

# **WEBER-MORGAN HEALTH DEPARTMENT'S H1N1 INFLUENZA CAMPAIGN** **(RETROSPECTIVE ANALYSIS AND REVIEW)**

## **A. Introduction**

From the first confirmed H1N1 Novel Influenza A case in Utah in the spring of 2009 until the present day, the Weber-Morgan Health Department has spent countless hours working to protect the public against this pandemic outbreak. This document is a retrospective examination of the various activities and efforts performed by the Department throughout the 2009-2010 flu campaign. The primary focus is to provide detailed descriptions of the planning and implementation of mass vaccination clinics, the identification of best practices and areas for improvement. Lessons learned will be incorporated into the existing Weber-Morgan Pandemic Influenza Preparedness Plan, with the desired outcome of having both a local health department and community more prepared and capable of responding to public health emergencies and disasters.

## **B. The Weber-Morgan Pandemic Influenza Taskforce/Plan/Prior Exercises**

The Pandemic Influenza Taskforce was a valuable partner and represented a vital means of communication throughout the campaign. We had established a strong collaborative working relationship with strategic, vital contacts and stakeholders within the business, social service, education, government and medical communities, and that collaboration proved to be a tremendous asset. In addition to assisting the department with the development of our preparedness plan, the Pan Flu Taskforce participated in several exercises to test certain proponents of the plan, to identify gaps and deficiencies, and to promote best practices through their corrections. Taskforce members acted as comprehensive conduits of information sharing with their respective colleagues, contacts and associations throughout the health district's flu campaign.

## **C. Planning Workgroup**

Our first effort was to establish a planning workgroup. We brought together a group of productive individuals with a varied knowledge and experience base. Even though we didn't have all the answers, we quickly developed a H1N1 Vaccination Plan (see Exhibit A). The Plan included a vaccine distribution formula with details for distributing vaccine to community providers and how much to keep for health department clinics. It also included staffing requirements, including clinic hours, number of shifts and team composition for each shift. It included a comprehensive three month clinic calendar. The plan was flexible, equitable and efficient. The workgroup incorporated flexibility in its planning processes, and everyone did an outstanding job altering plans to fit the realities of what was happening with the varied elements of the outbreak. The workgroup had weekly scheduled meetings, and tried to develop clear divisions of assignments and responsibilities based upon the most current information available. Even though teams and team leaders were identified, a true Incident Command System (ICS) was slow in evolving, but seemed to work well as we became more experienced in our mass clinics. As the illness

increased with hospitalizations and even deaths, the workgroup quickly determined the most appropriate strategies to get available vaccine out into the community and to the target groups. From the initial clinics at the health department until the later mass clinics at the county fairgrounds, the workgroup members, along with many other department employees and volunteers, worked valiantly through the many hours and long weeks of constant effort.

#### **D. Logistics**

Initially, it was difficult and time consuming to find a facility suitable and available for mass vaccination clinics. There were many variables to consider – parking, restroom facilities, security, entry and exit points throughout the building to expedite patient movement and flow, food delivery, breakroom for feeding staff and volunteers, signage and clinic setup. At first, we felt our public health building would accommodate the clinics, but we quickly discovered we had to look elsewhere. The initial demand for services resulted in long waiting lines and times, which became a key point of media attention and frustration to the public.

#### **E. Vaccine**

Without question, the greatest obstacle of the entire flu campaign was the availability of vaccine. The unknown variables of weekly vaccine quantity, delivery dates and types of presentation resulted in greater complexity in clinic planning and required flexibility in identifying new (and unproven) strategies for vaccine distribution. It was important to test and evaluate each strategy to determine effectiveness.

There were two distinct scenarios that we faced in the campaign - Not having adequate vaccine to meet the public's demand, and turning people away when we had adequate vaccine. Each scenario had been discussed in theory but not implemented until it was upon us. In retrospect, it would have been extremely beneficial to have addressed each scenario more effectively. Some people have suggested that vaccine should not have been released to the states until adequate supplies were available to conduct mass clinics. We constantly reminded ourselves of the need to protect people through vaccinations, and made every attempt to vaccinate the masses as quickly and efficiently as possible. We did not concern ourselves with one's proof of residency, and we were the first local health department to offer vaccinations by appointment and, ultimately, to lift all restrictions for eligibility.

