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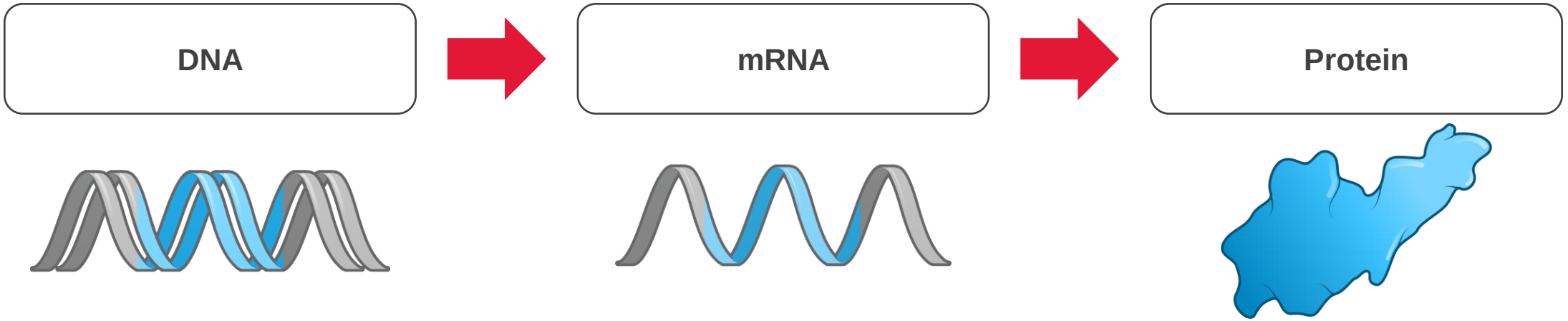

Business Updates
Third Quarter 2021 Financial Results

November 4, 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); its efforts to continue developing vaccines against COVID-19, including efforts to develop vaccines against variant strains of SARS-CoV-2 and for booster doses; 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; the potential for booster doses of the Moderna COVID-19 Vaccine and variant-specific vaccine candidates to trigger neutralizing antibodies; the need for boosters against COVID-19 and the timing of that need; the safety profile associated with COVID-19 booster candidates; the timing of the U.S. FDA's review of the Company's EUA for the Moderna COVID-19 Vaccine for adolescents; the potential risk of myocarditis associated with administration of mRNA-1273; the Company's plans to submit results from its ongoing KidCOVE study to regulatory agencies; the conduct and timing of clinical trials for programs in the Company's pipeline, including its vaccine candidates against seasonal flu, CMV, RSV, HIV, Nipah virus and EBV, as well as the Company's personalized cancer vaccine candidate; expected enrollment in the Company's Phase 3 study of its CMV vaccine; anticipated timing for the submission of an IND for the Company's partnered cystic fibrosis program with Vertex; the potential to combine different vaccines into a single dose; the potential market associated with commercial vaccines; the potential for establishing proof of concept in exploratory modalities; the number of doses of the Moderna COVID-19 Vaccine that the Company anticipates being able to manufacture and deliver in 2021 and 2022, and investments to facilitate that manufacturing; anticipated doses to be delivered under advance purchase agreement in 2021 and 2022 and the associated dollar amounts to be received, which should not be construed as expected 2021 or 2022 revenue; the anticipated cost of sales associated with the Moderna COVID-19 Vaccine; the Company's commercial rights to its development candidates; future research and development expenses; future sales, general and administrative expenses, and capital expenditures, as well as other expenses; orders for the Company's Moderna COVID-19 Vaccine; and the Company's future tax rate. 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 the 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 clinical trials 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, and rash.
- Anaphylaxis and other severe allergic reactions, myocarditis, pericarditis, and syncope have been reported following administration of the Moderna COVID-19 Vaccine during mass vaccination outside of clinical trials.
- Available data on the 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 the Moderna COVID-19 Vaccine on the breastfed infant or on milk production/excretion.
- 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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5. Looking Forward – Stéphane Bancel, CEO

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Third quarter and year-to-date 2021 highlights: **Pipeline advances**

Respiratory Vaccines	• U.S. FDA granted **Priority Review to** the Moderna COVID-19 Vaccine Biologics License Application (BLA) • **Spikevax™ first full approval in Canada** (United Kingdom, European Union: Conditional Marketing Authorization) • **Moderna COVID-19 Vaccine/Spikevax™:** Received Emergency Use Authorization (EUA) from the U.S. FDA and the European Commission's approval for a booster dose of the Moderna COVID-19 vaccine at the 50 µg dose level • **FDA review for EUA for Moderna Covid-19 Vaccine for adolescents ages 12 to <18 may take to January 2022** • **Quadrivalent seasonal flu vaccine (mRNA-1010):** Phase 1 study fully enrolled • **RSV vaccine (mRNA-1345):** Announced positive Phase 1 interim data (boosted nAbs against RSV-A by ~14x, RSV-B by ~10x); Pivotal Phase 2/3 expected to start by the end of 2021 • **Announced combination respiratory vaccines**: COVID + Flu vaccine (mRNA-1073) and Pediatric RSV + hMPV vaccine (mRNA-1365)
Latent Vaccines	• **CMV vaccine (mRNA-1647):** Pivotal Phase 3 study (CMVictory) started • **EBV vaccine (mRNA-1189):** Expected to start Phase 1 trial soon • **EBV therapeutic vaccine (mRNA-1195):** New development candidate announced
Therapeutics	• **PCV (mRNA-4157):** Phase 2 placebo-controlled study (PCV + KEYTRUDA® vs. KEYTRUDA®) is fully enrolled; data readout expected in 4Q22 • **PA (mRNA-3927):** Phase 1 ongoing, first cohort fully enrolled • **MMA (mRNA-3705):** Phase 1 trial dosed first patient • **GSD1a (mRNA-3745):** IND opened; received Orphan Drug Designation • **CN-1 (mRNA-3351):** Providing investigational mRNA CN-1 therapy to Institute for Life Changing Medicines (ILCM) free of charge • **Introducing inhaled pulmonary therapeutics modality:** Vertex and Moderna CF mRNA therapeutic (VXc-522) IND-enabling first-in-human studies ongoing
Moderna Genomics	• **First partnership in genomics around next generation gene editing enzymes announced with Metagenomi**

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Third quarter 2021: **Financial highlights**

- **Q3 financials summary:**
  - Revenue: $5B (208M doses delivered)
  - Net income: $3.3B
  - Cash and investments: $15B (as of 09/30/21)
- **FY 2021 Moderna COVID-19 Vaccine/Spikevax™:**
  - **2021 range of delivered doses: 700 to 800M**
  - Key variables impacting FY 2021 output:

    (1) Longer delivery lead times for international shipments and exports
    (2) Temporary impact from expansion of fill finish capacity
    (3) Ramp up of product release to market

  - **2021 range of revenues: ~$15-$18B**
  - Key variables impacting FY 2021 revenues:

    (1) Fewer doses for delivery in 2021; shifted to early 2022
    (2) Prioritization of deliveries to low-income countries through COVAX and African Union

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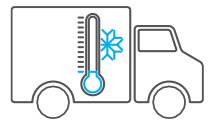
Moderna COVID-19 Vaccine 3Q: **Delivered 208M doses**

Ramp-up challenges in 2021:

- 1Q: Drug substance (DS)
- 2Q: Drug product (DP)
- 3Q: Release of product



	Drug substance (DS) "in the bag"	Drug product (DP) "in the vial"	DP shipped
Currently (as of Nov. 3rd)	901M doses	770M doses	566M doses

We expect to be able to deliver 700 to 800M doses for the full-year 2021

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Moderna named top employer by *Science* for the seventh year in a row

- Moderna ranked 7th in 2021
- Annual survey evaluates companies in the biopharmaceutical industry in categories such as:
  - Leadership and direction
  - Work culture and environment
  - Academic and intellectual challenge
- One of eleven pharma and biotech companies in the world that have been named for seven years in a row

Top Twenty Employers

Science 2021 TOP EMPLOYERS

2021 Rank	2020 Rank	Employer (global headquarters)	Innovative leader in the industry	Treats employees with respect	Is socially responsible	Has loyal employees	Easily adapts to change
1	–	Insmed (Bridgewater, NJ)	•	•	•		
2	2	Incyte (Wilmington, DE)	•	•	•		
3	3	Alnylam Pharmaceuticals (Cambridge, MA)	•	•	•		
4	1	Regeneron (Tarrytown, NY)	•		•	•	
5	10	Spark Therapeutics (Philadelphia, PA)	•	•	•		
6	4	Syngenta Group (Basel, Switzerland)	•	•	•		
7	9	Moderna (Cambridge, MA)	•	•			•
8	8	Vertex Pharmaceuticals (Boston, MA)	•	•	•		
9	6	Merck KGaA (Darmstadt, Germany)		•	•	•	
10	11	Genentech (South San Francisco, CA)	•	•	•		
11	14	Abbott (Abbott Park, IL)		•	•	•	
12	5	Biocon Limited (Bangalore, India)	•		•	•	
13	12	AbbVie (North Chicago, IL)		•	•	•	
14	18	Takeda Pharmaceutical Company Limited (Tokyo, Japan)		•	•	•	
15	7	Novo Nordisk (Bagsværd, Denmark)	•		•	•	
16	17	Pfizer (New York, NY)	•	•	•		
17	13	GlaxoSmithKline (GSK) (London, United Kingdom)		•	•	•	
18	16	Eli Lilly and Company (Indianapolis, IN)		•	•	•	
19	19	Novartis (Basel, Switzerland)	•	•	•		
20	15	Roche – excluding Genentech (Basel, Switzerland)	•		•	•	

The 20 companies with the best reputations as employers and the top three driving characteristics for each company, according to respondents in the 2021 survey undertaken for the *Science*/AAAS Custom Publishing Office.
The company without a 2020 rank did not receive enough mentions to qualify or did not receive a high enough ranking from the 2020 survey.

