ED influenza testing: an epidemic within an epidemic

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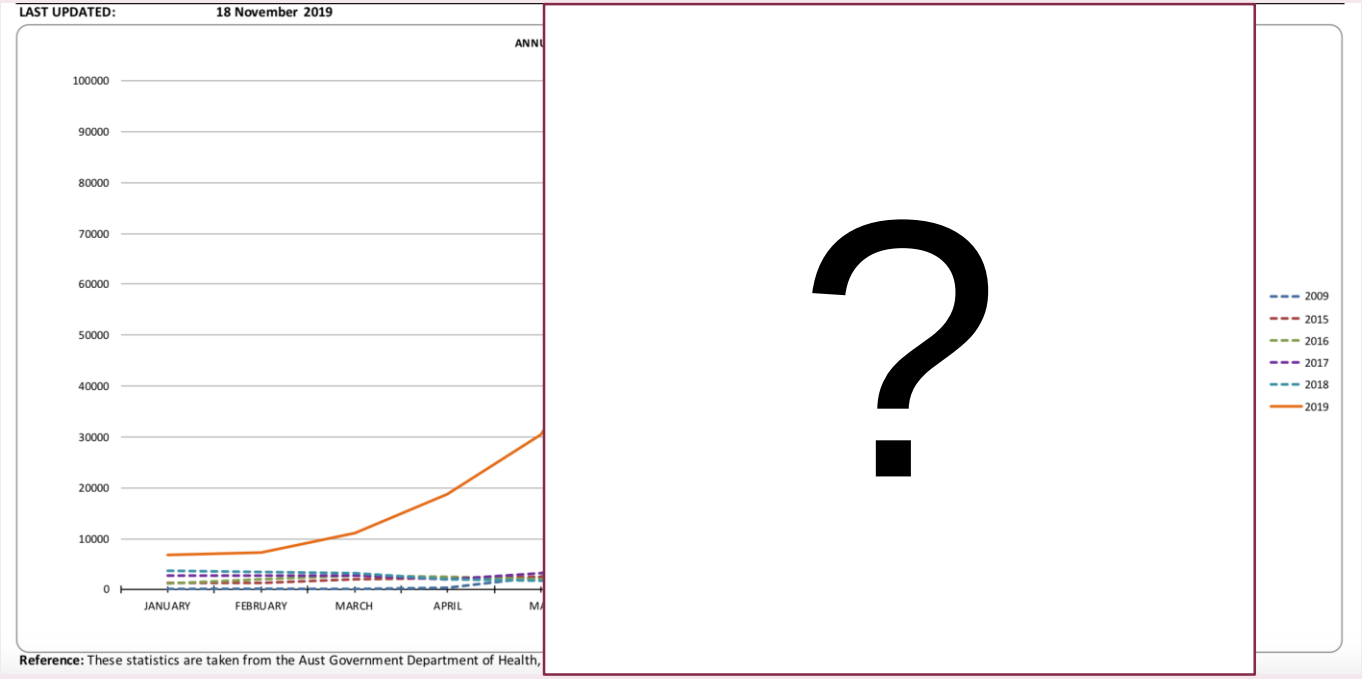
Translating research into practice

- The average time between research and translation into practice is 17 years[1]
- We tried to get this done in less than 3 months

“An epidemic within an epidemic”

Australian laboratory confirmed influenza cases in the last 10 years[2]



