TRAINING CANCER CONTROL RESEARCHERS IN DISSEMINATION AND IMPLEMENTATION SCIENCE:
IS A MENTORED PROGRAM EFFECTIVE?

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Need to Build the Future of D&I

- Still a relatively new field

- Field is seeing dedicated funding sources
  - Need for skilled researchers

- Still limited number of formal training programs

- Many job openings for junior-level D&I researchers
  - http://news.consortiumforis.org/

Mentored Training in Dissemination and Implementation Research in Cancer (MT-DIRC)

- Focus on Early-Mid career Cancer Control Researchers

- Funded by National Cancer Institute
  - Additional Collaboration with Veterans Administration & Cancer Research Network

- Week long training institute at Washington University in St. Louis
  - Attend twice over 2 summers.

- Ongoing mentoring

- Quarterly content webinars

MT-DIRC Core Faculty

Ross Brownson

Graham Colditz

Christine Pfund

Enola Proctor

David Chambers

Anne Sales

Maureen Dobbins

Debar Haire-Joshu

Jon Kerner

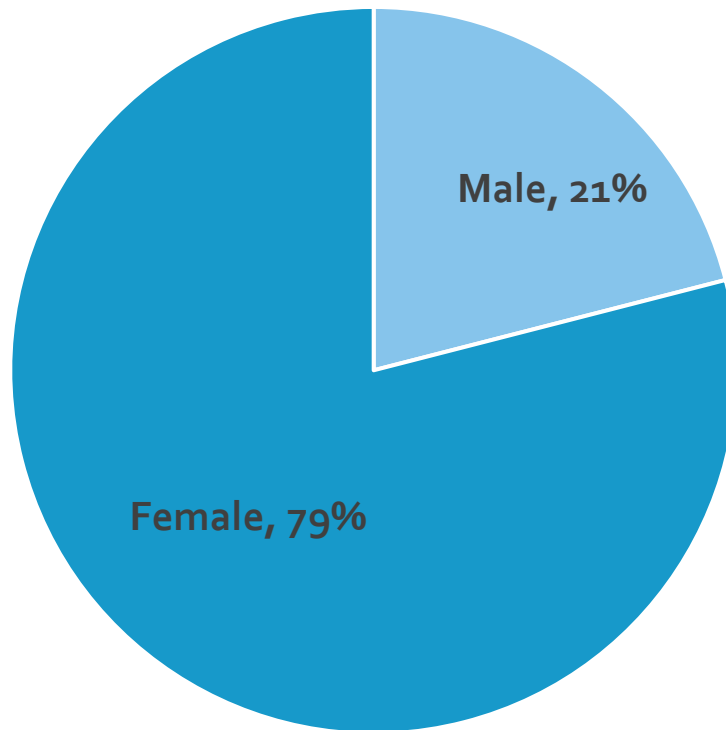Shiriki Kumanyika

Expert Faculty
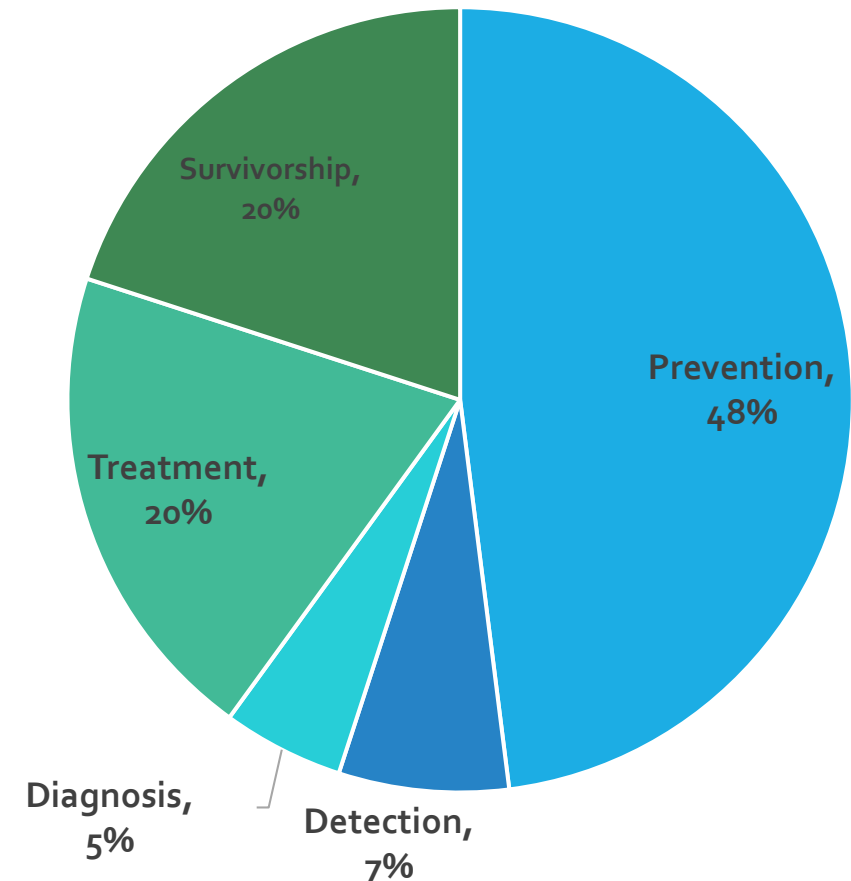
Snapshot of Fellows (n=56)

