



COVID-19 Vaccine Development Program

July 1, 2020

Breakthroughs that
change patients' lives

Disclaimer

- This presentation includes forward-looking statements about, among other things, Pfizer's efforts to combat COVID-19, Pfizer's Vaccine product candidates, including, among others, the BNT-162 COVID-19 vaccine program and its potential clinical benefits, planned clinical studies, manufacturing and distribution and the expected timing of clinical trials, that are subject to substantial risks and uncertainties that could cause actual results to differ materially from those expressed or implied by such statements.
- Additional information regarding these factors can be found in Pfizer's Annual Report on form 10-K for the fiscal year ended December 31, 2019 and in our subsequent reports on Form 10-Q, including in the sections thereof captioned "Risk Factors" and "Forward-Looking Information and Factors that May Affect Future Results," as well as in our subsequent reports on Form 8-K, all of which are filed with the US Securities and Exchange Commission (SEC) and available at www.sec.gov and www.pfizer.com, as well the joint press release of Pfizer and BioNTech, dated July 1, 2020.
- The forward-looking statements in this presentation speak only as of the original date of this presentation, and we undertake no obligation to update or revise any of these statements.



Mikael Dolsten, M.D., Ph.D.
Chief Scientific Officer and President, Worldwide
Research, Development, and Medical



Pfizer – BioNTech collaboration on vaccines

Pfizer and BioNTech began collaborating in 2018 to develop a vaccine for influenza and have now extended that collaboration to develop a vaccine for COVID-19

BioNTech has one of the industry's broadest technology toolkits including innovative mRNA technology and leading bioinformatics

Pfizer is a proven, reliable multi-national vaccine producer, which has supplied vaccines to more than 165 countries and distributed more than 1 billion doses of vaccines with unprecedented reliability

The collaboration combines BioNTech's leading mRNA platform with Pfizer's proven expertise across vaccine research and development, regulatory affairs, and global manufacturing and distribution



mRNA Vaccines: A novel approach with promising vaccine characteristics



mRNA vaccine technology uses the cell's own machinery to stimulate a potentially protective immune response through T cells and neutralizing antibodies

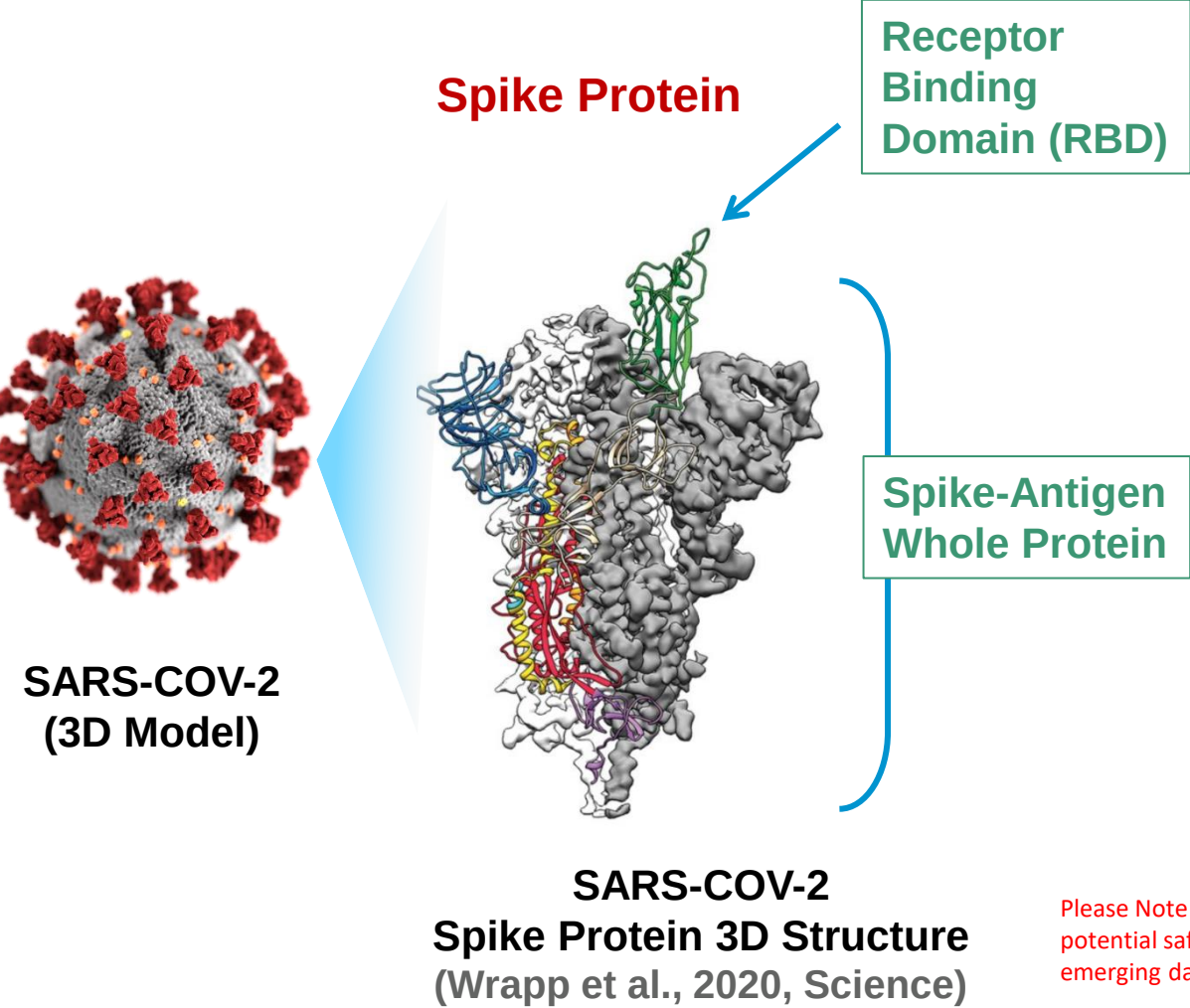
Safety: RNA vaccines are non-infectious and pose no known risk of insertional mutagenesis

