

2010 National Influenza Vaccine Summit

**May 17–19, 2010
Scottsdale, Arizona
Meeting Minutes**

Session 1—Pandemic Moderator: Dr. Carol Friedman

Kicking off the session focused on the 2009 H1N1 influenza pandemic, Beth Bell, MD, Associate Director for Science at the CDC, reviewed her agency's response to this sudden outbreak. In mid-April, two children were identified in southern California with cases of a novel influenza virus that included a constellation of sequences not seen in any previous US influenza strain. Mounting a concerted, rapid response, the CDC identified and characterized the virus, and developed and shipped vaccine strains to manufacturers by 23 May.

Virtually everything about H1N1 was unusual: viral activity rose much earlier than it would for a regular flu season, the vaccine strain grew more slowly than a typical influenza isolate, and the public turned out in much higher numbers than usual for vaccination. To address the supply problems, the US Federal government managed vaccine distribution directly and centrally by building on the established Vaccines for Children program. By early January, the CDC had sent out 120 million doses of vaccine through this system.

Meanwhile, the CDC monitored adverse event reports carefully. Because the 1976 "swine flu" vaccine was associated with an elevated risk of Guillain-Barré syndrome, officials monitored this condition especially closely. This safety monitoring confirmed that the 2009 H1N1 vaccine was as safe as the regular seasonal influenza vaccine.

Bell concluded that the pandemic strengthened the CDC's diagnostic capacity and surveillance systems, and also paved the way for more collaboration between government and private organizations in future influenza seasons.

Gary Euler, DrPH, MPH, Vaccination Survey Epidemiologist at the CDC, then presented his data on 2009-2010 influenza vaccination coverage with both the H1N1 and seasonal vaccines. For seasonal vaccine, coverage varied by state, ranging from 20%-50% in children and 30%-50% in adults. The figures are significantly higher than previous seasons, probably because of the extensive media coverage driven by the H1N1 pandemic. "We all know that the fear factor does affect uptake of vaccine, and this year we had a record coverage as far as we can tell, maybe an increase of 20-30 million vaccinees this season," said Euler.

H1N1 vaccine coverage followed a similar pattern, with states that have done well during previous seasonal vaccination campaigns also reporting relatively high levels of H1N1 vaccination, and lower-scoring states still bringing up the rear.

Nonetheless, Euler cautioned that the data are imperfect. One problem is that the CDC tracks the number of doses distributed, and not all distributed vaccine is actually delivered to patients. In addition, the presence of two vaccines last year may have confused many patients. Indeed, Euler's main survey implies that about 119 million people would claim to have received the seasonal flu vaccine last year, even though only about 105 million doses were available to the surveyed population.

Laurel Edelman, Vice President at SDI Health, presented a complementary set of data. SDI collects electronic billing records for physicians and hospitals nationwide, receiving over a billion claims a month. From an anonymized version of this massive data set, Edelman and her colleagues are able to track at least some health information on more than 70% of Americans. During the 2009-2010 flu season, these data captured an estimated 27% of all of the influenza vaccinations delivered.

Pediatricians administered the majority of pandemic H1N1 vaccine, with family practitioners in second place. Interestingly, about 44% of Ob/Gyn specialists administered the H1N1 vaccine to their patients, while only 37% administered the seasonal vaccine.

In a typical year, SDI's data show a 14-18-week gap between the peak of vaccination and the peak of influenza-like illness, indicating that vaccinators should continue immunizing after Thanksgiving to boost coverage rates. In 2009-2010, however, much of the population was still unvaccinated when the H1N1 pandemic peaked.

Attendees next heard about another set of data that underscore many of the same points. In each of the past two years, analysts at the RAND Corporation have conducted surveys of adults during flu vaccination season. The resulting analyses typically agree well with CDC data. "It's been really nice to come here and see everybody using different methodologies and mostly getting a consistent picture," said Katherine Harris, PhD, Senior Economist at RAND.

For the 2009-2010 season, Harris and her colleagues found that just over a third of adults got vaccinated against seasonal influenza overall, with less than half of the "high risk" population getting the vaccine. The overall figures are about the same as the previous season, but more adults were vaccinated earlier in the year, suggesting that they heeded the CDC's advice to get the vaccine early. However, the rate of vaccination dropped by October, consistent with the other results.