- 79% Female

- 38% work in Prevention research

- 55% were Assistant Professors when started in program

- Harvard, University of Michigan, Boston University, University of Kansas, University of California, San Diego, Veterans Administrations, Kaiser Permanente, etc.

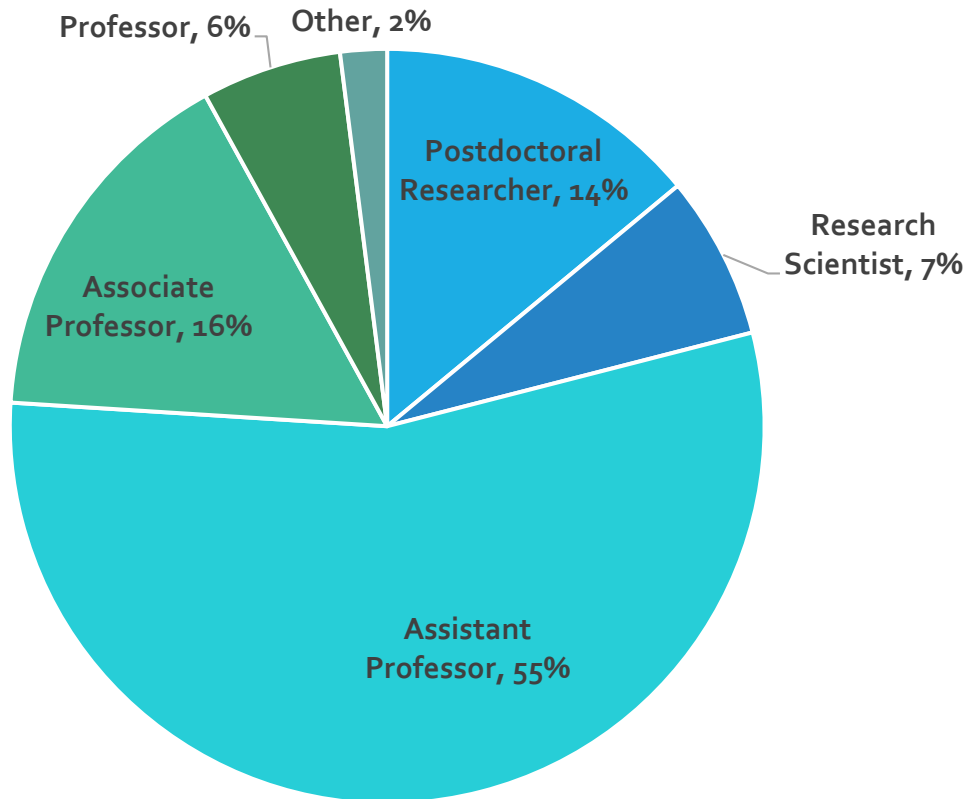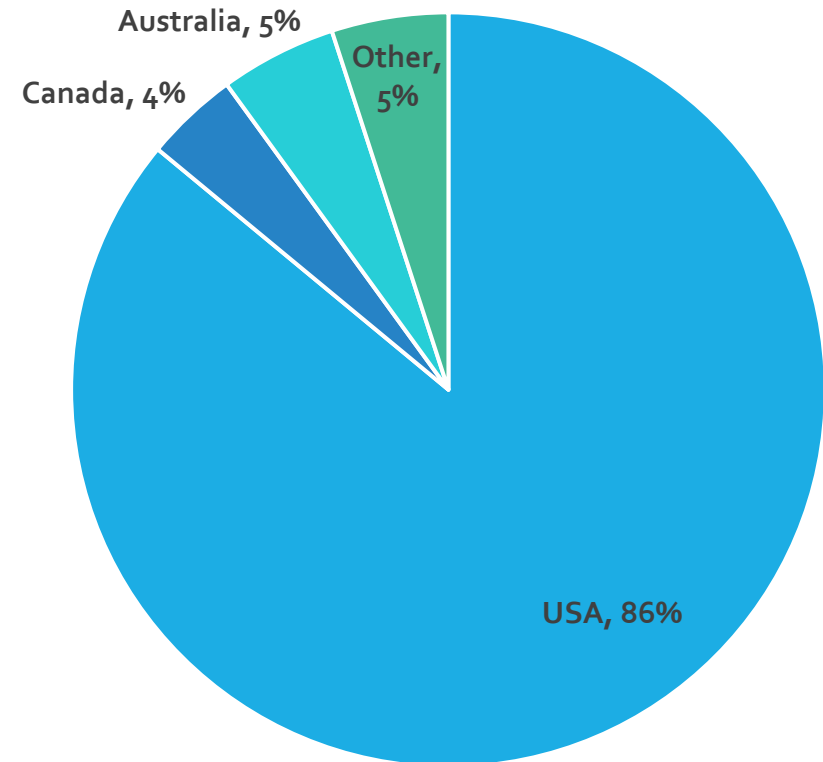# Fellows' Demographic Breakdown (n=56)

