



Evaluation of HSR&D Career Development Award Program: Phase I

John Finney, PhD

July 8, 2014

Poll Question

- What is your role in the CDA program?
 - Current CDA recipient
 - Former CDA recipient
 - Current Mentor
 - Former Mentor
 - Multiple Roles (both CDA recipient and Mentor)
 - Other

How does one gauge the quality of a research career development program?

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- Compare funded and unfunded applicants?

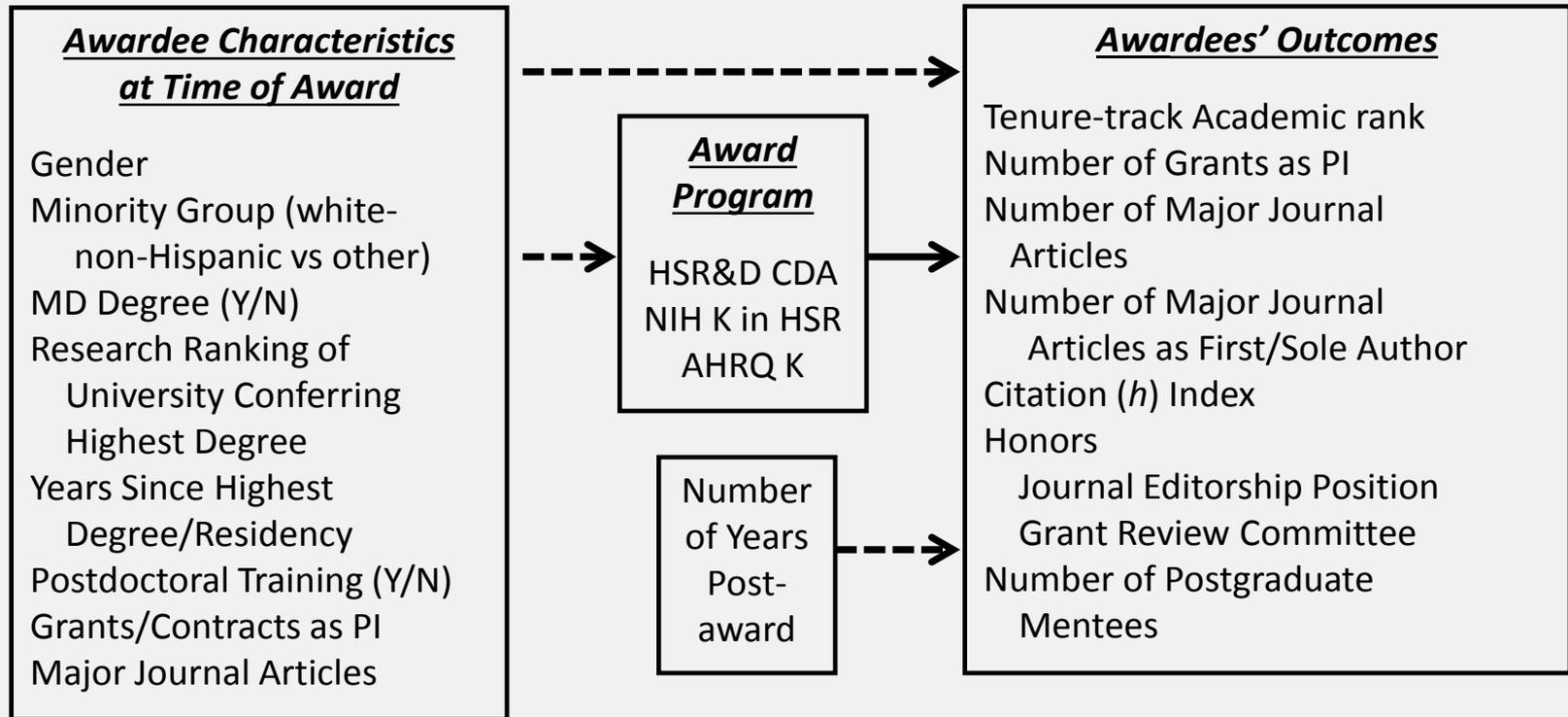
How does one gauge the quality of a research career development program?

- Compare funded and unfunded applicants?
- Compare award recipients with those from other highly-regarded programs?

Primary Aim 1

Compare the academic advancement and research productivity of HSR&D Career Development Awardees (CDAs), National Institutes of Health (NIH) K awardees in health services research and Agency for Healthcare Research and Quality (AHRQ) K awardees.

Figure 1. Conceptual Model for ANCOVA Analyses Comparing HSR&D, NIH and AHRQ Awardees



Note: Dashed arrows indicate the control of covariates via ANCOVA. “Major” journal articles are reports of empirical research, reviews, guideline reports, extended commentaries, etc. (i.e., not editorials, letters to the editor, brief commentaries or book reviews).

Participants

- 244 HSR&D CDAs
219 (90%) responded (124 primary mentors)
- 226 NIH K (K01, K08 or K23) awardees (71% of 318 eligible) - 154 (68%) responded
- 91 eligible (of 120 total) AHRQ K (K01, K08) awardees 69 (76%) responded (FY2000 first yr)

Methods

- Data sources: (1) Curriculum vitae solicited by evaluation team via email, telephone, and/or (faxed) letter in calendar year 2011 and (2) Thomson Reuters WOK Citation Index.
- Positions and productivity for the HSR&D awardees are from year of their only award or their “relevant award.”

Methods

- “Relevant award” = RCD, MREP or CDA-2 (comparable to individual-mentored K awards).
- For Aim 1, compared (a) all HSR&D CDAs with all NIH K awardees from 1991 to 2010, and (b) HSR&D, NIH and AHRQ K awardees from 2000 to 2010.

Number of HSR&D Career Development Awards Received

Type of HSR&D Award (not mutually exclusive)	N	% (of 219)
Entry-level Awards		
AI	11	5%
CDA-1	5	2%
Mid-level Awards		
RCD	114	52%
MREP	33	15%
CDA-2	44	20%
Advanced or Transition Awards		
ARCD	68	31%
CDTA	13	6%
Unspecified	1	<1%
Multiple awards	67	31%
Mean number of awards	1.32	

