

Vaccine Delivery Proposal

Grey Bruce Health Unit

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Executive Summary

Situation/ Background

COVID-19 was declared a pandemic in 2020. The main source of danger with the pandemic is the death of high-risk individuals, and potential inability of the hospital system to deliver service if one of the following two scenarios takes place:

1. Increased demand: Hospital system overwhelmed by increased number of hospital admission of infected high-risk individuals (>65 year old, heart and lung disease)
2. Decreased supply: Reduced hospital human resources by being in isolation (infected) or quarantined (exposed)

With the arrival of the COVID-19 Vaccine, the Grey Bruce Health Unit (GBHU) in conjunction with community and health care partners have the optimal readiness to distribute vaccine to eliminate the above two scenarios.

Purpose/Mission

To provide the Provincial Government with a successful pilot of a Pfizer logistic hub for vaccine delivery in small-urban and rural communities, which is representative of the majority of communities in Ontario.

The objective of the pilot is to prevent the danger of the pandemic (the hospital system's ability to care for COVID and non-COVID patients being challenged leading to death and suffering) by eliminating the above two scenarios by February 19, 2021 (assumption optimal vaccine supply).

After achieving the objective, the resources in Grey and Bruce will be available to support Ontario hot spots. These resources include 3 hospital systems full capacity (no risk of capacity threat due to COVID-19 outbreaks); Public Health resources such as robust Case, Contact, and Outbreak Management among other Public Health capabilities; and other available resources 3 COVID-19 Recovery Centres (Bruce Power).

The prompt (8 week) execution of the comprehensive pilot will be crucial in maintaining and maximizing public confidence that our Government is protecting the health and safety of Ontarians. Such confidence is instrumental in the success of the remainder of the emergency response.

Operations Summary

Immunization is a core Public Health function under the Ontario Public Health Standards. In Grey and Bruce Counties, the Grey Bruce Health Unit has a long history of distribution to all our population served through a robust collaboration with local health care partners. The health

unit proposes to continue this long-standing and successful immunization function for the COVID-19 vaccine.

A successful immunization campaign (specifically one that is based on mass immunization clinics in schools, field hospitals, areas, on buses among other setting) require three elements, logistics, expertise, and public trust. The logistics element includes cold chain storage, a distribution system, and transportation of patients to the distribution points as needed.

Our partnership with Chapman's Ice Cream provides all the necessary equipment and extreme cold handling with trained human resources to fulfill the storage and management of cold chain vaccine inventory.

We have two plans for the distribution of the vaccine depending on the product handling requirements and stability guidelines. Both plans reflect a robust delivery system incorporating the necessary accountability for both documentation and administering the vaccine throughout Grey and Bruce Counties.

The first plan is based on a central distribution of the vaccine due to more rigorous handling requirements and movement and thermal stability guidelines. This requires the inventory of vaccine to be delivered to central locations with vaccine administered at those destinations. This necessitates the safe transportation of the more vulnerable populations, particularly the high-risk groups, to these central locations. Through GBHU's partnership with the Counties of Bruce and Grey and local school transportation consortium, there is access to larger and smaller vehicle fleets that will provide ample capacity to quickly achieve the desired immunization target. This represents a robust hub and spoke system of delivery that can be scaled up quickly.

The second plan, based on less rigorous cold-chain and vaccine stability demands, allows secondary transportation to the many pre-set delivery points that Grey Bruce Health Unit has identified and utilized in the organization's past history of vaccine delivery and distribution. These delivery points are further segmented based on the target population requiring the vaccine. This system can be scaled up quickly through the GBHU's relationship with the three local hospital corporation partners, long-term care, family health teams, pharmacies, EMS and others.

Grey Bruce Health Unit's expertise encompasses the management of mass immunization clinics in schools, field hospitals, arenas, on buses and other community settings. Our staff are not only medically trained and approved to administer the vaccine, they are also experienced in operating during Public Health emergencies - Walkerton water crises is one example. We are also experienced in working with the diverse populations within Grey-Bruce, such as First Nations, Low German-speaking communities, and others.

