COVID -19: A practical tool for preparedness and planning in an Indigenous primary care setting in Canada

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Background

The novel Coronavirus also known as COVID-19 has emerged as one of the biggest threats to the global health care system in recent history (1). A cluster of respiratory cases in December 2019 in Wuhan, Hubie province in China rapidly evolved into major out break on December 31, 2019 (2). The World Health Health Organization, announced, COVID-19, a Public Health Emergency of International Concern on January 30, 2020 before finally declaring Pandemic on March 11, 2020 (3). The case fatality and reproducibility is predicted to be high in the initial days of outbreak (4). The WHO, situation board resonate the above statement on March 18, 2020, with 207,860 confirmed cases, with 8657 deaths in 166 countries (5). These deaths already surpassing the combined mortality due to Severe Acquired Respiratory Syndrome (SARS-CoV) and Middle Eastern Coronavirus (MERS-CoV) and the pandemic is ongoing (6).

Situation Analysis

The health systems scenario in Canada is anticipated to be rapidly evolving in days to come as the pandemic moves from travel related cases to community transmission. Public Health Agency of Canada is closely monitoring the situation and provided updated information to all its partner across provinces in combatting this pandemic (7). The total cases in the province of Alberta, reported to be 146 cases, with one mortality in Edmonton areas as of March 19, 2020. Most of the illnesses are from travel related across border and international. (8).

Strengthening community-based screening

This COVID-19 planning is based on the premise that most of the population affected with virus came out with no long-term effects and the case identification will help in spreading the disease in the community (9). Effective triage and testing at the primary level will definitely support the secondary health system to remain available for the few with serious illness. Recent literature, has clearly cite that the people with less symptoms should be assessed and triaged at community care setup rather than in emergency room (10). This will ease the burden on the already strained emergency room. Data from Wuhan, China shows that high rates of transmission of COVID-19 to health care workers from mildly symptomatic patients realize the importance of protecting against unnecessary exposures (11).

Indigenous Communities in Alberta, Canada in a Global Pandemic scenario

The Maskwacis, First nation community is located in Central Alberta, Canada, and consists of four Plains Cree Nations, i.e. Ermineskin Cree Nation, Louis Bull Cree Nation, Samson Cree Nation, and Montana Cree Nation, all are party of Treaty Six. The estimated population ranges between 15000 to 17,000 at any given time. (12). The primary care center, located in Maskwacis served all the 4 First Nation bands and its members. Maskwacis is located approximately 75 km north west of Red Deer at interaction of highway 611 and Highway (13). The main services of the primary care center provided here includes extensive home care, community health, medical clinics, laboratory services, pharmacy services, exemplary dental office along with optometrist office. The patient profile ranges from new born (week one) to geriatrics with complex multiple issues. The community is resilient and at the same time shows optimism in addressing social issues at every forum (14).

Practical Tool to prepare and plan

The authors have made an effort based on current updated guidelines from Public Health Agency of Canada (15) and Alberta Health Services to stream line the process of identification, isolation and testing of the patient which fulfill the screening criteria for testing via nasopharyngeal swab (16). This is mainly to identify patient at source and to limit community transmission.

Table 1: COVID 19: Preparedness and Management Plan at an Indigenous Primary Health Care setting in Canada

		Clinic	Community Health	Home Care	Optometry	Dental Unit	Pharmacy
Management							
Policies							
	COVID -19 Plan	Presented to the officials and immediately ratified on March 12, 2020					
	Hand Hygiene program in placed	*Posters will be placed on entrance to all exam rooms, bathrooms and at entrance to Health Centers.* *Periodic review of hand hygiene will be done with all of the staff.*					
	Healthy work place policy	All health care and ancillary staff allow to stay home if not feeling well with support.					
Capacity building	Info seminar for all the staff	Across board *Presentation prepared by Physicians.* *Presentation will be updated regularly as information emerges.*					
	Hand Hygiene refresher for all staff	Across board Attached AHS Instructions to be placed throughout the health center (bathrooms, doors of exam rooms and entrances to the health center)					
	Personal Protective training	Across board Attached AHS Instructions to be placed throughout the health center AHS Video: https://ahamms01.https.internapcdn.net/ahamms01/Content/AHS_Website/modules/ipc-guide-to-ppe-update/story_html5.html					

Table 2: COVID 19: Screening, isolation and laboratory protocols at an Indigenous Primary Health Care setting in Canada

		Clinic	Community Health	Home Care	Optometry Unit	Dental Unit	Pharmacy
Initial Screening	In person Screening	Dedicated staff at all entrance in a team of two members to screen and triage the visitors /patients. They will be trained and supported by Physicians					
	Via phone Screening	Medical office Assistant's at each desk will be trained to screen on the phone per AHS guidelines. They will be trained and					

		supported by Physicians. Any patient that fails screening but is not in medical distress will be asked to remain at home under self isolation. MOA's will help arrange testing through Maskwacis Ambulance Services and Community Health.
	Isolation of patient if mandates	Any patient who has red flags on triage screening will be asked to go out of the building and around to the Community Health Entrance where an isolation area will be established. Clinical assessment will be done by physician/NP or RN. PPE should be worn for all clinical interactions in the isolation area
Engineering	Isolation room	Arrangement has been made so that the equipment of the isolation room should not be shared by other personal
	Infrastructure	Shared ventilation, No negative pressure This can not be modified at this time.
	Personal Protective equipment	Available at rooms and training provided on regular about the donning and doffing procedure
	Disinfection	Disinfection of the room has been done following guidelines after every encounter. Cleaning staff also received refresher courses
Laboratory		Dedicated RN's or LPN's identified in each area who can collect samples and bring to Lab for processing Protocol for sending samples to the collecting laboratory established
Communication		Coordination with MOH Central Zone Coordination with local radio and social media Weekly update to the community via channels established

