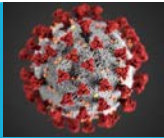


COVID-19 VACCINATION SCENARIOS

PHASE 1, Q4 2020



The planning scenarios may be used to develop operational plans for early COVID-19 vaccination when vaccine supply may be limited. The scenarios describe potential COVID-19 vaccine requirements and early supply estimates after vaccine product approvals. These scenarios are designed to support federal, state and partner planning, but are still considered assumptions. The COVID-19 vaccine landscape is evolving and uncertain, and these scenarios may evolve as more information is available.

Planners should assume by January 2021 significantly more COVID-19 vaccine will be available for distribution and plans will need to evolve to address additional vaccine availability.

Scenario 1: Vaccine A demonstrates sufficient efficacy/safety for EUA in 2020

Availability Assumptions

Candidate	Estimated U.S. Vaccine availability			Notes
	End of Oct 2020	End of Nov 2020	End of Dec 2020	
Vaccine A	~2M doses	10-20M doses	20-30M doses	Ultra-cold (-70 °C), for large sites only

Distribution, Storage, Handling, and Administration Assumptions

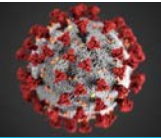
Vaccine A	
<p>SHIPMENT</p> <p><i>3 separately acquired components (mixed on site)</i></p> <ol style="list-style-type: none"> Vaccine <ul style="list-style-type: none"> Direct to site from manufacturer (on dry ice) Multidose vials (5 doses/vial) Diluent <ul style="list-style-type: none"> Direct to site from USG (at room temperature) Ancillary supply kits <ul style="list-style-type: none"> Direct to site from USG (at room temperature) 	<p>ON-SITE VACCINE STORAGE</p> <p><i>Frozen (-70 °C ± 10 °C)</i></p> <ul style="list-style-type: none"> Must be used/recharged within 10 days Storage in shipping container OK (replenish dry ice as needed) <p><i>Thawed but NOT reconstituted (2–8 °C)</i></p> <ul style="list-style-type: none"> Must use within 24-48 hours <p><i>Reconstituted (room temperature)</i></p> <ul style="list-style-type: none"> Must use within 6 hours
<p>ORDERS</p> <p><i>Large quantities, to large administration sites only</i></p> <ul style="list-style-type: none"> Minimum order: ~1000 doses Maximum order: ~5,000 doses 	<p>ADMINISTRATION</p> <p><i>2-dose series (21 days between doses)</i></p> <ul style="list-style-type: none"> On-site mixing required; reconstitute with diluent just prior to administration Administer by intramuscular (IM) injection

Additional Considerations for Early Vaccination Planning

<ul style="list-style-type: none"> Administration sites (during Phase 1) will not be required to store vaccine products beyond the period of time Vaccine A can be stored in the ultra-cold shipment box. Vaccine will be free of charge, but administration fees may not be reimbursable while a vaccine product is administered under an EUA. Given the challenging storage, handling, and administration requirements, early vaccination should focus on administration sites that can reach prioritized populations with as much throughput as possible. Stability testing is ongoing for Vaccine A; the storage and handling requirements presented here may shift. The requirements in these scenarios are likely the strictest set of requirements for which planning is needed. Consider partnering to provide vaccine in closest proximity to the prioritized populations as possible, given the storage requirement of the product.
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COVID-19 VACCINATION SCENARIOS

PHASE 1, Q4 2020



Scenario 2: Vaccine B demonstrates sufficient efficacy/safety for EUA in 2020

Availability Assumptions

Candidate	Estimated U.S. Vaccine Availability			Notes
	End of Oct 2020	End of Nov 2020	End of Dec 2020	
Vaccine B	~1M doses	~10M doses	~15M doses	Central dist capacity required (-20 °C)

Distribution, Storage, Handling, and Administration Assumptions

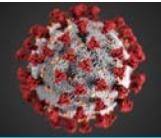
Vaccine B	
<p>SHIPMENT</p> <p><i>2 separately shipped components</i></p> <ol style="list-style-type: none"> Vaccine <ul style="list-style-type: none"> To central distributor (at -20 °C) Multidose vials (10 doses/vial) Ancillary supply kits <ul style="list-style-type: none"> Direct to site from USG (at room temperature) 	<p>ON-SITE VACCINE STORAGE</p> <p><i>Frozen (-20 °C)</i></p> <ul style="list-style-type: none"> Storage in shipping container OK (replenish dry ice as needed) <p><i>Refrigerated (2–8 °C)</i></p> <ul style="list-style-type: none"> Must use within 7-14 days <p><i>Room temperature</i></p> <ul style="list-style-type: none"> Must use within 6 hours
<p>ORDERS</p> <p><i>Central distribution capacity required</i></p> <ul style="list-style-type: none"> Required by Dec 2020 Maintained at -20 °C 	<p>ADMINISTRATION</p> <p><i>2-dose series (28 days between doses)</i></p> <ul style="list-style-type: none"> No on-site mixing required Administer by intramuscular (IM) injection

