

# Rapid Containment of an Influenza A Outbreak in a Locked Behavioral Unit

Michelle Ordoveza MD; Angela Gabasan, RN, MSN, CIC; Emilia Sordillo, MD, PhD, FACP, FIDSA  
Mount Sinai St. Luke's, Mount Sinai West, New York, NY

## Background

In December 2016, influenza-like-illness (ILI) was identified in a health care worker (HCW)/index case in our 36-bed locked behavioral unit, and in 2 patients the next day.

## Methods

### Case identification and definitions:

HCWs and patients were monitored for ILI. Presumptive cases with ILI were sent for Cepheid Xpert Flu Assay (FluPCR). A confirmed case had ILI and a positive FluPCR for FluA.

Review of medical record identified presumed primary and secondary cases as 2 discharged patients who had ILI-onset 3 days and 2 days prior to index case, but who had not been tested or isolated.

## Methods

### Interventions:

- Patients with ILI were placed on droplet precautions, given oseltamivir, and excluded from group activities
- HCWs with ILI were screened for FluPCR, offered treatment, and furloughed
- Vaccine was offered to unvaccinated HCWs and patients
- Staff and patients were educated regarding respiratory etiquette, hand hygiene, and early recognition and management of ILI
- Exposed patients and HCWs without ILI were offered chemoprophylaxis
- Because behavioral issues in the unit interfered with compliance, the unit was closed to new admissions and visitation restricted
- Chemoprophylaxis for all patients and HCWs was continued until unit was reopened, and masking required for all HCWs and visitors.

## Outbreak Course

The outbreak lasted 17 days, from December 28, 2016 to January 12, 2017. The attack rate was 29% (7/24). Morbidity was low; all patients were managed in behavioral unit and no HCW was hospitalized. HCW influenza vaccination was 81% at outbreak onset.

## Conclusions

**Prompt control measures, including unit closure to new admissions, limited outbreak duration to 17 days.**

**Failure to test and isolate the primary case led to ILI and oseltamivir treatment in the index case, 2 HCWs, and 3 patients, and prophylaxis in 4 patients and 1 HCW.**

Timely communication and education reduced staff anxiety, enabling targeted testing and prophylaxis. Challenges included unpredictable patient behavior and inherent conflict between preventive measures that limit, vs. behavioral therapies that require, interpersonal and group interactions.

Prompt control measures including unit closure limited ILI spread and outbreak duration.

## HCW's and patients and identification of primary case

|                | 19-Dec    | 20-Dec | 21-Dec | 22-Dec | 23-Dec | 24-Dec | 25-Dec    | 26-Dec | 27-Dec | 28-Dec   | 29-Dec | 30-Dec | 31-Dec | 1-Jan | 2-Jan | 3-Jan | 4-Jan | 5-Jan   |
|----------------|-----------|--------|--------|--------|--------|--------|-----------|--------|--------|----------|--------|--------|--------|-------|-------|-------|-------|---------|
| RN<br>UR<br>MD |           |        |        |        |        |        |           |        |        | Flu A    |        |        |        |       |       |       |       |         |
|                |           |        |        |        |        |        |           |        |        | 99.9, Sx |        |        |        |       |       |       |       | 101, Sx |
| Pt 1<br>Pt 2   | 19-Dec    | 20-Dec | 21-Dec | 22-Dec | 23-Dec | 24-Dec | 25-Dec    | 26-Dec | 27-Dec | 28-Dec   | 29-Dec | 30-Dec | 31-Dec | 1-Jan | 2-Jan | 3-Jan | 4-Jan | 5-Jan   |
|                | Adm       | *      | *      | *      | *      | *      | *         | *      | 102    | 101.7    | FluA   | *      | *      | *     | *     | *     | *     | *       |
| Pt 3<br>Pt 4   | Adm 12-14 | *      | *      | *      | *      | *      | *         | *      | 101    | 102.3    | FluA   | *      | *      | *     | *     | *     | *     | *       |
|                |           |        |        |        |        |        |           | Adm    | 100.7  |          | D/C    |        |        |       |       |       |       |         |
|                |           |        |        | Adm    | *      | *      | 101.1, Sx | *      | *      | *        | D/C    |        |        |       |       |       |       |         |