# Professional Ethics Report

ADVANCING SCIENCE, SERVING SOCIETY

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## TROUBLED WATERS: CONTROVERSY OVER PUBLIC HEALTH IMPACT OF TAP WATER CONTAMINATED WITH LEAD TAKES ON AN ETHICAL DIMENSION

**Researcher cleared of some ethics allegations, but further questions remain.**

Rebecca Renner

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From 2001 to 2004, Washington, D.C. experienced what may have been the worst lead contamination of city water in nearly a hundred years. Thousands of homes had high levels of lead in their tap water, hundreds had levels above 300 parts per billion (ppb) -- 20 times higher than national action levels -- and some water had enough lead to qualify as a hazardous waste. The contamination persisted for almost three years without public knowledge because the District of Columbia Water and Sewer Authority (DC WASA), the quasi-independent water company; EPA Region 3, the regulators; and the Washington, DC Department of Health (DC DOH) failed to effectively publicize the problem until it finally became front-page news in the *Washington Post* [1].

The Post story sparked a public furor because lead's impact on the intellectual and neurological development of children is notorious. Elevated levels of lead in children's blood are tightly linked to deficits in intellectual and neurological development. Public health authorities target levels at or above 10 micrograms/deciliter for special attention, but acknowledge that any elevation has detrimental effects [2].

Old deteriorating paint is a widely acknowledged source of lead to children, but the impact of contaminated tap water is underappreciated although numerous studies document it effects [2;3;4;5]. During the water crisis in 2004, EPA's Office of Research and Development (ORD) modeled the effect of high lead levels in tap water and determined that the risk of blood lead levels at or above 10 micrograms/deciliter was very high for infants who drank formula made up with tap water and significant for toddlers.

But the first two publications about the health consequences of the contamination seemingly failed to find the ORD's predicted effect. In 2004, three months after the contamination became public knowledge, a brief report by the Centers for Disease Control and Prevention concluded there had been little if any effect based on an examination of blood lead data collected by the DC Department of Health and water lead data collected by DC WASA [6]. In 2007, *Environmental Health Perspectives* (EHP) published the first fully peer-reviewed paper on the effects of the contamination by George Washington University public health physician Tee Guidotti and DC Department of Health scientists [7]. This study, based on data from the same sources as the CDC report, stated that "There appears to have been no identifiable public health impact from the elevation of lead in drinking water in Washington, DC, in 2003 and 2004."

Guidotti, who at the time was a paid advisor to DC WASA, and his co-authors at the DC Department of Health, appear to make mistakes about important aspects of the crisis. According to their 2007 paper, Washington residents were exposed to high water lead levels for just six months. In reality, the exposure lasted for almost three years. The paper claims that residents received "effective measures," contending that the extra attention brought on by the crisis did not reveal a lead-in-water problem; instead it "uncovered the true dimensions of a continuing problem with sources of lead in homes, specifically lead paint."

This "minimal harm, paint not water" verdict would likely have been the last word on the lead-in-water crisis, except for a January 2009 publication that revealed significant health impacts [8;9]. Environmental engineer Marc Edwards of Virginia Tech in Blacksburg and pediatrician Dana Best of Children's National Medical Center in Washington found a major jump in the incidence of blood lead levels greater than 10 micrograms/deciliter among infants and toddlers from 2001 to 2004, and concluded that hundreds, possibly thousands, of children likely were harmed. The results put lead in water back on the front page in Washington DC [10], and now the House of Representatives Committee on Science and Technology Subcommittee on Investigations and Oversight and the DC Inspector General are investigating the issue [11;12].

In February, EHP, the journal of the National Institutes of Environmental Health Sciences, investigated ethical questions raised by myself and other

members of the press about Guidotti's relationship with DC WASA and about the "no identifiable public health impact" conclusion to the paper. On June 8, an EHP expert panel of three federal health scientists offered their judgment upon review of information reported in the press together with information compiled by Guidotti and his attorney in his defense [13]. The panel acquitted Guidotti of these charges, but recommended that he submit an erratum to EHP removing the "no identifiable public health impact," sentence and apologizing for the error. Guidotti has agreed to do so [14].

Here is the evidence that prompted EHP to activate its ethics policy for the first time in its almost 40-year history.