"2021's Top Employers engage, nurture, and harness the power of scientists," *Science,* Oct. 29, 2021, https://www.science.org/content/article/2021-s-top-employers-engage-nurture-and-harness-power-scientists

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Moderna as of November 2021

Pipeline

Commercial
Moderna COVID-19 Vaccine/Spikevax™

Phase 3
CMV

Phase 2/3 prep
Flu, RSV

Phase 2
COVID-19 boosters, Zika, PCV, VEGF

37 development programs
across 34 development candidates

Programs in development

Respiratory vaccines
- **COVID-19 variant boosters (Delta and Beta/Delta)** in development
- **RSV** in Phase 1; **Older adults RSV** Phase 2/3 to start in 2021
- **Flu** in Phase 1; Phase 2/3 expected to start in 2022
- **hMPV + PIV3** in Phase 1b age de-escalation study
- **Flu + COVID, RSV + hMPV** in preclinical

Latent vaccines
- **CMV** in Phase 3
- **EBV** in preclinical
- **HIV** in preclinical

Other vaccines
- **Zika** in Phase 2
- **Nipah** in preclinical

mRNA therapeutics
14 medicines in 4 therapeutic areas

- **4 Immuno-Oncology**: PCV in Ph 2; Triplet, IL-12, KRAS in Ph 1
- **6 Rare Diseases**: PA, MMA in Ph 1; GSD1a, PKU, CN-1, CF in preclinical
- **2 Cardiovascular Diseases**: VEGF in Phase 2; Relaxin in preclinical
- **2 Autoimmune Diseases**: IL-2 in Ph 1; PD-L1 in preclinical

Foundations

~2,400
employees

Science 2021 TOP EMPLOYER

7th
Consecutive year top employer by *Science*

12 commercial
subsidiaries across North America, Europe and Asia Pacific

$15B
of cash and investments (unaudited)[1]

1. As of September 30, 2021; Cash and investments denotes cash, cash equivalents and investments

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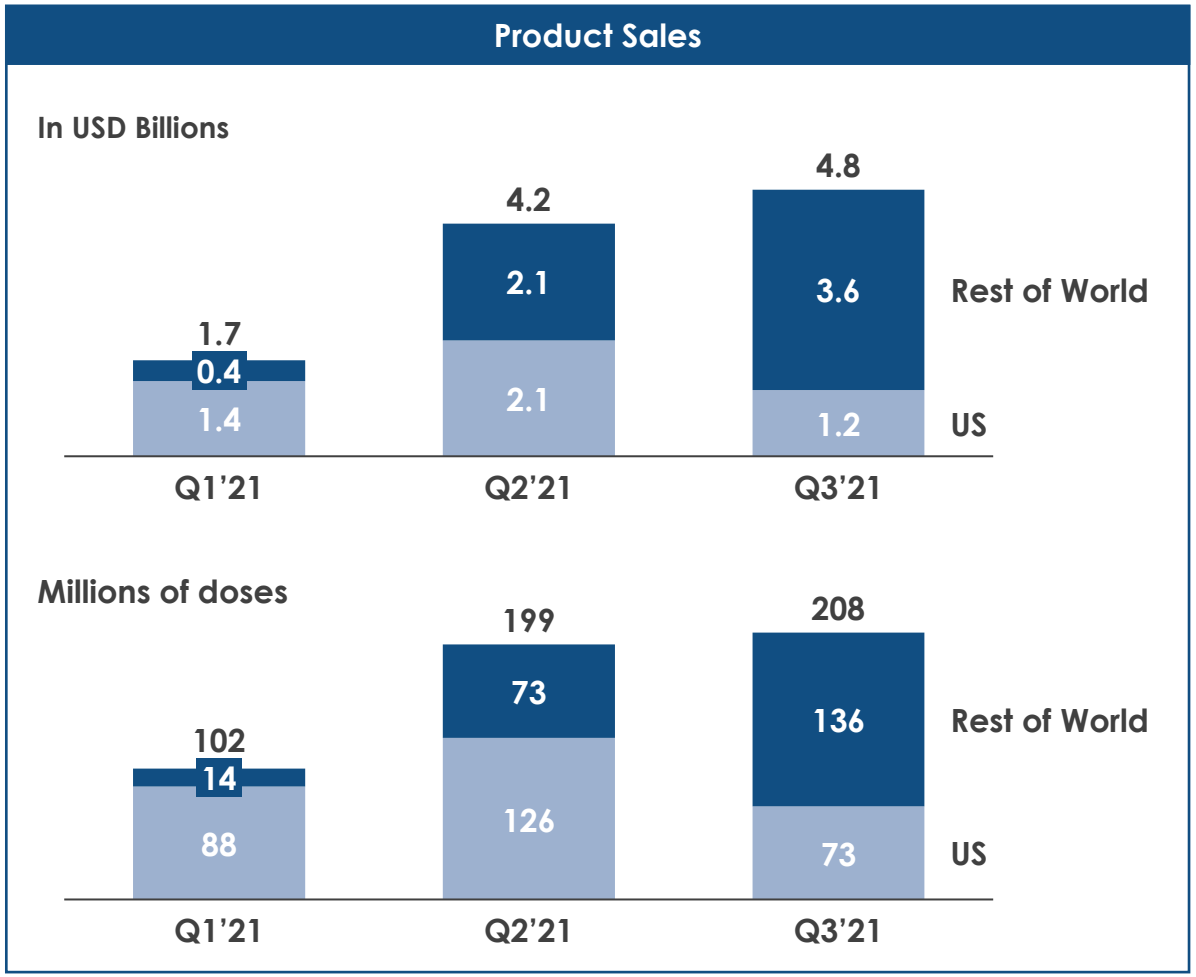
Third quarter 2021 update on product sales

$4.8B in Product Sales, 208M doses delivered



- **Q3'21 Product Sales of $4.8B**
  - **$1.2B US,** completed delivery of 300M doses to USG
  - **$3.6B Rest of World,** including EU, Canada, Japan, Switzerland, United Kingdom, Australia, Singapore, Qatar, Philippines, Taiwan, South Korea, Saudi Arabia, Colombia, UAE, Israel and Brunei

- **208M doses delivered in Q3'21**
  - 73M doses delivered to US Government
  - 136M doses delivered to Rest of World

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Third quarter 2021 financial results

In $ millions, except per share amounts (unaudited)	Q3 2021	Q2 2021	Q3 2020	QoQ Change (Q3'21 vs. Q2'21)	QoQ Change (Q3'21 vs. Q2'21)
Product sales[1]	**$ 4,810**	**$ 4,197**	**$ —**	**$ 613**	**15 %**
Grant revenue	140	139	145	1	1 %
Collaboration revenue	19	18	12	1	6 %
Total revenue	**4,969**	**4,354**	**157**	**615**	**14 %**
Cost of sales	722	750	—	(28)	(4)%
Research and development	521	421	344	100	24 %
Selling, general and administrative	168	121	48	47	39 %
Total operating expenses	**1,411**	**1,292**	**392**	**119**	**9 %**
Income (loss) from operations	**3,558**	**3,062**	**(235)**	**496**	**16 %**
Other (expense) income	(6)	1	3	(7)	NM
Provision for income taxes	219	283	1	(64)	(23)%
Net income (loss)	**$ 3,333**	**$ 2,780**	**$ (233)**	**$ 553**	**20 %**
Earnings (loss) per share – Diluted	$ 7.70	$ 6.46	$ (0.59)	$ 1.24	19 %
Weighted average shares – Diluted[2]	434	431	395	3	1 %
Weighted average shares – Basic[2]	404	402	395	2	— %
Effective tax rate	6 %	9 %	— %		

1. In December 2020, we began to recognize product sales from sales of our COVID-19 vaccine to the U.S Government and international governments
2. We generated a net loss in Q3 2020, therefore the basic and diluted weighted average shares calculation was the same

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Year-to-date 2021 financial results

In $ millions, except per share amounts (unaudited)	2021 YTD ended 9/30/21	2020 YTD ended 9/30/20	YoY Change	YoY Change
Product sales[1]	**$ 10,740**	**$ —**	**$ 10,740**	**NM**
Grant revenue[2]	473	187	286	153 %
Collaboration revenue	47	45	2	4 %
Total revenue	**11,260**	**232**	**11,028**	**4,753 %**
Cost of sales	1,665	—	1,665	NM
Research and development	1,343	611	732	120 %
Selling, general and administrative	366	109	257	236 %
Total operating expenses	**3,374**	**720**	**2,654**	**369 %**
Income (loss) from operations	**7,886**	**(488)**	**8,374**	**1,716 %**
Other (expense) income	(11)	15	(26)	(173)%
Provision for income taxes	541	1	540	NM
Net income (loss)	**$ 7,334**	**$ (474)**	**$ 7,808**	**1,647 %**
Earnings (loss) per share – Diluted	$ 17.00	$ (1.26)	$ 18.26	NM
Weighted average shares – Diluted[3]	431	376	55	15 %
Weighted average shares – Basic[3]	402	376	26	7 %
Effective tax rate	7 %	— %		

1. In December 2020, we began to recognize product sales from sales of our COVID-19 vaccine to the U.S Government and international governments
2. Grant revenue increased in 2021, primarily related to the BARDA Agreement to accelerate development of our COVID-19 vaccine (MRNA-1273)
3. We generated a net loss in Q3 2020, therefore the basic and diluted weighted average shares calculation was the same

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Cash and selected cash flow information

Balance Sheet Data	September 30, 2021 *(unaudited)*	June 30, 2021 *(unaudited)*	December 31, 2020
Cash, cash equivalents and investments	$15.3 billion	$12.2 billion	$5.2 billion