Efficacy: RNA vaccines pose minimal risk of anti-vector immunity which permits boosting to help maximize the level and duration of immunity given protein-free lipid nanoparticles

Speed: BioNTech's mRNA vaccine technology is designed to enable rapid development and quick production scaling

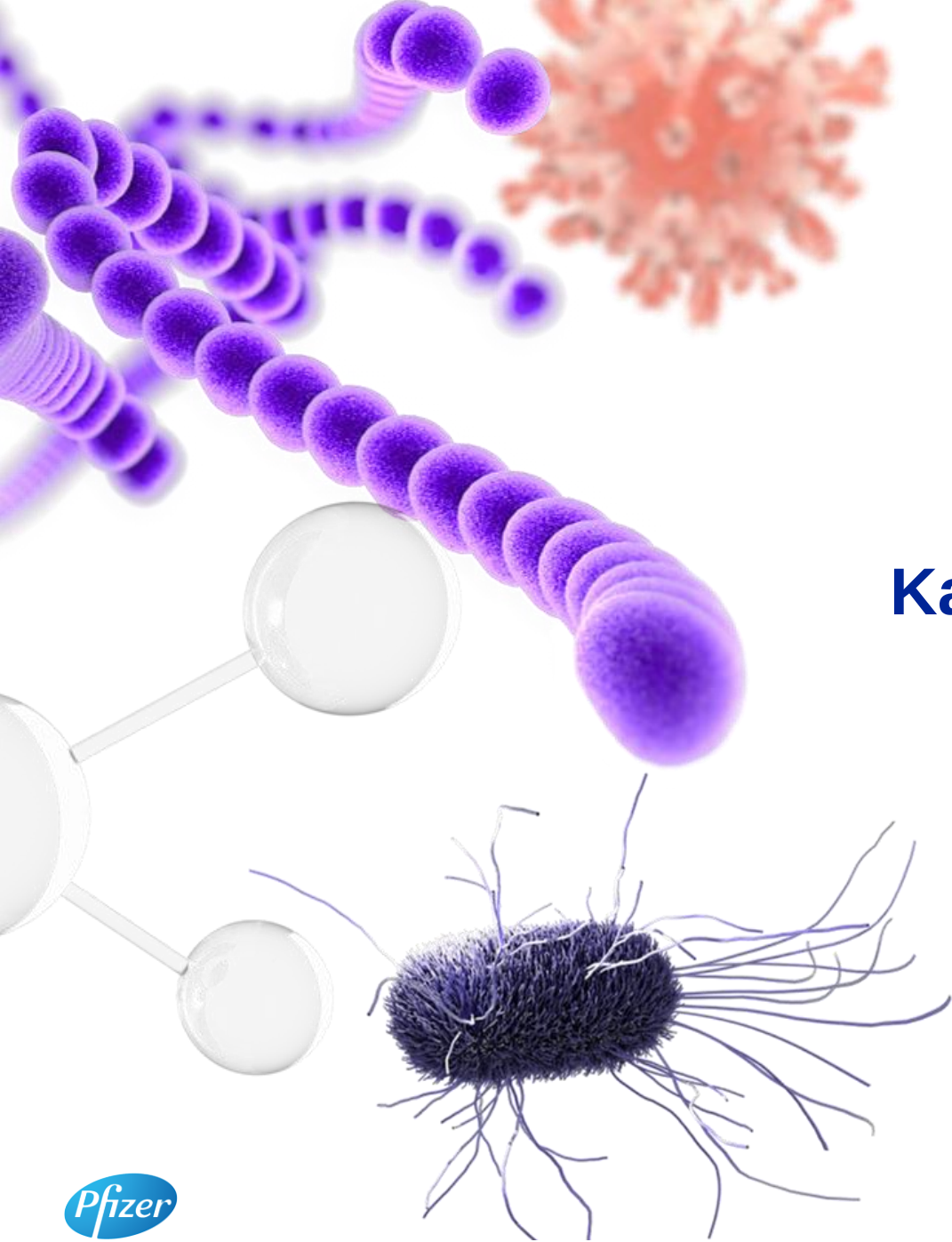
Please Note: The information contained in this document, including scientific approaches, assumptions regarding potential safety and efficacy, clinical trial and manufacturing plans and timing estimates, is subject to change based on emerging data, regulatory guidance, and manufacturing and technical developments, among other risks.

BNT162 mRNA vaccine program



Variant	Target	RNA construct	Immunization
162a1	RBD subunit	uRNA	prime/ boost
162b1	RBD subunit	modRNA	prime/ boost
162b2	P2-mutated full spike protein	modRNA	prime/ boost
162c2	P2-mutated full spike protein	saRNA	single injection

Please Note: The information contained in this document, including scientific approaches, assumptions regarding potential safety and efficacy, clinical trial and manufacturing plans and timing estimates, is subject to change based on emerging data, regulatory guidance, and manufacturing and technical developments, among other risks.

