

Ending the Pandemic: NIH Directions in HIV Prevention Research

**HIV Prevention Trials Network Annual Meeting
June 3, 2019**

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Vision for NIH-wide HIV Research

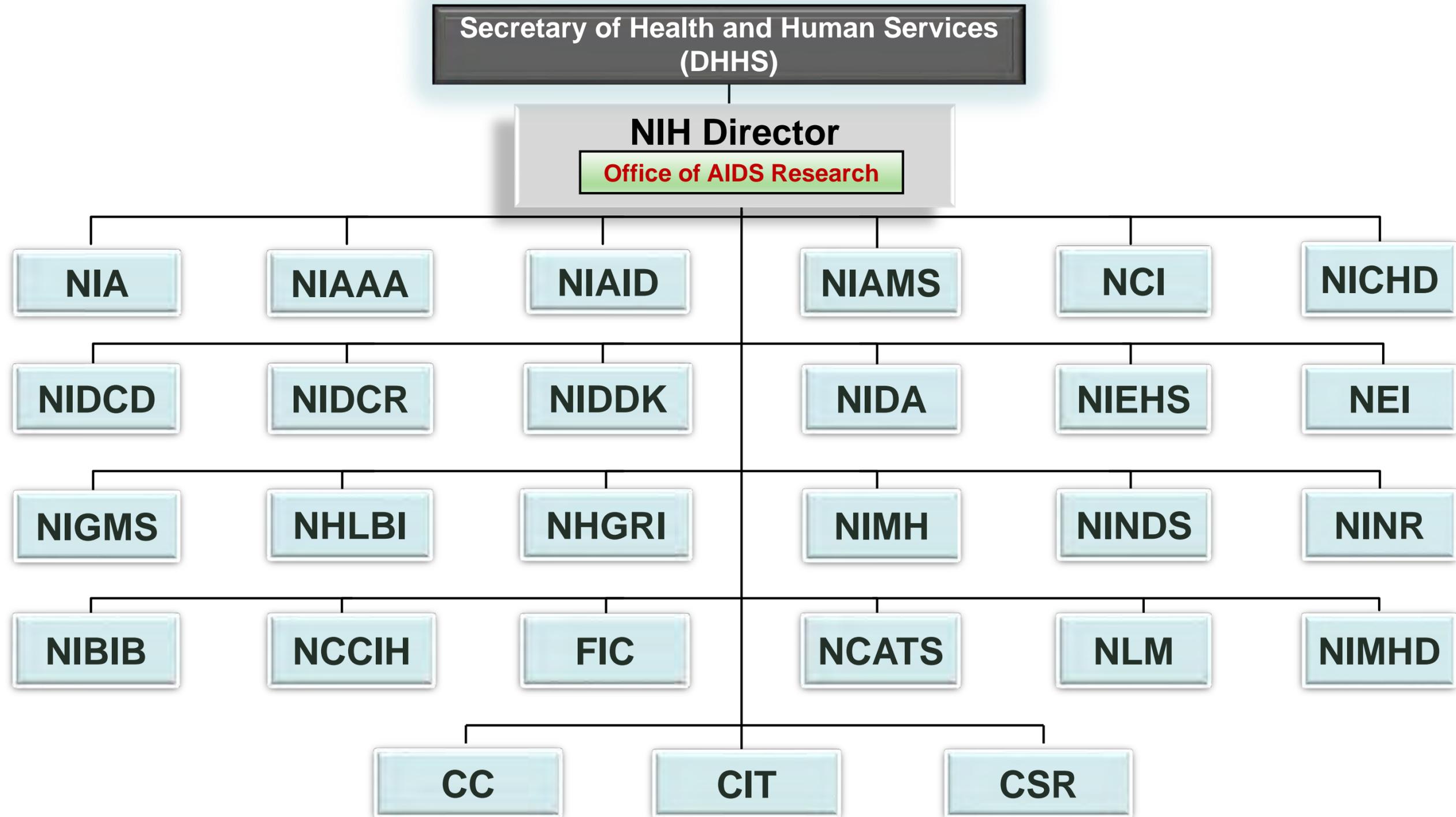
End the HIV/AIDS pandemic

AND

**Improve the health of
people with, at risk for,
or affected by HIV.**



Office of AIDS Research: in the Office of the NIH Director



Collaborative HIV Research at NIH

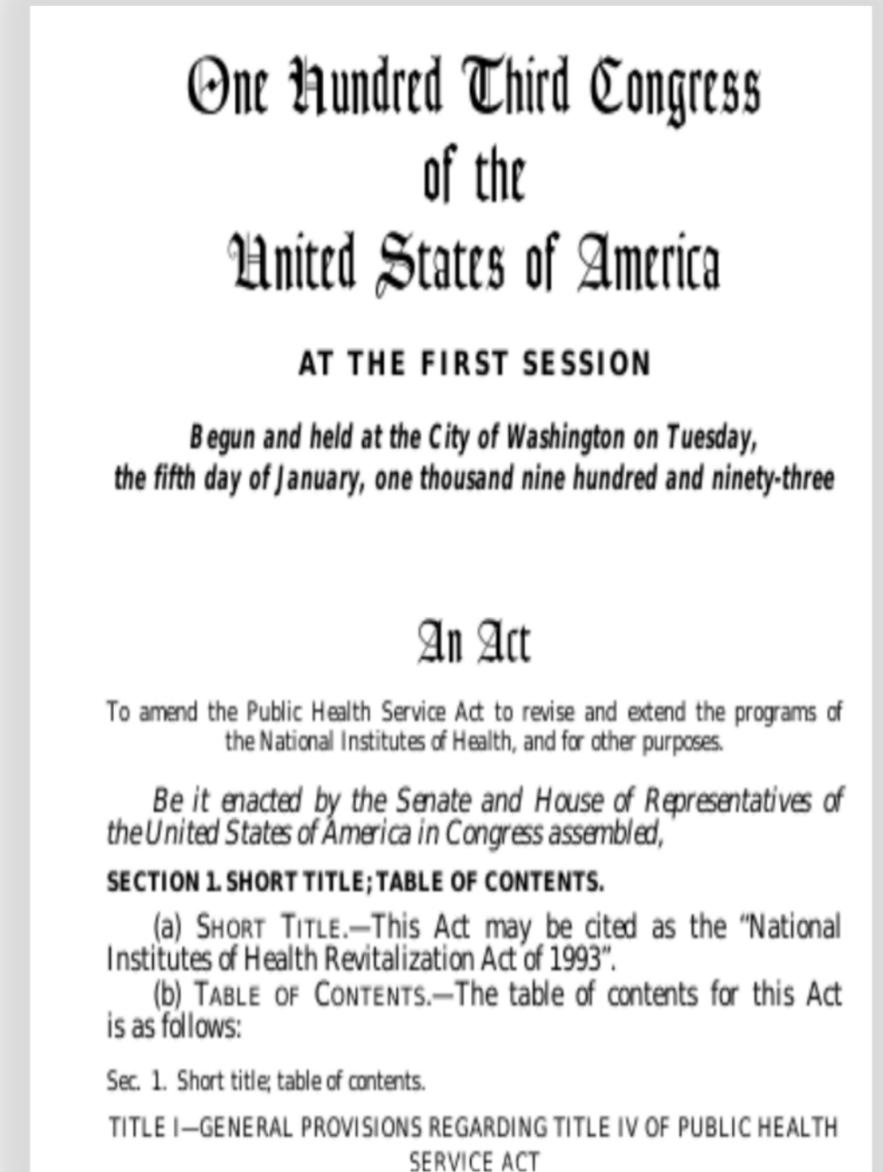
- Multidisciplinary, global
- Research, training, infrastructure, information dissemination
- Flexible



