwide, starting and spreading mostly in Southeast Asia during June and July, and eventually surfacing in the Americas, Africa and Europe by early August. Although isolated cases or mini-clusters appeared on all continents during late May and June, the spread of significant virus clusters progressed slowly over the summer, reaching all corners of the globe by early August. These significant clusters of flu cases represented the largest virus footholds and posed the greatest pandemic containment challenges. Consequently, these clusters received the bulk of WHO resources and attention.

However, as nations scrambled to contain the growing threat within their own borders, resources began to focus inward, leaving less fortunate nations with a drastically reduced capacity to handle the containment and treatment of the H5N1 pandemic.

Despite these shortcomings, the avian flu of 2008 was marked by a strikingly lower case fatality rate than expected, exhibiting a lower virulence than the previously seen strains. Additionally, it proved to be less contagious. These two key features, combined with both an effective international response and expansive vaccine program, produced a lower than expected worldwide transmission rate.

Nature's gifts aside, contingency plans had been formulated by the WHO and funded by the international community since 2006, providing several key safeguards that mitigated the deadly effects of the 2008 H5N1 virus. Most effective were the severe and strictly-imposed travel bans with known or suspected areas of infection. The initial restriction against Chinese travel, imposed and robustly enforced by major world governments, made later restrictions throughout the world easier to impose and execute.

With the taboo broken, long-term diplomacy and inaction were set aside in the interest of international safety and security. Even the smallest and least influential nations had little trouble denying travel from areas with known or suspected avian flu virus. The United Nations fully supported any such measures with the immediate promise of military enforcement and indefinite sanctions, providing the needed leverage to ensure compliance and ultimately preventing a true decimation of the world's population.

Simultaneously in early May, the WHO implemented an ardently proactive system of detecting, tracking and responding to suspected avian flu cases, sending vast resources across the globe to meet the pandemic threat.

The WHO pandemic surveillance and response plans proved effective throughout the summer and fall, however, completely containing the virus proved difficult even in the best of situations. H5N1 virus continued to propagate in a limited capacity, frequently escaping one containment zone (usually before full containment was imposed) and starting another cluster of cases in a nearby, geographically accessible area. Sometimes, the virus managed to travel much further, due mainly to the very devious nature of the flu virus. Infected individuals often showed no signs of infection or remained asymptomatic for 2-3 days after infection, but could be highly contagious to anyone that came into close contact with them. In this way, infected individuals shed the virus, while appearing perfectly healthy, and could often slip out of containment zones without knowledge of the danger they posed to their surroundings.

Despite these difficulties, WHO response procedures, combined with an aggressive vaccine program, kept the pandemic from achieving anything close to its full deadly potential. By early September, vaccine production exceeded expectations, and vaccine shipments followed two distinct patterns:

(1) routine and planned distribution according to pre-2008 WHO-sanctioned rationing guidelines.

(2) hot-zone containment distribution, where excess shipments were directed to areas with very high potential for an uncontrollable outbreak. These locations were identified early, and vaccinations commenced immediately for high-risk population groups and essential service personnel. Since the H5N1 vaccine required nearly 4-6 weeks to provide complete immunity, hot-zone vaccination procedures commenced early in high-risk zones.

The fall of 2008 proved to be tense worldwide. While most of the significant clusters were controlled and contained by WHO procedures, a few notable exceptions occurred, providing chilling insight into the potential of the H5N1 virus. In early September, avian flu virus massively broke free of containment in Karachi, Pakistan, and spread like wildfire throughout the country. The breakout resulted from overcrowding under dismal health conditions combined with a dysfunctional government-provided healthcare system. Pakistani residents began to flee toward the Indian border, fearful that the outbreak would escalate even further beyond government and WHO control.

Unsurprisingly, tensions mounted with India, where several large cluster outbreaks had already taxed the Indian system to the brink of failure. In late September, when massive waves of Pakistani refugees swarmed the Indian-Pakistani border, mostly via land, a brutal and severe Indian military response kept the pandemic refugees from overwhelming India's own desperate situation. The ensuing hostilities between India and Pakistan were immediately addressed by the United Nations Peace-Keeping Arm, with the aim of preventing both a conventional or nuclear escalation. By the end of the pandemic in late spring of 2009, 6.8 million Pakistanis died from pandemic-blamed causes. Relations between Pakistan and India remain tense to this day.

In October, the pandemic situation in Mexico City failed. WHO teams and Mexican health officials were overwhelmed by the sheer volume of cases spreading among the most densely populated and poverty-stricken areas of the capital city, where containment, social distancing and quarantine procedures proved impossible. Fortunately, strict and effective containment efforts outside of the Valley of Mexico kept the severe outbreak contained within the Mexico City

Metropolitan Zone. Sadly, flu casualties in Mexico City reached an estimated 1.5 million. In 2008, the Mexico City Metropolitan Zone had a population of nearly 21 million people.

Simultaneously in October, a nearly uncontainable outbreak erupted in Serbia, due mainly to the near impossibility of cooperation between Serbian national government officials and the UN-backed WHO teams. Negative Serbian nationalist sentiment toward major UN charter members, stemming mainly from UN charter member support of Kosovo's declaration of sovereignty in February 2008, stalled the timely activation of WHO plans within Serbia.

Once it became clear to the international community and surrounding Balkan states that this outbreak posed a serious threat in several geographic directions, the United Nations coordinated a mobilization and deployment of Balkan military forces to push well into Serbian borders, on all fronts, to assist with the formation of an effective containment zone. Once this zone was established, WHO teams, backed by UN security, entered the zone and started the long process of reestablishing control of the pandemic situation. Estimated losses in Serbia hovered near 545,000. The population of Serbia prior to the 2008 pandemic was approximately 10 million.

In each of these cases, outbreaks reached near full epidemic levels in the cutoff hot zones, with a 6-10% case fatality rate among those infected with the H5N1 virus. Interestingly, in each of these cases, a near complete loss of national and local government control ensued, catapulting each area into complete chaos. Nearly all services ceased to exist, including electricity, food, water, police, and health care services. As a result, civil disobedience, rioting, looting and general disorder reigned, requiring large-scale military and civil affairs interventions from neighboring countries. These cases were frightening glimpses of the true devastating potential of a pandemic.

In stark contrast to these situations, pandemic chaos was prevented in the most unlikely and unstable area of the world, Iraq. Positive, unexpected gains materialized in Iraq during the pandemic. As part of the U.S. vaccine rationing protocol, all forward-deployed members of the military received the earliest available H5N1 vaccine, with a higher priority classification for the units already deployed, or soon to be deployed to combat zones in the Middle East or Afghanistan. Additionally, coalition forces in Iraq and Afghanistan were given WHO authority to receive, stockpile and distribute WHO vaccine allotments to the local populations, in response to the present pandemic threat. Coalition forces received detailed WHO pandemic containment training, widely disseminating this training to civil affairs and medical assets throughout Iraq.

As a result, an extremely effective vaccination and pandemic containment policy was established and executed in Iraq and Afghanistan, effectively blunting the spread of H5N1 in these areas. In both cases, the presence of an organized, disciplined and capable force, with an established and effective command and control (C2) network, resulted in the effective implementation of promulgated WHO procedures. The coalition mission in both nations transformed within weeks from a robust anti-insurgency and democratization campaign to one of the most successful humanitarian operations in history.

In Iraq, at the beginning of this transition, Al-Qaeda-backed insurgent groups escalated the level of violence against coalition forces, civilians and healthcare providers, in the hope of fomenting a final and overwhelming revolt against the coalition forces. Their timing could not have been worse. The attacks, clearly aimed at disrupting the coalition and government efforts to safeguard Iraqi lives, immediately erased all remaining tolerance of insurgent violence toward civilians and pandemic containment efforts. Tribal leaders, militia commanders, and local Iraqi leaders, both Sunni and Shiite, joined together in a rare and momentous condemnation of Al-

Qaeda. Immediately following, a representative delegation of these leaders reached a tentative cooperative agreement with leaders of the coalition forces and the Iraqi government.

While the war against the pandemic raged throughout the world, a new war against Al-Qaeda-backed insurgents mounted in Iraq. Coalition forces, backed by Iraqi military forces and guided by a new army of local tribal militia, routed insurgent forces from all of their strongholds, sending the few survivors scurrying toward either Iran or Syria, where little refuge awaited them. By late spring of 2009, the Iraqi insurgency was declared dead by coalition commanders, the Iraqi president, and major Iraqi tribal leaders.

Afghanistan's Al-Qaeda-backed pro-Taliban elements were similarly driven from all major strongholds back into the mountains bordering Pakistan, where they would remain in obscurity. During late July of 2009, the U.S. administration, with the full backing of the senior U.S. commander in Iraq, declared that U.S. troops would begin a significant redeployment from Iraq by early in the fall of 2009. These troop withdrawals would coincide with the 2009 presidential election, which been delayed due to the state of worldwide and national emergency caused by the pandemic.

The WHO plan routed the H5N1 strain by late December 2008, and wave 1 of the 2008 avian flu pandemic disappeared in January 2009. Vaccination production continued at an unprecedented pace, with nearly 2 billion doses distributed by the beginning of February 2009. By May 2009, wave 2 of the deadly H5N1 strain was declared ineffective and unlikely to further cause pandemic illness. By this point, roughly 40% of the world's population had either been vaccinated or exposed (survived and now immune) to the avian flu, and the strain could no longer succeed at large-scale epidemic levels. The vaccination, surveillance and containment plans set forth by the WHO successfully met the challenge of the H5N1 virus. Most importantly, faced with an indiscriminating worldwide threat, the international community rapidly assembled and decisively acted to implement a plan to prevent the virus from reaching its true pandemic potential.

Still, worldwide death figures were grim. Nearly 49.8 million people died directly from flu-related causes, with another estimated 500-600 thousand deaths blamed on indirect causes such as rioting, starvation and famine. Southeast Asia accounted for a vast majority of the deaths, with China alone losing nearly 25.1 million of its citizens. Other highly-populated areas of Asia suffered high death counts, including over 4 million in India, 3.5 million in Pakistan, and at least 8 million spread throughout the western Pacific Rim (Koreas, Vietnam, Malaysia, Indonesia, Japan and Australia). The remaining 7-9 million deaths were spread among the Americas, Africa and Europe.

U.S. deaths remained relatively low considering a population of more than 300 million. For 2008 and 2009, within the U.S. and its territories, close to 112,000 deaths were officially attributed to the H5N1 virus. As a comparison, in any typical year, nearly 35,000-50,000 people die from seasonal flu-related complications in the U.S. Most of these deaths were geographically clustered in highly-populated regions along the west coast, particularly around San Diego, Los Angeles, San Francisco and Seattle. Several other major U.S. cities, including Dallas/Fort Worth, Atlanta, Chicago, St Louis, Denver, and the New Jersey/NYC metro area, suffered medium-sized cluster outbreaks, spreading to nearby communities and towns in the form of small cluster outbreaks. Fortunately, containment and vaccination efforts within the U.S. kept all major outbreaks from uncontrolled spread into the general population stream.

Despite these casualty figures, the WHO declared the international community's handling of the 2008 avian flu pandemic to be a success, but not all members of the international community

were immediately included in this celebration. Several countries blamed China's cover-up as the main culprit for the pandemic outbreak, proposing that if China had immediately cooperated with the WHO at the outset of their epidemic, the virus could have been mostly contained within China.

WHO officials were reluctant to support this claim, fearful of pushing the Chinese away from future cooperation. In a summary report, WHO officials admitted it was likely that the H5N1 virus would have eventually escaped even the tightest containment efforts within China, regardless of WHO involvement. However, their report did draw attention to the 3-4 week delay to international pandemic response time caused by the Chinese cover-up. The report even speculated that millions of lives may have been spared if earlier notice of the pending pandemic had been released by the Chinese government, regardless of whether China accepted international assistance.

To underscore the serious threat posed by China's actions, WHO officials theorized that given the avian flu's deadly characteristics, the final estimated death figures represented a fraction of the pandemic's potential killing capacity, and that without the quick international implementation of the WHO plan, casualties rates could have been multiplied tenfold. Their remarks were carefully crafted to put China on notice. This proved to be an incendiary comment, and parts of it were soon to be retracted by the WHO.

The Chinese decried the report, attempting to reinforce the position that their containment procedures and tactics should serve as a future WHO model, and that 100% containment remains impossible given the unpredictable nature of flu transmission. Addressing the issue of their reporting delay, they also dismissed the notion that lives could have been spared, as an anti-Chinese, non-scientifically based hypothesis. A feeble attempt to explain the delay followed, citing confusion between widespread swine strep cases and the H5N1 virus hiding in its shadows.

The WHO, CDC and most nations' health and disease organizations continued to declare the cooperative international response to the H5N1 pandemic as a model of success. Similarly, most scientific experts in related fields of study agreed that the system and protocols activated in 2008 by the WHO, if supported by the global community, would adequately prevent a future worldwide pandemic disaster. These experts, whose ranks were filled by government scientists, government health officials, government planners, and leading scientists in disease/virology, further forwarded a hypothesis that if a future pandemic threat is reported early enough to the WHO, the next threat could be more effectively handled at its point of origin.

These experts acknowledged that even the quickest and most effective containment could not completely prevent a pandemic threat from escaping into the world. However, they theorized that with a rapid and overwhelming international response at the point of origin, the pandemic would spread at a very slow and controlled rate, similar to the cluster outbreaks seen outside of China, and arguably on a much smaller scale.

With an overwhelming consensus of the international scientific community's support, the WHO requested additional resources from member nations. The requested resources included increased funding, enhanced vaccine research and production capability, and the augmentation of personnel to support nearly a 30% organizational expansion. The WHO received unfettered access to what it requested, and by the beginning of 2010, boasted an even more robust and effective capability to handle future pandemic threats. Throughout 2010, the specter of a global pandemic threat quickly faded from the world's general consciousness.

However, not all scientists were convinced that the threat of a devastating pandemic had been vanquished. From early 2009, skeptics quickly highlighted that the avian flu pandemic of 2008 only yielded a quarter of the deaths caused by the Spanish flu of 1918. Casualty estimates for the 1918 flu range from 50-120 million deaths worldwide. For many, this comparison served as a basis for declaring the pandemic efforts of 2008 to be an unqualified success; however, a smaller group saw the 1918 figures as cause for further alarm.

These skeptics, comprised of a small number of virologists, epidemiologists, public planning experts and assorted international academia, championed a minority opinion, casting serious doubt on the capability of the WHO and the world community to handle the next pandemic. Needless to say, their views were not popular in the WHO-dominated aftermath of the 2008 pandemic. Their theories were similarly unpopular with most national governments and public officials, due to the alarmist and potentially panic-inducing nature of their scientific claims. With little official support, these experts cast their lots together and formed an organization dedicated to educating the public, further promoting international pandemic awareness and lobbying major governments to increase preparation for a deadlier, more difficult pandemic.

The International Scientific Pandemic Awareness Collaborative (ISPAC) officially launched in February of 2010.

Despite major political challenges, ISPAC founders garnered enough financial and political support from private sources to promote their agenda internationally, tirelessly lobbying national and regional government agencies directly involved in public planning. Although small in size and of apparently limited influence, ISPAC created three regional operations centers, dedicated to coordinating ISPAC efforts and monitoring potential pandemic threats. The first center, located in Atlanta, U.S., maintained close, but strained ties with the U.S. Centers for Disease Control. This relationship provided real-time virus tracking and research information and allowed ISPAC representatives to indirectly influence CDC programs.

Although under U.S. government control, the CDC remained committed to exploring all available options and resources to prepare for another pandemic, remaining relatively impartial to ISPAC's agenda at the CDC, despite WHO pressure to sever any and all ties to what they described as a fringe, doom and gloom organization. ISPAC located their next station appropriately in Seoul, South Korea, where they could travel to and interface with international agencies responsible for monitoring and tracking viral flu cases in Southeast Asia. Although much of this information was readily available from the CDC tracking database, developing ties to local agencies and governments directly in the path of initial flu outbreaks enhanced their credibility and provided critical tools for promoting their agenda. The final station settled in London, England, where ISPAC officials established a working relationship with the United Kingdom's Department of Health, Infectious Disease Division.

In response to the establishment of these centers, the WHO leveraged their international political weight to blockade ISPAC efforts to expand influence. Particularly, the WHO established a persistent presence at the UN, under the aegis of major UN charter members, where they regularly lobbed veiled threats toward UN member nations that interacted with ISPAC representatives. Mainland Europe, South America, Russia, and most regions of the world dependent on UN and WHO support, fully cooperated with WHO requests to sever ties with ISPAC and ignore future lobbying efforts. This essentially denied them access to a vast majority of international resources and influence, but did not render them ineffective.

U.S. CDC and U.K. leadership remained unmoved and unimpressed by WHO intimidation, maintaining their commitment to a more objective and unbiased approach to pandemic disease

planning and study. Furthermore, in the U.S. and the U.K., a general disdain for external political pressure, especially from international organizations like the UN or WHO, permitted ISPAC to continue limited operations with the CDC and U.K. Department of Health. Regardless of this stance, considerable political pressure, generated by powerful WHO influence, continuously pushed downward from each nations' government, effectively prevented ISPAC from influencing major policy decisions regarding pandemic planning.

Fortunately, due to these two key relationships and their unremitting field presence in Southeast Asia, ISPAC continued to maintain and enhance their own capacity to track potential pandemic virus. ISPAC established a public website and hotline system to provide real-time flu information to the world's population. Information, publications, manuals and leading essays regarding pandemic planning remained constantly updated and available to the public and private sector, with the hope that this resource would be used to strengthen what they considered to be the most critical and neglected aspect of the pandemic defense. In their view, the very least they could provide to the world was the earliest possible warning of a legitimate emerging pandemic threat, so that individuals and grass-roots-level organizations could make life-saving, immediate planning decisions. This became their focus and mission in the face of a nearly insurmountable blockade of their efforts to impact policy.

