

NIS BRE

NIH, NIGMS Seventh Biennial
National IDeA Symposium of
Biomedical Research Excellence

June 24-26, 2018
Wardman Park Marriott
Washington, D.C.



SEPA and INBRE: Smart Kids and Smart Partnerships

Tony Beck, Ph.D., NIGMS

Rashada Alexander, Ph.D., NIGMS

Maurice Godfrey, Ph.D., U. Nebraska, Omaha

Rob Rockhold, Ph.D., FAPE, U. Mississippi Medical Center, Jackson

Michèle Shuster, Ph.D., New Mexico State University Las Cruces



“NIGMS Science Education Partnership Award (SEPA) program – social and economic benefits of STEM education for early learners



Health & Medicine Workforce



Genesis:

- Increase the numbers of urban, rural and minority students considering research and medical careers

Partnerships:

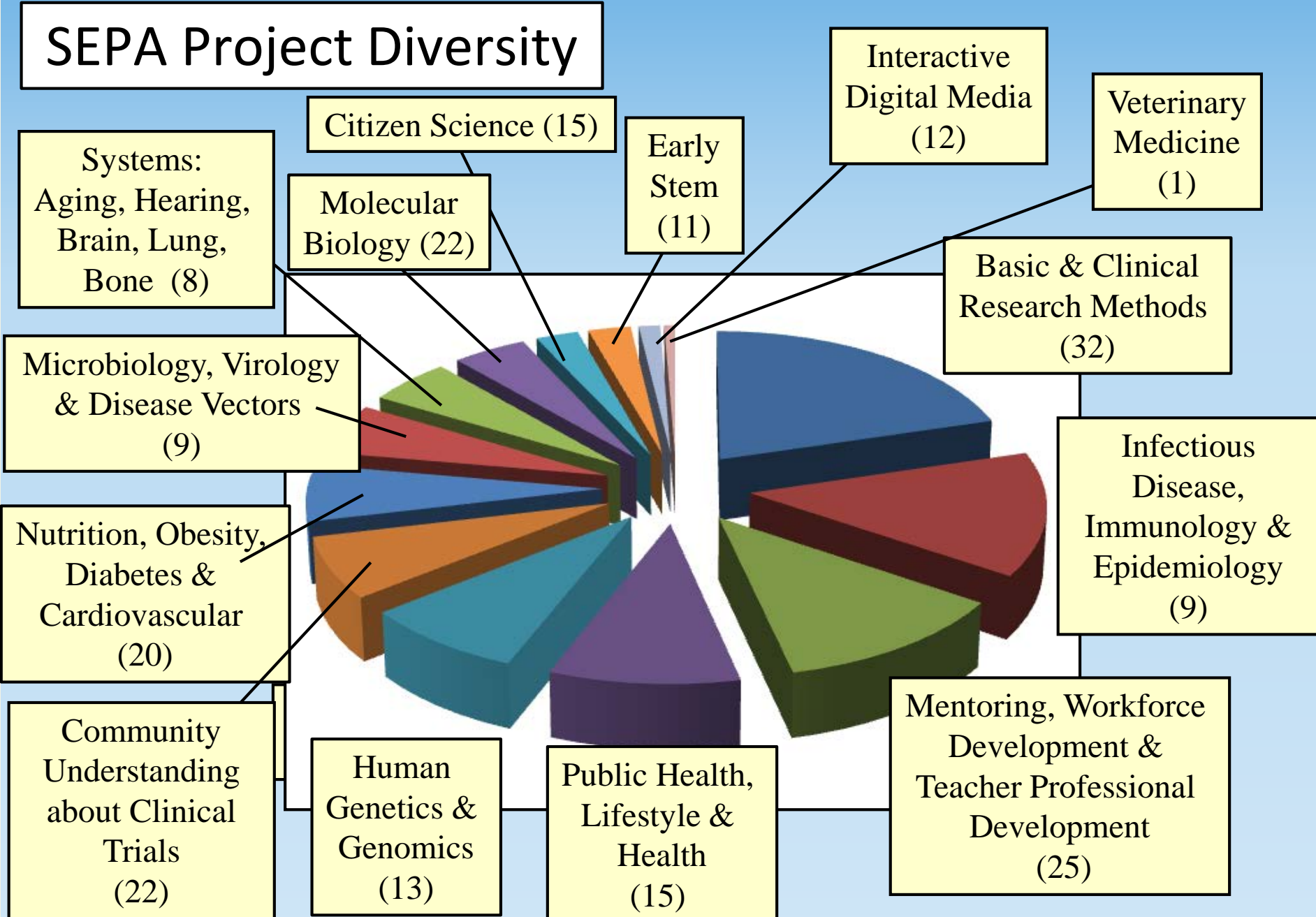
- Scientists and clinicians partnering with educators, community organizations and science centers

Goals:

- Career opportunities for minority and underserved pre-K to grade 12 (P-12) students
- P-12 teacher professional development
- Public health literacy



SEPA Project Diversity



SEPA Distribution

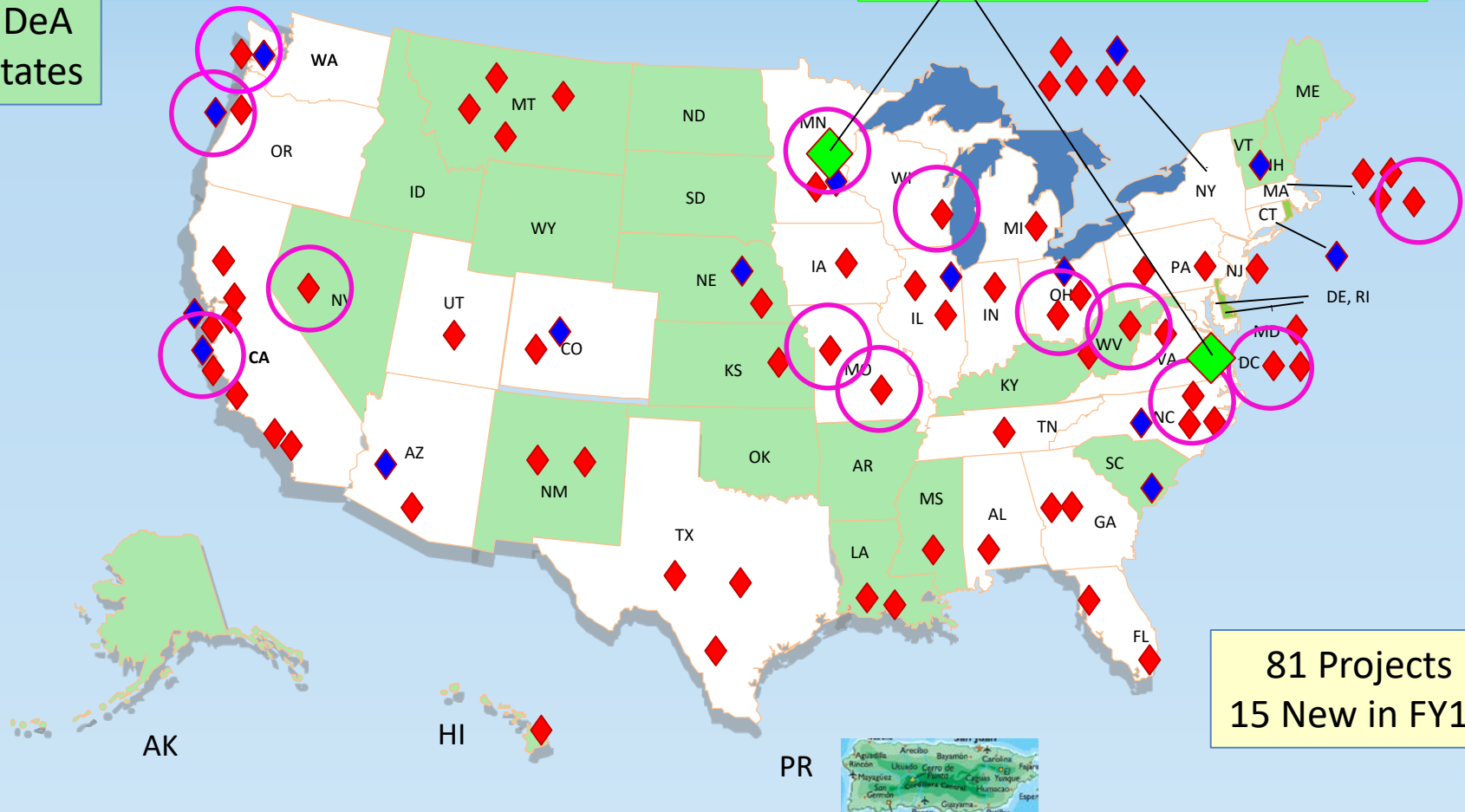
◆ P-12 STEM Projects

◆ Museum Exhibits

◆ SEPA Public Radio Stations

○ FY17 AWARDS

IDEA
States



81 Projects
15 New in FY17

SEPA FOA (PAR-17-339)

- R25 Research Science Education
 - \$250K, 8% F&A
 - 5 Years X \$270K (\$1.35M)
 - Next receipt date July 9, 2019
- 1 SEPA/Institution (defined by unique EIN)
- Topic – any area of NIH-funded research
- Target Audience – students, teachers, community
- Partnerships/Collaborations – required
- Rigorous Evaluation Plan - required
- Logic Model - required
- Advisory Committee - recommended



