Surveying the Research Mentoring Landscape: Lessons Learned

Karin Silet, MA
Senior Instructional Specialist
ARRA Mentoring Grant Project Manager
Institute for Clinical and Translational Research
2008:
General call to CTA Education Key Function Committee for colleagues interested in improving mentoring for KL2 programs
  – Chair, Fred Meyers, UC Davis
  – Lead, Michael Fleming, UW-Madison/Northwestern
  – 20 faculty across 15 institutions

Outcomes:
Conducted semi-structured telephone interviews with 44/44 CTSA KL2 Education Program Directors
Surveying the Landscape

Environment
- # of scholars
- Length of funding
- Expected outcomes

Program Support
- Formal mentoring agreement/compact
- Degree/coursework required
- Mentor selection process
- Mentor incentives

Training
- Orientation for new mentors
- Training workshops

Evaluation
- Formal/informal
- Feedback to mentors
Comprehensive Mentoring Program: Components

Selection support
– Criteria for mentors
– Support for matching

Explicit identification and alignment of expectations
– Programmatic
– Mentoring dyad/team

Mentor Support
– Training
– Acknowledgement

Monitoring/Assessment
– Formative/summative
### 2009 Landscape (n=44)

<table>
<thead>
<tr>
<th></th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average #</td>
<td>14</td>
<td>10</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>Average duration</td>
<td>3 years</td>
<td>3 years</td>
<td>2-3 years</td>
<td>2-3 years</td>
</tr>
<tr>
<td>MS required</td>
<td>9 (75%)</td>
<td>7 (63%)</td>
<td>8 (57%)</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Contract used</td>
<td>5 (42%)</td>
<td>5 (45%)</td>
<td>4 (30%)</td>
<td>0</td>
</tr>
<tr>
<td>Mentor training offered</td>
<td>4 (36%)</td>
<td>4 (36%)</td>
<td>3 (22%)</td>
<td>2 (25%)</td>
</tr>
<tr>
<td>Formal evaluation of mentor</td>
<td>6 (50%)</td>
<td>6 (54%)</td>
<td>3 (22%)</td>
<td>1 (12%)</td>
</tr>
<tr>
<td>Incentives offered</td>
<td>3 (25%)</td>
<td>4 (36%)</td>
<td>1 (7%)</td>
<td>2 (25%)</td>
</tr>
</tbody>
</table>
2010 Landscape (n=55)

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mentoring Contracts</td>
<td>20 (38%)</td>
<td>33 (62%)</td>
</tr>
<tr>
<td>Formal Mentor Training</td>
<td>34 (64%)</td>
<td>19 (36%)</td>
</tr>
<tr>
<td>Process for Evaluation (not necessarily formal)</td>
<td>42 (79%)</td>
<td>11 (21%)</td>
</tr>
</tbody>
</table>

Next Step

What impact do these formal mentoring supports have on the quality of the mentoring relationship and the ultimate success of the scholar?
Qualitative Follow Up

2009: ARRA Supplement

Focus Groups:

Sites
- UW Madison
- University of Colorado-Denver
- Vanderbilt University
- University of North Carolina-Chapel Hill

Participants
- 55 Scholars
- 45 Mentors
- K01, K08, K12, KL2, K23
Definition/competency
When you think of the term primary research mentor, what does that mean to you? What expectations does that term elicit?

Selection process
What factors did you weigh in the selection of your primary research mentor/mentee? Who was involved in your selection process?

Alignment of expectations
How did you come to understand/communicate the expectation you had/have of each other?

