

## Global Vaccine Program Funding Options

- The U.S. can help the world produce billions of vaccine doses for just a few dollars per dose. We present multiple options below. A \$25 billion investment in vaccine production by the U.S. government would produce enough NIH-Moderna vaccine for low- and middle-income countries in one year. A \$5 billion investment in vaccine production would produce enough Pfizer vaccine to cover one in three people in developing countries, including those most-at-risk for COVID-19.
- Scaling-up production in the United States and in regional manufacturing centers around the world could shave years from the global pandemic. This could save millions of lives, trillions of dollars, and protect Americans from the risk of new, more dangerous variants.

### NIH-Moderna

#### Option 1: \$25 billion to produce 8 billion doses of NIH-Moderna vaccine in one year<sup>1</sup>

- Enough to cover 80 percent of population in low-and-middle income countries.<sup>2</sup> Retrofitting production lines would take 6 months. Production of doses could begin after, reaching 8 billion doses in an additional six months.
- Creates infrastructure that can be used to address variants and future viral threats quickly.

Type	Activities	USG Investment
Building Capacity (Capital Expenditures)	- 55 production lines capable of delivering 8 billion doses in 6 months	\$3.2 billion
Producing Doses (Operating Expenditures)	- Raw materials, single-use equipment, vials, reasonable profit for 10,175 batches - Labor costs for 4620 employees	\$17.5 billion (drug substance) \$2.2 billion (drug product) \$1 billion (reasonable profit)
Technology Transfer	- Technical assistance - Compensation to originator corporation for sharing intellectual property and know-how	\$2 billion
Total		\$25.9 billion

#### Option 2: \$7 billion to produce 2 billion doses of NIH-Moderna vaccine in one year

- Enough to cover 20 percent of population in low-and-middle income countries. This would help vaccinate those most-at-risk for COVID-19.<sup>3</sup> Retrofitting production lines would take 6 months. Production of doses could begin after, reaching 2 billion doses in an additional six months.
- Creates infrastructure that can be used to address variants and future viral threats quickly.

Type	Activities	USG Investment
Building Capacity (Capital Expenditures)	- 14 production lines capable of delivering 2 billion doses in 6 months	\$0.8 billion
Producing Doses (Operating Expenditures)	- Raw materials, single-use equipment, vials, reasonable profit for 2550 batches - Labor costs for 1155 employees	\$4.4 billion (drug substance) \$0.5 billion (drug product) \$0.3 billion (reasonable profit)
Technology Transfer	- Technical assistance - Compensation to originator corporation for sharing intellectual property and know-how	\$1 billion
Total		\$7 billion

<sup>1</sup> Estimates are drawn from modelling done by Imperial College engineers with Public Citizen. Zoltan Kis and Zain Rizvi, How to Make Enough Vaccine for the World in One Year, Public Citizen (May 26 2021). <https://www.citizen.org/article/how-to-make-enough-vaccine-for-the-world-in-one-year/>. NIH-Moderna estimates are for 100 µg mRNA doses.

<sup>2</sup> References to LMIC in this document exclude China.

<sup>3</sup> Healthcare workers, people with comorbidities, older adults.

## **Pfizer-BioNTech<sup>4</sup>**

### **Option 3: \$12 billion to produce 8 billion doses of Pfizer vaccine in one year<sup>5</sup>**

- Enough to cover 80 percent of population in low-and-middle income countries. Retrofitting production lines would take 6 months. Production of doses could begin after, reaching 8 billion doses in an additional six months.
- Creates infrastructure that can be used to address variants and future viral threats quickly.

Type	Activities	USG Investment
Building Capacity (Capital Expenditures)	- 17 production lines capable of delivering 8 billion doses in 6 months	\$1 billion
Producing Doses (Operating Expenditures)	- Raw materials, single-use equipment, vials, reasonable profit for 3145 batches - Labor costs for 1390 employees	\$5.4 billion (drug substance) \$3.0 billion (drug product) \$0.4 billion (reasonable profit)
Technology Transfer	- Technical assistance - Compensation to originator corporation for sharing intellectual property and know-how	\$2 billion
Total		\$11.8 billion

### **Option 4: \$5 billion to produce 3.5 billion doses of Pfizer vaccine in one year**

- Enough to cover 35 percent of population in low-and-middle income countries. This would help vaccinate those most-at-risk for COVID-19,<sup>6</sup> and some of the general population. Retrofitting production lines would take 6 months. Production of doses could begin after, reaching 3.5 billion doses in an additional six months.
- Creates infrastructure that can be used to address variants and future viral threats quickly.

Type	Activities	USG Investment
Building Capacity (Capital Expenditures)	- 7 production lines capable of delivering 3.5 billion doses in 6 months	\$0.4 billion
Producing Doses (Operating Expenditures)	- Raw materials, single-use equipment, vials, reasonable profit for 1375 batches - Labor costs for 605 employees	\$2.4 billion (drug substance) \$1.3 billion (drug product) \$0.2 billion (reasonable profit)
Technology Transfer	- Technical assistance - Compensation to originator corporation for sharing intellectual property and know-how	\$1 billion
Total		\$5.3 billion

<sup>4</sup> Like the Moderna vaccine, the Pfizer vaccine can be stored in a refrigerator for a month. However, for storage and transportation, the Pfizer vaccine requires ultra-cold freezers, not regular freezers. The Biden Administration recently purchased 500 million Pfizer doses for LMICs.

<sup>5</sup> Pfizer-BioNTech estimates are for 30 µg mRNA doses. The differences in cost between the two vaccines reflect the differences in mRNA doses and the associated costs of raw materials.

<sup>6</sup> Healthcare workers, people with comorbidities, older adults.