U.S. Leadership for a Pandemic-Free Future

Technologies to End Biological Threats

**PREVENT OUTBREAKS**
- Comprehensive laboratory biosafety
- Technologies to deter & prevent bad actors (biological attribution, microbial forensics)

**IDENTIFY THREATS EARLIER**
- Ubiquitous (metagenomic) sequencing
- Digital pathogen surveillance
- National pathogen surveillance & forecasting center

**DETECT INFECTIONS FASTER**
- Point of person diagnostics
- Non-invasive detection
- Pan-pathogen detection

**PROTECT PEOPLE BETTER**
- Next gen PPE
- Pathogen-proof structures and transport
- Vaccine candidates for prototype pathogens

**SAVE LIVES**
- Multi-pathogen therapeutic drugs
- Flexible and scalable manufacturing of pharmaceuticals
- Needle free methods for drug and vaccine administration