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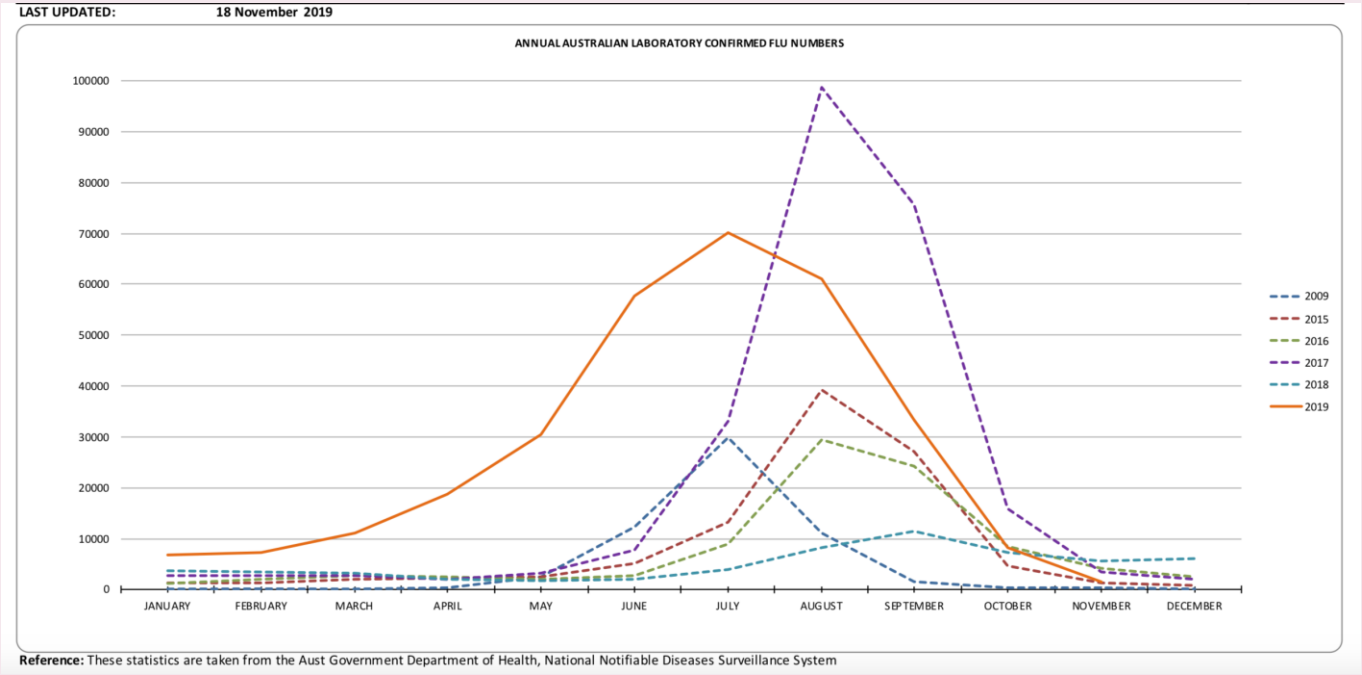


Design phase

Ethics	Ethics approval as part of NUTS
Audit	Current flu swabbing practices in patients being discharged home from ED
Analysis	How many patients being swabbed are being discharged home?
Roll out	Roll out of point-of-care flowchart + departmental education
Re – Audit	Flu swabbing practices in patients being discharged home from ED

Influenza testing

- At Eastern Health, we use GeneXpert
- $30/test for the kit alone
- a more realistic figure including labour etc is about $90 per swab

- Other costs:
- issues with quarantining in the ED – exposure to other patients, exposure to staff, lack of single rooms
- unnecessary admission to SSU
- delayed ED discharge

Tamiflu

- A neuraminidase inhibitor
- Reduces duration of influenza symptoms by less than 1 day on average, when treatment is started within 48 hours of symptom onset[3]

Tamiflu for low risk patients

Some studies have suggested antiviral therapies reduce: [4-14]

- the severity and incidence of complications of influenza.
- the length of stay in those hospitalized for influenza.
- influenza-associated mortality.

However, other studies of immunocompetent patients have **not** mimicked these findings [15,16]

Cochrane[17] review (2014) of 20 oseltamivir studies (9623 participants):

- Treatment of adults with oseltamivir had **no significant effect** on hospitalisations.
- Treatment trials with oseltamivir **do not settle the question** of whether the complications of influenza (such as pneumonia) are reduced, because of a lack of diagnostic definitions.
- Oseltamivir significantly reduced self reported or unverified pneumonia numbers were reduced, the effect was **not significant** in the five trials that used a more detailed diagnostic form for pneumonia.