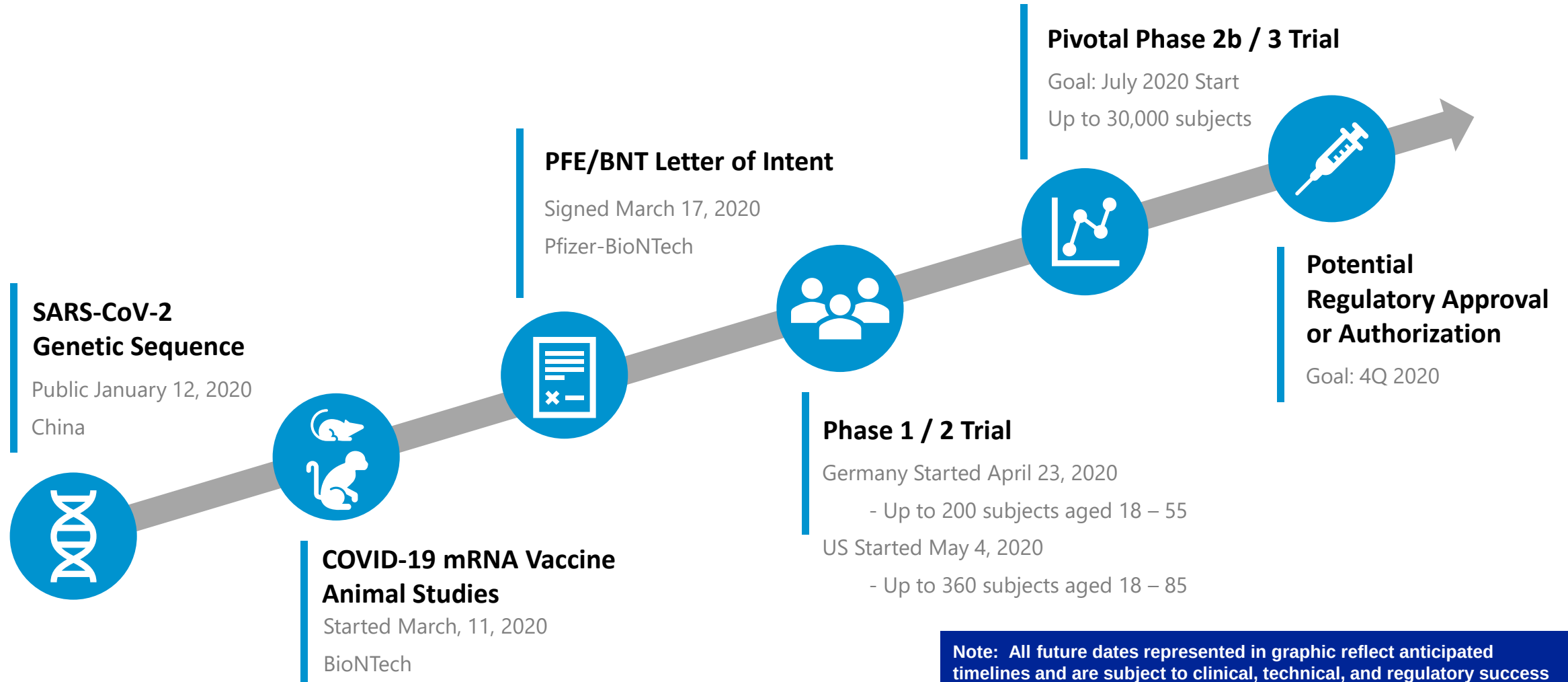


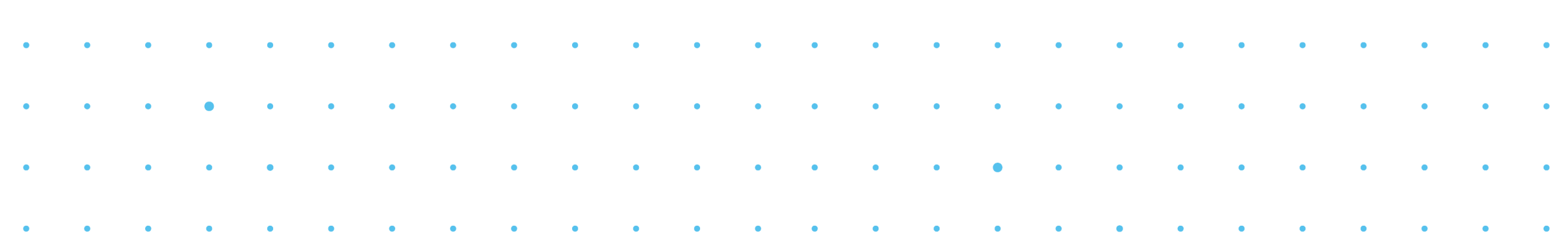
Kathrin Jansen, Ph.D.

Senior Vice President &
Head of Vaccine R&D



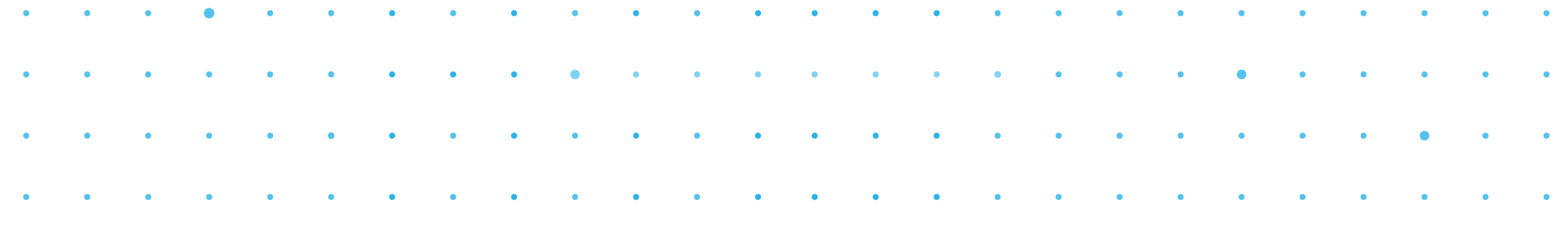
Rapid, ongoing vaccine development demonstrates strong clinical & regulatory expertise, necessary for potential Fall 2020 product availability





