Public Health Management of SARS Cases and Contacts

Interim Guidelines

Version 7: December 17, 2003

This document has been developed in response to an ongoing need for recommendations regarding the public health management of SARS. As more information about this illness and its potential re-emergence becomes available, the recommendations provided in this document may change.

Key changes from previous Public Health Management Documents:

- This document has been reformatted to make it a more suitable tool for frontline workers. It is less prescriptive than previous versions and therefore provides more general recommendations that should be tailored, based on a risk assessment, to fit the individual situation.
- Much of the content of previous versions has been moved into annexes.
- Includes a new annex on risk assessment.
- All details regarding blood issues have been removed as this is expected to be addressed in a separate document.

The material provided in this document has been produced through consultations among federal, provincial, territorial and local public health officials across Canada and is aimed at producing scientifically sound guidelines on SARS for health professionals. Health Canada would like to acknowledge the significant and ongoing contributions of all participating stakeholders.

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1.0 Introduction

This document provides national recommendations for basic public health actions when SARS is known to be circulating somewhere in the world (i.e., the "outbreak period"). Ideally the response to SARS in Canada would follow a "phased approach" with the types and aggressiveness of public health measures fluctuating to be consistent with the goal of the particular phase. The goal for these interim guidelines, as stated in section 1.1, is simply to prevent transmission of SARS. It is recognized that the recommendations provided in this document may need to be modified depending on how SARS affects any particular jurisdiction, should it re-emerge with outbreaks in Canada.

Although the focus of this document is the public health management of SARS cases, contacts and potentially infected travellers, public health officials also need to be prepared to answer questions about other aspects of SARS. Readers are encouraged to familiarize themselves with the content of any local or provincial/territorial guidelines, in addition to the national documents which can be found on the Health Canada website dedicated to SARS (www.sars.gc.ca).

1.1 Goal and Objectives of Public Health Management

These guidelines were developed through a national collaborative process with the intention of facilitating a reasonable and consistent approach to the public health management of SARS in Canada. The recommendations in this document have been developed to take into consideration both the likelihood that any particular individual has SARS-CoV infection, how likely they are to transmit the infection, and the public health resource implications of following low-risk individuals.

The goal of the recommended public health measures is:

> ***To prevent the transmission of SARS in Canada through the isolation of symptomatic individuals known or suspected to be infected and infectious, and close monitoring of asymptomatic individuals strongly suspected to be infected, but not known to be infectious, with the SARS-Coronavirus (SARS-CoV).***

Objectives of the recommended public health measures:

- To identify and isolate SARS cases for the duration of their period of communicability.
- To facilitate rapid implementation of isolation by educating and closely monitoring individuals who may be infected with the SARS-CoV but who are not yet communicable.
- To facilitate appropriate allocation of public health resources in order to achieve the goal of preventing the transmission of SARS in Canada.

1.2 Background and Risk Assessment as a Basis for Recommendations

The background and rationale for the recommendations included in this document is described in Annex 1. Annex 2 highlights an approach to risk assessment that may be useful especially when the recommended public health measure requires judgment based on risk of transmission of SARS-CoV.

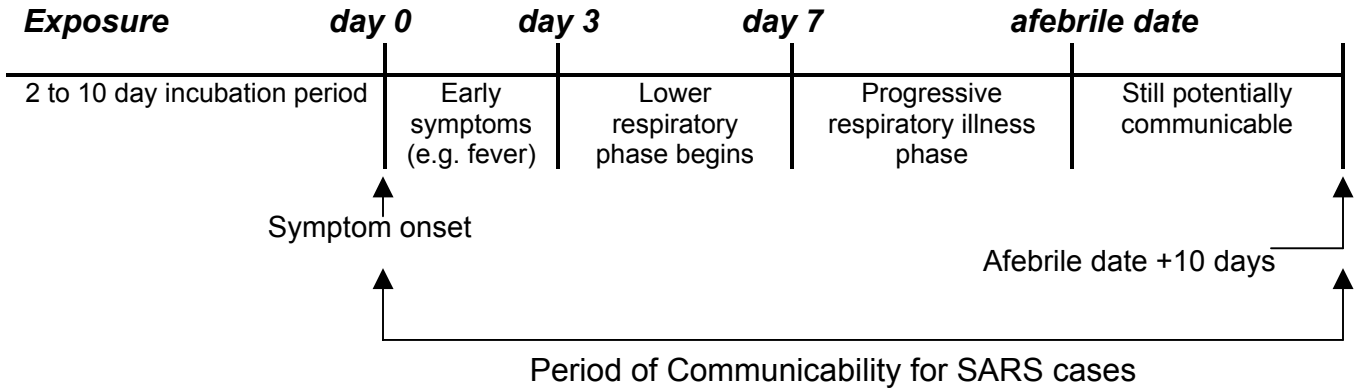
1.3 Principles and Assumptions

The current recommendations are based on the following principles/assumptions:

- The incubation period is 2 to 10 days for the majority (approximately 95%) of SARS-CoV infected individuals with a mean of 5 days.
- Presentation is of a prodromal illness with symptoms including malaise, headache or myalgia concurrent with or followed by sudden onset of high fever
- Lower respiratory phase begins within 3-7 days after onset of prodrome
- Transmission is occurring through close contact with a symptomatic person
- In order for a person to be considered a "contact", exposure must have occurred during the period in which the ill individual was considered to be infectious
- Ill close contacts linked to a laboratory-confirmed SARS-CoV infected individual are considered to more likely to have SARS-CoV infection, than contacts of ill travellers returning from a high-risk site or area with "recent local transmission" of SARS
- Only "travellers" meeting the Probable case definition and who have onset of symptoms within 10 days of last being in an area of recent local transmission of SARS will be investigated for SARS
- As more information (e.g. Laboratory data) becomes available that increases or decreases the perceived likelihood that any individual in a particular chain of transmission actually has SARS, the recommendations for the individual and their contacts may change
- The individuals that are the most ill are the most communicable
- There may be transmission during the prodromal period (Note: fever is usually an early symptom, but some cases have had other symptoms preceding the fever or no fever at all)
- There is no evidence of transmission prior to onset of symptoms.
- Transmission occurs mainly during the second week of illness.
- The period of communicability is up to 10 days following resolution of fever for SARS cases
- Unlike the SARS cases who develop severe symptoms, mildly ill individuals (if indeed they are infected with SARS-CoV) would only be considered communicable while they are symptomatic.

Based on these principles and assumptions the course of illness for SARS Cases is as depicted in Figure 1.

Figure 1: Timeline for Development of SARS



The current recommendations are based on available epidemiological, laboratory and clinical data with consideration given to comparable diseases when data is absent. For these reasons, and others, these recommendations are subject to change pending the availability of more conclusive data.

1.4 Terminology

"Afebrile" – in this document refers to a temperature of equal to or less than 38 degrees Celsius.

"Areas with recent local transmission of SARS" –formerly referred to as "WHO affected areas", these geographic areas or specific sites are identified in the *National Case Definitions for the SARS Outbreak Period* document

"Asymptomatic" – refers to an afebrile individual with no respiratory symptoms (or no difference or increase in severity from their baseline respiratory status)

"Case" –refers to an individual who meets the "Confirmed" or "Probable" surveillance case definition as per the *National Case Definitions for the SARS Outbreak Period* document <insert URL>

"Close contact" - means having cared for, lived with or had face-to-face (within 1 metre) contact with, or having had direct contact with respiratory secretions and/or body fluids of a person with SARS[1].

"Fever" – in this document refers to a temperature of over 38 degrees Celsius

"Incubation period" – refers to the time interval between infection (i.e. introduction of the infectious agent into the susceptible host) and the onset of first symptom of illness known to be caused by the infectious agent[2]

"Isolation" - refers to separation, for the period of communicability, of **ill** i.e. symptomatic persons from others in such places and under such conditions as to prevent or limit the direct or indirect transmission of the infectious agent

"Quarantine" - refers to restriction of the activities of **well** persons who have been exposed to a case during its period of communicability

[1] Note: This intended to refer to "unprotected contact", if appropriate infection control precautions (e.g., masks) were in place "close contact" is not considered to have occurred.

[2] Note: Monitoring close contacts of SARS cases for more than 10 days will facilitate the detection of unusual individuals with symptom onset beyond the normal incubation period. Although this document focuses on a 2 to 10 day incubation period, it is recognized that jurisdictions may wish to recommend additional monitoring beyond the 10-day period.

"Symptomatic Contact" – refers to a person with:

Symptoms consistent with prodromal or clinical presentation of SARS, i.e.:

- Fever (over 38 degrees Celsius) **AND** one or more of cough, breathing difficulty, chills, rigors, malaise or headache

AND Epidemiologically linked to a person with SARS, i.e.:

- Close contact* with a confirmed or probable SARS case, within 10 days of onset of symptoms
  OR
- Close contact* with a symptomatic person who has laboratory evidence of SARS-CoV infection, within 10 days of onset of symptoms

OR

A deceased person with:
A history of symptoms consistent with early clinical presentation of SARS, i.e.:

- Fever **AND** cough or difficulty breathing resulting in death,

AND Epidemiologically linked to a person with SARS, i.e.:

- Close contact* with a confirmed or probable SARS case, within 10 days of onset of symptoms
  OR
- Close contact* with a symptomatic person who has laboratory evidence of SARS-CoV infection, within 10 days of onset of symptoms

The following is a list of public health measures used in various circumstances to prevent the transmission of SARS. These terms are used in the following sections of this document.

Isolation

Isolation in hospital would be as per the most recent Infection Control Guidelines. Isolation in the home should be conducted as per Annex 3. Anyone on isolation in the home setting should also be on active daily surveillance.

Self-monitoring

Individuals are recommended to record their body temperature and "self-check" for prodromal and respiratory symptoms a minimum of two times each day. Compliance with this recommendation is not actively monitored by public health authorities.

Home Quarantine

Consideration should be given to imposing home quarantine:

1) if the individual circumstances are not conducive to implementation of rapid isolation measures should the individual become symptomatic, or
2) if there are concerns about compliance with public health recommendations.

Quarantine of close contacts, especially those who provided care to undiagnosed SARS patients, might also be considered as a short-term measure until a complete risk assessment can be completed on each individual.

Active Surveillance

When daily contact is not specified the frequency of contact by public health and duration of follow-up should be determined by the public health authority based on the specifics of the individual case (e.g. living alone versus with others that could get medical assistance if there was a deterioration in health, might warrant more frequent contact from public health). The components of active surveillance are described in Annex 4.

Individuals on active surveillance would be expected to remain within a geographic area that enables the monitoring public health authority to contact them easily and rapidly implement quarantine or isolation measures if necessary.