Statements of Cash Flows Data	2021 YTD ended 9/30/21 *(unaudited)*	Q3 2021 *(unaudited)*	Q2 2021 *(unaudited)*	2020 YTD ended 9/30/20 *(unaudited)*
Net cash provided by operating activities	$10,310 M	$3,276 M	$4,063 M	$763 M
Cash used for purchases of property and equipment	$(164) M	$(99) M	$(30) M	$(44) M
Total	**$10,146 M**	**$3,177 M**	**$4,033 M**	**$719 M**

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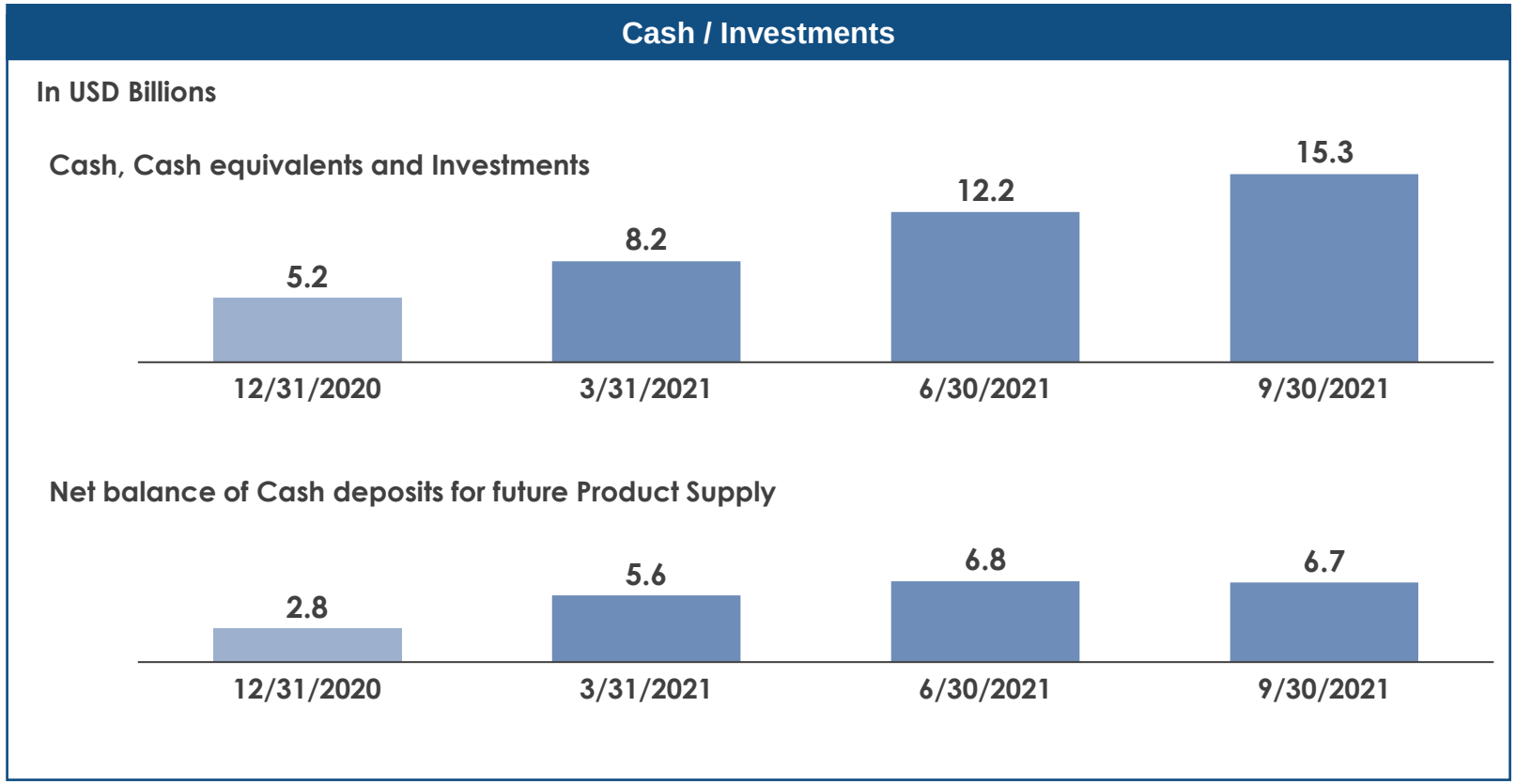
Cash/ investments and cash deposits



- Cash, Cash equivalents and Investments as of September 30, 2021 at $15.3B, up from $12.2B as of June 30, 2021
- Net balance of Cash deposits for future Product Supply as of September 30, 2021 at $6.7B, at a similar level to the previous quarter

Cash and investments increased further driven by commercial activities

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2021 updated financial framework

Sales and Dose Volume	▪ **FY 2021 Sales: Expect product sales range between $15-$18 billion** ▪ **FY 2021 dose capacity: approximately 700 million to 800 million doses (at 100µg / dose)**
Cost of sales	▪ **We now expect Full year 2021 reported cost of sales between 16% -17% of product sales**
R&D and SG&A Expenses	▪ **We continue to expect quarter over quarter cost increases in 2021** as commercial activities, research and development activities and expenses ramp up
Tax rate	▪ **For 2021 we now expect the effective tax rate to be in the high single digit range** as a result of the expected global sales mix, the utilization of the accumulated net operating loss carry-forwards ($2.3B as of Dec 31, 2020) and discrete benefits recorded year-to-date
Capital Expenditures	▪ **We now expect approximately $0.4B of capital investments in 2021**

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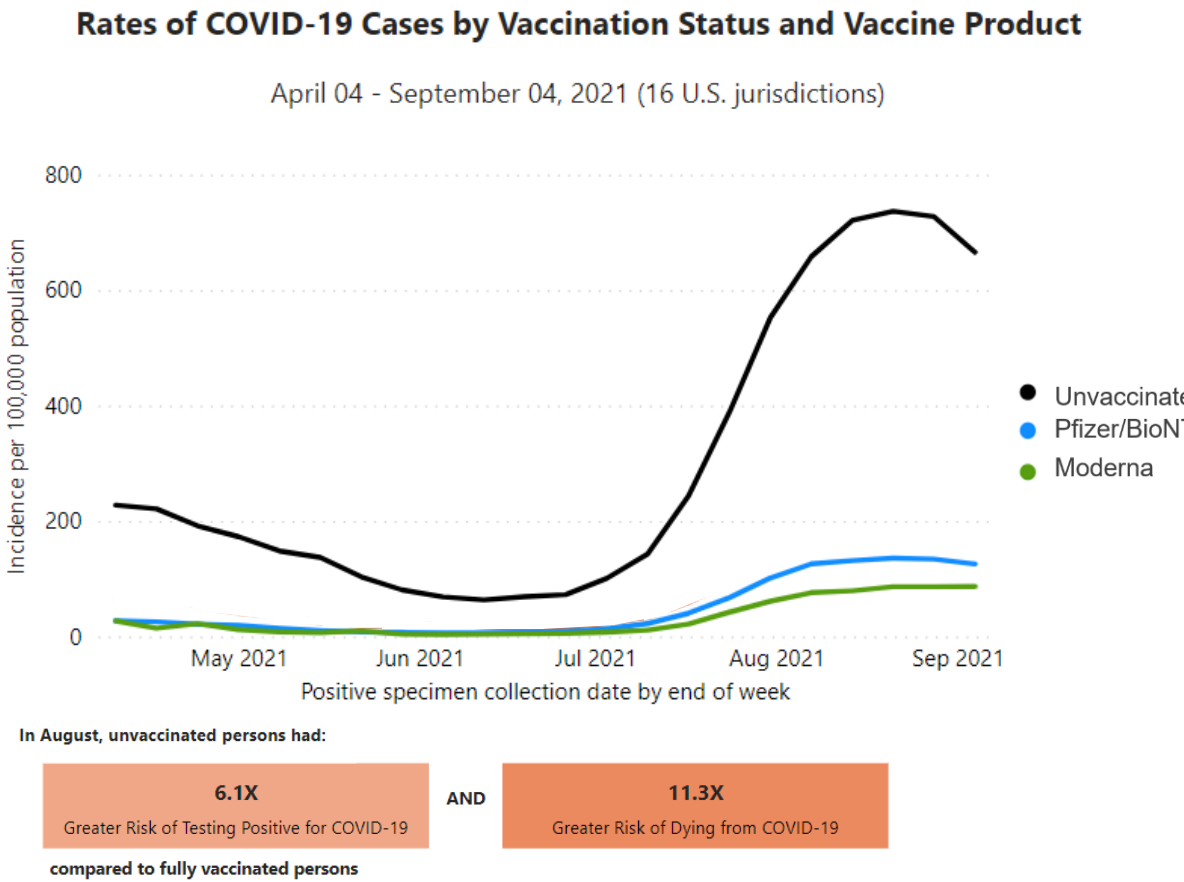
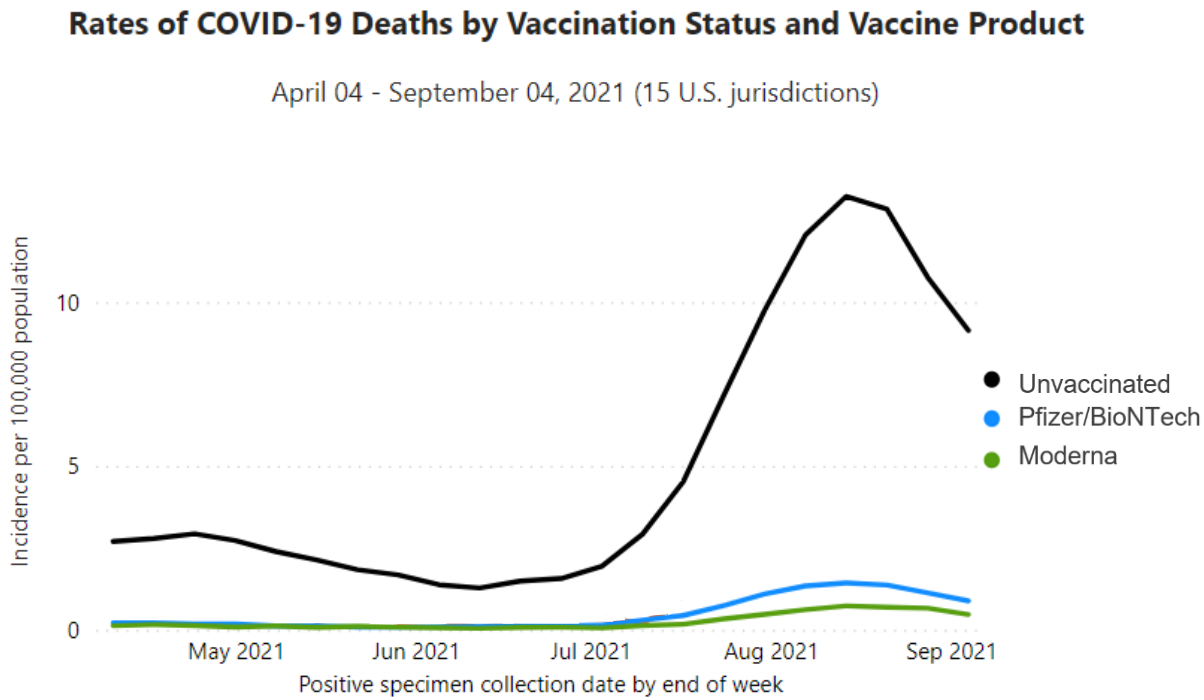
Government reports show mRNA-1273's high effectiveness of reducing COVID-19 infection and death





