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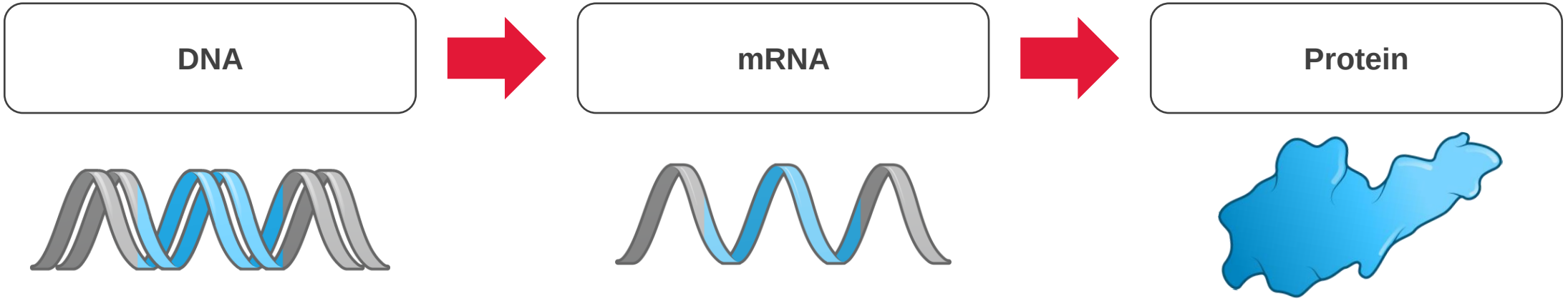

Moderna COVID-19 Vaccine Update

September 15th, 2021

Forward-looking statements and Disclaimer

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995, as amended, including statements regarding: the Company's development of the Moderna COVID-19 Vaccine (mRNA-1273); the ability of the Moderna COVID-19 Vaccine to provide protection against COVID-19 over time and to trigger an antibody response against variants of concern, including the Delta variant; the need for boosters against COVID-19 and the timing of that need; the correlation between the timing since vaccination with mRNA-1273 and protection against COVID-19; the estimated impact of delaying boosting on the number of COVID-19 cases due to waning immunity; and the ability of booster doses of mRNA-1273 to induce higher neutralizing antibody titers and to extend immunity against COVID-19 over time. In some cases, forward-looking statements can be identified by terminology such as "will," "may," "should," "could," "expects," "intends," "plans," "aims," "anticipates," "believes," "estimates," "predicts," "potential," "continue," or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. The forward-looking statements in this presentation are neither promises nor guarantees, and you should not place undue reliance on these forward-looking statements because they involve known and unknown risks, uncertainties, and other factors, many of which are beyond Moderna's control and which could cause actual results to differ materially from those expressed or implied by these forward-looking statements. These risks, uncertainties, and other factors include, among others, those risks and uncertainties described under the heading "Risk Factors" in Moderna's most recent Annual Report on Form 10-K filed with the U.S. Securities and Exchange Commission (SEC) and in subsequent filings made by Moderna with the SEC, which are available on the SEC's website at www.sec.gov. Except as required by law, Moderna disclaims any intention or responsibility for updating or revising any forward-looking statements contained in this presentation in the event of new information, future developments or otherwise. These forward-looking statements are based on Moderna's current expectations and speak only as of the date hereof.

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Moderna COVID-19 Vaccine: Authorized Use & Important Safety Information

Authorized Use in the United States:

Moderna COVID-19 Vaccine is authorized for use under an Emergency Use Authorization (EUA) for active immunization to prevent coronavirus disease 2019 (COVID-19) caused by severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) in individuals 18 years of age and older.

Important Safety Information:

- Do not administer the Moderna COVID-19 Vaccine to individuals with a known history of severe allergic reaction (e.g., anaphylaxis) to any component of the Moderna COVID-19 Vaccine.
- Appropriate medical treatment to manage immediate allergic reactions must be immediately available in the event an acute anaphylactic reaction occurs following administration of the Moderna COVID-19 Vaccine. Monitor Moderna COVID-19 Vaccine recipients for the occurrence of immediate adverse reactions according to the Centers for Disease Control and Prevention guidelines (https://www.cdc.gov/vaccines/covid-19/clinical-considerations/managing-anaphylaxis.html).
- Postmarketing data demonstrate increased risks of myocarditis and pericarditis, particularly within 7 days following the second dose.
- Syncope (fainting) may occur in association with administration of injectable vaccines. Procedures should be in place to avoid injury from fainting.
- Immunocompromised persons, including individuals receiving immunosuppressive therapy, may have a diminished response to the Moderna COVID-19 Vaccine.
- The Moderna COVID-19 Vaccine may not protect all vaccine recipients.
- Adverse reactions reported in a clinical trial following administration of the Moderna COVID-19 Vaccine include pain at the injection site, fatigue, headache, myalgia, arthralgia, chills, nausea/vomiting, axillary swelling/tenderness, fever, swelling at the injection site, and erythema at the injection site.
- The following adverse reactions have been reported following administration of the Moderna COVID-19 Vaccine during mass vaccination outside of clinical trials: (i) severe allergic reactions, including anaphylaxis, and (ii) myocarditis and pericarditis
- Available data on Moderna COVID-19 Vaccine administered to pregnant women are insufficient to inform vaccine-associated risks in pregnancy. Data are not available to assess the effects of Moderna COVID-19 Vaccine on the breastfed infant or on milk production/excretion.
- There are no data available on the interchangeability of the Moderna COVID-19 Vaccine with other COVID-19 vaccines to complete the vaccination series. Individuals who have received one dose of Moderna COVID-19 Vaccine should receive a second dose of Moderna COVID-19 Vaccine to complete the vaccination series.
- Additional adverse reactions, some of which may be serious, may become apparent with more widespread use of the Moderna COVID-19 Vaccine.
- Vaccination providers must complete and submit reports to VAERS online at https://vaers.hhs.gov/reportevent.html. For further assistance with reporting to VAERS, call 1-800-822-7967. The reports should include the words “Moderna COVID- 19 Vaccine EUA” in the description section of the report.

Click for Fact Sheet for Healthcare Providers Administering Vaccine (Vaccination Providers) and Full EUA Prescribing Information for more information.

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Today's Agenda

1. Moderna's vaccine effectiveness against the Delta variant
2. Review of preliminary immunogenicity analysis of COVID-19 vaccine booster (50 µg)
3. Summary

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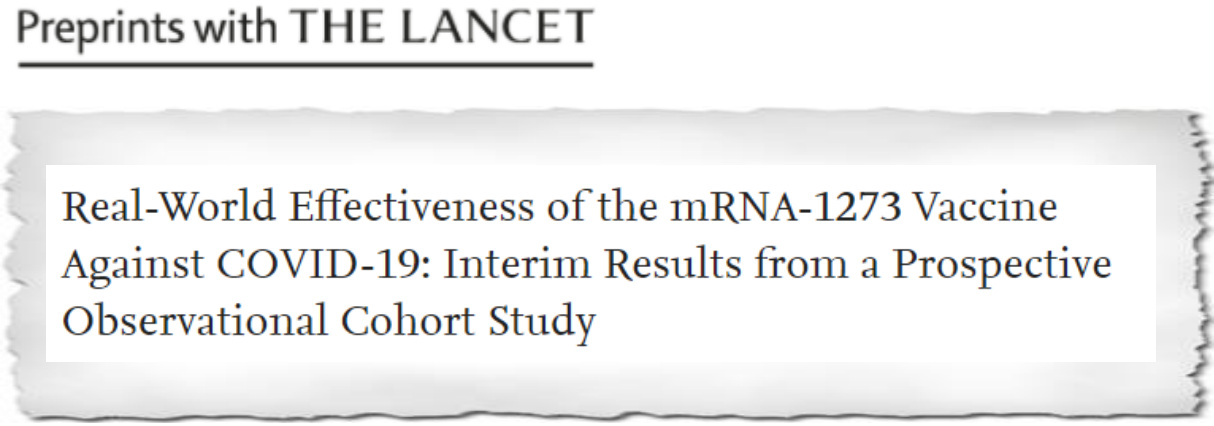
Prospective cohort study at Kaiser Permanente Southern California

In a prospective cohort study at Kaiser Permanente Southern California (KPSC), an analysis of 352,878 recipients of 2 doses of mRNA-1273 matched to 352,878 unvaccinated individuals **found a vaccine efficacy (VE) of 87.4% against COVID-19 diagnosis and 95.8% against COVID-19 hospitalization**



Fully vaccinated individuals (12/18/2020-3/31/2021) were 1:1 matched with randomly selected unvaccinated individuals through 06/30/21

The most prevalent variants were Delta (47.1%), Alpha (21.4%) among fully vaccinated individuals and Alpha (41.2%), Epsilon (18.2%) and Delta (11.0%) among unvaccinated individuals

Bruxvoort, K, Sy, L. and Qian, L, et al. Real-World Effectiveness of the mRNA-1273 Vaccine Against COVID-19: Interim Results from a Prospective Observational Cohort Study. Preprints with The Lancet. https://ssrn.com/abstract=3916094

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CDC data shows high effectiveness for Moderna's COVID-19 vaccine, during a period of Delta predominance

- Data released from CDC (Grannis et al.) examined vaccine efficacy across nine states during June – August 2021
  - Delta variant account for >50% of sequenced isolates in each medical facility's state
- **Moderna's COVID-19 vaccine remains effective in the face of high Delta variant prevalence ~3.5 months after vaccination**
- Result similar to that seen in Qatar analysis (Tang et al.)[2]