2.0 Management of SARS Cases

The following recommendations apply to individuals meeting the "Confirmed" or "Probable" case definition as per the document *National Case Definitions for the SARS Outbreak Period.*

- Isolation in hospital as per infection control guidelines for institutional settings (see Health Canada website)
- Immediate laboratory investigation for SARS-CoV in cases without laboratory data
- Immediate documentation and follow-up of contacts (see Contact Management below)
- Complete SARS case report forms all cases and report immediately as per previously determined reporting channels.
- For the recovering patients in hospital, discharge planning should involve both the hospital medical and/or nursing staff and public health. The following recommendations apply to the discharge process:
    - Determine date on which fever was considered to have resolved (without antipyretic medication) in order to calculate the date on which isolation can be potentially be terminated.
    - Recovering patient should remain on isolation in the hospital, home or designated care facility (or any combination of these settings) for a total of **10 days after the resolution of fever** (without antipyretic medication) with resolving (or resolved) cough.
    - Before a recovering case is placed on isolation in the home setting, an assessment of the home situation should be conducted as per Annex 5, and instructions regarding infection control precautions in the home (consistent with Annex 3) should be provided.
    - The recovering case and all persons involved in transferring the patient to the home for ongoing isolation, should wear masks.
    - If the case is on home isolation, they should be on active daily surveillance (see Annex 4).
    - As long as household members are following recommended infection control procedures for the duration of the home isolation of the discharged case, they will not be considered to have a new close contact with a confirmed or probable case. That is, if the household members are already being followed up as a "close contact" for their pre-hospitalization contact with the case, they do not have to re-start their 10-day monitoring period.

- If case has donated or received blood in the 10 days prior to onset of fever, follow-up blood issues as per current recommendations.

3.0 Management of Contacts of SARS Cases[3]

- Identify individuals who had close contact with the case during the interval between onset of symptoms and 10 days after resolution of fever in the case.
- Retrospective identification of potential SARS cases that have now recovered should trigger an investigation of contacts for the purpose of case finding.
- Document contact information including name, locating information, nature of contact (e.g. household vs. workplace) duration of contact (estimate number of hours/days), and date of last close contact with the case
- Determine whether the close contact is symptomatic or asymptomatic:
    - "Symptomatic contacts" have fever[4] and one or more of cough, breathing difficulty, chills, rigors, malaise or headache
    - "Asymptomatic contacts" are afebrile with no respiratory symptoms (or no difference or increase in severity from their baseline respiratory status)

3.1 Management of Symptomatic Contacts

- Immediate clinical investigation (including chest x-ray and laboratory investigation) at a site where appropriate infection control precautions can be ensured
- Isolation in Hospital/Designated alternate care site or Home[5]
    - For those isolated at home:
        - Place the individual on active surveillance[6] (see Annex 4)
        - Provide information/training to care providers in the home (see Annex 3)
        - Assess the risk of transmission from this individual based on the individual circumstances and consider the need to notify and recommend measures (e.g., self-monitoring) for close contacts outside of the "household"[7]

- Monitor results of clinical investigation including radiographic evidence of infiltrates consistent with pneumonia or respiratory distress and laboratory results, which may result in a change of case status (i.e., move up to "probable" or "confirmed" case or exclusion of the case based on determination of an alternative diagnosis that can fully explain the illness)
- Follow-up blood issues as per current recommendations
- If the "symptomatic contact" does not become a "probable" or "confirmed" case according to the case definitions and an alternative diagnosis is not found that can fully explain the illness, manage as per Table 1 below

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[3] Passengers on airlines should be followed up as per the guideline document *SARS and Air Travel available* on the SARS website

[4] Fever may not be prominent in people over 65 years of age. All symptoms with onset during the period of interest should be considered when conducting the risk assessment.

[5] Decisions regarding hospital vs. designated alternate care sites vs. home isolation should be made by Public Health in consultation with attending and consulting physicians. The decision should be based on the "symptomatic contact's" severity of symptoms, details of exposure to probable case (duration, setting, clinical state of index case when exposure occurred, etc.), and the feasibility of home isolation (see Annex 1).

[6] Active daily surveillance should be considered for individuals deemed to have a higher risk of infection (e.g. individuals linked to cases with lab evidence of SARS-CoV)

[7] Household contacts will be followed through the active surveillance process as the assessment includes a question regarding the health of household members

Table 1

Status at time of assessment[8]	Recommendation
Asymptomatic and afebrile for 72 hours	▪ Discontinue isolation ▪ If it has been less than 10 days since their last contact with the potential exposure source, then instruct to self-monitor for symptoms for the remainder of the 10 days
Febrile	▪ Continue isolation for another 3 days and then repeat the assessment (and manage as per this table)
Febrile with worsening respiratory symptoms	▪ Manage as you would a probable case[9], i.e., isolate until 10 days post fever resolution (with resolving cough), active daily surveillance when on home isolation (e.g. on discharge from hospital), follow-up close contacts as if they had been in contact with a probable case

3.2 Management of Asymptomatic Contacts

- Provide education regarding SARS
- Place on active surveillance[10] for 10 days since last contact with the case
- Consider the need for home quarantine for high-risk contacts of cases if:
  1) the individual circumstances are not conducive to implementation of rapid isolation measures should the person become symptomatic, or
  2) there are concerns about compliance with public health recommendations.
- Quarantine of close contacts, especially those who provided care to undiagnosed SARS patients, might also be considered as a short-term measure until a complete risk assessment can be completed on each individual.
- If symptoms develop within this 10-day period then manage as a "symptomatic contact" in section 3.1 above

The recommendations in sections 2.0, 3.1 and 3.2 for cases and their contacts are summarized and presented as a quick reference tool in Annex 6.

