

LANGSTON

Rehabilitation Research and Training Center (RRTC) on Research and Capacity Building for Minority Entities

The Institutional Research Capacity Building and Infrastructure
Model (IRCBIM) Evaluation: Baseline and Intermediate Phase
Results

Presenters: Corey L. Moore, Edward O. Manyibe, Fariborz Aref, & Andre Washington
LU-RRTC State-of-the-Science Conference
September 28-29, 2017
Atlanta Georgia

Presentation Objectives

- + Present evaluation results of the Institutional Research Capacity Building and Infrastructure Model (IRCBIM), an emerging integrated approach designed to build and sustain adequate disability and health research capacity (i.e., research infrastructure and investigators' research skills) at minority-serving institutions(i.e., HBCUs, Hispanic serving institutions, or American Indian tribal colleges).
- + Translate key findings from this study into recommendations that can be used by the field to build research capacity at MSIs.







Background: Overarching Problem

- + Among individuals between the ages of 18 and 64, 10.4% of non-Hispanic Whites, 7.9 percent of Hispanics, and 4 percent of Asians reported having a disability in 2011 compared to 13.6 percent of African Americans, and 17.1% of American Indians or Alaskan Natives (Erickson, Lee & Von Schraeder, 2012).
- + Individuals with disabilities from traditionally underserved racial and ethnic populations continue to differ on rehabilitation experiences (Moore, Wang, & Washington, 2016) and health statuses (Wong & Miles, 2014) when compared to Whites with disabilities.





Overarching Problem (Cont'd)

- + National U.S. Bureau of Labor Statistics Data: In 2014, the unemployment rate of Blacks or African Americans with disabilities (21.6%) was nearly twice that of Whites (11.2%) with disabilities (BLS, 2014).
- + State Vocational Rehabilitation Agency Data: A FY 2013 RSA-911 data analysis showed that return-to-work predicted probabilities were 'poorest' among African Americans, followed by American Indians or Alaska Natives, Asian Americans or Pacific Islanders, Latinos, and then non-Latino Whites (Moore & Wang, 2016).
- + Health Status Data: Adult Latinos, American Indian or Alaskan Natives, and African Americans more often report fair or poor health (55.2%, 50.5%, and 46.6%, respectively) compared to non-Latino Whites with disabilities (36.9%) that typically report good or excellent health (Wong & Miles, 2014).





Contextual Issues

- + MSIs and affiliated researchers remain underrepresented in disability and health research arena and the number of investigators of color, including those with disabilities, obtaining research funding from federal agencies such as NIDILRR & NIH is very limited (Chen, Vaughn, Zanskas, & Kuo, 2014; Ginther et al., 2011; Moore et al., 2012; Moore, Aref, Manyibe, & Davis, 2015).
- + Limited supply of researchers and leaders of color, including those with disabilities, available to mentor early careers investigators and students at MSIs, or the emerging talent.







Drivers Underlying Under Participation of MSIs and Affiliated Scholars in R&D

- + Limited research infrastructure and support systems (e.g., Office of Sponsored Programs, Library Resources, Institutional Review Boards) supporting strong research culture and productivity at many MSIs (Moore et al., 2012).
- + Poor research skills (i.e., research methodology and grant-writing) among some MSI-based faculty scholars.





The Need to Strengthen Research Capacity & infrastructure at MSI Ecosystem.

- 4 Improve outcomes: Research at MSIs is needed to improve employment, health and function and community participation outcomes of minority populations with disabilities (Moore et al. 2012). Research capacity remains one of the most important unmet challenges at MSIs (Manyibe et al 2015).
- + MSIs Advancing Research Enterprise: Strengthening research capacity at MSIs is essential to maintaining and advancing a vital research enterprise in disability and health research (Moore et al. 2012a; NIDILRR, 2011).
- + Diversification of Disability & Health Scientific Workforce: MSIs participation as federal research agency partners is key to efforts to diversify the scientific workforce as well as training the next generation of scientists.