**Freedom to publish**

From 2004 to 2006, WASA paid George Washington University over $700,000 for Guidotti and his group to serve as the water company's public health advisor (as of early 2009 the contract was still active) [15]. Guidotti acknowledged this support in the EHP paper, but he did not acknowledge a clause in the contract between GWU and DC WASA that appeared to constrain his freedom to publish: "Publication or teaching of information specific to DC WASA, specifying DC WASA by name and directly derived from work performed or data obtained in connection with services under this Agreement, must first be approved in writing by DCWASA." The EHP expert panel concluded that the relationship between Guidotti and DC WASA did not violate EHP policy because neither Guidotti nor WASA intended for the water utility to control his research.

**Crucial sentence**

The second ethical issue the panel investigated concerned a key conclusion, "There appears to have been no identifiable public health impact from the elevation from lead in drinking water in Washington, DC, in 2003 and 2004." During peer review, two of the paper's three reviewers baulked at this conclusion, saying they found it unlikely that the highest lead levels ever recorded in tap water in the US had no impact on health [16]. As a result, the paper was initially rejected [17]. But after almost five month's negotiations, the manuscript was deemed acceptable for publication. One change that tipped the balance was Guidotti's offer to replace the "no identifiable public health impact" conclusion with a different statement--"Measures to protect residents from exposure to lead in drinking water may have prevented more frequent elevations in blood lead," [18]. The new conclusion was never published, however. The EHP panel found that within a week, the key conclusion had been reinserted back into the manuscript and the substitute sentence was deleted.

The final version of the paper was published with the controversial key conclusion in place. This "no identifiable public health impact" sentence is virtually identical to words used in a 2006 DC WASA press statement released over a year before the EHP paper was published, and both the paper and the reassuring sentence were publicly used by WASA and Guidotti on many occasions [19]. The EHP panel blamed the return of this key sentence on "inattention to detail," and recommended an erratum and apology.

**Additional allegations**

EHP's investigation was limited to two apparent ethics violations reported in the press. But Marc Edwards, first author of the 2009 paper that identified harm, had raised numerous additional, and potentially more serious, questions about the scientific integrity of the Guidotti *et al.* paper in an 87-page letter to Hugh Tilsen, EHP Editor-in-Chief [20]. The EHP expert panel did not evaluate these additional allegations, which include data manipulation and further ethics issues. Tilsen has made several requests to George Washington University for assistance in investigating the allegations of data manipulation. It is unclear what action EHP intends to take concerning the other ethics allegations. Two of the most serious issues raised by Edwards are:

**Sixty-five lead poisoned children**

The first result listed in the abstract of the Guidotti *et al.* paper refers to 65 children with elevated blood lead levels identified from 3 February 2004 to 31 July 2004, stating that "a source of lead other than tap water was identified in all cases when the source was identified." This result was previously cited in written testimony to Congress on July 22, 2004. DC WASA's general manager Jerry Johnson stated, "Only sixty-five children under the age of six have elevated blood lead levels, and only twenty of them live in homes with a lead service line. However, each member of the target population screened resides in a property that shows lead dust and/or soil that exceed federal guidelines" [21].

In fact, over 120 children had such high blood lead levels in 2004, according to records obtained by Edwards [22]. In some cases, home inspectors identified water as the only source of the lead and in others as one of the sources [22]. This information emerged when the EHP paper was still under review, and directly contradicted the paper's assertion that

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**Letters to the Editor:** The editors welcome comments from our readers. We reserve the right to edit and abridge the letter as space permits. Please address all correspondence to the deputy editor.

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water was not the source of the children's high lead levels.

Edwards's letter documents how the authors sought to deal with the contradiction. Guidotti wrote to his DC DOH co-authors in December 2006, "For the purposes of the paper we just want the data on the 65 because the question to be answered is whether there was a correlation in just these children." He then made it clear that locating the data was both essential and urgent for the EHP publication because:

"We would not like to explain to the reviewers and critics why we are not describing the same 65 subjects we describe in the paper and that form the tail in the figures. That would undermine the credibility of the DOH data in its entirety" [23].

According to Edwards, Guidotti and colleagues were unable to find any evidence that the study of 65 children ever existed as it had been first represented, and they were even unable to identify the 65 children. Nonetheless, the EHP paper somehow reports the percentage of the 65 children who lived in houses with or without lead pipes.