THANKS

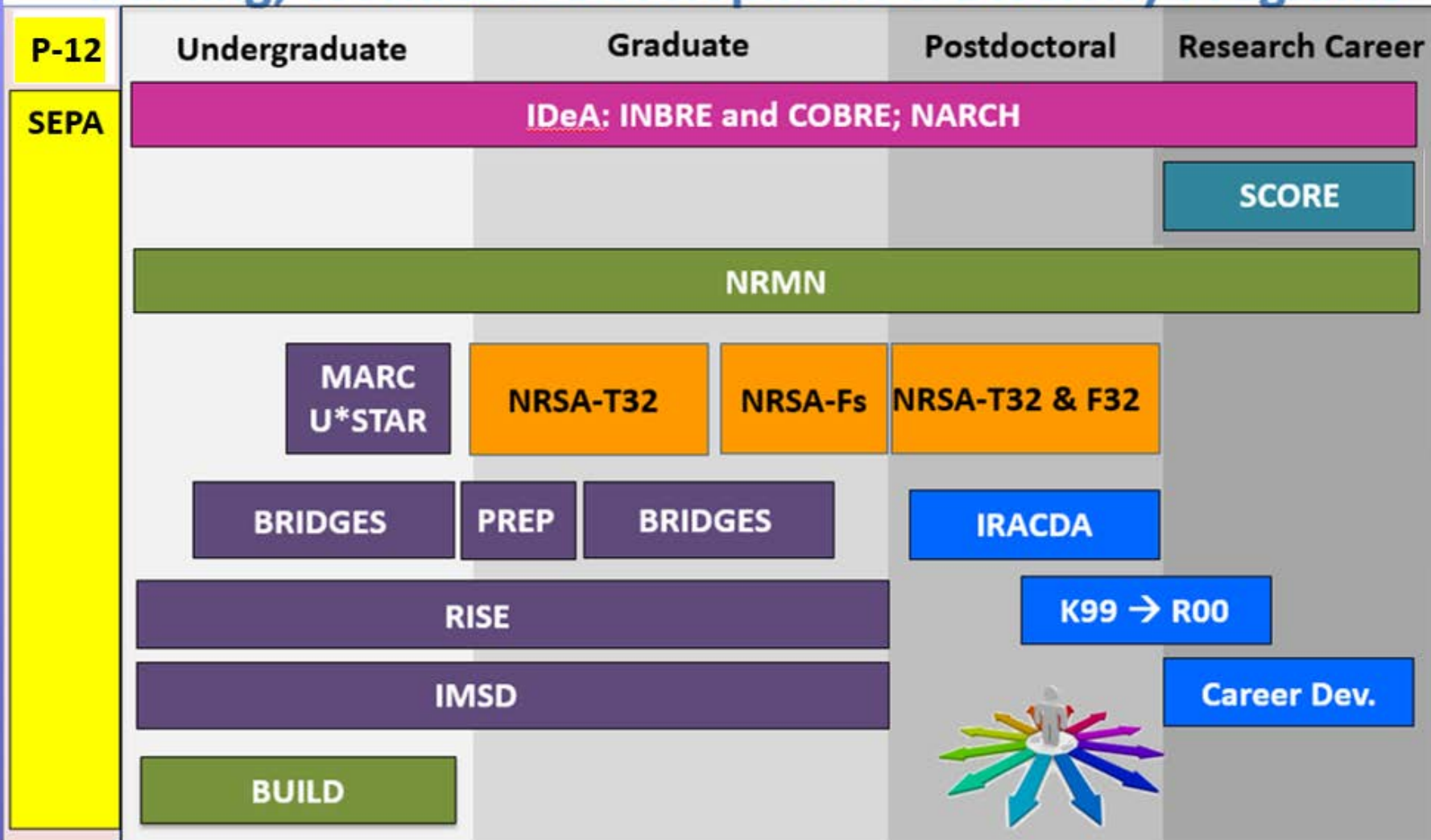




Jon Lorsch Keynote at 2017 SEPA PI Conference



Training, Workforce Development & Diversity Programs



Developing a highly skilled, creative and diverse biomedical research workforce

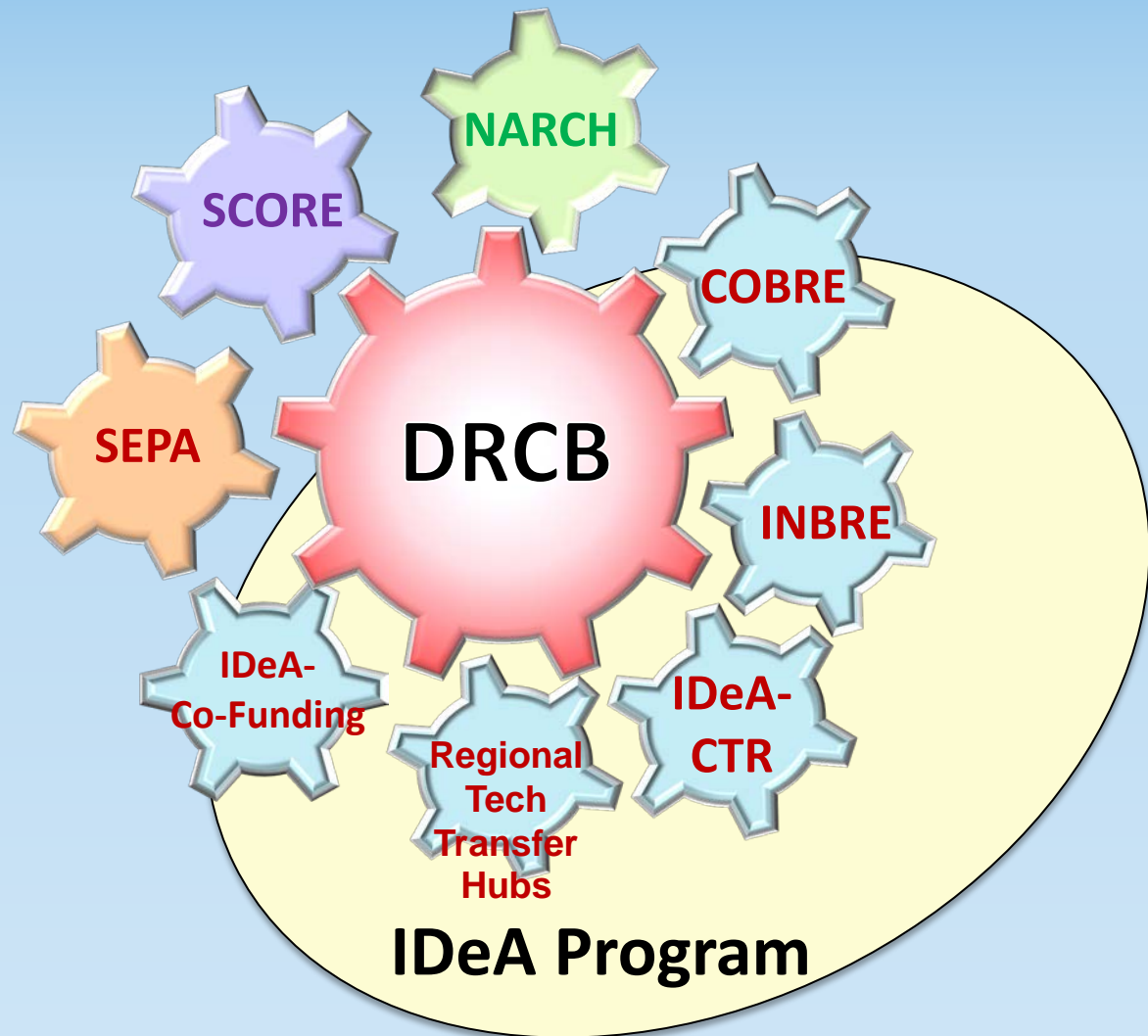
Dr. Jon Lorsch, Keynote at 2016 NIH SEPA PI/SciED Conference



Division for Research Capacity Building (DRCB)



Fred Taylor
Director, DRCB



Evolution of the SEPA Program 1991 - 2018



Evolution of the SEPA Program 1991 - 2018

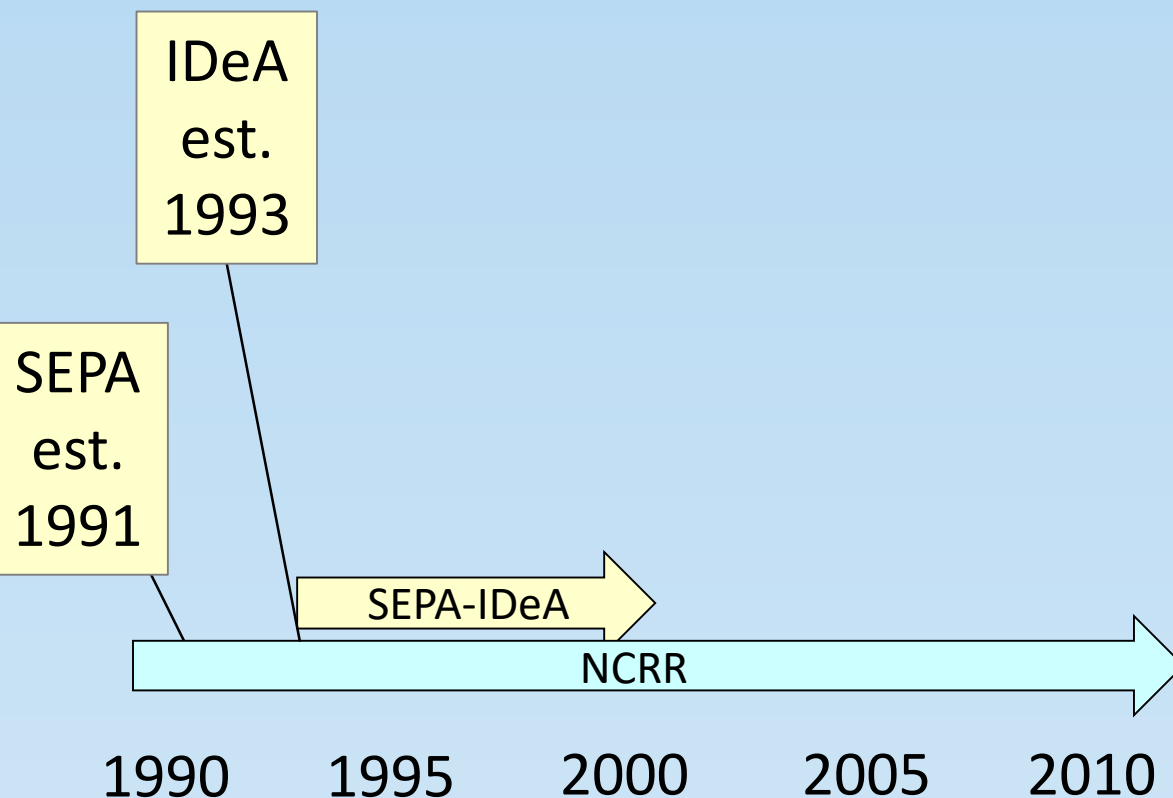
SEPA
est.
1991

NCRR

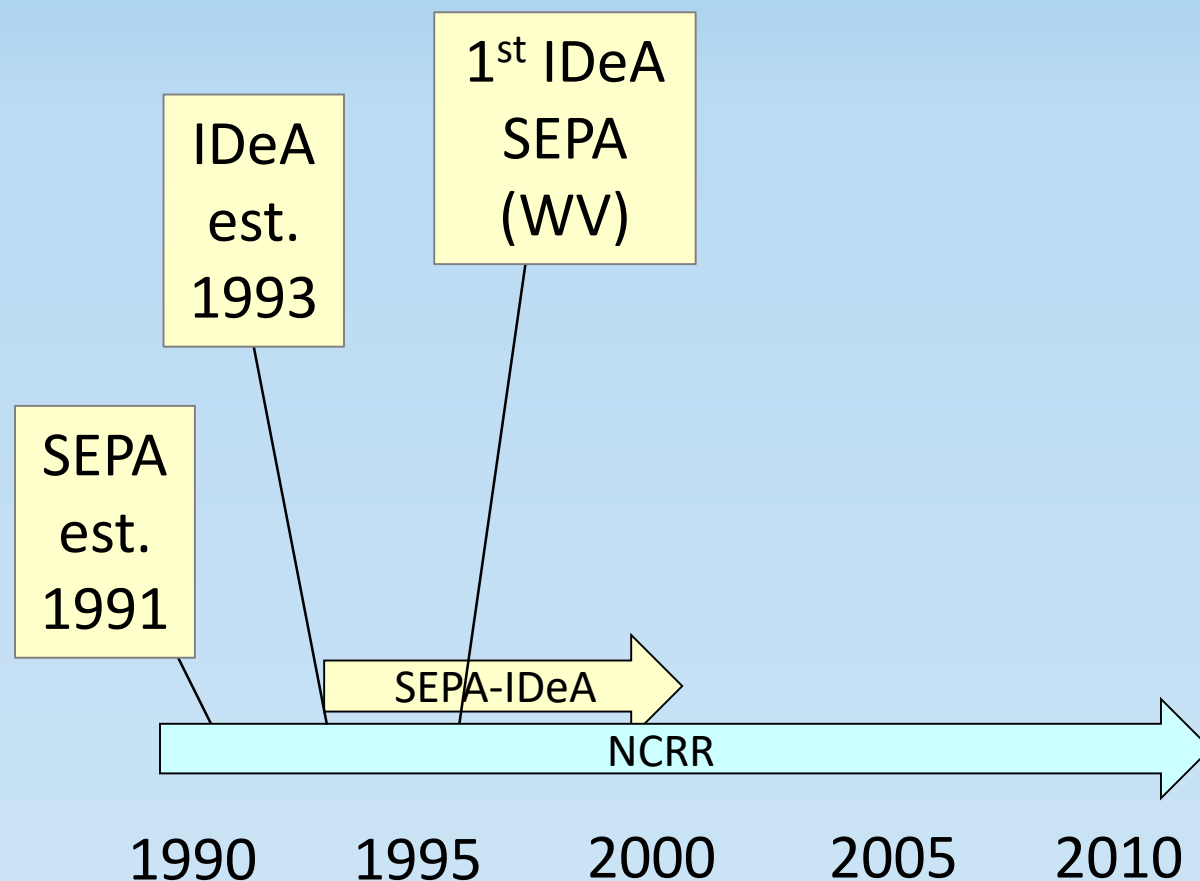
1990 1995 2000 2005 2010



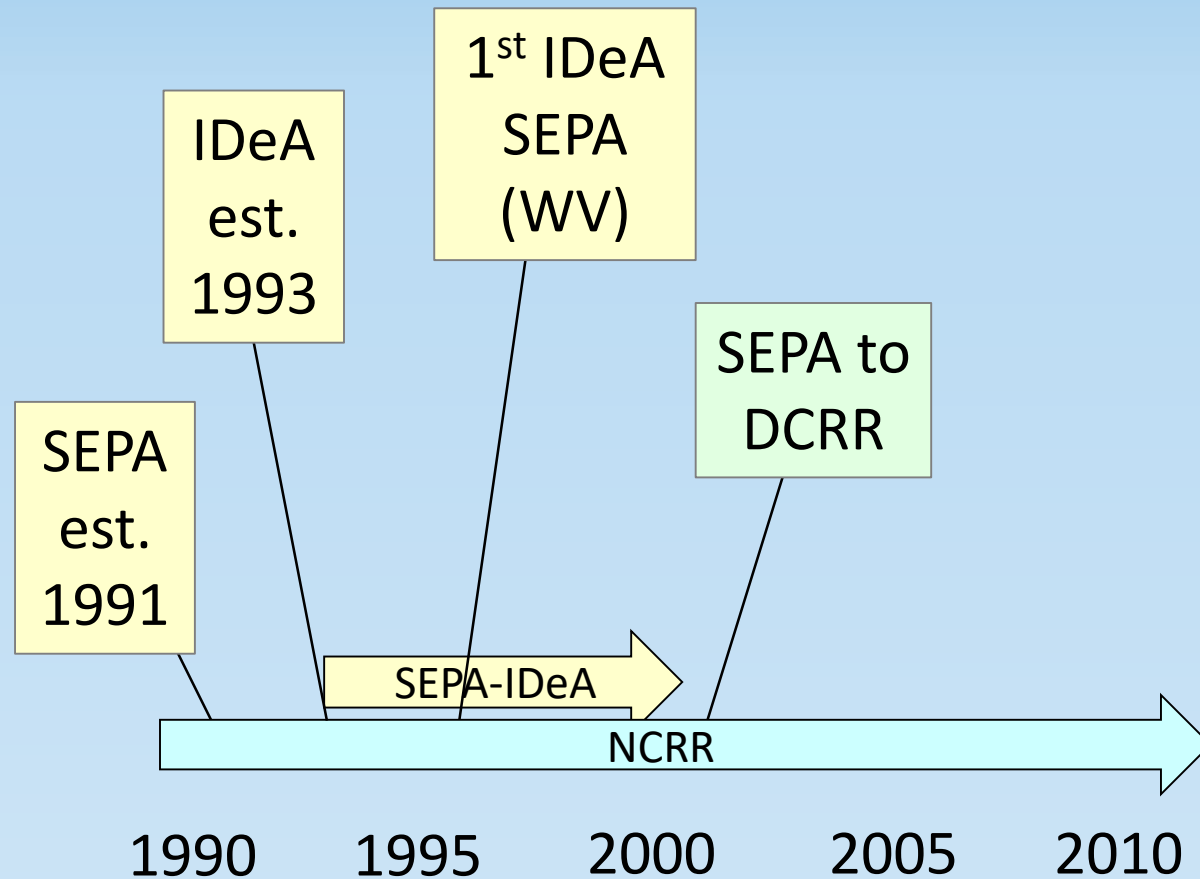
Evolution of the SEPA Program 1991 - 2018