ISPAC website resources and live-tracking updates continued to remain available to those with access to power and satellite website service until mid-January 2013.

ISPAC and WHO Controversy following the 2008 Avian Flu Pandemic

Linking apparently sound logic, scientifically-based statistical theories with a basic cautious approach to their contrarian views, they forwarded the notion that the world caught a break with the 2008 H5N1 strain. The H5N1 strain's lower pathogenicity hovered around 6%, instead of the 40-50% seen with previous H5N1 strains. Also noted, the pandemic H5N1 strain displayed a quicker than normal asymptomatic to symptomatic shift. Infected individuals showed symptoms within 1-2 days, instead of the 3-5 day period seen in previous seasonal and pandemic flu strains. Since symptoms surfaced quickly, infected individuals were more rapidly detected, contained, and treated, greatly reducing the geographic spread of the virus.

Scientists calculated that if the strain had behaved differently, with a longer asymptomatic virus shedding period, then the disease would have been harder to detect and contain, and easier to transmit. Consequently, the pandemic flu could have infected a significantly higher percentage of the population.

Either scenario, higher pathogenicity or elevated transmission rates, could push pandemic response plans, national healthcare systems and social/essential services beyond their capacity to handle a pandemic. These scientists pointed to the disasters in Pakistan, Mexico City and Yugoslavia/Serbia as examples of what could happen everywhere in the world if just one of the scenarios materialized.

Even worse, combining both pandemic scenarios, in their opinion, could trigger a global disaster of truly epic proportions. They simply forwarded the theory that, if any of the severely pathogenic H5N1 strains seen in 2005-2006 had made the antigenic shift to effective human-to-human transmission, then the world would have faced a more highly-contagious and transmittable strain of flu, with a 40-50% case fatality rate, that could be spread for days by individuals showing no outward signs of the virus. The outcome of this pandemic would have been drastically worse than the 2008 pandemic, regardless of the presence of an effective vaccine.

Another key element fueling the contrarian view involved vaccines. When the 2008 pandemic started in China, an effective vaccine already existed for the deadly strain, and the international community put the vaccine into immediate wide-scale production on a level never seen before. If a novel strain evolved, most disease and health experts concur that it will take at least 4-6 months to develop an effective vaccine once the pandemic virus strain is identified by world health officials.

Large-scale production of the vaccine would follow, after vaccine production facilities converted to the creation of the new pandemic vaccine. This conversion could add weeks, or possibly months to the entire process, followed by the difficulties of nationwide or worldwide distribution during pandemic conditions. Overall, the world could very likely be forced to wait 6-9 months before the general delivery of an effective vaccine. Even worse, the distribution of the new vaccine would follow national and international rationing protocols, further delaying widespread distribution of the vaccine.

The world's population will face a stark reality. The majority of people could be forced to live and survive in a hostile and deadly pandemic environment for nearly a year before receiving vaccination to the flu.

Many of the critics paint a grim picture of this pandemic world. In 2008, for both modernized and developing nations, hospital-based care remained available to a vast majority of infected

individuals, drastically improving outcomes and contributing heavily to the low overall case fatality rate. Although the situation in many developing nations approached, and in some cases, crossed the tipping point for the availability of hospital or clinic-based care, the modernized nations' system was never truly challenged by the 2008 pandemic.

The outcome would be different in the face of a deadlier and more infectious virus. The breakpoints for inpatient healthcare availability, in both modernized and developing nations, would be reached quickly, and the result would be catastrophic.

The scenario described by these scientists was depressing, with statistics citing that within 2-3 weeks of a pandemic outbreak in a given area, all available inpatient services such as hospital beds, ventilators, observation rooms, medical staff, would be occupied. Based on 1918 pandemic flu patterns, within weeks, in the U.S. alone, the health care system would need 200% of all existing hospital beds, 500% of intensive care unit beds, and over 200% of ventilators to meet the flu demand. Once inpatient capacity was filled, patients would be given a set of home-based care instructions and turned away.

The predicted survival rates for hospital-based care versus home-based care differ greatly, based on the severity of the patient's flu symptoms and easily recognizable patient risk factors (age, chronic disease, and general health). The best example is demonstrated by patients in a medium-high risk category, who are typically either very young or very old, or have an underlying chronic disease that can lead to further complications (diabetes, heart disease, pulmonary disorder).

For this group, patients treated within a stable and fully-resourced inpatient setting would survive at a rate of 80-85%, while patients treated in a stable home setting, with access to basic medical supplies, would be expected to survive at a rate of 40-50%. It is important to note that these figures applied to best-case scenarios in each setting, where access to power, water, medical supplies, competent medical personnel and equipment remains constant.

The projected difference between the two, in even the best of circumstances, is remarkable. Once all inpatient services were occupied within the first few weeks of a more virulent pandemic flu, and basic medical stockpiles started to disappear, the expected rates of survival would plummet in both settings to 20-40%.

Another notable difference predicted by ISPAC (International Scientific Pandemic Awareness Collaborative) was the widespread loss of essential services. Their public planning experts agreed that with the predicted onset of a more severe pandemic, the combination of a rapidly growing infection rate and an overwhelming fear of infection will lead to massive absenteeism rates for all sectors of public and private service. Inevitably, high absenteeism rates combined with rampant sickness will seriously deteriorate the reliability of fuel delivery and degrade both municipal and regional public service departments' ability to repair, maintain and operate their systems.

In a short period of time, once local fuel reserves are exhausted, or system repairs exceed the capability of remaining personnel, a general collapse of essential services like electricity, public water, food distribution, communications (phone, cable, cell phone) and public safety (fire and police) will follow. Eventually, even the hospitals and temporary pandemic treatment centers may face severe personnel shortages, exhaustion of essential supply stockpiles, and the loss of a stable power source.

These experts found it nearly impossible to predict the duration of time that these essential services would be affected, only that the likelihood of losing many of these services was extremely high. Without basic survival needs, like running water, food, heat and medical

supplies, they theorized that adequate home treatment of the flu would be nearly impossible, further exacerbating the flu's case fatality rate.

Given the inherent difficulty to predict the duration of an essential services black-out, experts began to voice concern for the basic survival prospects of non-infected individuals and flu survivors. Statisticians and epidemiologists cited that even in the most modernized parts of the world, like Europe and North America, very few families have an adequate stock of food or water to survive for even one week, and national food reserves might remain inaccessible to most population groups.

Even if the food reserves were accessible, no coherent rationing plan existed, and in any event, on-hand reserve supplies would not last for more than a few weeks. Once the food and water distribution capacities are interrupted, even families who lived within a few miles of several major food stores would find it nearly impossible to procure safe food or water.

The situation in the developing regions of the world was even more desperate. With no national food reserves, and in many cases a near complete dependence upon food importation or aid shipments, the populations of many developing nations would face an immediate food and clean water shortage, worsened case fatality rates and vastly increased nourishment-related deaths. Once aid shipments ceased, survival in a region currently threatened with severe drought or famine would be close to impossible for both infected and non-infected alike.

Within these regions, ISPAC experts calculated that the death rates would catapult many regions into disastrous civil disorder. Given the likelihood that most national, regional and local civil protection capability will also be drastically diminished, an incendiary situation could develop, further adding to the chaos of the pandemic environment.

ISPAC experts pointed to examples of civil chaos seen during the 2008 avian flu pandemic, specifically in Pakistan and Yugoslavia, where a near complete loss of civil order occurred in vast geographic areas, creating nearly impossible environments for local, national and WHO pandemic efforts. In both Yugoslavia and Pakistan, casualty rates rose drastically when flu cases quickly overwhelmed the health system capacity, further rising when a near complete loss of essential services followed. ISPAC predicted that the disasters seen in Pakistan and Yugoslavia would likely be repeated everywhere in the world, even in the most modernized nations, in the face of a severe pandemic.

With their cautious and foreboding predictions, ISPAC representatives worldwide promoted a pandemic awareness and preparedness agenda that reached past WHO-supported measures. Although not diametrically opposed to WHO efforts, ISPAC dogma criticized the WHO's monopoly of pandemic preparation and response. Since the apparent success of WHO efforts during the pandemic of 2008, the WHO billed itself as the sole provider of pandemic planning, preparedness and response for the world. As a result, many major nations decided to simply pay large financial sums to the WHO, letting them bear the burden of preparing for the next pandemic.

ISPAC firmly believed that WHO involvement in the next pandemic will be critical to mitigating fatalities and fighting the pandemic on a large scale. However, given the frightening prognosis of a deadlier pandemic flu, ISPAC officials projected that the next pandemic would quickly render WHO plans irrelevant and ineffectual. They maintained that the bulk of the pandemic readiness and response will need to stem from individual households, municipal and regional governments, and the private service sector. In effect, the WHO plan acts like a shield to prevent or slow the flu's breach of a region, but once the shield is overwhelmed, WHO plans

provide little capability to fight an internal battle against the flu because WHO plans can't be effectively reduced to smaller scale.

Even worse, most nations allocated nearly all of their authorized pandemic preparedness funding to the WHO, leaving little funding left to seriously implement a domestic plan. Most nations had committees and departments that developed pandemic plans at all levels, but few countries empowered these entities to implement the plans and prepare. Unfortunately, ISPAC's efforts to augment WHO plans met with considerable resistance by the WHO and the international community. The WHO sought to maintain their international pandemic planning monopoly, which yielded generous funding, and most nations had little interest or motivation to assume responsibility for further pandemic planning costs. It was easier for governments to write a check and pass the responsibility on to the WHO. After all, memories of the 2008 pandemic had long faded from the headlines and resurrecting them proved unpopular to voters worldwide.

Field Resources Available in 2008

In 1995, sponsors at Emory University, with International Society of Travel Medicine (ISTM) and CDC collaboration, established a system called GeoSentinel, which served to monitor emerging infections of potential global impact. Currently utilizing 41 GeoSentinel sites and 145 ISTM clinics on six continents, CDC and WHO officials can track the introduction and progression of diseases with pandemic potential. Since 2005, the main focus of the GeoSentinel system has been the detection and tracking of H5N1 virus strains. GeoSentinel forms the backbone of the WHO's Global Outbreak and Alert Response Network (GOARN).

In 2005, the World Health Organization created specialized Forward Liaison Teams (FLT) to quickly respond to detected threats. Their purpose was to help host-country health officials to immediately develop and implement a grass-roots-level detection and reporting network beyond GeoSentinel, to further track and study the emerging threat. The network utilized national and local level representatives, comprised of health service providers and government service officials, to extend the surveillance capability within their area of responsibility. Once an effective system was developed, the FLTs would either remain in place to further develop host capabilities, or be re-deployed to another area of interest.

In mid-May 2008, the WHO assembled and officially introduced the Rapid Response and Surveillance Team (RRST) to the world. The RRST's operational capability was one of the key contingencies formulated between 2005 and 2008. These teams tirelessly scoured the planet, investigating potential virus outbreaks and reporting the findings to the WHO for immediate asset allocation. Typically, an RRST was deployed within hours of a credible virus report. The RRSTs operated under the full support of the United Nations' military enforcement arm. Likewise, admittance and full cooperation with the RRST by the host governments was mandatory and noncompliance was decreed by the UN to be an immediate, hostile action against world safety and security. With the full weight of the UN members backing the WHO, the RRSTs operated unhindered.

Once the RRSTs entered, if the H5N1 virus was detected, rapid mobilization of the host nation's resources was implemented in accordance with WHO pandemic containment and treatment plans. These guidelines accounted for the various stages of economic and industrial development found throughout the world, and served as a baseline for immediate action. Quickly following the activation of the host nation's resources, Rapid Response Assistance Packages (RRAPs) were deployed, sometimes in several stages, containing vaccine, medical augmentation material, and additional WHO personnel. The RRAP personnel provided education and pandemic plan implementation expertise to the host nation's government and health services infrastructure, and in extreme cases, simply assumed control of all efforts to fight the pandemic.

The WHO's enhanced response capability in 2008 proved effective against the emerging H5N1 pandemic.

Media from The Jakarta Pandemic

Among the first reports - *The Today Show*
Late October 2013

Comment [PN1]: Possibly italics here too.

"In day two of a tense political standoff between China and the United Nations, China has further tightened travel restrictions into their country, essentially cutting off all foreign commercial air travel into the country. Hong Kong International airport continues operations, but no flights are permitted to continue into the Chinese mainland. Observers described the scene at Hong Kong International as organized chaos, as airport officials and Chinese government workers struggle to maintain order in one of the busiest in the world. Now, let's talk to Jeff Talon, who is currently in Singapore, only recently released from Hong Kong International airport. Jeff?"

"Yes, Matt."

"Jeff, could you describe your stay at the airport and the circumstances that led to your stay? I believe you were headed to Hong Kong International from Singapore, when the travel restriction was announced?"

"That's exactly right, Matt, we were close to two hours out of Hong Kong when the captain announced that the flight would continue to the airport, but that all passengers with continuing flights to destinations within China would not be allowed to proceed. If Hong Kong International was a connection to another country, you had very little hassle upon arrival, but for those of us with continuing flights into China, it was truly unbelievable."

"How so, Jeff?"

"First, very little information was passed to us. We were simply told to stand in line. We were put onto a bus that crossed the airport and deposited us inside a closed hangar. It was nearly 8 hours before anyone in a position of perceived authority came to gather our information, presumably to arrange transportation out of the country. Even then, they provided no further information regarding our status. From there, it took at least another day, with little to no information, before we were suddenly herded back on a bus and put on a Singapore Airlines flight back to Singapore."

"Sounds frightening, did they ever give you any information regarding the travel ban?"

"No, Matt. This is what scared everyone the most. None of our cell phones worked at first, presumably because the cell towers and nodes had been shut down by the government. This set off a panicky mood among passengers, especially since we had been whisked away from the terminal with no explanation. We weren't the only passengers taken out of the terminal. We joined nearly 600 other passengers already in the large hangar, and hundreds more arrived shortly after us. We think they filled several of these large hangars, maybe more. There was some speculation about a war, but these rumors were put to rest by passengers arriving later in the morning. Rumors of a possible flu outbreak began circulating by midday, compounded by the fact that all of the Chinese government and military officials were wearing masks."

"Jeff, what were the conditions like in the hangar?"

"Pretty awful, Matt, but we were not mistreated, we were just ignored for a long time. I think they had their hands full at that airport. Like I said earlier, it took nearly 8 hours before they started to process our information, and unfortunately, it took nearly this long to get any food or water. The hangar itself was temperate, thankfully, but as you can imagine, it was quite

claustrophobic, and the Chinese officials would not let anyone out of the hangar for any reason. I was glad to get out of there the following day, very glad to say the least.”

“That doesn’t sound like fun, I hope you didn’t have to go to the bathroom too often,” Matt joked.

Alex piped in, *“Jesus, that would have been my first concern. Getting to that toilet first, before the other 800 other people decide they have to squat over the hole.”*

“They don’t squat over holes in China,” Kate protested.

“They certainly do. Maybe not in the main airport terminals, but any bathroom built for the hangars would be constructed according to local standards, which in my experience throughout Japan and Korea, is very likely to be a porcelain hole in the ground. These things flush, and are nice, but to an untrained westerner, they present a challenge. There are bound to be some missed bombing runs, and...”

“Okay, I get the picture,” Kate said, shaking her head with a look of disgust.

“Yeah, Matt, I’m trying to forget the bathroom situation. Simply unforgettable, especially after about 12 hours in that hangar.”

Alex stated, *“I’m sure they ran out of shit-paper after the first 50 guests, probably not high on their priority list. What a nightmare.”*

“Thank you, Jeff. Now, let’s head over to our World Health Organization correspondent, Carolyn Davill.”

“Good morning, Matt, I’m reporting from outside WHO headquarters in Geneva, Switzerland, where a considerable buzz has developed since yesterday’s surprise Chinese clampdown on travel into China. There are many theories and speculations, but it remains clear today that China has not released any verifiable information regarding their decision. Sources close to the WHO stated that the primary speculation, and the greatest concern, is a pandemic threat developing in China. However, officials admit they are puzzled by the one-way travel restriction declaration. Flights are still departing China for all regions of the world, exports are continuing, and the importation of raw goods has not been restricted, although it is unclear how much longer this may be the case. Our WHO source claims that there is serious discussion within the UN regarding the institution of immediate travel restrictions with China, similar to those seen in 2008. We have also heard that several nations are possibly hours away from announcing independent travel restrictions with China.”

“Interesting, Carolyn, early reports from our Washington, D.C., correspondents and UN desk indicate that lawmakers on Capitol Hill will be meeting for an emergency session to discuss the events, and we are in the process of confirming that the UN has also declared an emergency session to respond to the Chinese travel ban. Carolyn, the prospect of possibly another pandemic-grade illness in China is a terrifying prospect for everyone. What have you heard from your sources at the WHO, specifically regarding this theory? Have they seen any indication that it may be true?”

“First, let me say, Matt, that the WHO is not releasing much information. We do know that they are in active negotiation and contact with Chinese health and government officials. They have assured us of this. As far as specific pandemic information, our sources told us that they were very unnerved by the fact that all Chinese government and military personnel at the airport were wearing face masks, and that all of the airport personnel were also soon given the same

equipment. One rumor persists that several passengers were screened through a medical triage center, where apparently Chinese health officials were very concerned with identifying flu symptoms.”

“Certainly an ominous possibility, let’s hope this doesn’t pan out. Have you heard any speculation about why the travel ban is one way, and that travelers are allowed to leave China?”