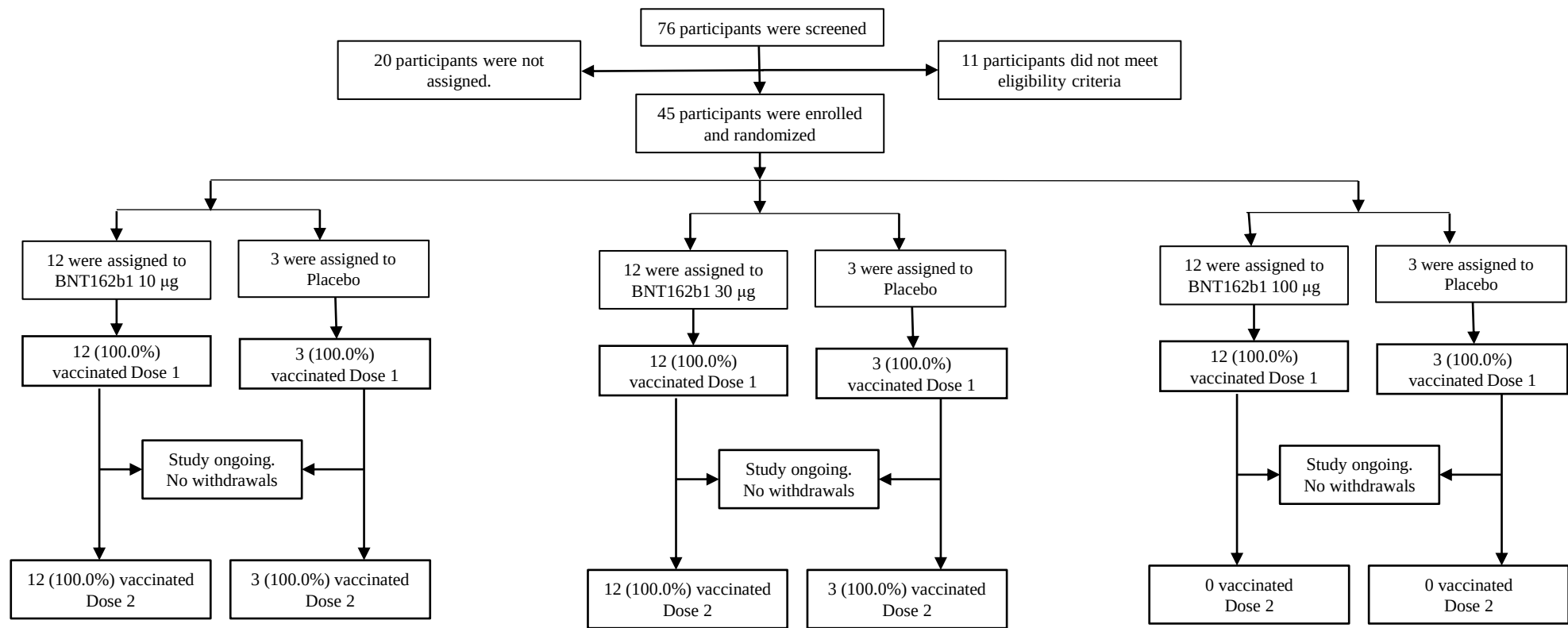
U.S. Phase 1/2 Study Design and Preliminary Results

BNT162b1 – Modified mRNA Vaccine



Twelve participants per dose level (10 µg and 30 µg), were vaccinated with BNT162b1 on Days 1 and 21 and 12 participants received a 100 µg dose on Day 1; 9 received placebo

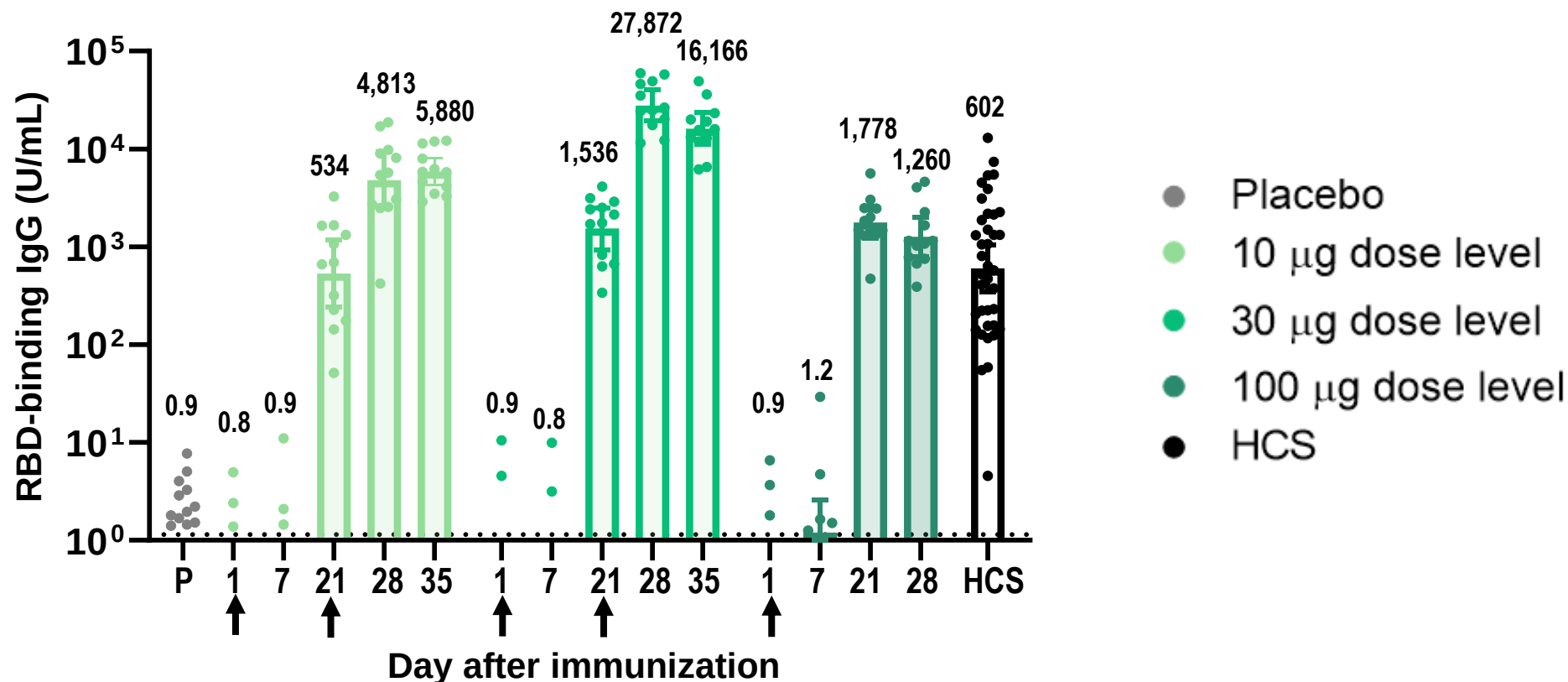
Between May 4, 2020 and June 19, 2020, 76 subjects were screened, and 45 participants were randomized and vaccinated