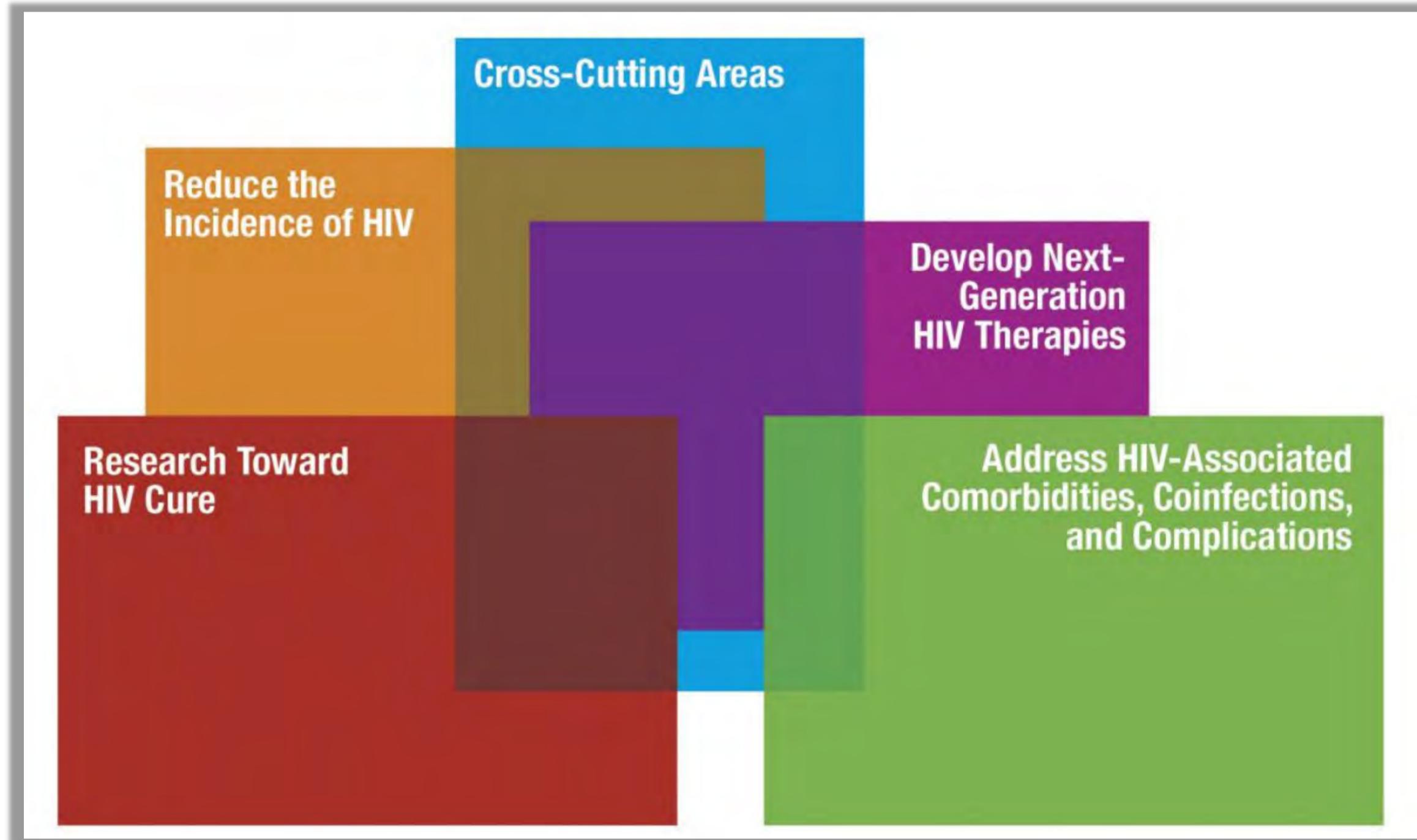
1988 HOPE Act and 1993 NIH Revitalization Act

Legislation authorizes OAR to:

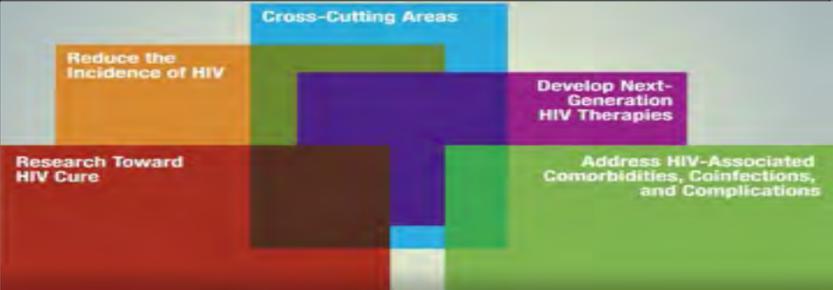
- Establish scientific priorities for the NIH HIV/AIDS research agenda
- Determine and allocate budgets for NIH HIV research aligned with scientific priorities
- Plan, coordinate, and evaluate HIV/AIDS research across the NIH
- Consult with the advisory councils of the agencies