#### **F. Mass Vaccination Clinics**

On October 5, 2009, after months of planning (years when you take into account the preparations of the Weber-Morgan Pandemic Influenza Taskforce) the first shipment of H1N1 vaccine arrived. It came in the form of 2,600 doses of nasal spray. Vaccine presentations for all priority groups were not available initially. We began providing mass clinics for individuals eligible for this presentation at the main public health building, but quickly discovered that the clinic was inadequate for both addressing the public's demand for this vaccine and the logistics of dispensing vaccine at this site. We were especially concerned about the long waiting lines in inclement weather. Most people understood the CDC priority groups, but ineligibles were still turned away after waiting in line for hours. It would have been

particularly helpful if CDC had published a more comprehensive list of what constituted an underlying chronic medical condition for those between ages 25-64. It was especially difficult to turn away elderly persons who qualified for the seasonal flu vaccine but not the H1N1. Having two separate flu vaccines and five different H1N1 presentations added to the public's confusion in terms of availability, cost, and delivery to different target groups. Vaccine presentations for all priority groups were not available initially. The initial intensity of demand was underestimated and limited quantities of vaccine exacerbated public agitation.

Our original H1N1 vaccination plan called for a minimum of 5,000 doses of vaccine before conducting a mass clinic. We felt this was a good planning assumption, but soon discovered that a range of 3,000 to 4,000 doses was adequate. It was difficult to finalize clinic plans until we knew how much vaccine would arrive and the quantities of each presentation. In addition, the scheduling of mass clinics could not be decided until vaccine orders were processed and shipment dates and amounts were known. The goal was to end each week with only enough vaccine to accomplish committed clinics before the next vaccine shipment delivery. This was extremely important to determine the appropriate clinic design and layout to facilitate a quick and smooth patient flow from start to finish. The layout was also critical to determine security and equipment needs, supplies inventory, staffing patterns, team leaders and number of workers needed at each station. The layout consisted of the following stations – registration, billing and vaccinations, with substations for education and crowd control. Vaccine Information Sheets (VIS) and other educational materials were offered in English and Spanish to the public as they passed through the clinics. These materials were also made available in other languages, and staff and volunteers were identified who could serve as interpreters.

On October 26, we switched to an appointment-only clinic schedule at the health department. This change essentially ended the long lines and waiting times. A six-person phone bank booked 1,500 appointments in a 90 minute period, but the county phone system registered over 18,000 calls from within the state of Utah and from people living in Idaho and Wyoming. During the three week "appointment only" period, we added several more phone lines and booked more appointments as larger shipments of vaccine arrived. This phase operated congruently with a community vaccinator strategy where health care workers, pregnant females and young children were being vaccinated at work or by their medical providers. We next transitioned to community sites to provide mass vaccination clinics. Our first offsite mass clinic occurred November 16 and 17 at the Weber State University Dee Event Center. It was truly a community effort, combining the skills of our staff with Weber State nursing students and faculty along with a cadre of dedicated Medical Reserve Corp and CERT volunteers. We dispensed over 6,000 doses during the two day clinic. On November 19, we conducted an after school clinic at Morgan High School, where 500 doses were administered. We also began offering the H1N1 vaccine by appointment at our health department office in Morgan. We had previously planned for several other school based clinics in the Ogden and Weber School Districts but cancelled them based upon crowd control and security issues and the possibility of inadequate vaccine.

In December we moved our mass clinics to the Weber County Fairgrounds, where we established a regularly scheduled clinic throughout the month. The facility was large enough to accommodate a waiting area so people did not have to wait in the cold. By this time, our weekly vaccine shipments had

increased to 7,000 doses. We had discovered through experience that offsite community clinics were more efficient than our public health clinic site, even though they were more costly and required more time to set up and take down. They also did not offer as much flexibility to increase or decrease staffing as service demand fluctuated. Initially, we used a ticket appointment system to regulate timely patient flow through the clinic and to schedule appropriate staffing patterns. We also used CityWatch, a community notification system, to alert parents regarding the need for a second dose for children less than 10 years of age. The system worked well, as parents responded in significant numbers by bringing their children to the clinics. As vaccine supply increased, we opened up our clinics to everyone without restrictions. We especially wanted to vaccinate the elderly, school teachers and entire families. Vaccine supply was ample, and no one was turned away, as they were in the initial clinics. This strategy increased the number of people served by two-thirds and resulted in a temporary surge in the public's demand for vaccinations. As December lingered on, we experienced a decline in clinic attendance as public and media interest waned. We issued a letter encouraging the public to take advantage of the plentiful vaccine supply and to help prevent a possible third wave of the disease. We stopped using the tickets and allowed people to be vaccinated without appointment times. By late December, approximately 18% of the Weber-Morgan population had been vaccinated.