“Well, Matt, once again, no definitive information exists regarding the logic behind the ban, however, there are several theories. The predominant theory is an economic one, speculating that if there is an outbreak, China does not want to disable its economy by limiting exports or imports, or even the export of its talented human force around the world. China is a dominant world power, having catapulted back onto the world economic scene after the 2008 pandemic, in a more powerful position than before. It is possible they hope to contain any problem arising. I can tell you this, despite an enhanced capability to handle pandemic threats, officials at the WHO are concerned about China’s lack of timely communication. They do not want a repeat of 2008.”

“Interesting, Carolyn, what are some of the other theories?”

“Matt, another theory on the table is that China is concerned about an external disease threat. This would make more sense given the one-way travel ban, clearly aimed at keeping travelers out of China, however, more credence is being given to the first theory, especially in light of China’s track record in 2005 and 2008.”

“Carolyn, have health officials at the WHO detected any suspicious virus activity throughout Southeast Asia that might support the second theory about an outside threat?”

“Our sources have not confirmed any unusual patterns, and WHO, CDC and GeoSentinel outbreak alert web pages have not highlighted any trends. However, the International Scientific Pandemic Awareness Collaboration is focused on the second theory. Our contact at the ISPAC states that they are actively investigating several dozen unidentified flu-like cases spread throughout Asia, specifically focused on the areas south of China.”

“What has been going on in this area?”

“Unfortunately, there is not much information on the ISPAC website, and our contact said that they just dispatched additional resources to the area. But our source did say that several International Society of Travel Medicine (ISTM) sponsored clinic sites linked into the GeoSentinel system have reported uncorrelated illnesses, mostly from foreign travelers.”

“Thank you, Carolyn, I am sure we will be hearing from you again shortly.”

“Thanks, Matt.”

“It’s thirteen after the hour and time for a quick break. When we return, we’ll hear from Dr. Donald Fendelman of the CDC, who will provide some background information about the world’s pandemic outbreak detection capability.”

Today Show Interview with CDC Virologist Late October 2013

“Good morning, everyone, welcome back. We now shift back to the U.S. to speak with Dr. Donald Fendelman of the CDC, who is one of the world’s leading virologists. Dr. Fendelman, good morning.”

“Good morning, Matt.”

Comment [PN2]: Possible italics this section.

“Doctor, thank you for taking time out of what must be a hectic schedule, given the circumstances.”

“Always a pleasure, Matt.”

“So, what can you tell us about the current situation in China.”

“Well, first, thank you for inviting me to speak to such a wide audience. I hope I can shed some light on current events, but I am afraid that the CDC may not have much more to offer than the WHO. I can say that we are working with the WHO to formulate a plan to address the situation in China, with the Chinese Health Ministry. Our hopes and intentions are to resolve this within the realm of International Health Organizations and avoid further political, military or economic posturing. We are also operating in a liaison mode with the ISPAC and providing them with assistance to further investigate some of their concerns regarding recent developments. As you are aware, the relationship between the ISPAC and WHO is strained, to put it mildly. However, it is the CDC’s position that the ISPAC provides a unique perspective to the pandemic preparedness equation and should be afforded every opportunity to participate on a wide-scale level. Because of this stance, some of us at the CDC probably won’t be receiving Christmas cards from the WHO any time soon.”

“Yes, I imagine you won’t. You just mentioned recent developments. Are you referring to the uncorrelated illness cases surfacing in Asia, outside of China?”

“Yes, Matt, most of our efforts are focused in line with the WHO’s to address China’s travel restrictions. As such, we will allocate resources to help the ISPAC investigate any angles that we cannot simultaneously prosecute. At least a few dozen cases have attracted the attention of international health agencies, spanning several locations within Southeast Asia, but absolutely no conclusions can be drawn from these cases. They appear flu-like, and in most cases were reported second hand to local ISTM sites and picked up by the GeoSentinel system. Some of these cases have been reported first hand to ISTM sites, and these are the easiest to investigate. I presume ISPAC officials will start with these cases. Keep in mind, Matt, that tensions are high in this region, and rumors of some sort of outbreak in China are running rampant. So it is likely that we will see a massive increase in reported illnesses, of many varieties, including sicknesses not typically reported to GeoSentinel linked sites.”

“Doctor, you mentioned the GeoSentinel system, could you give us a brief rundown of this systems current capabilities?”

“Sure, Matt, in 1995, scientists at Emory University, backed by both the International Society of Travel Medicine (ISTM) and the Centers for Disease Control and Prevention (CDC), established a system called GeoSentinel, which served to monitor emerging infections of potential global impact. Currently utilizing 52 GeoSentinel sites and 253 ISTM clinics on six continents, CDC and WHO officials can track the introduction and progression of diseases with pandemic potential. Since 2005, the main focus of the GeoSentinel system has been the detection and tracking of flu virus strains.”

“This system has been significantly enhanced since 2008. Right?” Matt said.

“Yes, Matt, in 2008, only about 41 GeoSentinel sites existed and about 145 ISTM clinics. The newly-expanded system is truly the backbone and primary detection capability of the WHO’s Global Outbreak and Response Network (GOARN). The WHO also utilizes Forward Liaison Teams (FLT), first introduced at the outset of the 2008 pandemic.”

“Doctor, refresh my memory if you could, the FLTs are deployed once a pandemic outbreak is identified and sent to locations likely to receive infected travelers?”

“Yes, Matt, good memory, the FLT’s are deployed in the likely path of the pandemic outbreak, with the mission of augmenting GeoSentinel detection capabilities. The FLT’s interface with host-country health officials and assist with the immediate development and implementation of a grass-roots-level virus detection and reporting network. The network utilizes national and local level representatives, comprised of health service providers and government service officials, to extend the capability to detect the early onset of flu cases within their area of responsibility. Ideally, within a week of FLT arrival, a system would be developed that could detect the presence or intrusion of suspected flu virus activity, and immediately report it to the WHO for further investigation. Once an effective system was developed, the FLT’s would either remain in place to further develop host capabilities, or be re-deployed to another area of interest. This system worked very well during 2008.”

“Doctor, can you confirm whether any of these teams have been deployed to Southeast Asia?”

“Matt, I really can’t say for sure, the WHO retains complete authority over the use of these assets, although in many cases CDC personnel fill slots on those teams. To my knowledge, none of our personnel have been notified. That is a great question for the WHO.”

“Finally, Dr. Fendelman, what are some of the other capabilities that the CDC can deploy?”

“Well, the CDC does not actually deploy its own teams overseas, it agrees to fill slots, at nearly all levels, within the WHO’s Global Outbreak and Response Network. Currently, this network includes the previously mentioned Forward Liaison Teams, Rapid Response and Surveillance Teams (RRST) and the Rapid Response Assistance Packages (RRAP). In a declared pandemic environment, the RRSTs tirelessly scour the planet, investigating potential virus outbreaks and reporting the findings to the WHO for immediate asset allocation. Ideally, an RRST is deployed within a few hours of a credible virus report. RRSTs operate under the full support of the United Nations’ military enforcement arm. Likewise, admittance and full cooperation with the RRST by the host governments is mandatory, and noncompliance is decreed by the UN security council to be an immediate, hostile action against world safety and security. With the full weight of the UN, RRSTs typically operated unhindered, as was seen during 2008.

“Once the RRSTs detect a pandemic virus, rapid mobilization of the host nation’s resources is implemented in accordance with WHO pandemic containment and treatment plans. These plans can be tailored for the full spectrum of economic and industrial development found throughout the world and serve as a baseline for immediate action. Quickly following the activation of the host nation’s resources, Rapid Response Assistance Packages (RRAPs) are deployed, sometimes in several stages, containing vaccine, medical augmentation material, and additional WHO personnel. RRAP personnel also provide education and pandemic plan implementation expertise to the host nation’s government and health services infrastructure. In extreme cases, they will simply assume control of all efforts to fight the pandemic.”

“Incredible, I truly hope this is not where we are headed. Dr. Fendelman, thank you again for talking with us, good luck today.”

“Thank you, Matt.”

“It’s reassuring to know that a lot of agencies are working on this as we speak. Hopefully, we’ll all get some solid information soon.”

**First Interview ISPAC Virologist
Early November 2013**

Alex enjoyed the stretch of road between Falmouth and Yarmouth. Nothing but trees and the occasional business or neighborhood development tucked away between tall thick pine trees. He's absently listening to 80s music on satellite radio, when he suddenly remembered that NPR's *Talk of the Nation* started a few minutes ago. He pressed the remote control preset button for NPR and confirmed that the talk show already started. Alex slowed his car and pulled off into the uncrowded parking lot of a landscaping business.

"...worldwide we promote a pandemic awareness and preparedness agenda, reaching past WHO supported measures, and augmenting WHO plans with additional layers of readiness. I can't stress enough, that we are not opposed to their efforts, as many appear to believe. We both pursue the same agenda. To combat the pandemic threat and better prepare the world for a pandemic flu. It's just that we put more emphasis on preparing the public for pandemic flu."

Alex heard the topic and commented to himself that he probably won't be making any sales calls until after 11 a.m., when the show ends. Actually, he contemplated the reality that he won't be making any calls at all today. He still needed to check out all of the websites and blogs. That could suck him in for hours.

"Dr. Harris, a consensus of UN members feel that your organization attempts to undermine the WHO's credibility and authority, whenever possible, by attacking their positions and plans. How do you respond to that?"

Comment [PN3]: This section also for potential italics.

Ah, he's one of the ISPAC's more diplomatic spokespeople. Not as much fun as Dr. Ocampo.

"First, I think that these nations are giving us more credit than we are due, considering that we operate on a fraction of the WHO's budget. Not to mention the embedded material and transportation support of UN member nations. Frankly, I only wish we could be as effective as they claim. To answer your question, yes, we are highly critical of the WHO's monopoly of the world's pandemic planning and response efforts. The WHO bills itself as the sole competent provider of this role, and the world buys into their rhetoric, literally. Most nations pay large financial sums to the WHO and wash their hands of the problem. They'd rather let the WHO bear the burden of preparing for the next pandemic. This financial support takes the form of contributions to the WHO, well above and beyond amounts paid to the United Nations. Once again, we are not opposed to WHO efforts, on the contrary, we firmly believed that WHO involvement in the next pandemic will be critical to mitigating fatalities and fighting the pandemic on a large scale. However, given the frightening prognosis of a deadlier pandemic flu, ISPAC officials project that the next pandemic could quickly render the WHO's big picture plans ineffective. In effect, most nations are investing all of their pandemic budget in the wrong place."

"Could you explain that in more detail?"

"Sure, we believe that the most important aspect of pandemic readiness and response needs to stem from municipal and regional governments, the private service sector, and individual households. Let me break it down a little better. The WHO plan acts like a castle wall, to prevent or slow the flu's entry into the castle. But once the defense is overwhelmed, WHO plans provide little capability to protect the inhabitants of the castle against the flu. So if the flu is worse than 2008, the castle wall will be breached very quickly. Even worse, most nations have allocated

nearly all of their authorized pandemic preparedness funding to the WHO, leaving little funding left to seriously implement a domestic plan inside the castle wall. Sure, most nations have committees and departments that develop and maintain pandemic plans at all levels, on paper, but few countries financially empower these entities to seriously implement the plans. It is very unfortunate that ISPAC's efforts to augment WHO plans meet with endless resistance from the WHO and international community. The WHO continues to maintain their international pandemic planning monopoly, which yields them generous funding from nations that have little interest or motivation to assume further financial responsibility for domestic planning costs. It's easier for governments to write a check and pass the responsibility on to the WHO."

"Doctor, you stated that the barrier could be breached by a flu worse than the H5N1 strain seen in 2008. The WHO counters that they are ready for this possibility. They cite the massive increase to their funding since 2008 and a near doubling of their asset deployment capability in the same time period. Given this increase, would it be fair to say that they have risen to meet the challenge of a deadlier flu?"

"On paper, it all looks good, but once again, the increase to their capabilities still fails to address all aspects of pandemic flu behavior. By closely studying past pandemics like those seen in 2008, 1968 and 1918, you will find that no matter how tight or seemingly effective a quarantine or containment effort appears to be, it remains impossible to stop the transmission of the flu through conventional barriers. Impossible. So, the WHO has built a stronger castle wall, and this is fantastic. This effort alone will save countless millions of lives in the face of another pandemic. However, once the castle wall is breached, and it will be breached, the inhabitants inside remain unprepared and defenseless. The world's nations are putting all of their hard resources into building this better castle wall. However, it's our opinion, based on hard scientific fact and study, that you cannot build an impregnable castle wall."

"Well, Dr. Harris, I can see why the label 'doom and gloom' gets tossed at your organization. It all sounds rather pessimistic."

"I admit that this outlook is depressing, but it is a harsh reality, and the ISPAC is committed to raising awareness and improving the world's ability to cope with the next pandemic. What's truly depressing is that our outlook is based on scientifically sound data patterns and probability, yet our ideas are dismissed by the WHO as fear-mongering speculation, and our efforts are stymied on all levels. Tragically, our own nation's Department of Health and Human Services will not cooperate with us on any level, demonstrating the overwhelming degree of foreign pressure filtered through our own politicians, right down into our own government agencies. For us, this is a terrible loss, since DHHS is responsible for U.S. pandemic preparation and response efforts. Thankfully, a reasonable degree of scientific and professional objectivity stems from the CDC and the United Kingdom's Department of Health. Without their quiet support, we would have a much more difficult time operating worldwide."

"Doctor, I have heard you state before that the world caught a break with the 2008 pandemic. The WHO emphatically disagrees with this statement, once again dismissing it as speculative pessimism. Would you explain to our listeners why you feel the world caught a break?"

"Right, it's rather simple, so let's start with some of the basics. First, the 2008 H5N1 strain had a significantly lower pathogenicity than any previously seen H5N1 strains. Pathogenicity means a microorganisms capacity to produce disease and inflict damage, and is typically directly related to the disease's case fatality rate. Case fatality rate is the proportion of individuals that contracted the disease, that die from causes directly related to the disease.

Throughout recorded human history, documented case fatality rates for pandemic diseases rarely exceeded 5-8%. Earlier strains of H5N1 in Southeast Asia produced a 40-50% case fatality rate, which really scared world scientists. Granted, the number of cases was low, and many scientists argued that a significant number of cases went unreported and presumably resulted in survival. Even given these ideas, the case fatality rate would have still remained about 25%, which is still unlike any pandemic-grade disease ever seen before. When H5N1 finally mutated to a strain capable of highly sustained human-to-human transmission in 2008, it also mutated into a strain with a lower pathogenicity, and a subsequently lower case fatality rate. The rate hovered around 6%, even in areas with little or no real treatment capability. When this became apparent to virologists and infectious disease specialists, believe me, we all felt as if we had caught a major break.

“Additionally, the 2008 strain displayed a quicker than normal asymptomatic to symptomatic shift. Infected individuals showed symptoms within 1-2 days, instead of the 3-5 day period seen in previous seasonal and pandemic flu strains. Since symptoms surfaced quickly, infected individuals were more rapidly detected, contained, and treated, greatly slowing the flu’s geographic spread. Scientists calculated that if the strain had behaved differently, with a longer asymptomatic virus shedding period, then the disease would have been harder to detect and contain, and easier to transmit. Consequently, the pandemic flu would have infected a significantly higher percentage of the population, while geographically spreading further, quicker. This resulted in another collective sigh of relief.

“But either scenario, higher pathogenicity or elevated transmission rates, will likely push pandemic response plans, national healthcare systems and essential services beyond their limits. You need only look at the disasters in Pakistan or Mexico City during 2008 to envision what could happen anywhere in the world, if just one of the scenarios materialized. Combining both scenarios could trigger a global disaster of truly epic proportions. If any of the severely pathogenic H5N1 strains seen in 2005-2006 had made the antigenic shift to effective human-to-human transmission, then the world would have faced a more highly contagious and transmittable strain of flu, with a 40-50% case fatality rate, that could be spread for days by individuals showing no outward signs of the virus. The outcome of this pandemic would have been drastically worse than the 2008 pandemic, regardless of the presence of an effective vaccine.”

“Doctor, this is both fascinating and alarming. We are running short on time, are there any other aspects you would like to discuss? And feel free to continue with the bad news, I think half of our listeners have tuned out so they can purchase some emergency supplies.”

Dr. Harris releases a deep, coughing laugh, having been caught off guard by the joke. “Yes, I bet they have. Sorry if I killed your ratings. First, I want to make sure that your listeners understand that the current situation in China has not been defined. There is some speculation regarding disease outbreak, fueled by the existence of an unexplained travel ban and China’s past behavior, which has been less than desirable. That being said, our organization is investigating cases in several countries throughout Asia, while the WHO pursues efforts with China. Clearly, China holds key information that they are not sharing. Hopefully, the WHO, backed by the UN, can pry this information loose. At the same time, several international health monitoring organizations, including the ISPAC, are pursuing leads external to China. As always, we will provide real time access to this information on our website.

“As for more bad news, let me say that the vaccine situation in 2008 was unique and unlikely to ever be repeated. Beginning in 2005, the international science community, spearheaded by the

WHO, marked the H5N1 virus as the most likely future pandemic threat. Consequently, H5N1 became the most extensively studied virus in human history, and by 2006, the world had an effective vaccine against the most common strains of H5N1. So in 2008, when the pandemic started in China, an effective vaccine already existed for use against the mutated strain. The international community rallied to put the vaccine into immediate wide-scale production on a level never seen before. The immediate presence of a vaccine contributed greatly to mitigating the spread of the 2008 pandemic. Today, however, if a novel strain evolves, experts concur that it will take at least 4-6 months to develop an effective vaccine. Large-scale production of the vaccine would follow, after vaccine production facilities convert to the creation of the new pandemic vaccine. This conversion could add weeks, or possibly months to the entire process, followed by the difficulties of nationwide or worldwide distribution during pandemic conditions. Overall, the world could very likely be forced to wait 6-9 months before the general delivery of an effective vaccine. Even worse, the distribution of the new vaccine would follow national and international rationing protocols, further delaying widespread distribution of the vaccine. The world's population will face a grim reality. The majority of people could be forced to live and survive in a hostile and deadly pandemic environment for nearly a year, before receiving vaccination to the flu."