Figure 1. Flow chart of the COVID-19, in clinic screening process

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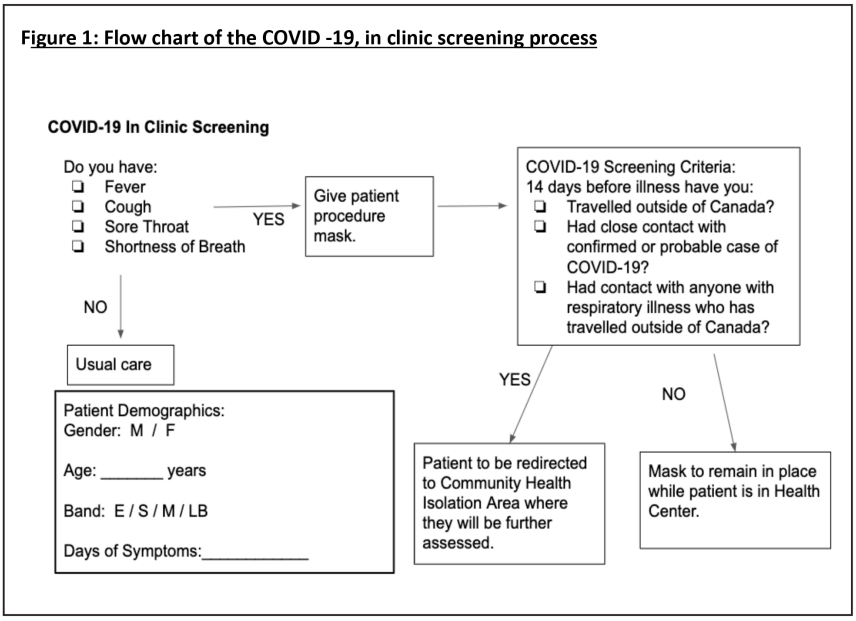

Figure 2. Flow chart of the COVID-19, via phone screening

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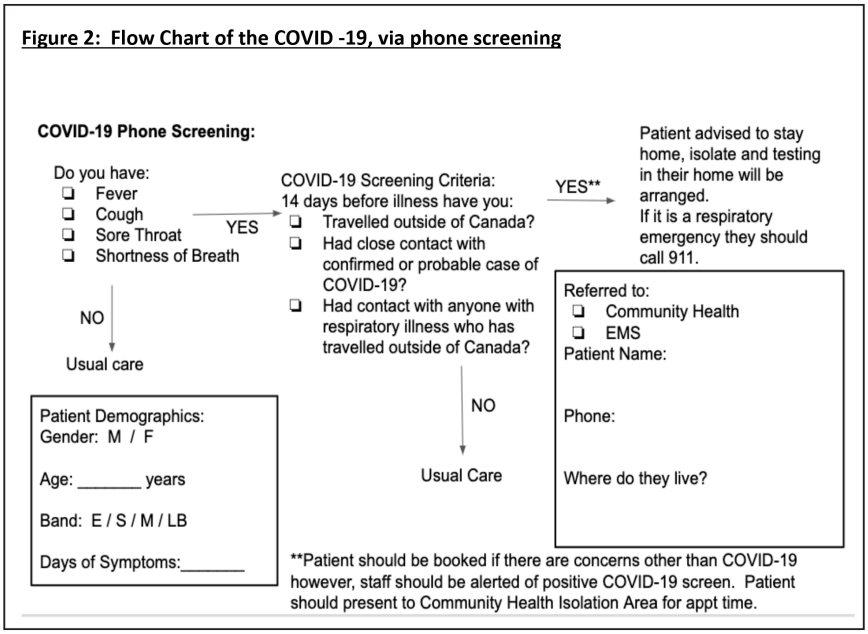

Discussion

There are many challenges for the first line primary health care provider are embedded in this scenario (17). Things are evolving on day to day basis in context to guidelines, which in turn impacts resources, capacity building not only at all levels of health care system but needs a constant dialogue towards societal education at community level (18). Another important aspect is lack of definitive vaccine or antiviral availability as of to date. The main treatment options are still hygiene and supportive care for the large majority and there will be an unmet need for high dependency unit or ICU beds for the critically ill patients in days to come (19). On the same

note, it keeps reminded us our busy ER rooms and already stretched health system that will be severely challenged in coming days not weeks if the pandemic keeps progressing at an alarming rate.

We would like to offer this as a framework for comprehensive planning for primary care practices in Indigenous communities. The key of this comprehensive exercise is to identify the cases as much as possible within our scope and catchment area before it reaches the secondary health system to avoid rapid progression of the infection (20). Self-isolation advice with implementation is fundamental in minimizing the spread of infection. This planning and implementation exercise can be using a tool in other similar health care setting with local adaptation to combat the ongoing pandemic.

Acknowledgement

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