Aims

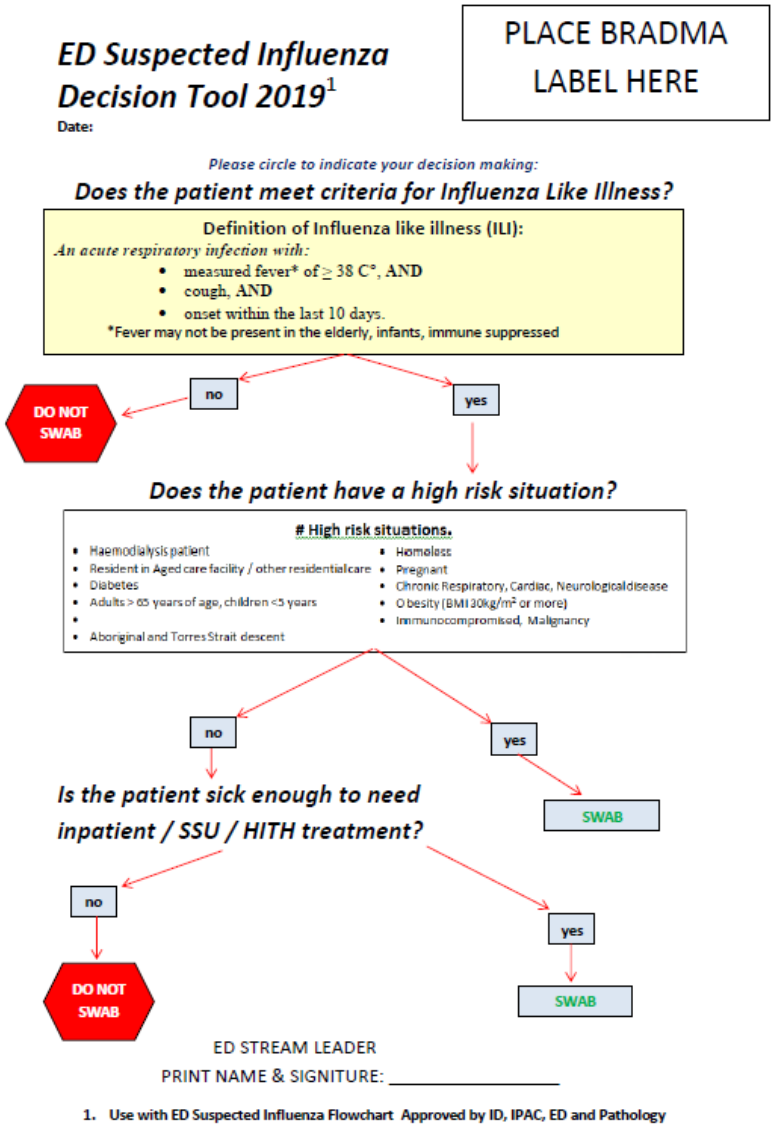
- To explore early season (May 2019) influenza PCR yield and Oseltamivir prescribing patterns for patients presenting to a tertiary suburban hospital ED in Melbourne **who are discharged home** from the ED.

- To address practice gaps identified during this audit and present post intervention comparative data from August 2019.

Methods

- A retrospective audit of all patients who underwent a viral PCR in ED between May 1st – May 14th 2019
- Implementation of an evidence-based decision support flow chart
- Compared to post implementation data from August 1st 2019 – August 14th 2019

Our intervention



ED Suspected Influenza Decision Tool 2019[1]

Date:

PLACE BRADMA LABEL HERE

Please circle to indicate your decision making:

Does the patient meet criteria for Influenza Like Illness?

Definition of Influenza like illness (ILI):

An acute respiratory infection with:

- measured fever* of ≥ 38 C°, AND
- cough, AND
- onset within the last 10 days.

*Fever may not be present in the elderly, infants, immune suppressed

no → DO NOT SWAB

yes →

Does the patient have a high risk situation?

