

Vaccine Summary Updated on 12/21/2020	<i>Information gathered from data sources found on public domain sites and accuracy of information can not be guaranteed. This information is current as of 12/21/2020 and should not be relied upon for medical treatment or decision making.</i>			
Currently 1 EUA, 1 pending EUA and 12 vaccines in phase/stage 3	Pfizer/BioNtech	Moderna	AstraZeneca	Johnson & Johnson
Current Status	EUA granted by FDA on 12/11/2020	EUA granted by FDA on 12/19/2020 Thoughts are that since Moderna is not as fragile (cold storage) as Pfizer-- it is a better match for rural hospitals and physic offices.	Phase 3 Trial. Trial paused in September but resumed in October (7 week pause). Expected to complete U.S. large trial in late January or February.	Phase 3 Trial. Trial paused in September but resumed in October. J&J recently announced a 2nd (additional) trial in phase 3 which changes dosing regimen from single to two doses to evaluate efficacy in both the short and long-term.
Date filed for EUA	11/20/2020	11/30/2020	N/A	N/A
Date trial entered Phase 3 stage	07/27/2020	07/27/2020	08/31/2020 -- currently active but did have several weeks pause.	09/23/2020 -- currently active but did have several weeks pause.
Date granted EUA by FDA	FDA approval 12/11/2020. 336 days after genetic blueprint of COVID-19 virus is shared online by Chinese researchers), the panel of researchers recommended to FDA for approval. The UK approved Pfizer on 12/02/2020 under the EUA.	FDA approval 12/19/2020	N/A	N/A

Number of participants in trial	43,661	30,000	30,000	40,000
Participants without significant findings from trial	Children under the age of 16; pregnant women (sample sizes too low for reliable interpretations/recommendations). Plans are underway to begin clinical trials on pregnant women, young kids in January 2021.	Children under the age of 16; pregnant women. Trial is underway as of 12/10/20 for adolescents age 12 to 17 years old. 3,000 participants are included - 50% will receive two shots of vaccine four weeks apart, and 50% will receive placebo shots of salt water.	Plans are underway to begin clinical trials on pregnant women, young kids in January 2021.	Trials still underway. Plans are underway to begin clinical trials on pregnant women, young kids in January 2021.
Vaccine efficacy rate	95%	94%	70% to 90% based on dosing conditions. 90% when given 1/2 dose as primer followed by full dose in 4 weeks.	Data should be available in Jan/Feb 2021.
Vaccine type	mRNA (uses genetic code to produce immune response)	mRNA (uses genetic code to produce immune response)	Viral Vector (classic weakened pathogen that will trigger immune response)	Adenoviral Vector (genetically modified virus that will trigger immune response)
Single dose or multi-dose	2 doses: 1st dose with 2nd dose @ 21 days following	2 doses: 1st dose with 2nd dose @ 28 days following	2 doses: 1st dose with 2nd dose @ 4 weeks following	1 dose but J&J is conducting 2nd study using 2 doses (30,000 in Europe/USA)

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<p>Immunity after vaccination</p>	<p>Not until at least 7 days after the 2nd dose and typically 2 to 3 weeks for full immunity. 50% efficacy rate after 1st dose.</p>	<p>Not until at least 14 days after the second dose.</p>	<p>Pending</p>	<p>Pending</p>
<p>Immunity Duration</p>	<p>Experts think years but more study needs to be conducted to be certain.</p>	<p>Experts think years but more study needs to be conducted to be certain.</p>	<p>TBD</p>	<p>TBD</p>
<p>Common or "expected" adverse reactions</p>	<p>Pain, redness or swelling at the injection site, fatigue, headache, chills, muscle pain and joint pain.</p>	<p>Soreness at injection site, chills, headache, myalgia and fatigue-- timing of reaction is more significant after second dose.</p>	<p>Chills, feverish, headache, myalgia and muscle ache-- timing of reaction is more significant after first dose.</p>	<p>Injection site pain, fatigue, headache, and fever.</p>
<p>Estimated (not specific but referenced in different articles) negotiated cost to Govt for specific number of doses. Price will be free for early recipients. Price of doses will most likely increase after initial Govt ordered supply.</p>	<p>\$20.00</p>	<p>\$15.00</p>	<p>Below \$4.00 per dose. Due to the price and temperature storage requirements (not as strict as mRNA vaccines) -- this is thought to be a better option for developing/3rd world countries.</p>	<p>\$10.00</p>