Theoretical Lenses for Understanding Research Capacity Building at MSIs

- The structural empowerment theory Postulates that access to or the support of organizational structures is more important to the employees' work performance than personal qualities.
- Access to structures results in increased feelings of autonomy, increased productivity and job satisfaction, higher levels of selfefficacy, and increased institutional commitment (<u>Kanter, 1993</u>).
- + Critical Mass theory It posits that a minority group will influence change and group interactions when it reaches critical mass (Torchia, Calabro, & Huse, 2011). ``





Purpose of the Study

- + Evaluate the Institutional Research Capacity Building and Infrastructure Model (IRCBIM), which was implemented at minority-serving institutions.
- + Make recommendations that can be used by the field to strengthen and sustain disability and health research capacity (i.e., research infrastructure and investigators' research skills) at minority-serving institutions.







Research Questions

- What are the benefits of the Institutional Research Capacity-Building and Infrastructure Model (IRCBIM) on MSIs' participation in research?
- How do mentees and Fellows describe their experiences? What were the advantages and challenges?
- What is the benefit of including these strategies and methodologies in training junior investigators involved in research with racial and ethnic minorities with disabilities?





Institutional Research Capacity Building and Infrastructure Model (IRCBIM): An Overview

- + IRCBIM is an emerging research capacity building model designed to:
- Build the research capacity of MSIs to undertake scientific studies that produce new knowledge, develop new ideas, and experiment with innovations that lead to improved outcomes among individuals with disabilities from traditionally underserved racial and ethnic groups.
- Provide faculty members with in-depth knowledge of the research process and equip them with practical skills for the design and conduct of quality research studies.







IRCBIM Intervention Components (ICs)

IC1. Post-Doctoral Training: Peer-to-Peer Mentor Research Team Academy

Phase 1: Manuscript Development Receive mentorship, complete research project and submit manuscript for publication consideration, participate in training workshops, make presentations, network with research leaders and other fellows, etc.

Phase 2: Research grant proposal Receive mentorship and intensive grant writing and management training, complete and submit proposal to NIDILRR (i.e., Field Initiated Program or Mary Switzer Fellowship Program) for funding consideration, learn research leadership concepts and skills, make presentations on projects, network, etc.





IRCBIM Intervention Components (Cont'd)

IC2. Technical assistance and consulting: Infrastructure issues

Research infrastructure strategic planning; sponsored programs efficient operation and function; institutional review board (IRB) efficient operation and function; graduate program development; teaching, student advisement, service commitment, & administrative duties-balance; building research networks and partnerships between agencies (e.g., SVRA) and MSIs, grant writing and manuscript development.





IRCBIM Intervention Components (Cont'd)

IC3. Grant-writing and management training

Designed to enhance basic grant-writing skills among faculty, students, administrators, and staff.

IC4. Manuscript Development Training

Involves training faculty/ fellows and students manuscript preparation skills and how to share findings using Knowledge Translation (KT) strategies.





IRCBIM Intervention Components (Cont'd)

IC5. Communities of Practice (CoP)

Fellows are required to participate in the communities of practice (CoPs) on improving employment, health and function, and community participation outcomes among traditionally underrepresented racial and ethnic groups.

IC6. Research Support Resources

Includes providing mini-grant Supplements (Research seed monies) to jump-start Fellows' research agenda. Funding can be used for release time, library research resources, data management software (e.g., SPSS, NVivo) travel to present research, research assistant support, etc.





A Summary of Interventions Delivered at Each MSI between baseline and Intermediate phases

University
of Texas
Rio Grande
Valley

Research infrastructure improvement strategic planning, peer-to-peer research team academy, grant writing training, manuscript development training, research methods (i.e., quantitative, qualitative, mixed methods) training, communities of practice (CoPs), research support resources (e.g., lap top computers, statistical software), building research networks and partnerships with agencies (e.g., SVRA, NIDILRR).

Alabama State University

Research infrastructure improvement strategic planning, peer-to-peer research team academy, grant writing training, manuscript development training, research methods (i.e., quantitative, qualitative, mixed methods) training, community of practice (CoPs), institutional review board (IRB) efficient operation training, building research networks and partnerships with agencies (e.g., SVRA, NIDILRR).