 # High risk situations.

- Haemodialysis patient
- Resident in Aged care facility / other residential care
- Diabetes
- Adults > 65 years of age, children <5 years
- Aboriginal and Torres Strait descent
- Homeless
- Pregnant
- Chronic Respiratory, Cardiac, Neurological disease
- Obesity (BMI 30kg/m² or more)
- Immunocompromised, Malignancy

no →

Is the patient sick enough to need inpatient / SSU / HITH treatment?

no → DO NOT SWAB

yes → SWAB

yes → SWAB

ED STREAM LEADER

PRINT NAME & SIGNITURE: _____

1. **Use with ED Suspected Influenza Flowchart Approved by ID, IPAC, ED and Pathology**

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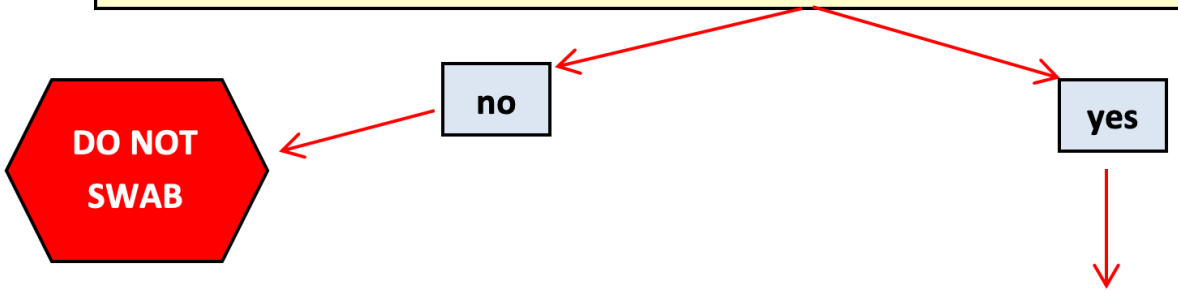

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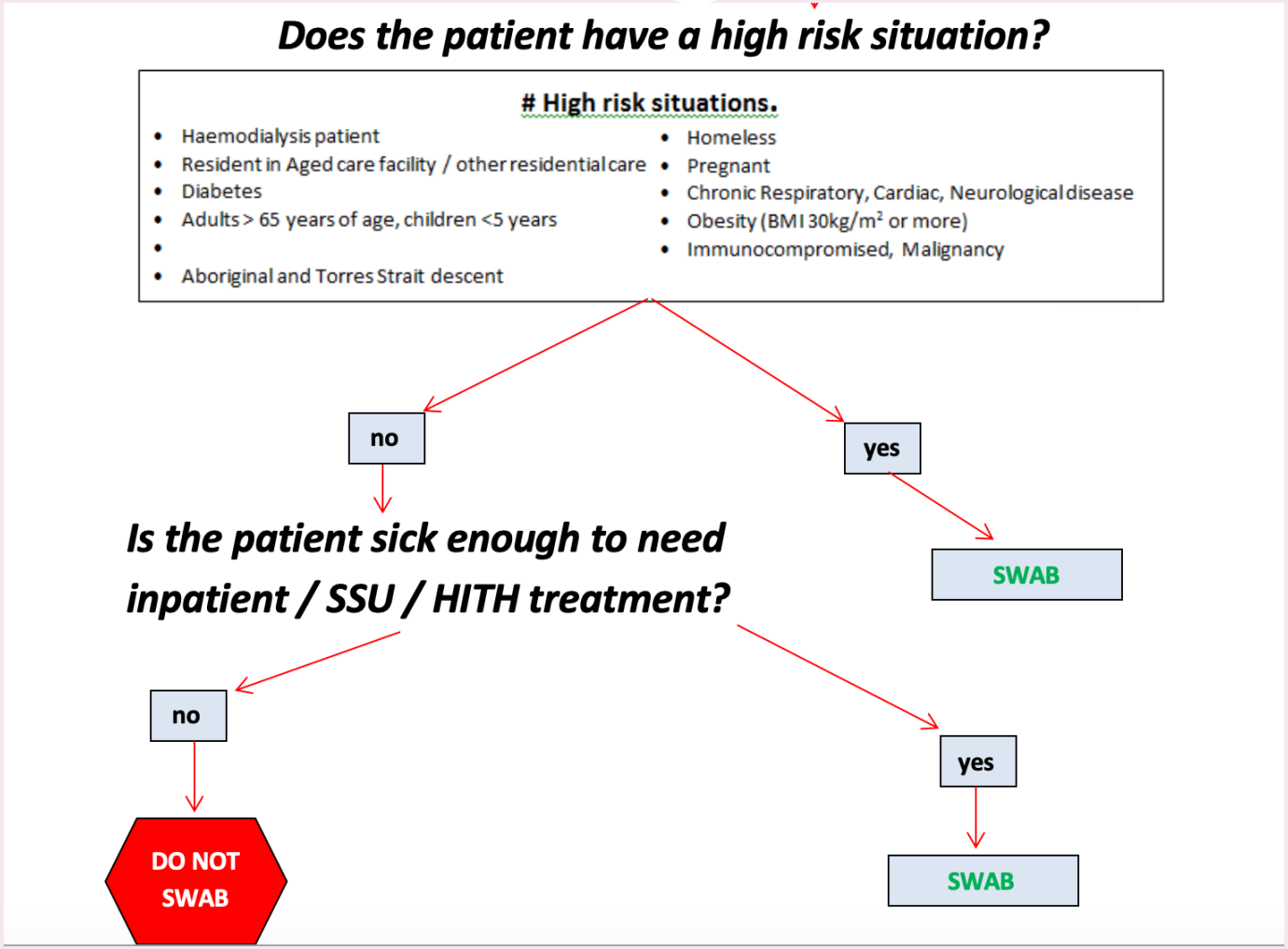