Gender

- Male, 21%
- Female, 79%

Area of Cancer Control

- Prevention, 48%
- Survivorship, 20%
- Treatment, 20%
- Detection, 7%
- Diagnosis, 5%

Fellows' Demographic Breakdown (n=56)

Research position at start of program

- Other, 2%
- Professor, 6%
- Postdoctoral Researcher, 14%
- Research Scientist, 7%
- Associate Professor, 16%
- Assistant Professor, 55%

Nationality

- Canada, 4%
- Australia, 5%
- Other, 5%
- USA, 86%

D&I Competencies

- No identified list of D&I competencies prior

- Utilized card sort & concept map to identify 43 identified competencies

- Four Domains:
  - Definitions, Background and Rationale
  - Theory and Approaches
  - Design & Analysis
  - Practice-Based Considerations

The following references contains more details on this process:
- Padek M, Colditz G, Dobbins M et al. Developing educational competencies for dissemination and implementation research training programs: an exploratory analysis using card sorts. Implementation Science. 2015;10(1). doi:10.1186/s13012-015-0304-3.
- Tabak R, Padek M, Kerner J et al. Dissemination and Implementation Science Training Needs: Insights From Practitioners and Researchers. American Journal of Preventive Medicine. 2017;52(3):S322-S329. doi:10.1016/j.amepre.2016.10.005.
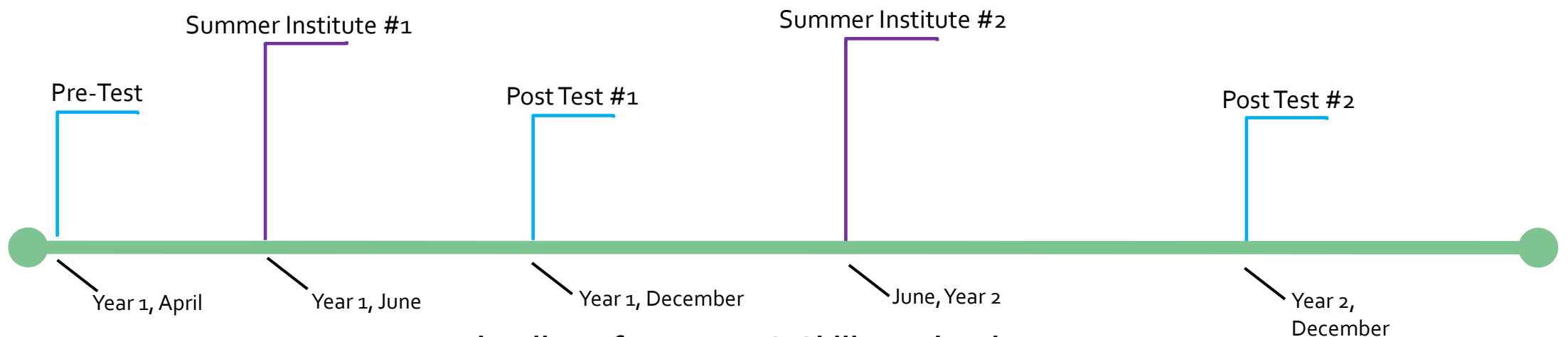
Evaluations