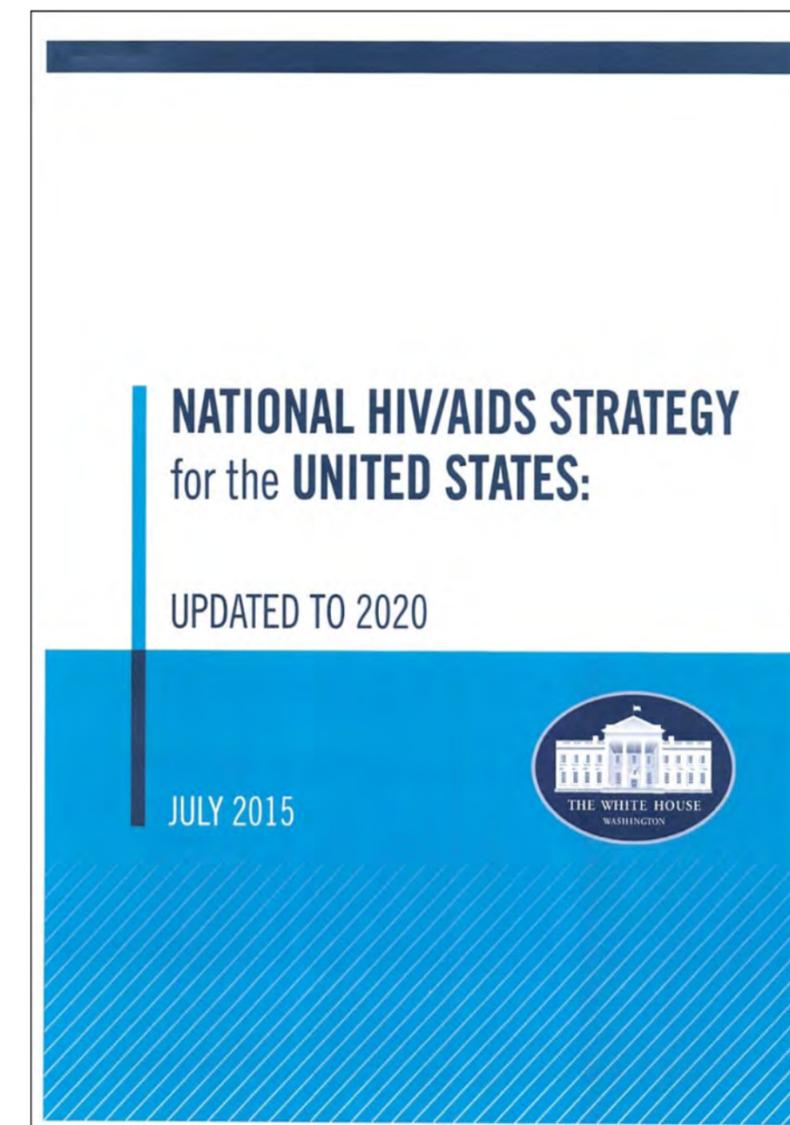


NIH Priorities for HIV and HIV-Related Research



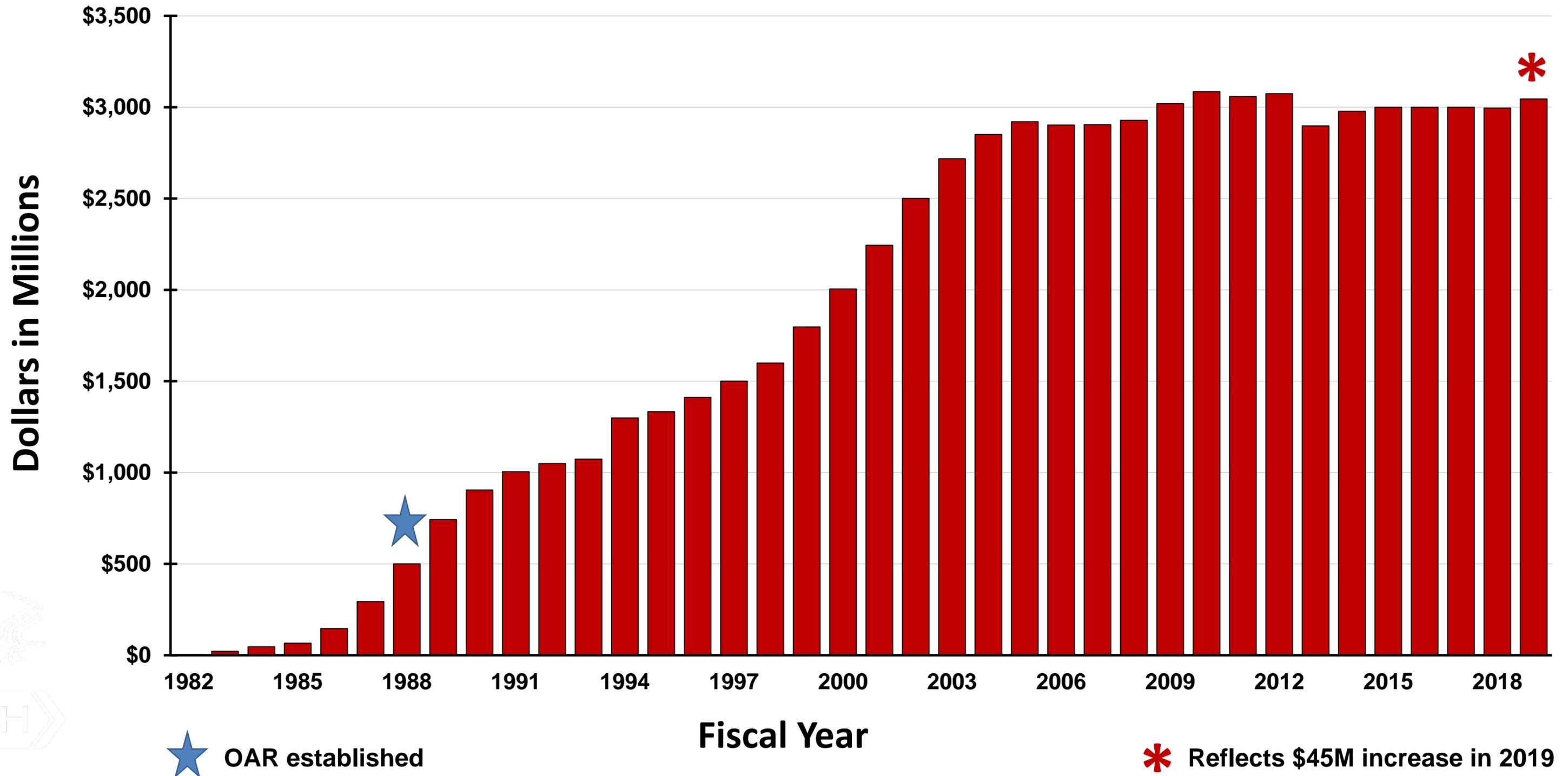
NIH HIV Priorities Align with the National HIV/AIDS Strategy

NIH Priorities	NHAS Goals			
	Reduce new infections	Increase access to care; improve health outcomes	Reduce disparities and health inequities	More coordinated national response to the epidemic
 <p>Reduce Incidence</p>	✓		✓	✓
Next-Generation Therapies	✓	✓	✓	✓
Comorbidities & Coinfections		✓	✓	✓
Cure		✓	✓	
Cross-Cutting				
• Basic research	✓	✓	✓	
• BSSR	✓	✓	✓	✓
• Health disparities	✓	✓	✓	✓
• Implementation science	✓	✓	✓	✓
• Training/capacity building	✓	✓	✓	✓

