Research Mentor Training: Building and Sustaining the Research Enterprise

Professional Development Workshops
asm2015 115th General Meeting
New Orleans, LA

Learn • Network • Collaborate
Workshop Facilitators

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Harlan Jones,
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Pennsylvania State University

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Stanford University

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University of the District of Columbia
Workshop Objectives

**Morning Workshop: Mentor Training for Microbiologists**
- Design, implement, and evaluate various approaches to mentoring.
- Develop skills to build respect, trust, and communication with mentees.
- Build a community of trained mentors by sharing mentoring challenges and solutions collaboratively amongst peers.

**Afternoon Workshop: Facilitator Training for Research Mentors**
- Develop the knowledge and skills to implement mentor training.
- Be able to describe evidence supporting the effectiveness of research mentor training.
- Be able to articulate practical plans for implementing mentor training at their home institutions.
Afternoon Agenda

• 1:00 – 2:00 pm  Introductions
   Facilitator Training Workshop Overview
   Evidence and Evaluation Measures for Mentor Training
   Experience Entering Mentoring

• 2:00 – 2:45 pm  Facilitation Practice

• 2:45 – 3:45 pm  Facilitation Debrief
   Implementing the Curriculum

• 3:45 – 4:15 pm  Reflections
   Question and Answer
   Draft a Mentor Recruitment and Implementation Plan

• 4:15 – 4:30 pm  Workshop Evaluation
Mentoring Matters
Strong Mentorship Has Been Link to:

- **Desire to pursue a Ph.D or M.D/ Ph.D** (McGee and Keller, 2007).
- **Persistence** (Sambunjak et al, 2010; Alberta et al, 2001; Solorzano 1993).
- **Research productivity** (Steiner et al, 2002; Wingard et al, 2004).
- **Higher career satisfaction** (Schapira et al, 1992; Beech et al, 2013)
- **Enhance recruitment of URM**s into biomedical research-related career pathways (Hathaway et al, 2002; Nagda et al, 1998).
Underrepresented Minorities Less Likely to Be in Effective Mentoring Relationships

- URMss typically receive less mentoring than their non-minority peers (Thomas et al., 2001; Helm et al., 2000; Morzinski et al., 2002).

- Minority investigators indicate that inadequate mentoring posed obstacles to obtaining funding (Ginther et al., 2011).
Objective 1:
Learn about others in the group

I. Pair up in partners. Introduce yourselves by describing your institution, title, research interests and hobbies.

II. Discuss at least 3 of the 5 statements/questions with your partner:

1. I signed up for mentor training to ….
2. The most important lesson I can learn is …
3. Have you been offered mentoring resources/training?
4. What do you wish you would have learned before mentoring others?
5. How do you consider yourself a mentor?
## Why We Are Here

<table>
<thead>
<tr>
<th>Questions</th>
<th>Objective</th>
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<tbody>
<tr>
<td>What is research mentor training?</td>
<td>• Become familiar with the research mentor and mentee training curricula</td>
</tr>
<tr>
<td></td>
<td>• Develop the knowledge and skills to implement mentor and mentee training</td>
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<tr>
<td>How do I know that training works?</td>
<td>• Be able to describe evidence supporting the effectiveness of mentor and mentee training</td>
</tr>
<tr>
<td>How do I facilitate research mentor training?</td>
<td>• Gain confidence in your facilitation skills</td>
</tr>
<tr>
<td>How can implement it within the culture of my institution?</td>
<td>• Be able to articulate practical plans for implementing mentor and/or mentee training at home institution</td>
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</table>
Defining Mentoring

Using one’s own experience to guide another person through an experience that requires personal and intellectual growth and development.

Within the realm of scientific research training and career development, the primary research mentor(s) plays a critical mentoring role.
Research Mentoring Relationships

MENTOR

MENTEE

MENTOR/MENTEE

Principal Investigators (Faculty)

Junior Faculty/Post-doctoral researchers

Graduate/Medical Students

Undergraduate Researchers
To be successful, research mentees must...

