

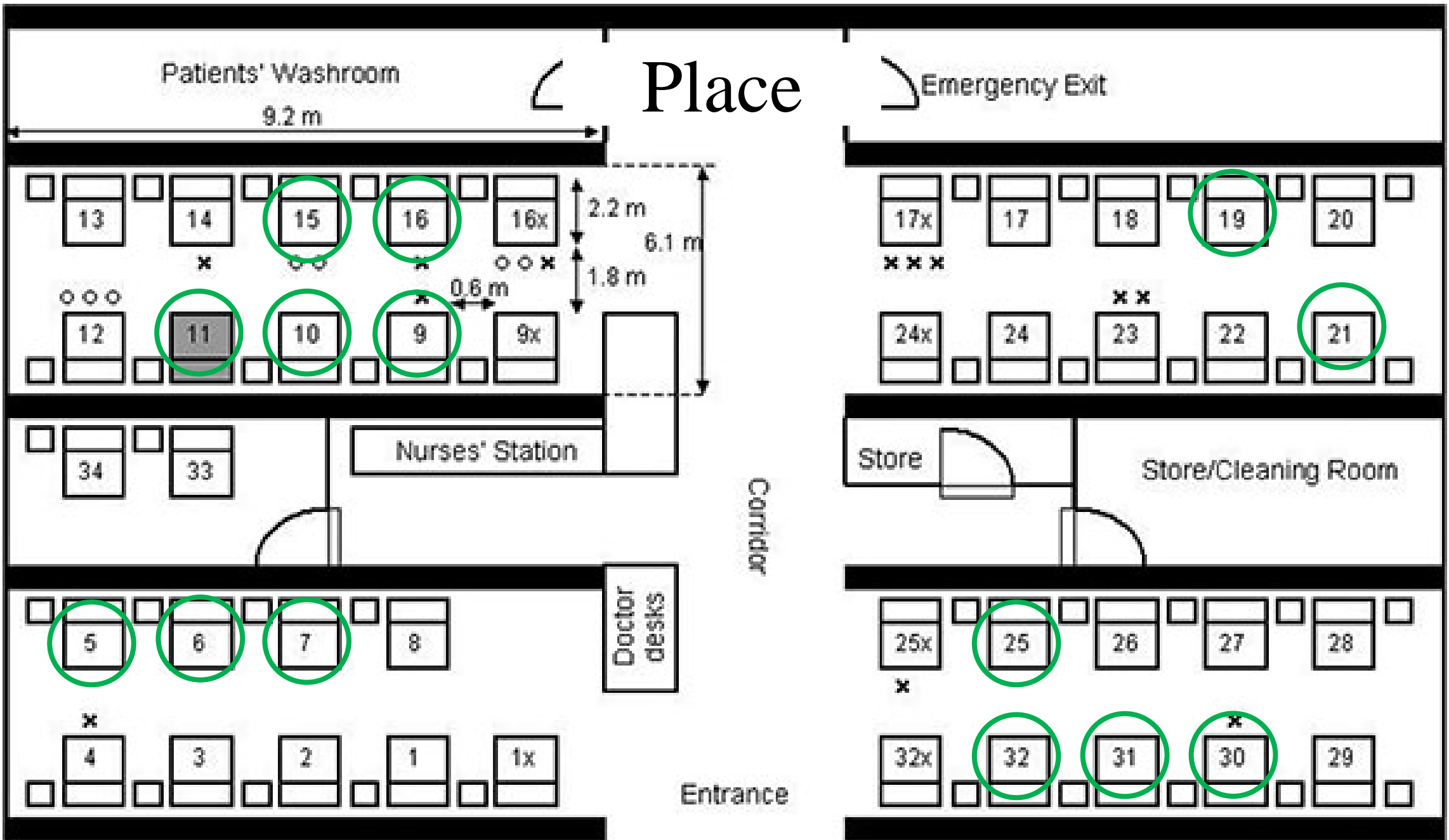
Outbreak simulation exercise of ICT

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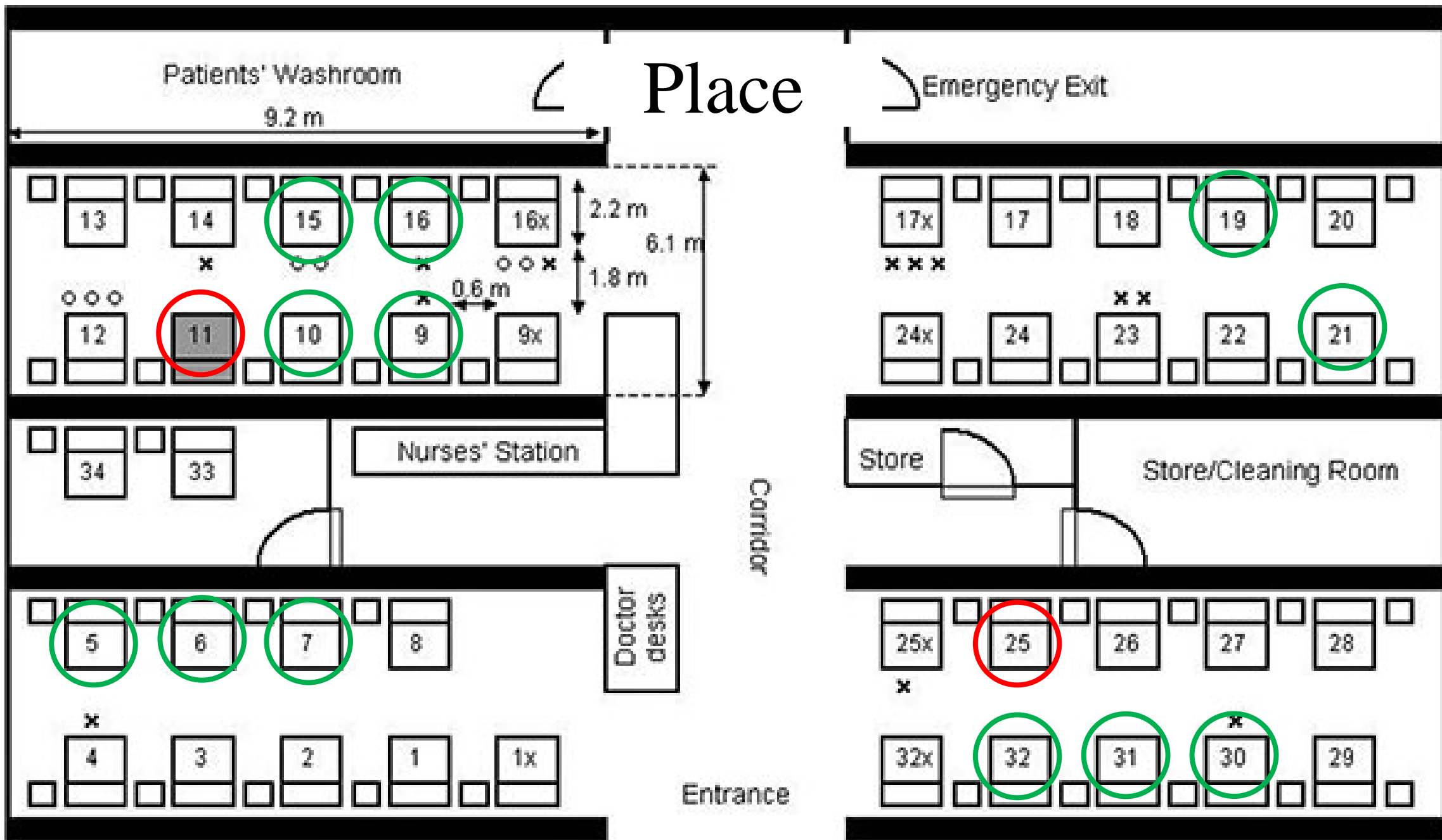
Scenario

You are an infection control nurse at PMGH.

You got a report that there are some patients with “unexplainable fever” on Nov 10, 2018.



