

The Common Fund NIH Director's Early Independence Award Initiative

Council of Councils Discussion

September 5, 2014



The Early Independence Award Initiative:

Intended to enable exceptional young investigators to enter directly into independent research essentially immediately after completion of research degree or clinical residency and thereby skip the traditional post-doctoral training period.

7 October 2010 | Vol 467 | Nature | 635

WORLD VIEW

A personal take on events

K. WOLF/NATURE



Scientists need a shorter path to research freedom

Francis Collins explains why the NIH is launching a bid to help some doctoral students dramatically reduce the time required to start an independent career.

Over the past half-century, a great many things have changed in biomedical research. Along the way, postdoctoral training

encouraging forward thinking, but it may still be a halfway solution. For the most creative of young scientists, nothing can equal the chance

Background

Design of EIA initiative was informed by an NIH Workshop

Draft: May 17, 2010

NIH Workshop on Independent Research Fellows

May 3, 2010

NIH Campus, Bethesda, MD

EXECUTIVE SUMMARY

The biomedical community in general and the NIH in particular, have been concerned with the increasing time to scientific independence: At present, the average age at appointment to medical school faculty is 38 years and the average age at receipt of the first NIH research grant is 42 years.

Various strategies are in place to address this problem, including the NIH Pathway to Independence K99/R00 award, the NIH Director's New Innovator award, and several programs developed by other organizations. The NIH is open to additional ways to reduce time to independence, including an independent research fellow program building on existing, successful programs that operate without NIH support. Identifying the important features of those programs was the focus of the workshop held in the Natcher Conference Center on May 3, 2010.

(<http://commonfund.nih.gov/sites/default/files/workshop-report-052010.pdf>)

Idea was to draw insights and inspiration from independent research fellows programs operating at institutions (such as, Carnegie, Whitehead, CSHL, UTSW)

Background

Three funding models were discussed:

- 1) **Matchmaking model** – fellows and institutions would apply in parallel, NIH would match fellows to institutions. **Very little enthusiasm due to: bureaucratic overhead, imbalance between fellows and institutions, and lack of strong institutional endorsement for individual candidates.**
- 2) **Fellow-driven model** – candidates are peer-reviewed by NIH, successful candidates then find suitable institution, which is administratively reviewed by NIH. **Tepid enthusiasm due again to lack of strong initial linking between candidate and institution and concern of whether all candidates could find a suitable institution**
- 3) **Institution-driven model** – institutions are peer-reviewed as potential hosts; selected institutions then would be allowed to identify candidates; awards would be activated upon identification of suitable candidate(s) and receipt of NIH approval. **Received strongest support.**

Background

Independent Fellows Program concept presented to the Council of Councils (CoC)

– July 1, 2010

- The recommendations of the workshop were presented
- The CoC was concerned that awards to institutions would favor the usual institutions and that the “rich would get richer”
- Suggested a hybrid approach be considered in which, for example, the application would come from the institution and would include one individual as the institution’s first choice