U.S. Phase 1/2 randomized, placebo-controlled, observer-blinded study is evaluating the safety, tolerability, and immunogenicity of escalating dose levels of BNT162b1.

In sera from the 30 µg and 100 µg dose level cohorts, RBD-Binding IgG GMCs were substantially higher than in the human convalescent serum panel

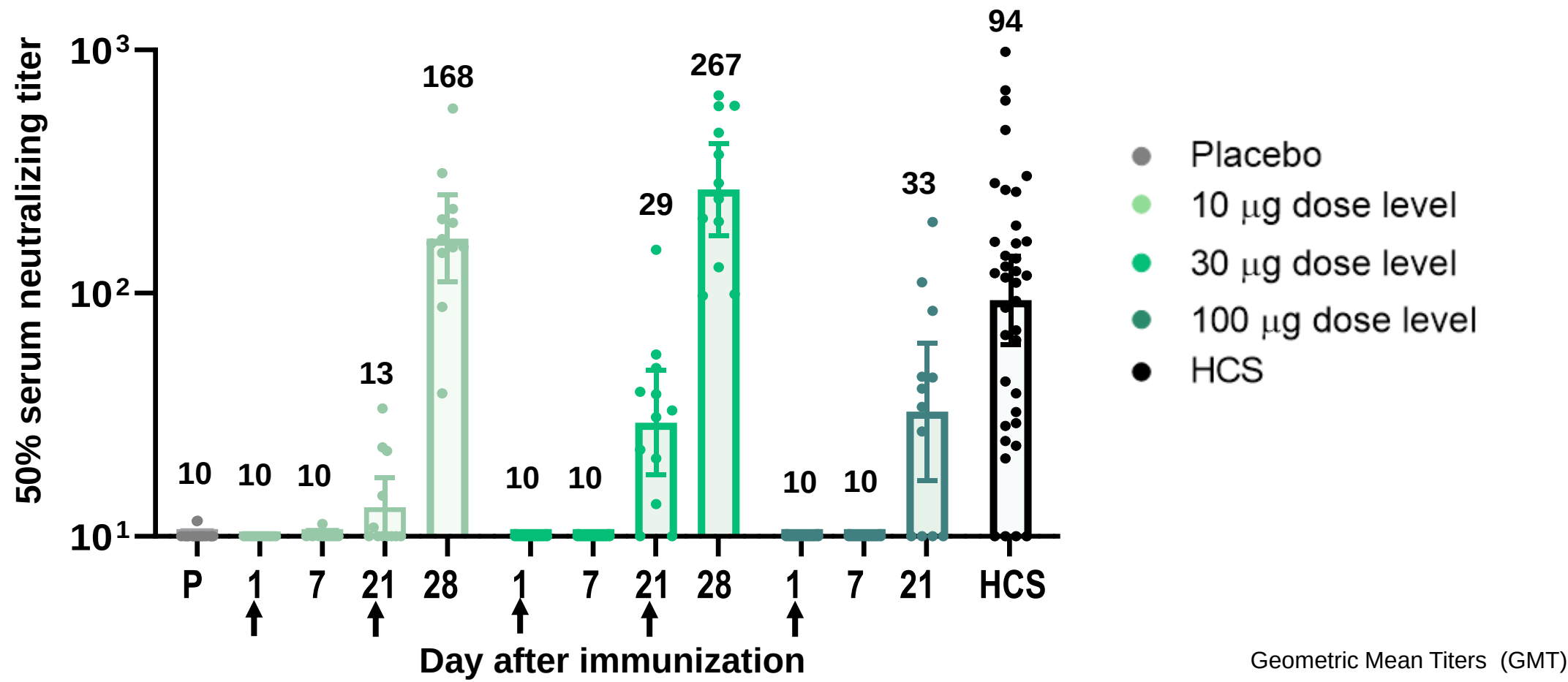
RBD-Binding IgG GMCs after 1 or 2 doses



Geometric Mean Concentrations (GMC)