Place



Place

Patients' Washroom

9.2 m

Emergency Exit

2.2 m

6.1 m

1.8 m

0.6 m

Nurses' Station

Corridor

Store

Store/Cleaning Room

Doctor desks

Entrance

13

14

15

16

16x

12

11

10

9

9x

34

33

5

6

7

8

4

3

2

1

1x

17x

17

18

19

20

24x

24

23

22

21

25x

25

26

27

28

32x

32

31

30

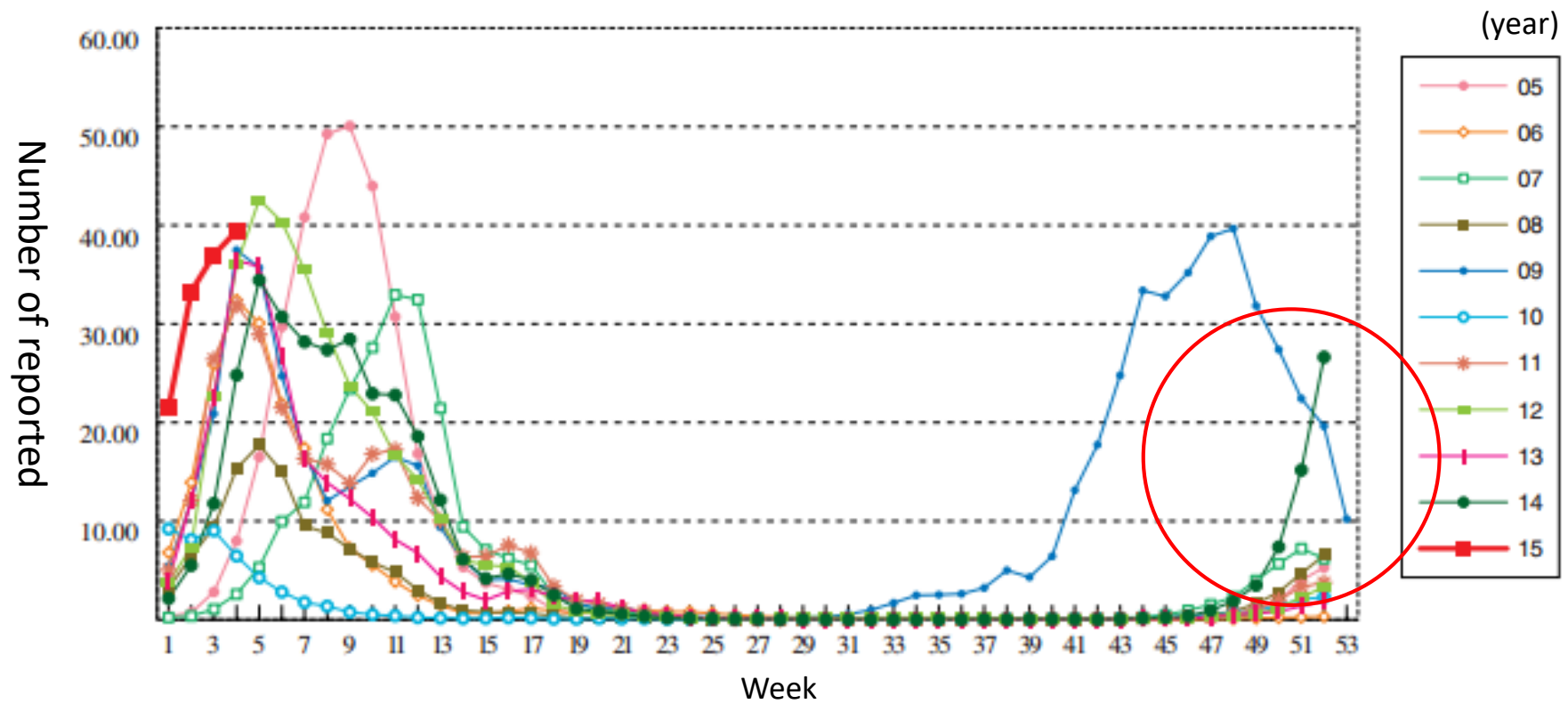
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What would you do next?