Assessment of relationship
What are the outcomes of a healthy mentoring relationship? How can we best monitor progress toward these outcomes?
Mentor Working Group: White Papers

Topics
- Selection/Support
- Competencies
- Aligning Expectations
- Evaluation

Methodology
- Literature review
- Focus Group Data
  - Transcribed data was coded using grounded theory
  - Nvivo was used to organize and analyze
White Paper Publications

- "A National Survey of Mentoring Programs for K Scholars"
- "Selection of Research Mentors for K-Funded Scholars"
- "Mentoring K scholars: Strategies to Support Research Mentors"
- "Evaluating Research Mentors Working in the Area of Clinical Translational Science: A Review of the Literature"
- "Identifying and Aligning Expectations in a Mentoring Relationship"
- "Evaluating and Giving Feedback to Mentors: New Evidence-Based Approaches"
- "Deriving Competencies for Mentors of Clinical and Translational Scholars"
Thematic Areas

1. Communication and managing the relationship
2. Psychosocial support
3. Career and professional development
4. Professional enculturation and scientific integrity
5. Research development
6. Clinical and translational investigator development
Competencies: Highlights

Communication

• Providing constructive feedback
• Communicating effectively across diverse backgrounds (disciplines, generations, ethnicities, etc.)
• Identify and support different communication/personality styles (e.g. introvert/extrovert)
• Engage in active listening

Psychosocial Support

• Providing opportunity for professional visibility
• Positive reinforcement of competence/effectiveness
• Celebrating mentee’s success
Competencies: Highlights

Career and Professional Development
- Keeping eyes on the prize
- Prioritizing opportunities and demands
- Make transparent academic and institutional systems and requirements
- Actively promote
- Foster independence

Professional Enculturation/Scientific Integrity
- Make transparent was “success” looks like
- Foster a sense of professional belonging
- Develop and model “in situ” guidelines for ethical behavior
Competencies: Highlights

Research Development
- Assessing current level of knowledge (research design, measures, outcomes, sampling, statistical analysis, reg. issues)
- Fill in the knowledge gaps
- Focus research questions
- Assess progress

Clinical/Translational Investigator Development
- Mentor within team framework
- Collaborate across disciplines
- Help formulate clinically relevant/translational research questions
- Identify basic/preclinical studies with potential testable clinical hypotheses
Competencies in Action

Derived Competencies for Mentors of Junior Clinical and Translational Researchers Table
Findings: Selection and Support

Unique mentoring needs of junior faculty

– Develop long-term, sustainable research program
– Build successful NIH funding record
– Navigate complex academic environment
– Clinical researchers: balancing clinical and research demands
– Developing interdisciplinary research teams
  • Hiring
  • Lab management
  • Budgeting
Selection supports varied across institutions:

– Mentees select their own mentor **independently**
– Mentees select from “approved” list
– Mentees select, but consult with KL2 program before submitting application
– Mentees select primary research mentor; KL2 advises on additional **mentor team**
Selection: Successful Strategies

1. Clarify your goals first: Individual Development Plan (IDP)
2. Interview mentors
3. Interview current lab members and former mentees
4. Seek advice broadly
5. Don’t be afraid to look outside your department
6. Think team
7. Chemistry matters
8. Give yourself time
Thinking Team

Common team representation
- Research specialty (nephrology)
- Methodology (clinical trialist)
- Career Development (promotion, leadership, grant writing)
- Biostatistician
- Basic/clinical/community/public health balance

Considerations for team mentoring vs. multiple mentors
- Align and communicate strengths and roles
- Agree upon feedback timelines and communication measures
- Articulate accountability
Findings: Aligning Expectations

We examined three questions:

1. What is the value in assuring that the expectations of scholars and mentors are mutually identified and aligned?

2. What types of programmatic interventions facilitate this process?

3. What types of expectations are important to align?
Aligning Expectations: Why

“Can you imagine doing anything for 4 years and not putting anything in writing?”

- Promotes communication
- Reduces assumptions
- Allows for early identification of mismatch
- Helps manage collaborative science (mentor teams/lab team)
- Teaches mentee negotiation skills
- Breaks goals into achievable chunks
- Puts a timeline on expectations
Aligning Expectations: How

Variability in structure:

– AAMC Compact
  • Non-dynamic

– Alabama-Birmingham
  • Open-ended questions answered collaboratively by mentor and mentee as part of KL2 application
    – E.g. “What will be the ground rules for discussion? If problems arise, how will they be resolved?”