- D&I Skill acquisition- Pre & Post Institute

- Mentoring Competency Assessment

  - https://mentoringresources.ictr.wisc.edu/EvalTemplates

- Institute Program Evaluation
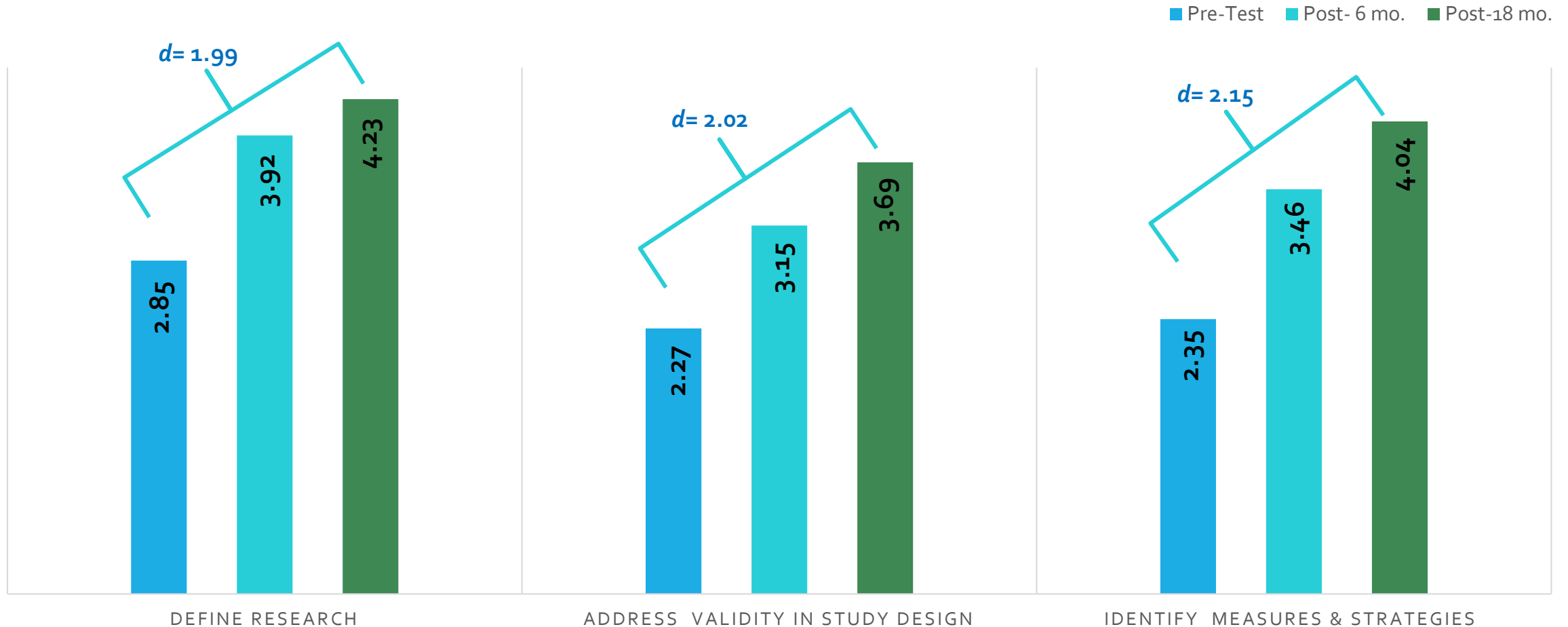
- Social Network Analysis
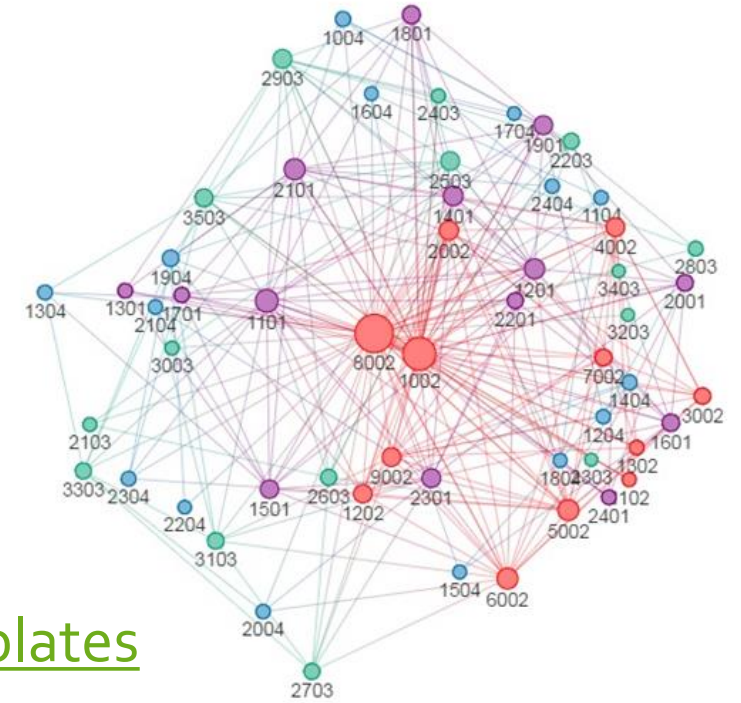
D&I Skill acquisition