- develop technical & disciplinary knowledge in the field
- develop the tacit skills needed to craft a career to fit their needs & wants

Know **What** Skills + Know **How** Skills = Career Development

Research Mentoring Relationships

Adapted from Angela Byars-Winston, 2014
Curriculum Overview: Mentor Training Adaptation


Mentor Training for Clinical & Translational Researchers: [https://mentoringresources.ictr.wisc.edu/](https://mentoringresources.ictr.wisc.edu/)
Welcome to Mentor Training

Your ability to mentor well can have huge impact on the overall experience and the productivity of both you and your mentee. While many efforts have focused on helping prospective and new faculty learn skills in grant writing, lab management, and classroom teaching, mentoring has been conspicuously absent. To address this need, we have developed this website which can help you to become a more effective mentor, and more importantly, can help you develop a seminar or workshop to train other research mentors.

We hope you find the materials on this website useful and easily adaptable as you and your colleagues work to become more efficient and effective mentors!

Case Study: Independence

An experienced undergraduate researcher was constantly seeking input from the mentor on minor details regarding his project. Though he had regular meetings scheduled with the mentor, he would bombard her with several emails a day...

Quotes:

“Mentor training is a wonderful opportunity to formally learn and reflect on mentoring. The mentors in my group will no doubt mentor many other students in their careers. I believe this seminar will help them to do so more effectively.”
Evidence and Evaluation Measures for Mentor Training
Randomized Trial to Test Effectiveness of Mentor Training Curriculum Adaptation

Entering Mentoring curriculum adapted for clinical and translational researchers

Training Implementation

Trained facilitators administered curriculum to 16 sites across the country and in Puerto Rico

Evaluation

Tested the effectiveness of the curriculum via a randomized controlled trial

Clinical & Translational Research Mentor Training Curriculum (4 two-hour sessions)

<table>
<thead>
<tr>
<th>Session</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Session 1</td>
<td>Introductions</td>
</tr>
<tr>
<td></td>
<td>Maintaining Effective Communication</td>
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<tr>
<td>Session 2</td>
<td>Aligning Expectations</td>
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<tr>
<td></td>
<td>Assessing Understanding</td>
</tr>
<tr>
<td>Session 3</td>
<td>Addressing Diversity</td>
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<tr>
<td></td>
<td>Fostering Independence</td>
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<tr>
<td>Session 4</td>
<td>Promoting Professional Development</td>
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<tr>
<td></td>
<td>Articulating a Mentoring Philosophy and Plan</td>
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</table>
Training Implementation: Mentoring Trial Sites (n=16)
Training Implementation: Participant Recruitment

Inclusion criteria for Mentors:

- Current research mentor of qualifying mentee

Inclusion criteria for Mentees:

- Conducting clinical and translational research ≥ 50%
- Target groups:
  1. NIH Mentored Career Development Awardees (e.g., KL2/K12, K08, K23)
  2. Post doctoral fellows
  3. Clinicians and clinical fellows
  4. PhD students
Recruited 283 mentor/mentee pairs across 16 sites

Mentor and Mentee Baseline Interviews (MCA) N=566

Mentors Allocated to Control Group N=139

Mentors Randomized

Mentors Allocated to Training Group N=144

Training Implemented (6-14/site)

Mentor and Mentee Follow-Up Interviews (MCA) N=552; 98%

Mentor Post-Training Surveys

= Implementation

= Assessment

### Study Population by Race/Ethnicity

#### N=283* Mentees

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>208</td>
<td>(74.0)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>32</td>
<td>(11.4)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>19</td>
<td>(6.8)</td>
</tr>
<tr>
<td>Chinese</td>
<td>14</td>
<td>(5.0)</td>
</tr>
<tr>
<td>Asian Indian</td>
<td>20</td>
<td>(7.1)</td>
</tr>
<tr>
<td>Other Asian</td>
<td>16</td>
<td>(5.7)</td>
</tr>
<tr>
<td>Other</td>
<td>21</td>
<td>(7.5)</td>
</tr>
</tbody>
</table>

The most common profile for a mentee is a 36 year old white female who is an assistant professor.