Virus neutralizing GMTs after the 10 µg and 30 µg booster vaccinations (Dose 2) were higher than the neutralizing GMT of the human convalescent serum panel

SARS CoV2 50% Neutralizing Titers after 1 or 2 doses

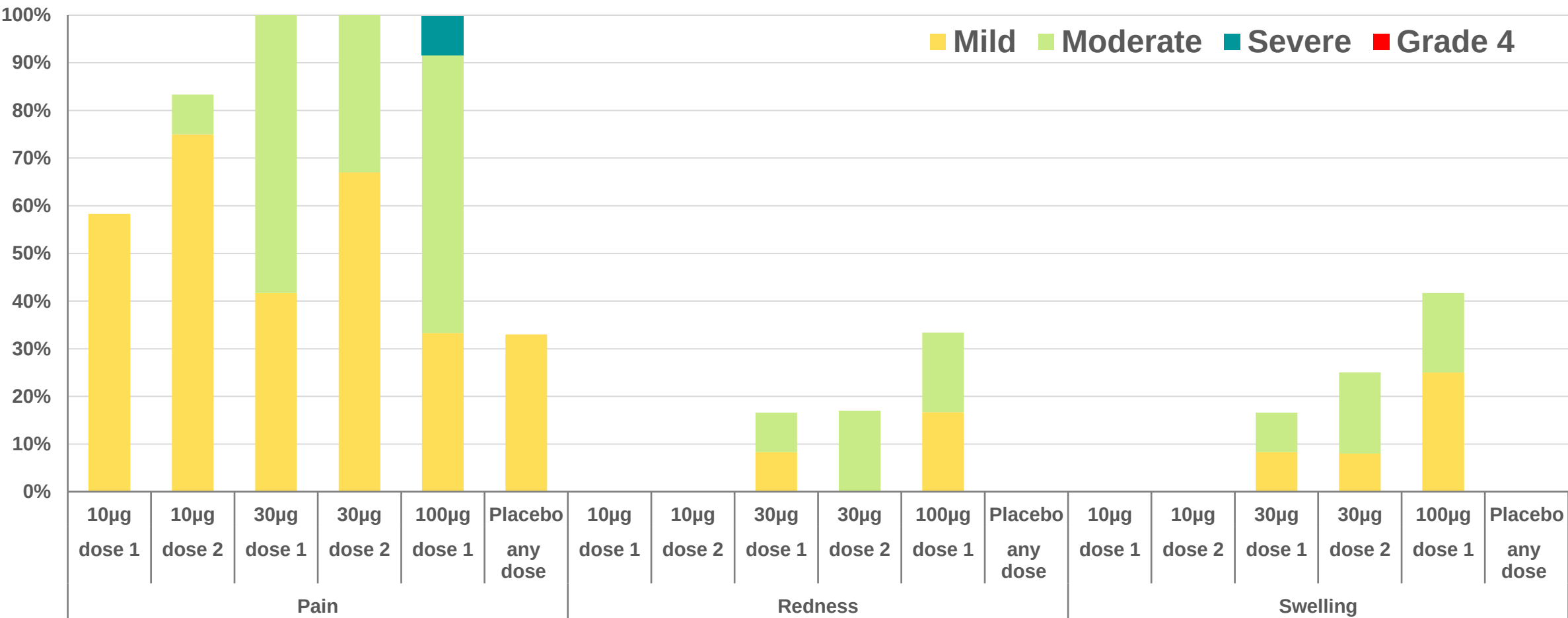


Breakthroughs that change patients' lives

Please Note: The information contained in this document, including scientific approaches, assumptions regarding potential safety and efficacy, clinical trial and manufacturing plans and timing estimates, is subject to change based on emerging data, regulatory guidance, and manufacturing and technical developments, among other risks.

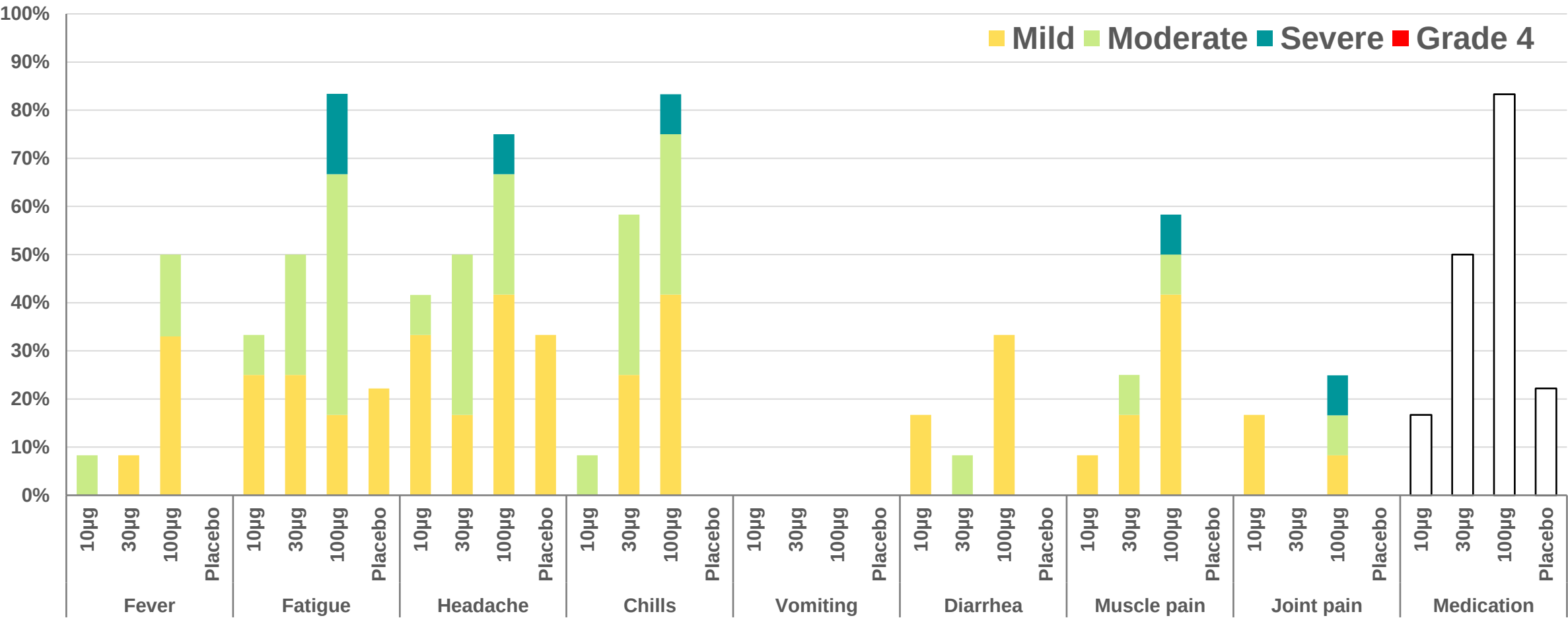
Local reactions with BNT162b1 in healthy adults (18-55 yrs)