- Measurement taken:
  - 1-month Pre-Test
  - 6 months Post-Institute
  - 18 months Post-Institute

- "How skilled do you currently feel in the following D&I Competencies…?"

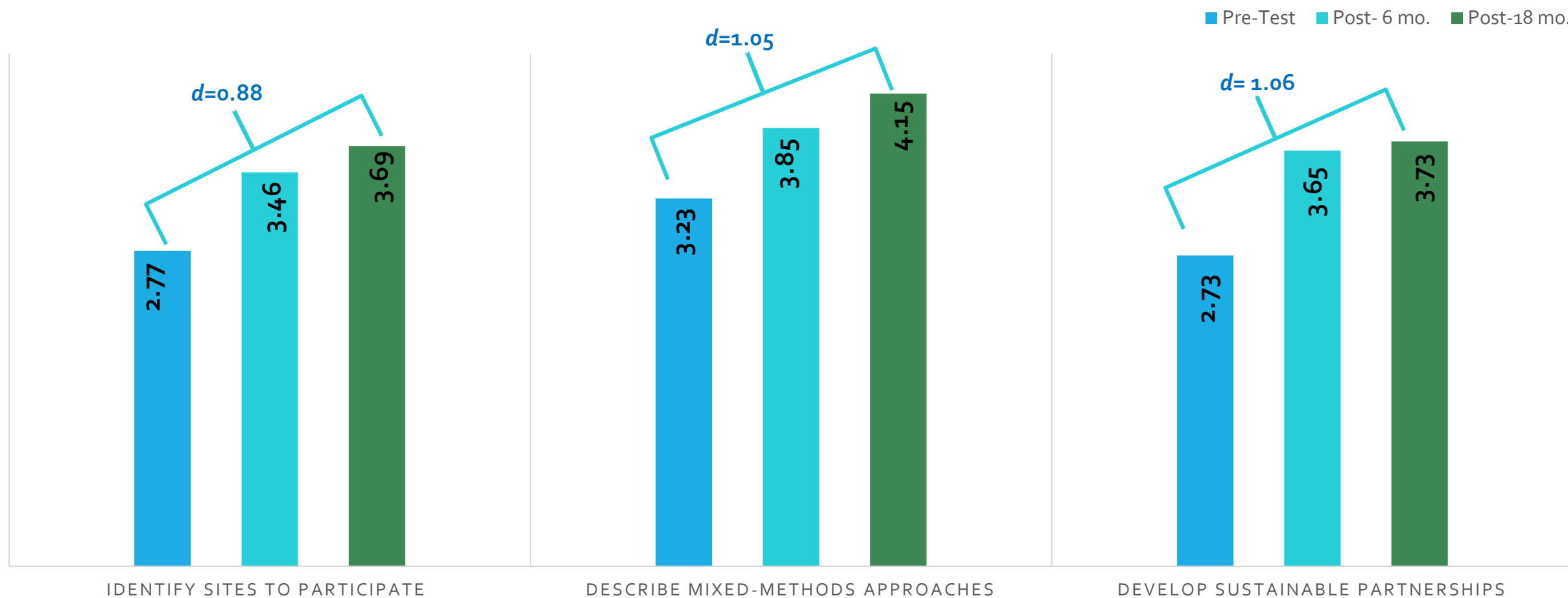- 5 Point Likert Scale: 1- "Not at all Skilled" to 5- "Extremely Skilled"

