Screening and Testing Preparedness: Referral Pathway
Acute Respiratory Illness Assessment Centres
GOALS of Preparedness

• Decrease morbidity and mortality
• Maintain Health System Capacity
• Minimize societal and economic disruption
• Maintain confidence in the health partnership response
What can you do now to prepare...

• Prepare your practice for vulnerable patients: any one with chronic xxxxxx…
  • CHF (MIMICS)
  • COPD (MIMICS)
• Asthmatics
• Obese
• Immunosuppressed
• Elderly
• Pregnancy and Very young-BIG UNKNOWN
Consider Implementing

- Virtual care
- Action plans for exacerbation of illness
- Repeats on Rx, 3 months duration
- Home visits
- SMOKERS intervention
- Immunization updates-P23, PN 13, Influenza, DTAP
QUIT TOBACCO TIME-BENEFITS

- Risk of heart attack declines within 24 hours
- Improvement in lung function in 2 weeks
- Celia in lung start clearing mucous more efficiently in weeks and decreased risk of infections
- Increased exercise tolerance-overall fitness
- Immune system becomes stronger after stopping exposure to tar and nicotine
STOP

Do not enter:
if you have a cough or fever, or are experiencing breathing difficulties,
and
if you travelled outside of Canada in the 14 days before your symptoms began.

What to do:
Stay away from others.
Call:
• your health care provider,
• KFL&A Public Health at 613-549-1232, or
• Telehealth Ontario at 1-866-797-0000.
Testing Kit

- Testing for COVID-19 only requires an NP swab instead of both NP + throat swab in the outpatient setting.
- To order more COVID-19 testing kits, call 613-417-3322.
- 16 done. 4 in hospital to date.
Testing Kit – Collection of Specimen

Fig. 3: NP swab collection instructions – Part 1, collection of specimen
Testing Kit – Labeling/Specimen Transport

Fig. 4: NP swab collection instructions – Part 2, labelling, requisition and transport instructions

RESPIRATORY VIRUS CULTURE
Universal Transport Media is used for the collection and transportation of clinical specimens. Collect specimen as early as possible following the onset of symptoms.

***PLEASE REFER TO THE SPECIMEN COLLECTION GUIDE www.publichealthontario.ca FOR PROPER SPECIMEN TYPE AND COLLECTION PROCEDURES FOR THE FOLLOWING:

- ADENOVIRUS
- CHLAMYDIA PNEUMONIAE
- INFLUENZA A & B
- MEASLES (RUBEOLA)
- MUMPS
- MYCOPLASMA PNEUMONIAE
- PARAINFLUENZA
- RESPIRATORY SYNCYTIAL VIRUS (RSV)
- RUBELLA
- RHINOVIRUS

- Aseptically remove cap and insert swab into medium, break swab shaft evenly at scored line and replace cap tightly.
- Label specimen and place in sealable section of the biohazard transport bag.
- Complete enclosed requisition and place in the outer pocket of the biohazard transport bag.

*Important: Specimens and requisitions received without two complete unique identifiers will be rejected.*

To maintain optimum viability, the specimen should be stored at 2-8°C and transported on wet ice to the laboratory for processing within 48 hours of collection.

STORE UNUSED KITS AT ROOM TEMPERATURE ~ EXPIRY DATE INDICATED ON TUBE
Testing Kit – Requisition Form

- **Do not** use Public Health Ontario’s general test requisition form
- **Do use** the COVID-19-specific form

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**Fig. 5: COVID-19-specific requisition**
WHO Criteria for COVID-19 Admissions

• WHO defines COVID-19 illness severity as:
  1. uncomplicated illness
  2. mild pneumonia
  3. severe pneumonia
  4. acute respiratory distress syndrome (ARDS)
  5. sepsis
  6. septic shock

• Admission can be considered for patients who present with **severe pneumonia** onwards
WHO Criteria for COVID-19 Admissions