Figure 2. Number of HSR&D Awardees by Year

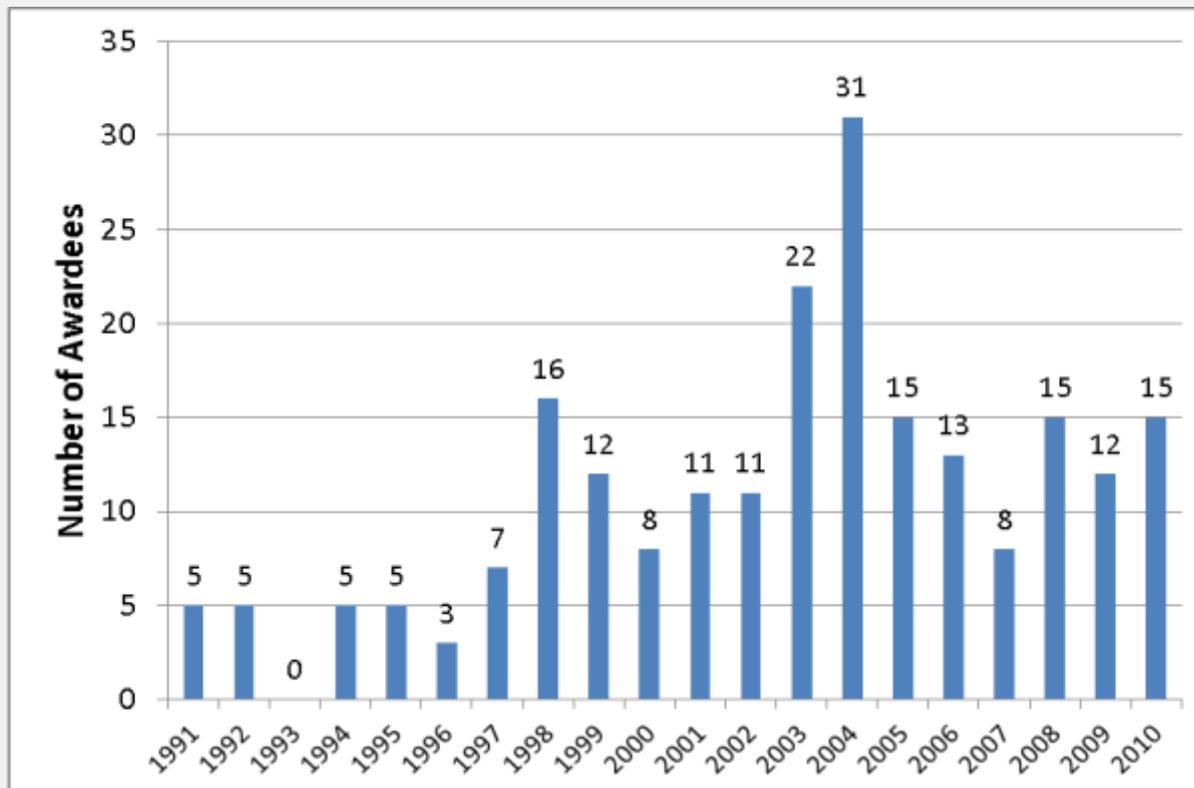


Figure 3. Number of NIH K Awardees by Year

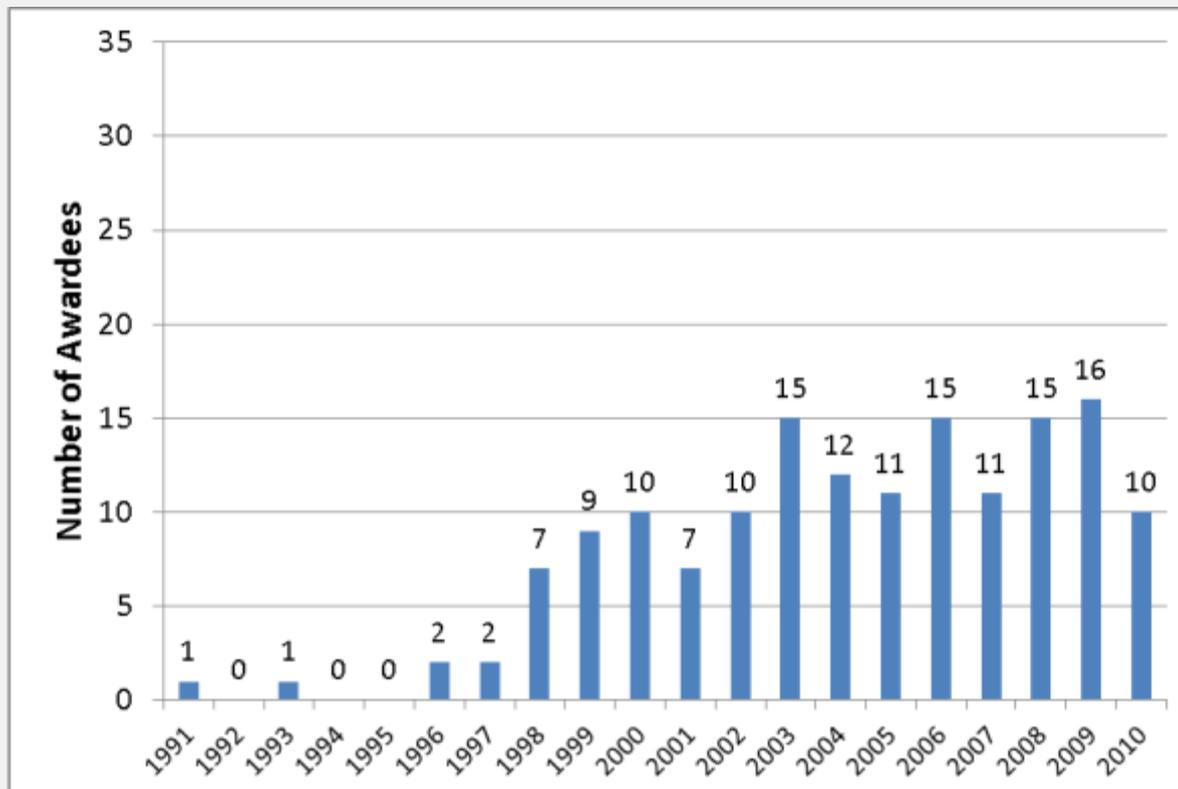
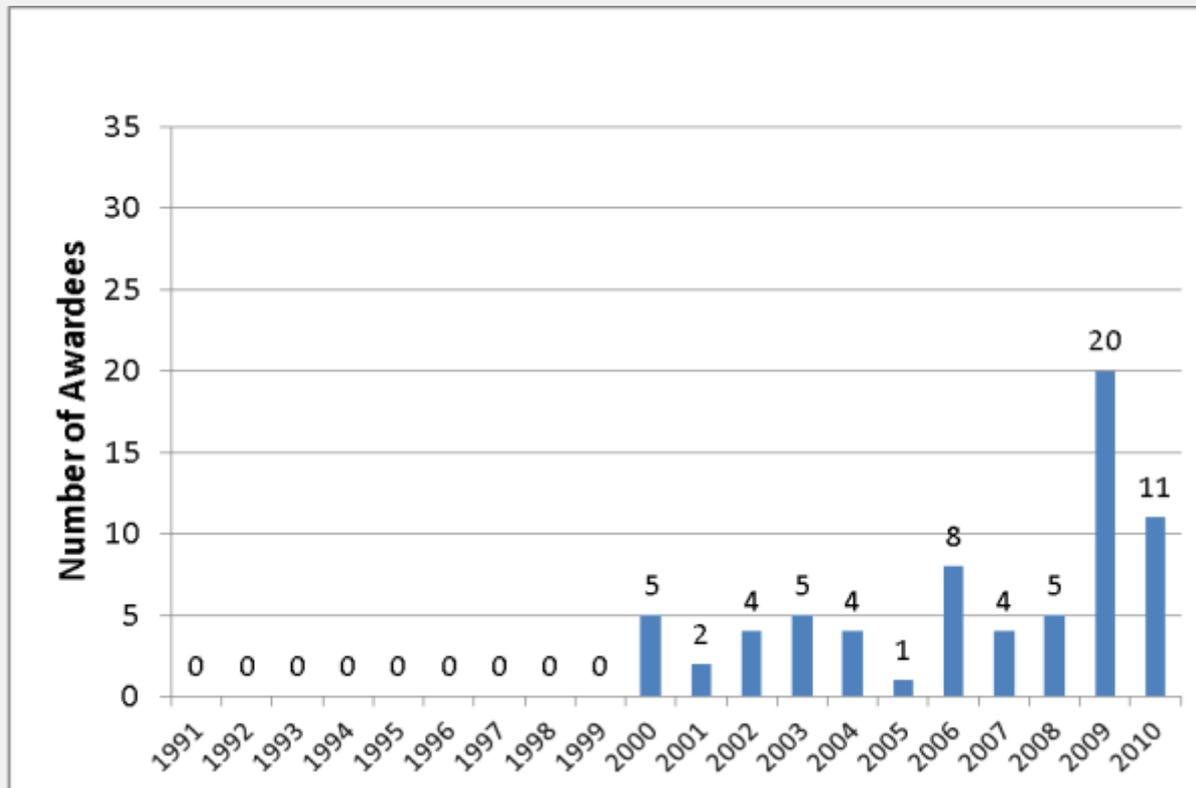