As we move forward into January, our challenge now is to identify and target those existing pockets of unvaccinated individuals who want the shot. The planning workgroup is developing strategies to reach out again to school districts, businesses, senior citizen centers and long term care nursing facilities during the months of January through March. We will continue to offer H1N1 vaccine in the WMHD clinic on a daily walk-in basis. With an adequate supply of vaccine, we are also providing doses to the Weber County Sheriff's Office medical staff to vaccinate the inmate population.

### **G. Clinic Staffing**

Our original H1N1 vaccination plan established a staffing pattern of 1 nurse for every 300 shots during an 8 hour period. This planning assumption turned out to be accurate. A support staff ratio of 3:1 (3 support staff for every 1 nurse vaccinator) also turned out to be mostly accurate. Coordination and scheduling of health department staff, volunteers, temporary workers and contract employees was very challenging, particularly as clinic schedules became more complex and lingered on. It was important to have a designated place for volunteers to check in/out during mass clinics, and to have a volunteer management team leader. It would have been helpful to designate backup team leaders for each station, but we failed to do so. There was a tremendous need for non-medical workers to support both the delivery of direct clinic services and "after hours" administrative activities, such as data entry and billing. The amount of paperwork associated with mass clinics was tremendous, with each paper record requiring thirty-five (35) minutes of administrative handling time. Even today, staff and temporary workers continue to input patient and billing information into KIPHS and to process billing claims. It was also challenging to work through normal county purchasing and requisitioning "roadblocks" when critical materials and supplies needed expeditious handling.

## **H. Volunteer Management**

The Weber-Morgan Medical Reserve Corps responded in exceptional ways to our request for medical and non-medical volunteer personnel. We also acknowledge the contributions made by Weber State University volunteer students and faculty. We could not have accomplished our goals and objectives without their wonderful assistance and participation (see the attached Weber-Morgan Medical Reserve Corps Newsletter, January 2010).

In addition to the Weber-Morgan Medical Reserve Corps, we coordinated with other volunteer organizations, such as CERT and Red Cross. In order to address liability and worker's compensation issues, we had to enroll students from WSU under the MRC umbrella. This process was time and resource intensive, but overall was successful. The volunteer nurses appreciated the orientation training and visual aids provided.

### **I. Health Care Partners**

Involving the medical community as partner vaccinators was an important strategy from the beginning. The planning workgroup initially identified over 25 provider sites to determine their level of interest and participation. Based upon CDC/ACIP priority groups, it was important to recruit obstetricians and pediatricians to vaccinate pregnant women and young children. Vaccinating health care workers could be accomplished by providing vaccine to local hospitals and community health care centers. The process of enrolling these community providers/vaccinators was challenging. There were several steps required as part of the "enrollment" process, which included site visits to determine vaccine storage capacity and the completion of a Provider Agreement. Initially, UDOH provided limited guidance for these site visits and certifications. The checklist was easy to use but lacked critical elements as to the sufficiency of refrigeration and devices used to measure temperatures. All requests for site visits were planned, routed and accomplished in a timely fashion. The entire enrollment process was labor intensive and time consuming. We discovered that UDOH was also signing up local providers without communicating with us. For example, UDOH worked directly with chain pharmacies, but did not tell us in the beginning what was happening. The messages from UDOH were incomplete and caused misunderstandings between us and our local pharmacies. Once the provider enrollment process was completed, the initial vaccine supply was hand delivered by department staff. We tried to include these provider sites on our weekly vaccine orders to facilitate direct shipment, but were told by UDOH this would not be possible because of the limited number of sites that could be accommodated by the distributor. However, this process was quickly rectified, and vaccine was direct shipped as requested. We learned that partnering with the private medical community had its challenges. Many physicians only wanted enough vaccine for their existing patient load, and would wait until the next regularly scheduled appointment to vaccinate the patient. This procedure resulted in significant delays for patients who wanted their vaccinations quickly. There was limited or no interest in opening up their practice to the general public for H1N1 vaccinations. To expect a true partnership with the private medical community to conduct "mass" vaccination activities was impractical. With the exception of Now Care and some obstetricians,

the private providers participated on a limited basis, and did not avail themselves significantly to offset the public's demand for vaccination.

### ***J. Best Practices***

Throughout this document, we have tried to identify best practices and emphasize what worked well. Everyone gained an appreciation and understanding of the mission, goals, policies and procedures necessary to accomplish the tasks at hand. The concept of weekly planning, including partners from all aspects of the community, helped minimize confusion and assisted in keeping overall management in a controlled fashion. Mass vaccination strategies were constantly scrutinized and evaluated to identify ways to improve processes such as service delivery. We became creative in order to meet deadlines, such as training environmental health staff to conduct site assessments for potential community vaccinators. We learned the importance of training and utilizing volunteers, who proved to be a tremendous asset to the overall campaign. We wanted health department staff to experience working with numerous volunteers for an extended period of time, and to acknowledge the fact that we could not have achieved our goals without their participation.