COVID-19 hospitalizations by COVID-19 vaccine

Outcome	Total	No. of SARS-CoV-2–positive tests (row %)	VE, % (95% CI)	Median interval from fully vaccinated to hospital intervention
Unvaccinated (ref)	6,960	1,316 (18.9)	--	--
BNT162b2 (Pfizer-BioNTech) *Fully vaccinated*	4,243	135 (3.2)	80 (73-85)	110 days
mRNA-1273 (Moderna) *Fully vaccinated*	**2,975**	**70 (2.4)**	**95 (92-97)**	**106 days**
AD26.COV2.S (Janssen) *Fully vaccinated*	458	30 (6.5)	60 (31-77)	94 days

Results based on real world data. This was not a head-to-head randomized trial designed to compare the vaccines. Therefore, no comparative conclusions should be drawn.

1. Grannis, Shaun, et al. https://www.cdc.gov/mmwr/volumes/70/wr/mm7037e2.htm?s_cid=mm7037e2_w
2. Tang P et. al., Preprint, 2021, https://doi.org/10.1101/2021.08.11.21261885

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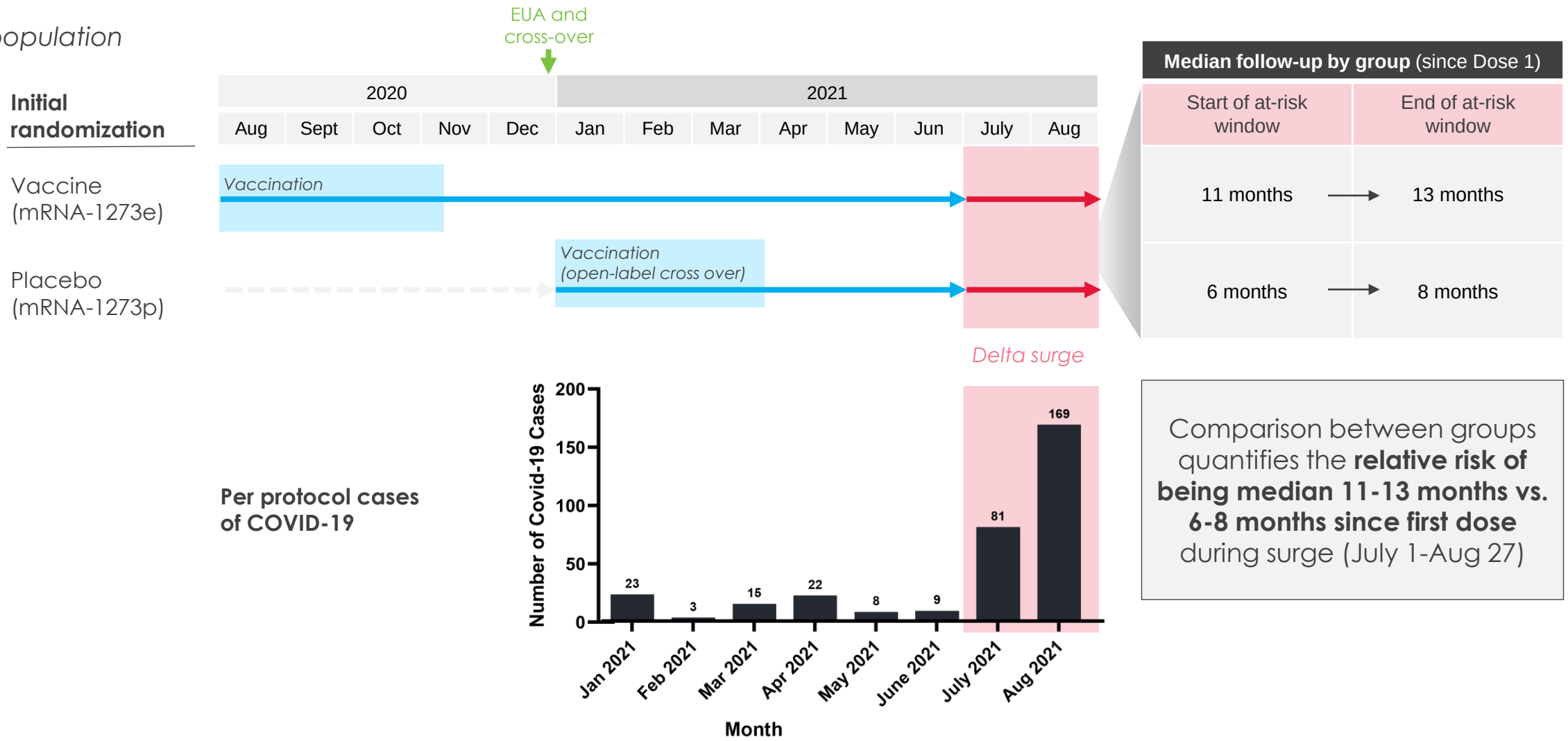
So far mRNA-1273 remains highly effective against COVID-19 in real-world effectiveness study during surge in Delta cases…

What happens when we look >1 year?