**Hospitalized child**

In 2004, a young boy was hospitalized and treated for severe lead poisoning. As a result, his family sued both DC WASA and the DC DOH for $5 million each, alleging that the water company provided contaminated water without warning and that the health department failed to promptly identify the boy's lead poisoning. The EHP paper mentions this child in the text, but attributes his exposure to a source unrelated to paint or water "that has not been revealed in order to protect the confidentiality of the family." However, Edwards has compiled evidence showing that the child's home had elevated lead levels at the tap; the home had a lead water pipe; the health department had previously attributed the source of the lead to dust; and the mysterious source of the lead is not mentioned in the case file [20].

"The central conclusion of this work is wrong," Edwards said. "It's a highly skewed analysis that changes an embarrassing incident and bungling by these agencies . . . into a model public health response, to the point there is no resemblance to reality," he told the Washington Post [16].

In the next *Professional Ethics Report*, I will look at the questions of ethics and scientific integrity that have been raised about the other, "no harm" publication -- the 2004 CDC report.

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# In the News

**GUIDELINES FOR INVESTIGATIONS OF RESEARCH MISCONDUCT ALLEGATIONS ON INTERNATIONAL COLLABORATIONS**

Modern-day research is commonly an international effort, with the principles and practices surrounding allegations and investigations of research misconduct varying widely from country to country. One cannot, therefore, ignore the question of how such allegations of misconduct that are raised against multi-national collaborations should be handled in light of conflicting (or absent) national policies.

In light of this, the Global Science Forum (a consulting body of senior science policy officials of OECD Member countries) decided in 2007 to create a committee to develop recommendations and tools to assist investigations directly related to research misconduct on international projects. The Co-ordinating Committee for Facilitating International Research Misconduct Investigations consisted of 30 members representing 25 different nationalities and organizations. Although they determined that international harmonization and standardization of research misconduct procedures and definitions was unrealistic, they set out to define the core principles related to international research misconduct investigations and promote overall international awareness of the issue.

The committee met three times over the course of the year and prepared a document called "Investigating Research Misconduct Allegations in International Collaborative Research Projects: A Practical Guide." It is suggested, not required, that any research team planning an internationally collaborative project adopt the fundamental principles and guidelines regarding misconduct prior to beginning their work.

The final document begins with a basic text stating policies agreed upon by all parties involved in the collaboration with room to insert more specific and relevant national codes of conduct and ethical guidelines. The document then outlines the requirements for misconduct investigation agreements in international research collaborations; they should promote responsible research, comply with national laws, and outline standard investigation procedures. The document then clarifies the overarching principles for these misconduct investigations to be integrity, fairness, and confidentiality while maintaining a commitment to no detriment and a balanced approach. The bulk of the document addresses the procedures for these investigations with respect to structure and importantly, clearly framed definitions of key terms such as "research misconduct". The document concludes by detailing a communication strategy for each collaborative group to employ not only to be informed, but also to inform the right people in the event of research misconduct concerns.

In addition to producing the practical guide for research misconduct investigations, the committee determined that another essential way to facilitate these investigations across national boundaries was to establish a database containing accurate and up-to-date information regarding national policies on research misconduct and contact information for each country's authorities who would handle misconduct allegations. Setting up and maintaining such a database was determined to be beyond the scope of this committee, but three interested international organizations (The European Science Foundation, UNESCO, and The International Council for Science) were identified as potential candidates to take on the task of establishing this essential means of information sharing to better serve the purpose of globally honest research.

"Investigating Research Misconduct Allegations in International Collaborative Research Projects: A Practical Guide" can be accessed at: http://www.oecd.org/sti/gsf

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**CHINA IMPLEMENTS CLINICAL REGULATIONS**

In May 2009, the Chinese Ministry of Health issued new clinical regulations in an effort to stem the use of treatments that are unauthorized, untested, and ethically questionable. Hospitals must apply to the Ministry within six months of the regulation to obtain approval for unproven therapies or else rack up fines and/or receive suspensions of technology and licenses.

Under the new regulations, treatments are divided into three categories based on safety, effectiveness, risk, and appropriateness with type I being the most innocuous, to type III as the most risky and ethically problematic. While individual hospitals are allowed to oversee type I treatments, provincial health bureaus must review type II treatments. Type III treatments, which include cutting-edge technologies like gene therapy, will be regulated by the Ministry directly via a hospital licensing process that has not yet been put into effect.

In recent years, the Chinese health-care

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system has been wrought with dubious treatments such as leg-lengthening surgery, and ablative brain surgery, a procedure that burns targeted brain tissue that is thought to be the cause of a neurological disorder or drug addiction. The prevalence of these risky, unregulated procedures has caused many hospital patients to use their life savings only to find that they have new irreparable health conditions.