These are not head-to-head randomized trials designed to compare the vaccines.
https://covid.cdc.gov/covid-data-tracker/#rates-by-vaccine-status

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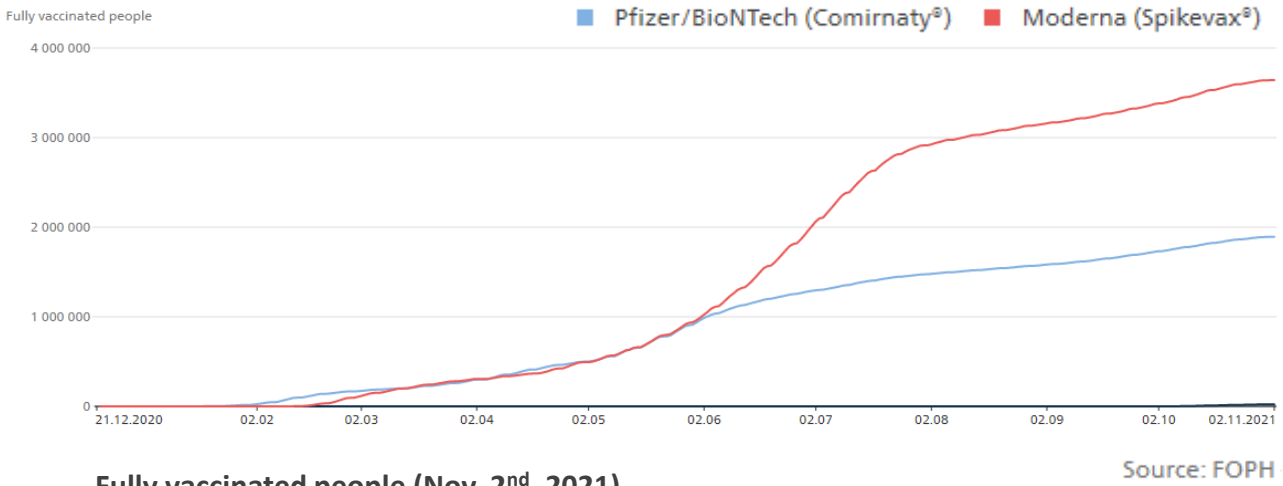
Government reports show mRNA-1273's high effectiveness of reducing COVID-19 infection, hospitalization and death

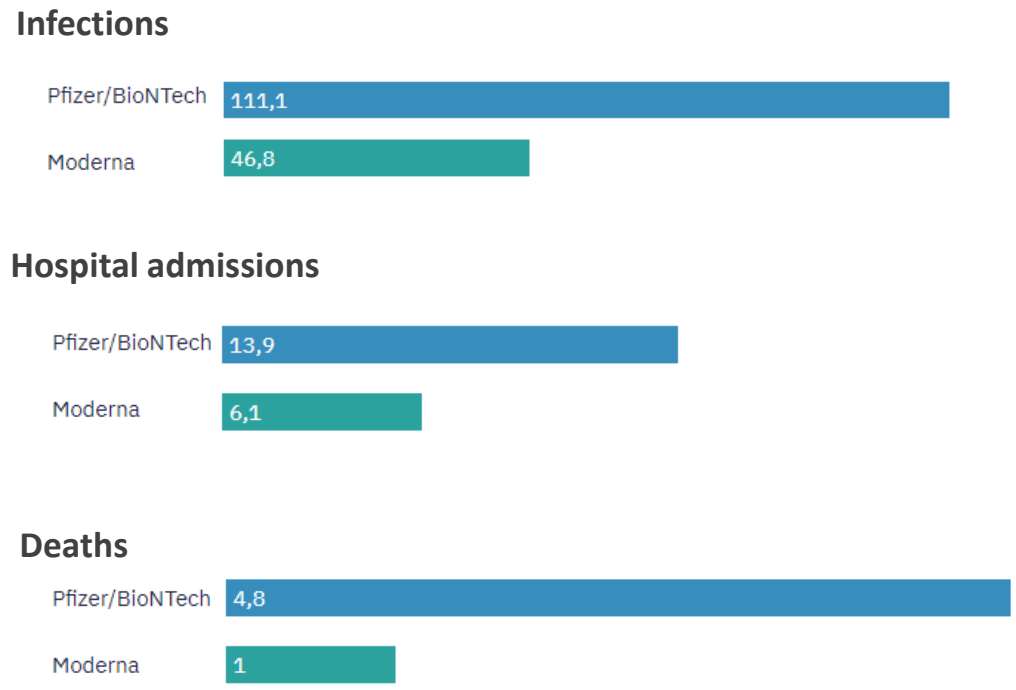
Fully vaccinated people, Switzerland and Liechtenstein
Dec. 21st, 2020 to Nov. 2nd, 2021



Fully vaccinated people (Nov. 2nd, 2021)
Moderna: 3.6M
Pfizer/BioNTech: 1.9M

Switzerland: Number of breakthroughs by vaccine type per 100,000

Updated: November 2, 2021



These are not head-to-head randomized trials designed to compare the vaccines.
https://interaktiv.tagesanzeiger.ch/2020/covid-19-ausbruch-im-vergleich/
https://www.covid19.admin.ch/en/vaccination/status?vaccStatusDevRel=rel

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Real world data shows mRNA-1273 is highly effective at reducing the risk of COVID-19 infection and hospitalization

Narranbhai et al., US, Iceland, South Korea; n=37.7 million individuals

Risk of breakthrough infection among BNT162b2 vaccinated individuals to mRNA-1273 RR (95% CI)

1.53 (1.52 to 1.55)

Risk of hospitalizations among BNT162b2 vaccinated individuals to mRNA-1273 RR (95% CI)

1.33 (1.24 to 1.42)

Risk of death among BNT162b2 vaccinated individuals to mRNA-1273 RR (95% CI)

1.13 (0.88 to 1.39)

Nordstrom et al., Sweden

Vaccine schedule	Fully adjusted vaccine effectiveness
BNT162b2/BNT162b2	78%
mRNA-1273/mRNA-1273	87%

"...the majority of confirmed Covid-19 cases in the present study were identified as the Delta (B.1.617.2) variant..."

These are not head-to-head randomized trials designed to compare the vaccines.

Naranbhai, Vivek, "Comparative immunogenicity and effectiveness of mRNA-1273, BNT162b2 and Ad26.COV2.S COVID-19 vaccines," https://pubmed.ncbi.nlm.nih.gov/34671780/; This data has been published on a preprint server and has yet to be peer reviewed in medical journals
Nordstrom, P et al., Lancet Reg Health Eur. 2021 Oct 18; https://doi.org/10.1016/j.lanepe.2021.100249

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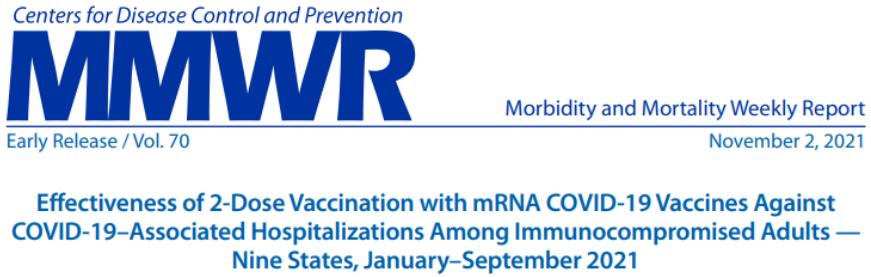
Real world data shows mRNA-1273 is highly effective at reducing the risk of COVID-19 infection in high-risk populations

Embi et al., CDC VISION: VE Against COVID-19 Hospitalization



Patient group	VE mRNA-1273	VE BNT162b2	Difference
Solid malignancy	85%	72%	13%
Hematological malignancy	85%	62%	23%
Rheumatic disorder	78%	78%	0%
Other immunodeficiency	81%	64%	17%
Organ or stem cell transplant	70%	45%	25%

These are not head-to-head randomized trials designed to compare the vaccines.
Embi et al., https://www.cdc.gov/mmwr/volumes/70/wr/pdfs/mm7044e3-H.pdf