Review of new Phase 3 COVE study results

mITT population



Comparison between groups quantifies the **relative risk of being median 11-13 months vs. 6-8 months since first dose** during surge (July 1-Aug 27)

mRNA-1273e: Participants vaccinated earlier (Aug-Oct 2020)
mRNA-1273p: Placebo crossover participants vaccinated later (Jan-Mar 2021)

Baseline demographics and characteristics among at-risk participants are similar between the groups

Characteristics n (%)	mRNA-1273e N=14746	mRNA-1273p N=11431
Sex		
Male	7678 (52.1)	6012 (52.6)
Female	7068 (47.9)	5419 (47.4)
Age at Screening (yr)	51.5	52.7
Mean (range)	18-95	18-95
Age (yr) and health risk for severe Covid-19*		
≥18 and <65 and Not at Risk	8575 (58.2)	6310 (55.2)
≥18 and <65 and at Risk	2467 (16.7)	1905 (16.7)
≥65	3704 (25.1)	3216 (28.1)
Ethnicity		
Hispanic or Latino	2957 (20.1)	2168 (19.0)
Not Hispanic or Latino	11650 (79.0)	9161 (80.1)
Not reported or unknown	139 (0.9)	102 (0.9)
Race‡		
White	11738 (79.6)	9146 (80.0)
Black or African American	1463 (9.9)	1131 (9.9)
Asian	645 (4.4)	482 (4.2)
American Indian or Alaska Native	113 (0.8)	92 (0.8)
Native Hawaiian or Other Pacific Islander	36 (0.2)	22 (0.2)
Multiracial	310 (2.1)	259 (2.3)
Other	288 (2.0)	210 (1.8)
Not reported or unknown	153 (1.0)	89 (0.7)

Characteristics n (%)	mRNA-1273e N=14746	mRNA-1273p N=11431
Risk Factor for Severe Covid-19 at Screening§		
At Risk	3375 (22.9)	2744 (24.0)
Chronic lung disease	702 (4.8)	601 (5.3)
Significant cardiac disease	745 (5.1)	623 (5.5)
Severe obesity	1041 (7.1)	813 (7.1)
Diabetes	1431 (9.7)	1169 (10.2)
Liver disease	102 (0.7)	76 (0.7)
Human Immunodeficiency Virus Infection	88 (0.6)	70 (0.6)
Occupational Risk	12115 (82.2)	9142 (80.0)
Healthcare Workers	3721 (25.2)	2177 (19.0)
Body Mass Index, (kg/m^2)		
n	14659	11362
Mean (SD)	29.3 (6.8)	29.4 (6.7)

*Percentages are based on the number of participants in the open label at-risk modified intent-to treat set. mRNA-1273 includes participants originally randomized to mRNA-1273 in the blinded phase (vaccinated from 27-July-2020 to 16-Dec-2020). Placebo-mRNA-1273 includes participants originally randomized to placebo in the blinded phase and who received mRNA-1273 post-EUA (vaccinated from 29-Dec-2020 to 30-Apr-2021). *Based on stratification factor from IRT, participants who were <65 years old were categorized as at risk for severe Covid-19 illness if they had at least 1 of the risk factors specified in the study protocol at screening. §Participants could be under one or more categories and were counted once at each category.*

COVID-19 cases and incidence rates during July 1st to August 27th, 2021

Modified intent to treat population, starting 14 Days After Dose 2 of mRNA-1273

Covid-19 cases	mRNA-1273e (July-Dec '20)			mRNA-1273p (Dec-Mar '21)			mRNA-1273p vs mRNA-1273e
	Cases n	Person-yr	Rate/1000 Person-yr	Cases n	Person-yr	Rate/1000 Person-yr	Reduction of observed incidence rate % (95% CI)
All cases	**162**	**2102**	**77.1**	**88**	**1796**	**49.0**	**36.4 (17.1-51.5)**
≥18-<65 yr	136	1558	87.3	68	1289	52.8	39.6 (18.6-55.5)
≥65 yr	26	544	47.8	20	507	39.5	17.4 (-53.9-56.3)
Severe	**13**	**2102**	**6.2**	**6**	**1796**	**3.3**	**46.0 (-52.4-83.2)**
≥18-<65 yr	7	1558	4.5	4	1289	3.1	30.9 (-171.7- 85.2)
≥65 yr	6	544	11.0	2	507	3.9	64.2 (-100.2-96.5)