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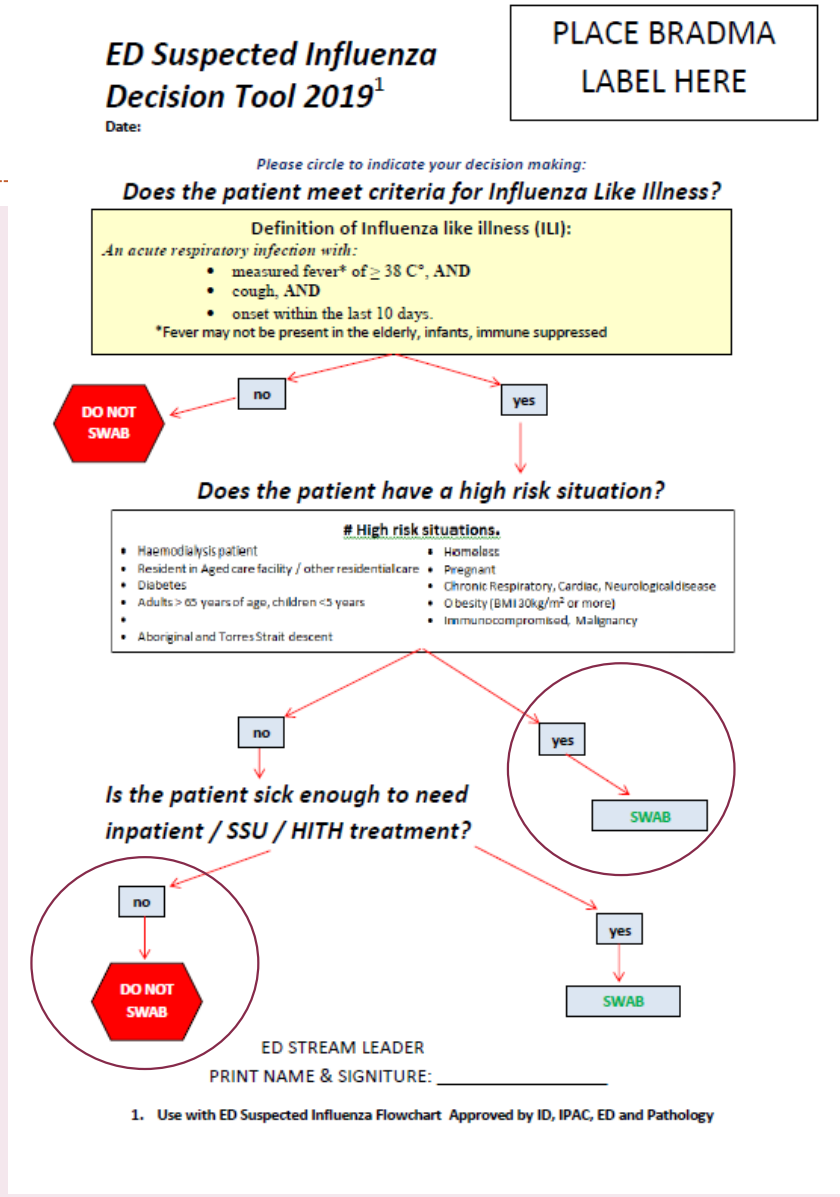