The uptake of H1N1 vaccine correlated strongly with seasonal vaccine uptake; people who got one shot were more likely to get the other. While racial disparities remain a problem, they were less pronounced for the pandemic vaccine. Indeed, more Hispanics

got the H1N1 vaccine than the seasonal vaccine, possibly because of the severity of the H1N1 pandemic in Mexico.

Col. Wayne Hachey, Director of Preventive Medicine in the Office of the Deputy Secretary of Defense for Force Health Protection, concluded the first session by presenting the military's experience with H1N1 and seasonal vaccination. The Department of Defense (DoD) has long led the charge against flu, having developed the first approved inactivated vaccine for influenza in the 1940s.

Because DoD can and does compel vaccination for its employees, its coverage rates are exemplary. For seasonal influenza, the DoD distributed nearly 4 million vaccine doses and administered virtually all of them.

For the pandemic strain, DoD received its vaccine allocation through the CDC, as did all other organizations nationwide. As with many civilian efforts, the supply of the vaccine was a rate-limiting factor in vaccinating the military. Nonetheless, Hachey and his colleagues had achieved a 96% vaccination rate for the DoD by May. The military also established a safety monitoring system that ran in parallel to the CDC system, and independently confirmed that the H1N1 vaccine was as safe as the regular seasonal vaccine.

In a panel discussion at the end of the session, participants discussed the decision to proceed with a non-adjuvanted vaccine for the H1N1 pandemic. While an adjuvant might have addressed some of the supply problems, it would have to have been used under an emergency use authorization, which CDC worried would discourage public acceptance. Other attendees expressed concern that the boost in vaccination coverage spurred by the H1N1 pandemic may not be sustainable in a non-pandemic year, and emphasized the importance of renewing robust vaccination networks and partnerships every year.

After Dinner Presentations – Updates from Manufacturers and Distributors

After dinner, representatives from the major vaccine manufacturers and distributors gave brief presentations about their plans for the upcoming influenza season. Regardless of manufacturer, this year's influenza vaccine will protect against three strains of the virus: A/California/7/2009 (H1N1), A/Perth/16/2009 (H3N2), and B/Brisbane/60/2008.

Ashley Fishburg, Director of Policy and Research at the Health Industry Distributors Association (HIDA), led off the session with a summary from the 160 medical products distributors HIDA represents. Tracking vaccine releases by month and week, HIDA has found that the supply of vaccine has stabilized over the past few years, with more being released earlier in the season, allowing physicians and patients to plan better. For the pandemic H1N1 vaccine, the centralized CDC distribution system achieved a nearly real-time response in shipping ordered doses, but the supply lagged public demand for the vaccine early in the season.

Tosh Butt, Executive Director of the flu franchise at GlaxoSmithKline, explained that Glaxo's products span the entire influenza spectrum, including vaccines, antivirals, and a virucidal respirator. The company's seasonal flu products include FluLaval and Fluarix, the former delivered in a multi-dose thimerosal-preserved preparation, and the latter in single-dose thimerosal- and latex-free vials. Glaxo expects to produce up to 36 million doses of the two products for the US market, with shipping starting in July and ending by October. Butt added that this represents a doubling of the company's flu vaccine output from last year. Glaxo is also wrapping up a two-year global clinical trial of a new adjuvanted vaccine, and kicking off an "I love flu shots" public relations campaign.

MedImmune, meanwhile, continues to produce the live attenuated nasally-delivered FluMist. According to Kathy Coelingh, Senior Director of Medical and Scientific Affairs at MedImmune, 38% of all children vaccinated in pediatricians' offices last season received FluMist. The company also conducted a study in central Texas, in which researchers actively targeted school-age children for vaccination in one community, then tracked acute respiratory illness there and in an adjacent, control community that had no active targeting of school-age children. The results showed that giving children H1N1 FluMist vaccine provided significant protection against the pandemic virus in all age groups. MedImmune plans to produce about 16 million doses of FluMist for the 2010-2011 season.