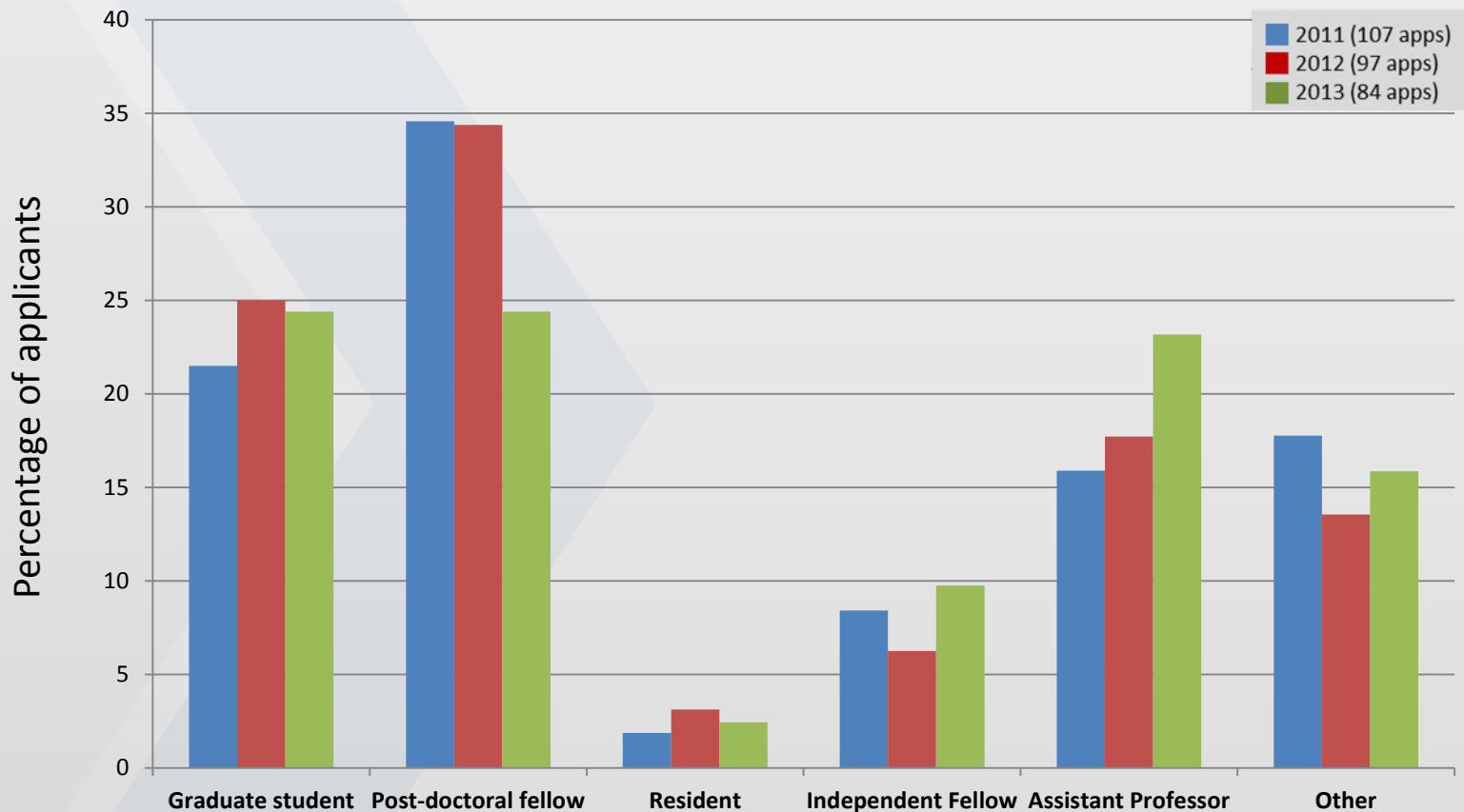
Salient Features of the EIA Initiative

- Candidate eligibility: Candidate must receive terminal research degree or complete medical residency within 12 months (before or after) of application submission date
- Host Institution: Only up to two applications per institution (DUNS number)
- Candidate and host institution must “match up” with each other and prepare application together (candidate for research plan and institution for facilities and environment)
- Focus in application and review processes are on the qualities of the candidate as well as the support and commitment of the host institution

- Early Independence Awards have been made for three years. (Awards for year 4 are pending and so are not included.)
- Appropriate time now to examine the initiative and determine if it is operating as intended.
- Focus of analysis is on whether Early Independence Award initiative is truly enabling early independence (and “skip the post-doc”).
- The data suggest that the initiative is not having the kind of impact intended.

