



Maximizing Safety and Minimizing Injury for Healthcare Personnel and Vaccine Recipients During a Large Community Wide Drive-Thru Point of Dispensing (POD) for H1N1 Pandemic Influenza Immunization

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◆ Background

Dispensing and administering H1N1 immunization in the community was a planning and logistical challenge. Louisville Kentucky, a metro area with a population of more than 750,000, elected to utilize a unique community-based immunization process consisting of walk-up and drive-thru options targeting individuals in designated high risk categories. The event, held on November 11-12, 2009 was the first community access to H1N1 vaccine, so large numbers of individuals seeking immunization were anticipated. Ensuring the safety of healthcare personnel and vaccine recipients was a priority and posed unique challenges.

◆ Purpose

This project aims to describe the activities used to maximize the safety and minimize injury to healthcare personnel and those utilizing the drive-thru for receipt of either injectable or intranasal vaccine during a community wide drive-thru immunization program targeting adults and children from designated high risk groups.

◆ Methods

On November 11-12, 2009 a community-wide H1N1 immunization point of dispensing (POD) was held at the University of Louisville football stadium parking lot. During those two days, a total of 19,079 vaccines were administered with 12,613 (66.1%) administered via a ten lane drive-thru. (Images 1 and 2).

Protecting the healthcare personnel and the vaccine recipients required planning that was focused on safety and injury prevention.



Image 1: Aerial view of Drive-Thru H1N1 Immunization Point of Dispensing at Papa John's Cardinal Stadium in Louisville KY

Potential safety risks identified for healthcare workers included 1) physical contact with moving vehicles, 2) needlestick/occupational exposure to blood/body fluids, 3) ergonomics issues and 4) exposure to car exhaust fumes.

Potential safety risks identified for vaccine recipients included 1) physical contact with other vehicles, 2) injury due to inappropriate vaccine administration technique, 3) exposure to car exhaust fumes, 4) incorrect dose or type of vaccine administered, 5) immediate adverse events associated with the vaccine.



Image 2: Vehicles in Line for Drive-Thru Immunization

During the drive-thru process, safety interventions included the following:

•Physical contact with vehicles was controlled by using traffic officers, cones to designate lanes, wearing of fluorescent reflective safety vests by all workers, instruction to drivers regarding use of park and emergency brakes, and restriction of foot traffic.

•Prevention of needlestick/occupational exposure was controlled by use of safety devices, personal protective equipment availability, competency training for all healthcare personnel, and a review of injection practices when immunizing individuals in their car.

•Ergonomic approaches included placement of supplies and sharps containers in areas that minimized bending.

•Exposure to car exhaust was controlled by open-ended tents and routine monitoring of tent conditions by local health department environmentalists.

•Prevention of inappropriate vaccine administration/technique was controlled by use of competency-based training, color-coded syringes and vaccine.

•Adverse event recognition and management was controlled by competency-based training and onsite emergency medical services personnel and equipment.

◆ Results

At the end of the two-day event, among event personnel, there had been no identified or reported injuries due to vehicular contact and no identified levels of carbon monoxide in any tent at any of the hourly checks. However, four needlesticks occurred; three during safety device activation and one immediately following an injection given to an active child. (Images 3 and 4).

Among vaccine recipients, three vaccine errors were identified including administration of intranasal vaccine to two adults with contraindications and one pediatric dosing error. These errors occurred despite the presence of a medication error prevention process.



Images 3 and 4: Safety Devices Available for Use During the Drive-Thru Immunization Process

◆ Conclusions

Although the safety risks posed by a drive-thru immunization process were anticipated, unique aspects of those risks emerged. Safety devices were available and reviewed prior to use, but three nursing students were stuck while incorrectly activating the needle safety device. One additional nursing student experienced a needlestick immediately after administering an injection to an active child and before she was able to activate the safety device. All four students had been provided with clean devices for use in familiarizing themselves before they began immunizing. The rate of injury was 4/12,613 vaccine doses administered. All injuries were managed through the University's Campus Health Services office and were without sequelae. For vaccine recipients, three vaccine errors were identified but no immediate or subsequent adverse events were identified. All three occurred when medication error prevention procedures were not followed.

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