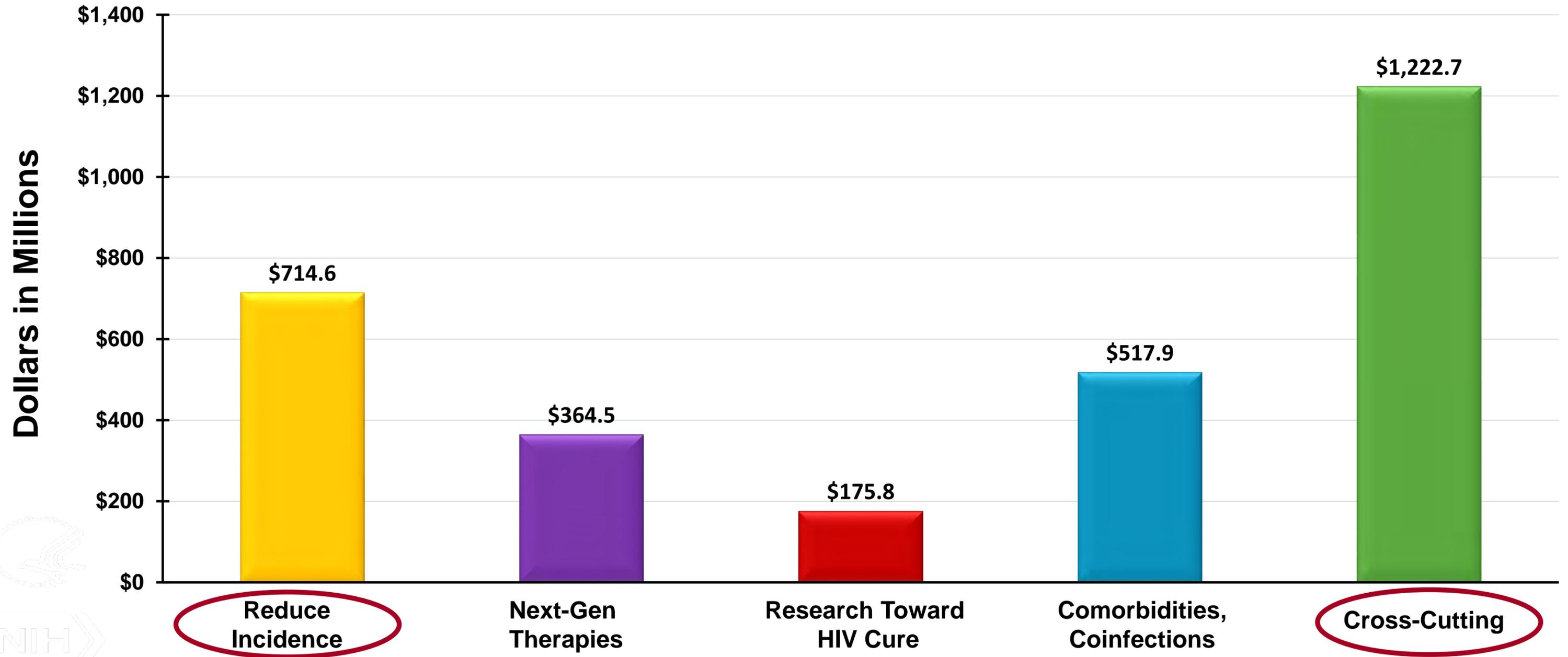


“More coordinated national response to the epidemic”

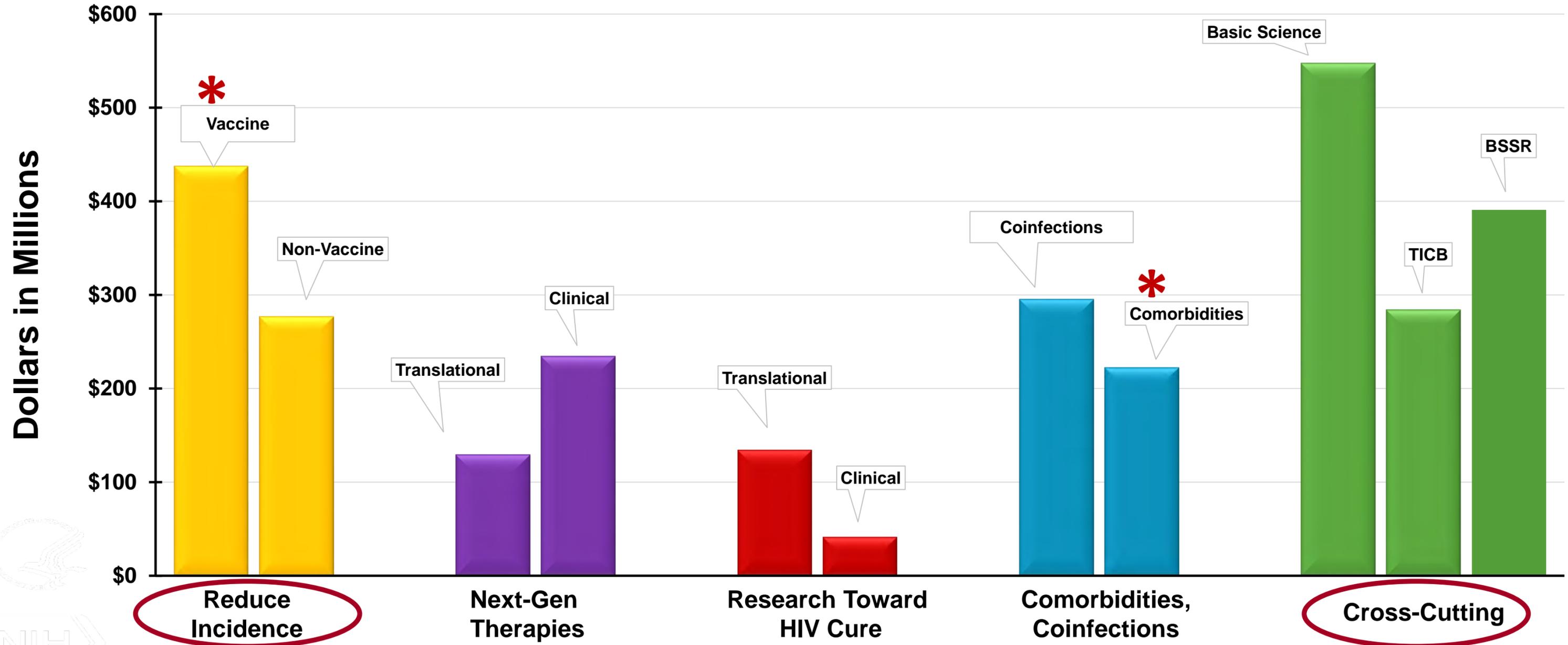
NIH HIV/AIDS Funding History, 1983 – Present