The H1N1 Influenza campaign may go down as the first flu pandemic fought in the Age of Information. Both the public and local health departments took advantage of information tools like the internet, phone banks and social networking outlets (Facebook and Twitter). As evidence of this, utilization of our website increased 368% at one point during the campaign. These tools allowed us to immediately inform the public about any changes in the status of vaccine supply and the location of mass vaccination clinics. There was intense interest from persons living inside and outside our health district, and it was necessary to post new/updated information several times a day, either by cell phone or wireless internet. The social networking sites also allowed the public to offer instantaneous feedback that was available for everyone to see on the internet. The internet also affected the way the news media covered H1N1 news. Deadlines became obsolete as reporters tried to get the story on the web first. This often meant around-the-clock communication and monitoring of the media. Public education, messaging, flu hotline, social networking sites and media relations were well utilized to inform people about our H1N1 flu campaign activities.

Preparations on our website began well in advance of arrival of the vaccine. We built an H1N1-specific page which contained information about the virus, including a history of how it emerged in the spring of 2009, and links to CDC guidelines for schools, healthcare providers and the business community. We prepared fact sheets about the vaccine and posters encouraging hand washing and social distancing, which could be accessed and printed by anyone from the website. These signs could be seen throughout the community as the campaign progressed.

One strategy we identified early was to educate the public regarding the need to receive two vaccines – the seasonal and the H1N1. We developed an advertising budget which included ads in the Ogden Standard-Examiner and large banners that hung from our building identifying the Weber-Morgan Health Department as flu-shot central.

Critics often point to the lack of consistency in service delivery as a major deficiency with local public health. Perhaps it may be desirable to achieve uniformity/consistency in service delivery among the 12 local health departments but not always practical, especially during a pandemic. We strongly believe that the unique, customized approach to service delivery as demonstrated by the local health departments was the key ingredient to a successful vaccination campaign. It was indeed this flexibility and autonomy that clearly represented “the best practice” in addressing this disease outbreak. Local dynamics, politics and contingencies most often determine policy in service delivery rather than the need for statewide uniformity. During the outbreak, it became obvious that we did not have the luxury of waiting until a “consensus” was achieved before modifying service delivery. We communicated those modifications to the public and to our partners in Weber and Morgan Counties, but failed to adequately communicate those modifications to UDOH and the other local health departments before they were implemented.

## **K. Needs Improvement**

### **1) Planning Workgroup**

At times, it was challenging to insure that everyone’s thoughts, ideas and concerns were equally heard and considered during the planning discussions. Misunderstanding and miscommunication could have been avoided if better minutes had been recorded and distributed within 24 hours after each meeting. Not everyone was clear of his/her role, especially during implementation. Better utilization of ICS and organization charts may have clarified reporting structures, roles and responsibilities. Communication among workgroup members was a challenge. Problems included a lack of rumor control, misunderstanding regarding the proper chain of command for receiving and distributing information, “side bar” planning and decision making, and being left out inadvertently with “Red Paper” memos. It was difficult when a decision or a change in the game plan was made and implemented outside of the regular workgroup planning meetings with little or no notice. People working the phone banks and frontline receptionists needed more information and consistent messaging. We learned over time how critically important it was to first provide the information to frontline phone staff before alerting the media or updating our website. This did improve over time, but should have been properly addressed as an issue of concern. The scheduling of staff and volunteers in clinic settings was a monumental task, and the coordinated effort among workgroup members to accomplish this objective was somewhat disjointed. Greater communication and appropriate assignments would have made it easier to facilitate this process.

### **2) Communication**

Communication was clearly the greatest challenge throughout the flu campaign. It was critically important to keep the public, community partners and our staff fully aware of the Health Department’s vaccination strategies, including vaccine distribution and delivery schedules, clinic times and locations, vaccine eligibility for target groups and availability of vaccine presentations. Everyone needed to know as quickly as possible what our weekly plans entailed. The internet, social networking sites (Facebook,

Twitter), the department website, phone banks and normal media outlets were instrumental communication tools. It was extremely important to respond quickly to public and media inquiries to avoid confusion and frustration.