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Myocarditis events observed in an analysis of 151 million individuals receiving mRNA-1273 in the Moderna Global Safety Database

Observed to expected rate ratio by age group

- Events of myocarditis occur very rarely
- Results are highly consistent with findings from other international databases, and almost identical to recent CDC analyses
- Myocarditis cases are typically mild and self-limiting

	mRNA-1273 Recipients	Observed Cases/million	Expected Cases/million	Ratio
All recipients				
All ages	151,170,178	9.5	21	0.45
<18[d] years	1,511,702	12	17	0.71
18–24[d] years	13,605,316	40	17	2.38
25–39[d] years	33,257,439	15	17	0.90
40–49 years	22,675,527	6	21	0.30
50–64 years	39,304,246	3	21	0.13
65–74 years	22,675,527	2	21	0.11
≥75 years	15,117,018	2	21	0.08

[d]Expected cases among females 12–39 years of age were adjusted for a lower prevalence to males by a factor of 1.73 based on presentation from the US CDC. Straus et al., manuscript submitted to MedRx webserver

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Analysis of 1.5 million individuals <18 years of age in the Moderna Global Safety Database does not identify an increase in the risk of myocarditis

- Higher expected rate in 18-24 years old males is consistent with other reported figures [1-3]

	mRNA-1273 Recipients	Observed Cases/million	Expected Cases/million	Ratio
Male recipients				
All ages	71,654,664	16	21	0.74
<18 years	716,547	22	21	1.05
18–24 years	6,448,920	74	21	3.49
Female recipients				
All ages	79,515,513	4	17	0.21
<18[d] years	795,155	2.5	12	0.21
18–24[d] years	7,156,396	9	12	0.73

[d]Expected cases among females 12–39 years of age were adjusted for a lower prevalence to males by a factor of 1.73 based on presentation from the US CDC. Straus et al., manuscript submitted to MedRx webserver

1. Hause A et al. https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-10-20-21/05-COVID-Hause-508.pdf
2. Su J et al. https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-10-20-21/07-COVID-Su-508.pdf
3. Klein N et al. https://www.cdc.gov/vaccines/acip/meetings/downloads/slides-2021-10-20-21/08-COVID-Klein-508.pdf

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Summary

- Government reports in the United States and Switzerland with high vaccination rates of Moderna's COVID-19 Vaccine show that mRNA-1273 is highly effective in reducing the risk of COVID-19 infections, breakthrough infections, hospitalizations and deaths
- Real world studies in millions of individuals show similar results
- Moderna's safety database of 151 million vaccinated individuals shows a level of myocarditis in males ages 18-24 that is consistent with analysis by CDC and others
- Moderna's safety database does not show an increased risk of myocarditis in 1.5 million individuals who are below 18 years old and vaccinated with Spikevax™

Today's Agenda

3Q21 Earnings Call

1. Business Review – Stéphane Bancel, CEO
2. Financials – David Meline, CFO
3. COVID-19 Vaccine Data Update – Paul Burton, M.D., Ph.D., CMO
4. **Clinical Program Review – Stephen Hoge, M.D., President**
5. Looking Forward – Stéphane Bancel, CEO

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Moderna COVID-19 Vaccine: **mRNA-1273 updates**

- U.S. FDA granted Priority Review to the Moderna COVID-19 Vaccine Biologics License Application (BLA)
- Received Emergency Use Authorization (EUA) from the U.S. FDA and the European Commission's approval for a booster dose of the Moderna COVID-19 vaccine at the 50 µg dose level
- Adolescent and pediatric COVE trials ongoing

TeenCove STUDY™

Adolescent COVID-19 Vaccine

- Authorized for adolescents in United Kingdom, European Union, Japan, Canada, Switzerland, Taiwan, Saudi Arabia, Australia and the Philippines
- Data submitted in United States and other countries

KidCove STUDY™

Pediatric COVID-19 Vaccine

- Positive topline data from oldest of the age groups in KidCove, the 6-11 year old cohort, showing that two 50 µg doses of mRNA-1273 were generally well tolerated and that the primary immunogenicity titers were met
- Plans to submit results soon to the EMA and regulatory agencies around the world
- Dose selection studies are still underway for 2 to <6 years old and 6 months to <2 years old

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KidCOVE P204 study: Efficacy data in children ages 6 to <12 years old after Dose 1 at 50 µg

Summary of Secondary Efficacy Endpoint Analysis Results
Starting 14 Days after Dose 1 in Part 2 (mITT1)

Endpoint	mRNA-1273 50 µg N=2678	Placebo N=878
P301 case definition of COVID-19		
Cases, n/N1 (%)	0/2672	13/877 (1.5)
Incidence rate per 1,000 person-years (95% CI)	0.000 (NE, 14.006)	152.027 (80.948, 259.970)
VE based on incidence rate (95% CI)	**1.000 (0.893, NE)**	
Asymptomatic SARS-CoV-2 infection		
Cases, n/N1 (%)	13/2672(0.5)	12/877 (1.4)
Incidence rate per 1,000 person-years (95% CI)	262.5 49.529 (26.372, 84.695)	141.625 (73.180, 247.390)
VE based on incidence rate (95% CI)	**0.650 (0.161, 0.853)**	
SARS-CoV-2 infection (regardless of symptoms)		
Cases, n/N1 (%)	16/2672 (0.6)	26/877 (3.0)
Incidence rate per 1,000 person-years (95% CI)	60.958 (34.843, 98.992)	306.853 (200.447, 449.611)
VE based on incidence rate (95% CI)	**0.801 (0.615, 0.900)**	

mITT = modified intent-to-treat; N1= number of participants at risk at 14 days after dose 1 for specific efficacy endpoint
Person-years is defined as the total years from the first injection date for Part 1 and the randomization date for Part 2 to the date of event) last date of study participation, or efficacy data cutoff date, whichever is the earliest; Incidence rate is defined as the number of participants with an event divided by the number of participants at risk and adjusted by person-years (total time at risk) in each treatment group; VE, defined as 1 - ratio of incidence rate (mRNA-1273 vs. placebo).

COVID-19 Vaccine: **Variant-specific and next generation COVID-19 vaccine updates**

Variant-specific COVID-19 vaccines

- Four development candidates against variants of concern
- Multivalent candidates are part of strategy to predict future variants

Next generation COVID-19 Vaccine

- mRNA-1283 Phase 1 ongoing
- Interim analysis of Phase 1 data at three dose levels indicate that a lower dose of mRNA-1283 achieved similar neutralizing antibody responses compared to a primary series of mRNA-1273; mRNA-1283 had an acceptable tolerability profile
- A Phase 2 dose ranging study utilizing even lower doses of mRNA-1283 will be assessed soon in a booster study

Continuing to advance and invest in COVID-19 vaccine programs

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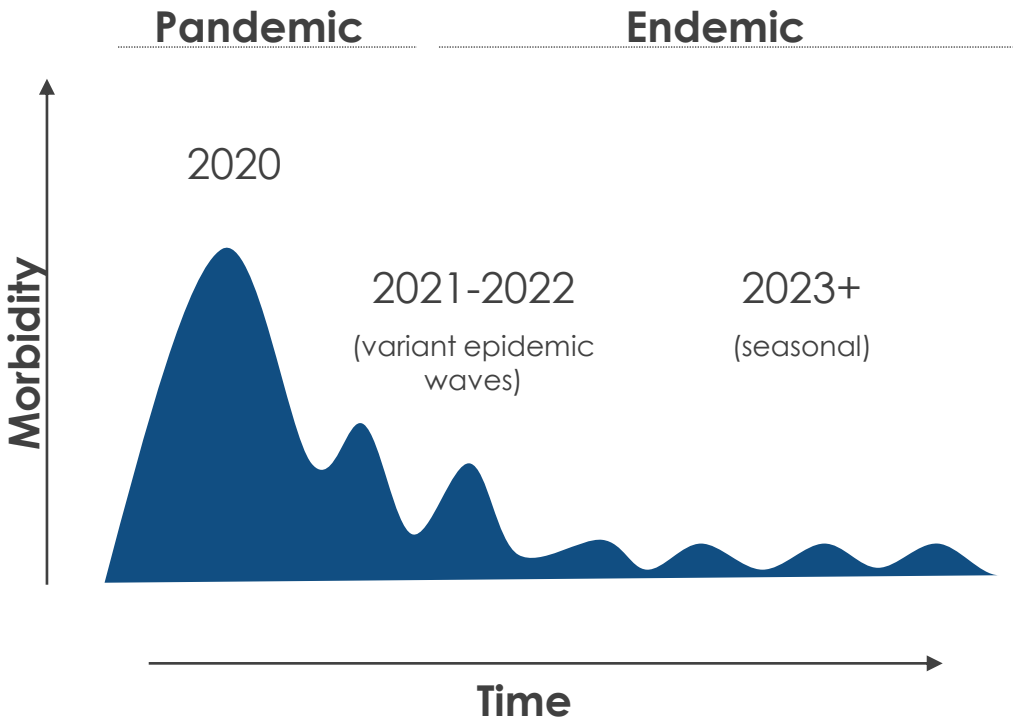
SARS-CoV-2 is following the evolution of other respiratory viruses

ILLUSTRATIVE



Stage	Focus for vaccines
Pandemic *Initial waves*	• Heavy focus on protecting high-risk populations • Mostly ancestral virus vaccine
Variant epidemics *Reinfection waves*	• Focus to suppressing transmission of variants • Speed & adaptability are critical
Endemic *Seasonal*	• Focus on seasonal protection against waning immunity in high-risk and older adults (e.g., 65+)

