



Tips for Success as an Academic Clinical Investigator

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Academic Clinical Investigator

An individual who spends about 50% - 75% of his or her time engaged in clinical research

Clinical-researcher or Clinician-scholar or Physician-scientist

↔ Bench researcher or Research scientist

Clinical research includes

- Clinical trial
- Observational study
- Outcome research
- Health services research
- Translational research
- Etc.

The motivations for a clinician to become a clinical investigator will vary

- Depending on their circumstances, specialty, and interests

Successful Clinical Investigator

The primary investigators of important clinical research

The lead authors of high impact publications

Recipient of career awards and honors in their profession

Eventually leaders in their field

Success as an Academic Clinical Investigator

Benchmarks which are used to quantify success in academic medicine

- Number of publications / grants / lectures /
- Research collaborations
- Leadership positions
- Clinical productivity / Clinical reputation
- Teaching skills
- Similar with criteria for promotion

The most important things which define the success

- Personal sense of accomplishment
- External recognition by others in the areas of interest

Obstacles to careers in clinical research

1. Lack of protected time
2. Insufficient formal methodologic training
3. Lack of mentors
4. Student debt
5. Academic emphasis on cellular or molecular research over patient-oriented research

Aim of this lecture

To outline the components for success as a clinical investigator

To outline the products of success as a clinical investigator

Success as an Academic Clinical Investigator

Components

- Mentorship
- Formal research training
- Protected time
- Research support: Coordinator, biostatistician
- Collaborative spirit: sustained pursuit of goals

Products

- Publications
- Presentations
- National reputation
- Extramural funding

Mentorship

Mentorship

- A dynamic, reciprocal relationship in a work environment between an advanced career incumbent (mentor) and a beginner (mentee), aimed at promoting the development of both.

Obtaining the appropriate mentor is the highest priority for the success

- Graduates in research fellowships were five times more likely to publish at least one paper, and were three times more likely to be principal investigators on a funded research grant, if they had an influential mentor during their fellowship
- Faculty members with mentors had significantly higher career-satisfaction scores than those without mentors
- Having a mentor was associated with a higher likelihood of promotion to professor

Steiner JF et al. J Gen Intern Med 2002;17:845-51

Palepu A et al. Acad Med 1998;73(3):318-23

Wise MR et al. J Obstet Gynaecol Can 2004;26:127-36

Mentorship 2

Mentor vs. Mentoring team

- It is unlikely that one mentor can fill all of the young clinical researcher's needs.
- A mentoring team can often be most effective: content expert, method expert
- Identify at least one mentor in your institution.
- Look outside your institution to nearby or even distant institutions to obtain the needed expertise.
- Your division chief or department chair can assist in identifying the mentors.

Mentorship 3

Finding the right mentor (Important considerations when selecting a mentor)

1. The mentor should be a competent clinical investigator who understands your career at your institution
2. The mentor must have achieved his or her own academic success
3. The mentor must be comfortable taking a back seat to their mentee in matters of authorship, and not compete with you for recognition
4. The mentor should not directly control your academic appointment or your base salaries
5. The mentor must be willing to devote the time and energy to assist you in both routine and unexpected academic and personal challenges
6. You must provide periodic feedback to your mentor to ensure he or she remains the best person capable to continue mentoring you.

Mentorship 4

The ideal roles of a mentor

	Key roles
Resources	Office space and supplies (eg, photocopying, internet access) Secretarial and administrative support Financial support to attend meetings, conferences, courses Research coordinator support
Opportunities	Assisting the mentors with: Ongoing research projects for "hands on" experience and writing manuscripts for publication, Reviewing manuscripts and grant applications Comparing notes to sharpen appraisal skills, Attending meetings and making "connections" Learning how ethics review committees, and grant review committees work Joining scientific committees (ie, grant review committees, task forces to writing guidelines)
Advice	Unhurried safe opportunities to think through academic and social development and to discuss methodologic challenges of projects, pros and cons of working with particular collaborators, balancing professional and social life
Protection	Practicing presentations and defending your conclusions in a friendly atmosphere, before presenting at a national meeting. Guarding against criticism from other investigators who may be protecting "turf"

Mentorship 5

Successful mentor-mentee relationship requires your active engagement

- Show appreciation for the time and effort of mentor
- Need to be accountable and responsible, completing your projects in a timely manner.