[8] Note: Assessment may be a full clinical assessment or based on a public health assessment conducted as part of the active surveillance initiated with home isolation.

[9] Note: It is possible that this individual will not meet the surveillance case definition for a "probable" case if they were a contact of a probable case that did not travel and for which no laboratory evidence of SARS-CoV was obtained.

[10] Active daily surveillance should be considered for individuals deemed to have a higher risk of infection (e.g. individuals linked to cases with lab evidence of SARS-CoV), whereas less frequent contact should be considered for lower risk individuals (e.g. individuals linked to a probable case that meets the case definition because they were a contact of a probable case who was a traveller)

4.0 Health Care Workers

Asymptomatic health care workers who have traveled or who have been caring for SARS patients using appropriate infection control precautions, may be actively monitored for symptoms by the occupational health department. Two potential indications for monitoring would be if:

a) it has been less than 10 days since they returned from an area of recent local transmission of SARS, or
b) they are working in a health care facility and it has been less than 10 days since they last cared for a SARS patient.

See "Infection Control Guidance for HCWs Working with SARS Patients" for more information.

5.0 Other Public Health Recommendations

- In addition to being a major source of information for the general public, public health authorities should be prepared to provide specific advice to travellers returning from an area of recent local transmission of SARS. Recommendations regarding these individuals are provided in Annex 7.

- Although rare, SARS-CoV infection in the absence of respiratory illness has been reported. Public health recommendations regarding the management of these types of individuals and their contacts are described in Annex 8.

Annex 1: Background

Previously, without the availability of any reliable laboratory tests for the SARS coronavirus (SARS-CoV), exposure assessment combined with clinical presentation formed the basis for recommending appropriate public health management of ill individuals suspected to be infected with the SARS-CoV and their close contacts. Based on the premise that those with a close epidemiological link to a "known case" were more likely to have SARS-CoV infection than those with an epidemiological link to a geographic area with recent local transmission, more aggressive control measures were recommended for those individuals in a transmission chain emanating from a known case.

Now with the availability of laboratory tests for SARS-CoV, it is possible to have more certain information about the status of individuals within a chain of transmission. Even though there is not a conclusive rapid test for SARS-CoV, it is possible to confirm SARS-CoV infection based on laboratory evidence and subsequently have individuals change classification based on their own laboratory results or the results of individuals with which they had close contact.

The inability to "rule-out" SARS early in the infectious period means that the initial management of ill individuals and their contacts must balance the need to control the spread of SARS with the potential disruption of individuals' activities of daily living and available public health resources. This document has evolved with this focus on balance and reasonable resource allocation.

Annex 2: Risk Assessment

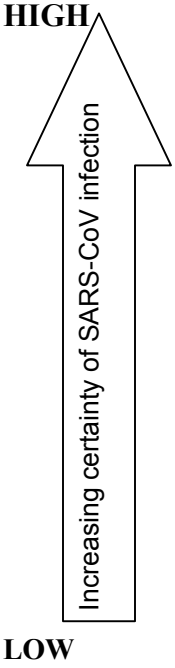
In order to meet the goal of minimizing the transmission SARS in Canada, while at the same time considering the resource implications and public acceptability of potential control measures, it is necessary to consider each individual in terms of their degree of communicability and certainty that they are infected with the SARS-CoV.

The recommendations contained in this document refer to SARS cases and contacts. They are not "fine-tuned" based on the type of epidemiological link that caused the ill individual to meet the case definition. It is important to consider that, based on the surveillance case definitions, a probable case could have had close contact with a confirmed case or merely transited through an airport in an area of recent local transmission of SARS. Therefore when making public health recommendations for an individual that meets the probable case definition (and their contacts) tailoring of the recommendations based on a risk assessment is encouraged. This is most applicable to decisions around the frequency of contact by public health for people recommended to be on active surveillance. Using this individual approach facilitates consideration of potential inconveniences imposed upon lower-risk individuals and the optimal use of public health resources.

Since there is no rapid test for SARS-CoV, the epidemiological links to potential exposures will initially drive the assessment of "certainty of infection", (see Figure 2 below). That is, close contacts of an individual with confirmed SARS-CoV infection, would be ranked higher than a traveller from an area with recent local transmission of SARS. This assessment would change based as laboratory data becomes available for individuals within the chain of transmission.

Figure 1: Certainty of SARS-CoV Infection

This figure is intended to demonstrate how laboratory results and exposure history can be used to "rank" individuals in terms of how certain it is that they are infected with the SARS-CoV.