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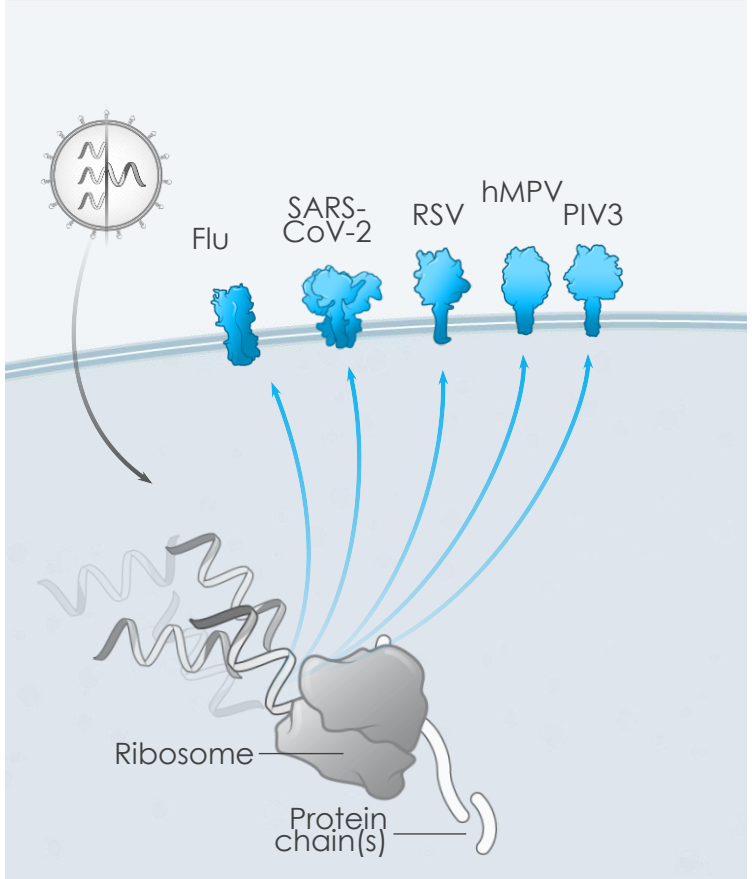
Ongoing respiratory vaccine trials



- **Flu**: Phase 1 trial of seasonal quadrivalent flu vaccine (mRNA-1010) is fully enrolled
- **RSV**: Positive interim Phase 1 data announced at R&D Day on September 9th
  - Phase 1 pediatric and adult vaccine trials are ongoing
  - Pivotal Phase 2/3 in older adults expected to start in 2021
- **hMPV/PIV3**: Phase 1b trial is currently enrolling in toddlers

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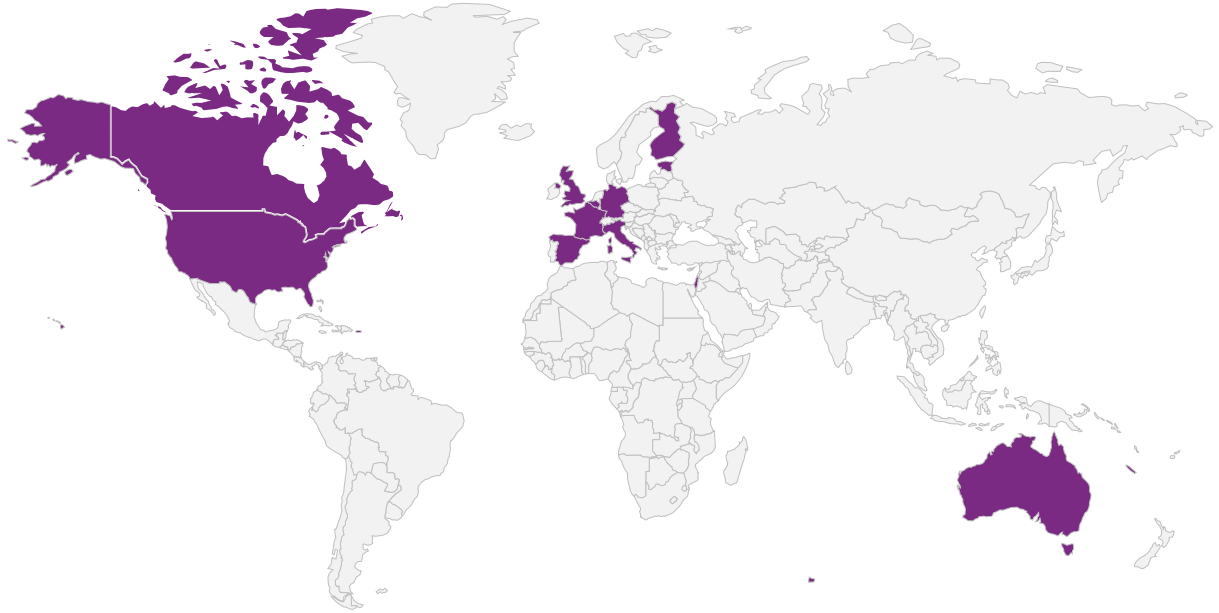
First participant dosed in Phase 3 Study of our CMV Vaccine

- Phase 3 study will evaluate the **safety and efficacy** of mRNA-1647 against primary CMV infection in women ages 16-40 years
- Pivotal Phase 3 trial will test the **100 µg dose level**
- Expected enrollment of up to **~8,000** participants, **including 6,900 women of childbearing age**, from approximately **150 sites globally**, beginning in the U.S.

CMVictory

U.S. Enrollment Targets Based on Demographic Composition	Target
White, non-Hispanic	58%
Hispanic or Latinx	23%
Black or African American	12%
Asian	4%
Others	3%
White	**58%**
Persons of Color	**42%**



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Advancing mRNA therapeutics

Eight programs with ongoing clinical trials

Modalities	Cancer vaccines	Intratumoral immuno-oncology	Localized regenerative therapeutics	Systemic secreted & cell surface therapeutics	Systemic intracellular therapeutics	Inhaled pulmonary therapeutics
Programs	• **PCV** in Phase 1 and Phase 2 (Merck) • **KRAS** in Phase 1 (Merck) • **Triplet** in Phase 1 • **IL-12** in Phase 1 (AstraZeneca)	• **VEGF** in Phase 2 (AstraZeneca) • **Relaxin** in preclinical	• **IL-2** in Phase 1 • **PD-L1** in preclinical		• **PA** in Phase 1 • **MMA** in Phase 1 • **GSD1a** in preclinical (open IND) • **PKU** in preclinical • **CN-1** in preclinical • **CF** in preclinical	
Therapeutic Area	**Oncology**	**Cardiovascular**	**Autoimmune**	**Rare Diseases**		

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Vertex collaborations to address Cystic Fibrosis

Two parallel approaches to addressing the unmet need

(Approximately 10% of Cystic Fibrosis patients are not addressable with a CFTR modulator)

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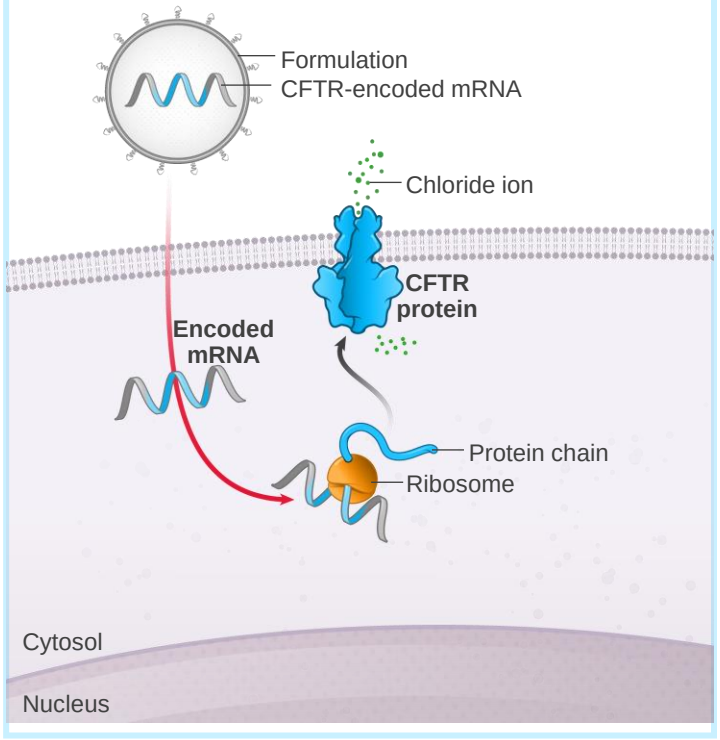
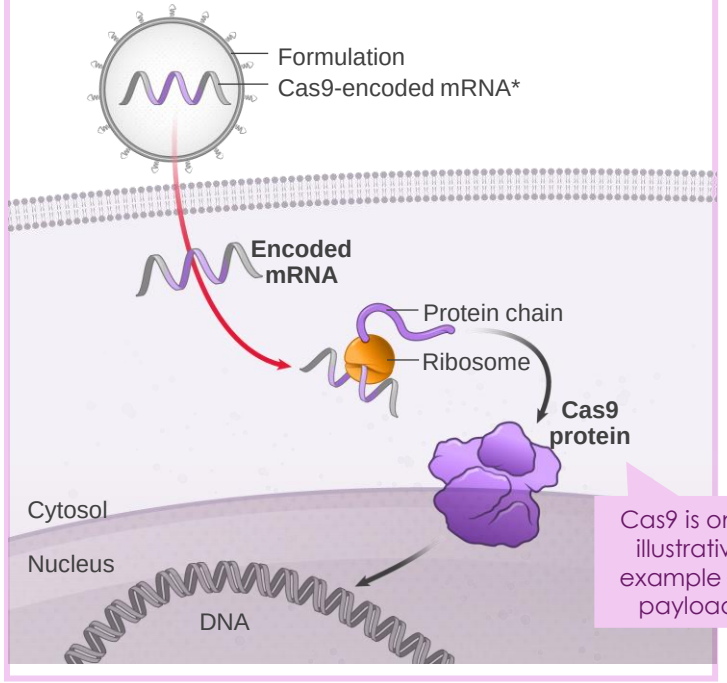
Collaboration: mRNA for CFTR