"Grim indeed, Dr. Harris. We would like to remind our listeners that up-to-date, real-time information regarding developments in China can be found on the ISPAC website, at ispac.org, and that a whole host of pandemic awareness information can be found there as well. Dr. Harris, always a pleasure. We wish your teams the best of luck out there in the field."

"Thank you for having me, Dave."

Interview with Co-Founder of the ISPAC, Dr. Ocampo Early November 2013

NBC *Nightly News* started with a preview of the evening's stories, starting with the "Crisis in China." It was clear that this topic would occupy most of the half-hour show. They also saw that there would be a segment highlighting the destructive progress of Hurricane Terrence and a health segment regarding the diabetes epidemic.

Kate fast-forwarded through the introductions to the beginning of the China segment. They both watched as the primary anchor, Kerrie Connor, recapped the facts of the day. Neither of them learned anything new from her recap, but they continued to watch, eagerly waiting for Dr. Ocampo's segment.

After a few minutes, Kerrie introduced Dr. David Ocampo as one of the founders of the International Scientific Pandemic Awareness Collaborative. Alex and Kate could see from the information displayed on the split screen that Dr. Ocampo was broadcasting from ISPAC headquarters in Atlanta, Georgia. Dr. Ocampo had a dark complexion, with thick black hair and a trimmed black mustache. He was wearing a light blue oxford shirt with a red tie.

"Dr. Ocampo, thank you so very much for talking with us tonight."

Dr. Ocampo stared at the screen for a few seconds and squinted his eyes. It appeared there was a communications lag between Kerrie and Atlanta. He nodded his head and then answered, *"Kerrie, it truly is my pleasure to answer any of your questions and give the public the best information regarding the situation in China."*

Comment [PN4]: Italics

“Dr. Ocampo, not only are you one of the founders of the ISPAC, but you currently head the live information and trend analysis division of your organization. That’s quite a name. Could you briefly introduce the role of this division?”

“Yes, this division analyzes information received worldwide, regarding flu-like illness or any illness patterns of a contagious or transmittable nature. This information is accepted from thousands of sites, like Geosentinel tracking sites, hospitals, clinics, you name it. If the site is connected to the internet, phone lines, fax, satellite service, or in some cases postal service, we will collect any possibly relevant patient case information from them. We openly encourage all sources to pass information to the ISPAC. We also regularly share information with the WHO, CDC and Britain’s Health Ministry.

“As we receive information, we sort through it looking for anything that fits the parameters of a contagious and transmittable disease. If we find something fitting this parameter, we typically dispatch a team to investigate the scene, or pass the information to the CDC or WHO, to try and get them to dispatch a team. These organizations have much deeper pockets than we do, and we try at every opportunity to use their funds instead of ours.”

Dr. Ocampo laughed at his own joke, and Kerrie smiled.

“Have your teams discovered any trends within the past few days around China?”

“We are investigating several leads within the region which fit the pattern of acute pneumonic illness. As you know, the WHO and CDC are solely focused on China right now and have to immediately activate several Restricted Travel Centers. Even if they weren’t busy with this, the WHO made it clear that they would not help us pursue these leads. They feel that the problem, whatever it turns out to be, is contained within China and all efforts should be focused on China. The CDC has loaned us some additional assets to pursue these leads.”

“What exactly do you expect to find at these sites of interest, and why are they more important to your organization than to the WHO?”

“Hopefully, we’ll find nothing to support a pandemic trend, but I think that the WHO is making one hell of an assumption about the situation. They are assuming that China is once again the source. And I don’t want to get ahead of myself here, but we have no idea what is going on in China and why they imposed their own travel ban. However, multiple sources confirm that biological protective gear was worn at Hong Kong International airport and that their soldiers and officials, donned in this gear, were treating airport passengers like they might be infected with disease. Couple this with the fact that the travel ban was a one-way ban, keeping travelers from other countries out of China. The WHO theorizes that this ban is intended to keep foreigners from discovering what is happening in China, and it is true that all foreigners were re-routed, while Chinese citizens were transported to the mainland. Still, even the Chinese citizens were corralled by government officials and soldiers in full biological protective gear. I don’t think it is outlandish to entertain the idea that China is trying to keep something out of their country. Maybe something they detected or suspected was inbound. Since the WHO is fully occupied with China, our organization is examining the possibility that China was trying to minimize exposure to an incoming disease threat. If this is the case, then that disease would already be spreading around the region, and our organization will find it. If we are wrong, which I truly hope we are, then the WHO and CDC should be able to best contain the problem to China.”

“Right now, do the locations you are investigating fit any broad pattern or trend of disease transmission?”

“That’s quite a question, Kerrie. Perhaps NBC is better informed than I anticipated. Without jumping to conclusions, I would have to answer yes. At this early point, it vaguely resembles the model of transmission seen in 2008. This is extremely, and I repeat, extremely early to conclude anything. But let’s just jump ahead, way ahead of ourselves and theorize that the cases under investigation are linked to an identical strain. I warn again, this is a theoretical exercise. No information exists, to my knowledge, about any of these specific cases. Just geographic trends.

“Given these trends, 75% of the suspect sites geographically correspond with the earliest reported cases outside of China during the 2008 avian flu pandemic. That is, the cases under investigation are on the path of direct flights from Hong Kong International airport, which most certainly was one of the primary jumping points for the 2008 pandemic. Interestingly, the current leads only correspond in the 20-40% match range for direct flights from Beijing or Shanghai, but all of them match with direct flights from Hong Kong.

“This indicates a specific pathway trend from Hong Kong. Kerrie, if I had to guess a worst-case scenario, I would guess that China experienced an unknown health epidemic in the areas surrounding Hong Kong, heavily industrialized and populated areas, and that the Chinese suspect that the infection came from abroad. Probably somewhere close by in the Southeast Asia region. If so, the disease hit China mainly through Hong Kong International Airport and could very likely be on its way around the world. Hong Kong International Airport handles over 180,000 passengers a day, traveling to over 168 destinations worldwide. Many of them direct. If a virus launches through Hong Kong International Airport, it could end up anywhere in the world. Of course, we have no idea if a disease is even the problem in China. Sorry to cast such dim light on the situation.”

“No need to apologize, Dr. Ocampo. It would be fair to say that opinions like the one you just expressed frequently place you in WHO crosshairs. You have certainly been an outspoken critic of the WHO in the past.”

“And present,” Dr. Ocampo said.

“Your primary disagreement relates to the state of pandemic preparedness in the U.S. and abroad. Specifically, you are extremely critical of the WHO’s influence on the process.”

“Absolutely. They feel the need to own it and treat it like a commodity. The more control they have over it worldwide, the more money they receive in UN support and direct national financing. Their monopoly and influence over pandemic planning policy abroad, and here in the U.S., puts the world at grave risk.”

“Can you explain how it puts the world at risk? In the simplest terms possible.”

“Are you implying that I might delve too deeply into the topic?”

Kerrie suppressed another laugh. “Well, let’s just say that you have a trend toward detail, and we have a fair amount to cover for our viewers.”

“Touché. Let me see. The WHO’s infrastructure and efforts are focused on regional containment. They acknowledge the inherent difficulty of containing a pandemic flu strain too close to its source and instead focus on regional efforts. In the case of an outbreak in China, they would expend considerable resources in China, but the bulk of the resources would be allocated to detection and containment throughout Southeast Asia. Additional emphasis would be placed upon worldwide detection and hotspot containment worldwide.

“In essence, the WHO strategy focuses on building a shield, or wall, to keep the flu contained. This is the strategy that the WHO has sold to the world since 2008, and the world pays for it with billions upon billions of dollars. Unfortunately, these billions go to the WHO and not to state and federal agencies responsible for funding domestic pandemic preparedness plans.

In early 2009, the Bush administration, in conjunction with the CDC and Department of Health and Human Services, published a 381 page document outlining local, state and federal responsibilities for pandemic preparedness. A little late on the draw, but it brought many subject matter experts together and produced a worthy document. It was a great starting point. Unfortunately, without funding, it just sits on shelves at every government level, collecting dust. We estimate a 6% compliance rate with the action items outlined in this publication, at all levels. The worst rate is at the local city or town level, about 3%, and this is quite arguably where it will count the most in the event of serious pandemic. The money is simply not available in local budgets, and federal grants are nearly non-existent for any city smaller than Los Angeles.”

“You said that the local city and town level is the most important in your view. Why?”

“Simply stated, in the face of a serious pandemic threat, that is, a novel flu strain that is highly transmissible and contagious, we can’t possibly hope to keep the disease out of our borders. Even the national flu pandemic document acknowledges that any measures taken to contain or shield the U.S. from a pandemic will only delay the flu’s entry into the U.S. by a few months or even weeks. This is exact verbiage. Think of our country’s borders. Thousands of illegal and legal aliens enter the U.S. every day, and thousands of planes land from hundreds of different countries. These are just two of the most obvious holes. The U.S. borders are like a sieve. There is absolutely no way to effectively close off our borders, airports and seaports, or to screen the large volume of travelers that pass through our country. Once the pandemic flu enters the country, it will spread everywhere. Then where do we stand? We will certainly be well behind in the planning process. 6% compliance, on average, with all the national flu pandemic plan recommendations? That’s way behind, and I suspect the action items encompassing that 6% are the easiest and least expensive to implement...and probably the least effective against a pandemic.

“I didn’t really answer your question properly. I am saying that the arrival of the flu will be inevitable in your community and that the outwardly focused, WHO-supported efforts will not be useful to your community. Without a properly-funded and coherent local government plan, chaos will quickly descend. That chaos will enhance the flu’s deadliness two or threefold.”

“Dr. Ocampo, WHO representatives have repeatedly criticized this premise, labeling your organization’s research in this area of study as flawed. They say that your casualty projections are extremely excessive and that your assessment of the impact on essential services is exaggerated. Dr. Pierre Neville, head of the WHO’s pandemic impact study group, is quoted saying that the ‘ISPAC’s predictions are alarmist science fiction.’ How do you respond to the WHO’s stance toward the ISPAC’s projections?”

“Ah, Dr. Neville, he is quite the character. Certainly one of the WHO’s more colorful attack dogs. The problem with their criticism of our projections is that the WHO leans way too heavily on the experiences of the 2008 pandemic. They insist that 2008 is the perfect model for all future pandemics. On the contrary, we believe that the 2008 pandemic flu strain was a relatively weak pandemic strain, especially compared to the 1918 Spanish flu, and that the world’s healthcare system and essential services infrastructure was barely challenged. Bear with me as I explain this in some detail.

“In 2008, for both modernized and developing nations, hospital-based care remained available to a vast majority of infected individuals, drastically improving outcomes and contributing heavily to the low overall case fatality rate. Although the situation in many developing nations approached, and in some cases crossed the tipping point for the availability of hospital or clinic-based care, most modernized nations’ system were never truly challenged by

the 2008 pandemic. This outcome would be different in the face of a deadlier and more infectious virus. The breakpoints for inpatient healthcare availability, in both modernized and developing nations, would be reached quickly, and the result would be catastrophic.

“We calculate that, in any given area, all available inpatient services such as hospital beds, ventilators, observation rooms, and medical staff would be occupied within 2-3 weeks of a pandemic reaching that area. Just based on 1918 pandemic flu patterns, within weeks, in the U.S. alone, the health care system would need 200% of all existing hospital beds, 500% of existing intensive care unit beds, and over 200% of available ventilators to meet the flu demand. Once inpatient capacity was filled, patients would be given a set of home-based care instructions and turned away.”

“Turned away? Where would they be sent?”

“Home.”

“Really? That doesn’t sound like a great option.”

“It isn’t. The predicted survival rates for hospital-based care versus home-based care differ greatly, based on the severity of the patient’s flu symptoms and easily recognizable patient risk factors such as age, chronic disease, and general health. The best example is demonstrated by patients in a medium-high risk category, who are typically either very young or very old, or have an underlying chronic disease that can lead to further complications, like diabetes, heart disease, or a pulmonary disorder. For this group, patients treated within a stable and fully-resourced inpatient setting would survive at a rate of 80-85%, while patients treated in a stable home setting, with access to basic medical supplies, would be expected to survive at a rate of 40-50%. It is important to note that these figures applied to best-case scenarios in each setting, where access to power, water, medical supplies, competent medical personnel and equipment remains constant. The predicted difference between the two, in even the best of circumstances, is remarkable. Once all inpatient services are occupied within the first few weeks of a more virulent pandemic flu and basic medical stockpiles started to disappear, the expected rates of survival would plummet in both settings by 20-40%.”

Kerrie commented, “80-85% sounds bad enough, but 40-50% is a depressing statistic. This is the best-case scenario?”

Dr. Ocampo said, “For this group. The outcomes prognosis for low-risk patients is much better, and for high-risk patients, much worse.”

Kate said, “That puts survival rates in the home at 10% or less once inpatient services vanish. For the medium-risk group. If you’re a high-risk patient, you’re as good as dead.”

Alex said, “That’s ugly.”

“Kerrie, this isn’t science fiction, it’s a commonsense-based statistical prediction. A complicated one that accounts for hundreds of factors and balances trends from several pandemic models. Not just one, like the WHO model. The bad news doesn’t end here.

“Our public planning experts agree that during a more severe pandemic, the combination of both a rapidly-growing infection rate and an overwhelming fear of infection will lead to massive absenteeism rates in all sectors of public and private service. Inevitably, high absenteeism rates and rampant sickness will seriously deteriorate the reliability of fuel delivery and degrade both municipal and regional public service departments’ ability to repair, maintain and operate their systems. In a short period of time, once local fuel reserves are exhausted, or system maintenance exceeds the capability of the remaining personnel, a general collapse of essential services like

electricity, public water, food distribution, communications and public safety will follow. Eventually, even the hospitals and temporary pandemic treatment centers may face severe personnel shortages, exhaustion of essential supply stockpiles, and the loss of a stable power source. Our experts find it nearly impossible to predict the duration of time that these essential services would be affected. Only that the likelihood of losing many of these services was extremely high. Without basic survival needs, like running water, food, heat and medical supplies, they theorize that adequate home treatment of the flu would be nearly impossible, further exacerbating the flu's case fatality rate.

"Given the inherent difficulty of predicting the duration of an essential services blackout, our experts even voice concern for the survival prospects of non-infected individuals and flu survivors. Statisticians and epidemiologists worldwide acknowledge that even in the most modernized parts of the world, like the Pacific Rim, Europe and North America, very few families have an adequate supply of food or water to last for even one week, and national food reserves might remain inaccessible to most population groups. Even if accessible, no coherent rationing plan exists, and in any event, on-hand reserve supplies would not last for more than a few weeks. Once the food and water distribution capacities are interrupted, even families that live within a few miles of several major food stores would find it nearly impossible to procure safe food or water."

"Doesn't the national pandemic flu plan provide guidance for food distribution plans?"

"Not really. It recommends that a detailed national plan be devised, and it tasks the state and local governments to develop their own plans, but our latest investigation found that very few documented plans exist. Los Angeles has a plan, but they lack the ability to tie into an effective state and federal plan. So what is the point of having a plan? It's not their fault, those plans just don't exist. So if one of the nation's largest cities' plan is rendered useless by lack of support from higher echelon government levels, why would any other cities or states bother to spend the money to develop their own plans. It's hard to fault them. Support for these measures needs to filter down from above, in the form of mandate, inspection, funding and most importantly, leadership. This climate does not currently exist here in the U.S. Amazingly, the national document does not delineate a chain of command in the event of a pandemic, or even suggest who is in charge. A heavy emphasis is placed on the Department of Health and Human Services' role in a pandemic, but they are given no clear leadership authority. The role of the military is not even mentioned. All of this will have to be established after the pandemic hits, adding to the confusion."

"Are there any successful international models?"

"Very few, Kerrie. Most developed nations face the same issues as the United States, lack of budget and very little political will to allocate time and resources to a so-called doomsday project. Most European, Asian, and African countries are under the WHO's thumb, so there is little hope for these nations to develop coherent internal plans. The situation is a mess worldwide."

"Dr. Ocampo, the situation in the developed countries sounds bad enough. What is your assessment of the developing areas?"

"Do you really want to know the answer to that question? Of course you do. As you can imagine, the situation in developing regions of the world is even more desperate. With no national food reserves and, in many cases, a near complete dependence upon food importation or aid shipments, the populations of many developing nations would face an immediate food and

clean water shortage. Survival in a region currently threatened with even moderate drought or famine would be close to impossible for both infected and non-infected alike.

“A general loss of essential services and scarcity of basic survival needs will combine synergistically to escalate the death rate and catapult many regions into disastrous civil disorder. Given the likelihood that most national, regional and local civil protection capability will also be drastically diminished, an incendiary situation could develop, further adding to the chaos of the pandemic environment. ISPAC experts point to examples of civil chaos seen during the 2008 avian flu pandemic, specifically in Pakistan and Yugoslavia, where a near complete loss of civil order occurred in vast geographic areas, creating nearly impossible environments for local, national and WHO pandemic efforts. In both Yugoslavia and Pakistan, casualty rates rose drastically when flu cases quickly overwhelmed the health system capacity, further rising when a near complete loss of essential services followed. ISPAC predicts that the disasters seen in Pakistan and Yugoslavia would likely be repeated everywhere in the world, even in the most modernized nations, in the face of a severe pandemic.”