Characteristics of the Individual

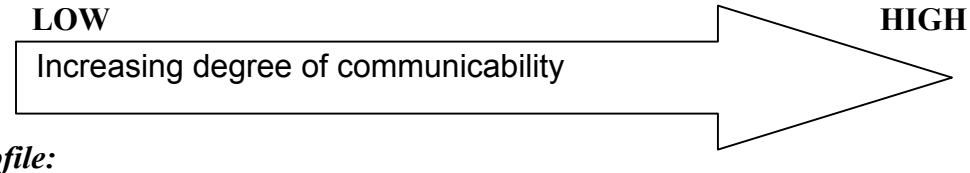
- Positive for SARS-CoV using paired serology
- Other laboratory evidence of SARS-CoV infection
- Probable Case with history of close contact with a confirmed case
- Symptomatic Contact of a confirmed case
- Probable case with history of being in a high-risk site for SARS transmission (e.g. a hospital known to be having an outbreak of SARS) in the 10 days prior to the onset of their symptoms
- Probable case with history of being in a geographic area with recent local transmission of SARS (e.g. a city where recent local transmission has occurred)
- Contact of a probable case with history of being in a geographic area with recent local transmission of SARS
- A traveller with mild illness returning from an area of recent local transmission of SARS
- A well traveller returning from an area of recent local transmission of SARS

With respect to communicability, working on the principle that those who are the most ill are the most communicable, the results of clinical assessments will determine where an ill individual fits on this spectrum. Keeping in mind that if an assessment is conducted early in the course of the illness, it should be repeated at a time when progression of illness, if it is going to occur, would be detected. For public health purposes, progression of illness would be expected to be detectable seven or more days after onset of symptoms. Those that never develop a respiratory illness or do not progress to have a severe respiratory illness, would be considered less communicable than those that do, and for the purposes of public health management, would be considered not communicable once they are afebrile for 72 hours.

In order to evaluate communicability, individual assessment of the person's symptoms (which may include non-respiratory symptoms such as diarrhea), test results and other factors such as high-risk procedures performed on them in addition to the presence of any underlying illness, will be required. Figure 3 depicts this concept.

Figure 2: Degree of Communicability

Since the assumption is that those with the most severe symptoms are the most communicable, and that spread is mainly through respiratory droplets or contact transmission, the following examples focus on the respiratory component of this illness.



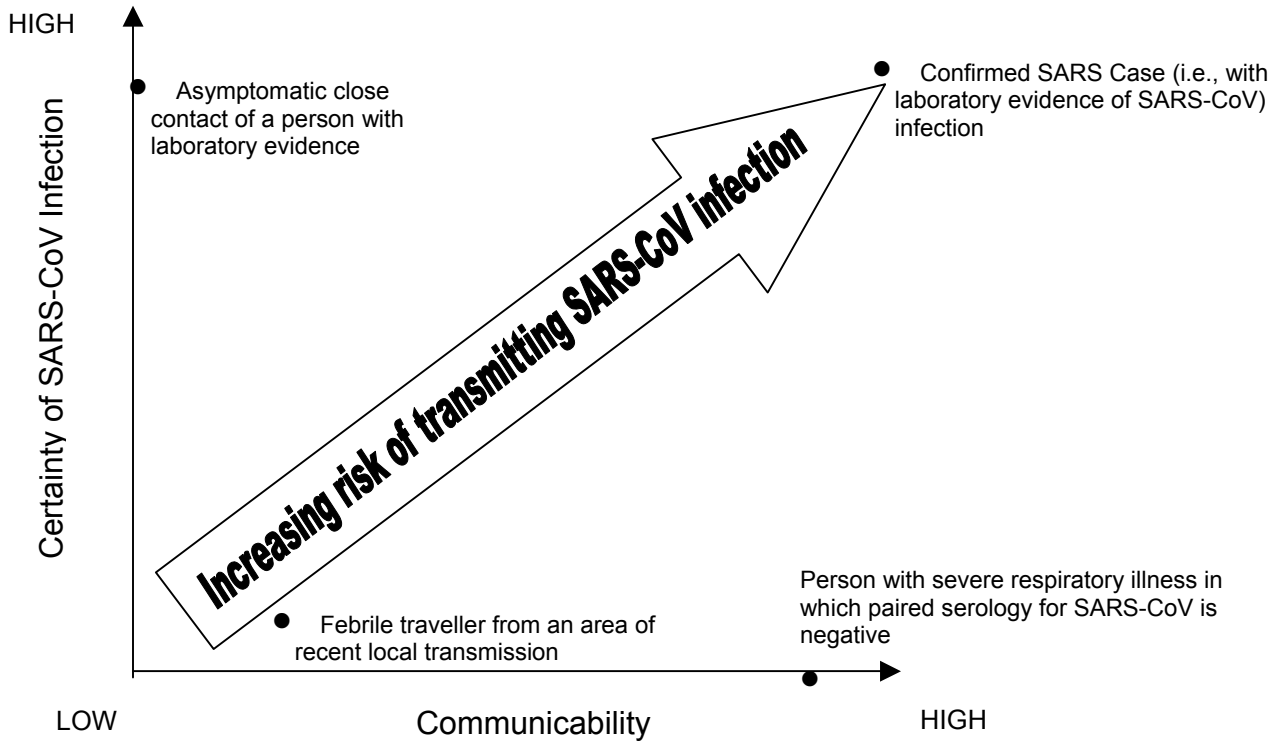
Symptom Profile:

- Asymptomatic
- Fever + prodromal symptom(s)
- Fever + respiratory symptom(s)
- Fever + respiratory symptom, + radiographic evidence consistent with SARS or other indicators of severe illness

With the goal of preventing transmission of SARS, the aggressiveness of the recommended public health measures would increase with the increased risk of transmission of SARS-CoV infection. The risk assessment can be performed by "mentally plotting" the individual on a graph with communicability on the X-axis and certainty of SARS-CoV infection on the Y-axis. (see Figure 4 below). Using this model the aggressiveness of the public health response should roughly positively correlate with the combination of these two variables. That is, those in the lower left quadrant of the graph should receive the least aggressive measures and those in the top right, the most aggressive measures. For asymptomatic individuals those with high certainty of SARS-CoV infection have the greatest potential for becoming capable of transmitting SARS should they become symptomatic. Therefore they would receive the most aggressive measures directed at well individuals.

