COVID-19 vaccines differ significantly from other vaccines with respect to storage and handling requirements. It is critical that all vaccine providers plan accordingly. Refer to the following best practices and guidance to prevent COVID-19 Vaccine Wastage. For additional guidance, please refer to the Commonwealth of Virginia COVID-19 Accountability Transport, Redistribution, Transfer & Waste Document.

As a preface...
1. Make every effort to vaccinate each eligible person.
2. It is acceptable to open a multi-use vial without a guarantee of using all doses contained within it if it means vaccinating one or more eligible individuals.
3. Follow clinical best practice for vaccination as well as best practices when managing inventory to maximize vaccination and minimize dose wastage.
4. It no longer is imperative to use every dose the week it is received; rather it is acceptable to have multiple weeks of inventory on hand as long as all manufacturer specifications for storage and handling are followed.
5. For those holding open clinics, please be flexible in accommodating second-dose needs. Try to schedule each person's second-dose appointment when they receive their first dose. If that is not possible, make sure they understand that they can receive that second dose anywhere that offers that vaccine. If they cannot find a second-dose appointment at either vaccinate.virginia.gov or by calling 877-VAX-IN-VA, they can email 2ndvaxdose@vdh.virginia.gov and VDH will find an appointment for them.

Before the clinic...
1. Use the pre-registration system data to the fullest capacity to identify, prepare, and invite patients to your vaccination clinic.
2. PrepMod, VAMS, and VASE+ can help facilities plan and set up clinics, control appointment times and determine the number of patients per appointment to allow for social distancing.
3. Have a list of “stand-by” eligible recipients in place to contact to backfill for no-shows on short notice.
4. Discuss expiring doses with VDH early if help distributing vaccine is needed.
5. Plan for how much vaccine you will need to thaw and/or reconstitute. Count how many appointments are scheduled each day in order to estimate how many vials will need to be thawed and removed from storage throughout the day. Do not take them out and thaw them all at once.

During the clinic...
1. Continuously communicate how many patients have arrived and how many are still expected to show up so doses can be prepared accordingly based on the actual number of patients.
2. Monitor vaccine to ensure it is consistently stored at the temperatures indicated by the manufacturer. Label vials with the “thawed on” and “discard by” dates and times. Ensure relevant staff are provided with the following information.
   a. It is critical to monitor vaccine storage temperatures hourly when on site or to use a data logger to ensure vaccine stability and viability.
   b. Once thawed, unopened vials of Pfizer-BioNTech vaccine can be used up to one month (31 days) if stored properly in the refrigerator (2°C to 8°C (35°F to 46°F)). Pfizer-BioNTech vaccine can also be stored in a conventional freezer (-25°C and -15°C (-13°F to 5°F)) for up to two weeks. Labels for Pfizer-BioNTech are available here.
   c. Unopened vials of Moderna vaccine should be stored in the freezer between -50°C to -15°C (-58°F to 5°F). They can also be stored in the refrigerator between 2° to 8°C (36° to 46°F) for up to 30 days. Labels...
for Moderna vaccine storage and handling are available here. Guidance and labels for transport can be found here.

d. Janssen (J&J) vaccine will arrive refrigerated and may be stored in the refrigerator (between 2°C and 8°C (36°F and 46°F)) until its expiration date. Vials that have not been punctured may be kept at 9°C to 25°C (47°F to 77°F) for a total of 12 hours. Do not freeze this vaccine. Upon receipt and as end of expiration approaches, check the expiration date through one of three options: Scan the QR code on the outer carton, call 1-800-565-4008, or go to www.vaxcheck.jnj.

e. Punctured vials
   - Punctured vials of Janssen (J&J) vaccine can also be kept at 2°C to 8°C (36°F to 46°F) for up to 6 hours or room temperature (maximally 25°C or 77°F) for up to 2 hours. Discard any unused vaccine after 2 hours at room temperature or 6 hours at refrigerated temperature.
   - Punctured vials of Pfizer-BioNTech vaccine must be discarded after 6 hours.
   - Punctured vials of Moderna vaccine must be discarded after 12 hours.

f. CDC’s COVID-19 vaccine refrigerator temperature monitoring log can be found here.

3. Improper storage techniques can damage the vaccines, so compliance with the provider agreement and storage/handling training for all staff and volunteers is essential.
   a. View VDH’s micro courses on handling vaccine safely for quick videos (less than 5-minutes each) and resources about handling dry ice, monitoring vaccine temperature, and inventory and expiration dates.
   b. Other helpful resources include CDC’s Vaccine Storage and Handling Toolkit and the U.S. Pharmacopeia (USP) COVID-19 Vaccine Storage and Handling Toolkit

4. It is possible to obtain extra doses from multi-dose vials, but once a vaccine vial is punctured, all doses must be used within the times provided above. Do not combine residual vaccine from multiple vials (of any manufacturer) to obtain a dose.

When there are extra doses at the clinic... To prevent vaccine wastage and maintain public trust in the process, providers may often need to administer additional/extra/soon-to-expire doses to individuals not initially invited to a vaccination event. As soon as providers are aware that there are more doses than people to be vaccinated, “standby” eligible individuals should be called, or other steps must be taken to bring additional eligible recipients to the facility or clinic before the acceptable use period expires.

When there are extra doses at the end of the clinic and no one can come in before the doses expire... This may occur due to inclement weather, cancellations, or extra doses in a vial.

1. If vaccination sites need to fill a vaccine clinic or use remaining vaccine doses and cannot identify individuals, contact your local public health department, another clinic or area pharmacies to see if they have a list.
2. Reminder: A second dose must be scheduled at the time of administration if providing the Moderna or Pfizer-BioNTech vaccine.
If you do waste a dose of COVID-19 vaccine or a dose expires...

1. Report wastage and expiration using the [Vaccine Wastage Reporting Tool](#).
2. Expiration dates, along with other identifying factors such as lot number, should be tracked on the inventory management system and wasted or expired doses should be discarded according to your facility's policy.
3. The below Wastage Reporting Table (CDC, 5/3/21) provides guidance to determine if a dose should be reported as waste.

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>Dose</th>
<th>Was the dose extracted in full?</th>
<th>Is it counted as waste?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pfizer</td>
<td>6th dose</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Moderna 11 dose vial</td>
<td>10th dose</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>11th dose</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Moderna 15 dose vial</td>
<td>13th dose</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td>14th dose</td>
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</tr>
<tr>
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</tr>
<tr>
<td></td>
<td>15th dose</td>
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<td>Yes</td>
</tr>
<tr>
<td>J&amp;J/Janssen</td>
<td>5th dose</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td></td>
<td></td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>