“This is indeed a grim prospect, and one that our political leaders need to make a high priority. Dr. Ocampo, what is standing in their way?”

“High pressure international lobbying on behalf of the WHO. Most federal money budgeted to pandemic disaster preparedness heads overseas to the WHO to help build a better castle wall. It would be helpful to see more of that money available to our own federal and state government. It would be even more helpful if the pandemic disaster budget was increased and that money stayed here in the United States, for use by the Department of Health and Human Services, the CDC, and local state and city governments.”

“Dr. Ocampo, thank you for your time. I hope that the situation in China does not expand into a world health crisis because it would appear that the world may not be prepared for the full impact of a flu pandemic. Good luck to both you and your organization.”

“Thank you for the opportunity to educate the public, and if I may, your viewers can always obtain the most updated information regarding our current investigation, or general pandemic flu tracking, on our website, ISPAC.org.”

Today Show interview with U.S. Department of Health and Human Services Director Early November 2013

“Good morning. The news dominating the thoughts and concerns of all Americans today stems from Southeast Asia, where fear of a new pandemic virus is starting to rise. Early this morning, a startling development was unveiled by the Chinese during a late afternoon press conference in Beijing. The Chinese government signified that an unidentified disease has caused several major outbreaks, mostly limited to the southern coastal regions of China. They have confirmed that the cases are not caused by a strain or variant of the H5N1 avian flu that swept the world in 2008, but that this is definitely a pneumonic illness, or an illness causing serious respiratory problems. This description is causing quite a reaction among the scientific community, where fear of a new pandemic is circulating.

“China has also agreed to cooperate fully with the international community, and we have received word that WHO and CDC teams have already entered China to start the process of containment and mitigation, and to identify the currently unidentified cause of these cases. No reports of casualties have been issued. Fear of another pandemic is now front and center in most

Americans' minds. Thomas McGreggor joins us this morning to shed some light on these developments. Thomas, welcome."

"Thank you, Matt, please call me Tom. I appreciate this opportunity to talk about the recent developments in China."

"First, could you describe the Department of Health and Human Services' role in preparing and responding to a pandemic?"

"Gladly, Matt. This department has many roles, all critical to our nation's robust capability to deal with a pandemic. First, our encompassing goal is to implement the national strategy to prevent or slow a pandemic flu's entry into the United States, to limit the domestic spread of the disease, and to mitigate disease suffering and death. All while sustaining the nation's economic and essential services infrastructure. The bottom line is that DHHS is responsible for building an infrastructure to detect and respond to an outbreak."

"Tom, that sounds like a momentous task. How is it possible for a department of the government to implement and monitor such a broad-reaching goal? Frankly, some experts just don't think it's possible for one department to accomplish these goals, or they question whether your department has the reach and authority to enforce the national plan."

"Well, you're right when you state that we can't possibly do this alone. It would not be possible for us to oversee implementation of every aspect of the national plan, or enforce it, as you say."

"DHHS directs each state, county, city and organization to create their own strategies and procedures, aligned with the goals of the national pandemic response strategy."

"You're talking about the 381 page national plan?" Matt asked.

"Yes, the very one. Our department empowers local governments to build partnerships with health care facilities and community leaders, and to develop an effective communications infrastructure for the timely dissemination of information. This will also be a critical aspect of a pandemic response, and DHHS has recently completed a major upgrade to the communications components. One that will facilitate communication on a local level. First, a national emergency satellite broadcast system just came online a few weeks ago, which will give anyone with access to a GPS receiver, GPS-enabled cell phone, satellite radio or home satellite service full access to national emergency information. Best of all, each state will have the capability to stream information to the satellite system for rebroadcast to local responders and civilians. This system was spearheaded by DHHS and will play a major role in the event of any emergency. Matt, almost every cell phone built today is GPS-enabled. This puts the information right at everyone's fingertips."

"This certainly sounds like a major improvement over radio and television broadcasts, which could be subject to power failure. Given the current situation, when will information regarding this system be given to the public and local government?"

"Already in progress for local and state governments. The full send and receive capability should be rolled out to them within the next few weeks. As for the public, they can find all of the information they need on the DHHS website at dhhs.gov under accessing emergency satellite broadcast."

"Tom, back to the idea of delegating implementation to local governments. We've heard from several experts who all agree that the national plan is solid, but argue that very few of the recommendations have been implemented because federal funding is simply unavailable. We've heard some sobering statistics. Some citing a compliance rate of less than 10% with national plan recommendations. Most states, cities and towns don't seem to be able to find the money

within their own budgets to implement your recommendations, and little money is flowing down from Washington. Critics also suggest that most of the money that the Congress and Senate is willing to allocate to pandemic response is heading overseas to fund the WHO.”

“Certainly these critics like to point fingers at Washington whenever they can, but several reviews and accounting estimates conducted by our department indicate that implementation of these strategies would cost very little in terms of money. Are they time intensive, requiring the cooperation and effort of numerous local organizations and governments? Absolutely. A pandemic is a complex emergency, requiring an effective and coordinated response on many levels. Preparation for a pandemic is similar in scope. The bulk of the costs occur once the pandemic strikes, and when this occurs, each state and local area will receive disaster area level funding to ensure continuity of pandemic response operations.”

“I don’t know if I agree. Let me read directly from the DHHS manual. ‘Ideally, states develop a multilayered strategy that delineates responsibilities at all levels of society to ensure the viability of government functions and services, such as energy, financial, transportation, telecommunications, firefighting and public safety. This strategy will assist businesses and utilities with continuity of operations, collaborating with the healthcare sector on issues like stockpiles, available beds, isolation and quarantine plans, surge capacity, personnel protection, communications links and pharmaceutical supply and distribution. It will coordinate offsite treatment and triage locations, medical stations, and implement a mass fatality plan.

“Tom, this sounds like an expensive proposition. My parents’ hometown can barely scrape together enough money to repair minor damage to its roads. If not from the federal government, where will we get this money?”

“Well, first, I don’t agree with the statistics that claim only 6% of national plan is implemented. We’ve seen amazing progress throughout the nation, without reliance on more federal money. An appropriate level of funding is available at all levels, for implementation of the plan. However, this is not the first time we’ve heard this criticism, and as a department, we are working hard to increase funding of these grants. Our goal is to develop and implement a comprehensive national pandemic response strategy, and if more money is required, then we will take the case to Capitol Hill.”

“I hope that the system, as it stands today, will be effective enough to deal with a crisis, if one arises.”

“Matt, since 2008, our nation’s pandemic response capability has been vastly improved. From vaccination production and research capability to antiviral stockpiling. We learned a lot from the avian flu and applied those lessons to the national plan in place today.”

“Speaking of today. What is DHHS’s primary goal or concern today regarding the crisis in Asia, and what part of the national plan is being implemented?”

“We are working in close coordination with the CDC and WHO to receive real-time information regarding any and all aspects of the crisis. Our number one priority will be to prevent this disease from entering and spreading in the United States. Currently there is no indication that the disease has spread outside of China, though we have activated passive foreign traveler detection protocols. In essence, customs officials have been alerted to identify and track any travelers arriving on foreign flights that appear ill.”

“Will these travelers be detained?”

“Not under passive protocols. Active protocols require a massive personnel increase, as you can imagine, and are implemented when it is certain that a pandemic-grade illness is headed to

our borders. Passive protocols will flag these travelers and their destinations, so that they can be contacted if they are later suspected to be infected by a pandemic disease.”

“Has DHHS considered the possibility that the mystery disease has already entered the U.S. in considerable numbers? For nearly three days, travelers have left China for the U.S. and hundreds of other locations abroad. If the disease originated in China, this seems reasonable. If the disease originated somewhere else, like China claims, then the same theory applies.”

“We’ve definitely considered this, however, the number of passengers traveling to the U.S. from China in a two-day period is small. We are tracking all of these passengers and taking steps to ensure that if any of them are sick with this disease, they will be treated immediately. The travel ban on China is still in effect, given the circumstances, which ensures that we are dealing with a finite number of passengers that we can track. DHHS, along with the WHO, feels confident that disease is limited to China. China’s own detection and response capability is first rate. We have been assured by the Chinese that only essential travelers departed China during the time in question, and that these passengers were screened prior to leaving the country. Even if their screening didn’t catch all of them, our screening will, as will the efforts of our neighboring countries. Right now, we are taking the appropriate steps given the information available. And the information is flowing much more effectively than in 2008. The Chinese, in particular, have stepped up and taken responsible steps to ensure unfettered access for international response teams and to open critical lines of communication between our nations.”

Today Show interview with ISPAC Co-Founder Early November 2013

“Welcome back to the show. Unfortunately, Dr. Gustafson had to cut the interview short to handle an emergent development. However, in the brief segment before commercial, it became clear to our viewers that two clearly opposing viewpoints exist regarding the current pandemic threat. Where does your organization plan to go from here?”

“Matt, I hope I didn’t run Dr. Gustafson out of town, so to say. He is a very brilliant doctor and scientist, but I gather the sense that his common sense and true opinions are being held hostage by the overwhelming and overreaching bureaucracy of the WHO and its parent organization, the United Nations. Where do we go from here? Well, our organization is minute compared to the WHO and is mostly an investigative and research body.

“Our main objective is to learn as much as possible about this new virus. We know it’s highly contagious, or transmittable. We know it’s highly pathogenic, meaning that if you are exposed to it, you are very likely to get sick from it. What I’d like to know is H16’s behavioral timeline once a patient is infected. A behavioral map. This is important. How long does a patient remain asymptomatic, no detectable symptoms? How long after infection does it take for the patient to start shedding the virus, or spreading it? How many days does a patient shed the virus, while showing no symptoms? This is especially critical, since this is when a patient is likely to spread the flu most. When they have no idea they’re carrying the flu, and neither does anyone else. Business as usual. Other things I want to know is the average ratio of new cases caused by a single case. This is hard to determine, but very useful when projecting disease transmission.

“Then, we want to know about the symptoms, especially the progression of symptoms. Is there an immediate risk of death like that seen in the 1918 Spanish flu and seen in very limited numbers in 2008? How long typically until pulmonary complications arise? Everything, Matt.

The more we know, the more we can predict and help direct national and international strategy. Once this data is available, we can establish clinical attack rates and case fatality rates, god forbid.”

“How far away are you from establishing this behavioral timeline?” Matt asked.

“I am pretty sure we have a rough timeline now, but it is very rough. We’ve only been in the field observing and testing infected patients for a few days. Ideally, you would want to observe a patient that was presumably healthy, came in contact with an infected individual, then contracted the virus. The earlier we start observation and treatment, the better. We have plenty of those now, but the majority of our cases have been sick for close to a week, especially those from Indonesia. At first we rely exclusively upon anecdotal information to establish a patient’s timeline, then as more patient data is available, we can more accurately establish the timeline. Sorry if I sound like I am dodging the question, Matt, I believe a rough timeline will be available shortly, possibly in the upcoming press release.”

“Thank you, Dr. Ocampo, for our viewers, we’ve just been informed that this information update will occur at 9 a.m. Eastern Standard Time, and we will certainly cover this release, live on this channel. Dr. Ocampo, before you get back to work in Atlanta, do you have any recommendations for our viewers? Something they can do right now to help prepare and protect their families from the possibility of a deadly pandemic.”

“Sure, Matt, but let me make one thing as clear as possible. This new virus is not a possibility, it is a reality. H16 will spread around the globe like any other pandemic. I truly believe that containment is no longer a viable option, unless an immediate, massive effort is undertaken by the WHO, with the cooperation of every nation on the planet. Unfortunately, I can’t imagine a scenario in which the WHO can get its resources out of China quick enough to lead this effort. With this being said, individual families can log on to our website and obtain pandemic preparedness checklists, or call our toll-free number and this list will be read by an automated system. The best way to safeguard your family is to execute as many items on those checklists as possible, starting from the top of the checklists. The more important items and tasks are listed first.”

“Can you give our viewers more specific advice?”

“Sure, just remember that the lists are detailed, but if you start at the top, you’ll hit the most important items. As for specific advice, in a nutshell I would recommend that you buy as much nonperishable food and water as possible, avoid contact with others, practice the personal protective measures, PPMs, identified on the lists, and make sure you have a way to stay warm, especially with winter descending. There is just no predicting the extent that the pandemic may affect essential services, so you should try to arrange for temporary, or if possible, permanent sources of heat and electricity. Also, buy a hand-cranked radio, so you can receive local broadcasts that may contain important information. I can’t stress enough how important it is to maintain social distancing. This will cause an uncomfortable feeling of isolation, but it is the single most effective way to avoid the pandemic flu. That’s the quick version, Matt, once again, I urge everyone to visit our website or call our toll-free number, which I am being told right now is displayed at the bottom of your screen.”

“One last thing before you leave. Have you heard any talk about research into a vaccine for H16?”

“Matt, everyone is talking about it. I can guarantee everyone that the issue of a vaccine is a top priority. I’d be surprised if work on the vaccine has not already begun.”

“Will your organization be involved with the vaccine research?” Matt asked.

“Not directly. This will be a coordinated effort between the bio-pharmaceutical industry, DHHS and the CDC. Most of the top research and development will occur in the private sector.”

“Thank you very much, Dr. Ocampo. Best of luck to you and your teams, and we extend our prayers and hopes for the team in Indonesia.”

Joint CDC and ISPAC Press Conference Early November 2013

Alex was sitting by himself on the brown leather love seat in their family room, waiting for the live broadcast of the ISPAC information update. The *Today Show* had cut away to a live picture in a large conference room with stadium seating. The camera was focused on a podium to the left of a large, wall-mounted screen. The picture on the screen featured both ISPAC and CDC logos, side by side. Another podium flanked the screen on the right side. The setup reminded Alex of the Iraq War briefings he'd watched when he returned from the war. *Rumsfeld and all of his pentagon lackeys just bullshitting their way across every living room in America.* The information at the bottom of the screen told Alex that the broadcast was “Live from CDC Headquarters in Atlanta, Georgia.”

A man and woman, both dressed in business attire, walked to the middle of the stage, shook hands and then separated, taking positions behind opposing podiums. To Alex, it almost looked like the start of a debate. Alex recognized Dr. Allison Devreaux, of the ISPAC, as she settled in behind the left podium.

“Ladies and gentlemen, thank you for your attendance. We have a lot to cover, but before we start, I would like to introduce Dr. Joshua Relstein from the CDC, who has an exciting announcement. Joshua.”

“Thank you, Allison. I am proud to announce that the CDC and ISPAC are formally joining forces to coordinate pandemic efforts abroad and, most importantly, here at home in the U.S. This strategic partnership, formed in time of crisis, will focus the world’s best scientific resources against the growing pandemic threat. We have received a similar pledge from the European Union’s European Centre for Disease Prevention and Control (ECDC), which occupies a similar role for the EU, as the CDC does for the United States. We welcome their cooperation with open arms. Thank you, Allison.”

The screen changed to a world map, showing red triangles all over East Asia and the western Pacific Rim. Dr. Devreaux adjusted her microphone.

“This unified front is critical in the fight against a very rapidly spreading pandemic virus. As you can see on the screen, as of this morning, CDC, ISPAC and ECDC field teams have confirmed H16 cases in over 85 locations mainly spread throughout the Western Pacific and Southeast Asia. Cases have been confirmed as far away as Cairo, Pakistan, and India. U.K. health officials confirmed that the suspect passengers caught yesterday were indeed sick with H16. Cases of interest, CIs, are being reported from several major European, Middle Eastern, and African cities. Currently no CIs have developed in the Americas. We have prioritized and are responding to each of the reported CIs. Additionally, the CDC, in conjunction with Roche pharmaceuticals, has developed simple H16 detection kits for local hospitals around the world. Soon, our teams will not have to evaluate every CI in order to confirm H16.

“Every hospital and clinic worldwide will have the capability to isolate and identify the H16 virus, just like they can identify any of the previously known disease and virus types. Until just

yesterday, the world had never seen H16, so not even the most sophisticated medical centers could have confirmed the cases without these kits. H16 is now in the world library of identifiable microorganisms. These kits are being sent everywhere, via the fastest delivery available, just as soon as they roll off the production line.”

“My colleague, Dr. Relstein, will explain what we now know about the H16 subtype.”

“First, we now know that the strain of the H16 subtype causing the outbreak throughout Asia is N1. So the influenza strain is classified as H16N1. We have confirmed through observation and genetic matching that H16N1 is highly pathogenic. Four to five times more pathogenic than the avian flu of 2008. H16N1 is even projected to surpass the Spanish flu of 1918 in terms of pathogenicity, or its ability to produce an infectious disease in another organism, though it is way too early to establish an accurate predictive model. H16N1 is trending in that direction, however, and this greatly concerns our organization.

“H16N1 is highly efficient at human-to-human transfer. Once again, more so than the avian flu. We will catch no break here. It can survive for 24 to 48 hours on non-porous surfaces and up from 16 hours on porous surfaces, which is slightly longer than most influenza strains. It can be transmitted by any bodily secretions, aerosol or liquid of any consistency. Personal protection measures will be critical to blunting the spread of this virus, combined with effective social distancing measures.

“As for a behavioral timeline, we have some rough calculations. These are based on the CDC’s observations in China and ongoing observations by ISPAC teams throughout the Pacific rim. From initial exposure and infection to H16N1, a patient can remain asymptomatic for 3-5 days. This data is rough, but trending toward 4-5 days. These are the hardest data points to establish. Either way, this is much longer than the avian flu or the Spanish flu and presents a number of challenges. The biggest challenge being that a sick patient will interact with the public longer before it becomes obvious that they are sick. Asymptomatic patients will have more time to spread the disease. Asymptomatic patients start shedding the disease after just one day of initial infection, leaving a possible period of 2-4 days where the patient is contagious with no symptoms. Shedding means that the disease is now leaving the infected body by any of a several routes, where it can now infect another body.