Eddy Bresnitz, MD, MS, of Merck Vaccines and Paul Perreault of CSL gave a joint presentation, as the two companies collaborate on influenza vaccines. CSL has been a major distributor of flu vaccines in the Southern hemisphere for about 40 years, and in 2009 they participated in the world's first pandemic H1N1 vaccine trial. The company also provided about 8 million doses of seasonal influenza vaccine to the US for the 2009-2010 season, using Merck's distribution network. The two companies expect to distribute over 14 million doses of the Afluria seasonal flu vaccine in the US for 2010-2011, in a range of vial sizes for different populations and distribution schemes.

Novartis Vaccines accounted for about 45% of the total government sales of pandemic H1N1 vaccine in 2009-2010, and also supplied 27 million doses of seasonal flu vaccine to the US market. The company also opened the first manufacturing plant for cell-culture-derived flu vaccines in the US last year. For 2010-2011, Nima Farzan, Vice President of Marketing at Novartis, expects the company to produce 35-40 million doses of vaccine for this market, with delivery starting in August and continuing through November. Farzan said the company expects to see an increase in vaccination in retail store settings, which offer a convenient, cost-effective solution for vaccine distribution.

Phil Hosbach, Vice President for Immunization Policy and Government Relations at Sanofi Pasteur, began the evening's final presentation by pointing out that "if you've seen one flu season, you've seen one flu season, and boy did we see a flu season last year." Indeed, Sanofi produced a whopping 52 million doses of seasonal flu vaccine as well as 87 million doses of pandemic H1N1 vaccine, representing 60% of the total doses of flu vaccine delivered by the end of 2009. For the coming season, Sanofi expects to produce over 70 million doses, delivering them from September through November. That will

include a large batch of the company's new Fluzone High-Dose vaccine for people 65 and over.

After the presentations, Litjen Tan, PhD, the Summit's co-chair, tallied the projections to predict a total supply of 171 million doses of flu vaccine, from five manufacturers, for the 2010-2011 season. If production goes according to plan, 151 million of those doses should be available by the end of October.

Session 2: Perceptions

Moderator: Dr. Bill Schaffner

The Summit's second full session focused on perceptions, ranging from the CDC's national-level communication efforts to the individual experiences of the nurses, pediatricians, and other practitioners who actually administered the seasonal and H1N1 vaccines in 2009-2010.

Glen Nowak, PhD, Acting Director of the CDC's Division of News and Electronic Media, provided an overview of his agency's efforts to explain influenza vaccination to the public. During the H1N1 pandemic, public interest in flu was at an all-time high, but so was public frustration at the inherent uncertainties of the outbreak. Nowak advised attendees to be as direct and transparent as possible in dealing with the media: "you have to tell them why the information is important, what it means, and what to do as a result of it."

Though a "normal" flu season is unlikely to garner the same level of media interest as the pandemic did, Nowak argued that public awareness of flu is nonetheless at a peak, so vaccinators should plan to take advantage of that. However, people who already received the H1N1 vaccine may erroneously believe that they do not need the 2010-2011 seasonal vaccine, so this year's message will need to emphasize the importance of the trivalent immunization.

Paul Jarris of the Association of State and Territorial Health Officials provided a state-level view of the preceding season. Jarris argued that the government-organized distribution of the pandemic H1N1 vaccine was essential and largely successful, maximizing the efficiency of vaccine distribution under a very tight schedule.

Against that success, though, state health departments also faced serious challenges. Erratic funding over several years forced massive layoffs in health departments, followed by a huge spike in funding when the H1N1 pandemic began. That boost was temporary, though: the budgets are slated to be slashed again before the 2010-2011 flu season begins. "We don't mothball our fire departments in between fires ... and yet what we're doing here is basically saying it's over ... so lay your people off," said Jarris.

Presenting the city and county-level view, Bob England, Director of the Maricopa County Department of Public Health, detailed the local outreach efforts his agencies pursued to distribute the H1N1 and seasonal vaccines. Through a massive public relations campaign,

England and his colleagues were able to reach large audiences very quickly, with high credibility.

However, England questioned the prioritization of high-risk groups for flu vaccination. In particular, the Advisory Committee on Immunization Practices (ACIP) has long based its influenza vaccine recommendations on risk: people at highest risk of complications from flu should get highest priority for vaccination. Instead, England argued that vaccination campaigns should target healthy children, as mathematical modeling shows that vaccinating 80% of school-age children would protect against 90% of the impact of an outbreak.

