NCI Training and the Cancer Research Workforce

National Cancer Advisory Board,
June 28th, 2011

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NCI’s Center for Cancer Training (CCT)

CCT is catalyzing the development of a 21st century workforce capable of advancing cancer research through a scientifically integrated approach

The Center for Cancer Training
Be a part of the 21st century cancer research workforce.

Division of Cancer Epidemiology & Genetics Fellows
Center for Cancer Research Fellows
Cancer Prevention Fellowship Program

fellowships at the NCI

$ for research done at institutions across the country
Cancer Training Branch Awards

NCI CTB Training and Career Development Awards
Budget, FY99-09

Doubling of the NIH budget

NCI CTB Training and Career Development Awards, FY99-09
Training, Fellowships, and Career Development Budget by IC

Chart generated from budget-by-mechanism data from NIH RePORT and NIH Databook sites.
Building a scientifically diverse workforce
Breakdown of the CTB Portfolio by Activity

Est. Count of Awards

- 179
- 114
- 85
- 9

Est. Dollars Spent

- $68M
- $59M
- $28M
- $5.7M
- $1M

Does not include ARRA awards
Data from FY09
CTB Individual and Institutional Awards

Individual, Number of Awards

- Biology: 156
- Etiology: 55
- Prevention: 103
- Early detection, diagnosis, & prognosis: 4
- Treatment: 20
- Dual Discipline: 30

Institutional, Number of Awards

- Cancer control, survivorship, & outcomes: 42
- Scientific model systems: 19
- Dual Discipline: 8
- $0

Individual, Budget

- $356,172
- $12,740,586
- $7,315,376
- $6,091,052
- $2,739,673
- $3,506,236

Institutional, Budget

- $15,093,179
- $5,695,532
- $3,137,520
- $2,541,409
- $13,867,409
- $22,536,335

Source: NCI Funded Research Portfolio (NFRP). Note, some projects are coded to more than one high-level CSO category and therefore are counted as Dual Discipline.

Data from FY09
Issues affecting training
Major Goals of Training

- Produce scholarly work
- Master technical skills
- Develop critical questions/hypotheses
- Develop critical thinking skills
- Grow and expand scientifically
- Inter-, multi-, trans- disciplinary training
- Develop “soft” skills: writing, presenting, management, etc.
- Build towards independence and next career step
Overview and challenges facing the workforce

- Number of postdocs and predocs is increasing
- More predocs are doing postdoctoral training, especially in biomedical research
- Most trainees are supported on research grants
- Tenure track positions are not growing
- Trainees have difficulty transitioning to independence
- Time to first R01 continues to increase
- There is a need for a more scientifically diverse workforce
- It is difficult to track trainee outcomes
- Increased time in training may have a negative effect on students choosing science as a career track
Forces driving the workforce

- Colleges and universities are mostly graduate student driven
- Need for “low cost” highly trained workforce
- Tournament model of employment, not supply and demand
- Increasing competition for tenure track positions and grant funding
Transitioning to independence and reduce time to first R01
Addition of F30 and F31 to CTB Portfolio

• Analysis of future grant funding suggests trainees receiving F30s, F31s, and F32s may be more likely than trainees supported on institutional grants to have academic-focused careers.

• Obtaining individual F grants will help demonstrate fundability and assist in future funding.
K22 and K99/R00 Modifications

- **K22**
  - Expand science to all cancer research
  - Limit eligibility to 8 years postdoc experience and only investigators in mentored positions
  - Limit eligibility to not include previous K support

- **K99/R00**
  - Expand science to all cancer research
CCT/CTB activities to address these issues

- **Improve the transition to independence**
  - Add F30 and F31 mechanisms
  - Modify the K22 and K99/R00 mechanisms to broader science
  - Maintain the 3:1 postdoc to predoc ratio on training grants

- **Building a scientifically diverse workforce**
  - Maintain a diverse scientific portfolio
  - Develop career options and training on institutional training grants
  - Publicize the R25 mechanism for broader use

- **Outcomes evaluation of the K portfolio**
What else could we do?

- Encourage innovative institutional training grants offering career track options
- Encourage more structured training activities on RPGs
- Increase indirect costs on Career Awards
- Develop additional tracking tools
Other questions to consider

- Should we compress the number of Career (K) mechanisms?
- What is the right size and distribution of institutional training grants?
Thank you for your attention!