<p>Number of doses ordered by U.S. under Operations Warp Speed (OWS)</p>	<p>Promise of 100 million doses by EOY 2020 with possibility of expanding order to additional 500 million doses in 2021.</p>	<p>100 million doses with an option to order an additional 400 million doses. An additional order of 100 million doses was ordered on 12/11/2020.</p>	<p>300 million doses</p>	<p>100 million doses with option of additional 200 million doses.</p>
<p>Estimated (not specific but referenced in different articles) U.S. Govt. investment (Operation Warp Speed)</p>	<p>The government awarded up to \$1.95 billion for development and manufacturing of the vaccine upon receipt of 100 million doses.</p>	<p>The government invested \$2.48 billion for R&D and manufacturing of the vaccine in exchange for 100 million doses. There are incentives for early delivery and an option to order an additional 400 million doses. The U.S. ordered an additional 100 million doses on 12/11/2020 which pushed the total U.S. investment to Moderna to approximately \$4.1 billion with more research investment as well.</p>	<p>The government awarded up to \$1.2 billion for development and manufacturing of the vaccine in exchange for 300 million doses.</p>	<p>\$456 million for development plus an additional \$1.0 billion for development and delivery of 100 million doses and an option for 200 million additional doses.</p>
<p>Temperature storage</p>	<p>-80C/-94F</p>	<p>2C to 8C/34F to 46F (normal refrigeration)</p>	<p>2C to 8C/34F to 46F (normal refrigeration)</p>	<p>2C to 8C/34F to 46F (normal refrigeration)</p>
<p>Shipment of Vaccine</p>	<p>Special designed temperature controlled thermal shippers using dry ice that provides up to 10 days unopened. These containers have GPS-enabled thermal sensors to track the location and temperature of each shipment across their pre-set routes. Vaccine will be shipped by FedEx & UPS.</p>	<p>Shipping distribution coordinated by McKesson but must be shipped at -20 C/-4F. This temperature is normal for most home/medical freezers and pharmacy distributors.</p>	<p>Plans under development but much more normal logistics due to non-mRNA vaccine type.</p>	<p>Plans under development but much more normal logistics due to non-mRNA vaccine type.</p>

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<p>Storage of Vaccine</p>	<p>1) Ultra-low temp freezers for six months. 2) Pfizer thermal shippers for 30 days when refilling dry ice in pellet form every 5 days. 3) Common hospital refrigeration unit (2C to -8 C/34F to 46F) for 5 days after removal of Pfizer thermal shipper. After vaccines reach this temperature, they cannot be refrozen for additional storage.</p>	<p>-20C/-4F for up to 6 months or 2C to 8C/34 F to 46F (normal refrigeration) for 30 days.</p>	<p>2C to 8C/34F to 46F (normal refrigeration) for up to 6 months.</p>	<p>2C to 8C/34F to 46F (normal refrigeration). Can remain stable for 2 years stored at -20C/-4F.</p>
<p><u>Additional Information:</u></p>				
<p>Tracking of Vaccines</p>	<p>Tiberius System (developed by OWS) that tracks vaccines to States/territories, Cities, etc. It works with CDC VTrakS which has been tracking vaccines in children for a decade. States will be able to utilize Tiberius to exchange vaccines with other states.</p>			

<p>Issued to individuals at vaccination</p>	<p>Every person who receives a shot will be issued a wallet-sized card that includes: 1) their vaccination type 2) the date it was administered 3) the dosage 4) when the next dose is due. The cards will be available in both English and Spanish. People are encouraged to take a photo of the card and keep the card. The card will act as a supplement for vaccination records in electronic health systems and state immunization registries.</p>
<p>Social distancing during vaccination fairs</p>	<p>The vaccination sites need to be large enough have to allow for social distancing, cleaning between vaccinations, mask wearing so most places are having "schedules" versus just a big, long line for vaccinating employees</p>
<p>1st wave of vaccinations</p>	<p>Health care workers (21 million) and residents of long-term treatment facilities (3 million)</p>
<p>Note on distribution</p>	<p>There is a lot of variability of allocation/distribution btw the "jurisdictions" which is most cases the state health departments (there's a few large metro areas that are considered their own jurisdictions). For example, in Mississippi, they are unboxing the Pfizer vaccine and shipping smaller quantities to sites with the intent to administer within 5 days--logistics are very important with the short-shelf life.</p>
<p>Do I need to wear a mask after vaccination?</p>	<p>It is crucial to wear a mask after vaccination, a large percentage of the population may not be protected because the vaccine isn't 100% effective. If 95% efficacy holds up, 5% of the people who get the vaccine will not be protected. There is still uncertainty to conclude whether the vaccine would prevent asymptomatic people from transmitting the virus.</p>
<p>Normal life return</p>	<p>Anthony Fauci, MD anticipates that the country can return to pre-pandemic life by the end of 2021, only if 70% to 80% of the U.S. population gets vaccinated.</p>