Mitch Rothholz, RPh, MBA, Chief of Staff at the American Pharmacists' Association, discussed the importance of pharmacists in vaccination. Though not traditionally considered vaccinators, these professionals bring impressive qualifications to the job, including tremendous public access, the ability to act as trusted advocates for vaccination, and the infrastructure to handle vaccines that often have specific storage and handling requirements.

All 50 states now authorize pharmacists to administer influenza vaccines, and during the 2009-2010 flu season many did. 10% of adults received the pandemic H1N1 vaccine at a pharmacy, and counting both the seasonal and H1N1 vaccines, pharmacists administered a total of about 14 million flu immunizations last season. Rothholz emphasized that pharmacies are not an alternative vaccination venue, but a complementary one, and that future vaccination efforts should make a point of targeting pharmacists.

Besides pharmacies, many people receive flu shots at public clinics administered by community immunizers in settings as diverse as schools, churches, and bars. Steve Allred, MSN, Founder and Clinical Director of GetAFluShot.com, presented their perspective. According to Allred, community immunizers provided over 18 million flu vaccinations during 2009-2010, including both H1N1 and seasonal vaccine.

Like other Summit participants, Allred credited the pandemic with the unprecedented public interest in flu vaccination. "No one in the country was unaware that there was a pandemic going on, [and] there was much higher demand for vaccination as a result," said Allred.

However, vaccine supply problems hit community immunizers especially hard. Allred explained that seasonal vaccine became virtually unavailable by midsummer, some distributors "lost" confirmed orders for thousands of doses, and scalpers were asking \$300 or more for a ten-dose vial of the vaccine. As a result, thousands of scheduled clinics had to be canceled. In the absence of an official CDC declaration of a vaccine shortage, immunizers took the blame for these cancellations.

Long-term care facilities such as nursing homes were left in a similar quandary. As Janice Zalen, Senior Director of Special Programs at the American Health Care Association explained, nursing homes are obligated to vaccinate their residents against

seasonal influenza every year. The Centers for Medicare and Medicaid Services will accept "vaccine shortage" as an excuse for not vaccinating, but only if the CDC has declared the shortage. Otherwise, the facility can be cited as deficient.

At many long-term care facilities, explaining the pandemic and seasonal vaccines to cognitively impaired residents was also difficult, and closing the facilities to visitors causes problems for the patients' families. Fortunately, Zalen says that once the CDC was made aware of these problems, they acted quickly to declare a seasonal influenza vaccine shortage and steer additional seasonal vaccine to nursing homes.

The session concluded with a panel discussion by four representatives of private healthcare providers, presenting the perspectives of nurses, pediatricians, family practitioners, and internists. According to Nancy Hughes, Director for Occupational and Environmental Health at the American Nurses' Association, nurses generally felt that the response to the H1N1 pandemic was handled well despite the supply problems, but expressed concern that pandemic preparedness requires better maintenance of the public health infrastructure.

Geoffrey Simon, MD, FAAP, of the American Academy of Pediatrics, confirmed that vaccine supply problems were serious last season, as the supply of seasonal vaccine seemed to evaporate when manufacturers began preparing the pandemic H1N1 vaccine. Andrew Eisenberg, MD, MBA, of the Texas Medical Association, reiterated those concerns and added that flu vaccines are also a loss leader for many practices. "It is very difficult to lose money on vaccines, which have a very small margin, and be willing to do it again and again even though you know it's the right thing," said Eisenberg. Tim Vavra, DO, FACP, from Loyola University Medical Center, pointed out that the supply problems were not restricted to the vaccines: respirator masks were also scarce during the pandemic.

After the presentations, other attendees reiterated the importance of fixing the vaccine reimbursement system, as the current approach places a major financial burden on many private practices. The group also reached an apparent consensus that extending the traditional vaccination season, particularly by emphasizing early vaccination in August and September, could also improve coverage rates.

Special Summit Awards Lunch Program **Moderator: Mitch Rothholz**

The Summit's fourth annual awards presentation, held at a special luncheon after the second session, honored organizations that performed exceptionally well in boosting influenza immunization rates in the previous flu season. In each award category, there was one primary recipient and one honorable mention.

This year's Overall Season Activities award went to the Palm Beach County Health Department, with an Honorable Mention award for the Tennessee Department of Health's H1N1 team.