Is this an outbreak?

a sudden rise in the incidence of a disease

Incidence of influenza



Basic steps of outbreak investigation and response

1. Confirm the occurrence of outbreak
2. Define “case definition,” active surveillance using ”case definition”
3. Monitor and survey the onsite and associated facilities
4. Understand characteristics of the cases: time, place, person

Line-listing → schematize
5. Establish hypotheses about the source of infection/transmission route and risk factors
6. Verify the hypotheses
7. Attempt measures to prevent the spread of infection, propose future preventative measures
8. Prepare investigation report

(* Implement infection control measures as necessary)



ILI case definition

An acute respiratory infection with:

- measured fever of $\geq 38\text{ C}^\circ$
- and cough;
- with onset within the last 10 days.

Case definition

Time: Nov 1-Nov 10, 2018

Person all inpatients and all staff members
who meet ILI case definition

Place all inpatient wards in PMGH

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Line listing

ID	Date of Onset	Location	Age	Gender	Vaccine status
○○○○	Nov 3	East 4	○○	M	No
○○○○	Nov 5	East 4	○○	M	No
○○○○	Nov 5	East 4	○○	F	No
○○○○	Nov 6	West 4	○○	M	Unknown

-
-
-

Status of influenza incidence (all)

	All	Excluded	Analyzed	Confirmed	Suspected	Not infected
Staff	354	14	340	36 (11%)	13 (4%)	291 (86%)
Inpatients	268	4	264	42 (16%)	39 (15%)	183 (69%)
Total	622	18	604	78 (13%)	52 (8%)	474 (76%)