– UC Davis
  • Primary and secondary mentor each write a separate letter of support; merge into one “codified promissory note”
Aligning Expectations: What

Types of expectations included in mentoring contracts and agreements

- Research
- Education
- Professional development/Career advancement
- Support
- Communication
- Personal conduct/interpersonal relations
Aligning Expectations: What

Needs will differ based on mentee background and career stage:

**Important to Junior faculty**
- How will their ideas and data be used?
- How will they receive credit for their work?
- How will their scholarly work be distinguished from that of the mentor and eventually lead to research independence?
Findings: Evaluation

2009: 65% of programs did not “formally” evaluate the mentoring relationship

Typical measure of success:
- Scholar’s productivity (annual review)

“I think if your mentee is publishing papers and gets grants, you’ve probably done an okay job for that person.”
Evaluation: Problem

“You can have poor or mediocre mentorship and have the scholar succeed. Or you can have great mentorship and, for whatever reason, either by luck or just the performance of the scholar themselves, they may not succeed in taking the next step, but that doesn’t necessarily mean the mentorship was not good.”

*Precious time can elapse before there is any “pudding” to serve as proof.”
Evaluation: Formal mechanisms

**Surveys** (open- and close-ended questions)
1. Meeting and communication
2. Expectations and feedback
3. Career development
4. Research support
5. Psychosocial support

**Problems**
- Difficult to solicit information to any depth that has meaning
- Difficult to maintain anonymity
- Power dynamic/culture of positive feedback make honest comments challenging
Evaluation: Honest feedback

Male Speaker 1: Your mentor can kill your career.
Female Speaker 2: Absolutely
Male Speaker 1: So if you just say something poorly about them, they can kill your career—point blank.
Female Speaker 7: You’re done.
Male Speaker 4: I can think of multiple occasions when I would have probably liked to have made a minor comment about something my mentor could improve and I didn’t. I, quite frankly, did not say anything.

Male Speaker 1: There’s no way in hell.
Male Speaker 4: There’s no way I would.
Male Speaker 1: Why are you shooting yourself in the head?
Evaluation: Mentor feedback

- **Program directors** also expressed that they did not feel “authorized” to convey critical feedback to senior, accomplished faculty.
  - Without programmatic follow through, mentees take the evaluation process less seriously
  - Mentors articulated resistance to “non-scientific” feedback from junior people.
Evaluation: End goal

If the end goal is:

*Mentee progress
*Reflective practice
*Continuous improvement
*Modifying unproductive behavior

Consider:

– Opportunities for mentors to learn from each other
– Opportunities for mentors to reflect on their practice
– Training: “I don’t think that there is a good resource-base for learning how to [mentor]. Maybe that’s a better way [than evaluation] to try to become better.”
Summary: Programmatic Considerations

Selection
- Define specific criteria/qualifications
- Require mentor training
- Ensure both appropriate scientific content and career mentorship are provided

Aligning Expectations
- Evaluation is much more difficult if expectations have not be explicitly laid out
- Offer multiple templates to allow for customization

Evaluation
- Peer mentor learning
- Reflection
- Training
Further Dissemination

Web resource:
www.mentoringresources.ictr.wisc.edu
Acknowledgements

Funding
The project described was supported by the Clinical and Translational Science Award (CTSA) program, previously through the National Center for Research Resources (NCRR) grant 1UL1RR025011 and UL1RR025011-03S1, and now by the National Center for Advancing Translational Sciences (NCATS), grant 9U54TR000021. The content is solely the responsibility of the authors and does not necessarily represent the official views of the NIH.

Collaborators
Michael Fleming, MD, Northwestern University
Stephanie Schiro, Research Assistant, University of Wisconsin, Madison

Focus Group Site Leaders:
University of Colorado-Denver: Ellen Burnham, MD, MSCR
University of North Carolina-Chapel Hill: Gene Orringer, MD
Vanderbilt University, Nancy Brown, MD
Questions