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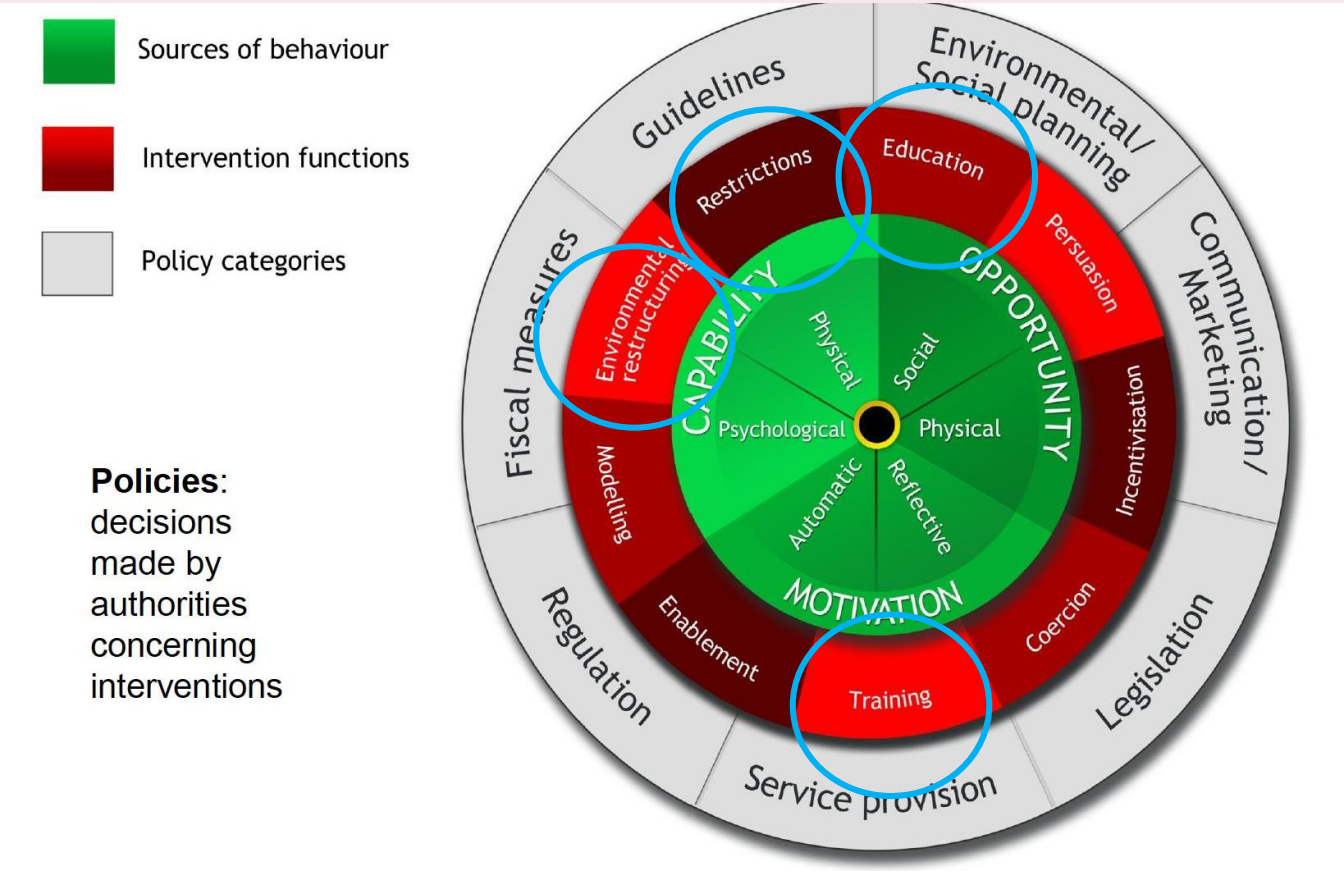