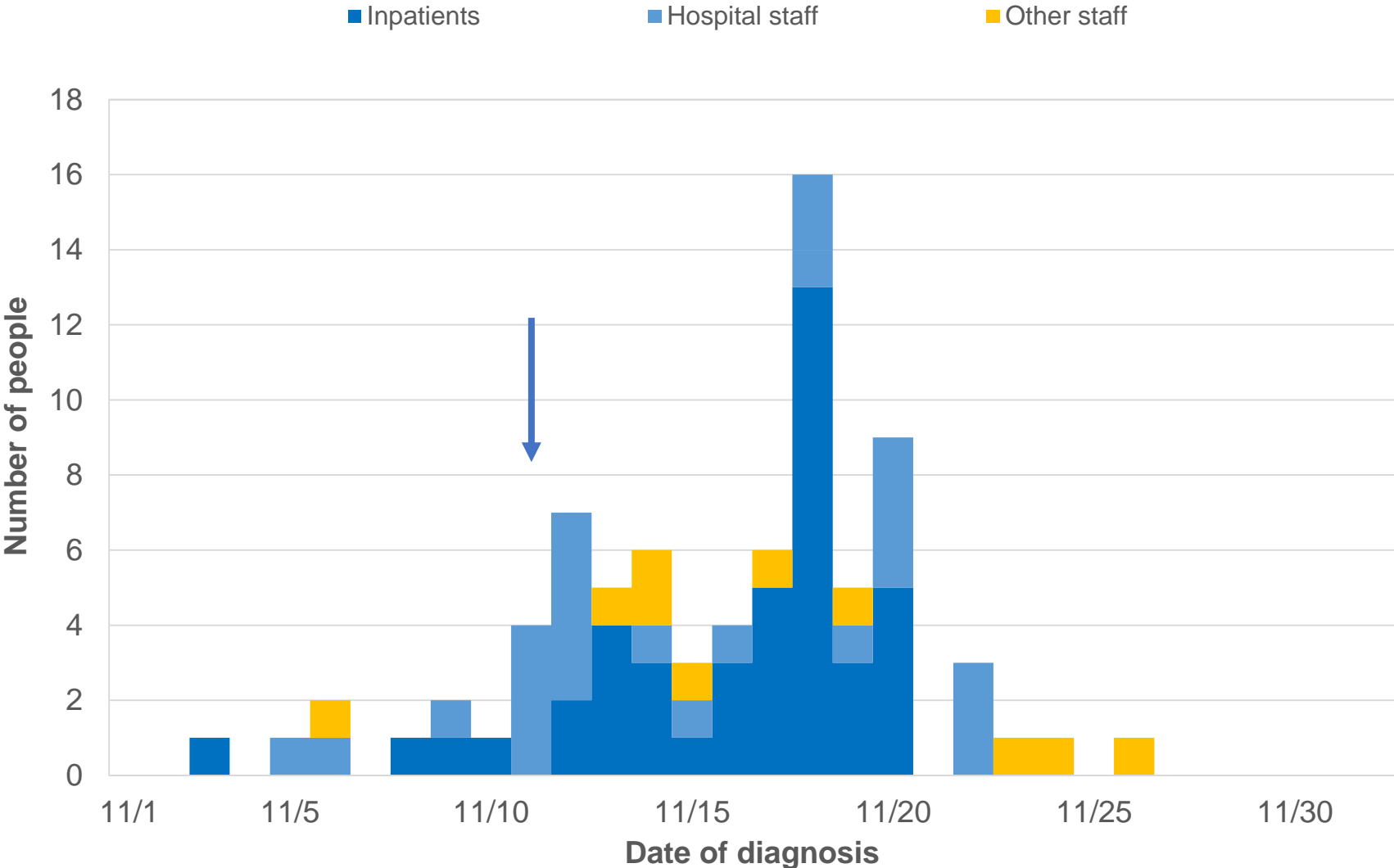
Unit: person

* All: Inpatients, residents, and staff of the facility between Dec 19, 2014 and Jan 19, 2015

* Excluded: Staff who were absent during the above period due to maternity/sick leave, etc., and those who contracted the virus in the city

West wing		Hospital	East wing
	Laundry	5F	Inpatients room (East 5)
Inpatients room (West 4)		4F	Inpatients room (East 4)
Inpatients room (West 3)		3F	Dialysis center
Dinning hall		2F	Laboratory room
Rehabilitation Emergency room		1F	Reception Outpatient room

Epidemiological curve of influenza cases(n = 78)



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Infection control

STANDARD

CONTACT

DROPLET

What else would you do?

5.8 Education and training

The RCF should provide ongoing education to staff, residents and volunteers, and opportunistic education to regular visitors (e.g. residents' families) about outbreak prevention, infection control and related policies. Topics for staff (some apply to residents) include:

- Personal hygiene, particularly hand hygiene, sneeze and cough etiquette.
- Appropriate use of PPE such as gloves, gowns, eye protection and masks, including how to don and doff PPE correctly.
- Persons experiencing symptoms of influenza (do not work or visit an RCF).
- Handling and disposal of sharps and clinical waste.
- Processing of reusable equipment.
- Environmental cleaning.
- Laundering of linen.
- Food handling and cleaning of used food utensils.

5.2 Environmental measures

Regular, scheduled cleaning of all resident care areas is essential. Frequently touched surfaces are those closest to the resident, and should be cleaned more often (for example - bedrails, bedside tables, commodes, doorknobs, sinks, surfaces and equipment close to the resident).

5.3.1 Rationale for allowing staff on antivirals to return to work

Antiviral prophylaxis for staff members works to protect residents from infection, firstly, by reducing the acquisition of infection by staff (and ability to further transmit the virus) and secondly, by reducing viral shedding from asymptomatic infected staff (refer to [Appendix 16](#): Antiviral Prophylaxis in residential care facilities decision tool).

- As a priority, place residents with excessive cough and sputum production in single rooms.
- Place together in the same room (cohort) residents infected with the same pathogen and who are assessed by the RCF as suitable roommates.
- Importantly, ensure that residents sharing a room are physically separated (more than (>)1 metre apart) from each other. Draw the privacy curtain between beds to minimise the risk of droplet transmission.²

5.7 Visitor restriction and signage

During an outbreak, preferably, minimize the movement of visitors into and within the facility. If recommended by the outbreak management team, RCFs should:

- Suspend group social activities that involve visitors such as musicians.
- Postpone visits from non-essential external providers, if possible.

