A Retrospective Look at COVID-19 Outbreaks within William Osler Health System from April 2020 to January 2023

A success story

A Highly impacted Ontario Community Hospital System

Overview

- Outbreak performance
- Retrospective lookback
- Outbreak source review
- Mandatory vaccine impact
- Highly impacted units
- COVID-19 surges (waves)
- Challenges

William Osler Health System (Osler)
Looking Back

We undertook a retrospective descriptive study of COVID-19 outbreaks at our four sites between April 2020 and early January 2023.

Outbreak summaries from Osler and local Public Health Units were cross-referenced to review:

1) Outbreak source
2) Susceptible units
3) How COVID-19 surges (waves) and public health impacted Osler’s outbreak trajectory and

Looking Back TO MOVE FORWARD

Looking Back
Outbreak Sources

- Unknown or unidentified patient (community acquired)
- Symptomatic or asymptomatic staff
- Unidentified community acquired patient
- Identified patient
- Other (LTC, etc.)

Identified patient (community acquired)

Symptomatic or asymptomatic staff

Unidentified community acquired patient

 Identified patient

Other (LTC, etc.)

Outbreak Sources cont...

1. Unidentified Patient Sources 34%
   - Unidentified patients in shared accommodations and mask use varied
   - Exposure during admission (another patient, visitor, LTC)
   - Universal testing not implemented until Wave 3
   - Some symptomatic patients had challenges with wearing masks, staying in their room i.e. dementia

2. Unknown Sources 24%
   - Not apparent at the time of the investigation
   - Some symptomatic patients had challenges with wearing masks, staying in their room i.e. dementia

3. Visitor Sources 19%
   - Unknowingly within two days before become symptomatic; highly infectious
   - Not disclosing that they were positive or had symptoms
   - By-passing screening
   - Removing masks at point of care and missed opportunities for hand hygiene
   - Multi-family residences; transmission opportunities were elevated

Impact of Mandatory Vaccination

Immunity increased in healthcare workers because of mandatory vaccination in waves 3 & 4 thus contributing to less outbreaks

The median attack rate of staff to patient transmission decreased from 2.4% to 1.0% as the pandemic progressed
Highly Impacted Units...

Patients with cardiac complications requiring hospital admissions to our cardiology units presented in a similar fashion to those infected with the COVID-19 virus:

- Shortness of breath
- Chest pain or discomfort
- Fatigue/Weakness
- Cough

Cardiology units have a shorter LOS and the introduction of new patients each day increased the risk index on the unit because the patients were potentially incubating COVID-19 before universal testing.

Our cardiac units had our highest incidence of COVID-19 outbreaks at our organization (17.8%).

Conclusions

- Our hospital was one of the hardest hit with Covid-19 burden but we managed to have fewer outbreaks than our regional partners.
- Certain units were more at risk.
- Public health measures directly influenced the number of outbreaks at our facilities.
- Universal testing and vaccination allowed us to decrease outbreaks and transmission.
- The proportion of patients in outbreaks requiring clinical intervention has been decreasing as we move through the pandemic largely due to higher vaccination rates.
Challenges

• Lifting of public health measures in wave 7
  • mandatory visitor vaccination
  • screening lifted
  • mask compliance with patients and visitors

• Pandemic fatigue