#### N=283* Mentors

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>N</th>
<th>(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>257</td>
<td>(90.8)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>20</td>
<td>(7.1)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>6</td>
<td>(2.1)</td>
</tr>
<tr>
<td>Chinese</td>
<td>9</td>
<td>(3.2)</td>
</tr>
<tr>
<td>Asian Indian</td>
<td>7</td>
<td>(2.5)</td>
</tr>
<tr>
<td>Other Asian</td>
<td>5</td>
<td>(1.8)</td>
</tr>
<tr>
<td>Other</td>
<td>6</td>
<td>(2.1)</td>
</tr>
</tbody>
</table>

The most common profile for a mentor is a 50 year old white male professor with 15 years of mentoring experience.

*Respondents could choose more than one category
Study Population: Career Stage and Gender of Mentors

Control N=139

- Professor: 12%
- Associate Professor: 30%
- Assistant Professor: 58%

Intervention N=144

- Professor: 12%
- Associate Professor: 32%
- Assistant Professor: 56%

Gender

- Male: 45%
- Female: 55%

- Male: 35%
- Female: 65%

N=283 Mentors
Study Population: Years of Mentoring (Mentors)

Control | Intervention
---|---

Number of Years Mentoring

- 1-5: 21% (Control), 16% (Intervention)
- 6-10: 3% (Control), 1% (Intervention)
- 11-20: 14% (Control), 14% (Intervention)
- 21-30: 40% (Control), 22% (Intervention)
- Over 30: 22% (Control), 24% (Intervention)
Study Population: Career Stage and Gender of Mentees

Control N=139

Career Stage
- Assistant Professor: 24%
- Associate Professor: 47%
- Postdocs/Fellows: 4%
- Scientist: 21%
- Other Trainee: 4%

Gender
- Male: 59%
- Female: 41%

Intervention N=144

Career Stage
- Assistant Professor: 20%
- Associate Professor: 36%
- Postdocs/Fellows: 6%
- Scientist: 33%
- Other Trainee: 4%

Gender
- Male: 58%
- Female: 42%

N=283 Mentees
Mentor Post Training Survey

N=128

1. Effectiveness of the training sessions
2. Self-reported skills gains
Mentor Satisfaction with Training
N=128

Was the 8-hour training a valuable use of your time?

- Yes: 88%
- No: 12%

Would you recommend the sessions to a colleague?

- Very Likely: 45%
- Likely: 45%
- Unlikely: 6%
- Very Unlikely: 4%

Entering Mentoring:
Changes in Behavior of the Mentors of Undergraduates

Mentor Training for Clinical & Translational Researchers: Mentor Skills Gains (n=124)

Assessment Tools:
MCA (Mentoring Competency Assessment)

• Conducted with mentors and mentees (n=566, 283 pairs) in person by trained research assistants at each site
  – Close-ended survey
  – MCA (Mentoring Competency Assessment)
Training Implementation and Evaluation: Flowchart of Research Mentor Training Trial

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Mentors Randomized

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Mentors Allocated to Training Group N=144

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Mentor and Mentee Follow-Up Interviews (MCA) N=552; 98%

Mentor Post-Training Surveys


Implementation

= Assessment

= Implementation
Training Evaluation: Baseline Interview Schedule

- Validated tool to help trainers evaluate the effectiveness of training

- Used the Mentoring Competency Assessment (MCA) tool featuring 26 items with six competencies:
  - Effective Communication (6 items)
  - Aligning Expectations (5 items)
  - Assessing Understanding (3 items)
  - Addressing Equity & Inclusion (2 items)
  - Fostering Independence (5 items)
  - Promoting Professional Development (5 items)
Training Evaluation: Post Interview Schedule

• Conducted with mentors and mentees (n=552, 98% retention rate) via phone by staff at UW Madison
  – Mirrors baseline but also includes:
    • Retrospective assessment of skills
    • Qualitative section
      – Mentors asked if they changed their behavior in each of the six competencies since baseline
      – Mentees asked if noted changes in their mentors’ behavior in each competency since baseline
## Post Interview Mentor (Mentee) MCA Example