Figure 4. Number of AHRQ K Awardees by Year



Participants' Characteristics

	All Awardees		Awardees 2000-2010		
Characteristic	HSR&D (n=219) Mean	NIH K (n=154) Mean	HSR&D (n=161) Mean	NIH K (n=132) Mean	AHRQ K (n=69) Mean
Age at (relevant) award	37.3	37.9	37.1	38.3	38.4
Years since highest degree or residency at time of (relevant) award	5.9	6.7	5.4	6.9	6.5
Years since (relevant) award	8.3	6.9	6.0	5.8	4.5

Gender and Racial/Ethnic Background of HSR&D, NIH and AHRQ Awardees

Demographic Characteristic	All Awardees		Awardees 2000-2010		
	HSR&D (n=219)	NIH K (n=154)	HSR&D (n=161)	NIH K (n=132)	AHRQ K (n=69)
	%	%	%	%	%
Female	43%	54%	47%	58%	48%
Race/Ethnicity					
White Non-Hispanic	82%	72%	81%	68%	77%
Asian	7%	14%	8%	15%	15%
Hispanic/Latino/Latina	3%	4%	3%	5%	0%
African American/Black	2%	5%	2%	5%	3%
Mixed Race	2%	1%	3%	2%	4%
American Indian/Alaskan Native	0%	1%	0%	1%	0%
Unknown/Missing	4%	4%	4%	5%	1%
Minority Group	14%	24%	15%	27%	22%

Highest Degrees for HSR&D, NIH and AHRQ Awardees

Highest Degree	All Awardees		Awardees 2000-2010		
	HSR&D (n=219) %	NIH K (n=154) %	HSR&D (n=161) %	NIH K (n=132) %	AHRQ K (n=69) %
MD Degree	66%	66%	56%	64%	71%
PhD Degree	32%	30%	42%	33%	20%
Other Doctoral Degree	2%	4%	2%	4%	9%

Outcome: Tenure-track Academic Positions of HSR&D, NIH and AHRQ Awardees

	All Awardees		Awardees 2000-2010		
Outcome	HSR&D (n=219)	NIH K (n=154)	HSR&D (n=161)	NIH K (n=132)	AHRQ K (n=69)
	Mean or %	Mean or %	Mean or %	Mean or %	Mean or %
Adjusted Mean Academic Rank	1.2	1.3	.9	1.0	1.0

Grants as PI for HSR&D, NIH and AHRQ Awardees

Outcome	All Awardees		Awardees 2000-2010		
	HSR&D (n=219)	NIH K (n=154)	HSR&D (n=161)	NIH K (n=132)	AHRQ K (n=69)
Total grants (PI)	1,147	564	547	401	146
Total grants (PI) over \$100,000	585	226	234	157	57

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Total grants (PI)	1,147	564	547	401	146
Total grants (PI) over \$100,000	585	226	234	157	57
Adjusted mean number of grants (PI)	4.8	4.3	3.2	2.9	2.7
Adjusted mean number of grants (PI) over \$100,000	2.4* (n=154)	1.8 (n=91)	1.3 (n=107)	1.2 (n=76)	1.2 (n=58)

* $p < .05$ difference between all HSR&D and NIH K awardees.

Number of Major Journal Articles

Outcome	All Awardees		Awardees 2000-2010		
	HSR&D (n=219)	NIH K (n=154)	HSR&D (n=161)	NIH K (n=132)	AHRQ K (n=69)
Major journal articles	9,350	4,234	4,346	2,949	1,271
Major journal articles as first or sole author	2,480	1,497	1,449	1,053	527

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Major journal articles	9,350	4,234	4,346	2,949	1,271
Major journal articles as first or sole author	2,480	1,497	1,449	1,053	527
Adjusted mean number of major journal articles	39.0*	32.8	25.3	22.8	21.6
Adjusted mean number of major journal articles as first or sole author	10.4	11.0	8.4	8.1	8.8
Adjusted citation (<i>h</i>) index	15.8	15.6	12.2	12.9	12.0

* $p < .05$ difference between all HSR&D and NIH K awardees.

Adjusted Predicted Probabilities of Honors for HSR&D, NIH and AHRQ Awardees

	All Awardees		Awardees 2000-2010		
Outcome	HSR&D (n=219)	NIH K (n=154)	HSR&D (n=161)	NIH K (n=122)	AHRQ K (n=69)
Journal editorship/ editorial board (Y/N)	33%	40%	23%	27%	32%
Grant review committee (Y/N)	15%	11%	10%	8%	6%

Adjusted Mean Number of Post-graduate Mentees for HSR&D, NIH and AHRQ Awardees

	All Awardees		Awardees 2000-2010		
Outcome	HSR&D (n=183) Mean	NIH K (n=110) Mean	HSR&D (n=133) Mean	NIH K (n=95) Mean	AHRQ K (n=53) Mean
Adjusted Number of Mentees	8.5	7.3	6.7	5.5	7.2

VA-Related Outcomes for HSR&D CDAs

Outcome	HSR&D CDAs (n=219) % or Mean
<u>VA-related Outcomes</u>	
Retention in VA	80%
Retention in VA Research	74%
QUERI Involvement Mean	0.8
Any QUERI Involvement	41%
Workgroup Member or PI on Local QUERI Project = 1	9%
Executive Committee Member or PI on Either RRP or SDP = 2	27%
Research Director, or Clinical, or Implementation Research Coordinator = 3	5%

Conclusion: Aim 1

- The HSR&D CDA program has been selecting promising applicants for CDAs and mentoring them very effectively, as indicated by their advancing in academic positions, securing grants, publishing, garnering honors and mentoring young investigators at levels that are at least equal to those of K awardees from the highly regarded NIH and AHRQ programs.
- The HSR&D CDA program also has been quite successful in retaining outstanding health services researchers in VA where they can make substantial research contributions to help improve VHA care for Veterans.

