# **COVID-19 Vaccines Update: Development and Deployment**

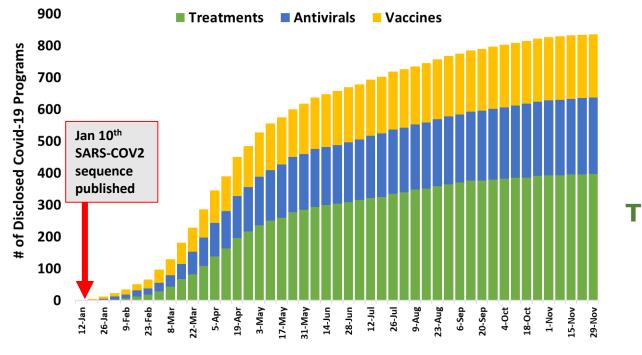
Amy Walker Director, Infectious Diseases Policy Biotechnology Innovation Organization February 2021 awalker@bio.org



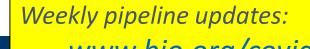
## **Timing of Response by Industry**

#### 838 unique drug programs launched in 11 months

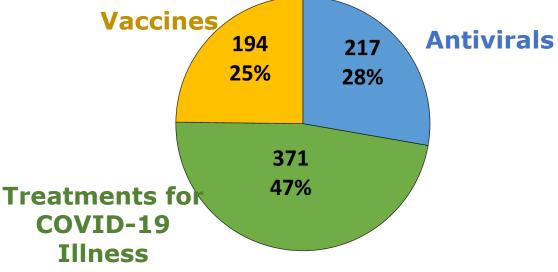
73% originated in Small Companies 52% originated in US



Week of first press release announcing program



www.bio.org/covidpipelinetracker



Drug Type	Repurposed	Redirected	New for Covid-19
Antivirals	26%	14%	60%
Treatments	60%	31%	9%
Vaccine	2%	3%	95%

#### **Clinical & Preclinical Stage Vaccine Pipeline** OWS funded BARDA / DoD funding Jointly developed Preclinical **EUA** Phase 1 Phase 2 Phase 3 Approved 康希诺生物 CanSinoBIO 6 Johnson 4 Johnson **Gamaleya Research** MERCK THEMIS Institute Viral 深圳市免疫基因治疗研究院 AstraZeneca Vector SHENZHEN GENO-IMMUNE MEDICAL INSTITUTE Viral 国药山西 SINOPHARM sinovac® Inactivated E BIONTECH Pizer RNA<sup>1</sup> **PrEP**Biopharm Translate BIO moderna SANOFI **Beijing Advaccine** DNA Biotechnology Baylor symvivo 鏦 **Cell Based** College of Medicine ARCHIVEL medicago gsk **Recombinant NOVAVAX** Creating Tomorrow's Vaccines Today protein gsk (support from CEPI) SANOFI ource: Biomedtracker, Biocentury, BIO Industry Analysis

inopharm with two vaccines in phase 1 trials (one beginning Apr 12 the other Apr 27)

Biotechnology Innovation

Organization

Info as of Jan 26, 2021, not exhaustive

# Industry Commitment to Scientific Rigor, Transparency and Diversity

- September 8, 2020
- Nine vaccine company CEOs pledged to uphold scientific and ethical standards
- Pledged to "always make the safety and wellbeing of vaccinated individuals our top priority."
- "Together these nine companies have collectively developed more than 70 novel vaccines that have helped to eradicate some of the world's most complex and deadly public health threats"





https://www.cnn.com/2020/09/08/health/covid-19-vaccine-pharmaceuticalcompanies-pledge-bn/index.html