“Once symptoms start, the patient will continue shedding at a high level for another 5-7 days, even when initial flu symptoms have subsided. Patients will likely remain contagious for 11 days from first infection. This is our best estimate for now.

“Symptoms for H16N1 are typical of a pandemic influenza virus, or even a rough seasonal virus strain. Sudden onset of high fever, headaches, body aches, severe congestion, cough, extreme fatigue, and in the case of children, possible severe vomiting and diarrhea. Symptom severity varies by patient. Frequent instances of severe respiratory illness, such as pneumonia, acute respiratory distress, and viral pneumonia have developed following several days of the original flu symptoms. Respiratory illnesses have developed as early as 2 days after symptoms and as late as 8 days. We don’t have many cases spanning back further than 8-10 days. Most of these patients were observed in China.

“I know you are all very concerned about the potential lethality of the H16N1 virus. Right now, we do not have enough data to project a case fatality rate. With that being said, a low number of patients inside and outside of China have died from H16N1, mostly from severe respiratory complications. Some have died from sudden and massive respiratory failure, within 1-3 days of symptom onset. These deaths resemble scientific reports described during the Spanish flu of 1918, when apparently healthy, young adults would show sudden respiratory

symptoms and die within the same day. Today we call this a cytokine storm or more formally, ARDS, acute respiratory distress syndrome. A massive immune reaction to the invading virus, which triggers a deadly and often irreversible, inflammatory response within the lung tissue.

“This is where we stand today. Our scientists are continuing an aggressive research program aimed at learning as much about the virus’s behavior and characteristics as possible. At this point, we would like to open the floor to any questions you may have. Yes.”

He pointed to a young black man dressed in a pair of dark brown chino pants, white dress shirt without a tie, and blue blazer.

“Thank you, Jeff Saunders, Associated Press. Do either of you have an estimated number of total cases worldwide?”

“I spent some time this morning with CDC epidemiologists, who closely monitor all of the data pouring out of Asia from all sources, the ISPAC, GeoSentinel, GOARN, the WHO and more. I thought our own organization was doing the best job evaluating this data, however, even our own Dr. Ocampo approached me this morning to say that he was, I quote, ‘blown away.’ So, after merging our numbers with the CDC, we can safely estimate that there are roughly 1,700 confirmed cases spread throughout the Pacific rim, outside of China. Unconfirmed but probable cases, based on CI reporting, GeoSentinel, and GOARN likely exceed 25,000. The numbers are still a bit sketchy from China, but the CDC estimates the total number of cases to be more than 60,000 and growing rapidly. So we are looking at roughly 85,000 cases of confirmed or soon to be confirmed H16N1. Next question. Go ahead.”

She nodded toward a tall, middle-aged woman, with dark brown hair and blue eyes, wearing a navy blue business suit, with a light blue blouse. She displayed an overly-serious face as she asked her question.

“Has the ISPAC received any information about the missing team in Jakarta?”

“Not yet. We have petitioned the UN, once again, to apply pressure to the Indonesian government, however, it appears that the Indonesian representatives to the UN assembly have been absent from all sessions for the past three days. At this point, we just want to retrieve our team safely and redeploy them where they will be permitted to execute their duties.”

She nodded toward another woman in the back of the auditorium.

“Hi, Sandra O’Donnell from the Wall Street Journal. Do you have a more specific number for current the death toll?”

She glanced uncomfortably at Dr. Relstein, who pulled the microphone closer to his face.

“I used the word ‘low’ to describe the number of H16N1-related deaths, and I apologize for not being more specific. I hesitate to mention fatality numbers this early because, statistically, they don’t tell us a lot right now. This may sound morbid, but in the complicated projection models used for pandemic predictions, we need lots of fatalities before the data becomes useful to us. Right now, without revisiting the numbers, I am willing to estimate somewhere around 450 deaths.”

The auditorium suddenly buzzed with the excitement of dozens of reporters trying to ask questions at the same time.

Alex heard the number “450” yelled several times

“Ladies and gentlemen, please calm down,” Dr. Devreaux said.

“Where have most of the deaths occurred?” someone yelled loud enough to be heard over the crowd.

“Mostly in China, but within the last day we’ve seen an increasing number of deaths outside of China,” Dr. Relstein answered.

Several reporters tried to ask questions at the same time. Dr. Relstein pointed to a hispanic man, wearing a tweed jacket, pink shirt with yellow tie, and khaki pants.

“Fred Alvarez, NBC news affiliate. How many of the deaths have been from ARDS?”

Dr. Relstein paused noticeably and lowered his head slightly.

“More than half, at this point. However, before anyone jumps to any conclusions about this number...”

The entire room was again buzzing with conversation.

“Please, before you draw your own conclusions, let me share my own with you. Please keep in mind, our goal is in no way to sugarcoat this information, or withhold information, for any reason. The ISPAC and CDC are committed to preparing the public for whatever might be coming their way, and a complete free flow of information is the first step toward accomplishing this. With that being said, I don’t want to release information that can be misinterpreted and lead to erroneous decisions. As for the ARDS deaths, the number is indeed high compared to all deaths. However, if you recall, ARDS typically claims its victims early, within a few days, sometimes faster. It follows that at this early stage in observation, most of the deaths seen would be from ARDS. As the days stretch onward, the ratio of ARDS deaths to all other H16N1 linked deaths will decrease significantly.”

“Have I explained this well enough to quiet the room a bit?”

Nervous laughter erupted from the room.

The conference room returned to a moderately quiet level.

“We still have time for a few more questions,” Dr. Devreaux said.

“Dr. Harrison Leblanc, Emory University’s Immunology and Virology Department.”

“Haven’t we hired you yet, Harry?” Dr. Relstein interjected.

“The day is still young, Joshua. Any projections regarding clinical attack rates, or is it still too early?”

“Still too early, I’m afraid. We would need to survey data from large population groups in order to narrow those projections to a meaningful level. Large outbreaks in China may soon provide enough data to achieve a statistically significant prediction, but right now, we simply don’t have enough data.”

“Not even a statistically insignificant guess. I’m willing to work with outside of the margins for now,” Dr. Leblanc said.

“We really should have made you a better offer at the CDC. You’re not planning to let me off the hook, are you?”

Open laughter erupted from the room. Even Dr. Devreaux was muffling a laugh.

“I can be bought, but probably not before you answer the question.”

More laughter. The mood was definitely lighter, but Alex guessed that his answer was going to silence the room.

“Very, very roughly a 30-50% clinical attack rate.”

“What does clinical attack rate mean? Sorry, Matt Gershon, Atlanta Tribune.”

“No problem, very good question. Clinical attack rate means the percentage of a given population that gets ill from a specific virus.”

“How rough is this number?” Dr. Leblanc asked gravely, the light banter gone from his voice.

Given the difference in his tone, the entire room silenced, waiting for Dr. Relstein's response. *"Very rough. Like I said, not enough data exists to narrow the margin of error."*

The camera shifted back to Dr. Leblanc, and Alex saw that he was uncomfortable with the answer. Dr. Leblanc nodded his head and sat down. Dr. Leblanc's face looked ashen gray. *The doctor doesn't like the answer either.* As Dr. Leblanc sat back in his seat, several other reporters jumped out of their seats to ask questions. Dr. Devreaux pointed directly at a hefty gentleman, wearing gray slacks and a white oxford shirt.

Alex leaned forward and grabbed the laptop sitting on the coffee table in front of the couch. He flipped open the screen and wirelessly connected to his home internet signal.

"Thanks, John Volkman with the Indianapolis Star. Have any cases been reported in the U.S.?"

"None so far," she replied.

"Given the basic virus behavior you just described, isn't it possible that the H16N1 could already be in the U.S.? Plenty of flights out of Hong Kong and China make their way to U.S. cities. Flights from all over Asia."

"You're correct to connect the dots like that, John. This is of grave concern to us as well. Yes, it is quite possible for the virus to already be here in the United States. There is no reason to assume that it is not. Currently, the Department of Health and Human Services has implemented health watch protocols at all points of entry into the United States, with special emphasis on flights originating from cities near confirmed H16N1 outbreak areas or suspected areas. The hope is that, like in the U.K., any travelers sick with the flu will be detected and quarantined. DHHS is also working with several other domestic agencies to track down travelers from these areas that arrived within the last 8-10 days. In this way, DHHS can get eyes on travelers that may have arrived infected, but still asymptomatic. Just keep in mind, that this is a huge task, given the sheer volume of foreign passengers entering the U.S. on any given day. The CDC's role, and now our role as well, is to provide DHHS the best projections for either widening or narrowing their screening criteria. Unfortunately, given the rapid spread of the virus, I don't see us recommending any narrowing of the screening criteria."

"Thank you," John said, as he sat down.

"One more question. Jeffrey Peterson," she said.

"Thank you, Jeff Peterson, New York Times."

"What is the current status of the WHO's efforts, and what is your new joint venture's relationship with the WHO?"

"I'll take the first part of that, Allison," Dr. Relstein said.

"The WHO is currently heavily engaged in pandemic response and containment efforts in China. A vast majority of the world's cases are located in China, and the WHO responded by deploying a majority of its resources in an attempt to mitigate the spread of the virus throughout and beyond China. Now, I'm sure you asked that question for a reason. I think I know what it is.

"It is our opinion that the WHO is bogged down in China, no doubt executing their mission with the same professionalism and effectiveness demonstrated in 2008. Unfortunately, the WHO may have committed nearly 75% of its rapid response resources to China, which only leaves one

quarter to help contain the growing pandemic threat outside of China. If the WHO cannot execute an immediate, large-scale redeployment, there is little hope of containing or slowing the current pandemic threat.”

“What is being done to speed up this process?” Jeff asked.

“I’ll answer that one,” Dr. Devreaux said. “This is obviously a complicated and sensitive issue. We have presented our case directly to WHO and UN leadership, and will continue to press the issue. We have also presented our recommendations to DHHS and the White House. The issue is a top priority for us.”

She nodded to Dr. Relstein.

“The WHO and CDC have always enjoyed an amiable and professional relationship. At this point, we will do everything on our end to maintain this relationship, however, the WHO rapid response capability is like an army. Their pandemic response package runs the entire spectrum of capability, from early detection and surveillance teams, civil health education teams, all the way to full containment teams. The CDC and ISPAC can only provide on the ground surveillance and detection capability, which frankly will not be necessary once the field detection kits are fully distributed. Beyond this, as a combined entity, we can provide first rate, real-time epidemiological projection to help actively shape WHO efforts. Nonetheless, this information is near useless in the hands of a diminished WHO response. As Dr. Relstein indicated, this is a top priority. Getting the bulk of the WHO’s assets out of China is critical to executing an effective international pandemic response strategy.”

“Sorry to drag this question out, but what if the WHO can’t effectively disengage from China?” Jeff stated.

“Then the WHO will likely prioritize their deployments to nations with highly vulnerable populations and weak domestic pandemic response plans. The remaining nations will have to stand on the own and rely upon the rapid, efficient execution of their own domestic plans. Ladies and gentlemen, thank you for your time and questions. We plan to announce another session, likely for the same time tomorrow.”

The room exploded into a cacophony of simultaneously blurted questions and spirited discussion.

Alex heard one reporter ask about military options and China. *That’s exactly what I was thinking. How are they planning to get the WHO out of China. The world is never going to see those assets. 75%. What a fucking arrogant gamble.*

Alex looked at his laptop screen, which was on the Google homepage. He typed “previous pandemic clinical attack rates.” Several seemingly good links appeared on the first page. He clicked on the third link down, which indicated it may contain a table. The page appeared, and Alex read through the text and the table. *No wonder that Dr. looked like he just shit his pants. Projected 30-50% is much higher than any previously seen pandemic.* Both the Hong Kong flu of 1968 and the Asian flu of 1957 demonstrated clinical attack rates hovering at 30%. The avian flu of 2008 remained lower than either of those, steadying at 15%. Epidemiologists declared that no clinical attack rate could be established for the Spanish flu of 1918, due to a lack of reliable record keeping. This made sense to Alex, given the fact that many experts still argue about the final number of deaths attributed to the 1918 flu. 50-100 million remains the disputed range. Alex guessed that the clinical attack rate must have been much higher than 2008, possibly higher than 1968 or 1957, given the high number of deaths compared to what must have been a lower world population in 1918. All of this gave Alex a very uneasy feeling.

Joint CDC and ISPAC Press Conference Number Two Early November 2013

The recording started, and the scene was the same as yesterday, with two podiums separated by a white screen. Dr. Devreaux and Dr. Relstein took their respective podiums. Dr. Relstein began the conference. Dr. Relstein looked exhausted, dark circles were beginning to take shape under his eyes.

“Good morning, everyone. Just as a note, this morning’s update will run shorter than yesterday’s. Both Dr. Devreaux and I are scheduled for a 10:30 videoconference with the White House, which obviously takes priority. I just wanted to give you all fair warning. We will both be as brief and informative as possible, leaving time for questions. Thank you in advance for your understanding. Dr. Devreaux?”

“Thank you, Josh. First and foremost, all of us here extend a heartfelt thank you to the sailors and marines involved in the rescue of our survey team. The team’s families and friends are relieved beyond words, as are we at the ISPAC. Few details of the rescue operation have been made available, but from what we can ascertain from our debrief of the team, the rescue was conducted at considerable personal risk to those involved. Thank you so very much, your professionalism and service will never be forgotten.

“The importance of this rescue extends well beyond just reuniting the team with loved ones. Information provided by the team confirms beyond a shadow of a doubt in our minds...” she said, nodding to Dr. Relstein, “that Indonesia, and specifically the area around Jakarta, is the epicenter of the H16N1 pandemic outbreak. I will give you a brief synopsis of the survey team’s frightening ordeal.

“Upon debarking their flight at the Jakarta International Airport, they were immediately strong-armed into what they thought was a police van, waiting for them on the runway. Apparently, the individuals involved were a combination of local health officials and law enforcement that had become aware of a government plot to detain the survey team. This small renegade group kidnapped the team in order to prevent their immediate incarceration at the terminal.

“The survey team was shuffled around Java Island for three days, hidden by sympathetic civilians. They operated in constant fear of arrest. The team observed the general state of the pandemic’s progress on the island and conducted close observation of patients when it was possible. The web of locals who hid the team and helped transport them, did so at great risk. The Indonesian government had no intention of letting our team confirm the extent of the disaster unfolding on Java Island. We extend our sincerest thanks and well wishes to these heroes.

“As you may have seen on the website, our rough estimates for the number of flu cases in Indonesia is simply staggering. Our survey team saw entire hospitals filled to capacity with flu victims, soccer stadiums filled, indoor malls filled. Flu patients stacked in every conceivable location for triage and treatment, with scant medical supplies available to local healthcare providers. The scene was described by one of the team members as catastrophic, with no end in sight.

“The team was smuggled aboard a fishing boat and taken out to sea, where they sent an international distress call over the boat’s VHF radio. According to the team leader, it had become common knowledge on the streets that U.S. Navy ships were operating close to

Indonesian territorial waters. Fortunately for the team, the call was swiftly answered by the U.S. Navy. The details surrounding the actual rescue operation are classified.

“So, what are we looking at within Indonesian borders? Data given to the team by Indonesian health officials puts the estimated number of cases at easily over a million. Deaths estimated around 45,000. 1 out of 3 deaths are blamed on acute respiratory distress syndrome. Dr. Relstein will handle this topic shortly, so please hold your questions.”

Dr. Devreaux rightly anticipated an outburst from the auditorium, which quieted just as quickly as it started.

“The first outbreak occurred approximately 14 days ago, right outside of Jakarta. The outbreak spread quickly to the rest of Java Island and some parts of Sumatra. Java Island is one of the most densely-populated regions of the world, especially since Indonesia became an Islamic theocracy in 2010 and a safe haven for Muslims worldwide. Without seeking any outside help, and with very little help available internally, the H16N1 virus spread rapidly with devastating effect.

“Cellular phone service was severed by the government 12 days into the crisis, which explains why we could not contact our team. It remains perplexing to me, that an entire nation’s cell phone network was shut down, and the world didn’t notice. Actually, I don’t believe it, but that’s another topic altogether.

“From what Dr. Relstein told me immediately prior to the conference, the UN was imposing a strict travel ban, though from what we learned from our team, no flights were leaving or arriving by the time they fled the country. They said that Java Island was nearly pitch black at night.

“Dr. Relstein will share what we’ve learned about H16N1 and its behavior.”

Dr. Relstein picked up the coffee mug he brought up to the podium, and took a lengthy drink. *“Thank you, Allison. So, as you have all noticed, the map, which is now shared by both CDC and ISPAC websites, is very different today than it was 24 hours ago,”* he said, pointing to the projection of the map on the screen behind him.

A considerable amount of talking and mumbling erupted from the crowd, as nearly every person seated in the auditorium started to check their cell phone or PDA. Dr. Relstein stopped talking for a moment and responded to the interruption with an annoyed look. He raised his eyebrows and looked at Dr. Devreaux, shaking his head. He stepped forward of the podium and addressed one of the closest journalists.

“What just happened?” he asked a young woman in a gray business suit.

“The WHO just raised the pandemic phase level to six,” she stated, looking stunned.

Dr. Relstein walked back to the podium, took another drink of coffee, and addressed the group.

“All right, everyone. Please, we don’t have much time for this conference, so if I could please have your attention,” he said loudly into the microphone.

The crowd started to quiet, and Dr. Relstein gave them another minute to simmer the excitement.