*Publishing Trajectories of
Health Services Research
Career Development
Awardees*

Max Halvorson, MA

July 8, 2014

Research Career Development Awardees

- How can we measure “success?”
 - Publications; Grants; Positions; Honors; Mentorship; Health Care Impact; Professional Networks; Satisfaction...

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- What factors are associated with high publishing rates?

Research Career Development Awardees

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- Do some awardees publish more than others?
- What factors are associated with high publishing rates?
- How do publishing rates unfold over time?

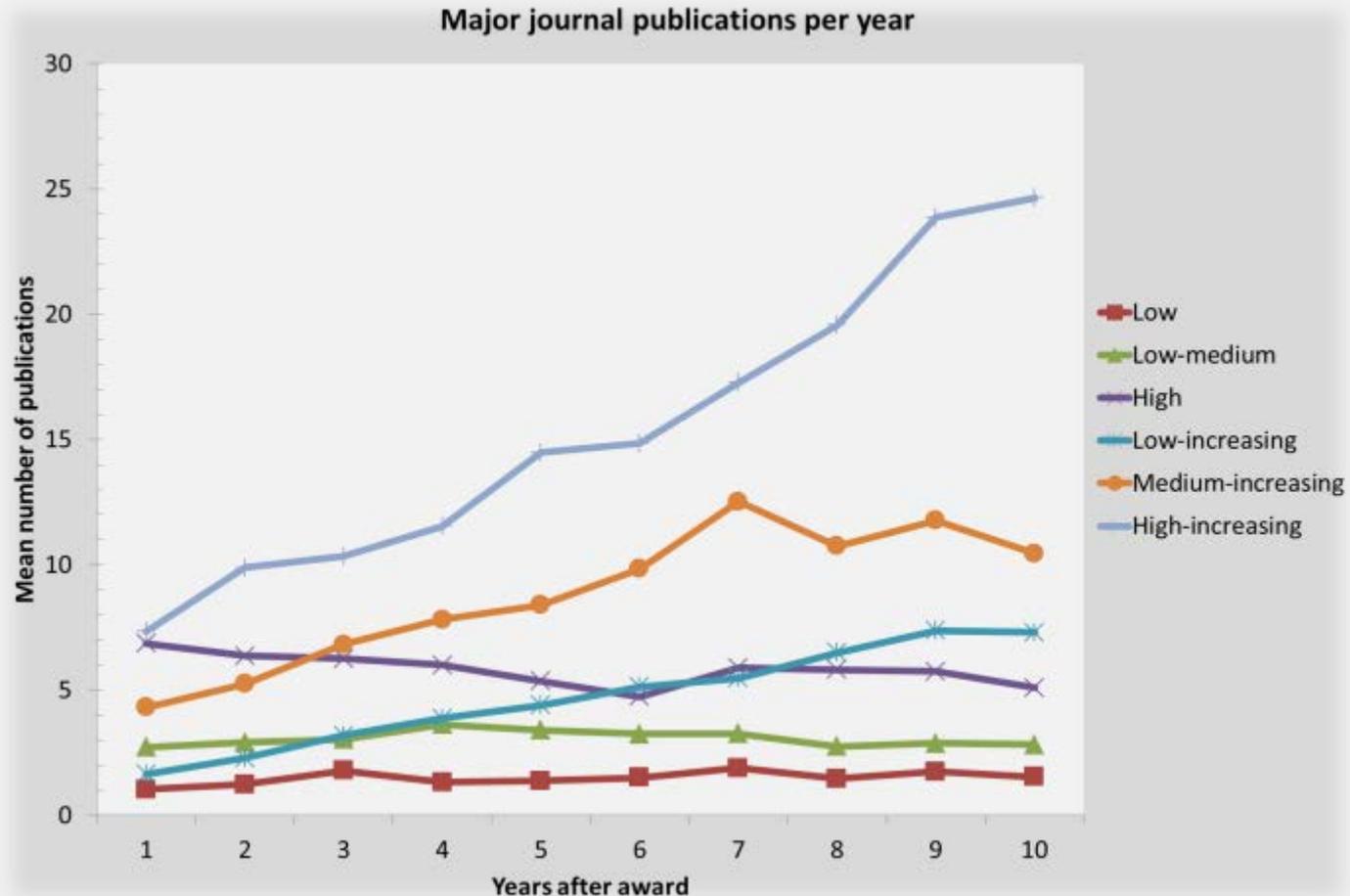
Research Career Development Awardees

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- Do some awardees publish more than others?
- What factors are associated with high publishing rates?
- How do publishing rates unfold over time?
- What is the role of collaboration in publishing in health services research?

Analyses

- Used semi-parametric group-based modeling, a technique for identifying latent trajectory groupings
- Explored differences between trajectory groups

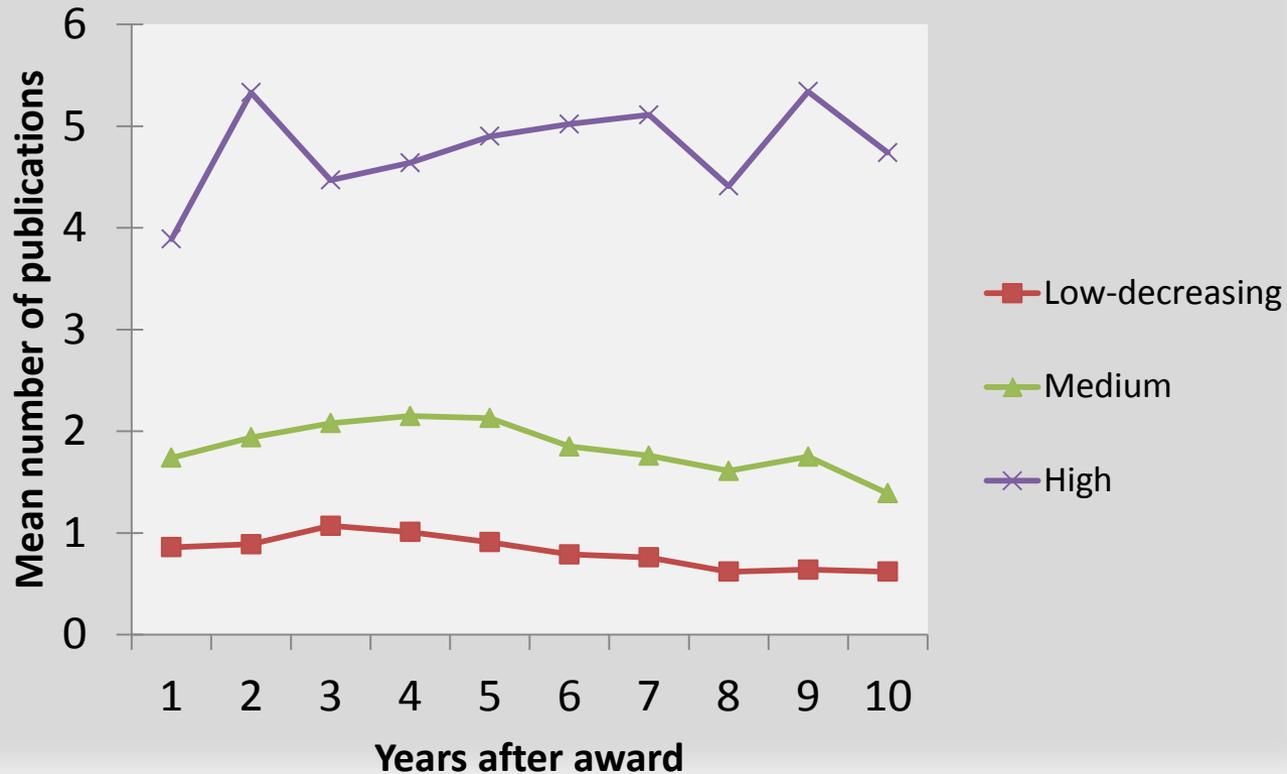
Results – Publishing Trajectories for all Publications