- The percent reduction in the observed incidence rates for the late compared with early vaccinations was 36.4% (95% CI), **suggesting greater protection against COVID-19 by more recent vaccination**
- 13 severe cases of COVID-19 occurred in the mRNA-1273e group compared to 6 in the mRNA-1273p group, **with an estimated percent reduction of the observed incidence rate of 46.0%**

N denotes the number of number of participants with negative SARS-CoV-2 status at study entry (modified intent-to treat) who were at risk pre-vaccination. For this analysis, participants at risk at the start of the analysis period (01-Jul-21 to 27-Aug-21) were included and person-years was calculated for this analysis period. Incidence rate was defined as the number of Covid-19 cases divided by the number of participants at risk at the beginning of the time period (July 1, 2021) and adjusted by person-years in each group. To assess the difference in incidence rates of Covid-19 between the mRNA-1273 group and the placebo-mRNA-1273 group, the 1- ratio of incidence rate was calculated and provided with the 95% confidence intervals calculated using the exact method (Poisson distribution) and adjusted by person-years. *Placebo-mRNA-1273 participants not considered at risk in the open-label phase were excluded from this analysis including those who (i) were diagnosed with COVID-19 or SARS-CoV-2 infection during the blinded phase, (ii) did not enter open-label or received off-study COVID-19 vaccine, or (iii) became a case prior to 1st dose of mRNA in the open-label phase.

Overall summary of case severity by group

Cases	mRNA-1273e Early	mRNA-1273p Placebo	Total (% of cases)
COVID-19 (per protocol)	162	88	250 (100%)
Severe (per protocol)	13	6	19 (7.6%)
Hospitalization	3	0	3 (1.2%)
Death	2	0	2 (0.8%)

- 19 of 250 cases met severe criteria per protocol (7.6% of total)
- All severe cases had >5 symptoms of COVID-19 (range of 5-13)
- Majority of cases were designated as severe due to the criterion for low SpO2 (range 88-93%)
- Among the severe cases, there was a trend toward greater severity in the earlier vaccinated cohort
- Severe cases were seen across all age groups including participants without risk factors for severe COVID-19

Estimated impact of being >7 months since last vaccine dose in the United States

US fully vaccinated (mRNA-1273)	**66,000,000 US adults**
Increased relative risk of COVID-19	*+28 cases per 1000 person-years*
Estimated impact per year of exposure:	**+1.9 million cases of COVID-19 per year**
Per 1 month of exposure	*1 / 12 person-months per person-year*
Estimated impact per month of exposure	**150,000 cases of COVID-19 per month**

In the Fall and Winter, the estimated impact of waning immunity would be ~600,000 additional cases of COVID-19

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We believe a third dose (booster) will reduce the risk of COVID-19 for people >6 months from their primary vaccination

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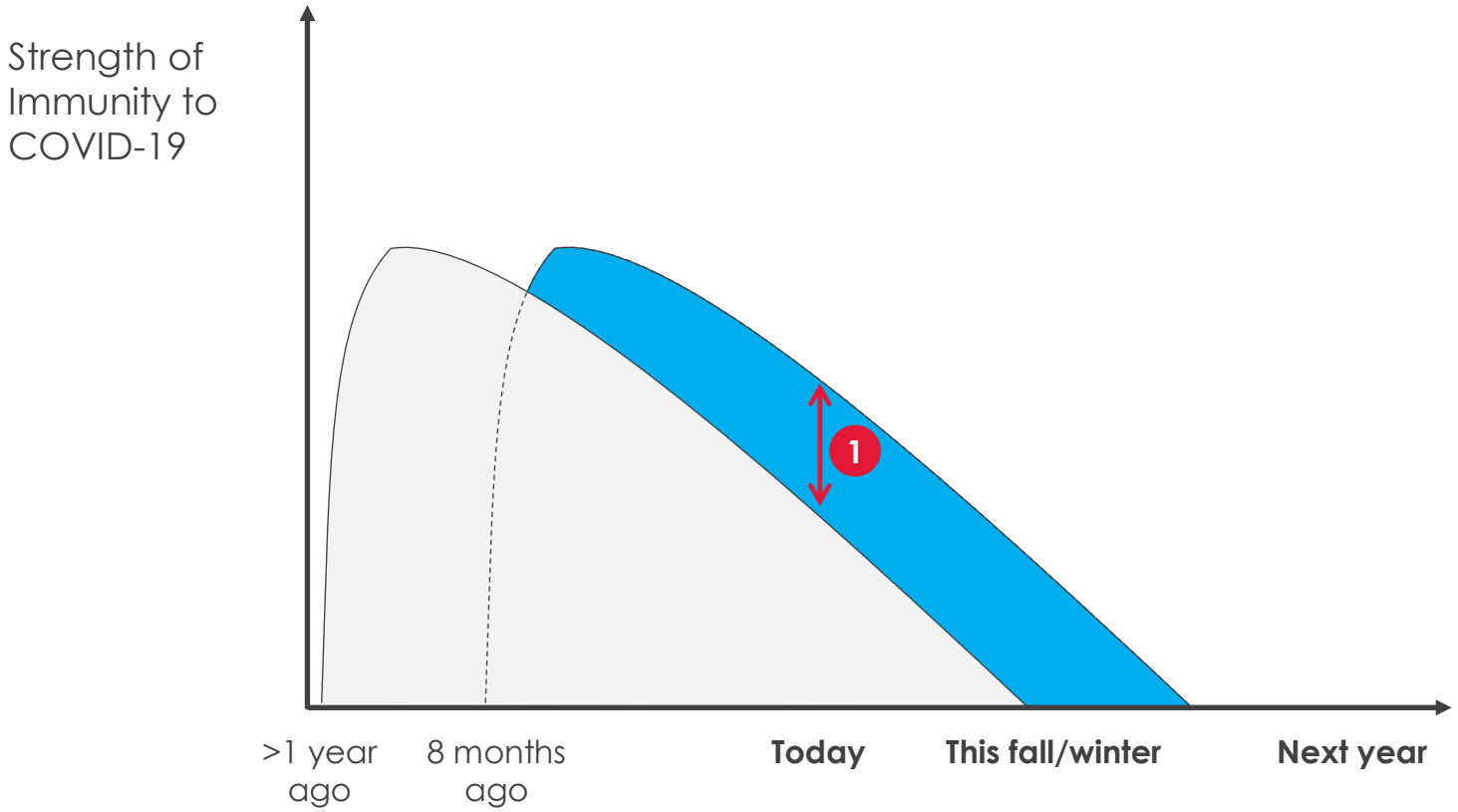

