

Workshop 7

How to Assess and Balance PhD Supply and Demand, Now and in the Future

Major Themes for Addressing the Problem/Challenge:

1. Data: What do we need, how do we get it, how do we use it?
2. Motives and incentives for scientific training
3. Balancing skills that are taught with skills that will be needed/used in careers
4. What is the market structure? How is it changing?

Data: What do we need, how do we get it, how do we use it?

Plan and Metrics:

1. Understand data available at home institution (who owns it; what data are collected; do data cover both PhD students and postdocs?)
2. Standardization of data fields at your institution (commit to monitoring when new approaches emerge nationally – e.g. CGS, BEST, AAMC)
3. Establish institutional plan to track outcomes (various approaches possible; ideally test with a pilot group and learn how it works)
4. Work to get uniform ID for all (e.g., ERA Commons; ORCID); make sure to use ID system that will be adopted worldwide; NIH and LinkedIn as partners
5. Encourage and form regional collaborations to share data sets and approaches

Motives and Incentives for Scientific Training

Action Plan for Master's Degree Implementation:

1. Execute feasibility study of incorporating Master's degree into PhD without increasing time-to-degree (goal is to establish whether the student is interested and qualified to pursue a PhD)
2. Establish criteria for obtaining a Master's (training package, examination, requirements for graduation)
3. Gather Industry, Academy, Funding Agencies for buy-in

Action Plan – Other Areas:

1. Implement 50% salary cover by the university over 10 years
2. Implement “% Effort per Trainee” over 10 years

Balancing Skills That Are Taught with Skills That Will Be Needed/Used in Careers

Plan:

1. Start with a pilot group
2. Get faculty buy-in; reassure that they will be supported; keep "PI" as a career track for trainees
3. Build coalitions through existing groups & mechanisms (e.g., CIC, AAU, Ivy-Plus, professional societies)
4. Agreement of competencies that are broad and transferable (refer to list produced by NPA per core competencies, for example)
5. Get outside stakeholder input (employers, alumni)
6. Leverage existing institutional expertise (e.g., PDO, PDA, career office)
7. Address issues of cost (time and money)

Metrics:

1. Competency-based learning models
2. Track and assess career paths of graduates (more feasible for grad students; more challenging for postdocs)
3. Does expected career trajectory broaden with progression through program?
4. Collect and analyze IDPs
5. Gather program outcome data (e.g., trainee papers, time-to-degree)

What Is the Market Structure? How Is It Changing?

Plan

1. Create an advisory board to help students and postdocs for career development, create an inventory of questions, connect with external experts
2. Internal committee (faculty/students/postdocs/senior-level administrators)
3. External experts (employers, economists, gov't reps, psychologist, alumni)

Assessment metrics

1. Survey students and postdocs for satisfactions
2. Track trainees for their career projections, destinations, etc.
3. Duration of PhD or postdoc (number of years)

Prioritization

1. Focus on grad students first then move to postdocs (because of greater oversight, and can track earlier and follow for a longer time)
2. Start with a smaller group (e.g., one department) before moving onto the entire biomedical enterprise