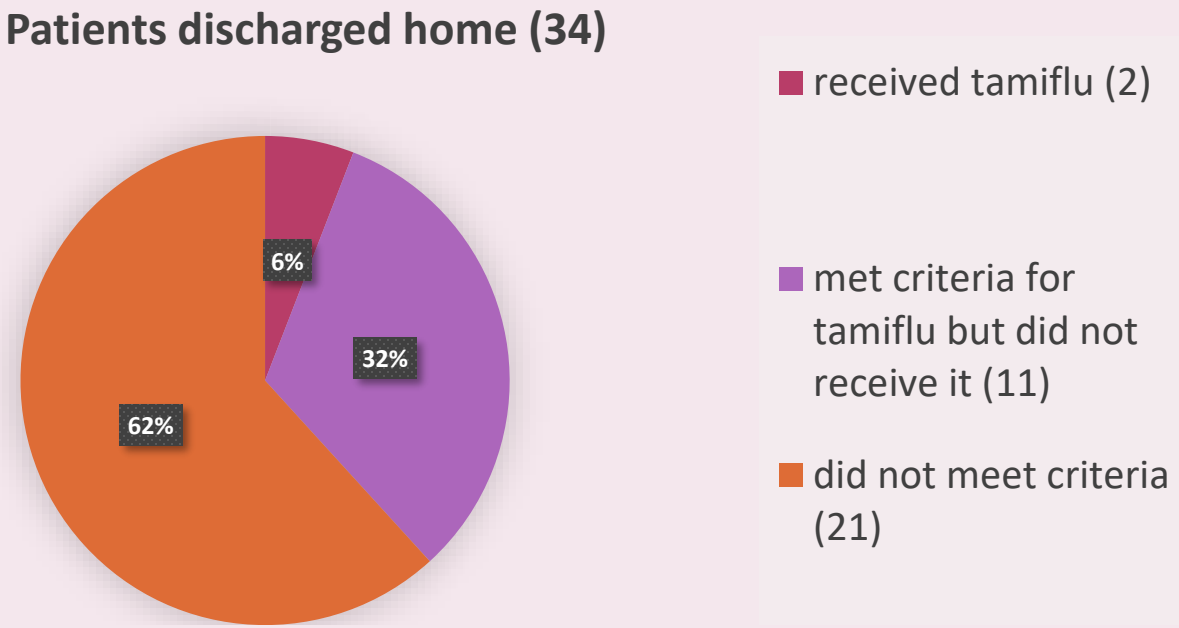
The Behaviour Change Wheel [18]

