NIDUS Career Development Award Research Mentoring Session

Presenters: Tom Gill, MD
Nicholas Reed, AuD

Time	Section
02:29	**Key Components** • Candidate • Career development plan • Research plan • Mentor's statement • Environment and institutional commitment
02:59	**Identifying a Mentor** • Has achieved national recognition for his/her research • Track record of mentoring other successful early-stage investigators • Provides timely feedback on manuscripts and grants • Promotes trainee's national reputation • Allows trainee to take credit for his/her successes
04:16	**Candidate** • Demonstrate your commitment to a research career (discuss your career goals) • Provide evidence of your potential to develop into independent investigator (highlight your accomplishments) • Usually must commit at least 50%-80% effort to research program and training • Often includes letters of recommendation addressing your potential for a research career
05:50	**Example of Career Goals** • The applicant's long-term goal is to develop a career as an independent investigator in aging research with a primary focus on…(fill in the blank) • Immediate goals are: o To study care fragmentation in older patients who receive care in multiple settings o To obtains additional methodologic expertise with formal coursework o To participate in a team research environment, learning all aspects of health services research in aging
06:56	**Career Development Plan** • Didactic training (typically decreases over time) • Supervised research experience (typically increases over time with transition to independence) • Tailored to needs of individual candidates and concordant with career goals and prior experience • Advanced degree is a means to an end • Describe "x"-year training program (be specific, plan to acquire new skills/techniques) • Outline a plan in which you assume increasing independence (publications and future grant submissions) • Provide time-line and break-down of effort (be ambitious, but realistic)
09:41	**Research Plan** • Specific aims o Should clearly articulate what you are trying to accomplish and why o Subsequent sections must flow logically o Highlight gap in knowledge o Provide overall objective, followed by more narrowly focused primary and secondary aims o Include at least one testable hypothesis o Define critical terms • Research strategy o Significance

	▪ Describe scope and significance of study problem ▪ Review relevant literature, highlighting potential gaps and limitations of prior research ▪ Link each subsection to the proposed research ▪ When applicable, include published reports of potential reviewers ▪ Present conceptual model (example infographic) o Innovation ▪ Does application challenge or seek to shift current research or clinical practice paradigms? ▪ Are novel concepts/approaches/methods/instrumentation/interventions employed? ▪ Do not simply reiterate the significance o Approach, including preliminary results ▪ Describes plan to accomplish the specific aims to proposed research ▪ Provide information: research design, study population, data collection procedures and instruments, key variables, analytic plan (including sample size and power calculations) ▪ Justify all important decisions ▪ Consult biostatistician for complicated analyses ▪ Highlight specific rigor (quality of data, including reliability and validity) and generalizability of anticipated findings ▪ Include detailed timeline, denoting projected start and completion of important study tasks (should not be unrealistic or overly ambitious)
16:31	**Preliminary Results** • Describe published and unpublished studies o Establishes competence and experience in relevant content area o Demonstrates capacity to successfully complete research project and present results in clear and thoughtful manner • May describe relevant work completed by mentor or important collaborator • Indicate relevance to proposed research
17:35	**Mentor's Statement** • Mentor's qualifications and areas of expertise • Nature and extent of planned supervision/mentoring • Primary mentor (captain of the ship) • Other mentors (content, methods, career development)
18:27	**Environment and Institutional Commitment** • Document strong, well-established research and training program • Letter from department chair or equivalent o Commitment to candidate's development into independent investigator o Assurance that candidate will have sufficient protected time for training and research o Faculty appointed is not contingent on receipt of award o Availability of adequate resources, e.g. office, lab, administrative support, etc.
19:46	**Optimizing Success (ABCD's)** • **A**llow sufficient time, e.g. 6 months o Revise, revise, revise o Get feedback from colleagues, mentor o Do not submit prematurely o Allow time for Grants and Contracts • **B**e hypothesis-drive • **C**learly state what impact your work will have on a field • **D**on't be overly ambitious