The GBHU has over 40 nurses who are able to administer vaccine. We also have access to health partners to augment human resources. A local college (Georgian College) has a simulation lab and access to virtual training platforms. Should training be required, whether updating or new, learning can be delivered hands on and virtually to scale resources as needed.

Public trust in both Public Health and in the vaccine roll-out are optimal in Grey and Bruce Counties. The population has a higher than the provincial average of old adults - more than 32% of the population that is over 60 years of age, a cohort that is typically more accepting of vaccination, and a higher than provincial average vaccine coverage rate in school program (a proxy of vaccine acceptance rate in the area). In general, the public has been optimally engaged and informed about all aspects of the COVID-19 emergency including vaccine roll-out. Keeping local partners and the public about vaccine development started in April 2020.

After achieving the objective, the resources in Grey and Bruce will be available to support the Ontario hot spots. These resources include 3 hospital systems full capacity (no risk of capacity threat due to COVID-19 outbreaks). In addition, the Grey Bruce Health Unit can deploy its resources to support other areas across the province in need of support. This will include robust Case Management, Contact Management and Outbreak Investigation among other Public Health capabilities. Finally, other available resources such as 3 COVID-19 Recovery Centres (Bruce Power) could also be utilized.

The prompt execution of the comprehensive pilot will be crucial in maintaining and maximizing public confidence that our Government is protecting the health and safety of Ontarians. Such confidence is instrumental in the success of the remainder of the emergency response.

We are concurrently engaged in collaboration with a neighbouring health unit to maximize and leverage the adjoining area and coverage.

Recommendation

Ontario would benefit from a pilot to deliver the COVID-19 vaccine that is generalizable and applicable to the majority of the province that is small-urban and rural areas. Grey Bruce provides an optimal region for such timely and life-saving pilot. We recommend the Government invest in a targeted pilot in Grey and Bruce Counties to protect the health and safety of Ontarians.

Population's Health Needs and Objectives

Population's Health Needs

The population of Ontario is in the midst of the second wave of the COVID-19 pandemic. A successful pilot of vaccine distribution is needed. Optimal pilot should be generalizable to both semi-urban communities (mixture of small urban and rural areas)

Grey and Bruce Counties are good candidate for such pilot as they have:

- Higher than the provincial average of old adults - more than 32% of the population that is over 60 years of age, a cohort that is typically more accepting of vaccination.
- Higher than provincial average vaccine coverage rate in school program (a proxy of vaccine acceptance rate in the area)
- The overall population is engaged and informed and remains a key element to our continued response to the COVID-19 pandemic.

Objectives

Phase 1:

Vaccinate COVID-19 high-risk groups, and health care providers dealing with COVID-19.

Rationale (prevent overwhelming hospital capacity)

To provide the Provincial Government with a successful pilot of vaccine distribution in a non-urban centre that is representative of the majority of Ontario semi-urban communities (mixture of small urban and rural) to achieve the objective of protecting ICU and hospital system's ability to care for COVID and non-COVID patients by eliminating the following two scenarios:

1. Overwhelmed by increased number of hospital admission of infected high risk individuals (>65 year old, heart and lung disease)
2. Loss of hospital human resources by being in isolation (infected) or quarantined (exposed)

Phase 2 (Later in the Spring 2021):

With 95% vaccine efficacy, vaccinate about 75% of Grey and Bruce population to reach the 70% herd immunity as required to protect all others including those unable to receive the vaccine such as children and immunocompromised individuals.

We are concurrently engaged in collaboration with a neighbouring health unit to maximize and leverage the adjoining area and coverage.

Logistics

Storage and Cold Chain

- Chapman's Ice Cream can store vaccine at desired temperature, 2 Ultra Low Temperature freezers with temperature range (down to -86C) will be delivered 3rd week in December.
- A fleet of over 40 trucks can reach temperatures of -25C to -30C, and trained drivers available if required
- Human resources with expertise in dealing with extreme cold in place
- Freezer space at GBHU with monitored systems quickly detect any fluctuations in temperature to preserve vaccine potency.