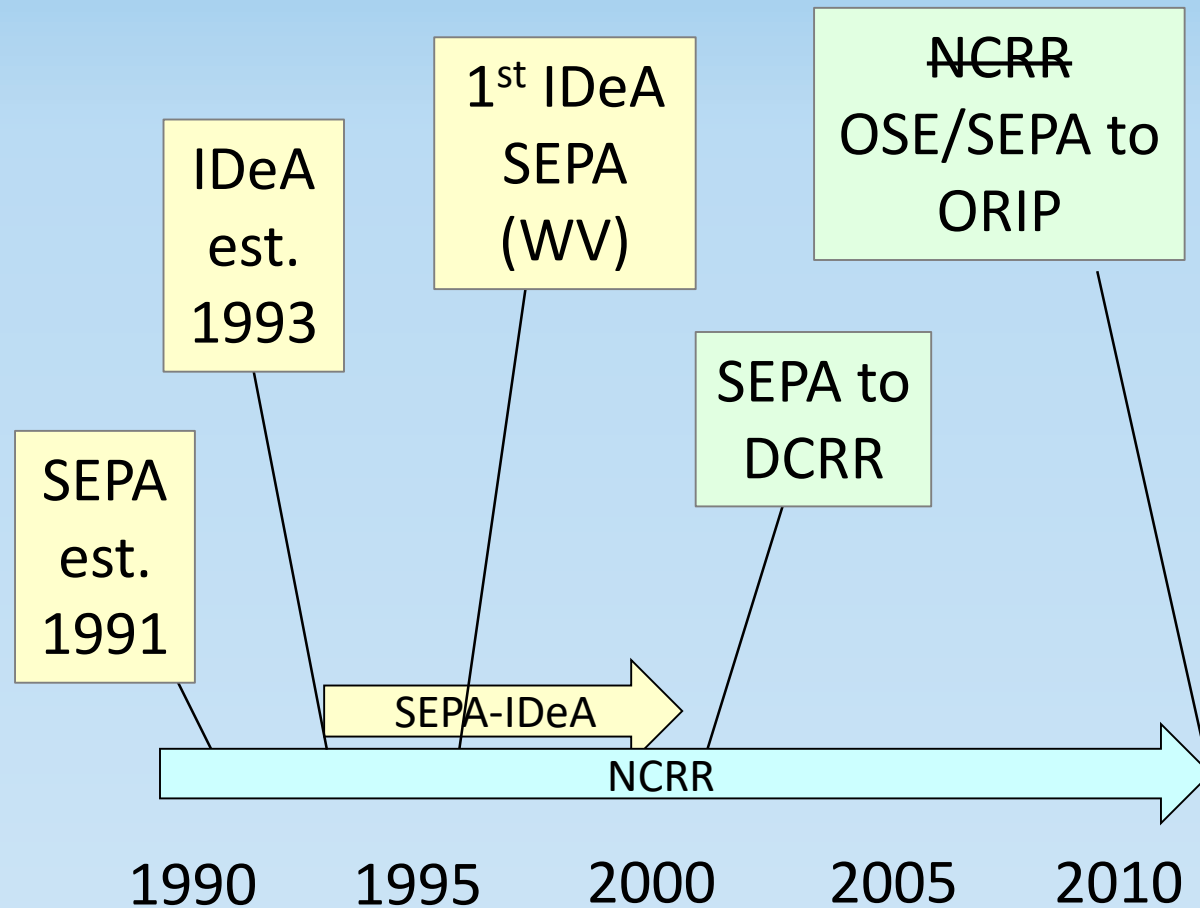
Evolution of the SEPA Program 1991 - 2018



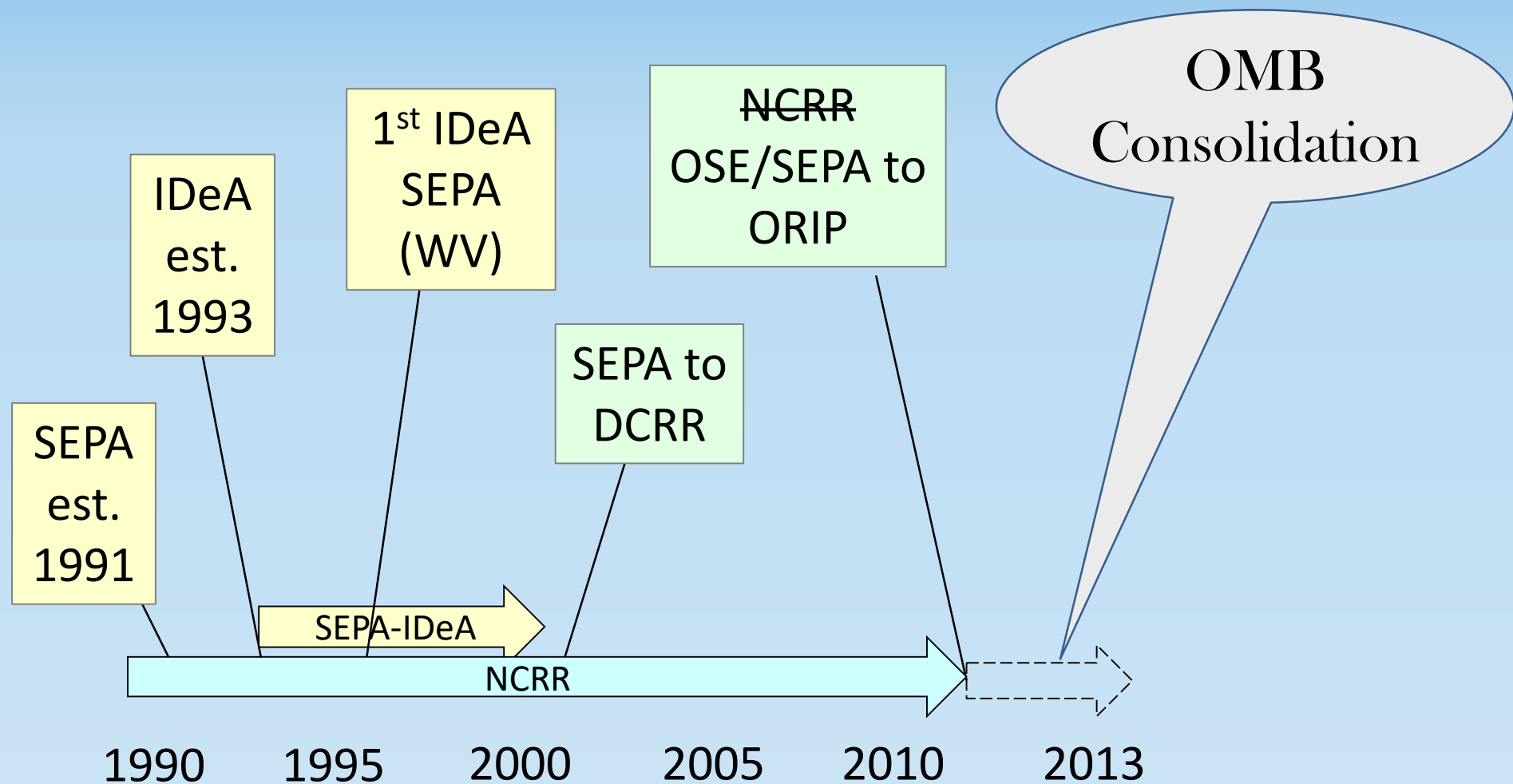
Evolution of the SEPA Program 1991 - 2018



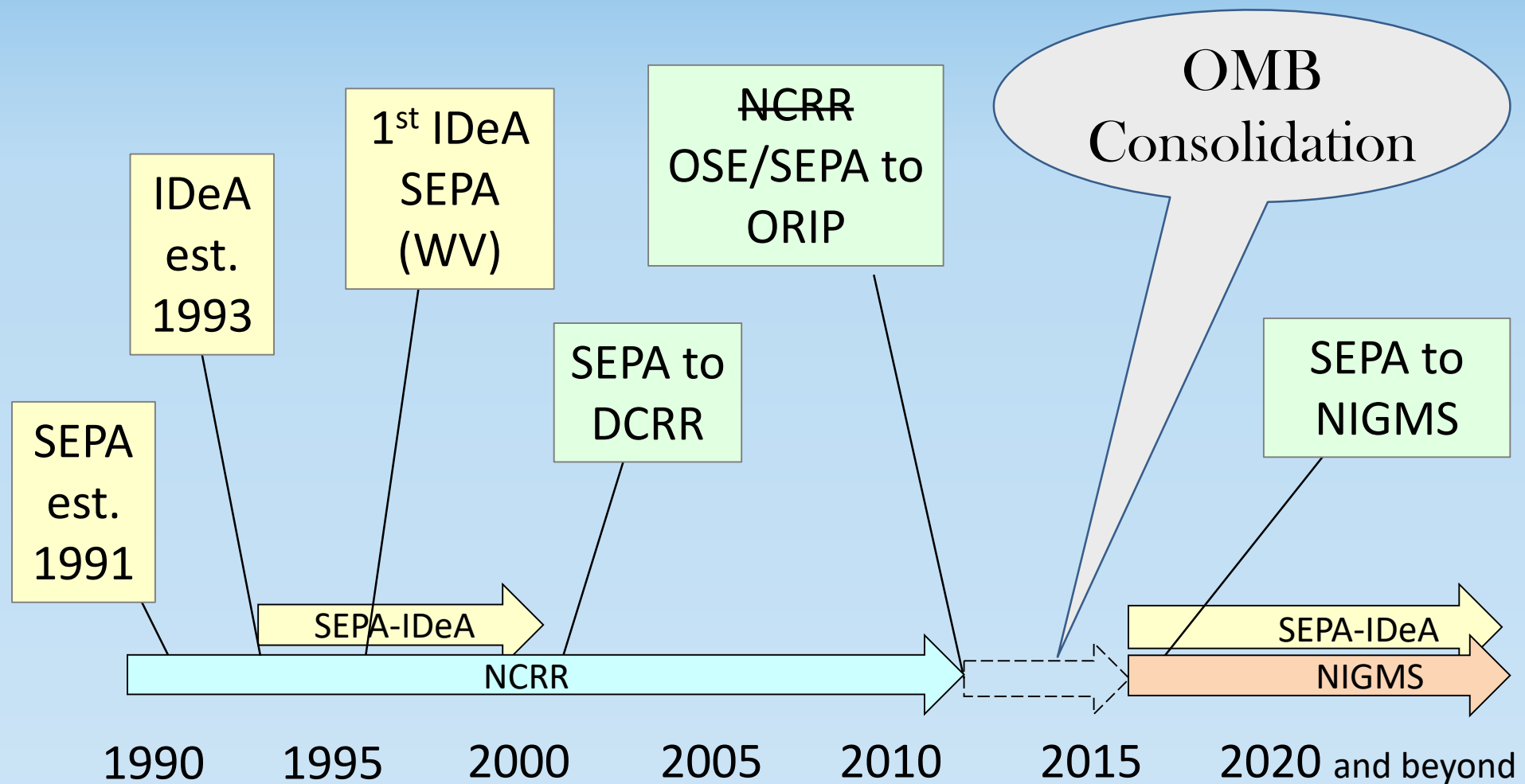
Evolution of the SEPA Program 1991 - 2018



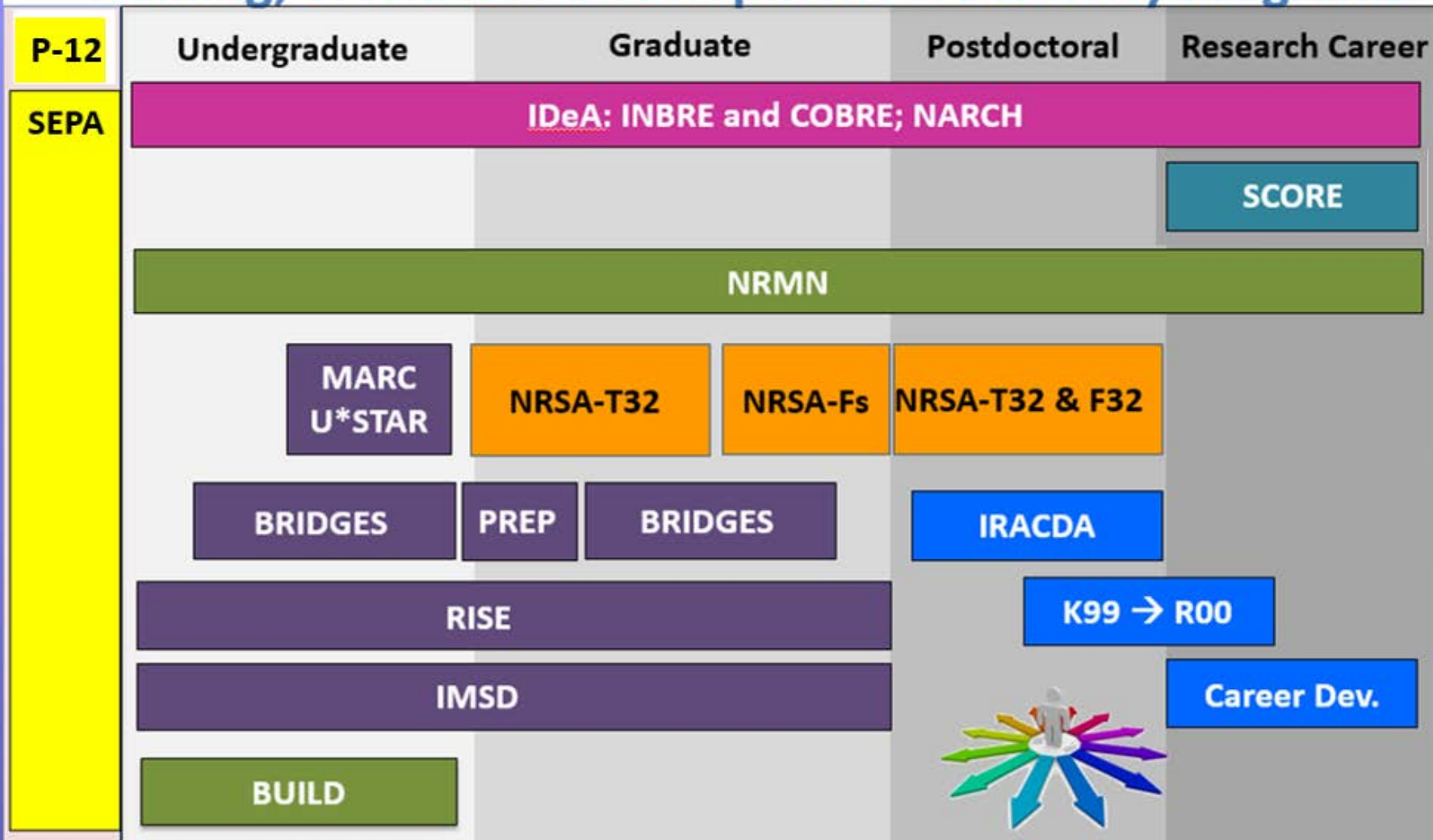
Evolution of the SEPA Program 1991 - 2018



