A. Introduction
The prompt, safe, and efficient roll out of the provincial COVID-19 vaccine program is a critical priority for the B.C. health system. Vaccine is delivered directly to numerous reception points across the province. This document provides information to support the internal redistribution of vaccine and will be updated to reflect best practices identified by health authorities and new information provided by vaccine manufacturers.

B.C. is committed to an ethical approach to immunization phases. COVID-19 vaccines will be distributed equitably and ethically to people in B.C. following national ethical frameworks and BCCDC’s COVID-19 Ethical Decision-Making Framework. As such, organizations involved in vaccine redistribution must commit to this approach and ensure all residents have fair and equal access to the vaccines.

B. Key Considerations
1. Risk and responsibility for redistribution held by province, and health authorities.
2. Transport should only be conducted with unopened vials in a -25°C to -15°C environment or a 2°C to 8°C environment; transport of pre-filled syringes may be done in exceptional circumstances (see section C.2).
3. An appropriate container must be used to transport vaccine.
4. Temperature must be monitored during transportation and documented.
5. Repacking should be done in a 2°C to 8°C environment whenever possible.
6. Transfers should be limited to decrease likelihood of temperature excursions and disruption to physical stability of vaccine.
7. Transfers between containers should be completed as quickly as possible.
8. Vials should be packaged as to minimize jostling.
9. Vaccine should not come into contact with ice packs.
10. Vaccine should be protected from light.
11. The Janssen vaccine cannot be refrozen once thawed.
C. Methods of Redistribution

1. Redistribution of frozen vaccine (-25°C to -15°C):
   **Shipping container**: -20°C thermal shippers and appropriate temperature monitoring devices must be used to transport frozen Janssen vaccine. See Section E for guidance on the selection of alternative models of temperature monitoring devices.

   - SensiTech TempTale Ultra Set Up Guide
   - Temperature Probe Characteristics
   - CoolGuard™ Advance Series 20M User Guide

1. Supplies
   - -20°C shipper.
   - Ice packs or other phase change materials required by the shipper.
   - Appropriate data logger for -20°C.
   - Original cardboard Janssen box.

2. Packing for redistribution of frozen vaccine (-15°C to -25°C):
   a. Ensure data-logger is calibrated for shipment and that computers on both ends of the move have been identified for data-logger software installation.
   b. Turn data-logger on as per time delay specific to the model.
   c. Gather required number of original Janssen vaccine boxes.
   d. Take required number of vials from freezer and place into Janssen box(es).
   e. Place box(es) into shipper.
   f. Place the data-logger probe with payload.
   g. Position ice packs/phase change materials around Janssen box(es).
   h. Place ice packs/phase change materials on top of the sheet of cardboard.
   i. Place the Styrofoam lid on top, and tape the shipper closed.
   j. Ensure regional inventory management processes are followed to track transfer of vaccine to the receiving site.

   Steps g – h may vary depending on the model of shipper/phase change materials being used.

2. Redistribution of unopened vials (2°C to 8°C):
   The Janssen vaccine should be transported using containers and temperature monitoring devices typically used for the transport of vaccines which must be maintained at temperatures of 2°C to 8°C. Considerations listed above should be fully applied and the time limits related to the stability of the vaccine at this temperature must be adhered to (see Section D).
Cold Chain Resources for Community Providers

- How to Store Vaccines in the Refrigerator
- Packing an Insulated Cooler
- Handle Vaccines with Care
- Equipment Malfunction or Power Failure
- TempTale® Directions
- Temperature Form
- Cold Chain Checklist

3. Distribution of prefilled syringes (2°C to 8°C, or up to 25°C or room temperature)

In exceptional circumstances, it is acceptable to pre-draw vaccine. Prefilled syringes should be carefully transported and labelled to ensure that they are not used outside of their window of stability.

After the first dose has been withdrawn, the filled syringe can be held at 2°C to 8°C for up to 6 hours or at room temperature (maximally 25°C) for up to 3 hours, after the first puncturing of the vial. Discard if vaccine is not used within this time.

Prefilled syringes unused at the end of a clinic may not be returned to the refrigerator for use the next day and must be wasted. In an effort to avoid wastage, care should be taken to pre-draw a reasonable number of doses.

D. Cold Chain Maintenance

- **Unopened** vials can be kept in a -25°C to -15°C environment until their labeled expiry date.
- **Unopened** vials can be kept in a 2°C to 8°C environment until their relabeled expiry date (not exceeding original expiry).
- **Unopened** vials can be kept in a 9°C to 25°C environment for up to 12 hours
- **Open vials** are stable in a 2°C to 8°C environment for up to a maximum of six hours after the first puncture of the vial.
- **Open vials** are stable at room temperature room temperature (maximally 25°C) for up to three hours after the first puncture of the vial.
E. Procurement of Cold Chain Equipment
All cold-chain equipment coordination and distribution will be handled centrally. This will include all refrigerated units, shipper containers, and data loggers. Equipment coordination questions and procurement requests should be directed to IBCOC_Operations@phsa.ca.

F. Selection of Data Loggers
The Vaccine Storage and Handling Toolkit (US CDC) provides guidance which should inform health authorities wishing to procure their own data loggers. Models selected should have

1. Detachable probe that best reflects vaccine temperatures (e.g., a probe buffered with glycol, glass beads, sand, or Teflon®)
2. Alarm for out-of-range temperatures
3. Low-battery indicator
4. Current, minimum, and maximum temperature display
5. Recommended accuracy of +/-0.5°C (+/-1°F) or better
6. Logging interval (or reading/recording rate) that can be programmed by the user to measure and record temperatures at least every 30 minutes
7. Current and valid Certificate of Calibration Testing

G. Reporting Requirements
British Columbia is required to report back to the National Operations Centre information on the acceptability of all vaccine, and other materials received in province provided via a federal contract with the supplier. The provision of this information is critical for the federal government to monitor the implementation of the contracts they have established and supports the undisturbed provision of vaccine and supplies in the future. Internal, provincial reporting requirements also require the provision of the following information:

**Vaccine**
1. Vaccine delivery site address
2. Purchase Order Number (if known)
3. Quantity received
4. Date of receipt
5. Time of Receipt
6. Damage to the packages? If yes, describe how many damaged and to what extent.
7. All Janssen boxes were received with no damage or missing vials (50 vials per single box).
8. Damage? If yes, describe how many and to what extent
9. Missing vials? Yes, how many?

**Reporting Approach:**
All sites receiving vaccine directly from the manufacturer should send a copy of their waybill and confirmation that the package was in tact directly to IBCOC_Operations@gov.bc.ca. If no waybill is included with the shipment, this information can be provided via email. This satisfies data elements 1-6 above.

Sites where trays are initially opened, allowing for the condition of the vials to be assessed, must provide data elements 7-9 above via email to IBCOC_Operations@phsa.ca.
H. Inventory Management

Regular inventory management processes should be followed. If questions or issues arise, consult with regional inventory management teams for advice and guidance.

Any questions or requests for revision of this document should be sent to IBCOC_Operations@phsa.ca

List of Amendments

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<thead>
<tr>
<th>Date</th>
<th>Section</th>
<th>Description</th>
<th>Author</th>
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<tr>
<td>May 12, 2021</td>
<td>Introduction</td>
<td>Information on ethical guidance framework and other resources added.</td>
<td>Keren Massey</td>
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<tr>
<td>Jan 17, 2022</td>
<td>B,C,D</td>
<td>Information on shipping/storing at -25°C to -15°C added</td>
<td>Calvin Kaila</td>
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