Distribution System

- Grey Bruce Health Unit has a robust vaccine delivery system where deliveries are made individually to facilities with sign off at the facility to ensure accountability. This system could be scaled up to meet the quick turnaround time required for a COVID 19 vaccine enhancing current staffing.
- Health organizations (hospitals, Long-Term Care, Family Health Teams, Community Health Centres, and others)
- Health Care Providers (physicians, nurses, pharmacists, EMS) in the community have expressed their willingness to volunteer to assist with vaccine administration.
- If vaccine providers require training on administration, documentation or responding to adverse events, GBHU will support training through virtual training sessions and hands-on learning.
- Security Risk Assessment conducted and coordinated by the professional security services for Bruce Power (the largest nuclear generation facility in Canada)

Experienced Human Resources

- Expertise encompasses the Public Health focus on the management of mass immunization clinics (in schools, field hospitals, areas, on buses among other setting).
- Our staff are not only medically trained and approved to administer the vaccine, but also experienced in practicing nursing and operating in emergency situations (e.g. Walkerton water crises).
- They are also experienced in dealing with special populations such as First Nations, Amish, Mennonites and others throughout Grey and Bruce Counties.
- The GBHU has over 40 nurses who are able to administer vaccine.
- We also have access to health partners to augment human resources. A local college (Georgian College) has a simulation lab and access to virtual training platforms.
- Should training be required, whether updating or new, learning can be delivered hands on and virtually to scale resources as needed.

Transportation of Patients

- Fleets of private buses, coaches and other suitable vehicles
- Local school board transportation consortium with multiple accessible busses
- Municipal resources including
 - Bruce and Grey County Municipal administration and equipment resources
 - Multi-jurisdictional Disability Transportation System (SMART) - funded and operated by a partnership of lower-tier municipalities in Grey and Bruce
 - Bruce Power's significant community support through logistics, communication, volunteers
 - Chapman Ice Cream's significant community support through logistics, equipment
 - Other local community businesses

Locations of Mass Immunization Clinics

- Large employers, such as Bruce Power
- 3 field hospitals
- Municipal arenas and Community Centres
- Family health teams, community health centre and solo practitioners

Quality Assurance Information Systems and Epidemiology

- GBHU vaccine readiness survey (will be completed in the last week in December)
- PHO - Public Health Ontario connection and support
- Panorama
- Bruce Power support via qualified personnel

Communications

Communications within Grey and Bruce Counties

- The Board of Health, Medical Officer of Health, and GBHU communication team
- Bruce Power communication campaign - Be A Light (\$1 million dollar campaign), virtual community town hall meetings,
- Effective local media and journalism
- MP and MPPs
- Wardens, and County's communication teams
- Mayors, and Municipality's communication teams
- Hospitals and health care providers
- Faith Leaders
- Community Leaders
- School Boards