North Carolina A&T Universit

Research infrastructure improvement strategic planning, grant writing training, manuscript development, research methods (i.e., quantitative, qualitative, mixed methods) training, community of practice (CoP); building research networks and partnerships with agencies (e.g., NIDILRR).





A Summary of Interventions Delivered at Each MSI between baseline and Intermediate phases

Mercy College

Research infrastructure improvement strategic planning, peer-to-peer research team academy, grant writing training, manuscript development, research methods (i.e., quantitative, qualitative, mixed methods), building research networks and partnerships with state agencies (e.g., SVRA), communities of practice (CoP), institutional review board (IRB) efficient operation training, office of sponsored programs efficient operation and function consultation/training.

Little Priest Tribal College

Research infrastructure improvement strategic planning, peer-to-peer research team academy, grant writing training, manuscript development, research methods (i.e., quantitative qualitative, mixed methods) training, building research networks and partnerships with community agencies (e.g., SVRA, NIDILRR), community of practice (CoP), institutional review board (IRB) efficient operation training.





METHOD

- + Sampling: Recruitment
- March 10, 2014: Call for 2013 IRCBIM Applications Open
- April 3-4, 2014 (Atlanta, Georgia). : Informational for MSIs administrators, faculty, staff, & NIDILRR representatives
- May 1, 2014: Pre-Application Teleconference –for Potential Applicants
- September 1, 2014: Of the 18 MSIs that applied, six (6) were selected (i.e., 2 HBCUs, 2 HSIs, & 1 TCU) and notified.







+ Inclusion criteria:

- Must be a minority-serving institution (i.e., historically Black colleges/universities [HBCUs], Hispanic-serving institutions [HSIs], or American Indian tribal colleges/universities [AITCUs]).
- Must house a rehabilitation, health, or allied health academic and/or research program or teaching program in the social sciences
- Must be an accredited institution.







+ Inclusion criteria (Cont'd)

- Must agree to sign a Subcontract to participate in Research
 Capacity Building (RCB) and Research Infrastructure (RI)
 development activities and commit to the Peer-to-Peer Mentor
 Research Team Academy Fellow responsibilities.
- If HBCU or HSI, must meet the Carnegie Basic Classification of Baccalaureate college, Master's College and University, or Research University (high research activity). If AITCU, must be Tribal College as classified by the Carnegie Foundation.







+ Study Design:

- We used a Mixed methods concurrent triangulation design (Castro, Kellison, Boyd, & Kopak, 2010, Creswell, J. W. (2013).
- Aim was to triangulate findings and more accurately define relationships among variables of interest.
- Consistent with the concurrent triangulation design, we collected both quantitative and qualitative data at the same time.





Procedure

- Research team developed and pilot tested the survey instrument at an HBCU in the eastern United States.
- Most of the survey items required participants to rate their perceptions using a 5-point Likert scale ranging from 1 (almost never true) to 5 (almost always true) or 1 (very important) to 5 (unimportant).
- Research team, in consultation with an advisory panel member, developed intervention component protocols
- Developed observation and document review protocols





+ Procedure (cont'd)

+ The baseline data were analyzed and the results used to customize interventions across three broad RCB areas: individual, institutional, and systems and the following ten specific domains; (1) leadership, (2) structures, (3) collaboration, (4) external support, (5) access to resources, (6) research networks, (7) skills and knowledge, (8) ongoing learning, (9) participation, and (10) psychological wellbeing.







Data Collection

- Quantitative data using online survey
- Qualitative data using Focus Group Discussions (1 group with Fellows, 1 group with mentors), document review (e.g., applications, reports, brochures), and observation
- Quantitative (survey data) and qualitative data were collected concurrently