Reported within 7 days after Vaccinations 1 (10µg, 30µg , 100µg) and 2 (10µg , 30µg)



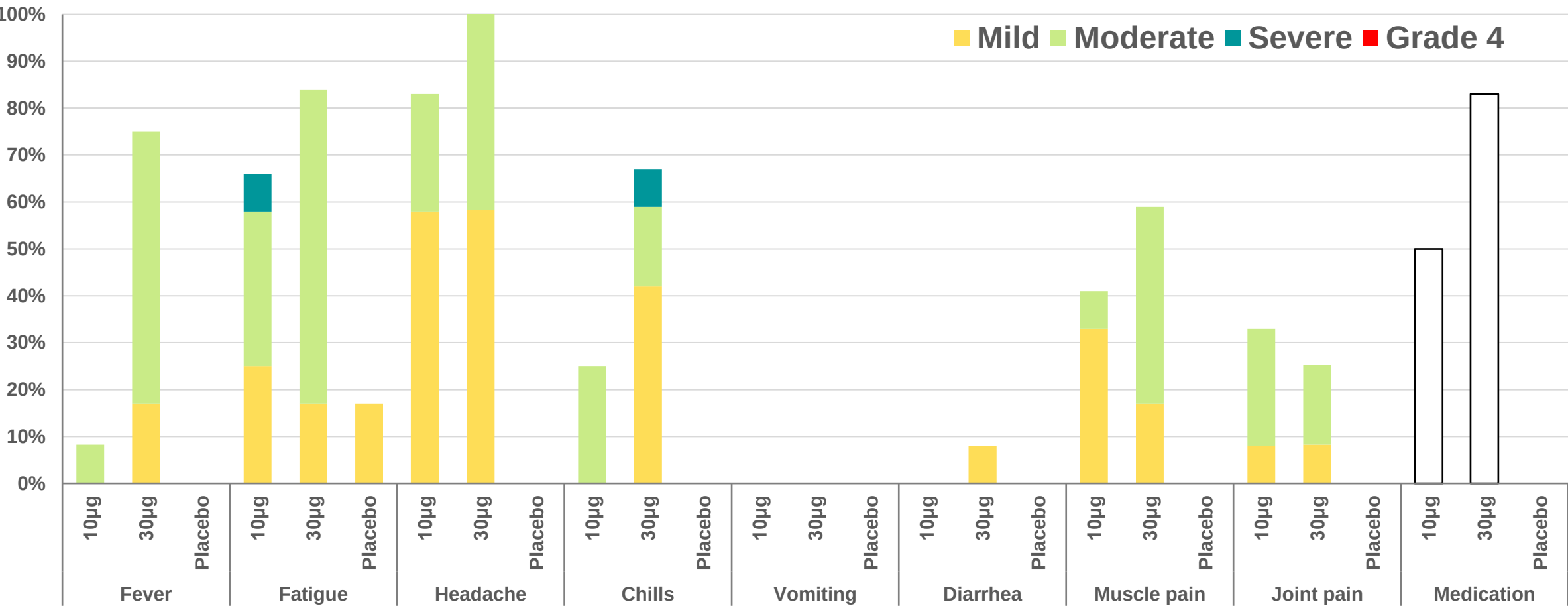
Systemic Events with BNT162b1 in healthy adults (18-55 yrs)

Reported within 7 days after Vaccination 1



Systemic Events with BNT162b1 in healthy adults (18-55 yrs)