FY 2018 HIV/AIDS Portfolio by Research Priority



Estimated FY 2019 HIV/AIDS Portfolio



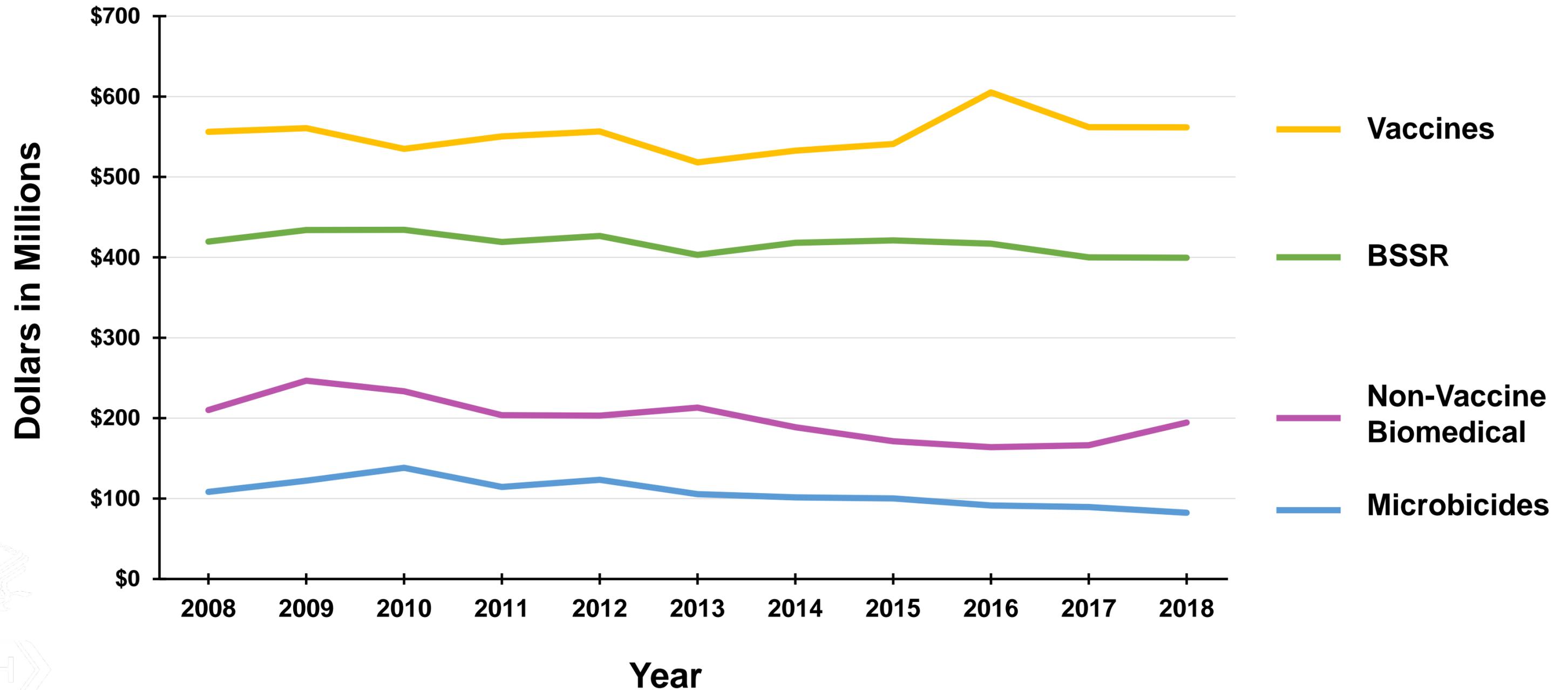
* Reflects \$45M increase in FY 2019

Professional Judgment FY 2020 Budget Request

Research Priority	FY 2018 Actual*	FY 2019 Estimate*	FY 2019 Professional Judgment Percent Change	FY 2020 Professional Judgment*	FY 2020 Percent Change
Reduce Incidence	\$714.5	\$741.2	14.9%	\$957.2	29.1%
Next-Gen HIV Therapies	364.5	369.7	1.1%	370.9	0.3%
Research Toward A Cure	175.8	190.7	3.5%	190.9	0.1%
Comorbidities, Coinfections, Complications	517.9	537.5	17.6%	587.5	9.3%
Cross-Cutting Areas	1,222.7	1,206.0	19.6%	1,395.3	15.7%
TOTAL	\$2,995.4	\$3,045.1	15.0%	\$3,501.8	15.0%