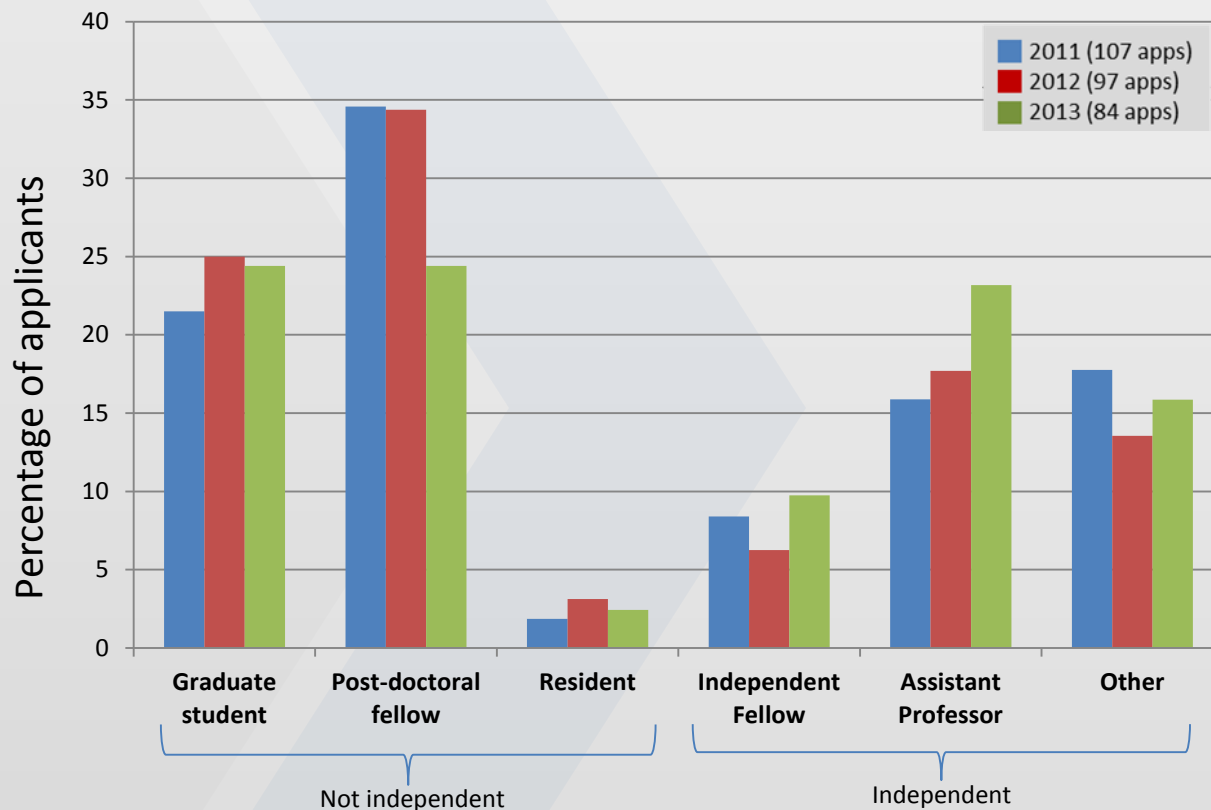
Analysis of whether EIA is providing early independence

Appointment stats of **applicants** at time of application



Analysis of whether EIA is providing early independence

Appointment status of **applicants** at time of application



“Not-independent”

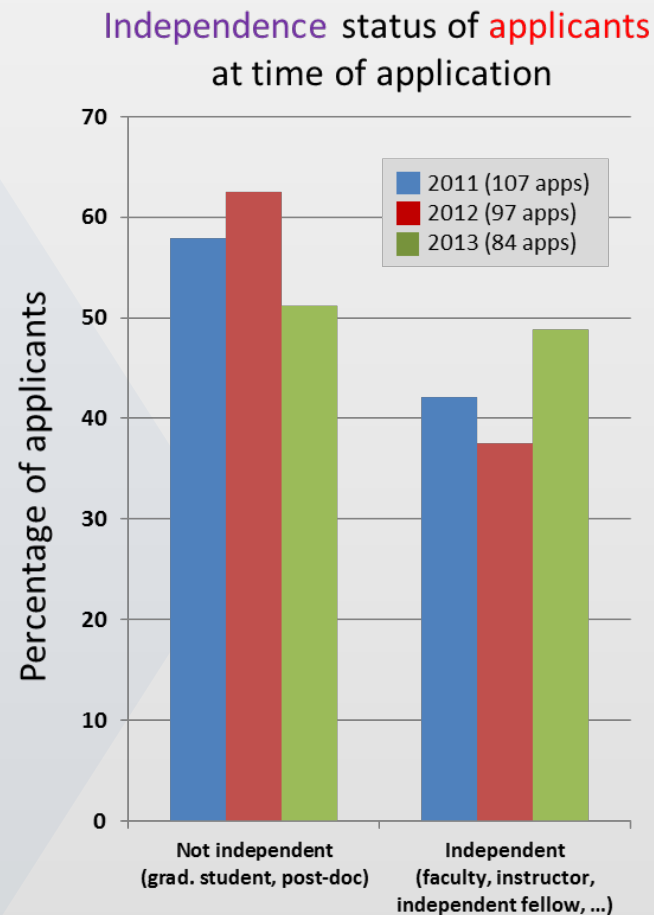
Graduate student
Post-doctoral fellow
Resident

“Independent”

Independent fellow*
Assistant Professor
Other (Instructor, ...)

