

Why We Need International Strategies for Research Integrity Education

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RCR EIT has two target audiences for which RCR educators must consider international perspectives on research integrity and research ethics:

1. International trainees in US research training programs and research activities in US settings
2. Trainees in international training programs and collaborative research activities

By policy, NRSA training grants limit eligibility to US citizens, *but NIH policy promotes RCR instruction for all trainees:*

“Plans that incorporate instruction in the responsible conduct of research for all graduate students and postdoctorates in a training program or department, regardless of the source of support, are particularly encouraged.”

Reminder and Update: Requirement for instruction in the responsible conduct of research in National Research Service Award Institutional Training Grants, NIH GUIDE, Vol. 23, No. 23, June 17, 1994

International trainees are a large and significant population in US research education and practice.

- In 2004-5, 30% of graduate students and 50% of postdoctoral fellows in U.S. science programs were from other countries (NRC 2005; NSF 2006); admissions rose in 2006 and 2007.
- International trainees are essential to continued growth of the research enterprise in industrialized countries, and over 75% of international trainees expect to stay in the US in research careers (NSB 2008).
- Research institutions in the US, UK, Germany, France, Australia, and Japan increasingly compete for the best trainees (ACE 2006; Europa 2007).

International training programs and research collaborations are subject to the policies of the host country, but

NIH requires *all* funded investigators and institutions, *irrespective of location*, to adhere to its policy requirements governing ethics and research integrity.

NIH Grants Policy Statement, Part II:
Terms and Conditions of NIH Grant Awards

In this regard, RCR EIT for international trainees needs the same content and objectives as RCR EIT for US trainees.

- “How to” issues and procedural aspects of good research
- Institutional policies, governmental regulations, professional norms, and standards of practice
- Recognition, analysis, application, and reinforcement of ethical values and questions in research
- Collegial engagement in discussion and professional socialization

However, most formal statements of research ethics and research integrity have been created:

- Retrospectively
- In response to particular questions or problems
 - Apparent violations of unwritten rules
 - New technologies that raise new issues
 - In specific cultural and historical contexts
- Under public pressure and scrutiny
- With limited consensus among scientists and regulators

These characteristics make policies particularly subject to cultural influences.

The conceptual framework in which US standards of research ethics and integrity emerged is shaped by US culture and history; the more international needs and norms of science are evident, but not dominant.

Addressing the conceptual framework and the forces behind it requires attention to cultural norms and ways of thinking that are not typically a part of RCR EIT.

Some needed elements of RCR EIT for international trainees

- Historical context of the educational mandate, and US biomedicine's concern for ethics
- Attention to the ways in which US society discusses ethics and perspectives on ethical discourse
- Attention to norms of communication generally and relationships in academics specifically

The communication that is essential to research collaboration requires an ability to negotiate the values and practice standards that shape the work.

International trainees are challenged to learn and adapt to new cultural values that shape the practice standards that they must learn; RCR educators are challenged to help them recognize, understand, and negotiate these values.

How should RCR educators prepare their trainees for international collaboration?

- Regulatory structures and professional standards in research are evolving everywhere, with uneven coverage.
- Each core area of RCR involves ambiguity and potential conflict among national and international policies.

NIH funding is contingent on institutional compliance with certain policies, spelled out by institutional contract with collaborators.

- Debarment and Suspension
- Drug & Smoke-Free Workplace
- Lobbying
- Financial Conflict of Interest
- Research Misconduct
- Data Management / Sharing
- Research on Fetal Tissue
- Human Embryonic Stem Cell Research
- Inclusion of Women, Children, and Minority Participants
- Human Subjects/ Education on Protection of Human Subjects (IRB)
- R-DNA / Human Gene Transfer Research (IBC)
- Vertebrate Animals (IACUC)
- RCR Instruction
- DOC Export Restrictions

Points of International Ambiguity and Potential Conflict

Human research

Multiple oversight structures, multiple levels of complexity

Definition of vulnerable populations

Inclusion of women, children, “minority populations”

Animal research

Clear standards in North America and Europe but variable elsewhere

Misconduct / responsible conduct

Basic standards in US and Europe but highly variable elsewhere

Cultural interpretation may lie behind perception of misconduct

Authorship and publication

ICMJE criteria or other

Differing professional roles and hierarchies

Dual-use research and access to methods and data (export controls)

Points of International Ambiguity and Potential Conflict

Data management

Language used for record keeping

Dual-use research and access to methods and data

Privacy, confidentiality, and HIPAA

Conflict of interest

Meaning of gift giving

Variable levels of monetary value and meaning

Variable access to drugs and equipment

Mentoring

Variable social roles and hierarchies

Limited choice of mentors in small systems

Mentors as culture brokers in an international context

Points of International Ambiguity and Potential Conflict

Peer review

International peers' different backgrounds

Peers' familiarity with local contexts

Fluency in both languages

Collaboration

Who benefits from collaboration

Whose standards when and why

Communicating over physical and cultural distances

RCR education for a global future requires strategies to recognize and address differing values and practices in research worldwide.

- International trainees need focused instruction to help them succeed in their new environments (Heitman et al. 2007).
- Today's investigators may and tomorrow's investigators *must* be able to work internationally.
- To promote research integrity in a global research environment, RCR instructors must learn about standards and practices in multiple countries and help their trainees and colleagues understand, interpret, and integrate them in their work.