

Rapid Acceleration of Diagnostics Radical (RADx-rad): Overview and Update



Tara A. Schwetz, PhD

NIH Advisory Committee to the Director Meeting

December 10, 2020

RADx-rad: Program Goals



RADxSM Radical (RADx-rad)

RADx-rad will support new, non-traditional approaches, including rapid detection devices and home-based testing technologies, that address current gaps in COVID-19 testing. The program will also support new or non-traditional applications of existing approaches to make them more usable, accessible, or accurate. These may lead to new ways to identify the current SARS-CoV-2 virus as well as potential future viruses.

Budget: \$200 Million

[NIH RADx-rad](#)

RADx-rad Strategies

- Identify **unique applications** of existing strategies
- Support **unconventional** detection strategies
- Invest in novel technologies, strategies, and devices that require **additional development time**
- Enhance **access to or usability of** COVID-19 testing



Selected RADx-rad Research Focus

Data Coordinating Center (\$25M)

- Wastewater-based detection of SARS-COV-2 (\$40M)
- Single vesicle, exosome, and exRNA isolation for the detection of SARS-CoV-2 (\$10M)
- Chemosensory testing for COVID-19 screening (\$10M)
- Predicting viral-associated inflammatory disease severity in children with laboratory diagnostics and artificial intelligence (\$20M)
- Multimodal COVID-19 surveillance methods for high-risk populations (\$7M)
- Novel biosensing of biological or chemical signatures of COVID-19 from skin and the oral cavity (\$20M)
- Automatic, real-time detection and tracing of SARS-COV-2 with aptamer biosensing and digital devices (\$10M)
- Multiplexed screening methods with next generation sequencing to detect SARS-COV-2 viral gRNA content (\$1M)

RADx-rad Umbrella Activities

Intramural Projects

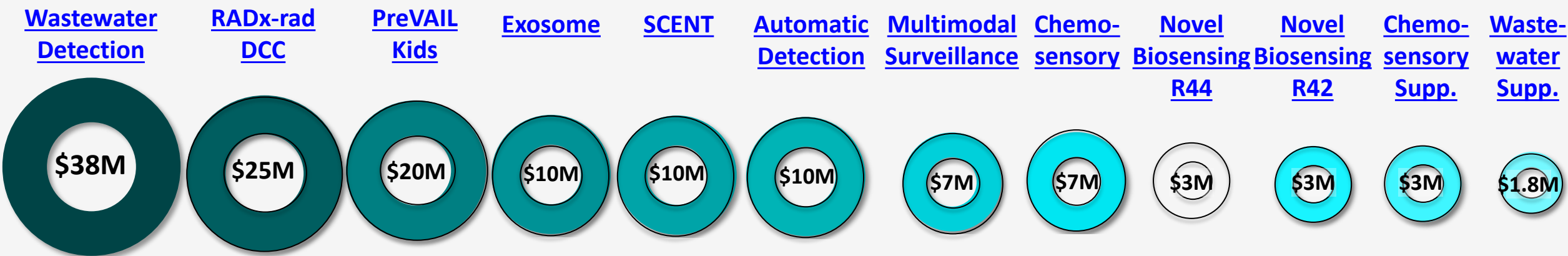
- Hyperplexed sample barcoded screening for SARS-CoV-2 by Next Generation Sequencing
- Nationwide Early-Warning System and Data Platform to aid policy decisions for Public Health Management of viral diseases with COVID-19 as a use case

REACH Network

- NCATS and NIDCR \$4 million supplement to REACH Awardees for oral biosensing project



Key Features of the 12 RADx-rad FOAs



7 Lead ICs

25 Participating ICOs

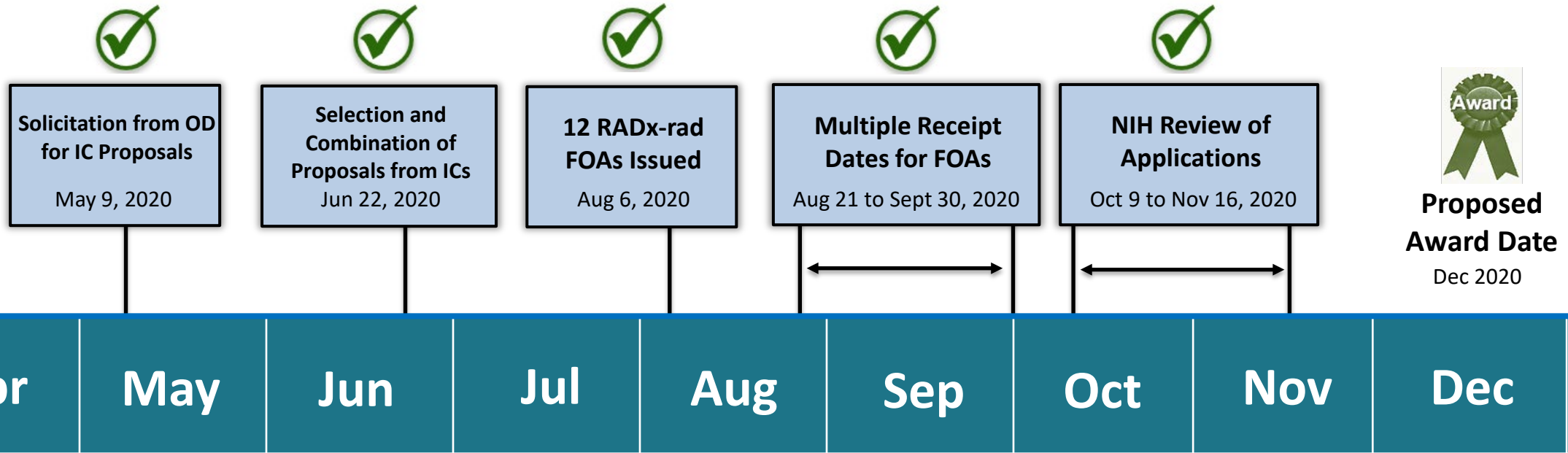
≥ 60 Awards Planned

> 320 Applications Received

Represents Phase I Budget of ~\$157 million



RADx-rad Timeline for Key Activities



NIH Payplan Development
Late Nov –
Early Dec 2020



Next Steps

- **First Phase: \$157 million**

- Finalize input on funding recommendations by:
 - RADx Executive Committee
 - Drs. Collins and Tabak
- Issue awards in December 2020

- **Second Phase: \$43 million**

- Developing plan for CY 2021



Thank
you



RADx-rad Lead IC Working Group Roster

- Leonardo Angelone (NIDA)
- Douglas Bell (NIEHS)
- Judith Cooper (NIDCD) – *cochair*
- Jennie Conroy (NICHD)
- Changhai Cui (NIAAA)
- Valerie Florance (NLM)
- Joel Islam (OD & NHLBI)
- Scott Jackson (OD)
- Bill Kapogiannis (NICHD)
- Elena Koustova (NIDA)
- Orlando Lopez (NIDCR)
- Amanda Melillo (NIDCR)
- Patricia Powell (NIAAA) – *cochair*
- Susan Sullivan (NIDCD)
- Danilo Tagle (NCATS)
- Rick Woychik (NIEHS)



Discussion



RADx-rad