6.4.2 Communication

Once the outbreak has been declared over, the OMT should notify all individuals and agencies involved in the investigation of the declaration.

The Outbreak Management Team is responsible for notifying the following people:

- All staff and residents.
- Visiting GPs of residents.
- Visiting service providers, families of residents and other regular visitors.
- The ambulance service and any relevant receiving hospitals or other RCFs.

Examples of bad communication

- ✓ Mixed messages from multiple experts
- ✓ Information released late
- ✓ Paternalistic attitude
- ✓ Not countering rumors and myths in real-time
- ✓ Public power struggles and confusion

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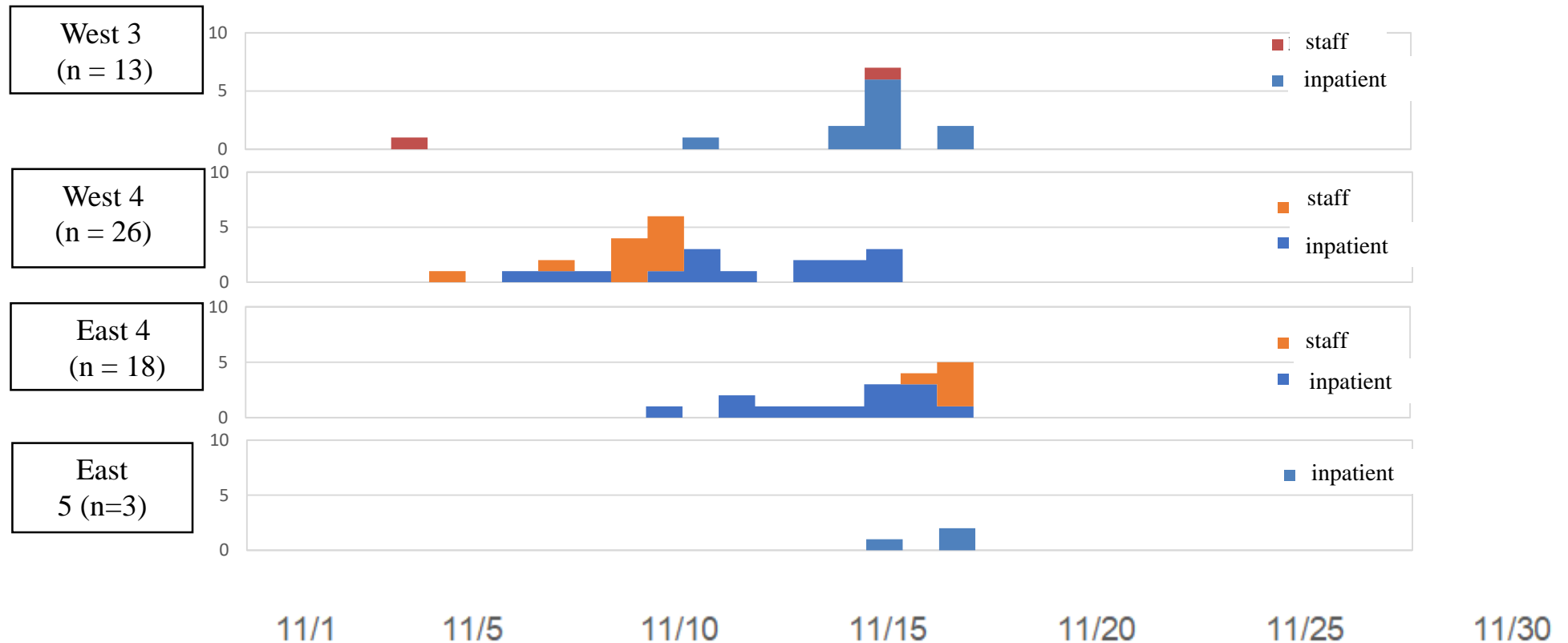
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Epidemiological curve of confirmed influenza cases (by hospital ward)



Open discussions