“Thank you, I have to admit, as a senior spokesperson for the CDC, I didn’t expect to hear that news from all of you first.”

Laughter erupts from the room.

“Well, there is no doubt that the world is right in the middle of a pandemic with devastating potential, so let’s get back to what we now know about H16N1. As data pours in from around the world, it is clear that this flu is spreading, and spreading fast. Further testing and observation

confirms that H16N1 is super contagious. Sounds like a very non-scientific term, super, but I don't know any other way to put it. Upon infecting a host, H16N1 starts shedding more virus in under one day. This is the shortest latent period seen among known flu strains, and I wish the bad news ended there. The shedding is also on a level we have never witnessed with known flu strains. H16N1 appears to be hell-bent on spreading. It can survive on porous and nonporous surfaces longer than we originally calculated and is easily spread by direct and indirect contact. You do not want to sit next to someone on the bus who has this disease. More accurately, you don't even want to be on the same bus as this person.

"So, let's take another look at the basic timeline," he said, shooting a laser pointer at the timeline on the screen.

"The latent period lasts under one day, and this is the only time that the patient is not infectious. Once the disease starts shedding, the patient enters the infectious period. Remember, the patient at this point is still asymptomatic and spreading the disease like wildfire. At some point within 4 to 6 days of first infection, the patient enters the symptomatic period. They are still highly infectious during this period and may remain infectious for another 6-10 days after first symptoms. Like H5N1, children can remain infectious for nearly a week longer than adults. Most of the ARDS deaths occur within a few days of first showing symptoms.

"Yesterday I estimated that ARDS deaths accounted for 1 out of 5 total deaths. Today, we are revising the estimate to 1 out of 3. H16N1, like the Spanish flu and avian flu, seems to trigger an autoimmune cascade in a high percentage of healthy young adults. It's a cruel irony that this syndrome specifically targets a cross-section of society with the healthiest immune system. We are constantly analyzing this data and revising our projections, but honestly, I thought this number would decrease, not increase. We are still in the very early stages of the pandemic, and ARDS deaths will dominate the death tolls for at least another few weeks. I don't expect the ratio to go much lower than 1 to 3.

"As for deaths due to pulmonary or secondary complications, like diabetes or heart disease, these are seen starting from 4 days after first symptoms and lasting months. Obviously, these cases will dominate the death tolls, especially as time increases. Generally, the early deaths occur in younger and older patients, or patients with vulnerable secondary complications. Of course, a patient's prognosis varies significantly based upon the level and duration of care available.

"Before I turn this back over to Dr. Devreaux, I want to emphasize again that H16N1 has several characteristics that make it a unique and deadly pandemic flu. It is highly contagious and demonstrates a longer than normal asymptomatic period, which presents a challenge to traditional health screening methods. This must be addressed by our government immediately. Strict quarantine and social distancing strategies will be critical to mitigating the spread of this disease."

He turned to Dr. Devreaux. Dozens of hands shot up from the auditorium.

"Thank you, Dr. Relstein. We are running short on time, so we'll start questions. We can only take a few. Yes, Dr. Perry? From Johns Hopkins. Is that right?" she asked.

"Thank you, Allison. And for the record, I would be more than willing to join your team here in Atlanta starting immediately."

Dr Relstein interrupted, *"Stephen, consider yourself hired. Sorry it took a pandemic for you to accept our offer."*

"You know very well that I can't stand the weather down here, and I don't plan to remain for long, so don't get excited. So, my question concerns the transmission probability of H16N1. Do

you have a rough estimate of secondary attack rate or reproductive probability? Sorry to get technical.”

“Not at all, Dr. Perry. I would be happy to show you those numbers once you sign all of the paperwork,” Dr. Relstein replied.

Dr. Perry laughed out loud and sat down. The joke briefly lifted the somber mood of the room, though Dr. Relstein’s answer quickly sank the auditorium back into the realm of gasps and shaking heads.

“I tried. So transmission probability is the chance of a disease being transmitted from one person to another if they have been in contact, and secondary attack rate is a similar projection. To answer your question, we are still trying to establish a solid estimate for transmission probability. For secondary attack rate, we have been able to isolate data for smaller groups exposed to a single index case. In these cases, we are seeing a 35-44% secondary attack rate, which is high.

“The basic reproductive number is a different beast. It is defined as the expected number of new infectious cases, in a completely susceptible population, produced directly by a single case. This does not count additional cases produced by secondary cases. Consider a sales pyramid scheme. The basic reproductive number is how many people, on average, we expect one person to directly sign up to sell for them. Unlike many of the other predictors used in disease transmission epidemiology, the basic reproductive number can be altered. It has four components: length of infectious period; number of contacts an infectious person makes in a period of time; the transmission probability; and the probability that someone who gets infected is actually infectious. So you can see that it is not actually a characteristic of the virus, but instead a snapshot of the virus at any particular time and place. Most government public health interventional strategies are based on altering this number and thereby mitigating the spread of the flu.

“Right now, the basic reproductive number is hovering around 5, which is very high for influenza. I firmly expect this number to lower as widespread pandemic response measures are implemented. The typical range for pandemic influenza is between 2 and 3. However, H16N1 is unique, so it may retain a unique basic reproductive number. Once again, strict quarantine and social distancing measures can drastically impact the number of contacts exposed to an infected person. At this point, these remain our most viable strategies to containing this virus. Sorry for the long answer. Stephen, when this is finished, please come up here so I can shackle you to my ankle. Dr. Devreaux will hand the last question.”

“We need to wrap this up quick, one more question,” she said and pointed to a tall man standing in the back of the auditorium.

“Thank you. Have either of your agencies consulted with the Department of Health and Human Services to start coordinating more aggressive pandemic response measures. From what you’ve described today, this sounds like a logical next step.”

“I couldn’t agree with you more. The purpose of our videoconference with the White House today is two-fold. First, to provide our most up-to-date data and projections regarding the pandemic. Secondly, to stress the paramount importance of escalating measures taken by DHHS to implement the national pandemic response strategy. We are also currently reaching out to the international community to provide this same information and stress the importance of immediate action. We are working in close coordination with the WHO to this effect. Ladies and gentlemen, I am getting a signal from the sidelines here that we must leave. Thank you.”

Evening News Report
Early November 2013

Alex turned on the television and home theater system. A few days ago, he set the DVR to record the NBC *Evening News* every night, between 6:30 and 7:00. Instead of staring at the computer all day, or incessantly watching CNN's looped news feed, he figured they could catch up on everything important, together and at their own leisure. At this point, Alex was mostly concerned about the arrival of the Jakarta flu in the U.S. He could watch and read news reports from the world all day, but he was starting to come to terms with the fact that it didn't really matter anymore. The flu was coming, regardless of what happened outside of the country. All that really mattered now was what happened inside the country, and how it impacted their neighborhood.

Alex started the news program. Kerrie Connor appeared sitting alongside a large monitor, which showed an image of an American aircraft carrier plowing through rough seas.

"Good evening. Tonight's top stories. Tensions with China increase as the fate of several hundred World Health Organization health workers remains unknown. At least two more U.S. aircraft carriers and an additional battle group are dispatched to the region.

"In Jakarta, the death toll rises as the killer flu burns unhindered throughout Java Island and spreads to Sumatra. The first reporters on scene describe the sight as devastating.

"And worldwide, the Jakarta flu continues to spread, causing countless thousands of deaths in Asia. Reports of larger flu outbreaks in Europe, the Middle East and Africa have world health officials concerned that the pandemic could become uncontainable.

"We'll also meet with Dr. David Ocampo, from the ISPAC, and get his assessment of the world pandemic situation."

"That should be interesting," Alex grumbled.

"First, a closer look at the crisis developing in China. Department of Defense officials acknowledged today that an additional carrier battle group, comprised of ships from Hawaii and Southern California, would join forces already deployed to Southeast Asia. A battle group centered around the nuclear aircraft carrier George Washington, home ported at U.S. Seventh Fleet headquarters in Japan, is already on station in the area. Rumors of another carrier being recalled from the Arabian gulf for service off the coast of China has not been confirmed.

"Chinese government officials protested the additional deployments to the United Nations. Jennifer Moskowitz reports from United Nations headquarters in Manhattan."

The screen changed to a picture of a blonde woman with medium-length hair, wearing a rather non-descript black ensemble, standing in front of a spectacularly illuminated United Nations Secretariat building. Several member nation flags waved in a light breeze behind her, bathed in spotlights. The broadcast was live.

"Kerrie, I'm standing in front the United Nations Secretariat building, where the mood today can only be described as tense and desperate. Chinese delegates continued to deflect questions regarding the status of WHO teams within their borders, stating only that these teams are consumed by the task of containing and mitigating the pandemic within Chinese borders and are

in no way disposed to abandoning their heroic efforts on behalf of the Chinese people. Tempers flared as delegates from at least a dozen nations accused the Chinese of holding the teams hostage. Delegates from Germany and Australia went so far as to blame China once again for exacerbating the pandemic situation, a reference to China's mishandling of the 2008 avian flu pandemic."

"Jennifer, was there any mention of sanctions against China, or the use of force to expedite the release of the WHO teams?"

"There was no discussion or suggestion of sanctions today by the assembly, however, it is no secret to any of the members that several nations have assembled outside of UN auspice to discuss options in response to China's actions. Chinese delegates repeatedly lobbied the assembly to formally decry the growing coalition outside of the UN. They are particularly alarmed by the deployment of an additional U.S. carrier battle group to the region, calling this an aggressive and warlike action."

"Thank you, Jennifer. We'll all definitely be watching this tense situation closely."

Jennifer Moskowitz nodded and the screen returned to Kerrie. The screen next to Kerrie showed a Google Earth map of Indonesia, which started to slowly pan closer to the city of Jakarta, on the northwestern tip of Java Island.

"Reporters and a limited number of aid workers landed during daylight hours at Jakarta's International Airport, to assess the worsening situation on Java Island. Flights are unable to land during nighttime hours, due to a complete blackout on Java Island. Initial reports passed through Indonesian health officials puts the official death toll at nearly 72,000, with over a million cases estimated on Java Island alone. One health official stressed that these figures were only an estimate, since they no longer have any competent way to track the sheer volume of cases and deaths, which grow rapidly by the hour. Health officials told reporters that they were shocked by how quickly the flu spread through the population. The first cases of the Jakarta flu appeared less than three weeks ago. Indonesian diplomats around the world, on behalf of their government, pleaded with the international community for aid, in the form of food, medical supplies and infrastructure support. WHO officials hinted that no pandemic response assets are likely to be deployed to Java Island or Sumatra. An anonymous source at the United Nations stated that WHO resources are stretched thin and are being reserved for locations where containment stands better chances of success. For Java Island and Sumatra, it appears that little hope is on the horizon. Stay with us, we'll return in a few moments."

The screen cut to a commercial, and Alex started to fast-forward past them.

"Maybe if they didn't wait so goddamned long to ask for help, or let the rest of the world know about their little epidemic, we wouldn't all be so screwed," Alex said, shaking his head. "I'm sure the Mullahs will blame the West for this somehow. Unfortunately for them, they'll be preaching to empty mosques. This pandemic is going to clear the bleachers."

"Honey, that's not cool to say. It's going to clear the bleachers everywhere."

She sounds pissed.

"I know, but most of the Muslim world is buried in Western-induced poverty," Alex said in a mocking tone. "And facts are facts. Modernized societies with a modern health care system will suffer a much lower percentage of casualties."

"It's still sad," she said, looking at him compassionately.

“I know, but it’s frustrating.” Alex stopped fast-forwarding.

“International Scientific Pandemic Awareness Collaborative cofounder and current director of their live information and trend analysis division, Dr. David Ocampo, joins us again, live in the studio. Dr. Ocampo, thank you for joining us again”

“My pleasure, Kerrie,” he responded. Dr. Ocampo is wearing a navy blue blazer with a light blue oxford shirt.

“Dr. Ocampo, you briefed members of the UN this afternoon regarding the developing pandemic situation. What did you tell them, and what is your current assessment?”

“Unfortunately, I was not the bearer of good news. I started with ‘Don’t kill the messenger.’ Kerrie, at this point, nothing is likely to stop the Jakarta flu from reaching all corners of the earth. It is very likely already in every corner, every country, every major city, and spreading beyond that. Our statistical projections, based on known H16N1 propagation and transmission characteristics, put the world on an unavoidable collision course with this disease. I stepped out of my scientific role for a moment while briefing the UN and recommended that member nations, or any nation for that matter, not waste any more time or energy aggressively engaging the Chinese. Why? Because even if all of the WHO teams detained in China...and I stress that this is unacceptable behavior from a world leader like China. Even if they were all returned and magically teleported to wherever we would choose to send them...even if they were magically doubled in number, it would not make a difference. Their role was to contain and suppress the spreading pandemic early, at the epicenter and at the outskirts of its spread. Forming a perimeter. There is no perimeter anymore. H16N1 is everywhere.”

“Are you suggesting that the WHO workers be abandoned?” Kerrie asked.

Dr. Ocampo chuckled. “No, not at all, but from a purely scientific and practical aspect, these teams will have no further impact on the spread of the pandemic. Tensions are high right now throughout the world and will only grow higher as the pandemic gets worse. Aggressive military posturing right now may feel like the right response to the Chinese, but I fear it will accomplish little more than strain the world’s fragile peace.”

“What specific recommendations did you make to the UN?”

“Specifically, I couldn’t stress enough that vaccine research and production must be every nation’s first priority, and that these facilities, their scientists, employees, support personnel, supply chains and power sources must be protected like national treasures. Whatever needs to be done to ensure their continued functioning is critical to the world recovery effort.

“Secondly, I recommended that every nation begin to mobilize and implement their own national pandemic plans. From top to bottom. H16N1 is a particularly nasty bug, and we will not see a repeat of 2008. 2008 was scary enough, but the avian flu turned out to be surprisingly mild. The Jakarta flu is surprisingly deadly and contagious.”

“Dr. Ocampo, do you feel that our national pandemic plan is adequate, and where do we stand in terms of its implementation?”

“Do you really want me to answer that?” he said, laughing. “Of course you do. Our national pandemic plan is adequate to address the threat of a pandemic. It was created through a brilliant collaboration and signed into order at a time when intellectualism and common sense within the government was at one of its lowest points. However, it appears that this collaboration was a huge waste of time. In terms of implementation, nothing useful has been accomplished in my view. Window dressing is all. Kerrie, if NBC wanted to make a difference in our immediate future, NBC would dedicate all of its energy toward educating the public about

implementing the national plan and preparing for the coming storm. This should be your calling, and every news outlet's calling."

"Thank you Dr. Ocampo."

An interview discussing Acute Respiratory Distress Syndrome

Comment [PN5]: Might need some italics in this section.

"...no one truly understands all of the mechanisms causing a fatal cytokine storm. Until 2008, cases of acute respiratory distress syndrome rarely presented in a significant enough number to study. Even after the avian flu pandemic, the scientific community has made little progress towards unraveling the causes and mechanisms. However, after 2008, we can certainly link acute respiratory viral infection to the cytokine storm affecting the lungs. Especially acute respiratory infections caused by pandemic viruses. H1N1 in the Spanish flu pandemic of 1918 and H5N1 in 2008 proved adept at triggering the cytokine storm."

"Dr. Pramanik, is there any speculation or evidence suggesting that H16N1 will do the same?"

"Currently, cases of acute respiratory distress syndrome have been confirmed in patients with H16N1, and the expected percentage of death followed. 50-75% of patients showing symptoms of ARDS died, but many of these deaths occurred in settings where patients were receiving less than optimal treatment. Prior to 2008, a patient under the best circumstances had a 50% chance of dying. Now, with a slightly better understanding of the syndrome and the medications effective in treatment, a patient has a two out of three chance of surviving."

"But in a home setting, the chance of survival must be minimal."

"Yes, very minimal," Dr. Deshvar Pramanik said.

"So what do we know about the cytokine storm?"

"Well, first, ARDS is an inappropriate or exaggerated immune response, most typically seen in a healthy immune system, which is why, historically, most of the deaths from this syndrome occur in patients between the age of 15 and 45. Men appear more susceptible than women."

"As we discussed earlier, cytokines are secreted by immune cells that have encountered a pathogen, further attracting more immune cells to increase the immune system's response to that pathogen. The arriving immune cells similarly secrete more cytokines, and this process repeats until the body's immune system senses a decline in the amount of pathogen."

"Now, this operates like a positive feedback loop, which if left unchecked, would spiral out of control, attracting more and more pro-inflammatory cytokine immune factors, which would in turn, continue the process until the cytokine storm is out of control. In a normal situation, this loop is dampened by anti-inflammatory cytokines that put the brakes on the pro-inflammatory process. Precisely what causes the loop to spiral out of control is one of the most frustrating unknowns my field of study."

"Dr. Pramanik, what causes the patients to die so suddenly as a result of the cytokine storm?"

"Interestingly enough, the ultimate cause of death is multi-system organ failure, not lung failure, as you may expect. However, the attack on the lungs likely precipitates the patient's rapid decline. Lung tissue and alveoli suffer irreversible damage from acute inflammation. This severely damaged lung fills with fluid, and can no longer adequately pass oxygen into the bloodstream. Most patients in this category present with pulmonary edema."

"Dr. what are some of the signs and symptoms that differentiate an ARDS patient from a typical flu patient?"

“Due to rapid fluid buildup in the lungs, one of the first symptoms is a rapid and severe shortness of breath. Once the lungs have been significantly damaged and can no longer efficiently pass oxygen into the blood system, patients will show signs of cyanosis, or a bluish discoloration of the skin, starting in the extremities and slowly spreading. Blue lips are a dead giveaway combined with shortness of breath. Eventually, once all of the body’s clotting factors are destroyed by the cytokine storm, spontaneous bleeding will occur. Patients will cough up blood, develop dark blotches under the skin, vomit blood, pass blood from the rectum. At this point, the syndrome is nearly 100% fatal.”