Summer Institute #1

Summer Institute #2

Pre-Test

Post Test #1

Post Test #2

Year 1, April

Year 1, June

Year 1, December

June, Year 2

Year 2, December

Timeline of Program & Skills Evaluations

Changes in Fellows' D&I skills over time grouped by skill competency level (n=26)

Skill Competency Level	Mean and Standard Deviation			Mean difference and Cohen's D			Repeated-measures ANOVA
	Pre	6 month	18 month	Pre- 6 month	6- 18 month	Pre- 18 month	F value
Beginner	2.98 ±0.63	3.84 ±0.63	4.23 ±0.57	-0.87*** d=1.38	-0.39*** d=0.65	-1.26*** d=2.10	F=73.56***
Intermediate	2.55 ±0.67	3.41 ±0.58	3.76 ±0.56	-0.87*** d=1.38	-0.35** d=0.61	-1.21*** d=1.95	F=63.45***
Advanced	2.04 ±0.66	3.04 ±0.60	3.25 ±0.85	-0.99*** d=1.58	-0.21 d=0.29	-1.21*** d=1.59	F= 34.17***

Note: Greenhouse Geiser corrected F statistic shown where Sphericity violated.
*Indicates significance reached at p <.05 **Indicates significance reached at p <.01***Indicates significance reached at p <.001

Changes in Fellows' (n=26) D&I skills over time grouped by summary capacity domain.

	Mean and Standard Deviation			Mean difference and Cohen's D			Repeated-measures ANOVA
Competency Domains	Pre	6 month	18 month	Pre- 6 month	6- 18 month	Pre- 18 month	F value
A: Definitions, Background & Rationale	2.80 ±0.67	3.69 ±0.56	4.03 ±0.51	-0.89*** d= 1.43	-0.34** d=0.63	-1.22*** d= 1.97	54.27***
B: Theory & Approach	2.57 ±0.76	3.42 ±0.70	3.78 ±0.61	-0.86*** d=1.16	-0.35*** d=0.55	-1.21*** d=1.76	66.97***
C: Design & Analysis	2.38 ±0.69	3.28 ±0.63	3.65 ±0.64	-0.90*** d=1.37	-0.37** d=0.59	-1.27*** d=1.37	57.0***
D: Practice Based Considerations	2.75 ±0.76	3.61 ±0.61	3.91 ±0.70	-0.86*** d=1.25	-0.31* d=0.47	-1.17*** d=1.60	44.06***

Note: Greenhouse Geiser corrected F statistic shown where Sphericity violated.

*Indicates significance reached at $p < .05$ **Indicates significance reached at $p < .01$ ***Indicates significance reached at $p < .001$

What does this mean?

- Significant improvement in D&I skills over 2 years

- Measure is subjective, no known objective measure…. yet!

We don't want our Fellows to be this guy

Going forward

- Data being collected on remaining two cohorts

- Final collection of Fellows products

- Connect skills data with mentoring & social networks data

- Paper under consideration at *Implementation Science*

- Working with partners on off-shoot programs

Questions?

- Contact: Maggie Padek mpadek@wustl.edu or Rebekah Jacob rebekahjacob@wustl.edu

- **Check us out on**

    @mtdirc

    www.facebook.com/mtdirc

- www.mtdirc.org

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- National Cancer Institute Grant # R25CA171994

- Veterans Administration

- Additional Collaboration with The Cancer Research Network