*Independent fellow included since the EIA seeks to provide the type of scientific independence enjoyed by these fellows

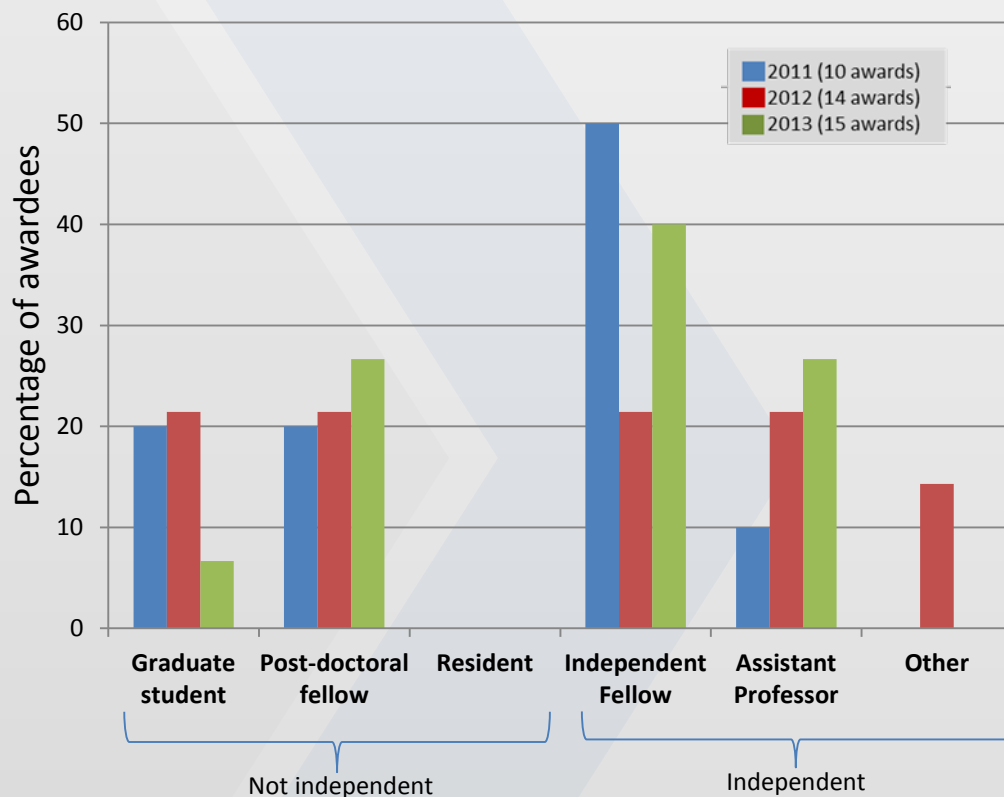
Analysis of whether EIA is providing early independence



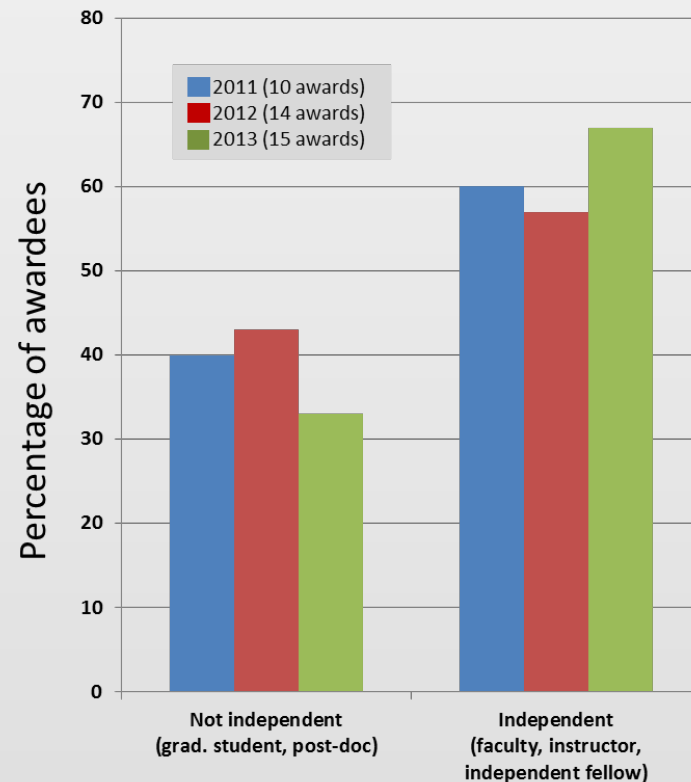
- Only a little more than half of applicants were graduate students/residents or 1st-year post-docs at time of application – this was the intended applicant pool