<table>
<thead>
<tr>
<th></th>
<th>1 Not at all Skilled</th>
<th>2</th>
<th>3</th>
<th>4 Moderately Skilled</th>
<th>5</th>
<th>6</th>
<th>7 Extremely Skilled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Working with you (mentees) to set clear expectations of the mentoring relationship - BEFORE</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Working with you (mentees) to set clear expectations of the mentoring relationship - NOW</td>
<td></td>
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</tr>
<tr>
<td>Accurately estimating your (mentees’) level of scientific knowledge - BEFORE</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Accurately estimating your (mentees’) level of scientific knowledge - NOW</td>
<td></td>
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</tr>
</tbody>
</table>

Mentor Behavioral Change

- Content analysis used to code qualitative ‘stages of change’ with inter-rater reliability of 98.7%
- Coded across 4 stages of change
  - No change
  - Awareness
  - Intent to Change
  - Implemented Change
- Each mentor assigned to the highest stage of change noted in responses

Significant Change in Mentor Self-Reported Effectiveness

Pfund et al. Academic Medicine 2014
Significant Change in Mentee Self-Reported Effectiveness of Mentor

Pfund et al. Academic Medicine 2014
Mentor Behavioral Change
N=141; 3 months post training

Intervention:
- No change: 87%
- Awareness: 3%
- Intent: 8%
- Implemented: 2%

Control:
- No change: 47%
- Awareness: 10%
- Intent: 1%
- Implemented: 42%
Experience

Entering Mentoring
Role Play: Maintaining Effective Communication

Mentee walks into his mentor’s office excited after coming from a meeting with a potential collaborator from across campus.

Mentee: [Knocks and walks in office] Hi! I’m so glad I caught you in your office. I just came from my meeting with Dr. Jahns and I have really exciting news about a possible collaboration. He said --

Mentee: [Patiently waits for mentor to read email]

Mentee: Dr. Jahns is really excited about our ideas for collaborating. He and I thought of a few ways to integrate our projects and even generated some ideas about the grant proposal you and I discussed --

Mentee: I really think we should consider --

Mentor: [Interrupting] I was hoping you’d stop by. I just submitted the abstract for the conference next month. I was thinking… [email notification pops up on computer and mentor is distracted]

Mentor: Ooh I just received an email back from Dr. Tram. He agreed to present at the conference. His ideas are so innovative. I want to make sure you meet him. I have to quick run to my next meeting. What were you saying before?

Mentor: [Interrupting] That’s great but we already decided our approach at the lab meeting two weeks ago. I’ve discussed these ideas with Dr. Jahns before and didn’t agree with this approach. It doesn’t make sense.

Mentor: [Interrupting] I have to go. We can talk next week. I expect a draft of the grant at our next meeting.

Mentor walks out of his office and hurries down the hall.
## Sample Maintaining Effective Communication

**Brainstorming Activity**

<table>
<thead>
<tr>
<th>Barrier to Effective Communication</th>
<th>Solutions to Overcome Barrier</th>
<th>How will you determine if communication has improved?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Too busy, Time and/or distance issues</td>
<td>Schedule meetings, make appointment to meet</td>
<td></td>
</tr>
<tr>
<td>Not organized</td>
<td>Have an agenda</td>
<td></td>
</tr>
<tr>
<td>Interrupting, not listening</td>
<td>Make effort to listen to mentee, turn off email</td>
<td></td>
</tr>
<tr>
<td>Impatience</td>
<td>Be calm</td>
<td></td>
</tr>
<tr>
<td>Multiple mentors Distance</td>
<td>Cc others on email</td>
<td></td>
</tr>
<tr>
<td>Expectations not aligned Separate agendas</td>
<td>Explain why decisions are made</td>
<td></td>
</tr>
</tbody>
</table>
Facilitator Manual Overview: Entering Mentoring

Chapter 4: Maintaining Effective Communication (pg 57)

– Introduction
– Learning Objectives
– Overview of Activities: objective-activity alignment grid

FACILITATION GUIDE

– Materials Needed for the Session
– Introduction
– Activities
  • ASK, DISCUSS, NOTE, TELL
– Post-session Assignment
– Mentoring Tools

PARTICIPANT MATERIALS
Practicing Facilitation

• Purpose is to gain confidence in facilitation skills, become more comfortable with implementation, and receive feedback in a safe environment.