Figure 3: Risk of SARS-CoV Transmission

This figure combines the concepts depicted in Figures 1 and 2 to illustrate how both of these factors should be considered in making the risk assessment. Four specific types of individuals have been "plotted" on this graph to depict the varying risks of transmission associated with different combinations of certainty of SARS-CoV infection and communicability.



Annex 3: Recommendations for Care Providers in the Home Setting

(Adapted from the document developed by Capital Health, Edmonton, Alberta)

The person who is sick should stay isolated at home following the directions of public health until public health provides instruction that this is no longer necessary.

Household members should notify public health immediately if they start to feel unwell and develop a cough or fever or any other respiratory symptoms.

- ***Isolate the sick person:***
  If possible, only the person who is taking care of the sick person should stay with them. The sick person should stay in one room with the door closed and with the window open, if possible. Other members of the family should stay away from the sick person and not handle or share things such as dishes, books, toys, or anything that the sick person has used unless it has been washed thoroughly with soap and water or regular household cleaning product by the designated care provider. The sick person should use a separate bathroom and separate towels from the rest of the family. To protect them from getting the illness, parents should arrange for children in the household to stay with someone else while there is a sick person in the home. Discourage any visits from people who do not live in the house. If visitors come to the house, meet them outside and do not let them into the house.

- ***Wear masks:***
  The person caring for the sick person should wear a mask because we know that this infection is spread by close contact. The sick person should always wear a mask if they leave their room or if another person is in the room with them, and anyone going in to the room should put on a mask before entering. You will be given a supply of masks and instructed on how to use them.

- ***Hand washing is important:***
  Individuals who are ill, caring for someone who is ill, or residing in the same household as an ill person, should wash their hands often using soap and warm water. The person who is ill should cover his/her mouth when coughing or sneezing and wash his/her hands immediately after. Hands should be washed immediately after providing care to the sick person. Waterless hand wash agents can also be used.

- ***Keep things clean:***
  The sick person's bed sheets, towels and clothes can be washed with items from other household members, preferably in warm water. A washing machine may be used, however, the sick person's laundry should not be left sitting outside of their room, for example in a laundry room where other household members may be in contact with it. Used Kleenex should be put by the ill person directly into a garbage bag which can be sealed in the sick person's room and taken directly outside by the care provider for collection with the regular garbage. Surfaces and items inside the sick person's room should be cleaned with regular household cleansers. Items handled by the sick person, including cutlery and glasses should be cleaned by the care provider (or in a dishwasher) immediately upon removal from the sick person's room.

- ***Care in the Home:***
  The sick person should follow the usual guidelines for taking care of themselves when ill: REST, drink plenty of fluids, and take acetaminophen or ibuprofen for fever and pain. Taking cough medicine, decongestants, and/or sore throat lozenges may be helpful to relieve symptoms. **The sick person's temperature should be taken at least twice a day with a thermometer and recorded. If the sick person is taking acetaminophen (e.g. Tylenol) or ibuprofen (e.g. Advil), the temperature should be recorded at least 4 hours after the last dose of these fever-reducing medicines.**

- ***When to call for help:***
  Public health will call to check on the sick person's condition. If the symptoms worsen, including increased shortness of breath or the person shows other signs of concern for example, extreme drowsiness or has not urinated (peed) for 12 hours, you should call your public health authority or your Doctor for instructions.

  - ***It is an EMERGENCY if the person shows any of these signs: trouble breathing, blue lips, is limp or unable to move, is hard to wake or unresponsive, has a stiff neck, seems confused, or has a seizure. CALL 911 IMMEDIATELY, NOTIFYING THEM THE PERSON HAS BEEN DIAGNOSED WITH SARS or is suspected to have been exposed to the SARS virus.***

Annex 4: Components of Active Surveillance

In this document, "active surveillance" refers to the public health action of contacting a person for the purpose of conducting a targeted assessment. When active daily surveillance is recommended Public Health must ensure that the individual is contacted at least once daily either by telephone or in person. If they are not responding to telephone calls, a public health representative should visit the location where the person is believed to be residing or working etc. in order to conduct the required assessment. When daily surveillance has not been specified, the frequency of contact during the surveillance period should be determined by public health, based on the individual situation or risk assessment

Both symptomatic and asymptomatic people may be placed on active surveillance as part of their public health management. Asymptomatic people (contacts) may or may not have their activities restricted, that is, be placed on "home quarantine" in addition to the active surveillance. This would depend on the circumstances of their exposure of concern. Those people who are not on home quarantine should be instructed to remain in the community and refrain from traveling for the duration of the active surveillance.

Symptomatic people would be placed on active surveillance in addition to home isolation if they were being cared for in the home setting. Cases who are recovering may need to be on active daily surveillance and home isolation after discharge from hospital if at the time of discharge it has been less than 10 days since their resolution of fever.