L (n=69); L-M (n=101); H (n=49); L-I(n=140); M-I (n=56); H-I (n=27)

Results – Publishing Trajectories for First/Sole Author Publications

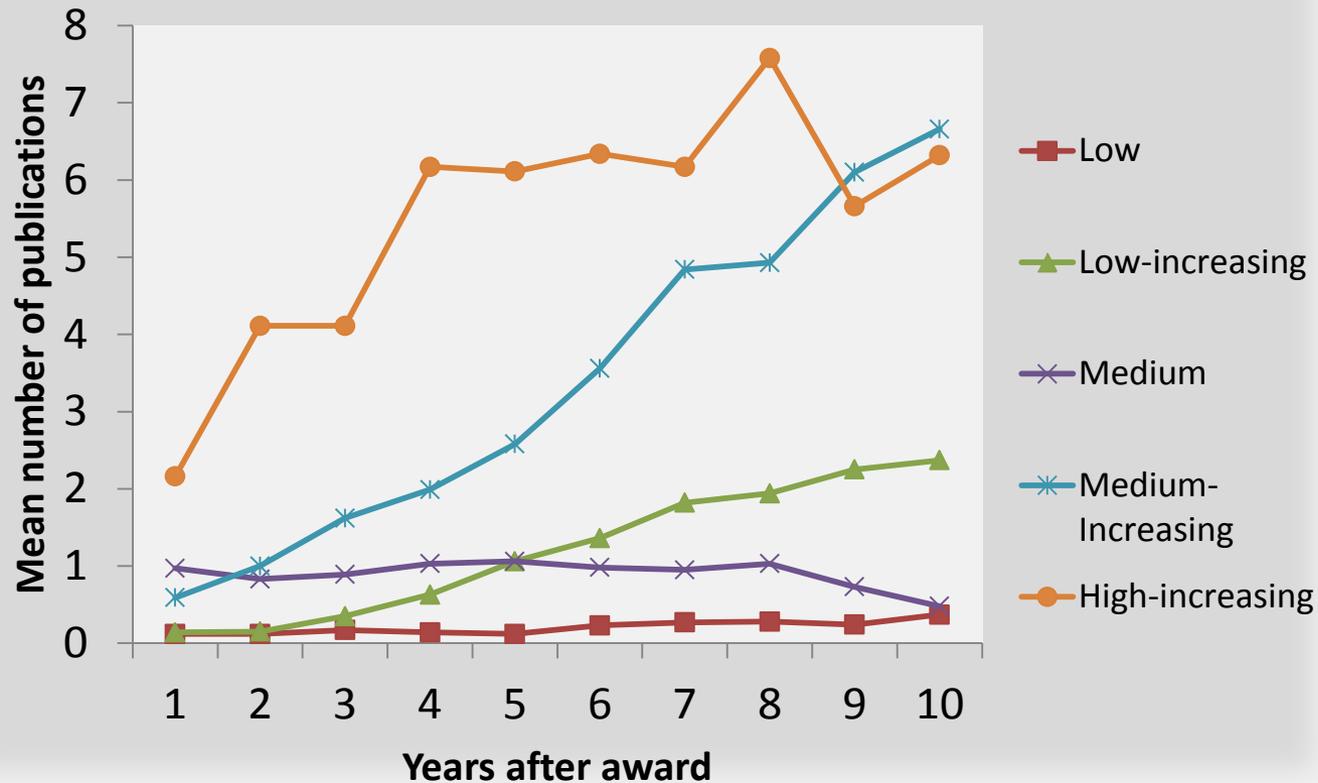
First-authored major journal publications per year



L-D (n=239); M (n=174); H (n=29)

Results – Publishing Trajectories for Last/Senior Author Publications

Last-authored major journal publications per year



L (n=69); L-M (n=101); H (n=49); L-I(n=140); M-I (n=56); H-I (n=27)

Results - Collaboration

	Low (N=69)	Low- medium (N=101)	High (N=49)	Low- increasing (N=140)	Medium- increasing (N=56)	High- increasing (N=27)	F or X ²	η ² or V
Number of authors per publication	3.8	4.2	4.9	4.4	4.9	4.7	6.67***	.07

Results – Awardee Characteristics

	Low (N=69)	Low- medium (N=101)	High (N=49)	Low- increasing (N=140)	Medium- increasing (N=56)	High- increasing (N=27)	F or X ²	η ² or V
Gender (% Female)	59%	52%	49%	50%	29%	26%	18.05**	.20
Race (% Minority)	27%	12%	22%	20%	21%	15%	6.16	.12
Age at award (years)	39.2	37.6	38.1	37.3	37.8	35.0	3.46**	.04
Highest Degree							11.68	.11
MD (%)	64%	58%	76%	71%	71%	70%		
PhD (%)	30%	38%	20%	26%	29%	29%		
Other (%)	6%	4%	4%	3%	0%	1%		

Results – Productivity Correlates

	Low (N=69)	Low- medium (N=101)	High (N=49)	Low- increasing (N=140)	Medium- increasing (N=56)	High- increasing (N=27)	F or χ^2	η^2 or V
Grants as PI in 10 years since award	2.6	3.3	3.5	3.7	4.1	6.2	3.41**	.04
h-index (based on paper citations)	6.9	13.0	20.9	14.3	21.4	26.0	67.22***	.44

Findings – Publishing Rates and Collaboration

- Overall publication rates remained constant or increased
 - Awardees seem to generally succeed in publishing

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- Awardees in higher trajectories had more authors per paper
 - Collaboration seems to be an element of publishing at a high rate
- Awardees who published at high rates had higher h-indices, more grants

Findings – Awardee Characteristics

- Women and older awardees tended to be in lower trajectories
 - More research needed to address root causes
- No effect of university ranking, MD vs. PhD, award type

Next Steps

- Phase I has focused on productivity and outcomes
- Phase II focuses on mechanisms; specifically on mentorship
- The second phase of the evaluation should provide more information on indicators of CDA applicants' potential (such as their research commitment), as well as characteristics of successful mentoring that can be used to improve an already successful program.