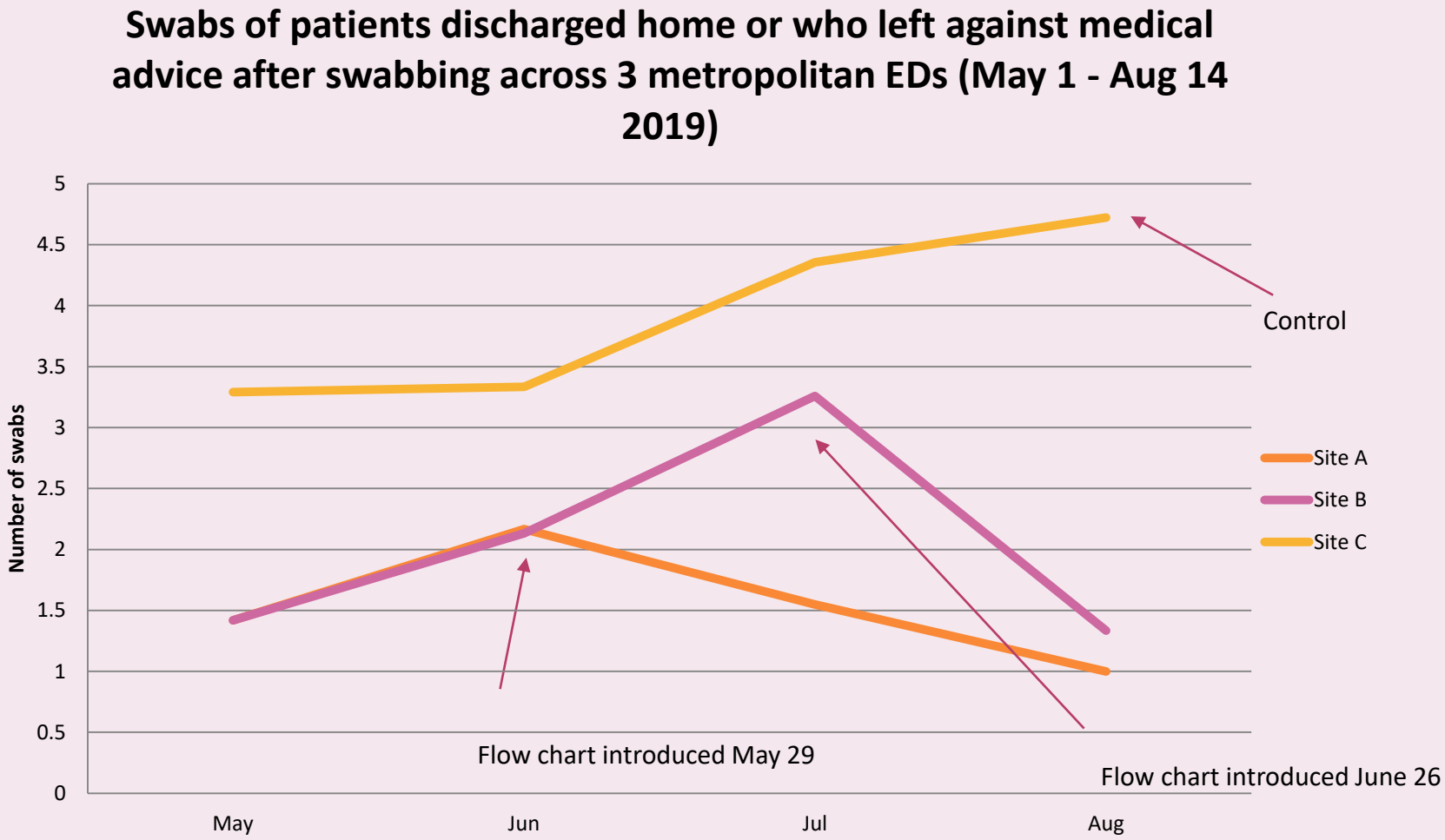


Pre-implementation data

- Retrospective audit of all patients who underwent a viral PCR in ED between May 1st – May 14th 2019



Results


Swabs of patients discharged home or who left against medical advice after swabbing across 3 metropolitan EDs (May 1 - Aug 14 2019)
Number of swabs
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
May
Jun
Jul
Aug
Control
Site A
Site B
Site C
Flow chart introduced May 29
Flow chart introduced June 26

Conclusion

- We were able to identify a gap (high swab rates in patients discharged home without high risk factors), design an intervention based on evidence-based methodology and we observed an immediate reduction in swab numbers as soon as we implemented this which didn't occur at our control hospital.

- In fact, the reduction in swab rates at site A and site B both seemed to track the intervention quite closely.

- Our research demonstrated that departmental quality improvement/research doesn't have to take years of time and thousands of dollars in research funding but can be successfully implemented in a short time frame if a structured approach is applied.

Questions?

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