Analysis of whether EIA is providing early independence

Appointment status of awardees at time of application



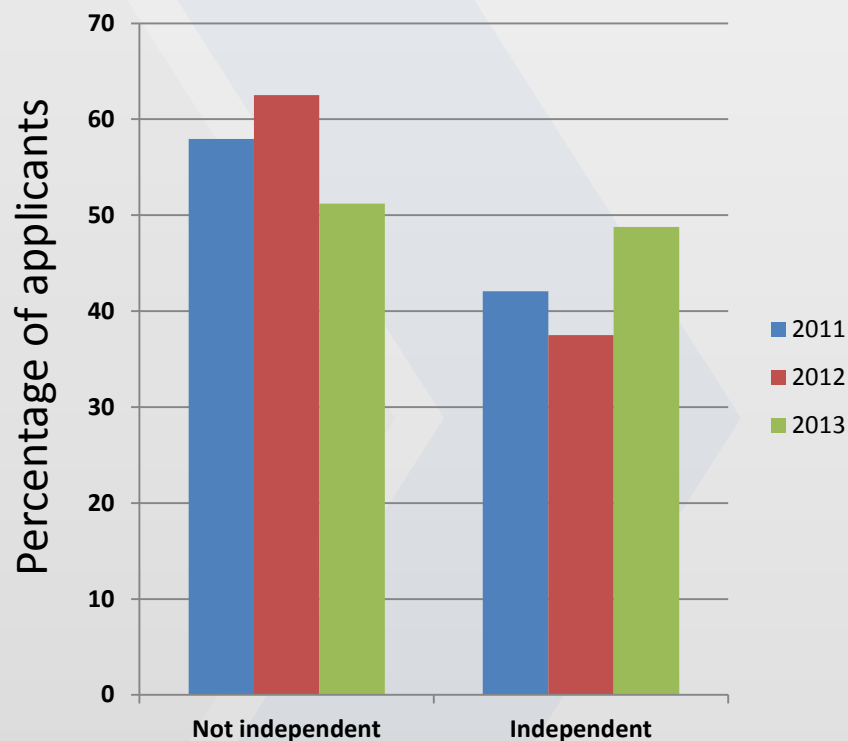
Independence status of awardees at time of application



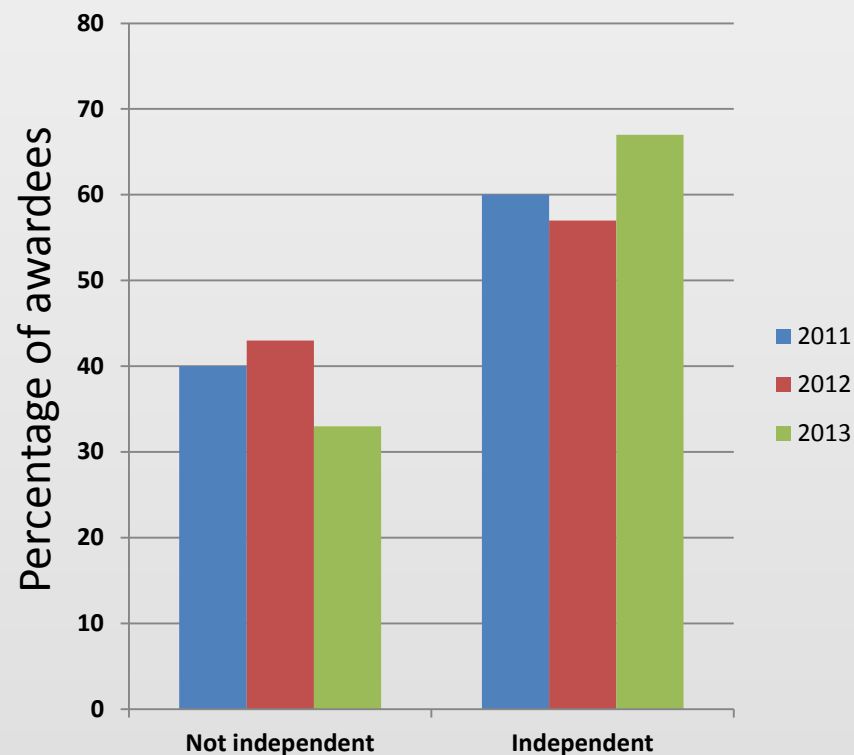
- Roughly 40% of awardees were not scientifically independent (graduate student or post-doc) at time of application