Data Analysis

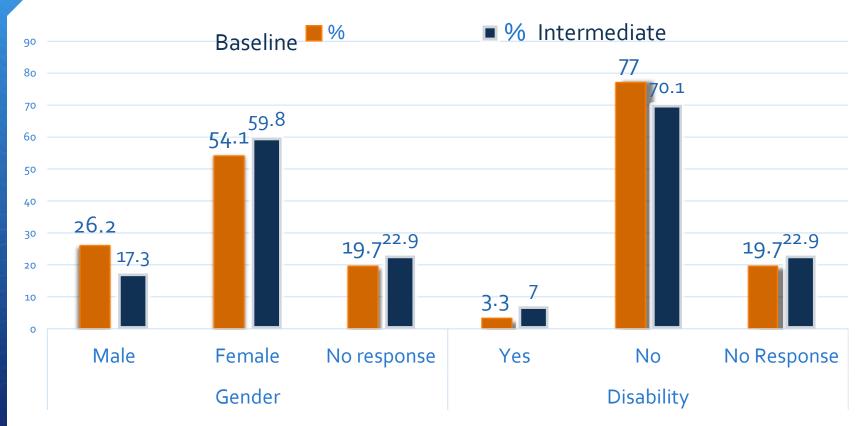
- Quantitative Data Analysis
- ✓ Used SPPS(v.24) to analyze data
- ✓ Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to describe the data.
- ✓ Qualitative Data Analysis
- ✓ Data were audio recorded and transcribed. NVivo was used to completed the analysis. An open coding approach was used to generate themes and codes.







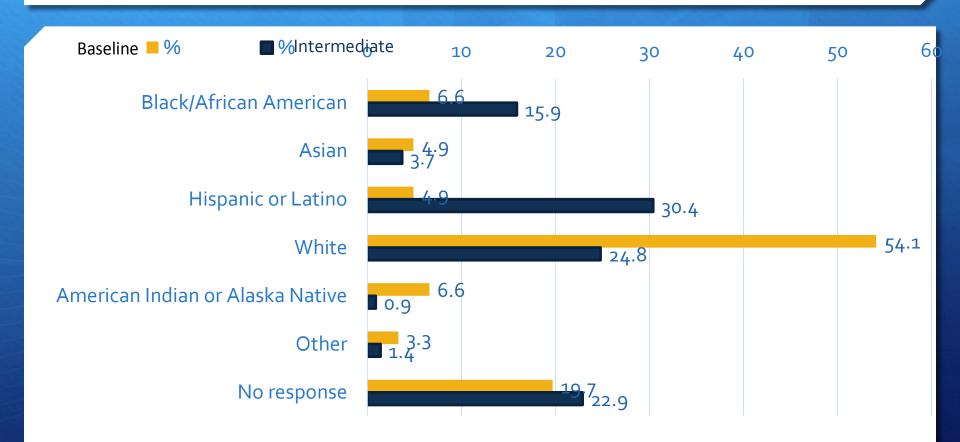
Participant Characteristics







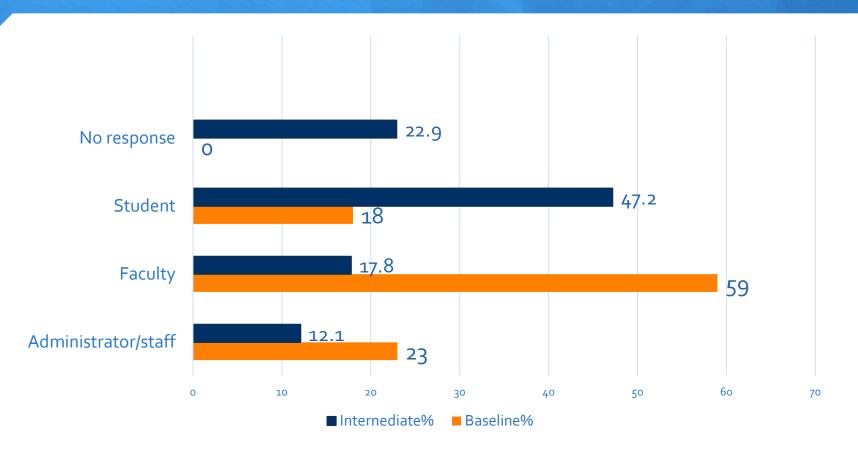
Participant Characteristics (cont'd)







