Career Development for Clinical and Translational Researchers

Rowland Chang, MD, MPH

Model for Discussion: NIH Career Development Awards (K-series)

- Career Development Plan
- Mentor
- Research Project(s)
- Institutional Support

Career Development Plan

- Defined by individual's career goals
  - "To be an independently-funded principal investigator studying the effect of physical activity on the outcomes of rheumatoid arthritis patients"
  - "To be an independently-funded principal investigator studying the translation of a recently discovered rheumatoid arthritis disease mechanism into therapeutics for rheumatoid arthritis patients"
  - "To be a principal investigator for industry sponsored clinical trials in rheumatoid arthritis"
  - "To be a site principal investigator for industry sponsored multi-centered clinical trials in rheumatoid arthritis"

Career Development Plan - II

- Domains
  - Training to gain substantive knowledge/skills
    - Clinical condition: epidemiology, clinical presentation, diagnostic tools, treatment, prognosis, prevention
    - Relevant “exposures” and “outcomes”
    - Conceptual model(s)
  - Training to gain methodologic knowledge/skills
    - Measurement of relevant “exposures” and “outcomes”
    - Study design and analysis techniques
  - Training in the responsible conduct of research
  - Training in professional advancement

Career Development Plan - III

- Elements
  - Didactic component
    - Coursework (e.g. exercise physiology, outcomes measurement, epidemiology, biostatistics, clinical trials, clinical research ethics, writing for peer review)
    - Degree program (e.g. MS in Clinical Investigation, MS in Epidemiology/Biostatistics, MPH)
    - Workshops (e.g. annual Physical Activity and Public Health Course at Sea Pines, GA)
  - Experiential Component
    - Research Project
    - Participation in multidisciplinary research group(s)
    - Participation in local and national conferences and events

Career Development Plan - IV

- Expected measurable outcomes and time horizon
  - Coursework (degree) completed by….
  - Number and titles of abstracts submitted by..
  - Number and titles of papers submitted by..
  - First independent grant proposal submitted by….

Mentorship - I

- Mentor's credentials
  - **Does the potential mentor's CV look like what you would like to accomplish in your career?**
    - If you want to be an independently funded investigator, does your mentor have peer review funding?
    - If you want to be a PI on industry sponsored clinical trials, does your mentor have that experience?
  - **Has the potential mentor "successfully" mentored others?**
    - **Where are past trainees now and what are they doing?**
    - Any mentoring awards?

Mentorship - II

- Interpersonal factors
  - Does the potential mentor have time for you?
    - Willing to have regularly scheduled meetings?
    - How frequently?
  - Does the potential mentor lead a multidisciplinary team?
  - Is the potential mentor "well-connected" in the institution and nationally?
  - Is the potential mentor willing to make you an integral part of his/her research operation (e.g. providing resources)?
  - **Is the potential mentor interested in your career development? Will he/she help you become a leader?**

Mentorship - III

- Concept of "Mentoring Teams"
  - Substantive Mentor (e.g. physical activity interventionist)
  - Methodologic Mentor(s) (e.g. epidemiologist, biostatistician, health services researcher)
- **Need to identify "Primary Mentor" who is in charge of your professional advancement**

Research Project

- Warning
  - Do not propose that your first project be a new multi-centered clinical trial.
  - Even if it's funded, you will have great difficulty writing papers to get you established in your field of interest.
- Ideas for first projects
  - Ancillary study to mentor's project
  - Observational study where data has already been collected (or almost already collected).
  - Pilot projects to establish feasibility and sample size for larger, more definitive studies

Environment and Institutional Commitment

- Is there an institutional commitment to the career development of young investigators?
  - Orientation for research intensive junior faculty
  - Ongoing seminar series pertaining to career development
    - Grant writing
    - Oral presentation skills
    - Teaching skills
    - Mentoring skills
  - Grant program for pilot projects
  - Presence of NIH-funded T32 (NRSA institutional pre- and post-doctoral fellowships), K12/KL2 (institutional mentored career development award), other individual K-series awardees

Environment and Institutional Commitment - II

- Is the institution investing in your potential success?
  - Protected time for research
  - Start-up funds
  - Ongoing research support

Summary

- Career Development Plan
  - Identify career goals
  - Identify knowledge/skills necessary for attaining career goals
  - Identify how to obtain required knowledge/skills
    - Coursework (degree program)
    - Internal and external seminars/conferences
    - Mentored research project
    - Experience in multidisciplinary research team
  - Identify quantifiable measures of success of plan
    - Presentations
    - Papers
    - Grants

Summary - II

- Mentor (Mentoring Team)
  - Right credentials
    - Research productivity
    - Mentoring record
  - Right match
    - Time/resources committed to you
    - Multidisciplinary research team
    - Good internal and external “connections”

Summary - III

- Research Project
  - Small ancillary study of mentor’s project is ideal
  - Observational study better than RCT
  - Use existing data if possible
  - Pilot projects
  - Keep it simple

Summary - IV

- Environment and Institutional Commitment
  - Experience with successful career development
  - Presence of ongoing support for career development (seminars, pilot grant program, etc.)
  - Protected time and resources for you

Questions?