Analysis of whether EIA is providing early independence

Independence status of **applicants**
at time of application



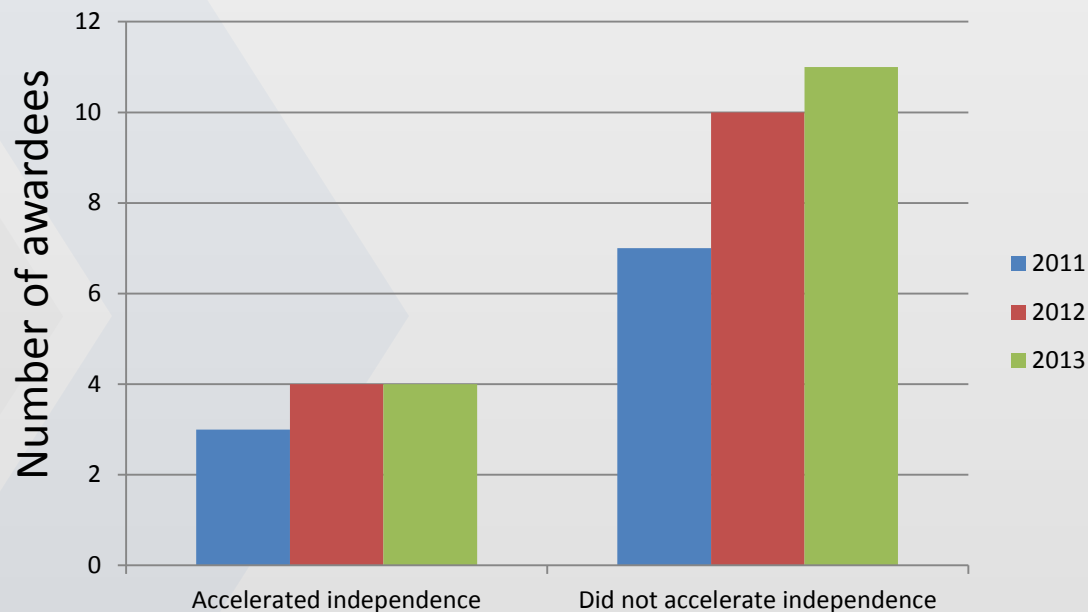
Independence status of **awardees**
at time of application



- A significant percentage of applicants are already independent
- The review process enriches the percentage of independent candidates

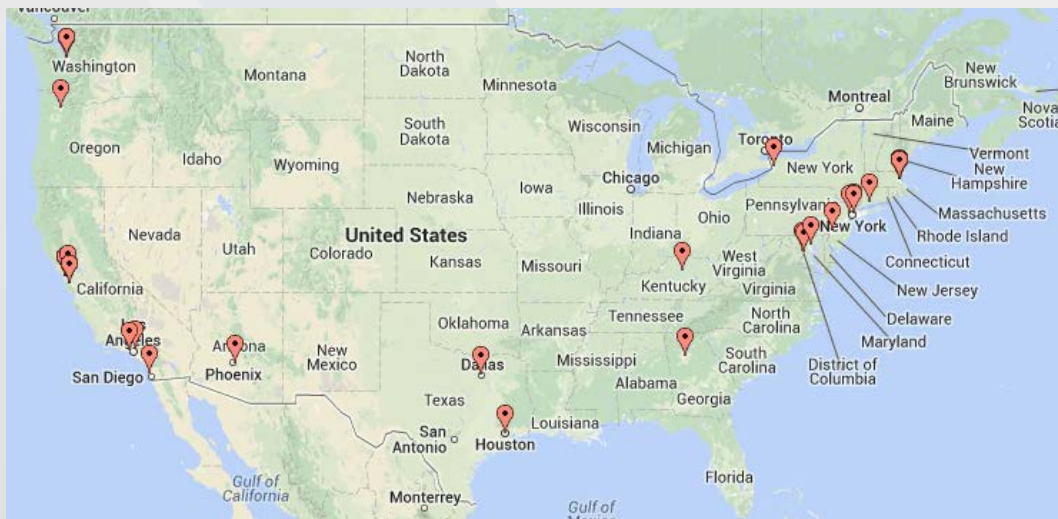
Analysis of whether EIA is providing early independence