*Phase II Evaluation of VA
HSR&D Career Development
Award Program: Mentoring
Processes and Relationships*

Ruth Cronkite, PhD

July 8, 2014

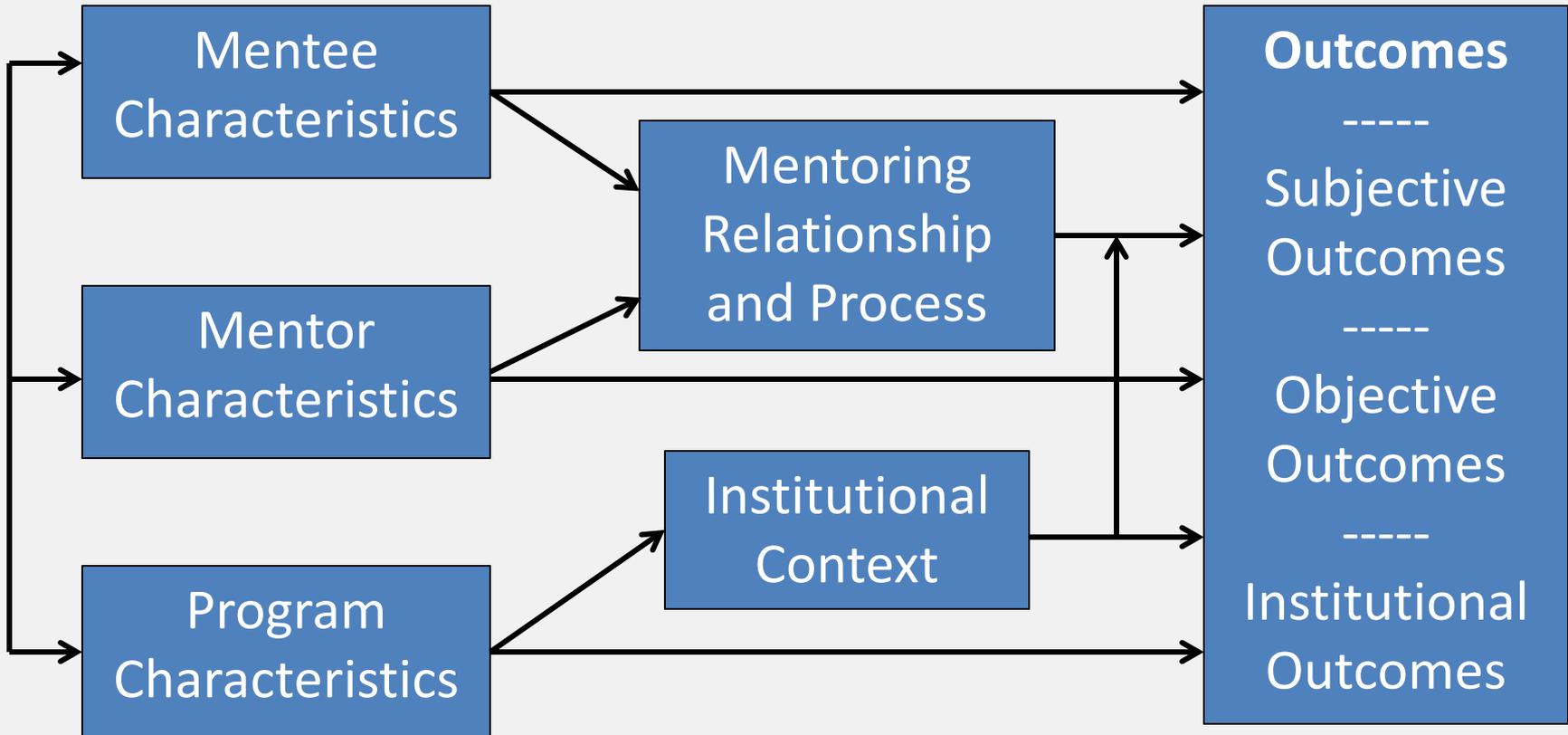
Phase II Evaluation

A critical feature of the VA HSR&D CDA Program for accomplishing its aims - an effective mentoring relationship and mentoring process - is a “black box” in Phase I. In Phase II , we propose two primary goals.

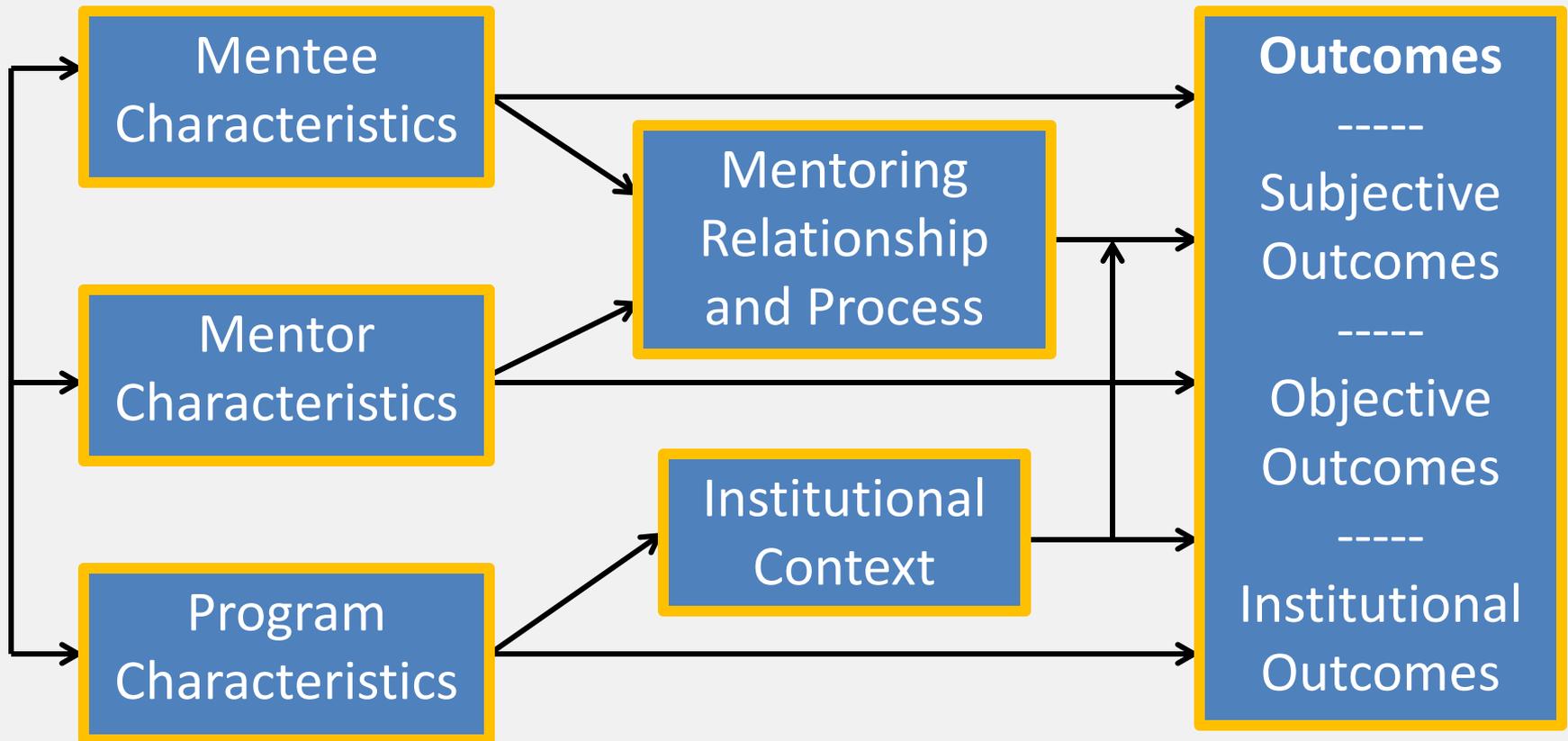
Goal 1: Examine aspects of the mentorship and their associations with subjective and objective mentee and mentor outcomes.