Collaboration: mRNA for gene therapy



★ *Update today*

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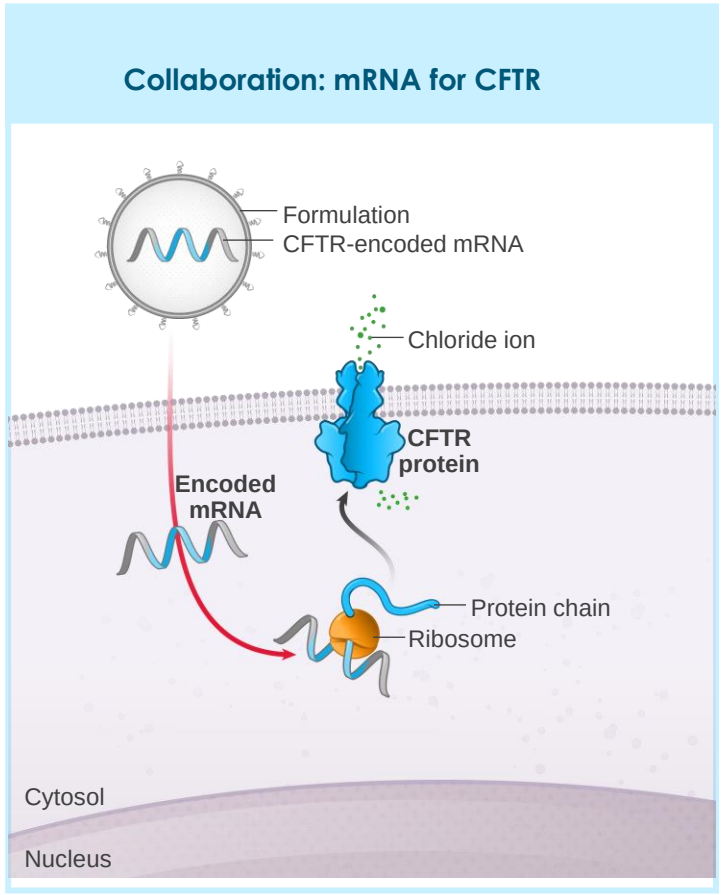
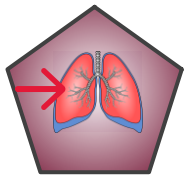
mRNA for CFTR collaboration expected to submit IND in 2022



- Collaboration to evaluate CF mRNA therapeutics designed to treat the underlying cause of CF by enabling cells in the lungs to produce functional cystic fibrosis transmembrane conductance regulator (CFTR) protein for the treatment of the 10% of patients who do not produce any CFTR protein
- IND-enabling studies are underway and Vertex expects to submit an IND for this program in 2022



New modality: Inhaled pulmonary therapeutics

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Moderna's Respiratory Vaccines (Pipeline 1/3)

Modality	Program	ID #	Preclinical development	Phase 1	Phase 2	Phase 3	Commercial	Moderna rights
Adults	COVID-19 vaccine	**mRNA-1273**						Worldwide
		mRNA-1273.351	Beta variant					Worldwide
		mRNA-1273.617	Delta variant					Worldwide
		mRNA-1273.211	Beta variant + wild-type					Worldwide
		mRNA-1273.213	Beta + Delta variant					Worldwide
		mRNA-1283	Next generation (2-5 °C)					Worldwide
	Flu vaccine	**mRNA-1010**	Phase 1/2		Phase 2/3 prep			Worldwide
		mRNA-1020						Worldwide
		mRNA-1030						Worldwide
Prophylactic vaccines	COVID + Flu vaccine	**mRNA-1073**	mRNA-1273 + mRNA-1010					Worldwide
	Older adults RSV vaccine	**mRNA-1345**			Phase 2/3 prep			Worldwide
Adolescents & Pediatrics	COVID-19 vaccine (adolescents)	**mRNA-1273**	TeenCOVE					Worldwide
	COVID-19 vaccine (pediatrics)	**mRNA-1273**	KidCOVE					Worldwide
	Pediatric RSV vaccine	**mRNA-1345**	Phase 1b					Worldwide
	Pediatric hMPV + PIV3 vaccine	**mRNA-1653**						Worldwide
	Pediatric RSV + hMPV vaccine	**mRNA-1365**						Worldwide

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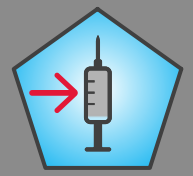
Moderna's Latent & Other Vaccines (Pipeline 2/3)

Modality	Program	ID #	Preclinical development	Phase 1	Phase 2	Phase 3	Commercial	Moderna rights
Latent vaccines  Prophylactic vaccines	CMV vaccine	**mRNA-1647**						Worldwide
	EBV prophylactic vaccine	**mRNA-1189**						Worldwide
	EBV therapeutic vaccine	**mRNA-1195**						Worldwide
	HIV vaccine	**mRNA-1644**	Open IND					Worldwide ***IAVI/others*** *funded*
		mRNA-1574						Worldwide ***BMGF/NIAID/ others*** *funded*
Other vaccines	Zika vaccine	**mRNA-1893**						Worldwide ***BARDA*** *funded*
	Nipah vaccine	**mRNA-1215**						Worldwide ***NIH*** *funded*

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Moderna's Therapeutics (Pipeline 3/3)

Modality	Program	ID #	Preclinical development	Phase 1	Phase 2	Phase 3	Commercial	Moderna rights
Systemic secreted & cell surface therapeutics	IL-2 *Autoimmune disorders*	**mRNA-6231**						Worldwide
	Relaxin *Heart failure*	**mRNA-0184**						Worldwide
	PD-L1 *Autoimmune hepatitis*	**mRNA-6981**						Worldwide
Cancer vaccines	Personalized cancer vaccine (PCV)	**mRNA-4157**						50-50 global profit sharing with **Merck**
	KRAS vaccine	**mRNA-5671**						50-50 global profit sharing with **Merck**
Intratumoral Immuno-oncology	OX40L/IL-23/IL-36γ (Triplet) *Solid tumors/lymphoma*	**mRNA-2752**						Worldwide
	IL-12 *Solid tumors*	**MEDI1191**						50-50 U.S. profit sharing; **AZ** to pay royalties on ex-U.S. sales
Localized Regenerative Therapeutics	VEGF-A *Myocardial ischemia*	**AZD8601**						**AZ** to pay milestones and royalties
	Propionic acidemia (PA)	**mRNA-3927**						Worldwide
	Methylmalonic acidemia (MMA)	**mRNA-3705**						Worldwide
Systemic Intracellular Therapeutics	Glycogen storage disease type 1a (GSD1a)	**mRNA-3745**	Open IND					Worldwide
	Phenylketonuria (PKU)	**mRNA-3283**						Worldwide
Inhaled Pulmonary Therapeutics	Crigler-Najjar syndrome type 1 (CN-1)	**mRNA-3351**						Provided to **ILCM** free of charge
	Cystic fibrosis (CF)	**VXc-522**						**Vertex** to pay milestones and royalties

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Moderna's strategic pillars

1	Bring to market a **pan-respiratory annual booster vaccine** (which we will continuously customize)
2	Bring to market **first-in-class vaccines for latent viruses**
3	Bring to market **therapeutics based on mRNA-encoded proteins**
4	Bring to market **therapeutics based on mRNA-encoded gene editing enzymes**

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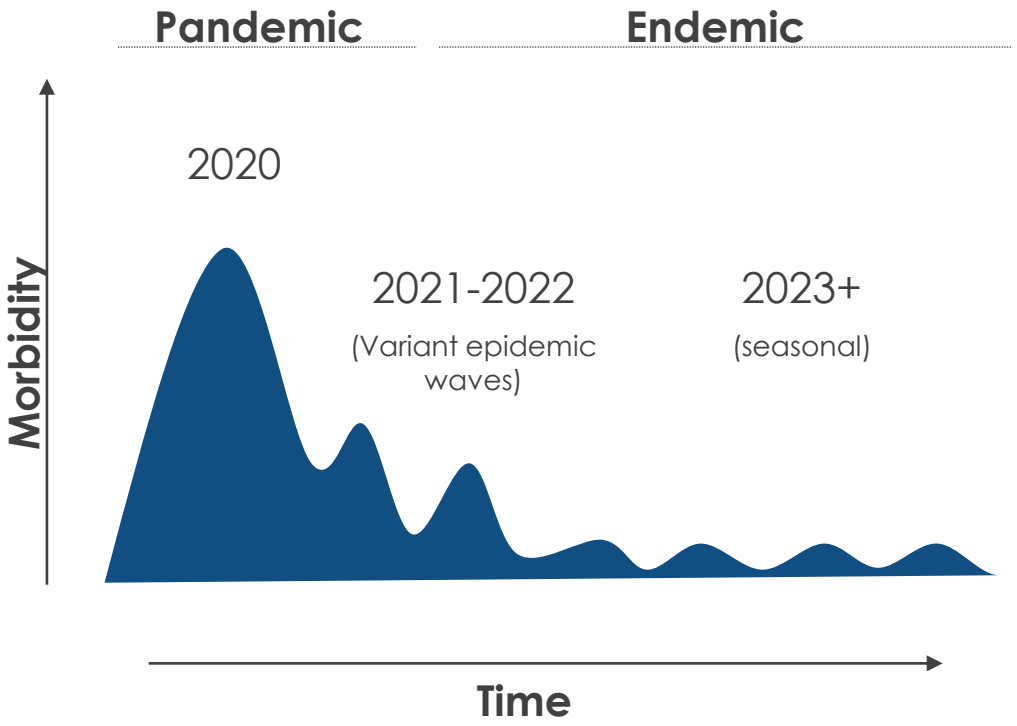
SARS-CoV-2 is following the evolution of other respiratory viruses