1 We know that **waning immunity between 8 and 13 months leads to increased breakthrough in Phase 3** COVE study, equivalent to 150,000 incremental cases of COVID-19 per month in the US alone

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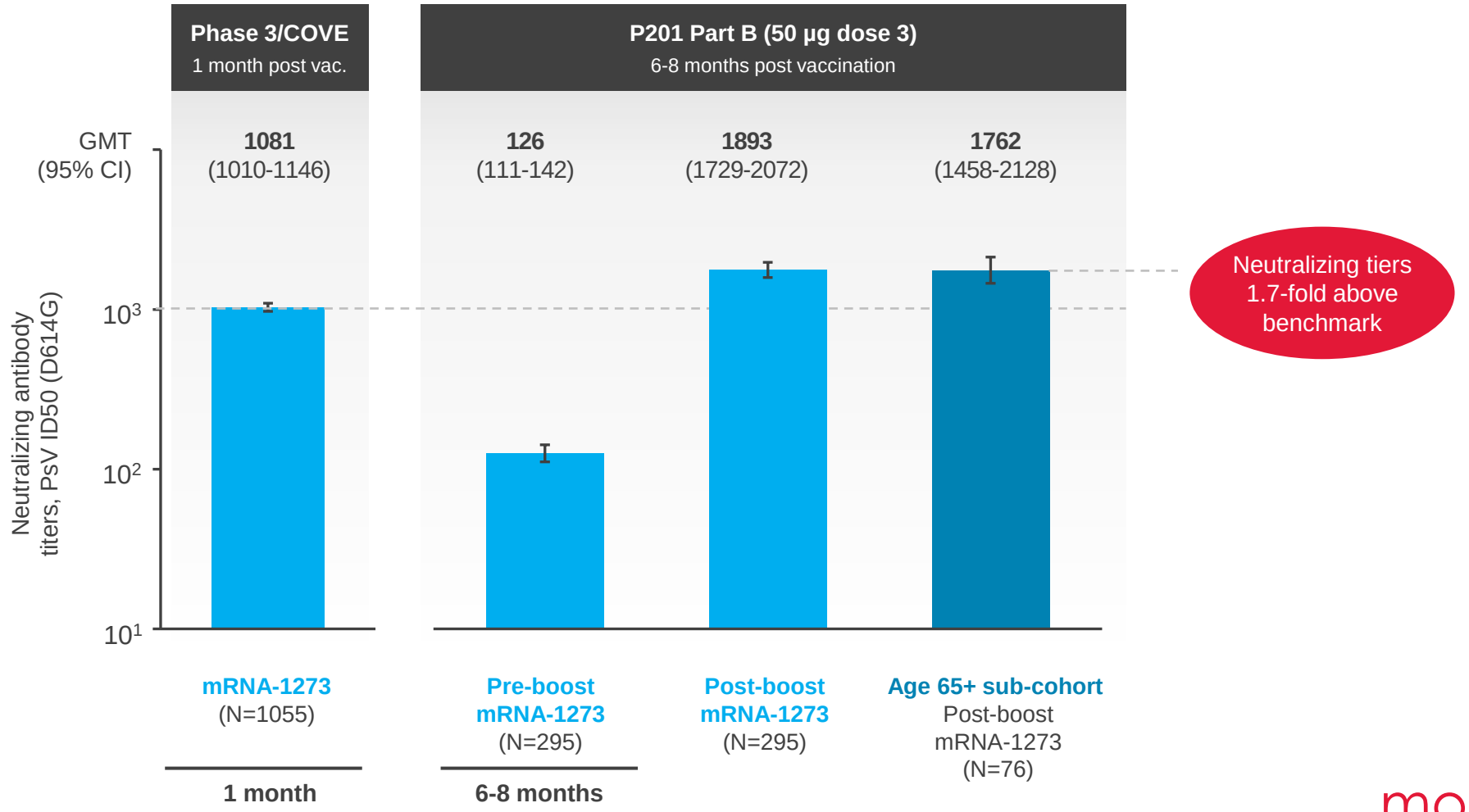
Neutralizing titers significantly exceed Phase 3 benchmark Day 29 after boost with 50 µg of mRNA-1273