The following table summarizes the components of active surveillance applicable to each of the four different categories of individuals. Descriptions of each component are provided below the table. **All people on active surveillance should be instructed to measure and record their temperature twice daily (at least 4 hours after any medications that might lower fever).**

Category of individual	*Component of Active Surveillance*				
	Symptom screen	**Compliance assessment**	**Symptom monitoring**	**Household members**	**Laboratory result check**
Asymptomatic, no restriction of local activities	√	Not applicable	Not applicable	Not applicable	Not applicable
Asymptomatic on home quarantine	√	√	Not applicable	Not applicable	Not applicable
Symptomatic on home isolation	Not applicable	√	√	√	√
Discharged case on home isolation	√	√	√*	√	√

*Need for Symptom monitoring would depend on if they were symptom-free at discharge.

Symptom screen (query for symptom onset in previously well persons or resurgence of symptoms in discharged cases)

- Any indication of fever over 38 degrees Celsius? (Temperature should be measured twice daily at least 4 hours after any medications that might lower fever, e.g. acetaminophen or ibuprofen)
- Any prodromal symptoms? (i.e. malaise, chills, rigors or headache)
- Any respiratory symptoms? (i.e., cough, shortness of breath or difficulty breathing)

Symptom monitoring (query for deterioration or improvement in ill persons)

- What was your temperature today? Or what has it been since we last contacted you?* (Temperature should be measured twice daily at least 4 hours after any medications that might lower fever, e.g. acetaminophen or ibuprofen)
- Any changes in the presence and nature of their cough?
- Any changes in their other respiratory symptoms? (e.g., is shortness of breath or difficulty breathing persistent or only present under specific circumstances)
- Other specific questions that would elicit whether the symptoms are getting worse or improving.

** for those not on daily surveillance*

Compliance assessment

- Are they staying at home?
- Are there any immediate/impending compliance issues?

(e.g. need to go out for groceries, running out of masks, child care arrangements are not sustainable)

- Are they not accepting visitors?
- For those on home isolation:
    - Are they wearing the masks consistently and appropriately?
    - Are they being compliant with the other recommendations made in Annex 3?

Household members of symptomatic individuals

- Are the household members showing any symptoms of SARS or the SARS prodrome?

Laboratory result check

Recommendations for laboratory testing have placed limits on the number and type of people for which specimens should be collected. However, the public health nurse should be aware of any outstanding laboratory investigations for the isolated individual or the person that they were exposed to that may increase the certainty that they have SARS-CoV infection (i.e. lab evidence in themselves or the person they were exposed to) or result in the determination of an alternate diagnosis. If another cause of illness is identified, the individual will no longer meet the case definition and therefore will be discharged from home isolation.

Annex 5: Assessment for Home Isolation

The local public health authority should assess the home situation before placing a person on isolation in the home setting. The location and home situation must be one in which the public health authority, based on their assessment, feels that good infection control measures can be ensured.

Requirements:

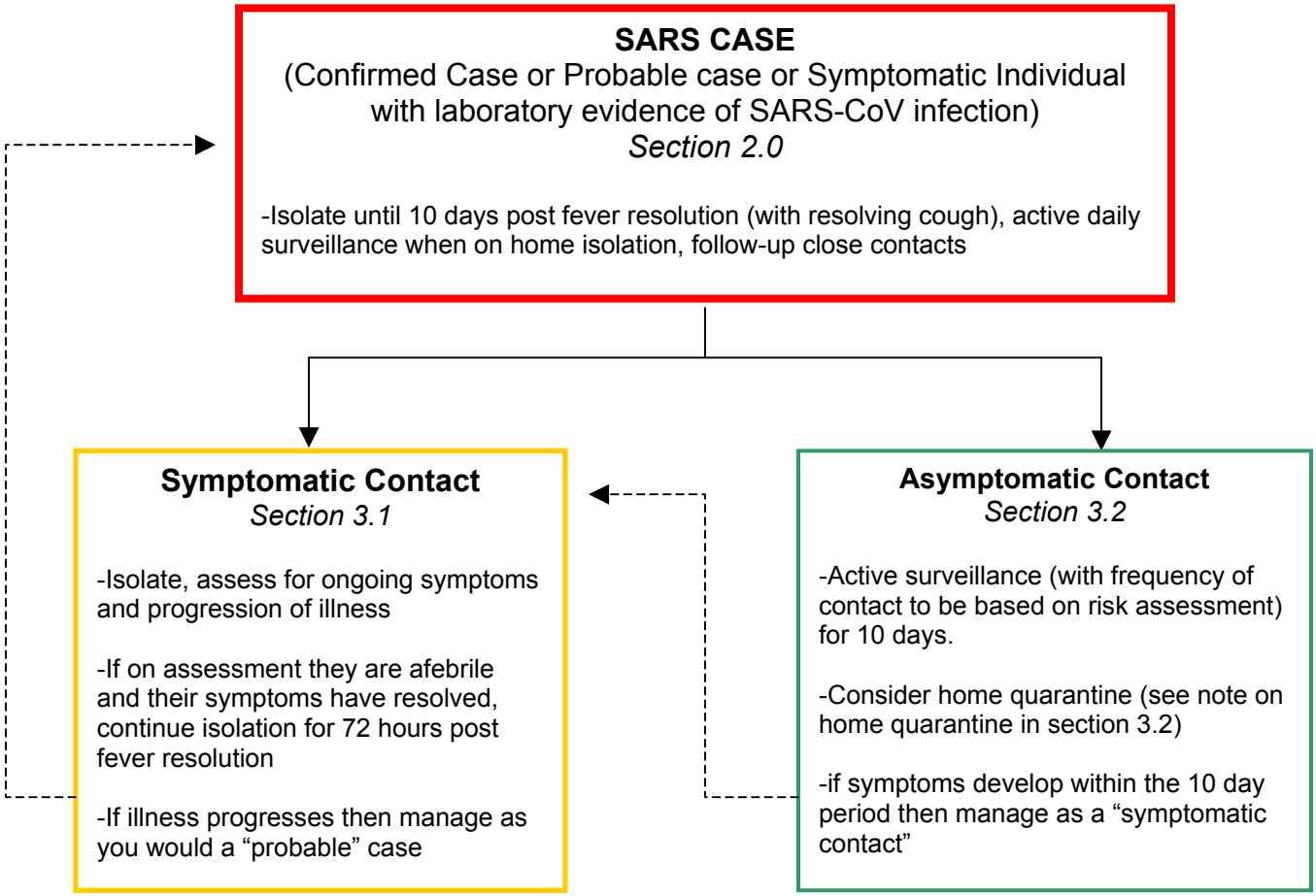
- symptomatic person must have a separate bedroom with a window that opens and a separate bathroom[1] from other household members.
- presence of at least one competent trained[2] care provider in the household, that can commit to following public health directions
- a telephone
- home must be located in a city/town with ready access to 24 hour emergency medical services