• **It is okay if facilitators do not finish activity.**

• Engage in small group activities from the curriculum with your practice facilitator (20 min)

• You will need your books to refer to the participant materials

• Provide constructive feedback to facilitator and discuss alternative facilitation approaches (10 min)

• One of the primary workshop facilitators will keep you on track and on time
Practice Facilitation: Examples from *Entering Mentoring* ed. 2

**Aligning Expectations**
Chapter 2 (pg 29-30)  Activity #2: Reviewing Compacts

**Promoting Professional Development**
Chapter 3 (pg 48)  Activity #4 Case Study: *To Be or Not to Be a PhD*

**Maintaining Effective Communication**
Chapter 4 (pg 58)  Activity #1 Case Study: The Slob

**Addressing Equity & Inclusion**
Chapter 5 (pgs 65-66)  Activity #3: Implications of Diversity Research
Chapter 5 (pgs 66-67)  Activity #4 Case Study: *Is It Okay To Ask?*

**Assessing Understanding**
Chapter 6 (pgs 84-85)  Activity #1: Scenarios

**Fostering Independence**
Chapter 7 (pgs 94-95)  Activity #1: Defining Independence

**Cultivating Ethical Behavior**
Chapter 8 (pg 107)  Activity #2: Case Studies
How is it going so far?

• 3-5 minute reflection on notecards:
  – How are you feeling about facilitating?
  – How are you feeling about your curriculum?
  – What have you learned?
  – What questions do you still have?

• Implementation Plans
  – How am I going to pull this off?
Implementing a Multidisciplinary Mentoring Training Program for the Undergraduate Research Program at Albany State University

Facilitated by: Vanessa McRae
Center for Undergraduate Research Program Director
Albany State University's Undergraduate Research Program Recruitment Model

1. Call for Research Proposals
2. Research proposal accepted
3. Orientation: Mentors provided with training dates
4. Mentor and Mentee(s) paired
5. Orientation: Mentors roles and expectations reviewed
6. Brown bag lunch Two 2-hour sessions per semester
7. Mentor and Mentee(s) submit research proposal
8. Orientation: Mentors provided with Mentorship agreement template
9. Post training evaluations
Research Mentoring Training Sessions
Implementation Process

- Integrated into the Undergraduate Research Program as part of the faculty mentors’ training requirements and professional development credit.

- Fall 2014
  - Two 2-hour sessions
    - Beginning of the semester
    - Mid-Point of the semester

- Spring 2015
  - Two 2-hour sessions
    - Beginning of the semester
    - Mid-Point of the semester

- Brown bag lunch session
Albany State University
Research Mentoring Training

- Undergraduate Research Faculty Mentors
- N=20 faculty mentors per semester
- Motivation factors
  - Mentors are required to participate in the trainings as part of the program’s requirements.
  - Opportunity to share mentoring experiences with faculty mentors from different disciplines
  - Lunch/refreshments provided
Handling Challenges

- When no one talks…
- When one person is dominating the conversation…
- When the group members direct all of their questions and comments to the facilitator instead of their fellow group members…
- When a certain person never talks…
- When the group gets off topic…
Faculty Mentoring Training Session

- Faculty mentors meet in a roundtable format for interactive training sessions:
  - Learning objectives include:
    - Mentors will have the knowledge and skills to:
      - Provide constructive feedback
      - Communicate effectively across diverse dimensions including various backgrounds, disciplines, generations, ethnicities, positions or power, etc.
      - Identify different communication styles
      - Engage in active listening
      - Use multiple strategies for improving communication
Faculty Mentoring Training Implementation

- Facilitator’s Role
  - Make it safe
  - Keep it constructive and positive
  - Make the discussion functional
  - Give members of the group functional roles and responsibilities
  - Give all participants a voice
Research Mentoring Training Activities
Maintaining Effective Communication Session

- Introduction
- Review of meeting and logistics
- Review learning objectives
Research Mentoring Training Activities
Maintaining Effective Communication Session

- Identify different communication styles
  - Mentors are provided time to take the communication styles test and discuss their results in pairs and then with the entire group.
  - The Effective Communication Styles Inventory can be found at http://www.whecare.com/images/form.pdf
Research Mentoring Training Activities for the Maintaining Effective Communication Session cont.