Evolution of the SEPA Program 1991 - 2018



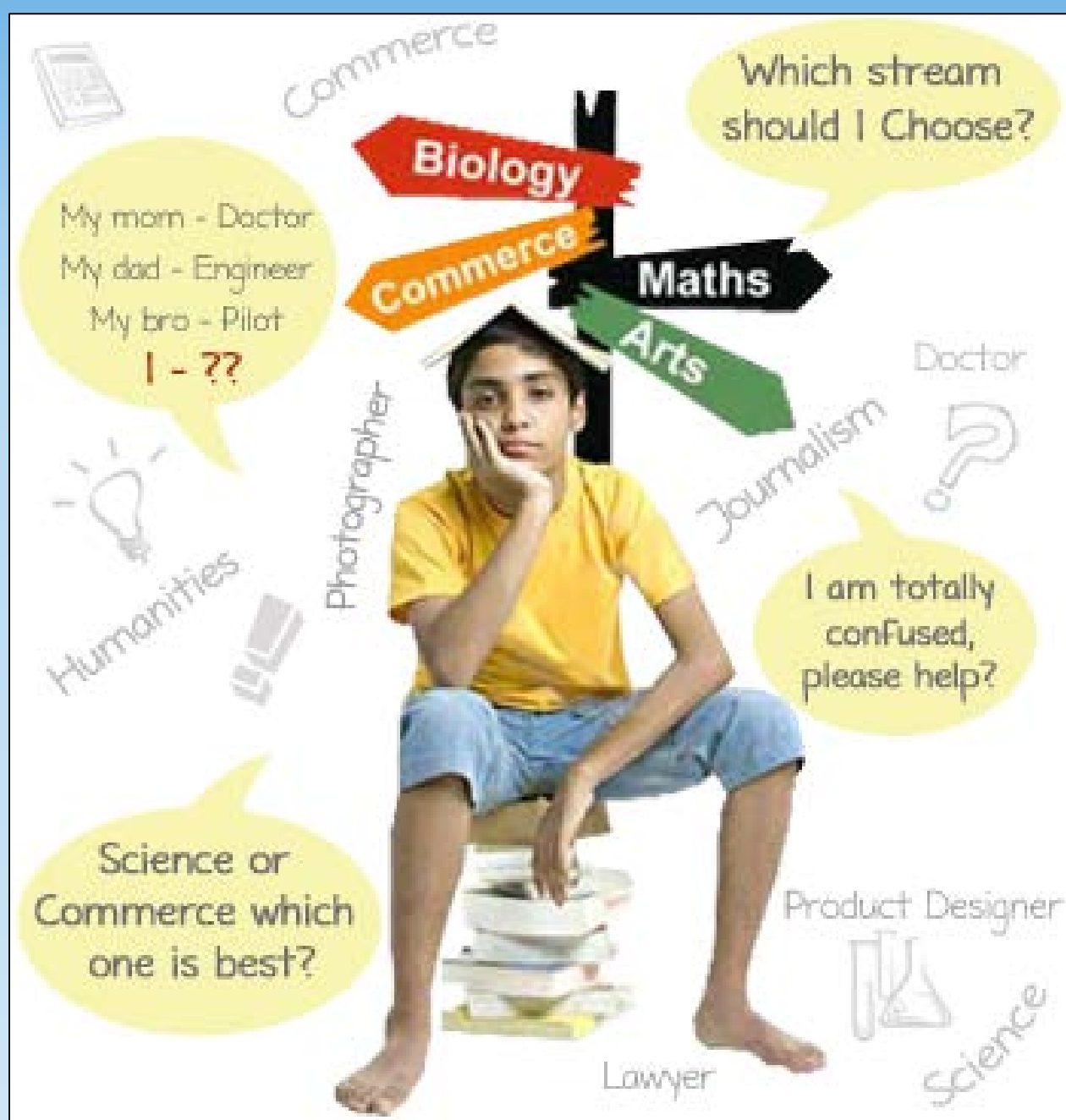
Training, Workforce Development & Diversity Programs



Developing a highly skilled, creative and diverse biomedical research workforce

Dr. Jon Lorsch, Keynote at 2016 NIH SEPA PI/SciED Conference





“Creativity is broadly
distributed. Opportunity
is not.”



Lost Einsteins: The Innovations We're Missing



David Leonhardt

DEC. 3, 2017

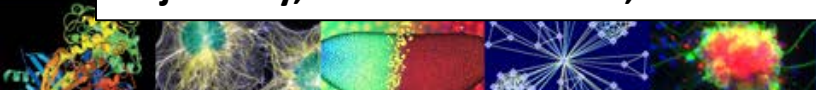
The New York Times

“Lost Einsteins” - people who could “have had highly impactful innovations” if they had been able to pursue the opportunities they deserved”

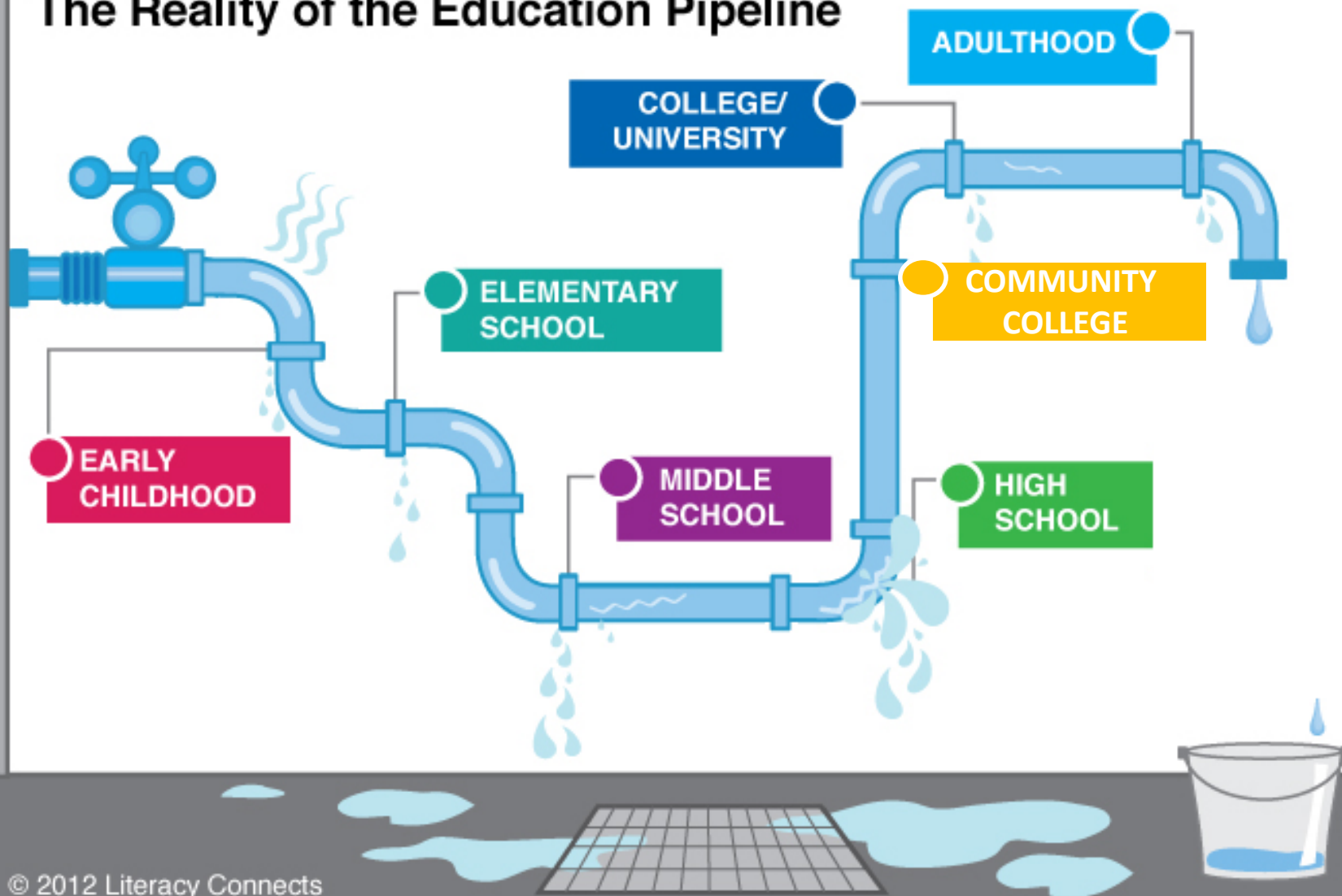
- ✓ Women, African-Americans, Latinos, Southerners, and low- and middle-income children are far less likely to grow up to become patent holders and inventors.
- ✓ Our society appears to be missing out on most potential inventors from these groups.
- ✓ These groups together make up most of the American population.