The new regulations have no legal authority and it is unclear how the Ministry will be able to monitor and enforce compliance. Furthermore, the Chinese public health-care system has received little financial support from the government, a problem which leads doctors to milk their patients with expensive tests and unproven treatments to increase their income.

To read more, visit:
http://www.thelancet.com/journals/lancet/article/PIIS0140673609610072/fulltext?rss=yes
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**NEW YORK STATE VOTES TO ALLOW COMPENSATION FOR WOMEN DONATING OOCYTES TO STEM CELL RESEARCH**

On June 11, New York became the first and only state to permit compensation for women donating oocytes (eggs) for the sole purpose of stem cell research. The decision that it is "ethical and appropriate for women donating oocytes for research purposes to be compensated in the same manner as women who donate oocytes for reproductive purposes" was reached by the Empire State Stem Cell Board (ESSCB) ethics and funding committees.

There were several reasons cited by the ESSCB for its decision. Recently harvested oocytes are essential to current stem cell research aiming to achieve medical advances. Other U.S. jurisdictions have attempted to solicit and procure oocyte donations for stem cell research without donor compensation and have been hugely unsuccessful, perhaps due to the considerable financial and physical stresses involved in the donation process. On a similar note the ESSCB noted that it is unjust that women receive compensation for oocyte donation for the purpose of reproduction (ultimately via in vitro fertilization) and not for undergoing the identical human tissue donation procedure for an alternative purpose, especially since stem cell research has the potential to be a far greater benefit to society than private reproduction.

Opponents of the recent ESSCB decision fear that excessive compensation may encourage women to disregard the risks of the donation procedure. The ESSCB has stipulated that payment amount be independent of quantity and quality of oocytes donated. The sole factors to take into consideration are out-of-pocket expenses such as travel and the general inconvenience associated with oocyte donation. The ESSCB believes that reasonable reimbursement, full disclosure of risks, informed consent based on donor comprehension of these risks, and available counseling prior to donation are sufficient to safeguard against this concern.

ESSCB deliberations on this issue can be found in full at
http://www.stemcell.ny.gov

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**SUPREME COURT RULES CONVICTS HAVE NO CONSTITUTIONAL RIGHT TO TEST DNA EVIDENCE**

The Supreme Court ruled on June 18 that convicts possess no constitutional right to test DNA evidence, even at their own expense, in order to establish innocence after already pleading or being found guilty.

The case, *District Attorney's Office for the Third Judicial District* v. *Osborne*, involved an Alaska man convicted sixteen years ago for attacking a prostitute. In recent years, he won an appeals court ruling to DNA test a blue condom used in the attack and still in police evidence. At the time of his conviction, the sophisticated DNA techniques he now sought did not exist.

Mr. Osborne argued that testing the condom's contents through modern DNA analysis could firmly establish his guilt or innocence.

In overturning the appeals court ruling in a 5-4 decision, Chief Justice John Roberts, writing for the majority, explained that "to suddenly constitutionalize this area would short-circuit what looks to be a prompt and consider ed legislative response." Already, although Alaska has no DNA access legislation, forty-seven other states and the federal government have enacted laws that allow convicted criminals some access to genetic evidence. "The question," Justice Roberts emphasized, "is whether further change will primarily be made by legislative revision . . . or whether the federal judiciary must leap ahead – revising (or even discarding) the system by creating a new constitutional right and taking over responsibility for refining it."

Justice Samual A. Alito, Jr., writing in his concurrence, voiced additional concerns that to enact a full-fledged constitutional right to post-conviction DNA testing would permit prisoners to play "games" with the criminal justice system. "After conviction," Justice Alito explained, "with nothing to lose, the defendant could demand DNA testing in the hope that some happy accident – for example, degradation or contamination of the evidence – would provide the basis for seeking postconviction relief."

Challenging the majority's position, Justice John Paul Stevens argued in his dissent that the Constitution requires allowing Mr. Osborne to access and test evidence from his case, especially where, as in the present circumstances, it necessitates no public funds. "For reasons the state has been unable or unwilling to articulate," Justice Stevens wrote, "it refuses to allow Osborne to test

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the evidence at his own expense and to thereby ascertain the truth once and for all." Thus far, post-conviction DNA testing in other states has exonerated 240 individuals, and in 103 of those cases, also identified the actual perpetrator.