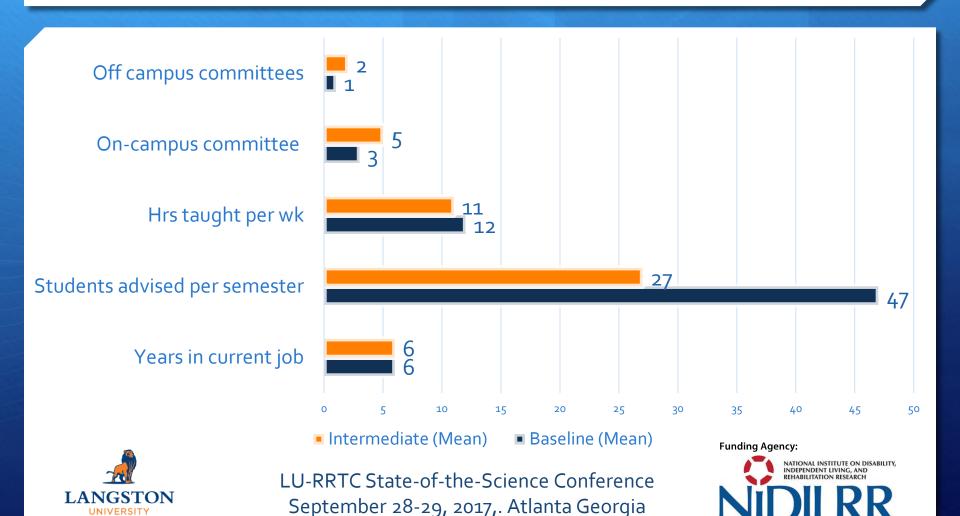
Participant Characteristics (cont'd)



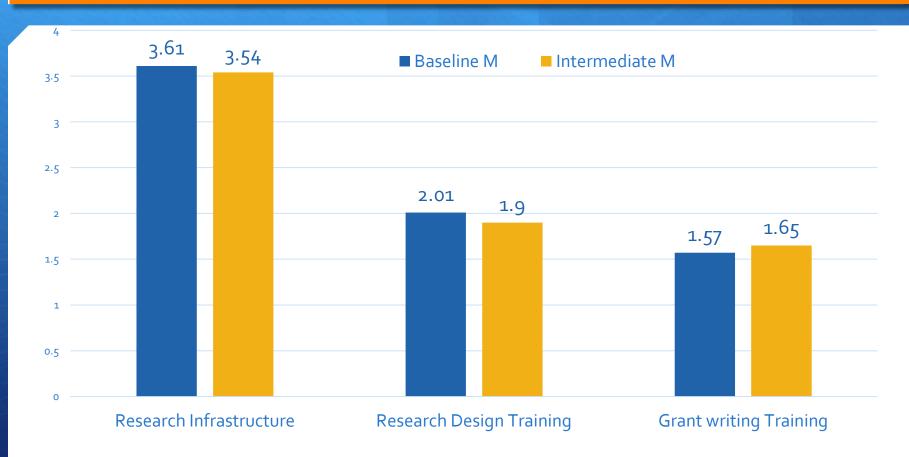




Participant Characteristics (cont'd)



Quantitative Results: Descriptive Analysis of variables about participants' perceptions of components of research capacity building.

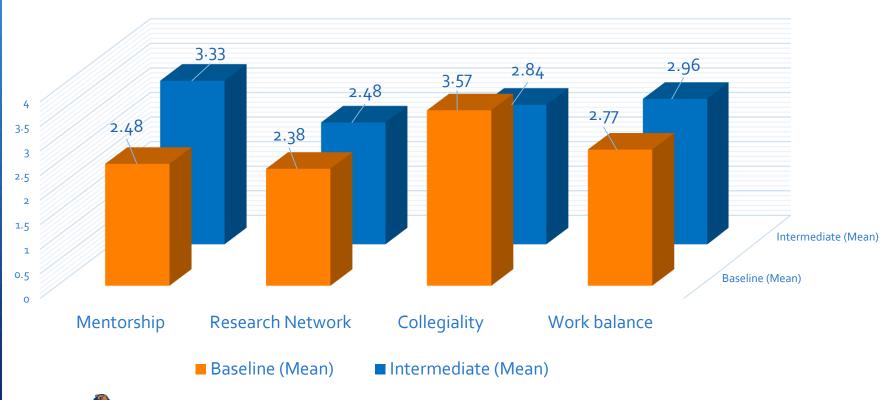






Quantitative Results: Descriptive Analysis of variables about participants' perceptions of specific RCB components.