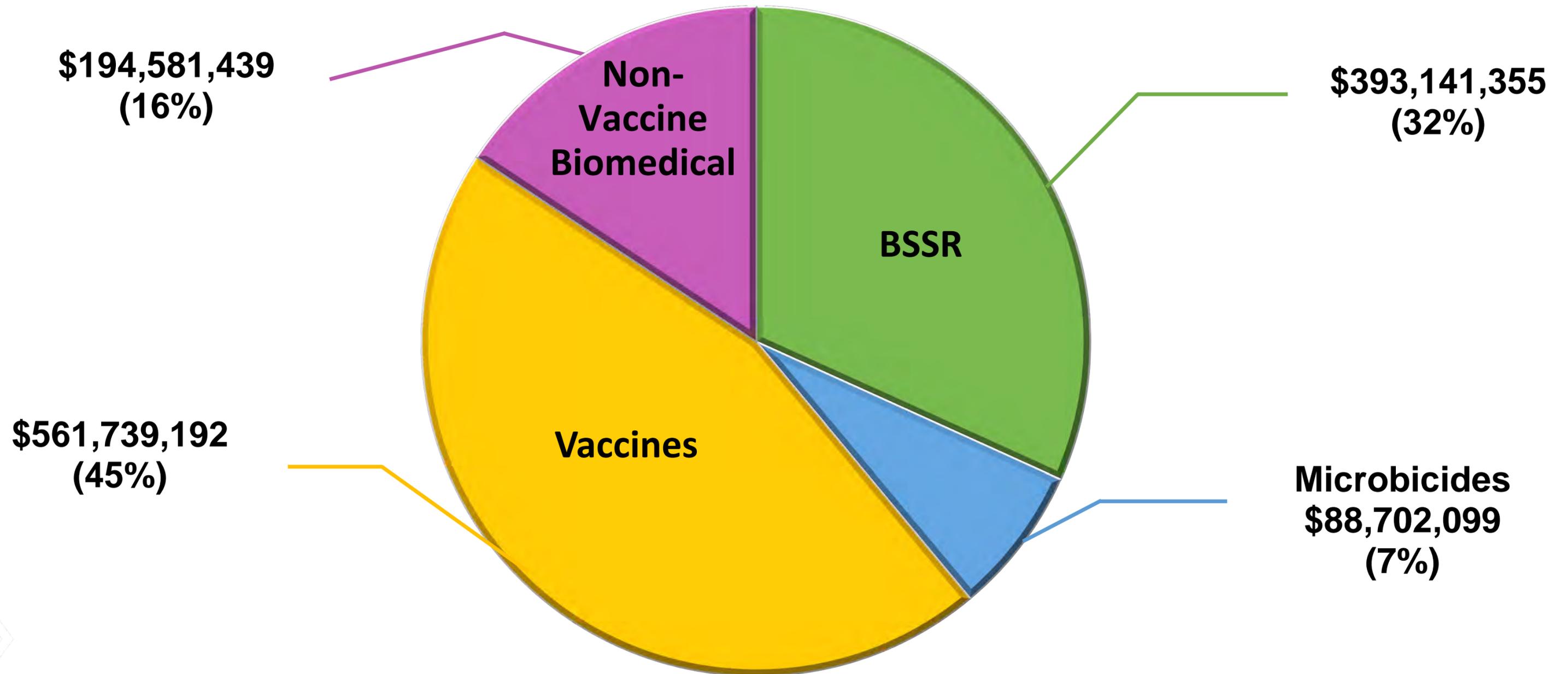
* Dollars in Millions

NIH HIV/AIDS Prevention Funding, FY 2008 – 2018

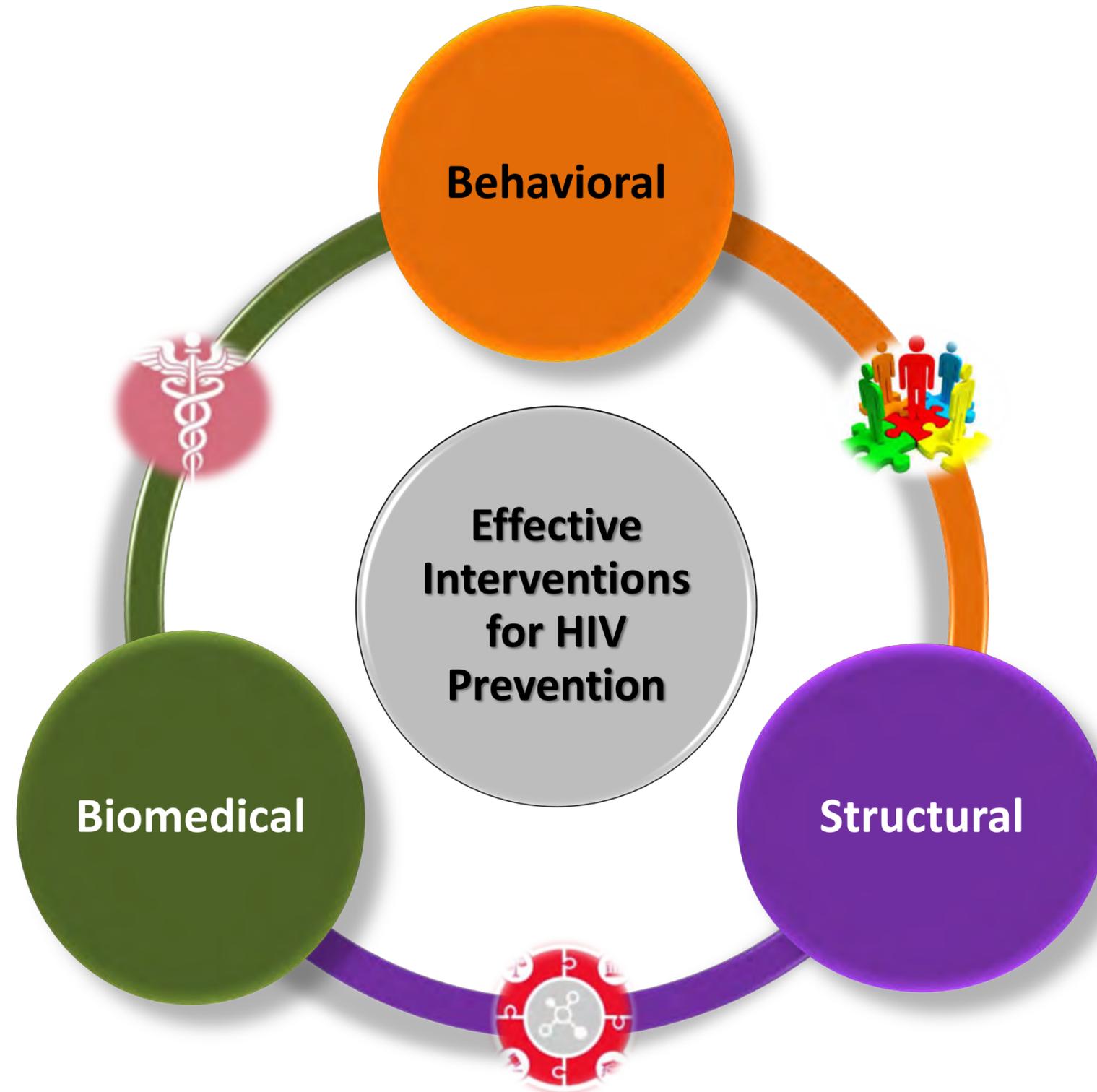


FY 2018 NIH HIV/AIDS Prevention Portfolio

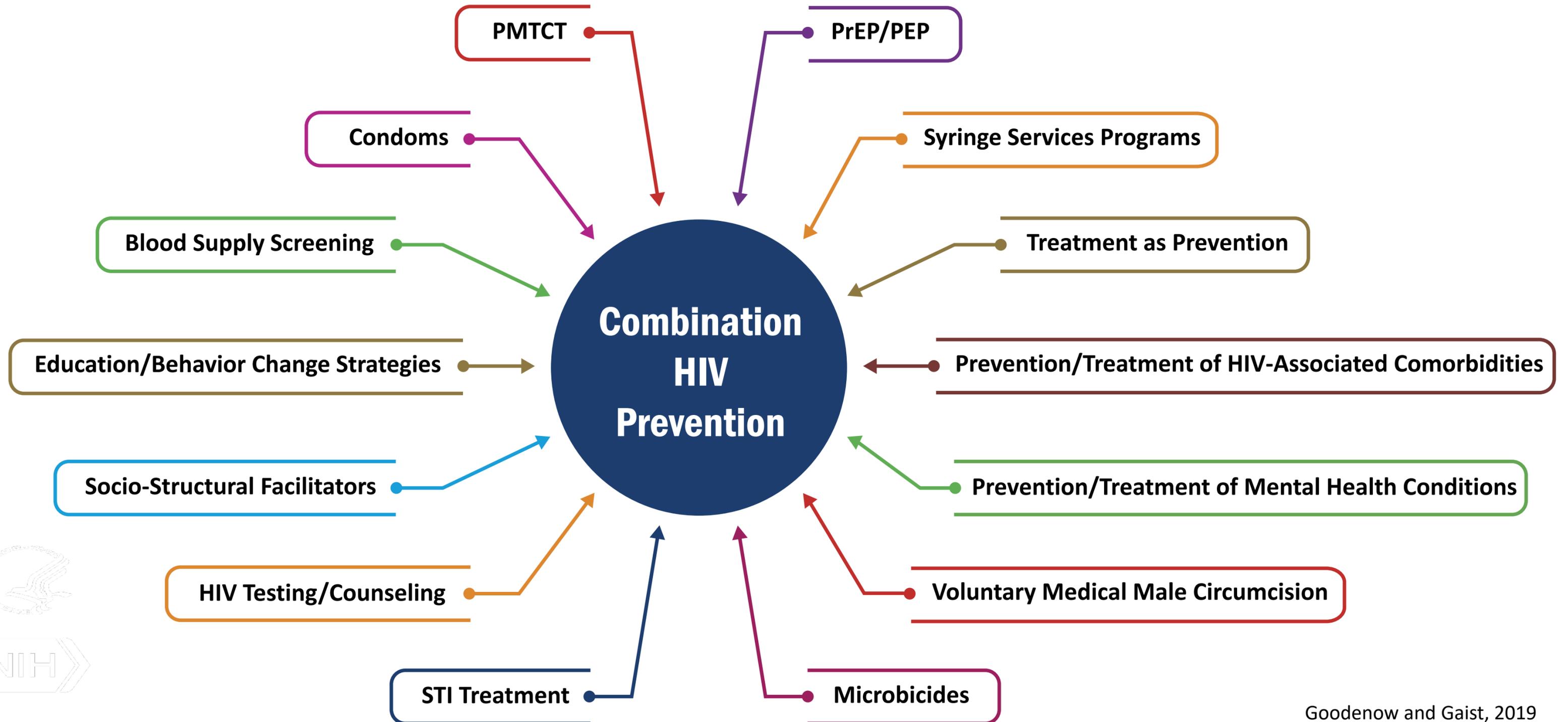
Total = \$1.23B



A Combination Approach to Effective HIV Prevention



HIV Prevention Toolbox



Considerations for HIV Prevention

- **Behavioral, structural, and biological factors**
- **Communities/populations**
- **Clinical issues**
 - **Uptake of HIV testing & prevention strategies**
 - **Adherence & retention**
 - **Diagnosis & treatment of STIs, other co-morbidities**
- **Health system and regulatory considerations**
 - **Ethical &/or legal barriers**
 - **Improving awareness & demand**
 - **Age-appropriate, culturally competent counseling & service provision**
 - **Stigma**



Recent HIV Combination Prevention Trials

Five large universal test and treat community-based trials:

- Sustainable East Africa Research in Community Health, **SEARCH** (Uganda)
- Population Effects of Antiretroviral Therapy to Reduce HIV Transmission, **PopART–HPTN 071** (Zambia, South Africa)
- Botswana Combination Prevention Project, **BCPP** (Botswana)
- Treatment as Prevention, **TasP** (South Africa)
- MaxART Early Access to ART for All, **MaxART** (Swaziland)



The Potential of PrEP

- Highly effective
- Delivered as part of a comprehensive package (e.g., condoms for other STI protection)
- Next step: long acting delivery methods



Long-Acting HIV Prevention and Treatment Regimens in Progress, 2019 – 2022

Now advancing through clinical trials:

- Long-acting injectable PrEP
- Long-acting maintenance ART
- Broadly neutralizing monoclonal antibodies (bNAbs)
- Extended-release vaginal rings & sub-dermal implants
- Extended-delivery prime-boost vaccine regimens