Peter Neufeld, a director of the Innocence Project, believes that the Supreme Court's decision will have far-reaching, deleterious consequences for convicted individuals. "It's unquestionable," he stated, "that some people in some states who are factually innocent with not get DNA testing and will languish in prison. Some of them will die in prison."

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**PRESIDENT OBAMA TO CREATE NEW COUNCIL ON BIOETHICS**

President Obama disbanded the Bush-appointed President's Council on Bioethics (PCoB) early June 2009. Since then, the White House has stated that the intent of the new administration's PCB will be to focus on practical policy advice as opposed to the more philosophical discussions of the PCoB.

Federal influence over bioethical issues has historically been limited, and as a result, the U.S. is without national bioethics policy. Such policy decisions have instead been made in state legislatures and courts, resulting in widespread disparities across the country. Obama has made it clear that he wants his PCB to be a departure from the traditional role of such councils focusing on producing practical recommendations for policy-making, rather than simply advising based on theoretical or ideological positions. In an attempt by the administration to experiment with a more transparent government, the new PCB may even have a populist feel to it, using internet forums and public gatherings to pursue American democratic ideals in scientific practice.

In the letter disbanding the PCoB, members were assured that "President Obama recognizes the value of having a commission of experts in bioethical issues to provide objective and non-ideological bioethics advice to his Administration." For the President's new council, it looks to be a drastic shift from the philosophical to the practical and technical.

The archived activities of Bush's *President's Council on Bioethics* can be accessed at http://www.bioethics.gov

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# Resources

**ETHICAL WRITING PRACTICES – FROM PLAGIARISM TO REFERENCES**

As the result of a study funded by the U.S. Office of Research Integrity (ORI), Miguel Roig of St. John's University recently published a paper on misconduct in scientific writing. "Avoiding plagiarism, self-plagiarism, and other questionable writing practices: A guide to ethical writing" identifies 26 guidelines, complete with examples of good and bad practices, to avoid ethical writing violations.

Several of the guidelines define plagiarism and outline a method on how to properly paraphrase. For example, guidelines five and six highlight the necessity for proper source acknowledgement and accurate representation of a paraphrased author's original intent. Roig's discussion on the main concerns of self-plagiarism (guideline 10), goes into depth about the unacceptability of duplicate publication without acknowledging other versions of the paper, and data fragmentation, a deceptive practice where the data from a large study are split and published in two or more separate papers. From a legal standpoint, a basic familiarity with copyright law is urged in order to avoid accidental infringement of the rights of journal publishers, for example, via text recycling (guideline 12). In this instance, Roig explains that while it may be appropriate to reuse text that one has written for internal sources such as IRB or grant applications, it is unethical to copy text found in a previously published paper (guideline 13).

Another topic discussed is responsible citation and referencing. Authors should include only substantively relevant references in an academic paper because it is unethical to embellish the impact and credibility of the paper and/or falsely increase the paper's chance of acceptance into a journal by including extra reference materials (guideline 15). Roig also advises authors to consult and cite the primary source of data or analysis if possible, rather than simply relying on a secondary source as a reference (guideline 18).

In addition to general ethical writing issues such as plagiarism and referencing, Roig also addresses issues that may be more specific to science academic writing. The paper acknowledges the difficulty of paraphrasing ideas that require highly technical and specific scientific language, and in light of that obstacle, Roig observes that ORI limits its definition of plagiarism by condoning similar phrases that describe a "commonly-used methodology or previous research." Also relevant to science writing is guideline nine, which recommends that when a fact can only questionably be considered "common knowledge," a citation should be provided. Roig concludes that citations need to be provided for "common knowledge" facts based on the identity and level of knowledge of the presumed readers and author.

Interestingly, Roig notes that many writing guides assume writers know what constitutes plagiarism, and consequently neglect to include a detailed section on this subject. This guide is intended to fill that gap.

To view the complete guidebook, visit http://ori.hhs.gov/education/products/plagiarism/index.shtml.

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**ETHICS EDUCATION IN SCIENCE AND ENGINEERING RESEARCH**

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On August 25-26, 2008, the National Academy of Engineering (NAE) Center for Engineering, Ethics, and Society (CEES) hosted a workshop titled "Ethics Education and Scientific and Engineering Research: What's Been Learned? What Should Be Done?" to identify gaps and propose changes for ethics education in research settings, particularly in academia.