America’s “lost Einsteins”: The importance of exposing children to innovation

Raj Chetty, Richard V. Reeves, and Adrianna Pita

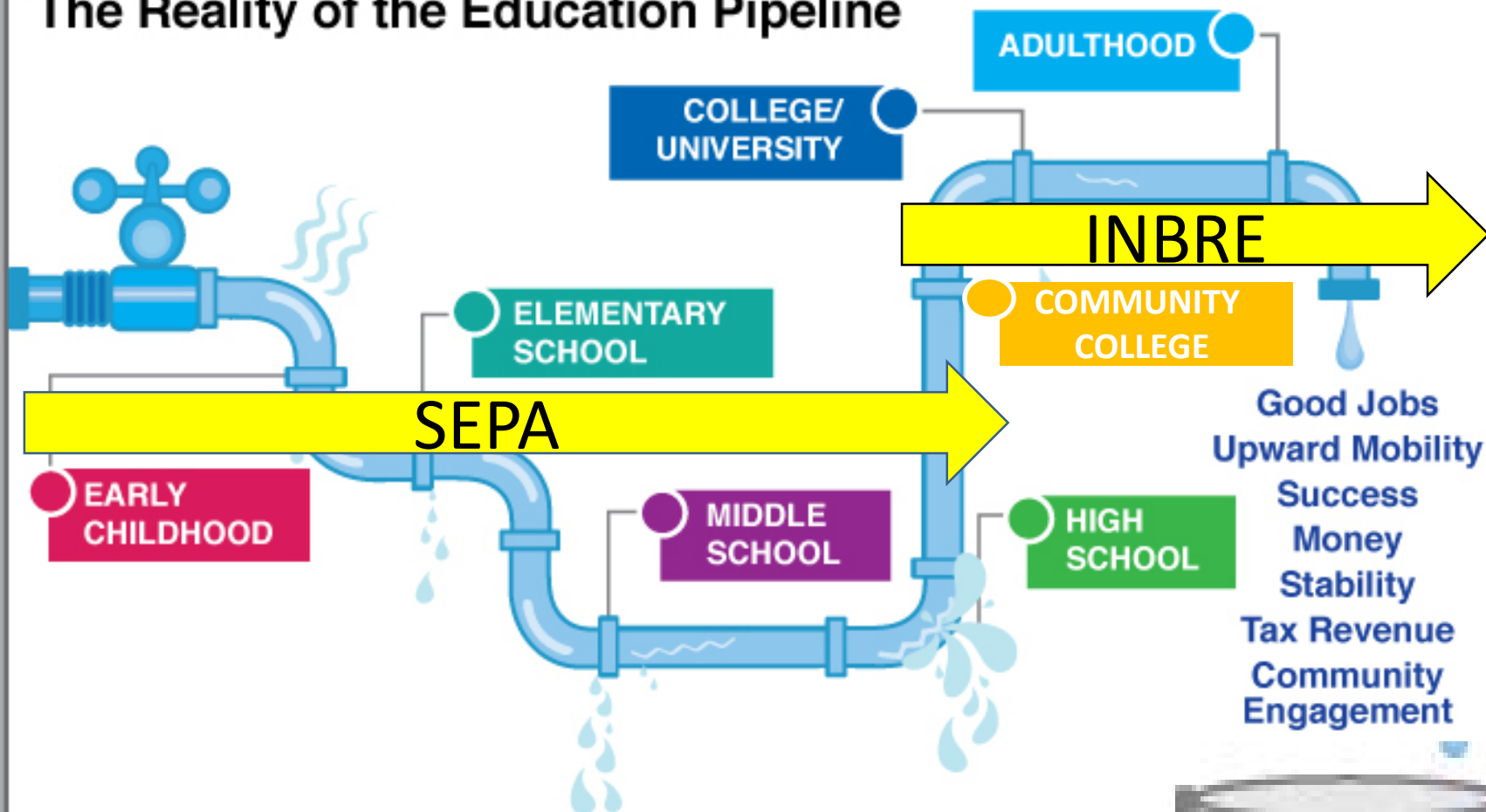


The Reality of the Education Pipeline



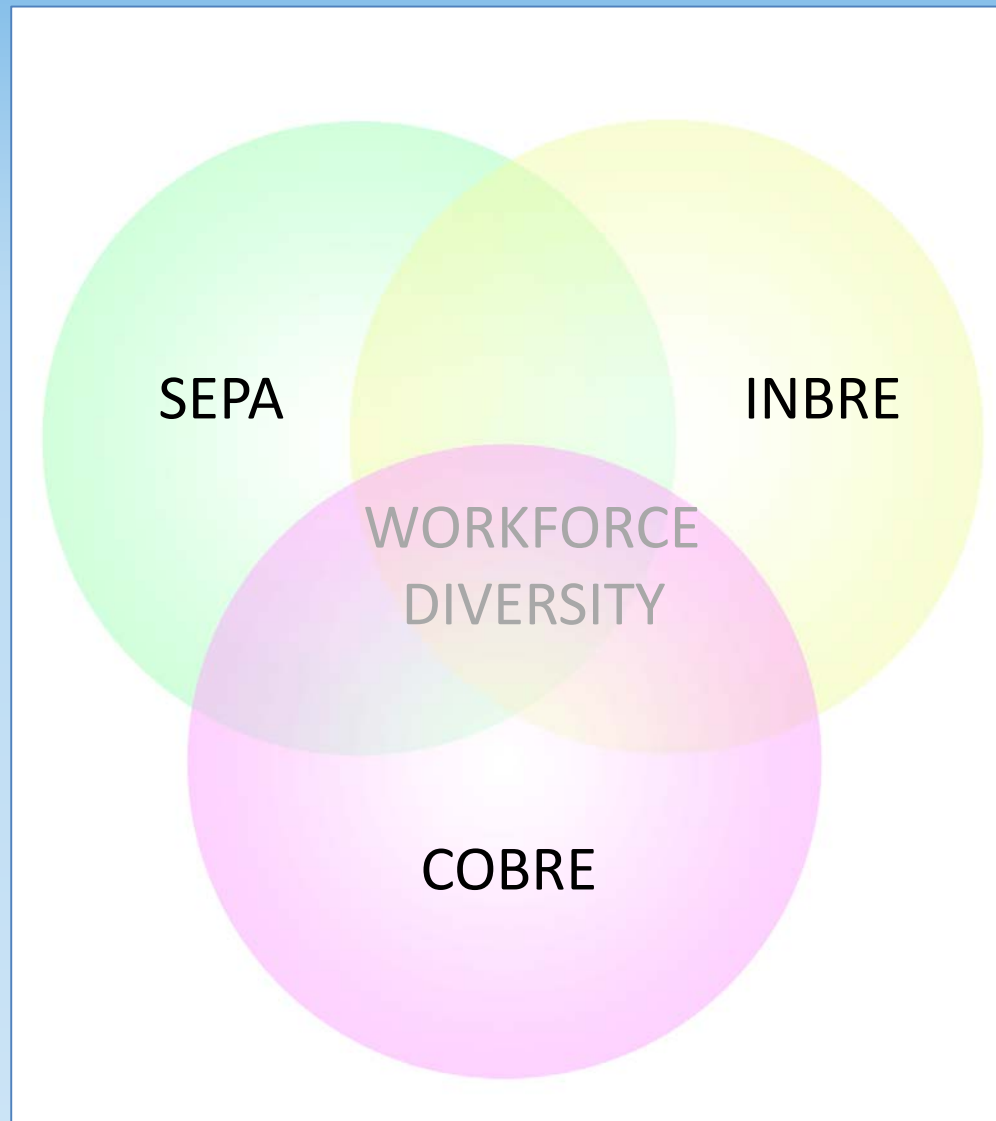
© 2012 Literacy Connects

The Reality of the Education Pipeline



© 2012 Literacy Connects





SEPA's & IDeA State SEPA's by Year

CUMULATIVE AWARDS

ALL SEPA's

IDeA SEPA's

2017
NV, WV

350

300

250

200

150

100

50

1991

1995

4

5

6

2000

9

10

11

2005

13

14

15

16

2010

18

19

20

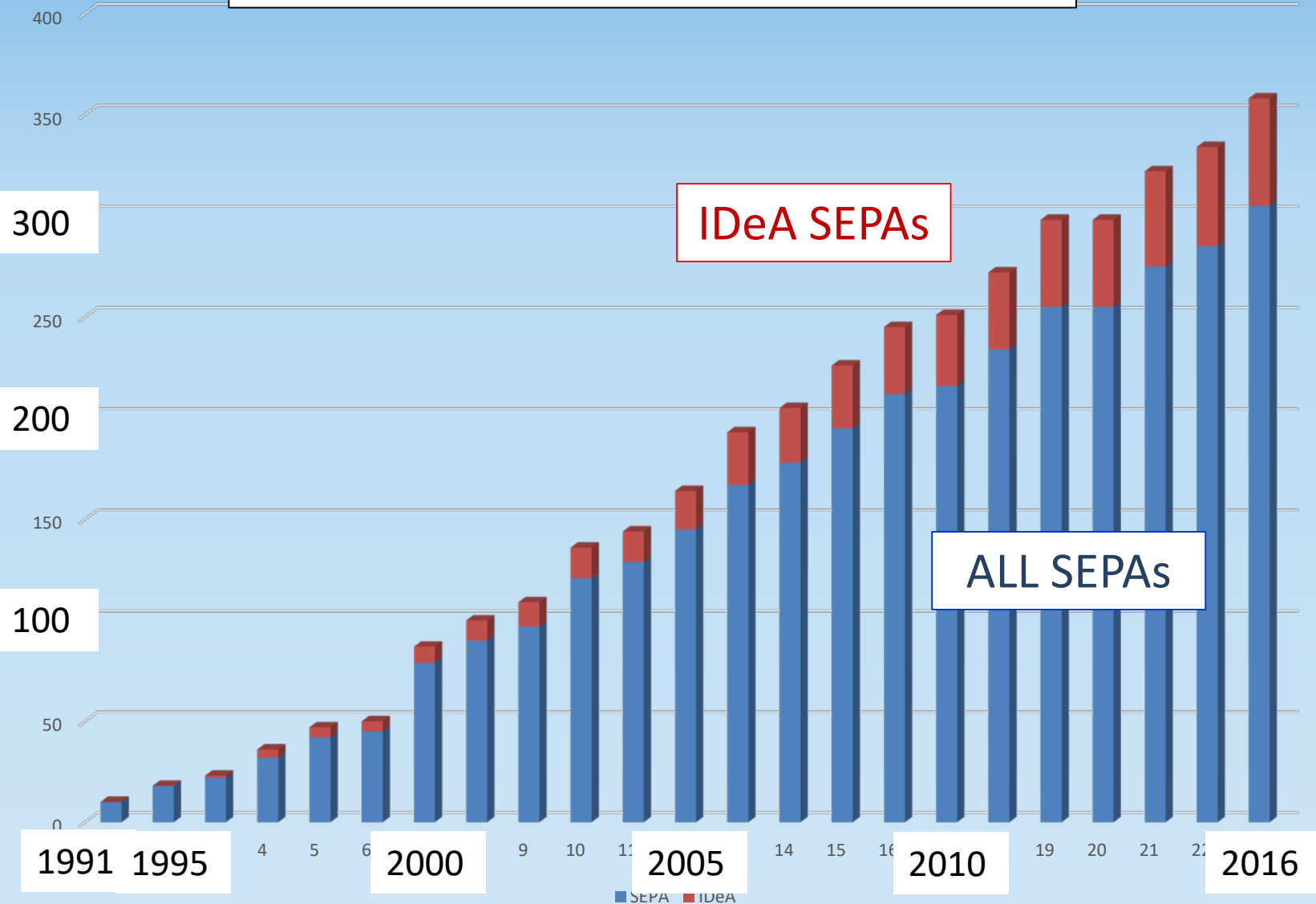
21

2016

SEPA IDeA

SEPA's & IDeA State SEPA's by Year

CUMULATIVE AWARDS



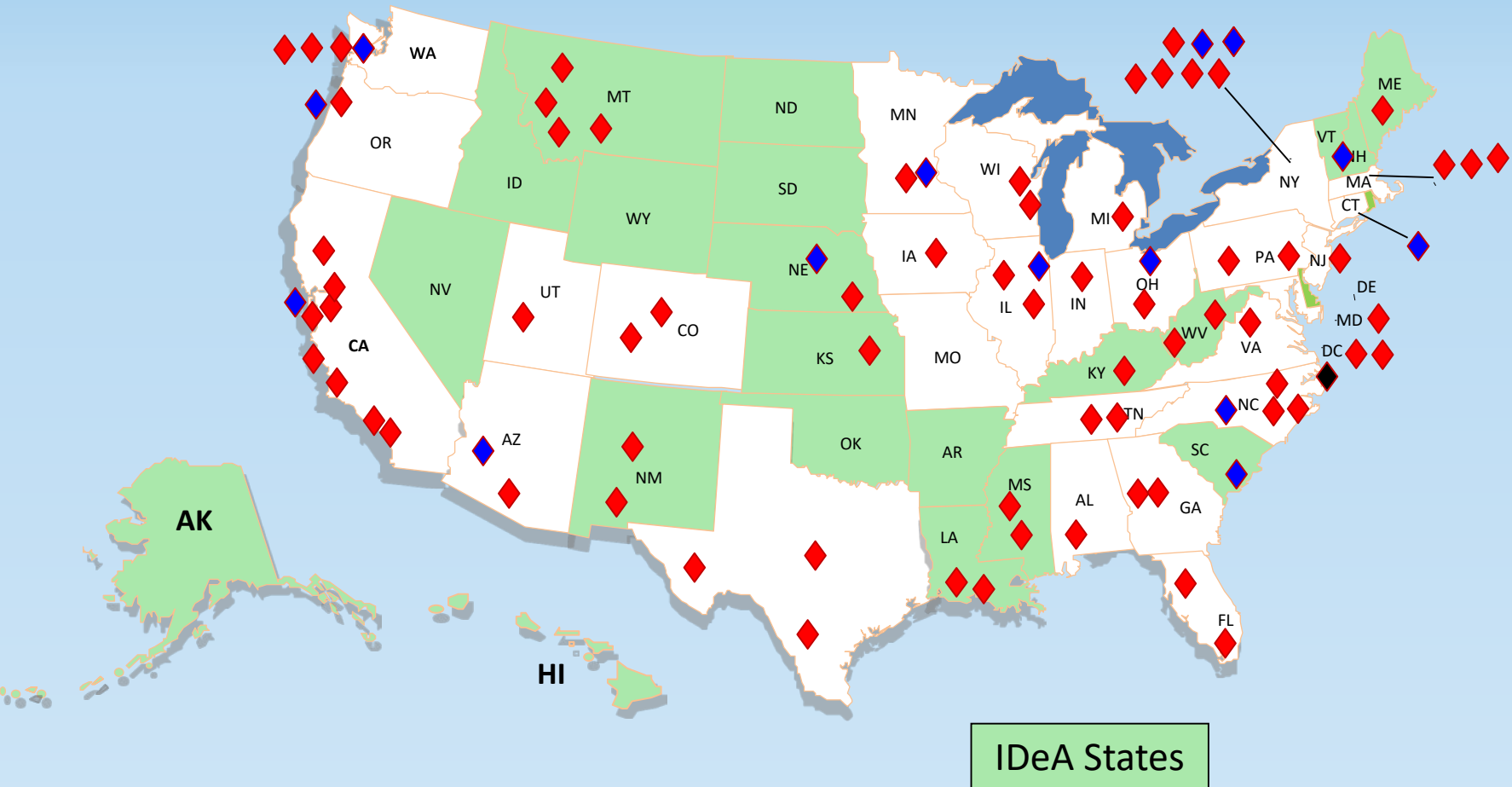
SEPA Projects



SEPA P-12 STEM Projects