Goal 2: Obtain input from VA stakeholders (CDA mentees and mentors) on how to enhance the HSR&D CDA Program mentorship and on innovations in mentorship models.

Goal 1: Conceptual Model

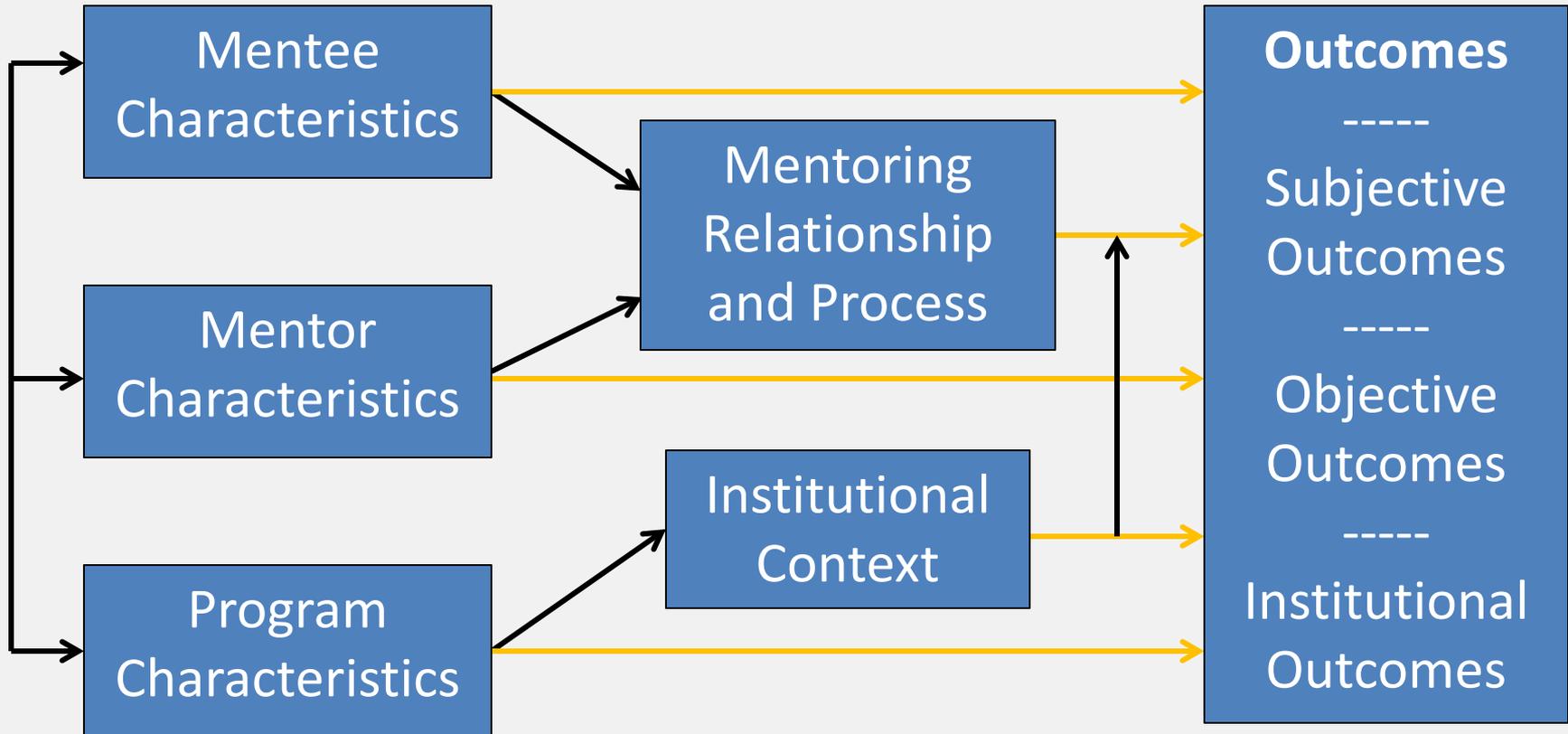


Aim 1



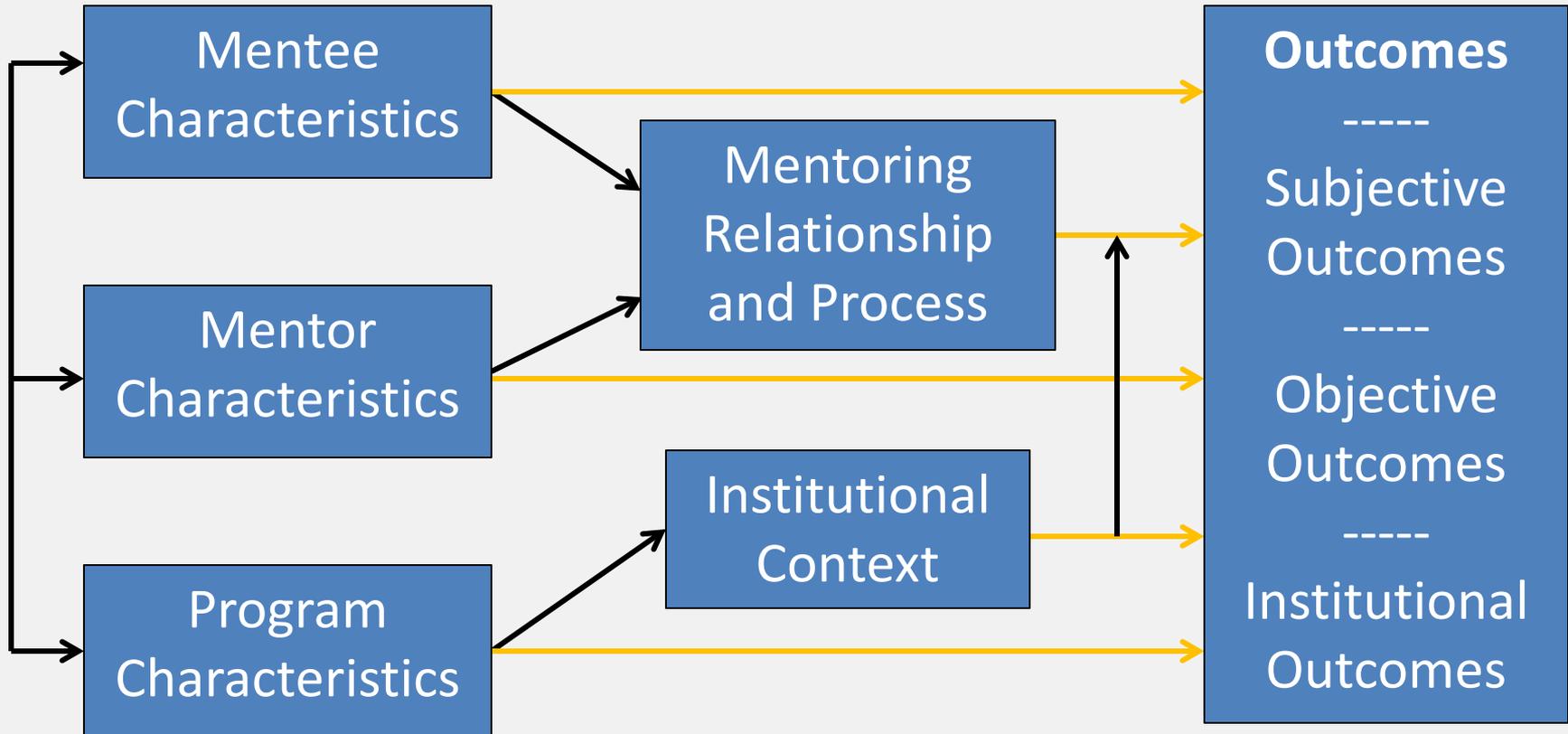
Aim 1: Characterize relevant aspects of mentoring relationships among CDAs and their mentor networks, as well as subjective outcomes of the mentorship.