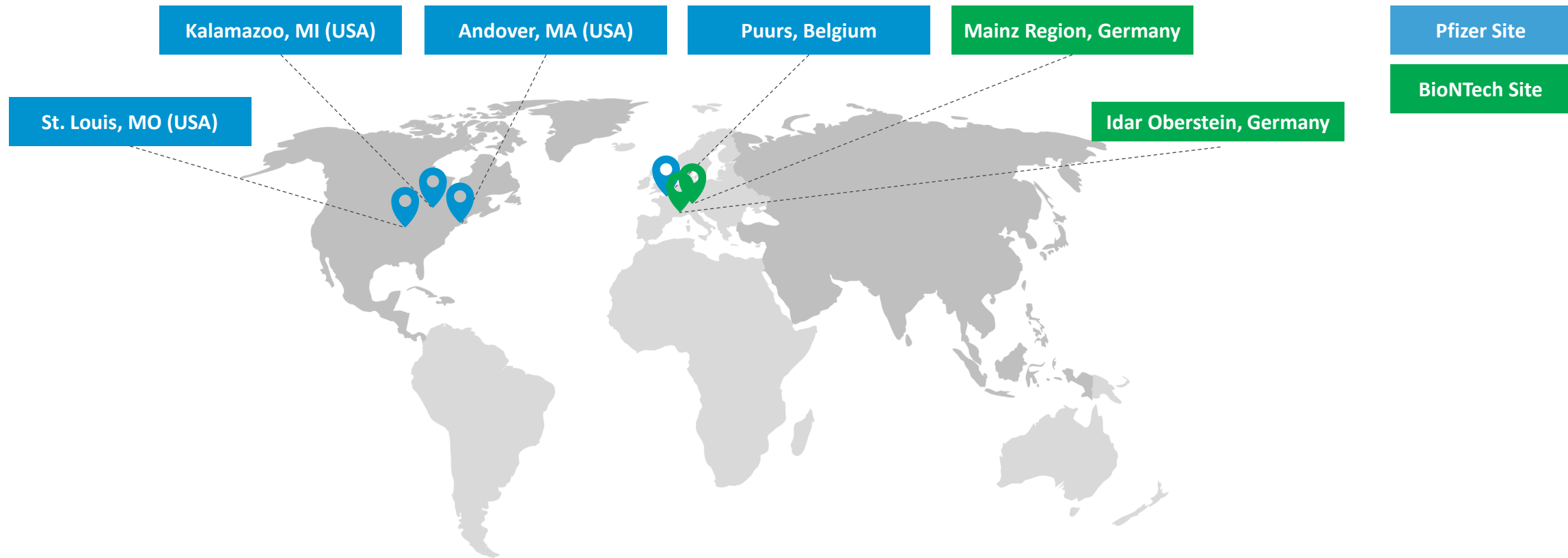
Reported within 7 days after Vaccination 2: 10 µg & 30 µg



Breakthroughs that
change patients' lives

Please Note: The information contained in this document, including scientific approaches, assumptions regarding potential safety and efficacy, clinical trial and manufacturing plans and timing estimates, is subject to change based on emerging data, regulatory guidance, and manufacturing and technical developments, among other risks.

Investing in manufacturing at-risk with cumulative vaccine supply goal of up to 100MM doses in 2020 and potentially more than 1.2B doses in 2021



Leveraging our extensive global infrastructure in preparation for potential COVID-19 vaccine supply



Breakthroughs that
change patients' lives

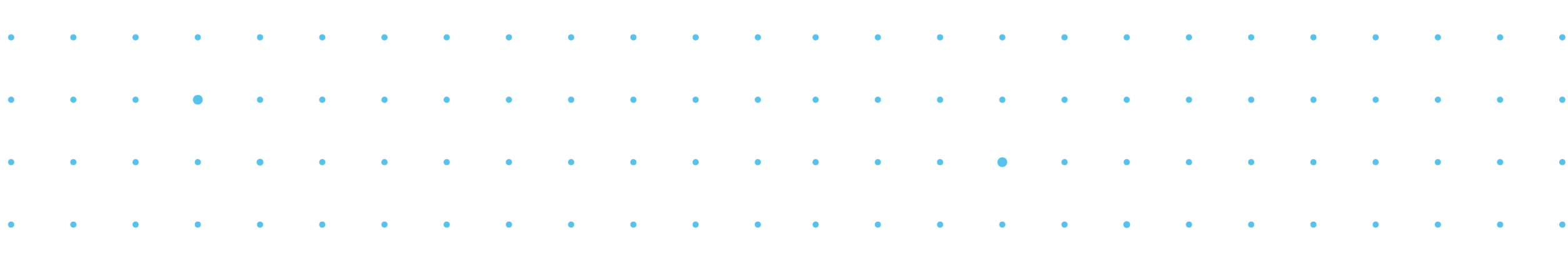
Please Note: The information contained in this document, including scientific approaches, assumptions regarding potential safety and efficacy, clinical trial and manufacturing plans and timing estimates, is subject to change based on emerging data, regulatory guidance, and manufacturing and technical developments, among other risks.

Key Takeaways SARS-CoV-2 mRNA Vaccine BNT162b1

Early positive data from ongoing phase 1/2 study

- Preliminary data demonstrated that **BNT162b1** could be administered in a dose that was **well tolerated**, and **generated dose dependent immunogenicity**, as measured by RBD-binding IgG concentrations and SARS-CoV-2 neutralizing antibody titers
- Early positive data shows that BNT162b1 can be administered at a **low effective dose of 10ug** and provide **neutralizing titers at or above human convalescent plasma** as early as **4 weeks after vaccinations**
- **Local reactions and systemic events** after immunization with 10 µg and 30 µg of BNT162b1 were dose-dependent, **generally mild to moderate, and transient**. **No serious adverse events** were reported
- Data from the ongoing Phase 1/2 clinical trial are **expected to enable selection of a single lead candidate** and dose level for a potential large, global **Phase 2b/3 safety and efficacy study that may begin as early as July 2020**, subject to regulatory approval
- **Efforts to manufacture the leading candidates, at risk, are gearing up**. If the safety and efficacy study is successful, and the vaccine receives regulatory approval, **the companies are currently expecting to manufacture up to 100 million doses by the end of 2020 and potentially more than 1.2 billion doses in 2021**





Q&A

[Mikael Dolsten](#) – Chief Scientific Officer and President, Pfizer Worldwide Research, Development, and Medical

[Kathrin Jansen](#) – Chief Scientific Officer and Senior Vice President, Vaccine R&D