[1] Where the exposure history is travel or uncertain close contact with a case, the ill person should use a separate bathroom but the lack of a separate bathroom in the home should not preclude the use of the home as an isolation site.

[2] Training of the care provider and supplies including masks and if necessary a thermometer should be provided by the local public health authority. Ideally each household should have only one care provider.

Annex 6: Case and Contact Management – Quick Reference Tool

This chart is a summary of the general recommendations. Further detail is provided in the specific sections of this document referenced in the chart boxes.



Note: In addition to progression of symptoms, the results of laboratory investigations may result in a change in status.

Annex 7: Advice for Travellers Returning from an Area of Recent Local Transmission

The following recommendations apply to travellers returning from an area of recent local transmission of SARS. These geographic areas will be identified as part of the case definition and will be updated as necessary. If the travel history includes time spent in a specific site (e.g. hospital or hotel) that has been identified as a high-risk setting for SARS due to the presence of known SARS patients, more aggressive measures than those listed below may be warranted and should be implemented at the discretion of the local public health authority.

It is expected that this advice will be conveyed to the appropriate travellers through boarder-based initiatives (e.g. distribution of information sheets at airports). Therefore local public health authorities may not be involved in the active dissemination of this information but may wish to provide these recommendations to staff that may be receiving inquiries from travellers, physicians assessing ill travellers, or other members of the public.

Advice:

- Returning travellers should self-monitor for the symptoms of SARS occurring within 10 days of being in the area of recent transmission of SARS
- As long as they remain asymptomatic, it is not necessary for these individuals to restrict their activities (e.g. stay home from work or school)
- If they develop (within the 10 day monitoring period), fever and one of cough, shortness of breath, difficulty breathing, chills, rigors, malaise, or headache), they should:
    - Restrict their activities, that is, stay home from work or school and other events until their fever has resolved and they are feeling better
    - If symptoms get progressively worse or fever has not resolved by 7 days after onset of symptoms, phone their physician or local public health authority and arrange to be clinically assessed in a setting where appropriate infection control precautions are in place. Consideration should be given to managing this individual in the same manner as a "symptomatic contact" (section 3.1)
- Contacts of these travellers is only specifically recommended if the traveller that they were exposed to became ill[11] and progressed to a "probable or confirmed case".

[11] If the ill traveller is being managed in the same manner as a "symptomatic contact", follow-up of household contacts would occur as part of active surveillance. As specified in section 3.1 follow-up of other close contacts would be based on a risk assessment.

Annex 8: SARS-CoV Infection in the Absence of Respiratory Illness

Laboratory testing for SARS-CoV infection should not be conducted on asymptomatic individuals outside of a research protocol. People with a fever but no respiratory component to their illness should also not be tested unless they have a strong epidemiological link to a case with laboratory evidence of SARS-CoV infection. However, if this testing does occur and positive results[12] are reported to public health it is recommended that these types of individuals be managed as follows:

Table 1

Status	Recommendation
Asymptomatic	▪ Complete a full risk assessment including a public health investigation of the close contacts of the infected individual, and possible source of exposure to the virus. ▪ Asymptomatic close contacts of these individuals do not need to be monitored ▪ Symptomatic close contacts should: ➢ be isolated for the duration of their febrile illness plus an additional 72 hours after becoming afebrile. ➢ immediately have a clinical assessment and laboratory investigation including testing for SARS-CoV ▪ Their contacts would not be followed-up unless they developed a SARS-like illness or laboratory evidence of SARS-CoV infection.
Febrile (currently present or reports history of fever)	▪ Manage as a SARS Case (section 2.1)

It is well recognized that most viruses can cause a range of illness from mild to severe. To date, the evidence does not suggest that the SARS coronovirus can be transmitted prior to onset of fever, and that transmission is rare in the absence of respiratory symptoms.

If local public health authorities are notified of asymptomatic infected individuals they should report them to the provincial/territorial public health authority along with the results of their risk assessment. The provincial/territorial public health authority should report these results to Health Canada who will ensure that the appropriate authorities including the World Health Organization (WHO) are notified and satisfied with the risk assessment.

When this situation has occurred outside of Canada, the WHO has evaluated the risk to public health and provided international updates including whether the situation constitutes a “public health concern”.

[12] It is assumed that the first action would be to verify the positive result as per recommendations from the laboratory testing guidelines.