Building an Institutional Climate and Training Programs for Responsible Conduct of Research

Philip J. Langlais, Ph.D.
Professor, Dept. of Psychology
Former Vice Provost for Graduate Studies & Research
Old Dominion University

Symposium: Research Integrity & Responsible Conduct of Research - New Challenges in a Turbulent World
April 17, 2013
Aarhus University, Aarhus, Denmark
Overview

• THE DEVELOPMENT OF RCR EDUCATION IN U.S.
  • GOALS OF RCR EDUCATION
  • APPROACHES AND BEST PRACTICES
  • BUILDING INSITUTIONAL PROGRAMS AND CLIMATE
Impetus for RCR Training*

Late 1980s: "... biomedical scientists... under ... public scrutiny as a consequence of a decade of reports about misconduct in research, turned to formal education." (Steneck and Bulger, 2007)

1989: "Universities should provide formal instruction in good research practices. ... incorporated into various places in undergraduate and graduate curricula for all science students." (Committee on the Responsible Conduct of Research, 1989)

1995: "... this required educational activity is essential ... to ensure that... all individuals [including senior researchers and technicians] who perform research in institutional settings are sensitized to the ethical issues inherent in research." (Committee on Research Integrity, 1995)

*Slide provided by Mike Kalichman
Federal Requirements for RCR Training*

NIH, 1989
NIH, 1992
NSF IGERT, 1997
PHS, 2000
NIH, 2009
NSF, 2009

*Slide provided by Mike Kalichman
### NIH Requirements for RCR Instruction*

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>conflict of interest – personal, professional, and financial</td>
<td>conflict of interest and commitment</td>
<td>conflict of interest</td>
<td>conflict of interest</td>
</tr>
<tr>
<td>2</td>
<td>data acquisition and laboratory tools; management, sharing and</td>
<td>data acquisition, management, sharing,</td>
<td>data management</td>
<td>data recording and retention</td>
</tr>
<tr>
<td></td>
<td>ownership</td>
<td>and ownership</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>responsible authorship and publication</td>
<td>publication practices and responsible authorship</td>
<td>responsible authorship</td>
<td>responsible authorship</td>
</tr>
<tr>
<td>4</td>
<td>research misconduct and policies for handling misconduct</td>
<td>research misconduct</td>
<td>policies for handling misconduct</td>
<td>institutional policies and procedures for handling allegations of misconduct</td>
</tr>
<tr>
<td>5</td>
<td>policies regarding human subjects, live vertebrate animal subjects</td>
<td>human subjects; research involving animals</td>
<td>policies regarding the use of human and animal subjects</td>
<td>policies regarding the use of human and animal subjects</td>
</tr>
<tr>
<td></td>
<td>in research, and safe laboratory practices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>mentor/mentee responsibilities and relationships</td>
<td>mentor/trainee responsibilities</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>collaborative research including collaborations with industry</td>
<td>collaborative science</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>peer review</td>
<td>peer review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>the scientist as a responsible member of society, contemporary</td>
<td></td>
<td></td>
<td>professional standards and codes of conduct, bioethics, research conduct, the ideals of science</td>
</tr>
<tr>
<td></td>
<td>ethical issues in biomedical research, and the environmental and</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>societal impacts of scientific research</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Slide provided by Mike Kalichman*
RCR Learning Outcomes

Knowledge:
- Ethical Principles and Application
- Professional codes and standards
- Best practices
- Regulations and policies
- Where to find help

SKILLS:
- Sensitivity and awareness of issues
- Ethical decision making
- Conflict resolution
- Balancing demands and commitments
- Effective communication
Core Topics

- Social Responsibility & Accountability
- Professional Ethics, Codes and Standards
- Mentoring
- Research Misconduct
- Whistleblowing & Responding to Allegations
- Peer Review
- Conflicts of Interest and Commitment
- Collaborations and Intellectual Property
- Data Management
- Authorship and Publication
Specific Topics

- Human Subjects
- Animal Subjects
- Ethnographic Studies
- Environmental Protection
- Dual Use Technology
- Stem Cells
- Community-based Participatory Research
- International Collaborations & Regulations
Ways to Engage and Educate

Modes of Engaging
* Discussion groups
* Laboratory meetings
* Workshops
* Courses
* Guest Lectures
* Debates
* Web-based tutorials
* Research Papers
* Surveys

Materials
* Textbooks
* Case Studies
* Role playing-dramatizations
* Videos
* Journal articles and publications
* Biographies, histories
* Handbooks
Ways to Engage & Educate

Students:

- Integrate RCR topics and discussions into existing graduate courses such as Research methods, Experimental Design and Analyses, Professional Standards
- Incorporate issues and dilemmas into written and oral pre-doctoral qualifying exams

Post-doc and Faculty:

- RCR Train-the-Trainer Programs
- Workshops – integrating RCR into laboratory environment
- Faculty Professional Development Programs
- Certificates and/or credit towards promotion and tenure decisions
Specific Training of Faculty and P.I.’s

- How to lead discussions and modeling of best practices and professional standards.
- Explaining the how and the why of his/her discipline/professional standards, lab practices, university policies
- Regular discussions of RCR in routine lab meetings
- Publish policies and procedures of research group, usually in a handbook or guide
- Statement of understanding between supervisors and students relative to data collection, ownership, use, publication/authorship
- Checklists to track topics covered and progress made
Educate the Community

- Graduate and Undergraduate Students
- Post-doctoral fellows
- Faculty at all levels
- Visiting Scholars and Researchers
- Research and Academic Administrators
- Institutional Counsel and Auditors
- Research and Academic Staff
- IRB, IACUC, Biosafety, Human Resources
- Research Integrity Officer, Ombudsman
Fostering RCR Education: Lessons Learned

• “One size does not fit all” – disciplinary and organizational differences require flexibility in training content, methods and outcomes.
• “Top Down-Bottom Up” commitment & involvement.
• Training and participation of faculty are critical.
• Shift emphasis from what is wrong to what is right – beyond compliance to conscience, ethics and professional standards.
• Communication, consistency and transparency are essential.
Research Integrity Requires More than RCR Training

RCR Training is necessary but not sufficient!

Ethical behavior and choices in research activities are nested within multiple levels of organizational context.
Research Environment

External—national, political, regulatory, societal, funding

Organization—University, Research Center: culture, strategic plan, priorities, performance standards

Department/College: norms, rewards, priorities, resources

Mentor/Supervisor—structure, laboratory climate, modeling, performance standards

Individual – attitudes, values, beliefs, traits, knowledge
“I find it harder and harder to get any work done with all the ethicists hanging around.”
Climate and Environmental Factors and Mediators – Predictors of research behaviors

- Competition
  - Normative Social Environment
    - Performance Standards
      - Policies
    - Whistleblowing
  - Emotional comfort and support
  - Exposure to ethical/unethical events
    - Mentoring
    - Leadership
  - Procedural and Distributive Justice
    - Communication
    - Identification
Ways to Foster an Ethical Research Climate

Build a comprehensive and integrated Top Down-Bottom Up Program addressing:

* Education
* Institutional Policies and Procedures
* Professional Standards and Best Practices
Ways to Foster Ethical Research Climate

• Special Events –
  • Presidential Lecture Series
  • College/Dept. Guest Lectures
  • Research Integrity Day

• Administration sponsored workshops

• University and College recognition of faculty and students

• Faculty development awards and small grants

• Tenure and Promotion criterion
Ways to Foster Ethical Research Climate

- Research Integrity Task Force/Committee responsible for:
  - Assessment of practices, attitudes and perceptions of RCR training and research climate
  - Provide support in developing RCR training programs
  - Provide longitudinal tracking of RCR effectiveness and changes in institutional climate and policies.

- Administrative support for the RCR Task Force/Committee

- Periodic review of assessments
Summary

Training & Climate
Assessing & Tracking Outcomes
Shared Responsibilities – Top to Bottom
Enhanced Communication
Professional Standards and Compliance
Conclusions

No Magic Bullets
Patience and Persistence
Coordinated Goal Directed Program
Resources: Texts with Case Studies


Resources - General

Resources - Videos


http://ori.hhs.gov/thelab

Univ. of Nebraska-Lincoln – RCR Videos
http://research.unl.edu/orr/videos.shtml
1993 – present: Teaching Research Ethics, Poynter Center, Indiana University

1995 – 2012: Survival Skills and Ethics, University of Pittsburgh

2001 – 2004: RCR 101 Workshops, PRIM&R

2005 – present: Kalichman, Macrina, and Plemmons
UC San Diego and Virginia Commonwealth University
Resources – OnLine Courses & Centers

Collaborative Institutional Training Initiative (CITI):  
https://www.citiprogram.org/rcrpage.asp

Univ. of Montana,  
http://ori.hhs.gov/education/products/montana_round1/research_ethics.html


Ethics CORE:  http://nationalethicscenter.org/

Resources for Research Ethics Education:  http://research-ethics.net/

Markkula Center for Applied Ethics:  http://www.scu.edu/ethics/

Emory Center for Ethics:  http://ethics.emory.edu/

National Center for Ethics in Healthcare:  http://www.ethics.va.gov/

The Office of Research Integrity (ORI):  http://www.ethics.va.gov/

Project for Scholarly Integrity, Council of Graduate Schools  
http://www.scholarlyintegrity.org

Online Ethics Center for Engineering and Research, National Academy of Engineering  
http://www.onlineethics.org
Resources – Assessments