ILLUSTRATIVE



Stage	Focus for vaccines
Pandemic *Initial waves*	• Heavy focus on protecting high-risk populations • Mostly ancestral virus vaccine
Variant epidemics *Reinfection waves*	• Focus to suppressing transmission of variants • Speed & adaptability are critical
Endemic *Seasonal*	• Focus on seasonal protection against waning immunity in high-risk and older adults (e.g., 65+)

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We are actively preparing for different markets in 2022

COVID-19 market structure in 2022 by geography

	1H22	2H22
OECD countries	Pandemic	Endemic
LMIC	Pandemic	Pandemic

OECD: Organization for Economic Co-operation and Development
LMIC: Low-and-Middle Income Countries

Customer demands differ depending on pandemic and endemic market

- Presentation of product (number of doses for vial)
- Optimal booster for Fall 2022: Current booster or Variant specific or Multivalent?
- Temperature conditions for distribution

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2022 revenue drivers in a dynamic and evolving market

APAs signed:	$ 17 B
APAs with options:	up to $ 3 B
US Fall 2022 booster market*:	Up to $ 2 B
	$ 17 – 22 B

* Assumes a BLA or sBLA for booster prior to Fall boosting season

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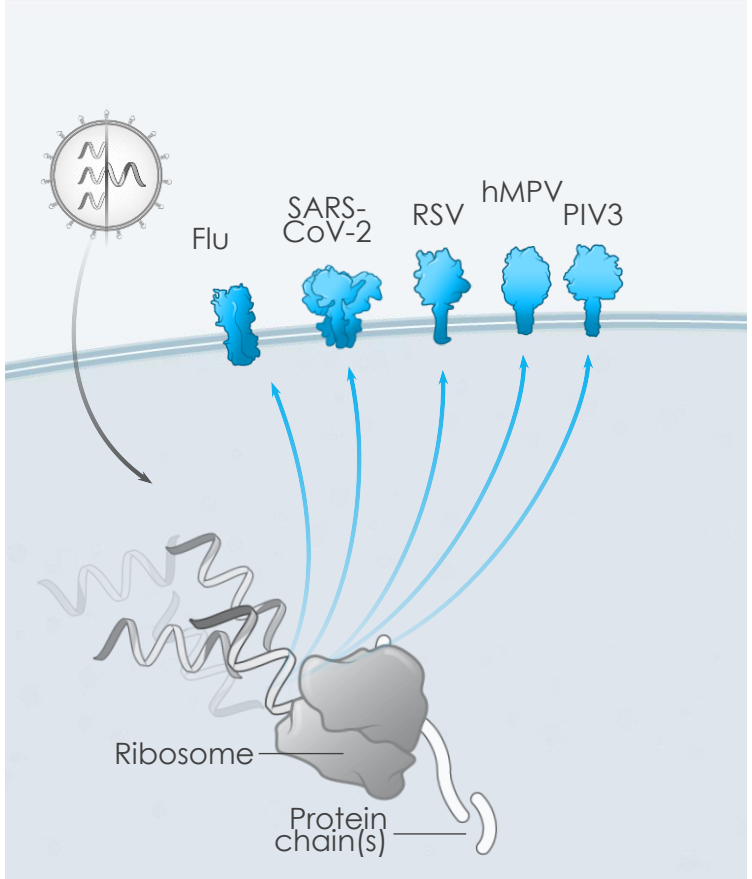
Respiratory vaccines: **Multiple programs advancing quickly**



- Moderna COVID-19 Vaccine
  - COVID primary series
  - Fall 2021 booster
  - Fall 2022 booster
  - COVID + Flu booster
  - COVID + Flu + RSV booster
- Quadrivalent seasonal flu vaccine Phase 1 data is coming soon (4Q '21)
- RSV older adults Phase 2/3 expected to start in 2021
- Pediatric RSV + hMPV in research

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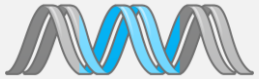
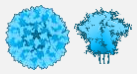
Latent viruses: **Cause acute infections and longer-term sequelae**



Disease Burden

CMV
mRNA-1647

EBV
mRNA-1189
mRNA-1195



HIV
mRNA-1644
mRNA-1574

- **Latent viruses are typically DNA viruses**
- **Acute infection from latent viruses:**
  - EBV is a major cause of infectious mononucleosis syndrome[1]
  - Acute CMV and HIV symptoms may also present as a mononucleosis-like illness
- **Long-term sequelae of latent virus infection:**
  - EBV infection has been implicated to increased risk of developing multiple sclerosis, is associated with certain lymphoproliferative disorders[1], higher risk of developing cancer/autoimmune diseases[2] and long COVID[3]
  - CMV infection is a major driver of immune dysfunction with aging, including cardiovascular diseases, cancer[4] and cognitive impairment[5]; CMV is also a significant cause of morbidity and mortality in transplant populations
  - Untreated HIV infection causes impairment of the immune system, leading to acquired immunodeficiency syndrome (AIDS)
- **We have vaccines in development against three latent viruses, with more on the way in the research labs…**
  - EBV prophylactic vaccine and EBV therapeutic vaccine in research
  - CMV started Phase 3
  - Two HIV experimental medicine preparing for Ph 1 studies to elicit bnAbs through iterative clinical trials

Our goal is to eliminate these viruses

1. Gequelin L et al. Rev Bras Hematol Hemoter (2011), https://doi.org/10.5581/1516-8484.20110103
2. Jacobs M et al. Mult Scler. (2020), https://doi.org/10.1177/1352458520907901
3. Saade A et al. Infect Dis Now (2021), https://doi.org/10.1016/j.idnow.2021.07.005;
4. Aiello A et al. GeroScience (2017), https://doi.org/10.1007/s11357-017-9983-9
5. Dickerson, F et al. Plos One (2014), https://doi.org/10.1371/journal.pone.0095510

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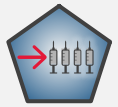
mRNA therapeutics: **Next steps on select programs**

Cancer vaccines 	▪ **PCV program** Phase 2 readout expected in 4Q22
Intratumoral immuno-oncology 	▪ **Triplet program** to share poster presentation at SITC[1] on November 12th
Localized regenerative therapeutics 	▪ AstraZeneca to present data from **VEGF-A program** on November 15th at AHA[2]
Systemic Intracellular Therapeutics 	▪ **PA/MMA programs** continued enrollment; data potentially in 2022 ▪ **GSD1a program** study site startup ongoing, to enroll first patient soon
Inhaled Pulmonary Therapeutics 	▪ Vertex recently shared **progress with partnered Cystic Fibrosis (CF) program**; IND expected to be submitted in 2022

1. https://sitc.sitcancer.org/2021/abstracts/titles/
2. https://professional.heart.org/en/meetings/scientific-sessions

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Metagenomi and Moderna: Collaboration to develop next-generation in vivo gene editing therapeutics

- Combining Metagenomi's next-generation CRISPR-based and other novel gene editing systems with our technology platform
- Metagenomi's discovery platform and expertise will expand Moderna Genomics' (MGX) ongoing efforts to develop innovative *in vivo* gene editing therapies
- Multi-year research collaboration covering a series of undisclosed disease targets and options for Moderna

METAGENOMI

MGX vision is to be a leader in large, complex genomic editing and this is our first collaboration towards achieving this overall vision

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Moderna Mindsets

What are Moderna Mindsets?

- They are foundational elements of our organization.
- They are present in our daily work.
- They actively guide our behaviors and decisions.
- They make great outcomes possible.
- They are tools we will use to build the best version of Moderna.

We act with urgency. Action today compounds the lives saved tomorrow.

We pursue options in parallel to make the best choice later.

We accept risk as the only path to impact.

We obsess over learning. We don't have to be the smartest – we have to learn the fastest.

We pivot fearlessly in the face of new data.

We question convention because proven models don't always fuel the future.

We push past possible.

We behave like owners. The solutions we're building go beyond any job description.

We act with dynamic range driving strategy and execution at the same time and at every step.

We remove viscosity to encourage collective action.

We prioritize the platform over any single product.

We digitize everywhere possible, using the power of digital information to maximize our impact on patients.

https://www.modernatx.com/moderna-mindsets

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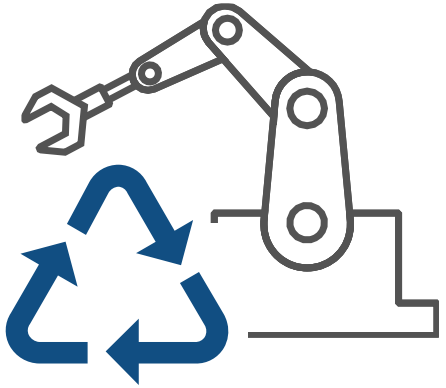
Pledge to achieve net-zero carbon emissions globally by 2030

- Committing to the **direct use of renewable energy in U.S. facilities beginning in 2021**
- **Investing in the new Moderna Science Center** at 325 Binney Street in Cambridge, Massachusetts
  - Designed to be the most sustainable commercial lab building in Cambridge
- **Incorporating sustainable design and construction elements into all new projects (Canada and Africa)**
- Will work with **our suppliers** to ensure that they also move to net-zero carbon
- **Subsidizing green transportation for our employees**



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Our mission

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

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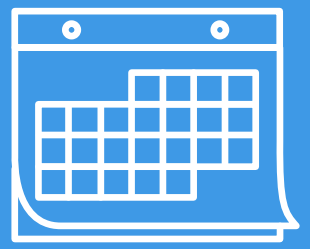

Save the Date
Events in 2022

Vaccines Day
March 24th

Science Day
May 17th

R&D Day
September 8th

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