MTN 036

ACTG 5359



HVTN 702

HVTN 705

HVTN 704/HPTN 085

HVTN 703/HPTN 081

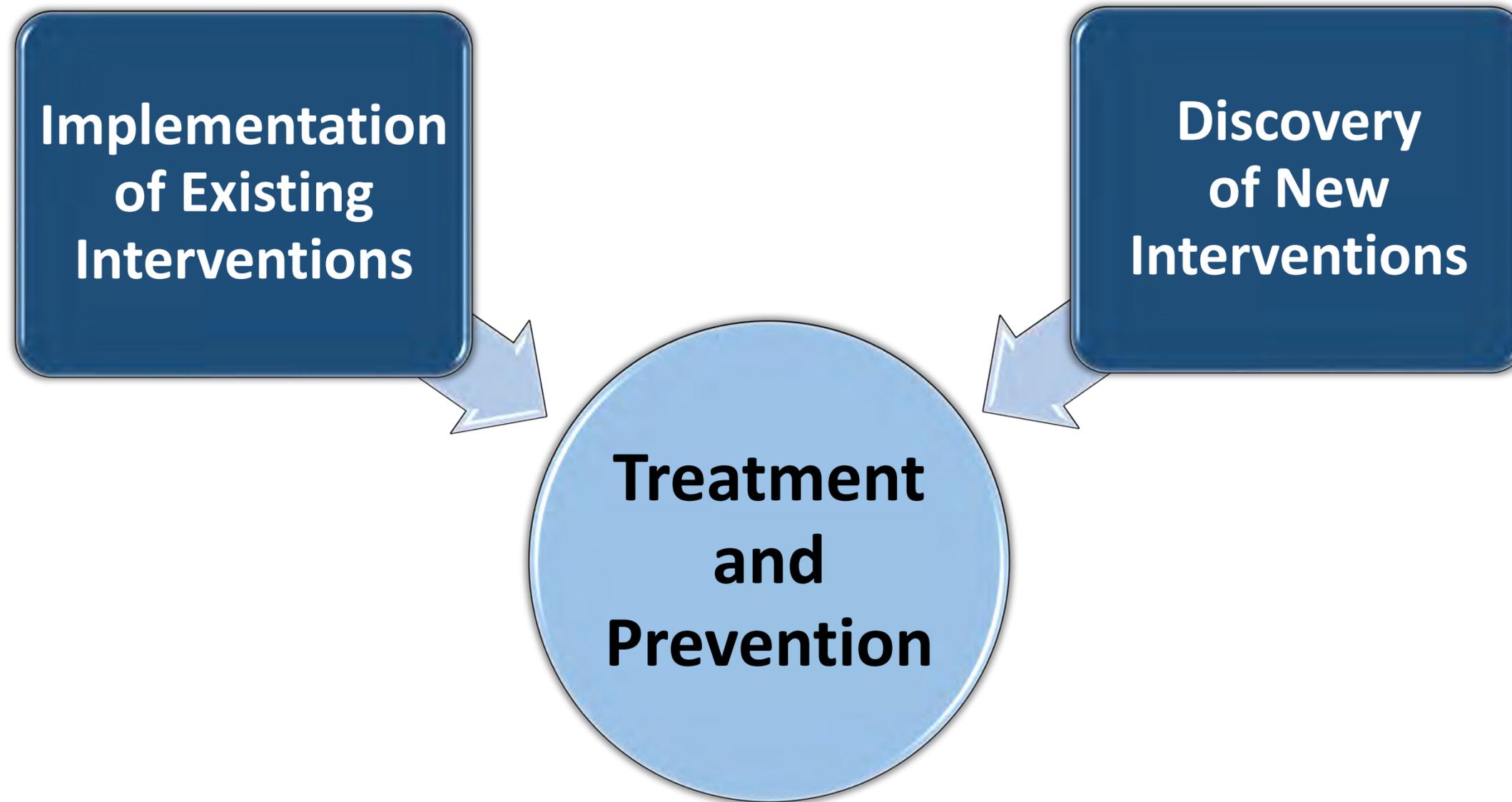
**Looking to the Future:
Behavioral Aspects of Long-acting and Extended Delivery
HIV Prevention and Treatment Regimens**

May 13-14, 2019

**Location: 5601 Fishers Lane
Conference Room 1D13,
Rockville, MD 20892**

THINKING
OUTSIDE
THE
PILLBOX

Dual Pathway to Control and End the HIV Epidemic



Implementation Science Complements Discovery Science



Breakthroughs Lead to Improved Prevention and Better Health Outcomes

UNDETECTABLE = UNTRANSMITTABLE



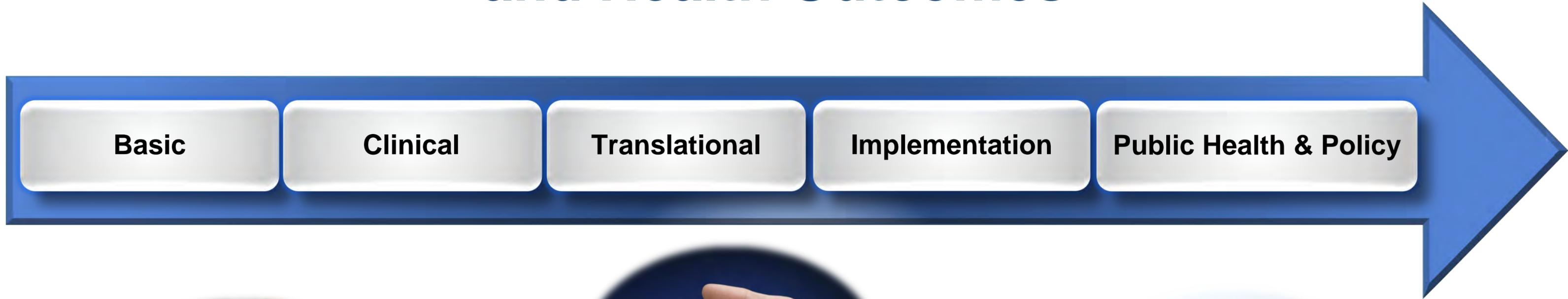
Game changer; reduces stigma

PWH who take ART as prescribed:

- Can achieve & maintain undetectable viral load.
- Have effectively no risk of sexually transmitting the virus to an HIV-negative partner.