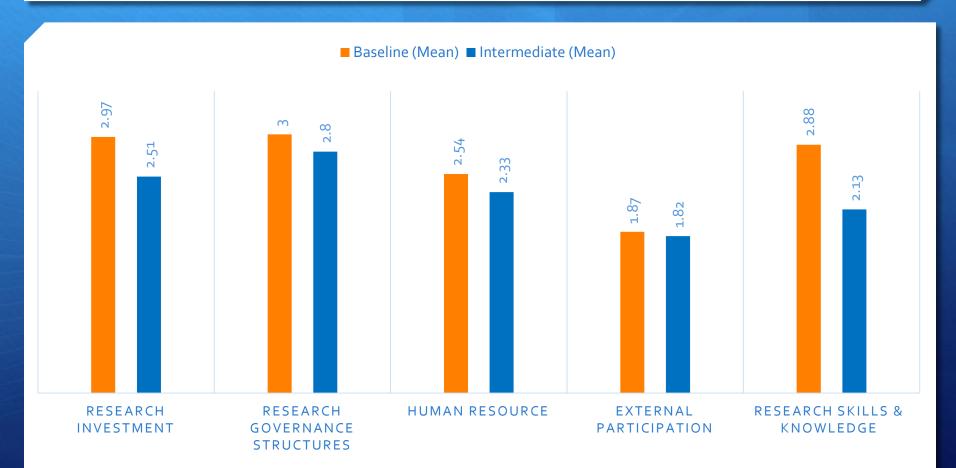








Descriptive Analysis of variables about participants' perceptions of specific RCB components







Descriptive Analysis of variables about participants' perceptions regarding the importance of specific research skills in enhancing investigator research capacity.







Research Productivity

Variable	Baseline (N)	Intermediate (N)
Number of disability and health peer- reviewed journal authorship/co- authorship	7	8
Number of research proposals submitted to NIDILRR/NIH	1	6





Qualitative Results

Major Categories

- Formal mentorship
- Communities of Practice (CoP)
- Research infrastructure issues
- Grant writing/proposal development
- Manuscript development and publication
- Access to resources
- Challenges





Integrated Results

Benefits of the Institutional Research Capacity-Building and Infrastructure Model on MSIs' participation in disability research.

- Strengthening research infrastructure.
- Improving Institutional research culture.
- Increased research productivity.
- Institutional Prestige.
- Attracting talented researchers and students.
- Increasing mentorship opportunities for faculty and students.
- Establishing partnerships and collaborations with federal research sponsoring agencies (e.g., NIDILRR).





Integrated Results (Cont'd)

Benefits/advantages of participating in the Peer-to-peer mentor Research Team Academy.

Benefits/Advantages

- Increased research knowledge and skills
- Increased research productivity
- Promotion of learning and retention
- Sharing resources
- Collaboration
- Promoting psychological wellbeing.

- Creating a pipeline for minority researchers
- Success in graduate school
- Role Modeling
- Self-efficacy
- Networking
- Prestige





Integrated Results (Cont'd)

Challenges of participating in the Peer-to-peer mentor Research Team Academy:

- Scheduling conflicts and time constraints
- Limited face-to-face meeting opportunities
- Attrition

- Competing demands
- Leadership changes
- Bureaucracy e.g., subcontract process
- Insufficient subcontract amounts
- Heavy teaching and student advising loads





Integrated Results (Cont'd)

Strategies or components that can be considered for adoption by NIDILRR and other federal agencies? Which models can be applied to other MSIs?