Accountability

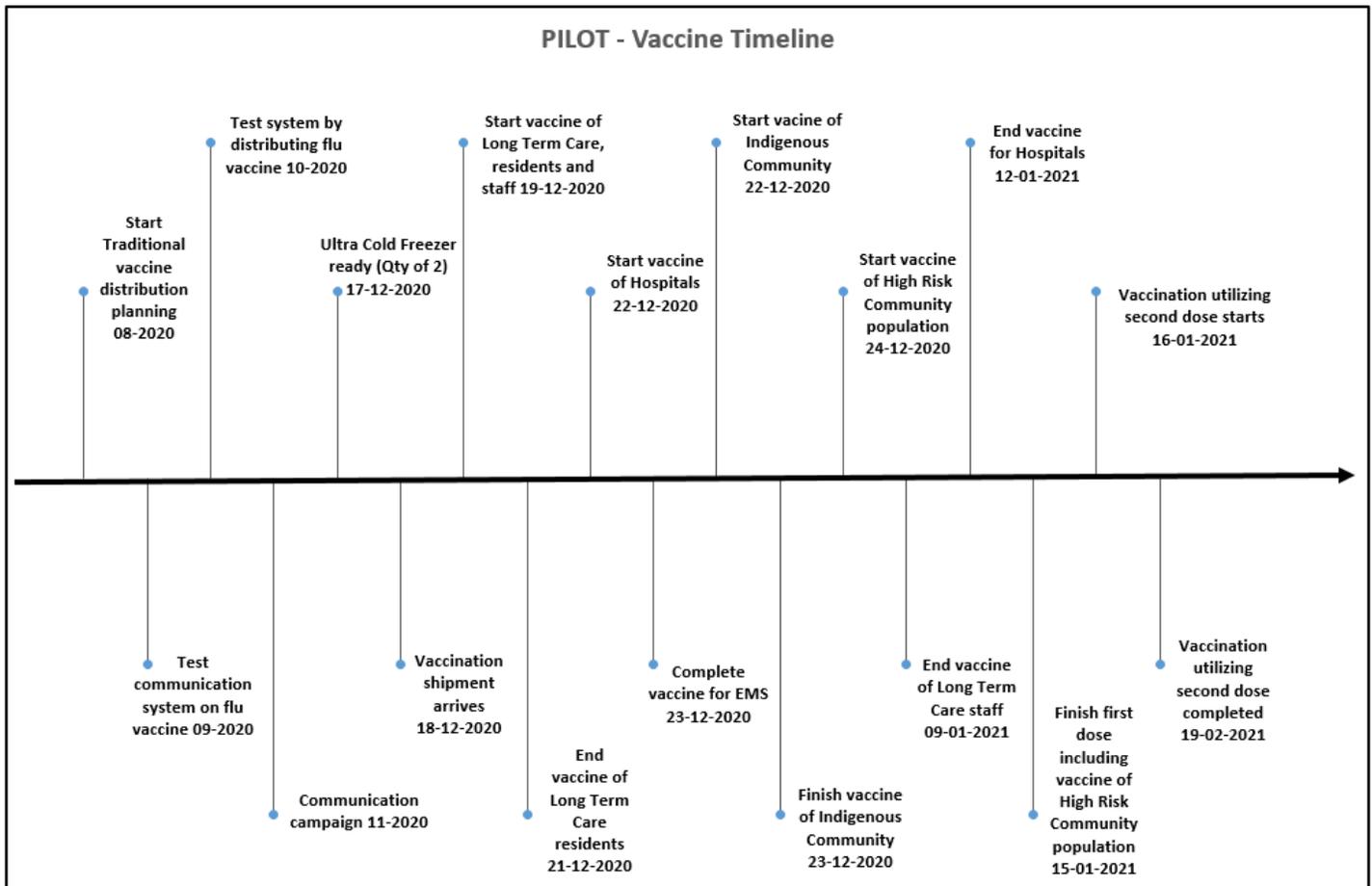
- All doses of vaccine will be accounted for through the current vaccine inventory system (Panorama) or other provincially directed accountability system.
- Vaccine providers will be required to document each dose of vaccine administered, as well as risk factors of client and sent to Public Health within one day of administration.
- Grey Bruce Health Unit utilizes Panorama - a comprehensive, integrated public health information system designed for public health professionals. The system helps professionals work together more effectively to manage. **It is important to point out that Panorama was piloted at GBHU. We have the expertise and modern IT infrastructure.**

Command and Control

Dr. Ian Arra, Medical Officer of Health representing the Board of Health for the Grey Bruce Health Unit

Timeline for Phase 1:

Assumption of optimal supply of vaccine to vaccinate 51,680 people in Grey-Bruce



Proposed Priority Vaccination Plan

Prioritize High Risk Populations for receipt of vaccine

Population	Dose #1	Dose #2	Total	ADMINISTRATION Plan
Long-Term Care (LTC) and Retirement Home STAFF and RESIDENTS	5500	5500	11,000	LTC staff will be offered vaccine in increments of 15% to prevent a significant staffing shortage, if side effects cause a spike in absenteeism
Hospital Health Care Workers	2900	2900	5800	Hospital staff will administer vaccine directly.
EMS	300	300	600	EMS staff will administer vaccine directly Medical Directive to be supplied by GBHU
Indigenous Community	3250	3250	6500	Community Health Nurses and Public Health staff will administer vaccine directly.
High-Risk Community Population <ul style="list-style-type: none"> • Over 65 years • Co-morbidity (chronic disease, immunosuppression therapy, etc.) 	40000+ (co-morbidity tbd)	40000+ (co-morbidity tbd)	80000+ (co-morbidity tbd)	Public Health in partnership with health care providers will offer the vaccine to high risk population through mass immunization clinics high-risk clients without access to a health care provider.