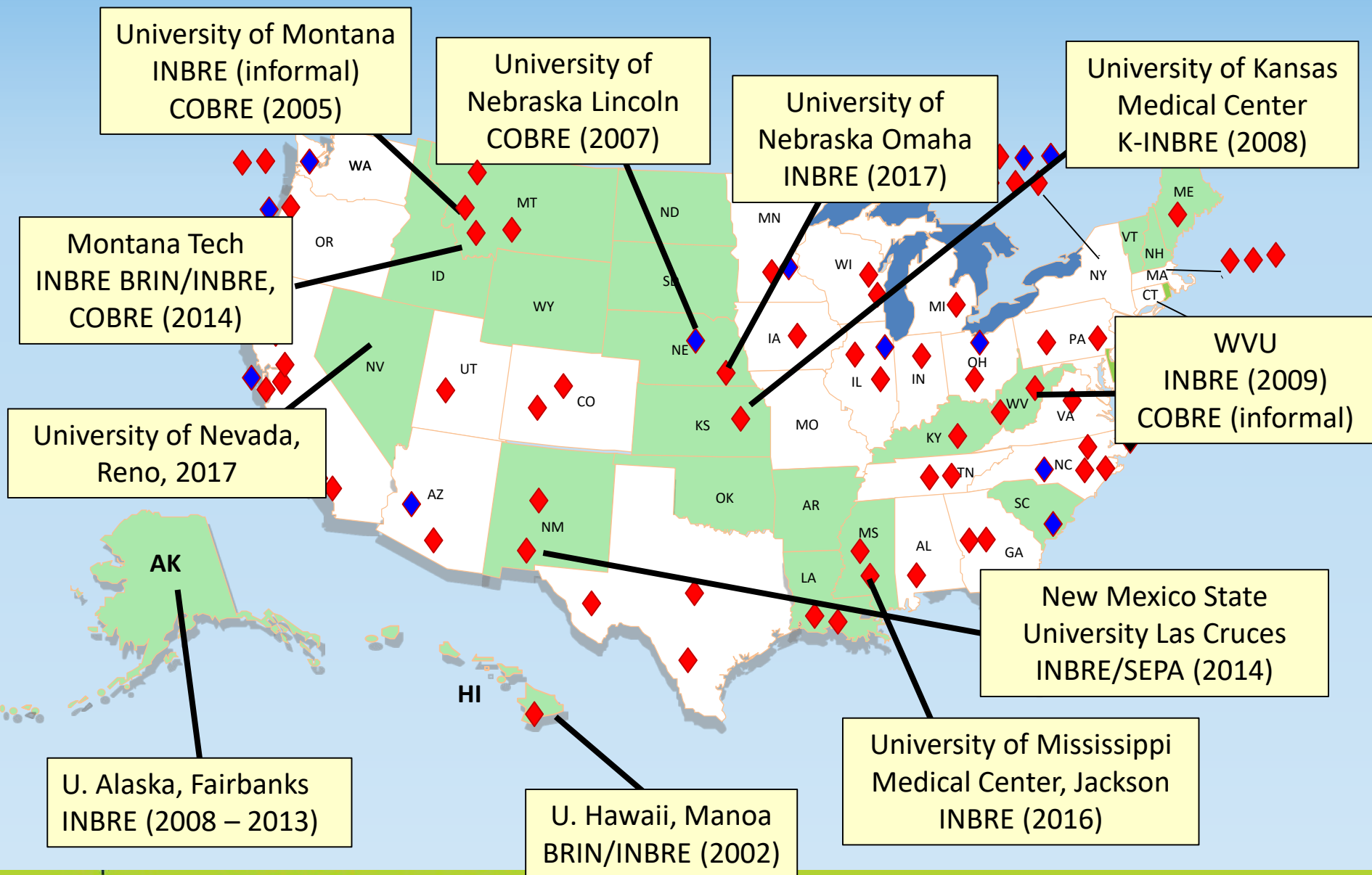
SEPA Museum Exhibits



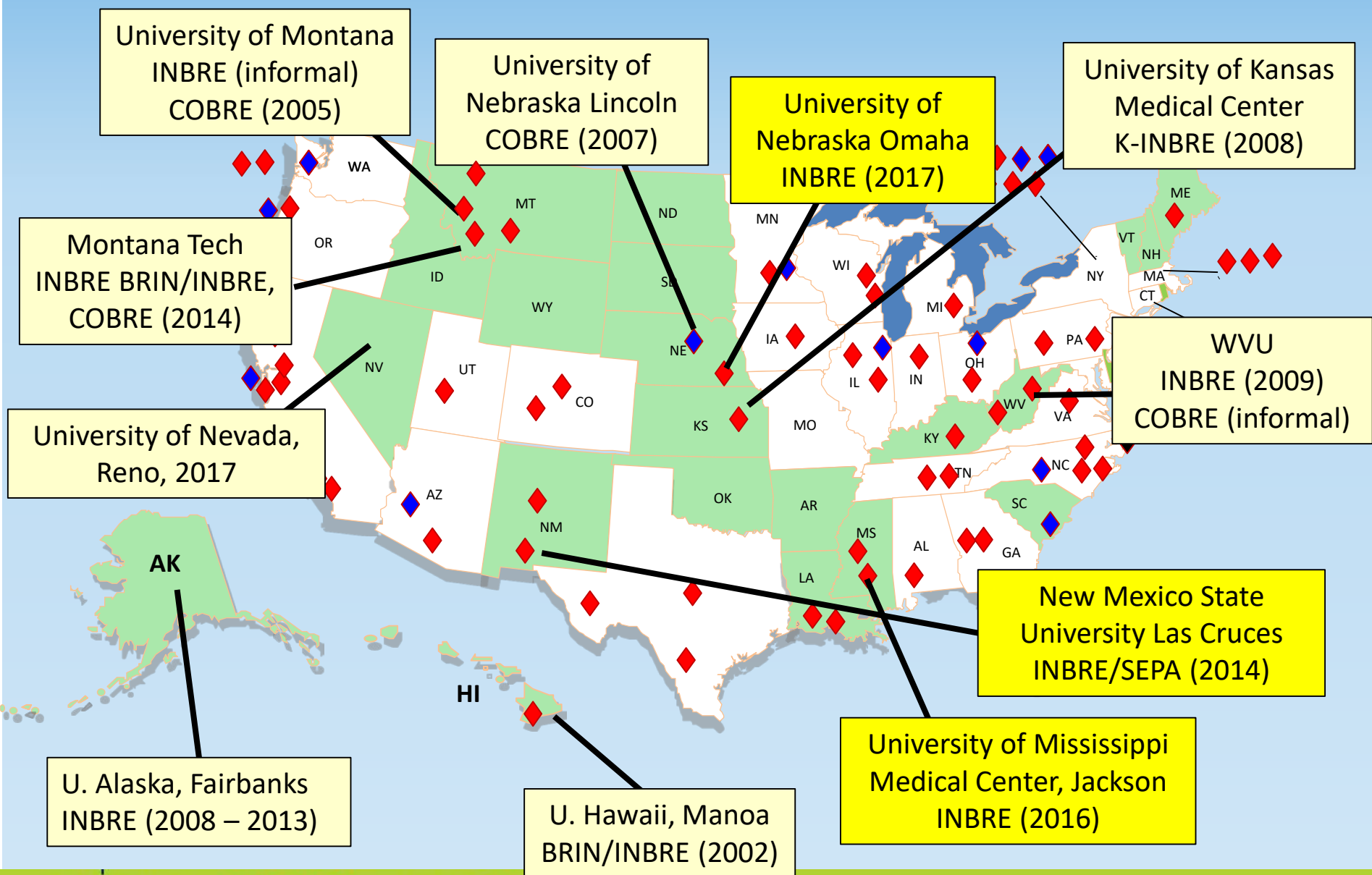
IDeA States



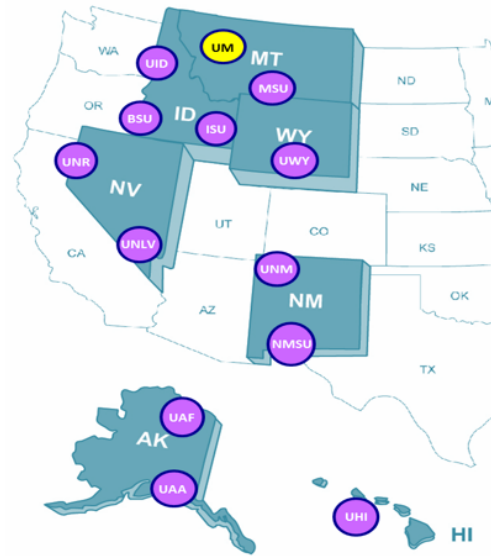
SEPA/INBRE & COBRE Partnerships



SEPA/INBRE & COBRE Partnerships



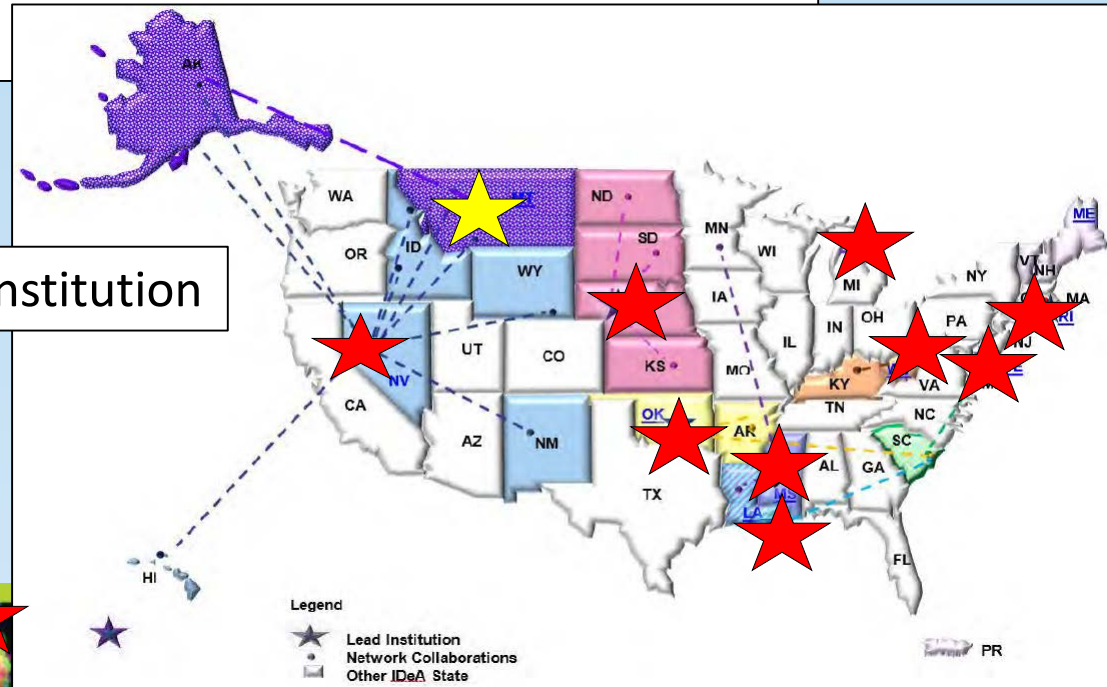
★ Mountain West Clinical Translational Research Infrastructure Network (CTR-IN)



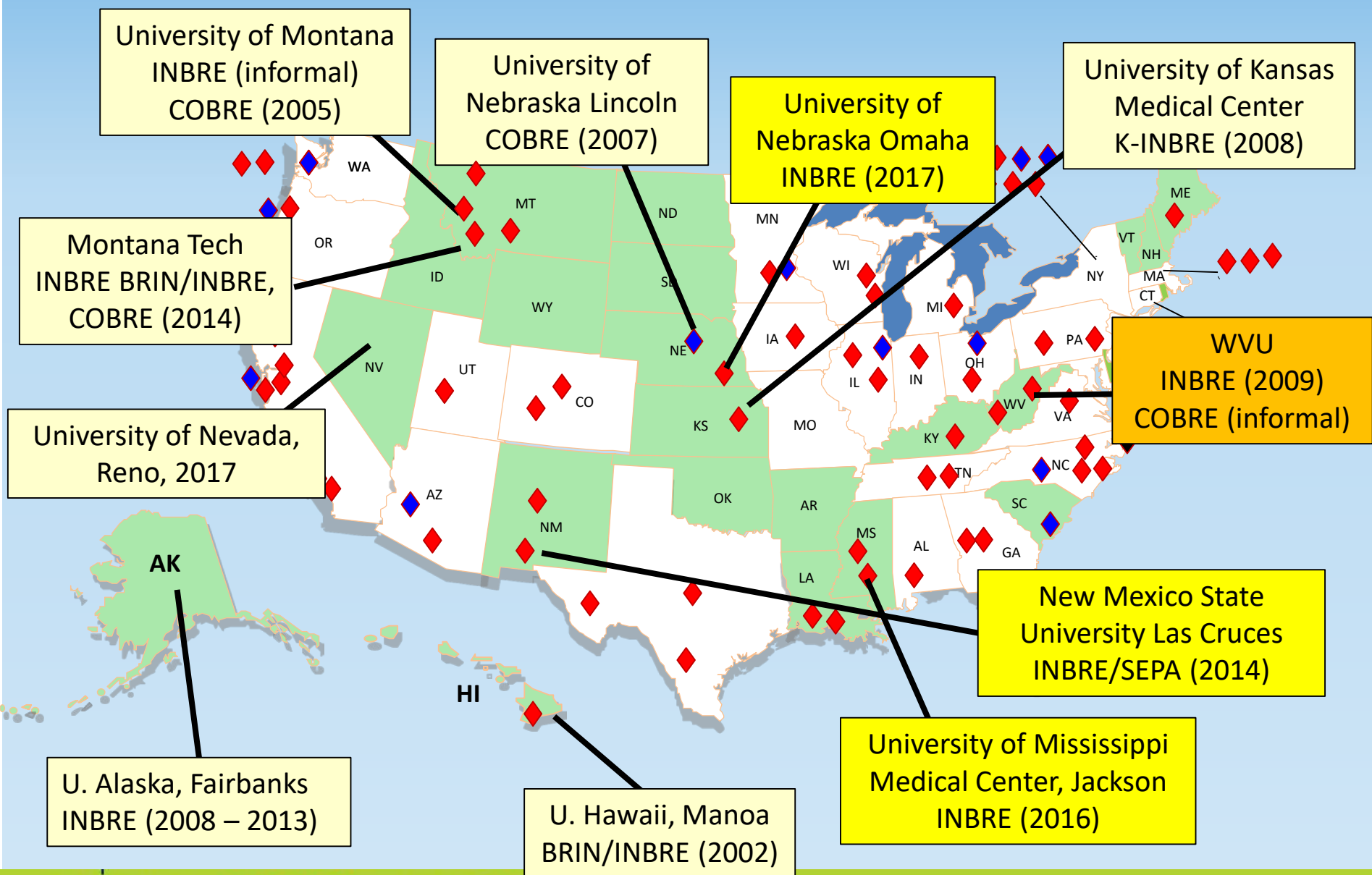
University	University
Boise State University	University of Idaho
Idaho State University	✓ University of Montana
✓ Montana State University	✓ University of New Mexico
✓ New Mexico State University	University of Nevada Las Vegas
University of Alaska Anchorage	✓ University of Nevada Reno
University of Alaska Fairbanks	University of Wyoming
✓ University of Hawaii	