- Peer-to-peer Research Team Mentorship
- Investment in research infrastructure (e.g. IRB, office of sponsored programs, technology).
- Incentives targeting earlier career investigators, students,

- Research skills building and knowledge enhancement strategies.
- Protected time to participate in research
- Participation in peer review processes





Illustrative exemplars indicating how Fellows perceived their participation in IRCBIM

- Without this fellowship, I probably wouldn't have a publication, a grant, or anything.
- With our busy careers, having to do advisement, large teaching loads, some of us at our university do administration also. We do a combination of various things It would have been more difficult for me to start the research project solo versus having this opportunity to work with Langston and my peers.
- Without the mentorship, I was lost. I was spending more time trying to figure out what I needed to do and how I needed to do it for the first year.
- We're both PhD candidates, so this program has been essential in getting us on track to do our research and to develop our agenda. So definitely without it, we wouldn't have had the opportunity to develop our research agenda. So I'm grateful for that, and all the resources, without a doubt.
- Each person [mentor] has provided us with a world of information about developing a grant, different aspects of it: how to reach the reviewers; how to make an impressionable first point; how to develop your literature review; developing a program evaluation, collaborating with individuals.





Illustrative exemplars indicating how mentors perceived their experience as IRCBIM participants

- I think I'm helping the Fellows to improve their stats skills, and also I'm trying to encourage them to move forward with their manuscript.
- I think just like teaching, you get better, you learn more. You also realize what you don't know. You also are reminded how, because you're not using certain things, you're getting rusty.
- My experience has been pretty positive. They (fellows) were really motivated from the beginning and that motivation level has stayed pretty steady. We have met via conference call weekly pretty much the entire time of the project with one or two exceptions, when, for whatever reason we didn't meet.
- We've done manuscript development and submitted an actual grant proposal, so it's been a combination of things.





Limitations of the study

 This study does not explain causal relationships.

 Mixed methods experts have not resolved how to interpret conflicting results.







Conclusion and Recommendations For Building Research Capacity at MSIs

- The findings suggest that IRCBIM is a promising model for building research capacity at MSIs and increasing a critical mass of affiliated researchers available to pursue compelling scientific questions that lead to improvements in the experiences and outcomes of individuals with disabilities from minority populations. The model should be scaled up and its effectiveness tested.
- Federal agencies (e.g., NIDILRR), whose role is to promote health and disability research and create a diversified scientific workforce should explore innovative ways of increasing their RCB invest portfolio among MSIs. Our findings and experiences suggest that the success of implementing IRCBIM will largely depend on long-term federal research agency financial investments and innovative leadership at MSIs.





Knowledge Translation Resources & Deliverables

<u>Moore, C. L.; Manyibe, E. O.; Sanders, P.; Aref, F.; Washington, A. L.; & Robertson, C. Y.</u> (2017). <u>A Disability and health institutional research capacity building and infrastructure model evaluation: A Tribal college-based case study. *Rehabilitation Research, Policy, and Education, 31*(3), 309-336.</u>

Moore, C. L.; Manyibe, E. O.; Aref, F.; Washington, A. L. (2017). Research Capacity Building: A Historically Black College/University-Based Case Study of a Peer-to-Peer Mentor Research Team Model. Rehabilitation Research, Policy, and Education, 31(3), 283-308.

Manyibe, E. O., Moore, C. L., Aref, F., Washington, A. L., & Hunter, T. (2015). An emerging conceptual framework for conducting disability, health, independent living, and rehabilitation research mentorship at minority serving institutions. *Journal of Rehabilitation*, 81(4), 25-27.

Manyibe, E. O.; Moore, C. L.; Aref, F; Sagini, M. M.; Zeng, St.; Alston, R. J. (2017). Minority-serving institutions and disability, health, independent living, and rehabilitation research participation challenges: A Review of the literature and policy. *Rehabilitation Research, Policy, and Education*, 31(3), 174-193.





References (continued)