The Children's Hospital of Philadelphia received the Healthcare Personnel Campaign award, and honorable mention went to the University of Texas's M.D. Anderson Cancer Research Center.

For the Immunization Coalitions/Public Health/Community Campaign award, the South Dakota Department of Health took home top honors, while the Open Cities Health Center received honorable mention.

In the Corporate Campaign category, nationwide pharmacy chain Walgreens won this year's award, and honorable mention went to the American Lung Association's "Faces of Influenza" campaign.

All of the awardees gave presentations about their winning efforts, and discussed the lessons they learned during the season.

Session 3: Progress

Moderator: Dr. Ray Strikas

After lunch, the Summit's third major session focused on progress, and discussed strategies for the 2010-2011 flu season and beyond.

Chris Colwell, Policy Director for Becton-Dickinson, described his company's efforts to improve vaccine delivery technology. One major effort centers on the problem of preventing needle reuse, an important issue in the US and a critical one in developing countries. "As important as it is to get healthcare and immunizations to people in the developing world, unfortunately if used inappropriately they can actually become a vector for disease transmission," said Colwell. To address that, Becton-Dickinson has developed an auto-disable syringe that can only be used once.

The company is also studying the problem of vaccine logistics, and plans to stockpile larger inventories of its vaccine delivery tools for unexpected events such as the H1N1 pandemic. Colwell also discussed the tendency of even experienced vaccinators to develop bad habits, such as leaving filled syringes sitting at room temperature and drawing vaccine from multiple vials without checking the lot numbers. In response, Becton-Dickinson has established an online injection training program that underscores the importance of following established protocols.

Other new delivery technologies include redesigned syringes that reduce the risk of accidental needle sticks, an intradermal device with a very small needle, and dry powdered vaccines that can be delivered by inhalation. For the latter, clinical trials should start later this year.

Cindy Weinbaum, MD, MPH, of the Immunization Services Division at the CDC, discussed future public health strategies for influenza. The CDC is working to improve its flu surveillance system, as selecting strains for the next year's vaccines requires solid data from the previous year's infections. Besides collecting more data, the CDC will also share it more openly, reviving its FluView reports of weekly influenza data from October onward.

Weinbaum also opened a discussion about school-located vaccination, which was a major theme of the Summit. The H1N1 pandemic inspired most states to implement school-based vaccination clinics, and many immunization programs are planning to use school-located vaccinations again this fall, even though they have not been funded yet.

Among healthcare personnel, CDC data show that about 62% received the seasonal flu vaccine in 2009-2010, and around 37% got the pandemic H1N1 vaccine. Employer recommendations were a major determinant of vaccination rates for healthcare workers.

Meanwhile, racial and ethnic disparities in flu vaccination rates persisted. The racial gap is narrower in children than in adults, but the CDC plans to develop new partnerships and communication campaigns to reach more minorities. Weinbaum predicted that the ACIP's new recommendation for universal vaccination of everyone over the age of six months will also help reach these groups.

The H1N1 pandemic also spurred the CDC to improve its tools for estimating vaccination coverage as well as monitoring vaccine safety and effectiveness. Weinbaum concluded that the pandemic increased vaccination outlets, improved diagnosis, spurred more obstetricians to vaccinate pregnant women, and strengthened links and communication between Federal, state, and local public health officials and healthcare organizations.

Federal officials are also updating national-level policies and plans in the wake of the H1N1 pandemic. Bruce Gellin, Director of the National Vaccine Program Office at the Department of Health and Human Services (HHS), explained that this is a complex undertaking, involving all of the steps of vaccine research, development, distribution, delivery, and monitoring. Because the development of each seasonal vaccine occurs from March to June, the entire process also operates under a tight schedule.

The data on the national weekly uptake of influenza vaccine versus disease activity for the 2009-2010 season offer a stark reminder of influenza's potential speed: the disease's spread outstripped vaccination. "What we know is that the virus won, and the vaccine came in second, which wasn't ideal for the overall program," said Gellin.

To beat the virus in future seasons, Gellin called for new vaccine platforms that can shorten production times, greater surge capacity in vaccine production to handle pandemics, improved surveillance, more and better antiviral compounds, more vaccination outlets, and improved public communication.