Workshop participants identified institutions and research faculty as responsible for teaching ethics education, and on the basis of this assumption, several observations about the current research environment were made. The research environment was characterized as antagonistic towards ethics training because of competition between faculty members seeking tenure, the desperate need for grants, and the competitive mentoring system, a policy employed at some universities where two graduate students are given the same project with the assumption that only one of them will earn credit for the work. Also noted, was that while research funders promote interdisciplinary work and collaboration, the structure of research at universities values individual work more highly. Added to the ultra-competitive jungle that pits individuals, project teams and faculty against each other, graduate students and post-doctorates across the board rarely receive any formal ethics education; most of their experience comes from mentorship and influences from their environment.

Structural changes in academic research must be made in order to actively nurture ethical conduct. Rewards should be given for ethical leadership, and the evaluation of candidates for tenure should include a positive mentorship component. Furthermore, professional societies should set ethical standards for their members, which would include research faculty. Ethics training programs should be mandatory for all graduate students, and employ interactive teaching methods such as case studies and open discussion sessions. Moreover, these sessions should be recurring so that research integrity becomes integrated into individual behavior and character. In addition to general training, field-specific ethics training should be employed because different fields are exposed to different types of ethical situations. For instance, engineers may encounter more trade-off decisions between structural design and cost than scientists on a regular basis.

There are several challenges to the implementation of such programs and the retention of the ethics education by students. An ethics training program should include the instruction of certain critical skills, including recognition of a value conflict, identification of various stakeholders and positions, and creation of viable courses of action in consideration of the consequences. Furthermore, inconsistencies between formal training and bench-side manner may reduce the effectiveness of ethics education. A lack of training resources, faculty expertise and familiarity with these topics may present a challenge to the effective education of students, and international students may need special attention due to different cultural values and mindsets about the purpose and conduct of research (i.e., the mindset where getting an answer right is valued over obtaining it through honest means).

Shared standards and transparency derived from the open discussion of specific situations, and the development of a more nurturing environment in research academia need to be higher priorities in laboratories and classrooms in order to change attitudes towards ethics education and foster greater research integrity in academic institutions.

To read the full workshop summary, visit http://www.nae.edu/Workshopsummarypre-report-EthicsEducationandScientificandEngineeringResearchWhatttsBeenLearnedWhatShouldBeDone.aspx

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**USER-FRIENDLY GUIDE FOR RESPONDING TO RESEARCH WRONGDOING**

Researchers Patricia Keith-Spiegel, Joan Sieber, and Gerald P. Koocher have created a guide for reporting ethics violations and research wrongdoing.

Entitled "Responding to Research Wrongdoing: A User-Friendly Guide," this resource provides a practical roadmap for researchers to identify, evaluate, and respond to scientific misconduct.

Constructed from over 2000 researcher survey responses, the Guide presents an informal, "Q & A" format to outline the actionable paths, and their respective implications, when scientists suspect or discover ethical transgressions. Incorporating instructive hypotheticals and real-world examples from personal survey responses and interviews, the Guide provides a four-pronged analysis for acting on wrongdoing, from discovery through ultimate reporting.

The authors first examine how individuals can identify wrongdoing, recognizing that many pervasive research practices, while irresponsible and warranting intervention, may nevertheless fall outside the formal government definition of "research misconduct." If transgressions are suspected, the Guide then provides a framework for assessing the weight of the evidence, confirming misconduct, and evaluating the value of intervention. Although emphasizing both the personal and societal benefits that accrue from reporting witnessed misconduct, it simultaneously acknowledges the discomfort and difficulty individuals often experience when deciding whether to come forward.

Where individuals have confirmed wrongdoing by a peer, they must then decide whether to act. The Guide devotes considerable time and resources to this calculus, addressing such factors as collegial and institutional support, who (and who not) to talk to as one makes this decision, and how to assess the benefits and consequences of action or inaction. The Guide also addresses scenarios where misconduct may require split-second decisions or on-the-spot intervention.

(**Resources** continued on page 8)

(**Resources** continued from page 7)

Finally, once an individual has decided to act on discovered wrongdoing, the Guide outlines available avenues and strategies to consider. The authors divide potential response pathways into two broad categories: informal and formal channels. Concerning the former, individuals might decide to send anonymous messages or to confront personally the wrongdoer, either alone or with a supportive colleague. If one instead chooses to pursue formal reporting mechanisms, the Guide outlines the standard process, the differences between informing an institution versus "whistleblowing" to the public, and how individuals can protect themselves from unfair retaliation. When examining both the informal and formal actions available, the Guide discusses the ideal outcomes and provides real-world examples.

