Report 55: Cross-Disciplinary Training Of Environmental Health Scientists

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Brief History:

The pool of environmental health scientists needs to be larger in order to move questions on the role of environmental factors in disease and public health to the forefront.

Future generations of environmental scientists need to be able to work collaboratively and across disciplines to tackle complex problems.

Discussion Highlights:

Barriers

- Breadth of the field makes "core competencies" challenging
- Common language needed
- Funding opportunities are limited – need to get other agencies to recognize the role of the environment.
- It is difficult to get funded under current mechanisms for research outside narrowly defined disciplines
- Difficult to retain and attract trainees because jobs in EHS careers are hard to come by

NEEDS

- Need to bring HEALTH to undergraduate training in Environmental Sciences
- Need to bring young researchers into the NIEHS Intramural Programs, Extramural Programs, and NTP
- Need to bring understanding of environmental health into medical subspecialty training
- Need to bring people with training in other basic scientific disciplines (physical, applied, etc.) into EHS research
- Need to attract the best and brightest into EHS and keep them in EHS research endeavors
- Need to broaden the definition of a "successful" EHS career

Recommendations:

- Increase support for a variety of creative training programs that attract the best and brightest. Models could include
    - Year 3 MD training opportunities in EHS
    - Using Harvard business case model to develop an intensive experience for cross disciplinary problem solving (both Intramural and Extramural)
    - Epidemic Intelligence Service model from the Commissioned Corps

- NIEHS should have a more visible presence in existing NIH wide training programs that can bring expertise to EHS, e.g. ORWH program
- Support training programs for Medical subspecialists that include EHS, e.g., environmental cardiology, environmental gastroenterology, etc.
- Explore mechanisms to bring people from other disciplines to public health; e.g., Create postdoc and other training programs for people that come from other disciplines
- Recognize that NIEHS is training a broad range of experts in EHS fields that go on to non "laboratory" focused careers. Support opportunities for trainees to learn about communications, policy, administration, public health, etc.
- Support young investigators through professional development, mentoring, grant support, etc.
- Actively develop and coordinate opportunities for workshops and symposia on the role of the environment in other disciplines
- Peer review structures for training programs should include the breadth of the science that trainees are exposed to
- Capitalize on existing Environmental Science programs to build competencies for undergraduates and others
- Fostering more cross-disciplinary interactions by modeling plain language communication throughout NIEHS
- Support doctoral training programs that require an NIEHS component, where classwork occurs at top Universities, and the dissertation work occurs in the intramural program at NIEHS
- Extramural and Intramural programs should encourage cross disciplinary research through targeted program announcements (e.g. IRA's intramurally)
- NIEHS should encourage/improve mentoring of established scientists as a strategy for bringing new/early stage investigators into EHS fields. Evaluate the quality of the mentoring.

Discussion Participants:

Archer, Austin, Bearer, Birnbaum, Boyles, Cidlowski, Dolinoy, Drew, Gasiewicz, Hall, Johnson, Kwok, Lee, McConnell, Patisaul, Reid, Sandler, Schrader, Schroeder, Sen, Silbergeld, Sinks, Walker N, Woychik, Zeisel