- Mentors engage in active listening
  - Mentors work in pairs sharing current mentoring challenges, practicing active listening.
  - Mentors are provided with copies of Building a Relationship with a Mentee to read prior to the training session.
• Use multiple strategies for improving communication
  
  • Mentors create a list of barriers to good communication and share strategies for overcoming barriers:

  **Barriers:**
  Mentors are overstretched
  Not relating to the mentee
  Time scheduling conflicts
  Mentee thinks he/she knows more than the Mentor
  Mentor makes assumption on why the mentee is non-productive

  **Strategies for overcoming barriers:**
  Mentors should allocate mentoring time in their schedules
  Be more empathetic
  Work at the mentee’s pace
  Change schedule to accommodate the mentee’s schedule
  Discuss with the mentee the roles and responsibilities of mentor
  Remove all communication barriers
Measuring the Effectiveness of the Mentors Training

- Post training survey
- Mid-point evaluation on mentee’s experience with faculty mentors
- Mid-point assessment of mentor’s experience with research mentees
- End of program evaluation from mentors and mentees on program effectiveness including mentor training sessions.
Overall Likes About the Mentors Training

- What did you like the most about the training?
  - Hearing how other mentors deal with certain situations with their mentees.
  - The interactive activities and the pace of the delivery.
  - Relevant concepts, examples and audience participation.
  - Interacting and sharing ideas with fellow mentors.
  - The exercises and the assessment of our own communication style.
  - The training was very informative.
Overall Dislikes About the Mentors Training

• What did you dislike about the training?
  • Needed more time to get into all of the activities.
  • There was nothing that was of discomfort or negative about the workshop.
  • Nothing was disliked.
  • Specific training time
Overall Recommendations for Improvement

- An extra 1 hour just for activities and brainstorming.
- Possibly the workshop has wider applications for communication between professors and classes.
- Have this as a workshop during the faculty-staff conference.
- Workshop could be useful for students also.
- Deans should be approached with this idea.
- Make it mandatory for all ASU faculty and staff
The National Research Mentoring Network (NRMN)

Mentoring to Diversify the Biomedical Workforce

Harlan Jones, PhD
NIH U54 MD0009479-01
The Opportunity

The lack of adequate mentoring is a problem for trainees at all stages in their career path. We must do better!

NRMN provides the opportunity and resources to do something differently to address this problem.

http://commonfund.nih.gov/diversity/Initiatives
Transformative Goal of NRMN

• Create opportunities for mentees across career stage to find competent mentors and engage in productive, supportive mentoring relationships
  ➢ Focus on both sides of the relationship

• Providing effective professional development for mentees along the career continuum

• Directly addressing the benefits and challenges of diversity, inclusivity and culture within mentoring relationships
NRMN Activities

- Establish robust partnerships through which mentors and mentees may be recruited.
- Collaborate with institutions in the NIH Building Infrastructure Leading to Diversity (BUILD) program and other Minority-Serving Institutions (MSIs)
- Provide mentoring, networking and professional development opportunities to undergraduates, graduate students, postdoctoral fellows, and early career faculty.
- Provide mentor and mentee training opportunities
- Collect data and will coordinate with the NIH Coordination and Evaluation Center (CEC)
Building Infrastructure Leading to Diversity (BUILD)

- Experimental training awards designed to learn how to attract students from diverse backgrounds into the biomedical research workforce and encourage them to become future contributors to the NIH-funded research enterprise.
- Emphasize research opportunities for students
- Incorporate additional innovative methods to engage and prepare students for success, including those who might otherwise not choose biomedical research careers.
- Awardees:

<table>
<thead>
<tr>
<th>Portland State</th>
<th>University of Detroit-Mercy*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Xavier University*</td>
<td>San Francisco State University</td>
</tr>
<tr>
<td>University of Texas El Paso</td>
<td>University of Maryland-BC*</td>
</tr>
<tr>
<td>Morgan State*</td>
<td>University of Alaska-Fairbanks</td>
</tr>
<tr>
<td>Cal State- Northridge*</td>
<td>Cal State- Long Beach</td>
</tr>
</tbody>
</table>
Coordination & Evaluation Center (CEC)