“What about early treatment? Drugs like Tamiflu or TerraFlu? Do these have any effect?”

“Well, this class of drugs only inhibits the function of the viral neuraminidase protein, which prevents the virus from reproducing in influenza A or B. So, if taken early, it could prevent the triggering of the cytokine storm. Remember, we’re not sure exactly what pulls that trigger, but it may be a severe infection, so if you could mitigate the viral infection, then maybe you could prevent the trigger mechanism. This is complete speculation that has not been proven scientifically, nor is it supported by any clinical data. What I feel very confident saying, is that once the cytokine storm is triggered, neuraminidase inhibitors will have no impact on the cytokine storm or the patient’s prognosis.”

“So have any treatments helped these patients?”

“At this point, there is no miracle cure for these patients. ACE inhibitors and angiotensin II receptor blockers demonstrate a slight capacity to mitigate the cytokine storm, but overall have a minimal impact on ARDS. The most promising research involves administering free radical scavengers, or antioxidants, to these patients. Research indicates a trend toward improved survival and a reduction in organ damage.”

“So we should all drink wine and be merry in the upcoming days?”

Dr. Pramanik laughs heartily. “Well, not exactly. Consuming food high in antioxidants is always a good idea, generally, but in the context of this research, the antioxidants administered were in therapeutic doses unachievable by food consumption. If you tried to consume the levels of antioxidants given to these patients, you’d have more problems than the ARDS!” he said, laughing again.

“Well, thank you for your—”

DHHS Press Conference Early November 2013

The man on the left stepped up to the podium, and adjusted the microphone. The camera zoomed in, capturing only the top of the podium and the man’s upper torso. He had fair skin and receding brown hair. His dark eyes contrasted his face, creating a harsh look, magnified by thin lips, scant eyebrows, and a displeased look. His shirt was light blue and his tie was yellow, balancing the severity of his grimace. He looked like a man who did not want to be behind that podium.

“Good morning, everyone. Good morning. My name is Paul Harding. I am the assistant secretary for public affairs, and to my left is John Merrill, assistant secretary for Public Health and Emergency Preparedness. I know that’s a quite a title. Simply put, he is the number two

official at the Department of Health and Human Services and directly reports to the secretary of Health and Human Service for the coordination of all pandemic response activities.

“John has just returned from a White House briefing, where both he and the secretary, and other members of DHHS, briefed White House staff regarding the progression of the Jakarta flu in the U.S., and the status of both state and federal pandemic response activities. John will help me answer your questions and fill in any blanks that I may leave.”

John Merrill was vaguely smiling. He nodded and resumed a solid stance, with his hands folded in front of him. The smile slowly trickled from his face, as he loomed over Paul. He was dressed more conservatively than Paul, in the same dark navy suit, but with a white shirt and dark blue tie. Alex suspected he was there to keep the public affairs secretary from descending too deeply into the cauldron of questions brewing in the audience.

“So to start, I would like to give you our assessment of the Jakarta flu’s progression and then outline what we are doing to address the pandemic threat. Before that, very briefly, I would like to reinforce the fact that the Centers for Disease Control and Prevention is an arm of the Department of Health and Human Services, and that the CDC is directly aligned with our pandemic response actions. This is important to mention because we are well aware of the impression that there is a strained relationship between the CDC and DHHS. That the CDC is a rogue agency. Nothing could be further from the truth. The CDC serves a vital role with our department and for years has operated with near complete autonomy, as long as they came close to working within their budget.”

Paul Harding suppressed a nervous laugh. This comment elicited a few muffled laughs from the crowd, but it was clear that nobody in the room was really in the mood for humor.

“We are working closely with the CDC to ensure that their research and projections keep our pandemic response efforts one step ahead of the Jakarta flu. In addition to this, I am also proud to include the ISPAC as a contributing asset to our efforts. Their director has committed all of their resources to the CDC and Department of Health and Human Services, significantly augmenting our pandemic analysis and research capability.

“With that said, let’s move on to what’s happening in the U.S. First, as of 5 minutes ago, DHHS has identified 4,418 confirmed cases of H16N1 within the continental United States, and there have been approximately 137 deaths since the first cases appeared Friday night. The cases appeared nearly simultaneously in most major cities on either Friday night or Saturday morning. San Francisco, Los Angeles, San Diego, Chicago, New York, Miami and Boston appear to have a 12-24 hour head start over other major cities, which accounts for the higher case counts in these cities. New York City currently accounts for 645 of these cases and over 30 deaths. All of this data is now available real-time on the DHHS website, at dhhs.pandemictrack.org.

“This data is provided by a nationwide network activated last Wednesday. The information flows from the state level to DHHS, and all medical offices, hospitals and institutions are aware of their reporting responsibilities. Additionally, we have established real-time electronic connectivity with all major domestic healthcare institutions and public health departments across the U.S. to obtain pandemic flu and resource availability information. So far, nearly 97% of the confirmed reports have originated from hospitals. By now, all hospitals have H16N1

confirmation kits and the capability to duplicate kits for distribution to local health providers. We anticipate the number of reported cases to increase rapidly over the next seven days, possibly doubling or tripling, with many reports originating outside of the hospitals.”

“Triple? How did you figure that? Can we ask questions?”

The first few impromptu questions triggered a simultaneous barrage of inquiry, spanning topics well beyond those already discussed. Paul handled the outburst professionally, backing away from the podium for a few seconds and whispering to John. Paul remained back from the podium and clasped both hands at hip level, assuming a relaxed stance. A noncommittal smile formed on his face as he waited. His disengagement from the group had an immediate effect, as most of the reporters realized that their outburst had brought the press conference to a screeching halt. *Nicely done.* When the room was mostly quiet, and only a few of the most clueless or stubborn reporters continued to press their questions, Paul stepped back to the podium.

“Thank you. I promise I will be done shortly, and you will have ample time to ask questions. I have a few more items to cover. In a pandemic, three major strategies are employed to contain outbreaks. One of these may not be available to us for several months. Until last week, the world scientific community was unaware of the H16N1 strain, so consequently, vaccine research on this novel flu strain has only just begun. Based on pharmaceutical industry estimates, it will likely take 3-6 months to develop an effective vaccine. Then another few months to produce and distribute the vaccine in sufficient quantities to impact containment efforts. Unlike the avian flu pandemic of 2008, vaccination will not contribute early containment efforts.

“However, we still have two major strategies to combat the spread of the pandemic, which we firmly believe can effectively and significantly slow the spread of the Jakarta flu. Actually two tactics. The first is the effective distribution and utilization of antivirals held in the Strategic National Stockpile. Currently, the stockpile can treat 15% of the population and will be used in accordance with national prioritization guidelines, in an attempt to arrest outbreaks and treat critical infrastructure personnel such as medical providers, first responders, police, and military. We will be suspending the distribution of antivirals to high risk populations, such as the elderly or very young. At this point, we do not possess enough doses to execute tier three distribution.”

“The next tactic is public education, which is being implemented as we speak. DHHS is preparing to embark on an aggressive public education campaign, consisting of television advertisements, direct mailings, educational materials distributable at medical offices, internet resources, telephone information, MP3 downloads, YouTube, and educational interviews on all major media programs. Every angle imaginable. This campaign should kick off by early next week.”

“MP-fucking-3 players? Did we travel back in time? Why don’t they put it on iShare, too? Then all the teenagers can download cool Health and Human Services music videos and share them with their friends. Un-fucking-real,” Alex yelled at the screen. “These idiots should just announce right now to close all schools and that each family should isolate themselves for a few weeks. If they did that, this whole pandemic would falter within the span of a month. This just isn’t aggressive enough, but then what do you expect from D.C.,” he said, his angry voice at a more reasonable volume.

“Maybe you should be in charge,” Kate quipped.

“So right now, we are concentrating on enhanced domestic surveillance, which incorporates real-time virus tracking...launching our educational campaign, and proactively distributing the anti-viral stockpile ahead of the virus. At this point, I would like to open the floor for questions.”

He pointed to a middle-aged man in dark brown pants and a light blue oxford shirt.

“Thank you. David Reeves, ABC World News. Can you tell us how the Jakarta flu penetrated our domestic protection barrier? From what I understood, your department was quite confident that the flu would not significantly breach our borders.”

“Fair enough question. Early last week, as the situation in China escalated, we began to seriously consider the possibility of another pandemic-grade virus spreading to the U.S. As early as Tuesday, DHHS implemented surveillance and control measures at points-of-entry, to decrease the introduction and spread of the virus in the U.S. This consisted of the isolation of suspected cases, quarantine of contacts, antiviral treatment and prophylaxis, and tracing of contacts into the community near points-of-entry. These measures remain in place today and will continue to remain in place indefinitely.

“However, due to the unique nature of this virus, with a longer than usual asymptomatic period, many infected travelers likely evaded detection. Additionally, tracking these travelers and their contacts within the U.S. proved to be difficult at best, even with an augmented investigative force.”

John Merrill stepped forward and pulled the microphone toward his face.

“Another problem arose from the fact that the outbreak in Jakarta had been brewing for at least several days, if not two weeks, before our measures were activated. Many of the cases that have been catalogued in the hospitals may likely stem from earlier contact with infected travelers, leaving many thousands of asymptomatic cases still undiscovered. This is one of the primary reasons that the CDC suspects the number of cases will likely triple by the end of the week.”

“Thank you, John,” Paul said and pointed to another reporter.

“Gavin Prescott, LA Times. What steps are being taken by your department to increase surge capability at major hospitals and within communities. From what I understand, a few of the hospitals within the L.A. area are approaching their surge limit for treatment of the Jakarta flu.”

“I think you are referring to Pacific Hospital in Long Beach. Keep in mind that this is a relatively small hospital that only recently began offering in-patient services, like ICU stabilization. They rapidly reached their limit with patients from an outbreak in Compton, however, we understand that within the course of the next few weeks, our nation’s hospital system will face a serious challenge.

“DHHS has activated the Strategic National Stockpile program, which will immediately deliver stockpiled ventilators, pharmaceuticals, and other medical material needed to stabilize and treat infected individuals. The first shipments will be sent to the states that are the hardest hit. California, New York, Massachusetts and Illinois. DHHS will continue to monitor the National Disease Outbreak Surveillance Network and automatically activate a 12-Hour Push Package for any state that requires augmentation of their surge capacity. Our decision to deploy these packages weighs available capacity versus anticipated surge of infected individuals and is completely objective.

“This is completely separate from the shipment of antivirals from the stockpile. Antiviral shipments are already in progress to all of the states.

“We also have the capability to deploy Federal Medical Stations, which can provide stand-alone surge capacity. These will be reserved for the worst hit areas.

“Finally, we are encouraging all states to implement their plans to handle hospital overflow by creating secondary sites to treat infected individuals.”

Paul motioned to a reporter standing near the back of the room.

“Thank you, Shawn McAbee, NBC. You mentioned nearly 30 deaths in the New York area alone. Will you comment on the situation surrounding those deaths?”

“You mean what caused them?” Paul asked.

The room broke into a brief period of laughter.

“I suppose that’s a more direct way of putting it,” Shawn responded, grinning.

“Most of the deaths are due to acute respiratory distress syndrome, and we have a few due to heart attack or yet undetermined causes.”

“Is this the same nationwide?” Shawn added.

“Yes, very similar. ARDS is responsible for at least 90% of the 181 deaths directly attributed to the Jakarta flu. The remaining 10% are all acute events, like heart attack, fatal hypoglycemia, or immediate lung failure due to preexisting lung disease. Most of the ARDS-related fatalities occurred within 24-48 hours of showing symptoms, some as quick as 8-12. Almost all within a hospital setting, though we have reports of deaths occurring within the communities, prior to individuals seeking medical care. This is why it is imperative that individuals with flu-like symptoms seek immediate care from their physician or closest hospital.”

“Do you have any data regarding survival rates for ARDS caused by the Jakarta flu?”

John Merrill stepped forward once again.

“At this time, we do not have any data regarding survival rates for ARDS, however, the occurrence rates for ARDS are around 5%, which is encouraging news. In Asia, some of the early data indicated ARDS rates as high as 10-20%.”

He stepped back to the left of Paul.

“Every time that guy steps forward, I get suspicious,” Kate said.

“Yeah, I think it’s a really sensitive topic that needs extra spin from the puppet master,” Alex added.

“Suzanne Wilkins, Fox News. According to the National Pandemic Plan, your department is tasked with assessing surge capacity of medical and emergency response systems. What is DHHS’s assessment based on worldwide Jakarta flu trends?”

Surprisingly, to both Kate and Alex, John did not step forward, though he looked like he was straining to remain in his station next to Paul.

“Currently, our assessment is positive. Based on worldwide trends and our nation’s pandemic response capability, we anticipate sufficient surge capacity to handle the pandemic.”

John finally broke free of the invisible force keeping him in place.

“A few major factors affect this assessment. First, the U.S. is a nation with a modernized healthcare system, second to none in the world. I know that a few countries have already hit their surge capacity, but those models will not apply here. We have an incredible healthcare system, and the Strategic National Stockpile gives us the ability to enhance this system if necessary.

“Secondly, not every single person that is infected requires hospital care. The vast majority can be treated at home, especially when given antivirals to reduce the severity of symptoms. At this time, we do not anticipate the Jakarta flu overwhelming the healthcare system. With that being said, we are closely watching all aspects of the pandemic and will take the immediate and necessary steps if, and I emphasize if, that assessment changes. Thank you.”

A woman in the second row spoke up immediately after John’s comment.

“You mentioned the antiviral stockpile again as a key strategy for keeping the pandemic under control. The nation’s stockpile program is close to 32 million doses short of the projected 2012 goal to have enough doses for 25% of the population. Is this shortage figured into that assessment?”

Another reporter sitting behind her fired follow-up questions before either John or Paul could react.

“And what about reports of resistance to Tamiflu? Or that the Jakarta flu may require higher doses due to higher virulence?”

Paul took control of the situation.

“Ladies and gentlemen, one question at a time, please. First, the department’s assessments take into account the state level shortfall. As of last month, the Strategic National Stockpile contained nearly 39 million doses of Tamiflu, which is only a few million doses short of our goal. Unfortunately, the state level stockpiling effort fell short of our expectations. Our plan directed that 32 million doses be purchased at the state level, and currently, state stockpiles only account for about 7 to 8 million doses.”

The room started to stir, as nearly 100 reporters started whispering.

“However, DHHS has reached an agreement with Roche pharmaceuticals that will bridge this gap. Roche has agreed to divert all of their current inventory to the Strategic National Stockpile, and for an indefinite period, all future production of their antiviral will be dedicated to pandemic response efforts.”

“I didn’t hear anything about Biosphere?” Kate said.

Alex shrugged his shoulders.

“As for the rumors about resistance. It is true that a low incidence of resistance has been detected to older flu strains, like H1N1 and H5N1, but that has not been the case with H16N1. Data emerging from Asia does not suggest any resistance to currently available antivirals.”

“Nice that this data is readily available, but nothing about ARDS,” Alex commented.

“Right now, we are unaware of any need to increase the dose of Tamiflu to effectively treat the Jakarta flu. The CDC will be tracking this issue closely. With the current information available, we remain convinced that a typical course of therapy will be sufficient to reduce the symptoms and duration of H16N1 infection. Ladies and gentlemen, we’ll take a few more questions.”

This announcement brought most of the reporters out of their chairs, trying to gain Paul’s attention, many simply yelling their questions at Paul. Paul remained unmoved by their attempts, focusing toward the back of the room.

“Audra,” he announced, pointing to Audra Jefferson, from MSNBC. Most of the reporters lowered back into their seats.

“Thank you. Does your department recommend any action by state or local governments to implement community social distancing strategies, like school closures or work schedule modifications?”

“No, currently we do not recommend activating any of these strategies. Taking these actions too early can be severely disruptive on many levels. The department plans to reconsider this recommendation early next week, when more data is available to accurately forecast the flu’s impact on the nation. This does not preclude local governments from implementing these strategies, however, it is not warranted by current conditions.”

Alex looked at Kate, shaking his head.

“What do they think is going to happen over the next few weeks?” Alex asked.

“But given the case fatality rates demonstrated in Asia, specifically Indonesian and China, by your department’s own classification, this is a category 5 pandemic. And by your own national plan, in a category 5 situation, all of the community mitigation strategies would be implemented. Why wait for the pandemic to spread?”

John stepped forward to handle her continuation of the question.

“The pandemic severity index, linked to community mitigation strategies is a guideline for action. As Paul said, most of these strategies have a heavy impact on society. School closures force parents to find childcare alternatives, in many cases negating the benefit of a school closure. Many parents cannot afford these alternatives and will be forced to either leave children unattended or miss work, which causes more problems. If parents miss work, they may lose their jobs. Increased absenteeism, already an issue in a flu pandemic, can impact the delivery of essential services, like food, electricity, payroll, financial, and emergency services. Even the most mundane job can contribute to an essential service. Therefore, implementation of these strategies is not taken lightly, as they impact everyone.

“This department, with the full support of the administration, will continue to analyze all of the data, forecasts and recommendations provided by the CDC and ISPAC. By early next week, I am confident that we will understand enough of our situation to make decisions regarding community mitigation strategies.”

As John stepped back, all of the reporters flew off their seats, yelling and gesturing toward Paul, but the press conference was finished.

This is the end of the Bonus Material. If you enjoyed these clips, you must check out Craig DiLouie's *The Thin White Line*.

Download Craig's book FREE (<http://craigdilouie.com/books/the-thin-white-line/>)