On the last point, Gellin pointed out that the new universal vaccination recommendation from ACIP may both simplify and complicate the overall message. Saying that everyone should get the vaccine, but also emphasizing that some groups are at particularly high risk from influenza, could appear contradictory.

Federal officials are also struggling with the problem of global vaccination. Because most of the world's vaccine production capacity is in developed countries, the developing world received comparatively little pandemic H1N1 vaccine, and may have suffered disproportionately from the disease as a result. In a decision that went all the way to the President, the US ultimately donated 10% of its H1N1 vaccine supply to the World Health Organization (WHO) for use in developing countries.

Kristine Sheedy, PhD, Associate Director for Communication Science at the CDC, presented the agency's message map for the 2010-2011 flu season. In collaboration with the marketing firm Arnold, the CDC has developed an overall campaign titled "The flu ends with U," which hopes to explain the importance of vaccination to protect not only oneself, but also infants and the elderly. The campaign also aims to lengthen the traditional vaccination season to immunize more people earlier and later than usual.

The campaign will need to address potential misperceptions. People vaccinated against pandemic H1N1 last year might not understand that they also need a new seasonal vaccine for 2010-2011, and some may misunderstand the distinction between the universal ACIP recommendation and the importance of targeting high-risk groups.

Mounting a comprehensive effort, the CDC plans to release a variety of public relations products, ranging from radio and satellite media tours to pre-written "matte articles" that publishers can insert directly into their publications, to web and social media postings. Sheedy and her colleagues also plan to evaluate the impact of these efforts to see if the message is getting through.

The key themes of the campaign will be that influenza is a serious disease, with some people at even higher risk than the general population, and that the CDC now recommends that everyone get the vaccine in order to protect themselves and their loved ones. Audience-specific messages will target pregnant women, healthcare workers, Hispanics and other minorities in particular.

In the session's final talk, Laura Scott, Executive Director of Families Fighting Flu, described a new steering committee that is working to develop an influenza prevention logo for use every season. Judy Kessell of Stone Arch Creative, a design company that has volunteered to work on the logo pro bono, also addressed the conference to discuss this process. The idea is to develop a pin, sticker, or other visual product that can serve to raise awareness of influenza. Kessell hoped to have a preliminary design ready by midsummer.

After the presentations, attendees engaged in an extensive discussion and question session. Commenters mentioned the importance of promoting early vaccination to extend

the immunization season, the need to target healthcare providers who serve as trusted sources of vaccine information, and the misperceptions many healthcare workers have about influenza. Nurses in particular tend to miss vaccination because they perceive that they are not in a high-risk group, and believe that they have strong immune systems.

The discussion also reiterated the speakers' concerns about the new universal vaccination recommendation. An apparent consensus emerged that Summit attendees will need to deliberately destroy previous years' messages about priority groups, and replace those ideas with the notion that vaccination is for everyone.

One commenter also stated that many Summit attendees are still shell-shocked from the vaccine shortages of the 2009-2010 season. This leaves them somewhat reluctant to promote universal vaccination, out of fear that the requisite vaccine supply might not materialize.

Session 4: Prevention

Moderator: Dr. LJ Tan

The final session of the Summit covered prevention, with presentations about the move toward universal vaccination, special groups that have been particularly hard to reach, and the impact of influenza on families.

Opening the session, Abby Shefer, MD, Associate Director for Science at the CDC's National Center for Immunization and Respiratory Diseases, described the latest updates to the Healthy People objectives. Revised every 10 years for the past three decades, Healthy People defines the CDC's national long-term public health goals. Healthy People 2020 launches this fall.

Healthy People 2020 sets several objectives for influenza immunization, including vaccinating 80% of 6-23 month-olds, 90% of high-risk individuals such as those over 65, 80% of pregnant women, and 90% of healthcare workers annually by the end of the decade. "Some of you might consider these targets somewhat aspirational, and that's probably somewhat true," said Shefer, adding that Healthy People is designed to establish "stretch" goals to spur continuous improvement.

Gregory Poland, MD, Director of the Mayo Clinic's Vaccine Research Group, presented a lively history of the long policymaking process that led to ACIP's universal flu vaccination recommendation. Poland focused on the frames, or perceptual viewpoints, through which policymakers, healthcare workers, and the public view influenza.