- Coordinate consortium-wide activities
- Evaluate the efficacy of the training and mentoring approaches developed by the BUILD and NRMN awardees to determine what approaches work within what contexts
- Awardee: UCLA

\[
\text{NRMN + BUILD + CEC} = \\
\text{NIH Diversity Consortium within the Office of Scientific Workforce Diversity}
\]
Vanguard Proposal Partners Across 5 Regions for Programming
Building Capacity of Trained Facilitators and Reaching a Diverse Audience

Trained 120 facilitators via train-the-trainer workshops at national venues that focus on training of diverse scholars:

- UW Health Equity Leadership Institute
- Society for Advancement of Chicanos and Native Americans in Science (SACNAS)
- American Public Health Association
- Annual Biomedical Research Conference for Minority Students (ABRCMS)
- UW-Madison

Implementation of Facilitator Training to Disseminate Research Mentor Training for Diverse Scholars (R13GM106445, Co-PIs: Christine Pfund and Christine Sorkness)
Our Tool: Web-based module “Optimizing the Practice of Mentoring”

Format:
- Asynchronous e-learning
- 90-120 minutes to complete
- Course sections may be accessed sequentially or as self-selected topics

Audience:
- Suitable for experienced and inexperienced mentors
- Applicable to mentors of trainees at different professional stages (student, fellow, faculty)
Synchronous Online Training (Developed as part of CIRTL)
Blackboard Collaborate Functions

Moderator's User Interface

- Audio Setup Wizard
- Whiteboard
- Application Sharing
- Web Tour
- Load Content
- Start Recording
- View Pages
- Show Page Explorer
- Explore Mode
- Navigate Pages
- Whiteboard Tools Palette
- Content Area
- Activity Window
Aim 3: Use Established Processes & Looking to Collaborate

- Identify intervention to develop or enhance curricula
- Review existing curricula and associated materials
- Revise and adapt for use in multiple training venues
- Beta test curricula with varied mentors or mentees
- Recruit partners from NRMN and BUILD to participate in development team
- Review existing curricula and associated materials
- Develop or enhance curricula

- Revise and adapt for use in multiple training venues
- Beta test curricula with varied mentors or mentees
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- Develop or enhance curricula
Overcoming Barriers to Implementation

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Conflict on Interests

- None to Disclose
Statement

- The views expressed in this presentation are those of the individual and do not necessarily reflect the views of the WA State Department of Health.
Identify Barriers

- **Organizational Barriers**
  - Mentorship is not in the mission statement of agency
    - Has impact on infrastructure and operations
      - Human Resources, reward incentives, work schedule
  - Multiple divisions with different deliverable services
    - Disease Control & Health Statistics
    - Environmental Health
    - Health Systems Quality Assurance
    - Prevention & Community Health
  - No formalized mentorship program
    - Who are the mentors in the organization?
    - What do we have to offer?

- **Union Worker Contracts**
  - Non union members cannot perform the same work as union members that would lead to supplanting union members.

- **Time commitment & workload**
  - Clinical & Environmental testing is taking place
  - Responding to public health outbreaks & emergencies

Some barriers are known but others may not be obvious at first!!!!!!
Seek Management Support and Commitment

- Commitment from senior management is invaluable
  - Recognition of the value of implementation within the agency
  - Permission to re-evaluate mission statement of agency
  - Shows true commitment to the concept and encourages others

- Establishment of working group to examine agency status
  - Academic Health Department Workgroup
    - The Council on Linkages Between Academia and Public Health Practice
      - Academic Health Department – “Teaching health department”
      - Research Subcommittee
    - Recommendations and findings communicated to senior leadership

Getting commitment & support from senior management is key!!!!!!!
Conduct a Needs Assessment

- **Agency & Community Needs**
  - Why do we need a mentoring program?
  - Agency
    - (Recruitment, Succession Planning, Employee Morale, Networking with Universities)
  - University Community
    - (Professional mentorship, Real-world experiences for students, Collaborative research projects, networking with agency)

- **Establishment of working group to examine current status**
  - Agency wide survey
    - Who is currently serving as mentors?
    - Who are your mentees? Where do they come from?
    - Barriers to being a mentor in the agency?