NIH clinically validated assays



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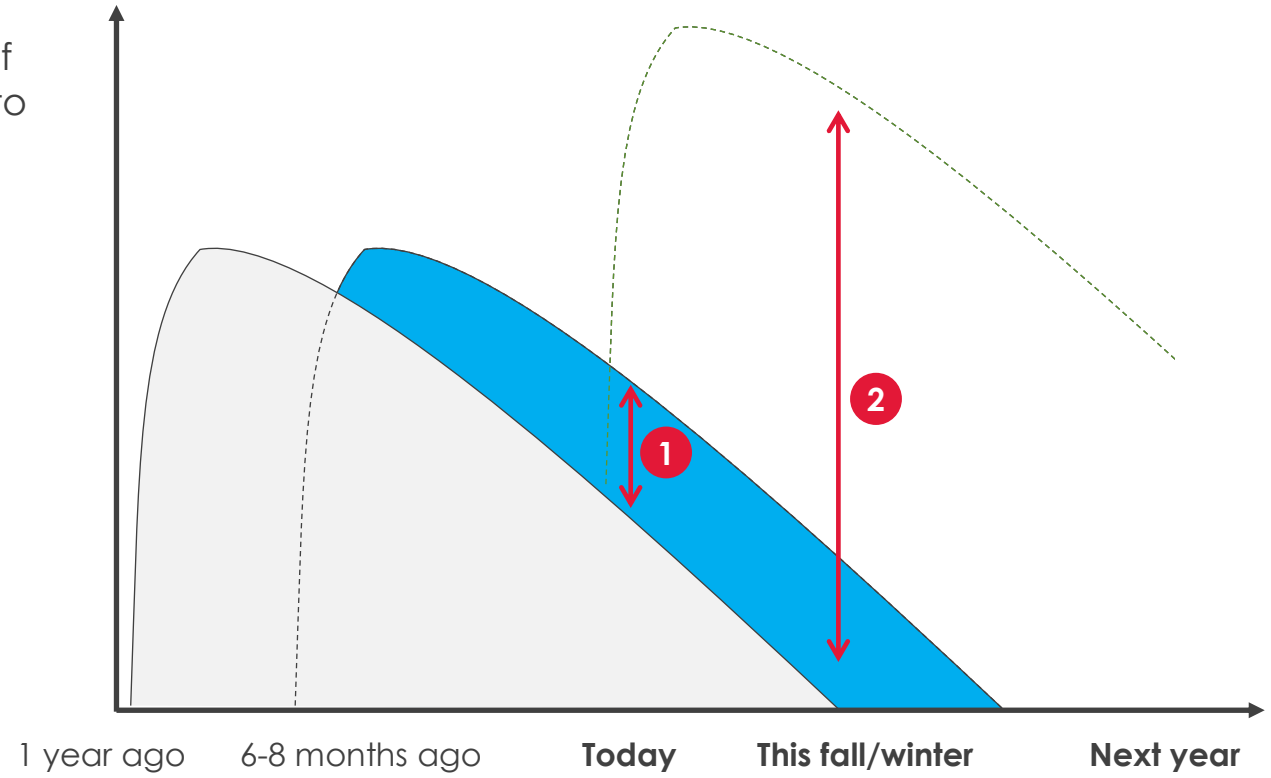

1. We know that **waning immunity between 8 and 13 months leads to increased breakthrough in Phase 3** COVE study, equivalent to 150,000 incremental cases of COVID-19 per month in the US alone

2. We know that a 50 µg booster **increases titers to 1.7-fold above the Phase 3 benchmark**, counteracting waning immunity. We believe this will reduce COVID-19 cases to an even greater extent this fall and winter