Dealing with the news media had both positive and negative outcomes. In the beginning the news media were invaluable in educating the public about the vaccine and the vaccination clinics. There was pressure from the news media outlets and state health officials to have a one-stop clearinghouse for information. This was mainly for the convenience of the broadcast media whose broadcasts air across the state. We provided regular updates to the 2-1-1 statewide information system each time we opened a clinic site or ran out of vaccine. Since the vaccine was allocated based upon population rates, our initial strategy was to serve only residents of Weber and Morgan counties. Our contention was that as long as our information within our own health district was correct and updated timely, then it was not necessary for residents to check other resources. The broadcast media did not accept this approach and tried to create negative stories. For instance, we did not announce the Weber State University mass vaccination clinics to the general media. Instead, we focused on campus wide publications and communications to target age-specific priority groups. The media misinterpreted this approach as secretive and ill-advised. We also noticed that over time the H1N1 “story line” and coverage became saturated, and media began looking for controversial perspectives, such as comparisons in service delivery among health departments. It seems that the message of being vaccinated became lost in the criticism of service delivery.

We could have benefitted through better communication and appropriate guidance from UDOH. We were given planning assumptions that did not occur, and struggled through vaccine delivery to providers that was partly orchestrated by state immunization staff. Because state staff was not directly involved with mass vaccination clinics, it seemed difficult for them to provide meaningful operational input and direction to our service delivery models. As a result, it often seemed that UDOH functioned more as a spectator and critic than a technical advisor. Instead of supporting the various service delivery models at the local level, UDOH seemed more focused on questioning the lack of uniformity.

Weekly conference calls between UDOH and local health departments were beneficial to a point. The sharing of information between parties became somewhat meaningless over time. Perhaps these calls should have focused less on “mechanics” and more on improving service delivery and identifying best practices. If UDOH wanted to address the “considerable public confusion and frustration”, then these calls could have been used more effectively for that purpose.

### 3) Volunteer Management

There was confusion coordinating nursing and administrative staff with the volunteers. There were at least three separate schedules being developed for volunteers for the Weber State University clinics. There was a disconnect between expectations for volunteer staffing and the reality of volunteer staffing. We were never able to come up with a 100% accurate system and solution for scheduling and managing volunteers. Every time we thought we had positions scheduled and committed, volunteers would show up who were not scheduled, and some scheduled did not show up. Identifying the appropriate team

leader (and a volunteer coordinator back up) and making specific assignments would have addressed most of these problem areas and facilitated volunteer scheduling and management.

We needed greater emphasis on training both employees and volunteers in the planning and implementation processes for mass vaccination clinics. We also needed to be more efficient in the hiring process for temporary and contract workers. During our initial planning meetings, we determined that volunteers and temporary workers might be needed throughout the H1N1 vaccination campaign, but we should have approached this issue a bit more aggressively and sooner. We could have benefitted from having a better plan in place for data collection and entry, and for identifying and addressing manpower needs for our mass clinics. As we identified what was needed, we should have secured those additional work positions earlier and started training sooner.

### ***L. Conclusion***

The H1N1 Influenza Campaign has been highly successful throughout the state. Approximately 25% of the population has been vaccinated against the virus. Each local health department did an outstanding job dealing with constantly changing variables to plan and deliver the vaccine to the public, especially to the priority groups. We were able to implement various components of our Pandemic Influenza Preparedness Plan, including Education and Communication, Mitigation, Continuity of Operations, Volunteer Recruitment and Management, Medical Community Coordination and Mass Vaccination Clinics. Through this long and exhausting campaign, we successfully developed and managed a comprehensive and collaborative service delivery model which resulted in thousands of people being vaccinated against this potentially dangerous novel influenza strain.

Everyone demonstrated a great deal of resourcefulness, initiative, flexibility and adaptation by learning from mistakes and improving our processes. Everyone maintained a strong commitment to the planning and implementation efforts, even though weekly or even daily changes were taking place. We made those necessary changes as quickly as possible to ensure that the overall public perception of our handling the H1N1 vaccination campaign was positive. We demonstrated to ourselves that we could perform at the highest level and accomplish all that we set out to do.

The Weber-Morgan Pandemic Influenza Plan was developed to address a full scale Phase 6 pandemic outbreak. This plan, which was developed before the H1N1 campaign, should be used as a starting point (not an end point) for real world execution. The ultimate "mild" characteristic of the H1N1 outbreak nullified certain proponents of the plan and required response modifications. Plan development and prior exercising did contribute to our preparedness and response capability, but the reality of conducting mass clinics for an extended period of time was the best teacher regarding best practices. The comprehensive feedback from all individuals engaged in the execution of the H1N1 campaign must now be carefully evaluated to revise current plans. We now have real world knowledge and experience in fighting a pandemic disease to consider as we take another look at our preparedness and response plans. To be most useful, our emergency preparedness plan must be more than a mere document; it must be rooted in an adequate assessment of our capacity and capability and a realistic understanding of how they can be enhanced as needed.