- Balcazar, F.E., Oberoi, A.K., Suarez-Balcazar, Y., & Alvarado, F. (2013). Predictors of outcomes for African Americans in a rehabilitation state agency: Implications for national policy and practice. Rehabilitation Education, 26(1), 43-54.
- Bureau of Labor Statistics . U.S. Census Bureau projections show a slower growing, older, more diverse nation a half century from now. 2012. Retrieved from http://www.census.gov/newroom/releases/archives/population/cb12-243.html. Accessed December 12.
- Creswell, J. W. (2013). Research design: Qualitative, quantitative, and mixed methods approaches: Sage publications..
- Chen, R.K., Vaughn, M., Zanskas, S.A., & Kuo, H.-J. (2014). Scholarly productivity in rehabilitation counseling: A review of journal contributors from 2000 to 2009. Rehabilitation Counseling Bulletin, 57, 116-123.
- Chow, E.A., Foster, H., Gonzalez, V., & McIver, L. (2012). The disparate impact of diabetes on racial/ethnic minority populations. *Clinical Diabetes*, 30, 130-133. doi: 10.2337/diaclin.30.3.130.
- Erickson, W., Lee, C., & Von Schrader, S. (2012). Disability statistics from the 2010 American community survey. Ithaca, NY: Cornell University Rehabilitation Research and Training Center on Disability Demographics and Statistics.
- Ginther, D.K., Haak, L.L., Schaffer, W.T., & Kington, R. (2012). Are race, ethnicity, and medical school affiliation associated with NIH Ro1 type 1 award probability for physician investigators? Academic Medicine, 87, 1516-1524.
- Ginther, D.K., Schaffer, W.T., Schnell, J., Masimore, B., Liu, F., Haak, L. L., & Kington, R. (2011). Race, ethnicity, and NIH research awards. Science, 33396045), 1015-1019.
- A recent BLS Report, Persons With a Disability: Labor Force Characteristics (2014),





References (continued)

- Goode, T.D., Carter-Pokras, O.D., Horner-Johnson, W., & Yee, S. (2014). Parallel tracks: Reflections on the need for collaborative health disparities research on race/ethnicity and disability. *Medical Care*, 52, S3-S8. doi: 10.1097/MLR.0000000000000001.
- Moore, C.L., Johnson, J.E., Manyibe, E.O., Washington, A.L., Uchegbu, N.E., & Eugene-Cross, K. (2012). Barriers to the participation of historically Black colleges and universities in the federal disability and rehabilitation research and development enterprise: The researchers' perspective.
 Oklahoma City, OK: Department of Rehabilitation Counseling and Disability Studies, Langston University.
- Moore, C.L., Wang, N., Johnson, J., Manyibe, E.O., Washington, A. L., & Muhammad, A. (2015a). Return-to-work outcome rates of African Americans versus White veterans served by state vocational rehabilitation agencies: A randomized split-half cross-model validation research design. *Rehabilitation Counseling* Bulletin, pg 1-14, doi:10.1177/0034355215579917.
- Moore, C.L., Aref, F., Manyibe, E.O., & Davis, E. (2015b). Minority entity disability, health, independent living, and rehabilitation research productivity facilitators: A review and synthesis of the literature and policy, pg 1-14, doi:10.177/0034355214568527.
- Moore, C.L., Wang, N., Davis, D., Aref, F, Manyibe, E.O......& Quinn, J. (2015c). Disability, health, independent living, and rehabilitation research leaders from traditionally underrepresented racial and ethnic populations: Career development and success factors. *Journal of Rehabilitation*, 81, 19-33...
- Moore, C. L.; Wang, N.; Davis, D.; Aref, F.; Manyibe, E. O.; Washington, A. L.; Johnson, J.; Eugene-Cross, K.; Muhammad, A.; Jennings-Jones, D. (2017). Key informant perspectives on federal research agency policy and systems and scientific workforce diversity development: A companion study. *Rehabilitation Research, Policy, and Education, 31*(3), 230-252.





Questions



FUNDING AGENCY ACKNOWLEDGEMENT

The contents of this presentation were developed under a grant from the National Institute on Disability, Independent Living, and Rehabilitation Research (NIDILRR grant number 90RT5024-01-00). NIDILRR is a Center within the Administration for Community Living (ACL), Department of Health and Human Services (HHS). The contents of this presentation do not necessarily represent the policy of NIDILRR, ACL, HHS, and you should not assume endorsement by the Federal Government.



Contact Information

Rehabilitation Research and Training Center (RRTC)

On Research and Capacity Building for Minority Entities

6700 N. Martin Luther King Ave.

Oklahoma City, Ok. 73111

Phone: (855) 497-5598

Fax: (405)962-1638

RRTC email: capacitybuildingrrtc@langston.edu

RRTC Website: www.langston.edu/capacitybuilding-rrtc