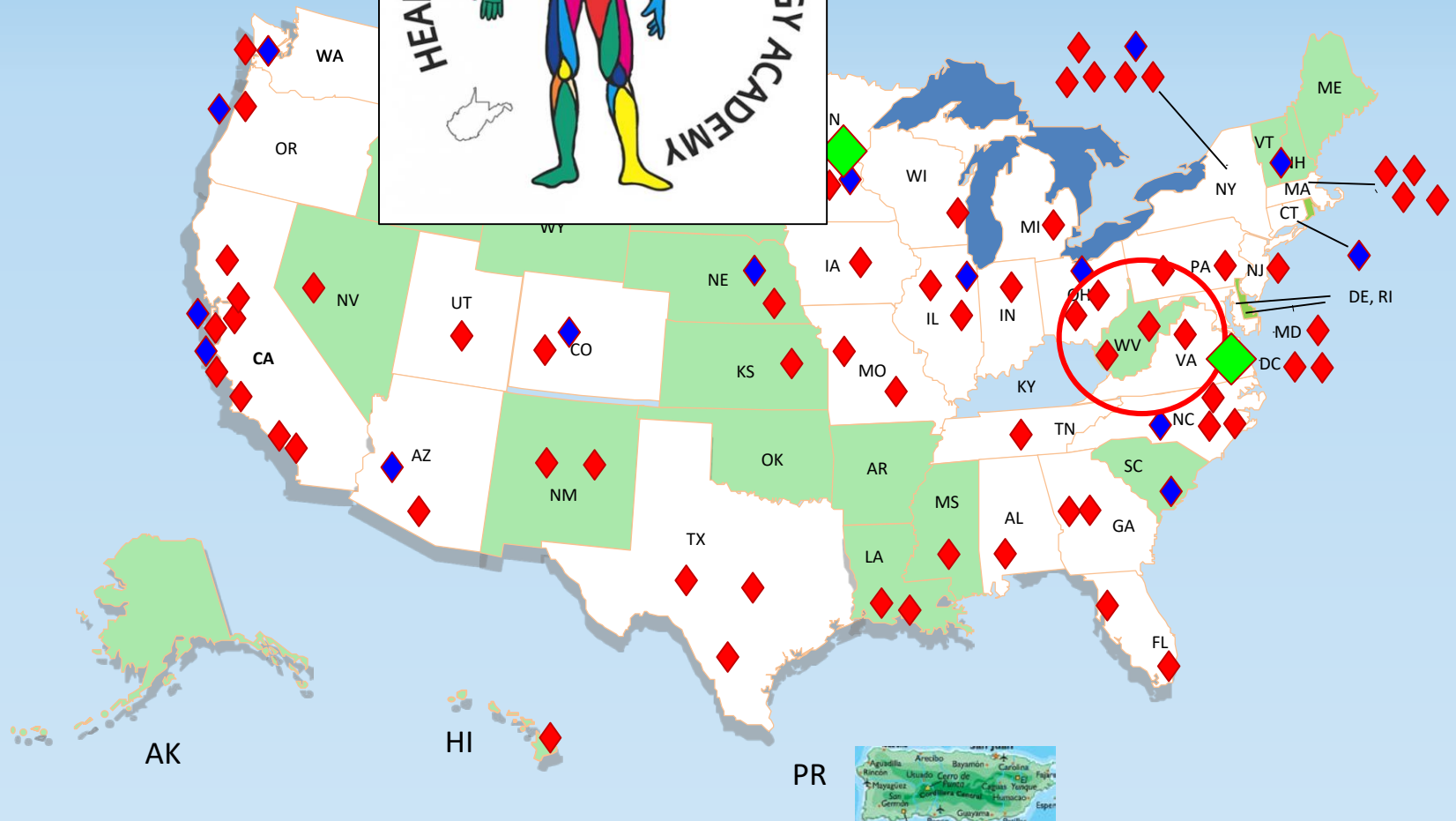
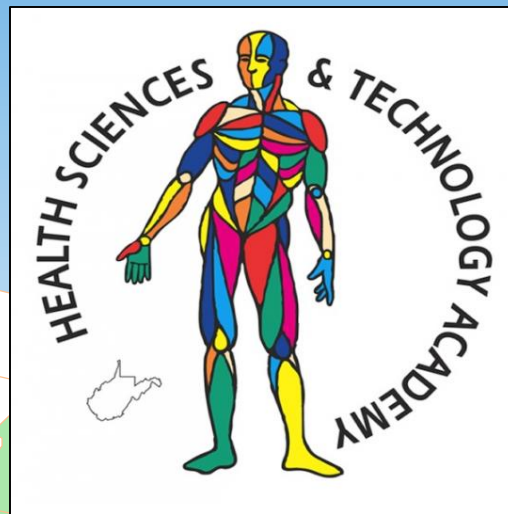
✓ SEPA

★ CTR Lead Institution



SEPA/INBRE & COBRE Partnerships

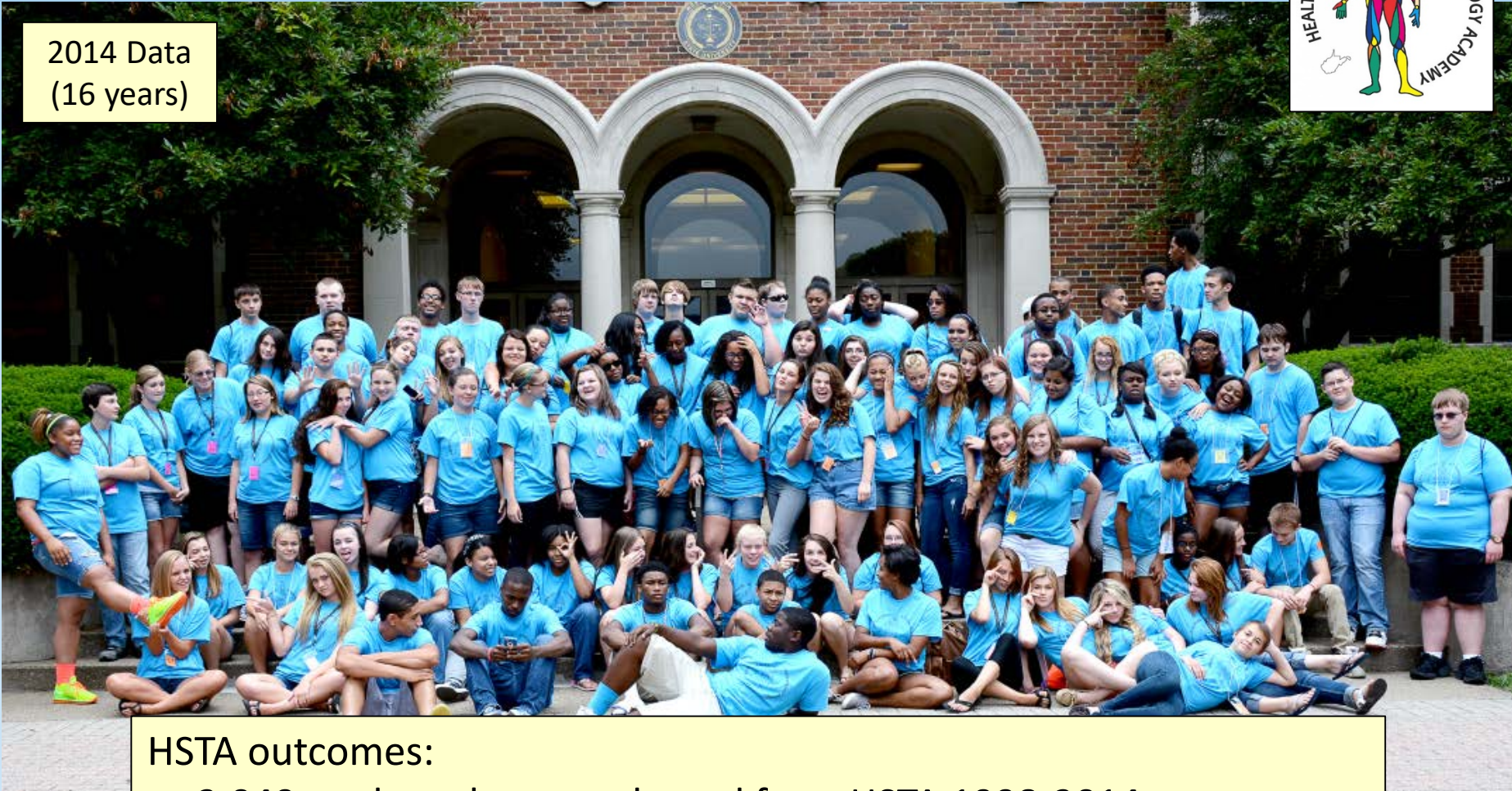




Teaching to Learn: West Virginia SEPA Students Take CBPR to Their Community



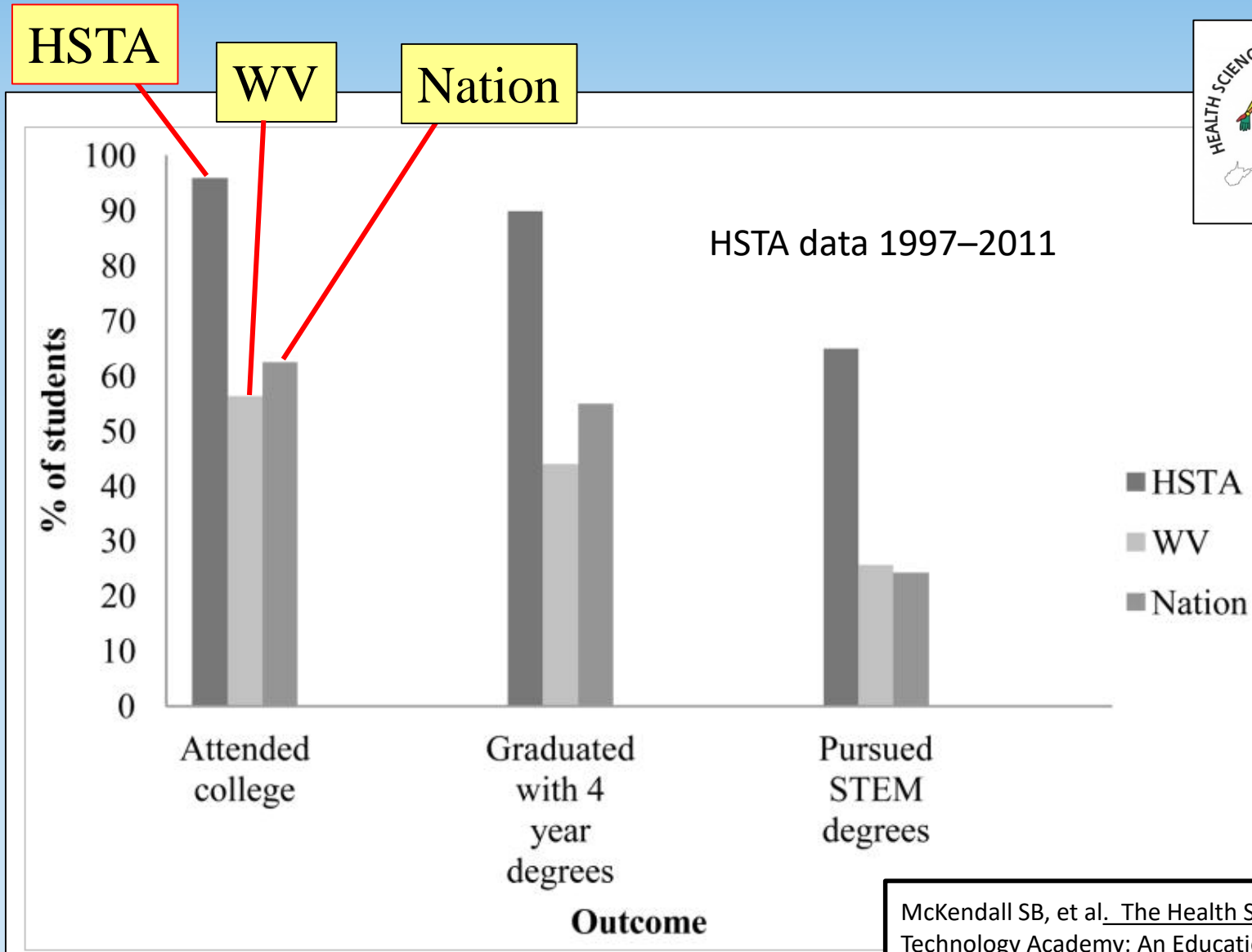
2014 Data
(16 years)