According to Poland, the public perception that flu is just a bad cold largely stems from a failure to understand statistics and risk. This mathematical illiteracy, or "innumeracy," leads many people to confuse temporality with causality, underestimate the frequency of coincidences, and value anecdote or emotion over data. As a result, many people believe that they are not at risk from a disease that in fact kills one of every 8,000 Americans and costs the economy an estimated \$87 billion every year. The problem can affect even

experts; Poland reported that a CDC staff member once asked him whether annual immunization is really safe.

Until 2009, ACIP had taken what Poland characterized as an "incrementalist" approach to recommending vaccination for everyone. But the H1N1 pandemic, during which 90% of the hospitalizations and deaths from flu struck people under 65, shifted the group's perceptual frame and spurred ACIP to adopt the universal recommendation immediately. "Policy changes are slow, and they're difficult to achieve absent an undeniable external threat that illuminates the futility of denialism," said Poland.

Moving the discussion toward vaccinating traditionally hard-to-reach groups, Stacey Mortenson, Executive Director of the American Lung Association of Arizona, and Heather McKenzie, MBA, RN, of the Visiting Nurses' Association of America, talked about healthy adults.

Historically, only about 20% of healthy adults - those without specific influenza risk factors - get vaccinated each year. The H1N1 pandemic only boosted that figure to 28%. Mortenson presented the results of a 2006 survey that revealed 60% of people declining vaccination say they did so because they are healthy. In addition, healthy adults tend to be busy, so locating more vaccination clinics in workplaces and retail establishments could help reach them. McKenzie also advocated tailoring messages to different age groups of healthy adults.

Adults with chronic illnesses have also been hard to reach in flu vaccination campaigns. In a survey during the 2009-2010 influenza season, Rebecca Sunenshine, MD, CDC Career Epidemiology Field Officer in the Maricopa County Department of Public Health, found that only 14% of parents in her county reported having someone in their household who was at "high risk" of flu complications. However, more specific questions revealed that another 19% reported having someone in the household with lung disease, heart disease, or other high risk conditions. "Clearly people have no idea what high risk is," said Sunenshine. To address that, Sunenshine advocates targeting physicians, who are the most trusted sources of health information for most adults, and using proven marketing principles to target specific age groups of people with chronic illnesses.

Susan Rehm, MD, Vice Chair of the Department of Infectious Disease at the Cleveland Clinic, and Cindy Weinbaum, MD, MPH, of the CDC's Immunization Services Division, discussed school-located vaccinations. Rehm emphasized the importance of a consistent communication plan and focusing on mothers, who tend to make the health decisions for their families. Weinbaum added data showing that school-located immunizations can reduce the overall incidence of influenza throughout a community.

In a question session, attendees struggled with the problem of funding school-located immunizations, particularly the difficulty of getting insurers to reimburse some of the expenses.

Deborah Wexler, Executive Director of the Immunization Action Coalition, introduced two speakers representing Johns Hopkins University and BJC Healthcare, recipients of the Coalition's Honor Roll for Patient Safety award. A new policy at Hopkins now requires employees with patient contact to be vaccinated against influenza or sign a declination form and wear a respirator mask in patient areas. BJC took the concept even further, making vaccination mandatory for all employees regardless of patient contact. As a result, BJC has now achieved a 98.4% vaccination rate, similar to the rates for military personnel.

Session 5: Perspectives: Why are we doing this?
Moderators: Dr. Carol Friedman and Dr. LJ Tan

Laura Scott of Families Fighting Flu gave the final presentation, a poignant narrative that featured the photos and stories of several healthy, active children and their families. All of the children in the presentation had two things in common: they were not fully vaccinated against influenza, and they subsequently died of the disease. Their parents are now members of Families Fighting Flu, which promotes influenza vaccination. "If we can save just one more child from dying of influenza, well that's a huge accomplishment in my book, because that's one more family we just saved from having to endure the worst nightmare of their lives," said Scott.

In closing remarks, conference co-organizer Litjen Tan asked attendees to submit three key messages that they hoped the Summit would promote. To address the potential confusion of the universal vaccination recommendation, Tan suggested using the universal recommendation as a top-level message: everyone should get a flu vaccine every year to protect themselves and their loved ones. More targeted messages can emphasize that some people are at particularly high risk of complications from influenza, making vaccination even more important for them.