• Clinical criteria for severe pneumonia in an adult include:
  • Fever or suspected respiratory infection AND ONE of:
    • Respiratory rate >30
    • SpO2 <90% on room air
    • Signs of increased work of breathing/respiratory distress (e.g. indrawing)

• Note that with respect to treatment:
  • it is largely supportive management
  • systemic steroids not indicated for viral pneumonia
  • antibiotics not indicated unless signs of superimposed bacterial infection
WHO Criteria for COVID-19 Admissions

• Criteria on the previous slide would be used to send a patient initially seen at a primary COVID-19 assessment centre to an acute care hospital (e.g. KGH)

• At present, at KGH we are conducting surveillance swabbing of all patients admitted to the ICU with respiratory illness/pneumonia
Estimated timeline of COVID-19 disease course

0
Median incubation period

5
Symptom onset

9/10
First medical visit
Dyspnea
X-ray confirmation

12
Microbiological confirmation
Hospital admission

13
ARDS onset

14
ICU admission

20-27
Death

Yang et al
- Median time symptom onset to x-ray confirmation = 5 days
- Median time symptom onset to ICU admission = 9.5 days
- Survival time of non-survivors = 1-2 weeks after ICU admission

Wang et al
- Median time symptom onset to dyspnea = 5 days
- Median time symptom onset to hospital admission = 7 days
- Median time symptom onset to ARDS = 8 days

Li et al
- Mean time symptom onset to first medical visit = 4.6 days
- Mean time symptom onset to hospital admission = 9.1 days

CCDC Weekly
- Epi curves show lag of approximately 7 days from symptom onset to microbiological confirmation of cases
Returning traveller in last 14 days
Fever, +/- cough, or +/- difficulty breathing

Primary assessment centre
(Community based)

Mild 90%
- Home
- Isolation 14 days
- Symptoms worsen

Moderate to severe 10%
Secondary assessment centre
(KGH or HDH)

- Comorbidity
- Age
- Abnormal vital signs

Admission to hospital
Discharge
Acute Respiratory Infection (ARI) Assessment PATHWAY

SICK DISCHARGE

KFL&A Public Health continuing support with IPAC

Primary Assessment Centre (ARI-1AC)
- Assessing ONLY ARI
- ASSESSMENT/TEST/TRIAGE/EDUCATE
- Central Kingston site; accessible by public transit; ample parking
- second site central and accessible in Napanee (LACDH)

Isolate
Case management and contact tracing conducted by KFL&A Public Health

SYMPTOMS OF ARI in the COMMUNITY

Secondary Assessment Centre (ARI-2AC)
Kingston Health Sciences Centre (at the Kingston General Hospital site)
- 8 bed wing, preparation for admission
- Potential second site at Hotel Dieu Hospital, third at LACDH

Direct people away from using ED for symptom assessment
Trigger is COVID-19 surveillance: now

Funding request

More severe symptoms
911 Ambulance

SICK

Funding request

ICU or medical ward

Additional hospital sites, if required, for increased capacity (HDH and LACDH, others)

SICK

DISCHARGE

Funding request

2020-03-06
**Containment**

*Person Under Investigation (PUI)*

Case contact management

- **+ PUI Confirmed + test**
  - Identify contacts
  - Isolate case
  - Quarantine contacts
  - Second generation spread (to contacts)

- **- PUI Confirmed - test**
  - Continue with IPAC

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**CLOSESURES**

- **BROAD**
  - Multiple settings e.g., schools

- **FOCAL**
  - One setting e.g., a school

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**FOCAL**

One setting e.g., a school

**BROAD**

Multiple settings e.g., schools

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**FOCAL**

- **One setting**
  - e.g., a school

**BROAD**

- **Multiple settings**
  - e.g., schools

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**Workplaces**

**Long Term Care**

**Mass Gatherings**

**Vulnerable Populations**

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**KFL&A Public Health**
Response Planning: Containment Failure

ED visit volume increased

Hospital capacity
Admissions for primary ICU – ventilatory capacity

Need to contain for as long as we can!
References