Several awardees who were graduate students/post-docs at time of application already had arrangements to become assistant professors *regardless* of EIA outcome



- By these measures, the EIA initiative is accelerating entry into independence only ~25 – 30% of awardees
- The trend is becoming worse

Institutional Diversity of Awards



- 29 different institutions for 39 awards (distinct institution defined as having unique DUNS number)
- Approximately half of awards to Boston-Bay area institutions
- Remaining are fairly well distributed
- Current distribution slightly different since some awardees have changed institutions

Institution	# Awards
UCSF	5
Stanford University	3
Whitehead Institute	3
Harvard Medical School	2
University of Washington	2
Arizona State University	1
Baylor College of Medicine	1
Brigham and Women's Hospital	1
Broad Institute	1
Caltech	1
Carnegie Institution	1
Columbia University	1
Emory University	1
Fred Hutchison	1
Harvard University	1
Johns Hopkins University	1
MIT	1
Oregon Health & Sci. University	1
Rockefeller University	1
SUNY Buffalo	1
NIH	1
New Jersey Medical School	1
UC – Berkeley	1
UCLA	1
UCSD	1
University of Kentucky	1
University of Pennsylvania	1
UTSW Medical Center	1
Yale University	1
Total awards	39
HU-HMS-BWH-Broad	5
MIT-Whitehead	4
Boston Area	9
Bay Area	9

Extramural teleconference: To help us analyze the results and consider possible actions, convened a teleconference with extramural participants (May 9, 2014)

Extramural participants:

Nicole Basta (Princeton University)¹
Marlene Belfort (Wadsworth Institute)²
Jeremy Berg (University of Pittsburgh)³
John Calarco (Harvard University)¹
Alan Frankel (U. of California, San Francisco)^{4,5}
Steve McKnight (U. of Texas Southwestern)^{2,4,5}
Andrew Murray (Harvard University)⁴
Nancy Schwartz (University of Chicago)²
Allan Spradling (Carnegie Institution)^{2,5}
Bodo Stern (Harvard University)⁴
Inder Verma (Salk Institute)²
Daniela Witten (University of Washington)¹

¹EIA recipient

²EIA interview panelist

³Former IC Director active in training/career development

⁴Institutional independent fellows program leader

⁵Former independent fellow

NIH staff:

James Anderson (OD)
Richard Baird (NIBIB)
Ravi Basavappa (OD)
Ken Bridbord (FIC)
Richard Conroy (NIBIB)
Mai-Kim Norman (OD)
Weijia Ni (CSR)
Walter Schaffer (OD)
Carol Shreffler (NIEHS)
Lillian Shum (NIDCR)
Madeleine Wallace (Windrose Vision)
Betsy Wilder (OD)

Extramural teleconference:

Data were presented to extramural participants and then teleconference was opened for discussion:

Summary of discussion:

- No apparent fundamental flaw discerned in design of initiative
- Much of discussion focused on eligibility of candidates – various opinions presented about eligibility of tenure track faculty and independent fellows
- Observation made that at least in some cases, funding of EIA to institutional fellow permits additional institutional fellow to be funded
- Institution-driven model proposed as a companion funding model

Action:

Collect data for another year; seek Council of Council input

Seeking Council of Council input:

What should NIH staff consider in moving forward with initiative?

Possibilities in moving forward:

- No change: maintain current eligibility language, continue to track candidates, and ask the reviewers to assess suitability of candidates on a case-by-case basis
- Further restrict eligibility: make clear in FOA, for example, that tenure-track faculty or independent fellows are not eligible for the award
- Other?