	• **A**lways include preliminary data
	• **B**e considerate of reviewers
	  o Use readable fonts and leave some white space
	  o Minimize abbreviations
	• **C**onvey your excitement and enthusiasm
	• **D**iscuss data interpretation and alternative hypotheses
	• **A**sk a successfully funded researcher to critique your grant proposal before you submit it
	• **B**e organized
	  o Use headings and diagrams to help reviewers get oriented
	• **C**all program officer (NIH)
	• **D**on't be discouraged by rejection
	• Proposal should be easy to read and understand
	  o Logical, clear, internally consistent
	  o Cross-reference
	• Repeat same information, ideas, or themes in consistent way throughout proposal
	  o Have section in methods for each specific aim
	  o Repeat the aim verbatim at beginning of that section
	• Neatness counts
	  o Avoid misspellings, grammar errors, and mistakes in references
	• Obtain copies of successful grants
	• Read instructions carefully

23:11	**Useful Resource** • Gill TM, McDermott MM, Ibrahim SA, Petersen LA, Doebbeling BN. Getting funded. Career development awards for aspiring clinical investigators. J Gen Intern Med 2004; 19:472-478.
25:38	**"Hearing Loss and the Healthcare System": A K23 Story"**
25:54	**Mentee: Nick Reed** • His background
28:05	**What changed?** • Sensory loss has been associated with delirium • Focusing in on hearing loss… o Case of delirium: 35-year-old, male, Von Hippel-Lindau (Tumors on spine, brain, lungs), recent MI, Neurologically normal
30:18	**Enter Mentor Esther Oh** • Expert in delirium and dementia • Decided to do something on hearing and healthcare

30:59	**Preparing the Grant**
	• Grant writing training
	  o Graduate training in clinical investigation (PhD program)
	  o Two grant writing courses (quarter 2 and quarter 4) separated by intense methodology courses
	  ▪ Conceptually: writing the framework and then filling in the approach with the appropriate course sequence
	  o Lots of feedback from peers without any experience in your field
	• First draft completed after course
	• Key moment here was "slowing down!"
	  o we didn't have the preliminary data or strong outcomes identified (infographics for hearing loss and health care expenditures and utilization)→ came back to this data for the grant
	  o the mentorship team was not thoughtfully put together
	  o Dr. Oh "Submit this as if it's going to be funded on the first try"
	• Planning a patient-provider communication QI (figures from grants shown)

	• IOM 2001: patient-provider communication is a cornerstone of patient-centered care ○ "…care that is respectful of and responsive to individual patient preferences, needs, and value…"
38:49	**Conceptual Framework** • Showed flowchart/infographic (exposure, mediators, immediate outcomes, long-term outcomes)
39:42	**K23 Aims** • Aim 1: to investigate the association between hearing loss, communication impairment, and hearing aid use with health care outcomes in older adults in epidemiologic cohorts • Aim 2: to characterize incidence of delirium among hospitalized older adults with and without hearing loss • Aim 3: to refine and asses the feasibility and acceptability of implementing a comprehensive hearing loss screening and intervention program to improve care outcomes in the inpatient setting • K23 is more than science…
41:14	**Story Telling** • A key aspect of writing the candidate background was telling a linear story that showed there was scientific competence and personal drive to move into this area of work ○ The preliminary studies were a key component of this

41:40	**Goal Setting**
	• Break into short term (1-5 year) and long term (6-10 year)
	  ○ Short term: what will this grant provide me with (training oriented)
	  ○ Long term: where can I go with the foundation from this grant (science oriented)
	• Use SMART goal techniques (achievable, action-verbs)
	• Parallel structure to didactic component of the grant

43:32	**Networking** • Primary mentors (2) and co-mentors (4)
46:08	**Mentor Team** • Spelling out exact responsibilities and how they relate to the grant was important • Share the load across mentors! • Shows an example • Included roles in the training plan
46:39	**Aim 1** • Successfully added hearing measures to ARIC and NHATS studies • Literature published suggesting hearing loss associated with reduced health literacy, reduced satisfaction with healthcare, changes in help-seeking behaviors, and unmet health needs • Shows tables infographics from papers (in relation to all aims)
47:01	**COVID Impact**
47:22	**Successful Relationship** • Different perspectives from different backgrounds • Regular communication • Introduction to network • Dr. Oh has a knack for knowing when to push and giving space
48:08	**Questions and Answers**