Aim 2



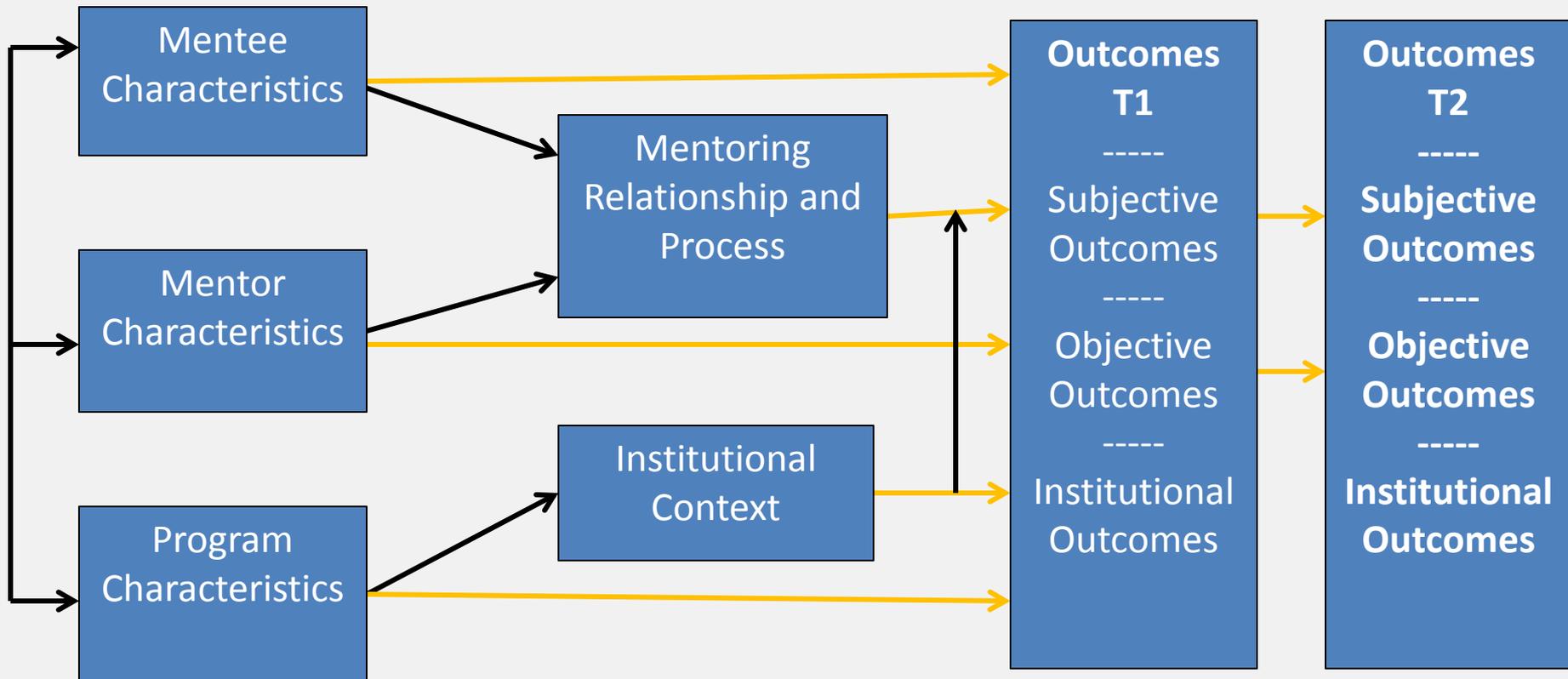
Aim 2: Identify characteristics of the mentoring relationship that are associated with mentee outcomes.

Aim 4



Aim 4: Identify characteristics of the mentoring relationship that are associated with mentor outcomes.

Aim 5



Aim 5: Conduct a prospective longitudinal pilot study of the effects of mentorship on outcomes for current CDAs.

Study Design

- CV data from Phase I (updated through 2012)
- 30-minute web survey on...
 - Awardee and Mentor characteristics
 - CDA mentorship
 - Program and Facility Infrastructure
- Survey responses will be analyzed individually and as Awardee-Mentor dyads

Response Rates so far...

- Updated CVs
 - 180/182 CDAs and 189/214 Mentors
- Surveys
 - Paired into 145 dyads
 - 83% of CDAs and 81% of Mentors completed
 - 100/145 dyads (69%)
 - 42 currently active CDA-Mentor dyads

Goal 2: Input on Program Enhancements

Obtain input from VA stakeholders (CDA mentees and mentors) on how to enhance the HSR&D CDA Program mentorship and on innovations in mentorship models.

- CDA Application and Review Process
- Incentives and Barriers to Mentoring
- Evaluating/Monitoring Progress During the CDA
- Ideas for Innovative Mentorship Models
- Ideas for Enhancing Networking/Collegiality among CDAs
- Support for Mentoring Processes
- Career Advocacy
- Ideas for Program Enhancement
- Ideas for Attracting Minority Applicants

Interviews so far...

In-depth interviews conducted with 46 interviewees

- 2 former HSR&D Directors
- 14 CDAs and Mentors (current and past)
- 12 Center of Excellence (now COIN) Directors
- 9 CDA Review Committee Members
- 9 Directors of other Career Development Programs

HSR&D CDA Program Enhancement Initiative

Overall Objective: Promote and facilitate a community of scholarship among members of the HSR&D CDA Program nationwide.

- Aim 1: Establish a national cadre of senior advisors; facilitate opportunities for CDAs to interact with them.
- Aim 2: Facilitate in-person and virtual interaction among CDA community members nationwide.
- Aim 3: Develop a cyber-seminar series, alternating between mentoring topics & CDAs research-in-progress.
- Aim 4: Create an HSR&D CDA Toolkit for sharing resources relevant to mentoring.

Acknowledgements: Phase I

Project Team

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Acknowledgements: Phase II

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