HSTA outcomes:

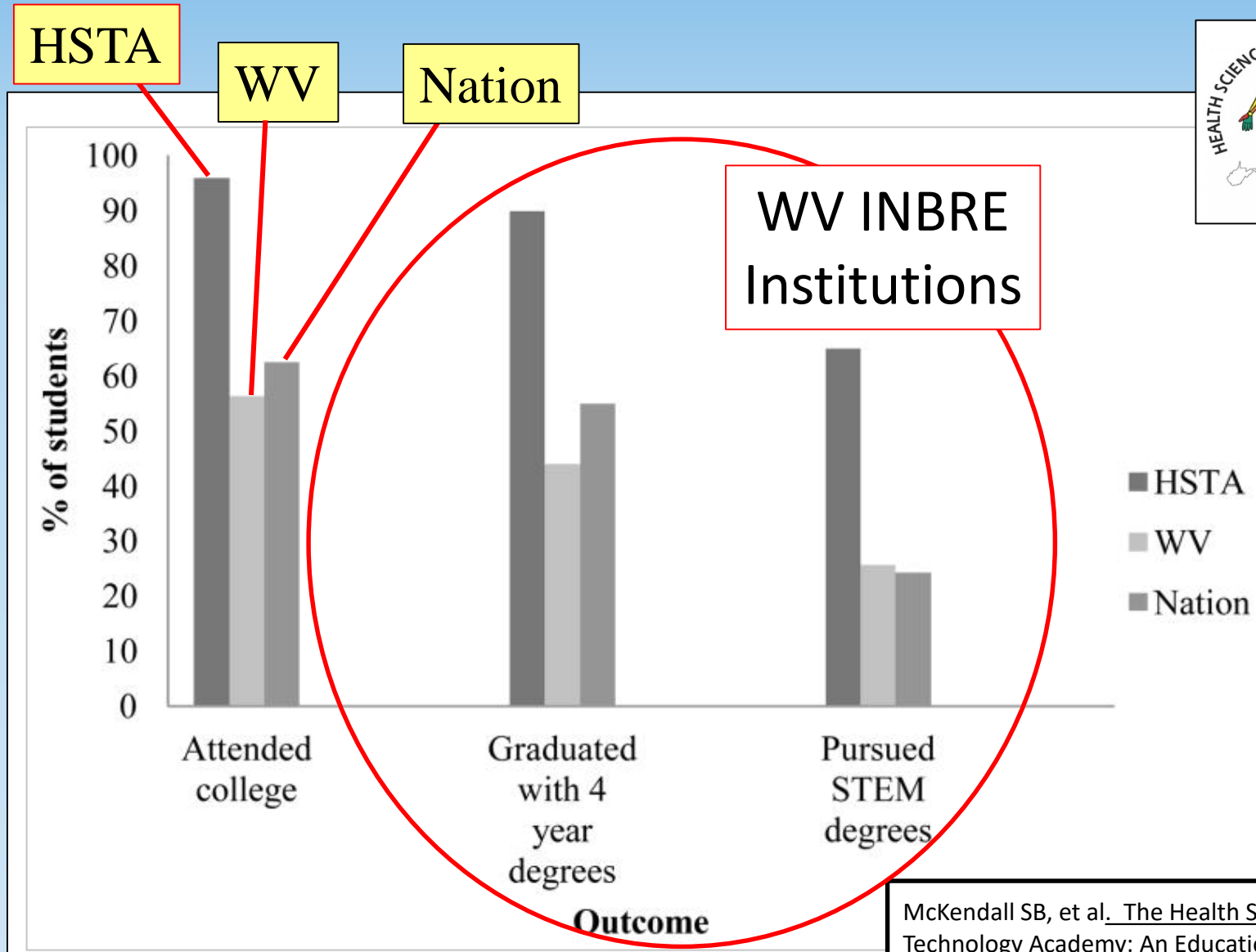
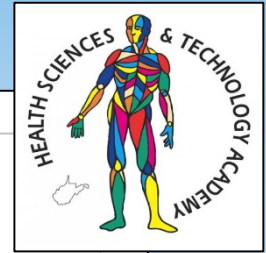
- 2,049 students have graduated from HSTA 1998-2014
- 99% of those students went to college
- 90% of HSTA students graduate with a four-year degree or better

HSTA Students vs. WV & Nation



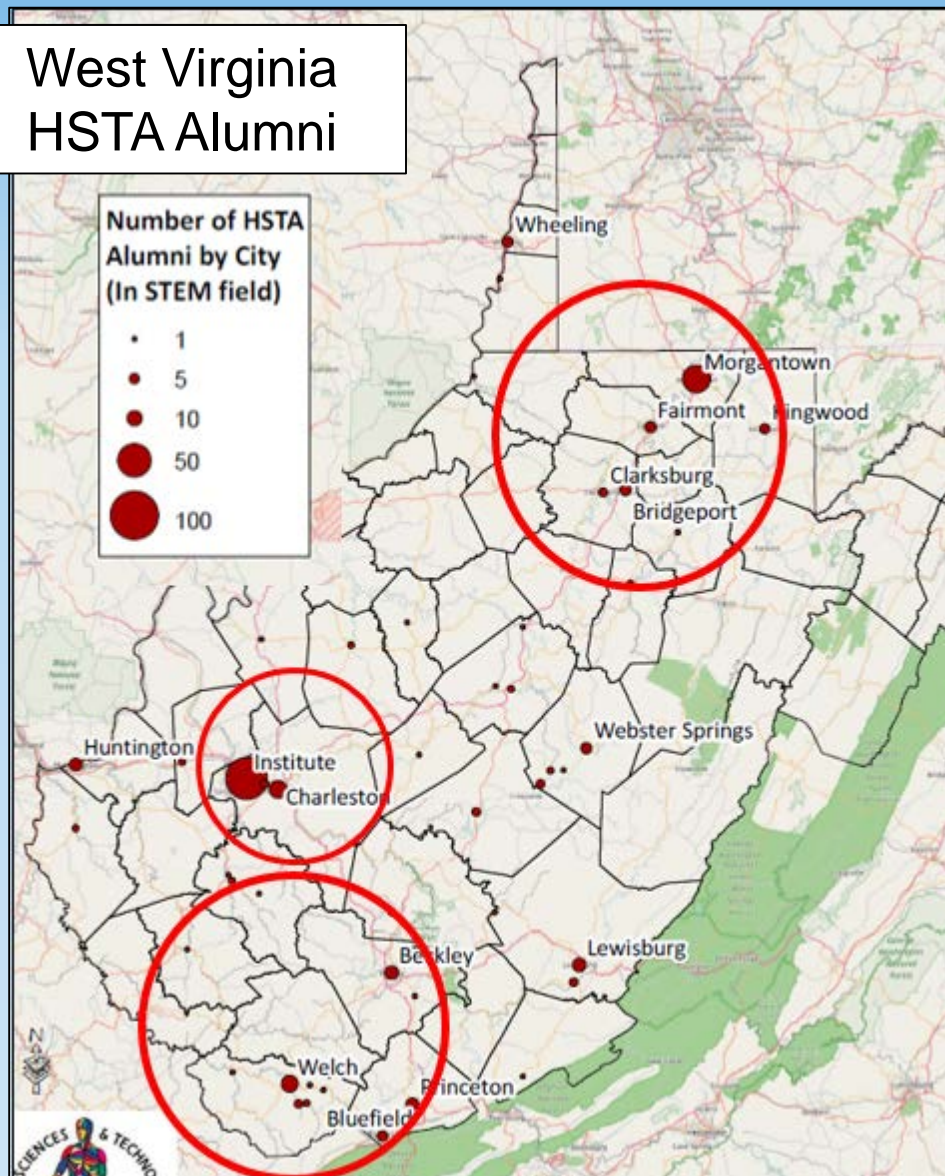
McKendall SB, et al. The Health Sciences and Technology Academy: An Educational Pipeline to Address Health Care Disparities in West Virginia. Academic Medicine. (January 2014).

HSTA Students vs. WV & Nation

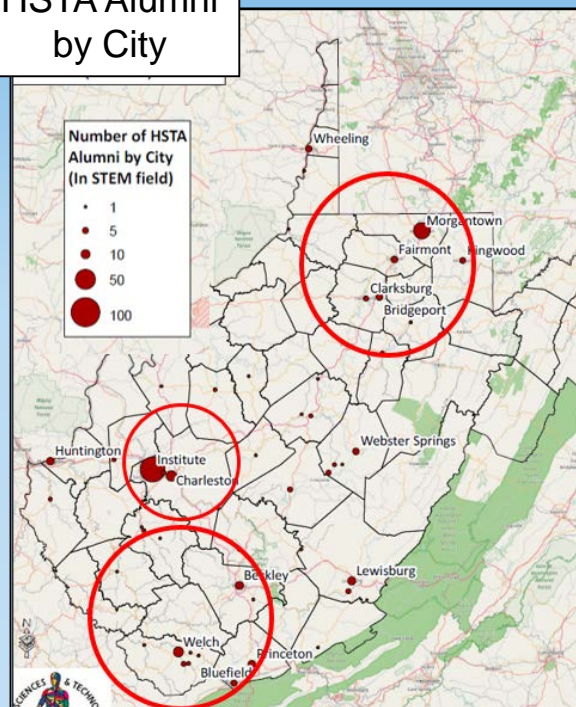


McKendall SB, et al. The Health Sciences and Technology Academy: An Educational Pipeline to Address Health Care Disparities in West Virginia. Academic Medicine. (January 2014).

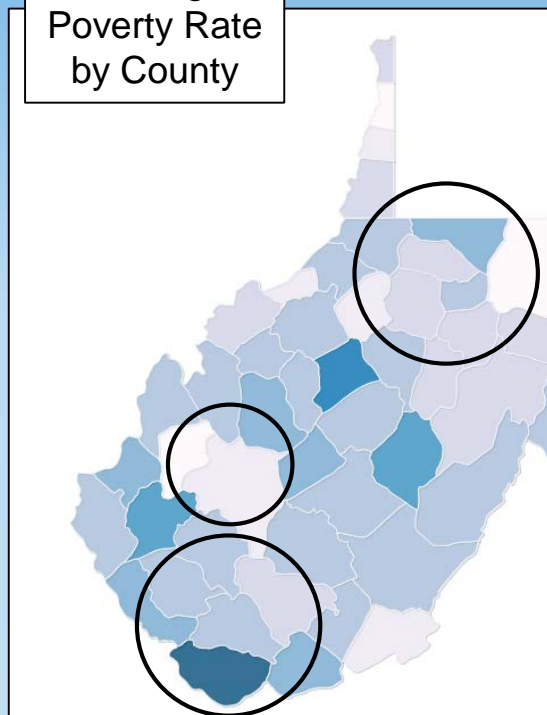
West Virginia HSTA Alumni



West Virginia HSTA Alumni by City



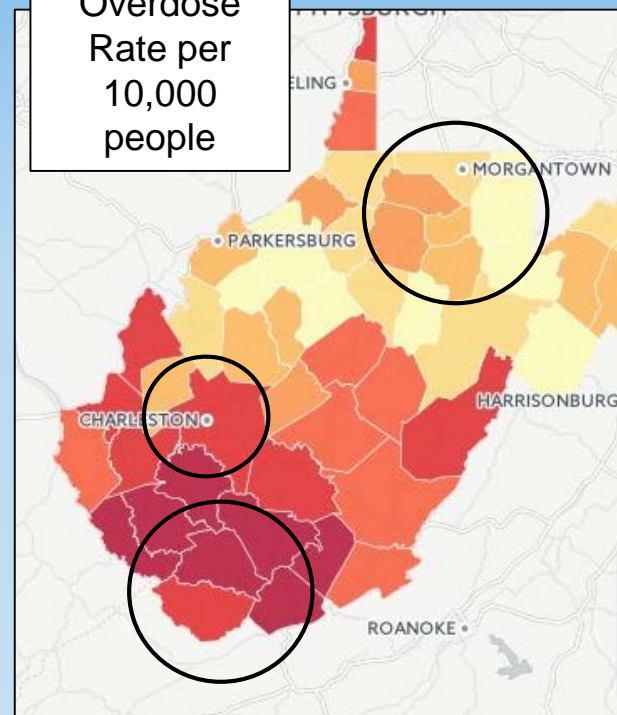
West Virginia Poverty Rate by County



PERCENT



West Virginia Overdose Rate per 10,000 people



OVERDOSE RATE PER 10,000 PEOPLE 2007-2012

1 OVERDOSE

44 OVERDOSES



<https://consciouslifeneeds.com/drug-companies-flooded-west-virginia-with-more-than-780-million-pain-pills/11131819/>

<https://www.indexmundi.com/facts/united-states/quick-facts/west-virginia/percent-of-people-of-all-ages-in-poverty#map>





SEPA SCIENCE EDUCATION
PARTNERSHIP AWARD
Supported by the National Institutes of Health

Our goal - a diverse pipeline

SEPA FOA (PAR-17-339)

- R25 Research Science Education
 - \$250K, 8% F&A
 - 5 Years X \$270K (\$1.35M)
 - Next receipt date July 9, 2019

1. Study SEPA FOA
2. Visit SEPA website, <https://nihsepa.org/>
 - Search by
 - Topic
 - Target Audience
 - Applicant Organization
 - SEPA Projects by Funding Year
 - Annual SEPA PI Conference Reports