Breakthroughs Lead to Improved Treatment and Health Outcomes



Past



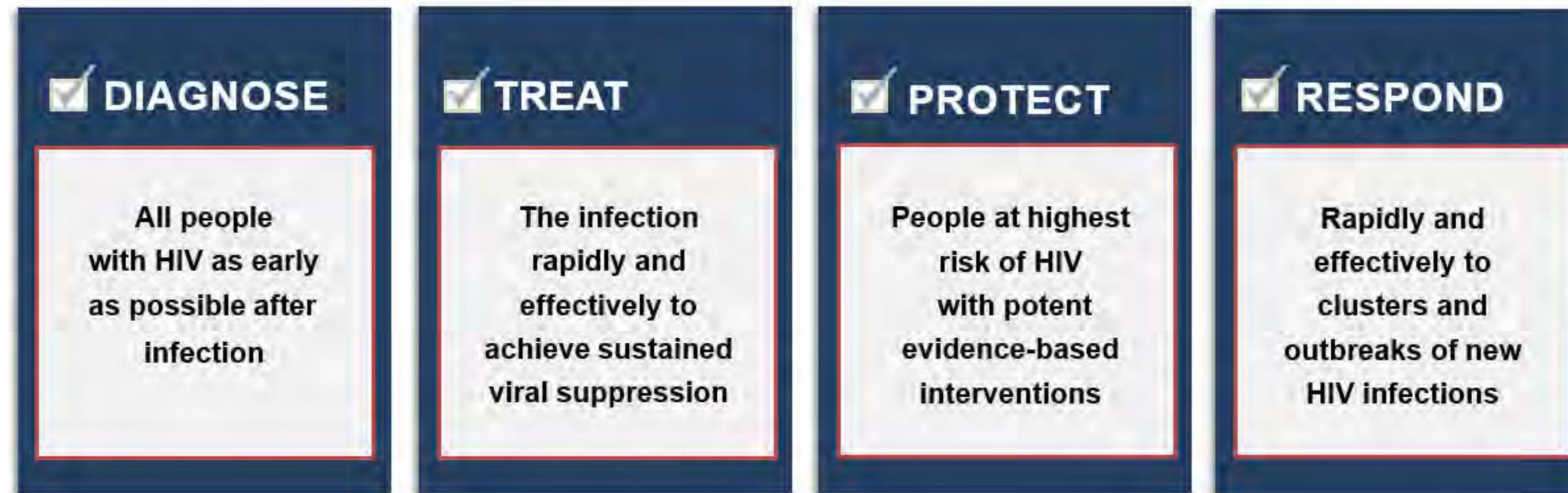
Present



Future



Ending the HIV Epidemic: A Plan for America

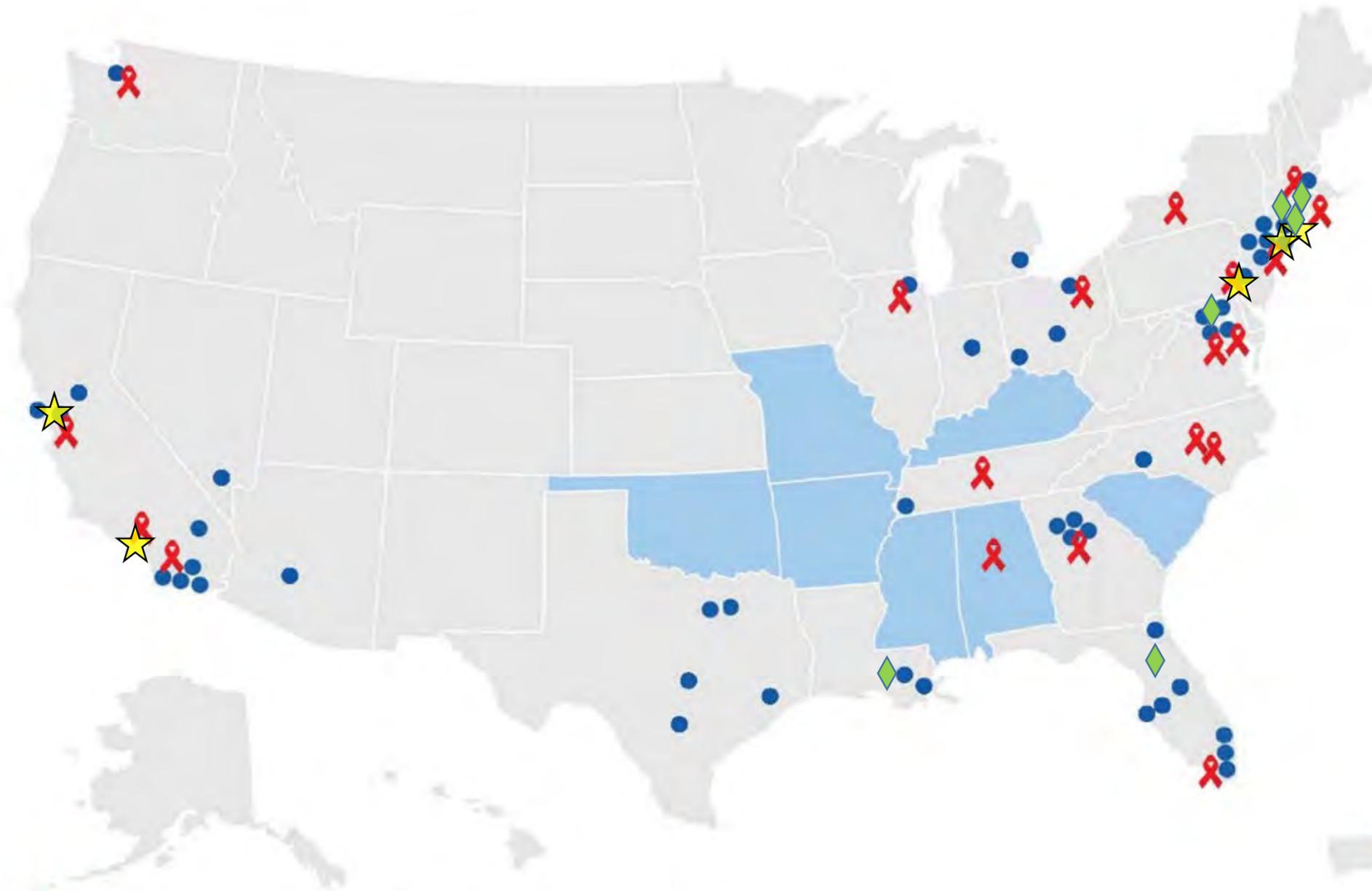


Overall goal is to reduce new infections:

- **By 75% in the next 5 years;** and
- **By 90% in the next 10 years**



Ending the HIV Epidemic in the U.S.



Focus resources in:

- 48 highest burden counties
- Washington, D.C.
- San Juan, Puerto Rico
- 7 states with a substantial rural HIV burden

 NIH-Funded Center for AIDS Research

 NIMH AIDS Research Center

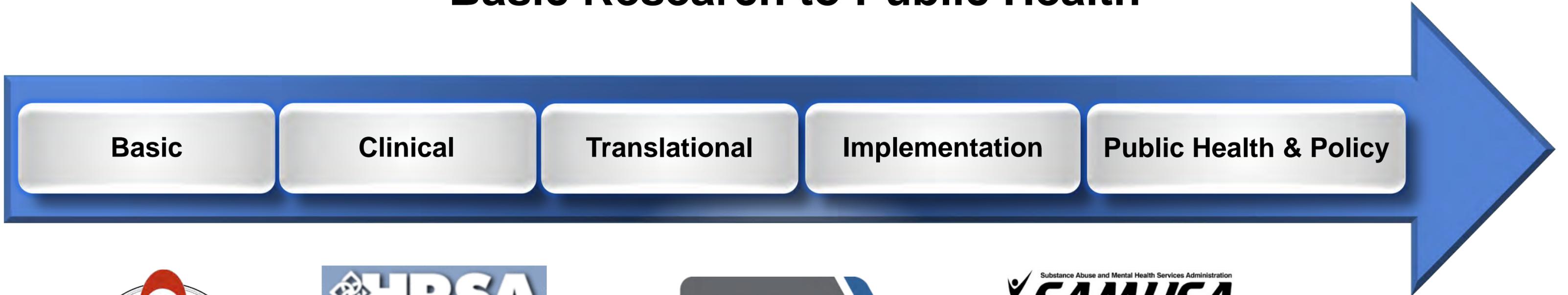
 High Burden County

 State With Substantial Rural Burden

 NIAAA HIV/AIDS Research Platform

A Collaborative National Response to the HIV Epidemic

Basic Research to Public Health



National Institutes
of Health



Directions in HIV Prevention Research

- Vaccine
- Non-vaccine biomedical
- Behavioral and socio-structural prevention
- Integrative scientific research
- Stigma, scale-up, adherence
- Community-based partnerships and participatory research (CBPR)
- **What directions would you add?**

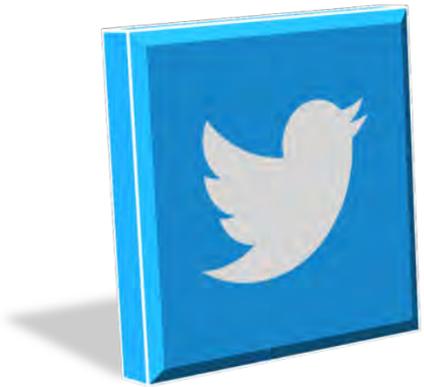
21st century solutions for 21st century challenges



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