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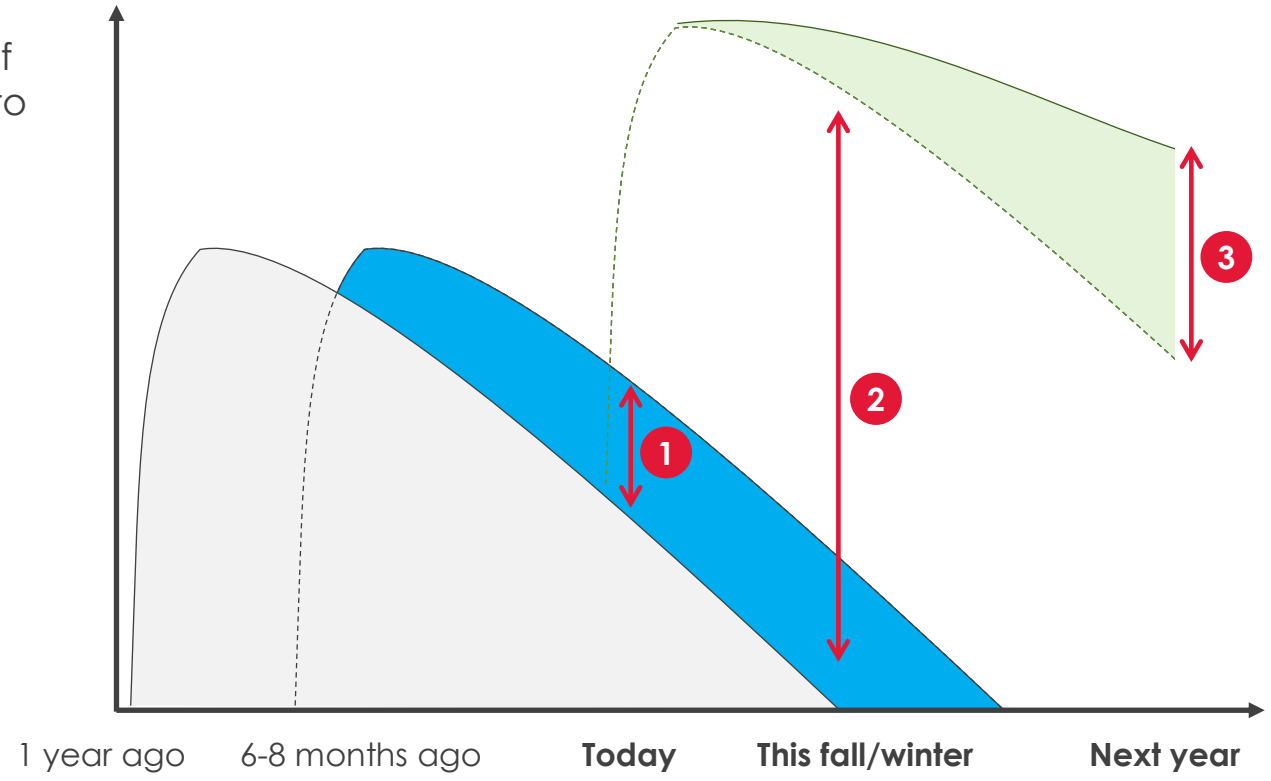

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2. We know that a 50 µg booster **increases titers to 1.7-fold above the Phase 3 benchmark**, counteracting waning immunity. We believe this will reduce COVID-19 cases to an even greater extent this fall and winter

3. Finally, we believe that a third dose could also significantly **extend immunity** throughout next year as we seek to end the pandemic. We will collect and share data on durability of protection from our clinical trials to confirm this benefit

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Summary

- A recent CDC led real world evidence analysis demonstrates the effectiveness of mRNA-1273 at preventing severe COVID-19, in the face of high Delta prevalence during July and August 2021
  - These data are supported by the finding from Tang and colleagues' analysis of a large Qatar database
- A new analysis of the Phase 3 COVE study examines break through COVID-19 cases in those individuals who were vaccinated early in the study (median of 13 months ago) compared to those who were vaccinated later in the study (median of 8 months ago)
- This new analysis shows that while individuals vaccinated more recently continue to be protected against COVID-19, those vaccinated approximately 13 months ago begin to show breakthrough of infection
- We recently filed for use of a 50 µg booster dose of mRNA-1273, and show that its use is associated with GMTs that are 1.7-fold above the GMT observed after the primary vaccination schedule
- Taken together, these data continue to support the robust efficacy seen with mRNA-1273 in real life use, show that as people become more distant from their primary vaccination the risk of breakthrough infections increases, and that boosting with a 50 µg dose of mRNA-1273 results in GMTs expected to afford ongoing protection from infection

Our mission

To deliver on the promise of mRNA science to create a new generation of transformative medicines for patients.

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