The authors intend "Responding to Research Wrongdoing" to be a didactic and living, breathing tool for the many researchers who will witness misconduct at some point during their careers. They will periodically update the Guide whenever new research, policy changes, or other relevant information becomes available. In the interim, the authors are encouraging readers to email them with comments, suggestions, and stories of their personal or institutional experiences (anonymity will be preserved). For more information visit: http://www.ethicsresearch.com

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# Announcements

**Award** – UNESCO's Sector for Social and Human Sciences is calling for nominations for the Avicenna Prize of 2009. Individuals, institutions and other non-governmental entities who have contributed high quality research in the field of science and technology ethics may win a prize of $10,000 and a week-long visit to the Islamic Republic of Iran. Deadline is July 15, 2009. Visit: http://portal.unesco.org/shs/en/ev.php-URL_ID=6194&URL_DO=DO_TOPIC&URL_SECTION=201.html

**Call for Papers** – "ICT that makes the difference," *The Future of Ambient Intelligence and ICT for Security* is calling for abstracts and poster descriptions for their November 22-25, 2009 International Conference in Brussels, Belgium. Topics include the futures of the computer, the internet, ICT for human security, and the ethical, legal and social aspects of biotechnology and biomedicine. Submission deadline is September 1, 2009. Visit: http://www.ictthatmakesthedifference.eu/

**Call for Papers and Conference** – The Association for Practical and Professional Ethics is hosting its 19th annual meeting in Cincinnati, OH on March 4-7, 2010. Submissions on ethical issues in all professional fields are welcome. Deadlines are October 2009. Visit: http://www.indiana.edu/~appe/callforpapers.html

**Conference –** The 13th conference of "Genetics & Ethics in the 21st Century," titled *Genomics and Personalized Medicine: Facts, Fiction, Future?*, will be held on July 24-25, 2009 at the Village at Breckenridge Conference Center in Breckenridge, CO. Register at: http://www.coloradobioethics.org/calendar_home.html

**Conference** – Registration and the preliminary program are now available for the Sixth International Congress on Peer Review and Biomedical Publication, which will be held on September 10-12, 2009 in Vancouver, British Columbia, Canada. Visit: http://www.jama-peer.org

**Conference –** PRIM&R is hosting its educational *September Regional Programs* for IRB/HRPP members, chairs, administrators, and staff in Cambridge, MA on September 21-24, 2009. Visit: http://www.primr.org/Conferences.aspx?id=6859

**Conference** – The European Science Foundation and Linköping University are hosting *The Perfect Body: between Normativity and Consumerism* in Scandic Linköping Väst, Sweden on October 9-13, 2009. The conference will discuss human enhancement within the framework of therapy for disabled persons and consumerism for non-disabled persons. Register by July 26. Visit: www.esf.org/conferences/09273

**Conference** – The Center for Academic Integrity is hosting its 2009 Annual International Conference, *Creating a Culture of Integrity: Research and Best Practices*, at Washington University in St. Louis, MO on October 16-18, 2009. Registration deadline is October 15. Visit: http://www.academicintegrity.org/conferences/2009_Conference/index.php

**Conference** – PRIM&R's 2009 "Advancing Ethical Research Conference" is titled, *Navigating the Future Using the Belmont Compass*. The conference will be held on November 14-16, 2009 in Nashville, TN and Pre-Conference Programs will begin November 13. Register at: http://www.primr.org/Conferences.aspx?id=5917

**Conference** – Indiana University's Poynter Center is hosting a two day workshop on "Ethical Guidance for Research and Application of Pervasive and Autonomous Information Technology (PAIT)" on March 3-4, 2010. Visit: http://poynter.indiana.edu/pait/index.shtml

**Database** – EthicShare, a new searchable database for bioethics research and collaboration, has been released. Drawing from sources such as PubMed and WorldCat, searches of scholarly articles, books and popular press literature can be performed. The website is also equipped to host a variety of discussions in applied ethics. Visit and register at: https://www.ethicshare.org/

**Grant –** The Kornfeld Program in Bioethics and Patient Care administered by The Greenwall Foundation is accepting proposals from researchers and junior investigators for practical projects that will affect the lives of patients. Application deadline is August 1, 2009. Visit: http://greenwall.org/guideaffil.htm

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