- **Examined criteria to become a Academic Health Department**
  - Strategic Directions, 2011-2015
  - Senior leadership involved in the process

Creating a business case and why this program is needed helps!!!!!!
Formulate a Mentoring Roadmap

- Goals of the Mentoring Program
  - Established a agency charter
    - Desired states and outcomes
    - Benefits to agency, community
  - Utilized assessment results to establish standing subcommittees
    - Topic related to the overall charter
  - Develop an evaluation plan

- Outlined labor related question and issues with human resources
  - On-boarding mentees
  - Union contracts
  - Work schedules, reward incentives, etc.
  - Compensation for mentors and mentees
  - Training

- Developed a communication plan regarding mentoring
  - Agency as well as universities
    - Highlight potential mentors as well as potential collaborative projects
    - Success stories

- Held meetings with local universities within state
  - Begin process of formulating memorandum of understanding (MOU)
  - Align expectations

Roadmaps helps everyone sees where the agency wants to go!!!!!!!
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  - Brian Hiatt
  - My Lab Staff

- CDC EID Fellowship
  - Keri Robinson
QUESTIONS

ANY QUESTIONS?
Implementing *Entering Mentoring*

*Getting Started at Your Institution*
Entering Research

Learning Goals for Undergraduates

Part 1: Students will find a research mentor, write a research project proposal, and begin research.

Part 2: Students will make significant progress on their research project, present their findings in a public venue, and write a mini-grant proposing the next phase of their research.
Resources to Support Implementation

Available Curricula
Build Your Own Curricula
Implementation and Recruitment Guides
Resources by Stage of Relationship
Evaluation Instruments and Links

www.researchmentortraining.org
https://mentoringresources.ictr.wisc.edu/
Possible Formats

• Think about:
  – Length of program, on-line/in-person, stand-alone or integrated (e.g. summer research program), credit-bearing/non-credit, required/not-required, partners (BE CREATIVE!)

• Examples:
  – Full-day workshop, workshop series, brown-bag lunch session, course/seminar, part of broader professional development program.
Recruitment Strategies

• Effective mentoring saves time and is more rewarding
• Evidence indicates research mentor training is effective
• Even experienced mentors learn strategies for more effective mentoring from the training
• Federal funding agencies are calling for evidence-based mentor training and the use of Individual Development Plans (IDPs)
Draft an Implementation Plan

- What recruitment strategies will you use?
- How many mentors would you hope to train in your first round of implementation?
- When would you implement?
- Who would facilitate/co-facilitate the training?
- What resources could you leverage to support implementation ($$, admin help, etc.)?
- Will you offer open-enrollment training and/or training that is linked to specific program(s)?
- How will you know if your training has been effective?
- What else do you need to get started?
ANY QUESTIONS?
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- Original *Entering Mentoring* curriculum (HHMI Professors Program, PI: Handelsman)

- Adapted for use across science, technology, engineering, math, and social sciences (NSF #0717731, PI: Pfund) and clinical and translational science (CTSA) award mentors (NIH/NCRR ARRA UL1RR025011, PI: Dresner)

- Workshops and curricula have been developed for faculty mentors (NSF #0717731, PI: Pfund) including training workshops for T32 and R25 trainer. CIRTL and APS partnered to adapt the curriculum for physic mentors.

- NIH has funded a study to develop better understanding of specific factors in mentoring relationships that account for positive student outcomes (NIH #1R01GM094573-0 PI: Byars-Winston, co-I: Pfund) and renewal to focus on cultural aspects of mentoring relationships (PIs: Byars-Winston and Pfund)

- The curriculum has been adapted for use in a synchronous, online venue through the NSF-funded Center for the Integration of Research, Teaching and Learning (CIRTL) Network (NSF DUE-0717768, PI: Mathieu)

- NIH has funded legacy website (3UL1RR025011-05S1, PI: Drezner), randomized controlled trial (3UL1RR025011-03S1, PI: Drezner) and train-the-trainer workshops (R13GM106445, Co-PIs: Pfund and Sorkness)

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Workshop Evaluation

Please complete the workshop evaluation and leave on the table before you leave.

Thank you!