Formal training in clinical research

You cannot succeed in clinical research without formal training in clinical research

Formal training is the second priority for success

Formal training in clinical research include

- Coursework in study design, statistics, and research methodology
- Part of an educational program of master's degree in public health, health sciences, or clinical research
- The course work is critical for providing the skills needed to conduct the research

Several different way to obtain clinical research training

- Formal program : Clinical research curriculum award or Clinical and translational science award provided by an institution or National institution
- Online training

Protected time

The third priority for success

Clinical investigator should be involved in clinical activities

- To effectively identify important research questions
- To obtain the subjects for your research
- The more time spent there, the greater the opportunity to conduct clinical research
- Excessive clinical work precludes research success
- You need to strike a balance

You should have appropriate protected time to conduct your research and undertake your training

Without protected time, you will not be able to establish and support yourself as a clinical investigator

You should seek 50% - 75% of protected time, similar to bench researcher or research scientist

Protected time 2

Protected time must be used

- To obtain research training, develop a project, and obtain preliminary results to obtain the first grant

To maintain 50% - 75% of protected time, this portion of salary must be generated through grants

Effective venues for initial grants

- Society, foundation and industry junior faculty awards
- Typically 1-3 years in duration
- These provide salary for protected time to complete 1 or 2 projects and obtain preliminary data for career development award

Protected time 3

Advice for protecting research time

- Do not carry your pager
- Do not check your e-mail
- Do not let your friends, colleagues, residents, or fellows know where you are
- Do not allow your secretary to divulge your whereabouts, except for a critical emergency that cannot be handled by one of your colleagues, or in the case of a family emergency
- Do not review manuscripts during your protected time
- Do not use your research time to catch up on journals
- Do not work in an environment where the phone rings all the time (preferably unplug it, but ensure your secretary can find you in a true emergency)

Resources

The resources to conduct the research are additional essential components.

It is important to check at your institution regarding available sources.

Resources include

- Blood drawing or specimen collection support
- Assistance with consent from preparation and approval
- Research assistant or coordinator to assist with data collection and maintaining your projects active during your busy clinical days
- Persons to assist in developing databases to maintain your research information
- Statisticians
 - Key member of research team
 - Should be involved in the development of the project
 - Provide the critical analysis of the data

Collaboration

Collaboration among your colleagues is extremely important

- To enroll their patients in your clinical studies
- Their critical appraisal of your study may provide valuable input

Some methods to enhance collaboration

- Presenting your studies at divisional or departmental research conference
- If this does not exist, develop this conference on a regular bases
- Develop effective means for communication: Divisional or departmental blog, etc
- Colleagues could be listed as co-authors on your publication
- Promote their success

You can promote your success with a collaborative spirit

- Willingness to share resources, assist others, and be a team player in the division

Products for Success

Measures of Success

- Appropriate research results in publications and presentations in national meeting
- Publications and presentations often lead to invitations outside of your institutions to discuss your work
- You become known for your work.
- The data generated from your projects will allow you to apply for grants to support your salary and research
- These products are necessary for promotions and sustained career

Continued pursuit & Will to succeed

It would be ideal to have all of the components listed for success in clinical research at the onset of your career. But, it is often not possible to obtain them

Continued pursuit of these components for success in the face of failures is the key to sustain you through the challenges you will face

With the will to succeed, you can and will become a successful clinical investigator

Your goal should be to obtain preliminary data, publish it, and use it to obtain a junior faculty or career development award as soon as possible

All it takes is passion and initiative