Additional Considerations for Early Vaccination Planning

- Vaccine will be free of charge, but administration fees may not be reimbursable while a vaccine product is administered under an EUA.
- Given the challenging storage, handling, and administration requirements, early vaccination should focus on administration sites that can reach prioritized populations with as much throughput as possible.
- Stability testing is ongoing for Vaccine B; the storage and handling requirements presented here may shift. The requirements in these scenarios are likely the strictest set of requirements for which planning is needed.
- Jurisdictions should consider partnering with the private sector and with local hospital systems to provide vaccine in closest proximity to the prioritized populations as possible, given the storage requirement of the product.

COVID-19 VACCINATION SCENARIOS

PHASE 1, Q4 2020



Scenario 3: Vaccines A and B demonstrate sufficient efficacy/safety for EUA in 2020

Availability Assumptions

Candidate	Estimated U.S. Vaccine Availability			Notes
	End of Oct 2020	End of Nov 2020	End of Dec 2020	
Vaccine A	~2M doses	10-20M doses	20-30M doses	Ultra-cold (-70 °C), for large sites only
Vaccine B	~1M doses	~10M doses	~15M doses	Central dist capacity required (-20 °C)
Total	~3M doses	20-30M doses	35-45M doses	

Distribution, Storage, Handling, and Administration Assumptions

Vaccine A	
<p>SHIPMENT <i>3 separately acquired components (mixed on site)</i></p> <ol style="list-style-type: none"> Vaccine <ul style="list-style-type: none"> Direct to site from manufacturer (on dry ice) Multidose vials (5 doses/vial) Diluent <ul style="list-style-type: none"> Direct to site from USG (at room temperature) Ancillary supply kits <ul style="list-style-type: none"> Direct to site from USG (at room temperature) 	<p>ON-SITE VACCINE STORAGE <i>Frozen (-70 °C ± 10 °C)</i></p> <ul style="list-style-type: none"> Must be used/recharged within 10 days Storage in shipping container OK (replenish dry ice as needed) <p><i>Thawed but NOT reconstituted (2–8 °C)</i></p> <ul style="list-style-type: none"> Must use within 24-48 hours <p><i>Reconstituted (room temperature)</i></p> <ul style="list-style-type: none"> Must use within 6 hours
<p>ORDERS <i>Large quantities, to large administration sites only</i></p> <ul style="list-style-type: none"> Minimum order: ~1,000 doses Maximum order: ~5,000 doses 	<p>ADMINISTRATION <i>2-dose series (21 days between doses)</i></p> <ul style="list-style-type: none"> On-site mixing required; reconstitute with diluent just prior to administration Administer by intramuscular (IM) injection
Vaccine B	
<p>SHIPMENT <i>2 separately shipped components</i></p> <ol style="list-style-type: none"> Vaccine <ul style="list-style-type: none"> To central distributor (at -20 °C) Multidose vials (10 doses/vial) Ancillary supply kits <ul style="list-style-type: none"> Direct to site from USG (at room temperature) 	<p>ON-SITE VACCINE STORAGE <i>Frozen (-20 °C)</i></p> <ul style="list-style-type: none"> Storage in shipping container OK (replenish dry ice as needed) <p><i>Refrigerated (2–8 °C)</i></p> <ul style="list-style-type: none"> Must use within 7-14 days <p><i>Room temperature</i></p> <ul style="list-style-type: none"> Must use within 6 hours
<p>ORDERS <i>Central distribution capacity required</i></p> <ul style="list-style-type: none"> Required by Dec 2020 Maintained at -20 °C 	<p>ADMINISTRATION <i>2-dose series (28 days between doses)</i></p> <ul style="list-style-type: none"> No on-site mixing required Administer by intramuscular (IM) injection

Additional Considerations for Early Vaccination Planning

- Vaccine will be free of charge, but administration fees may not be reimbursable while a vaccine product is administered under an EUA.
- Given the challenging storage, handling, and administration requirements, early vaccination should focus on administration sites that can reach prioritized populations with as much throughput as possible.
- Stability testing is ongoing for Vaccine A and Vaccine B; the storage and handling requirements presented here may shift. The requirements in these scenarios are likely the strictest set of requirements for which planning is needed.
- Jurisdictions should consider partnering with the private sector and with local hospital systems to provide vaccine in closest proximity to the prioritized populations as possible, given the storage requirement of the product.