### **The Speed of COVID-19 Vaccine Development**

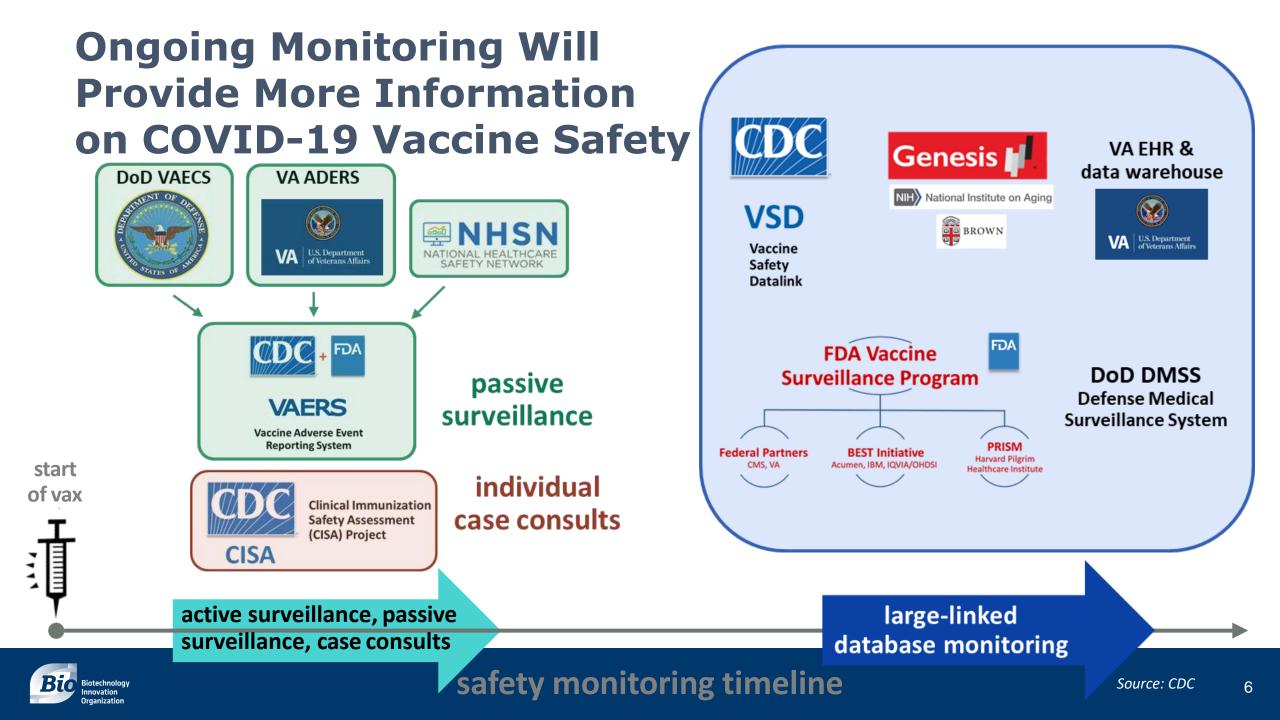
- Unprecedented pace of development without sacrificing efficacy and safety
- Clinical trials were larger than with other vaccines (30,000 40,000 people)
- Like Building a House:
  - Existing foundations
    - Years of research on other viruses
  - New technology
    - Leverage new science to develop vaccines no need for the virus to grow
  - Strong collaboration
    - FDA, companies, doctors all working to do more together
  - Extra and prioritized resources
    - Companies moved staff to COVID from all other projects

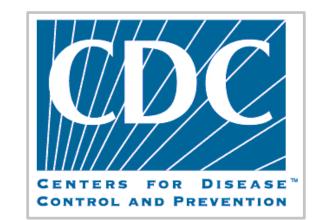












1. text message check-ins from CDC (daily 1<sup>st</sup> week; weekly thru 6 weeks; then 3, 6, and 12 mo.)

vaccine recipient completes web survey

2. clinically important health impact reported

- ✓ missed work
- unable to do normal daily activities
- $\checkmark$  received medical care
- V-Safe<sup>™</sup> after vaccination health checker

Vaccine recipient

**Call center** 

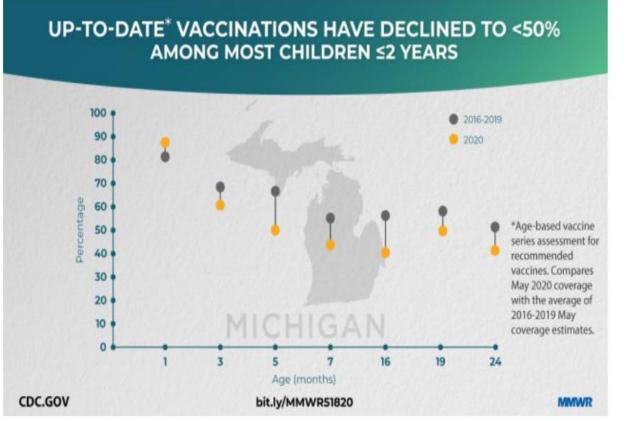


3. a VAERS customer service representative conducts active telephone follow-up on a clinically important event and takes a report if appropriate; also reminds about second dose at proper interval





## **Declines in Routine Immunization – Risking Infectious Disease Outbreaks on top of COVID-19**



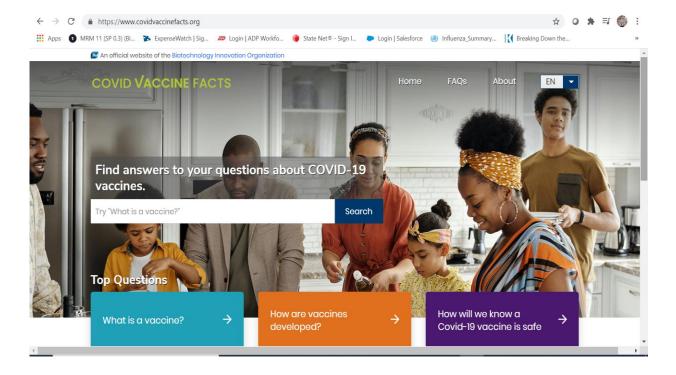
- CDC estimates that vaccination coverage declined in all childhood milestone age cohorts except for birth-dose hepatitis B coverage during the pandemic
- A study by Avalere found that adolescent and adult vaccination rates declined between 41%-53% from March-August 2019 to March-August 2020



*https://www.cdc.gov/mmwr/volumes/69/wr/mm6920e1.htm https://avalere.com/insights/how-covid-19-has-impacted-us-adolescent-and-adult-vaccine-utilization* 

## **BIO Resources**

- COVID Vaccine Facts: <u>https://www.covidvaccinefacts.org/</u>
- COVID Pipeline Tracker: <u>https://www.bio.org/polic</u> <u>y/human-health/vaccines- biodefense/coronavirus/pi</u> <u>peline-tracker</u>



BIO COVID website: <u>https://www.bio.org/policy/human-health/vaccines-biodefense/coronavirus</u>

