Enhancing the Transparency of NIOSH Science

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Board of Scientific Counselors
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Disclaimer

The findings and conclusions in this report are those of the author(s) and do not necessarily represent the views of the National Institute for Occupational Safety and Health.
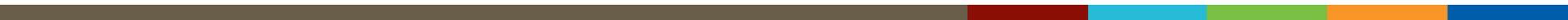
Presentation Outline

Role of science in occupational safety and health (OSH) policy

Challenges in moving science to policy and policy to practice

Transparency and engagement as resources for overcoming challenges

Criteria for a Recommended Standard

Occupational Exposure to Diacetyl and 2,3-Pentanedione

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Role of Science in Occupational Safety and Health Policy
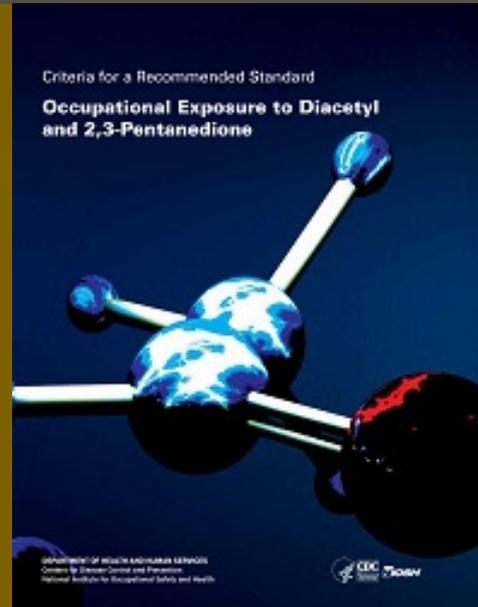
Developing and disseminating information is a common tool for influencing workplace protection

Science Production

OSH Science Policy

Workplace Protection
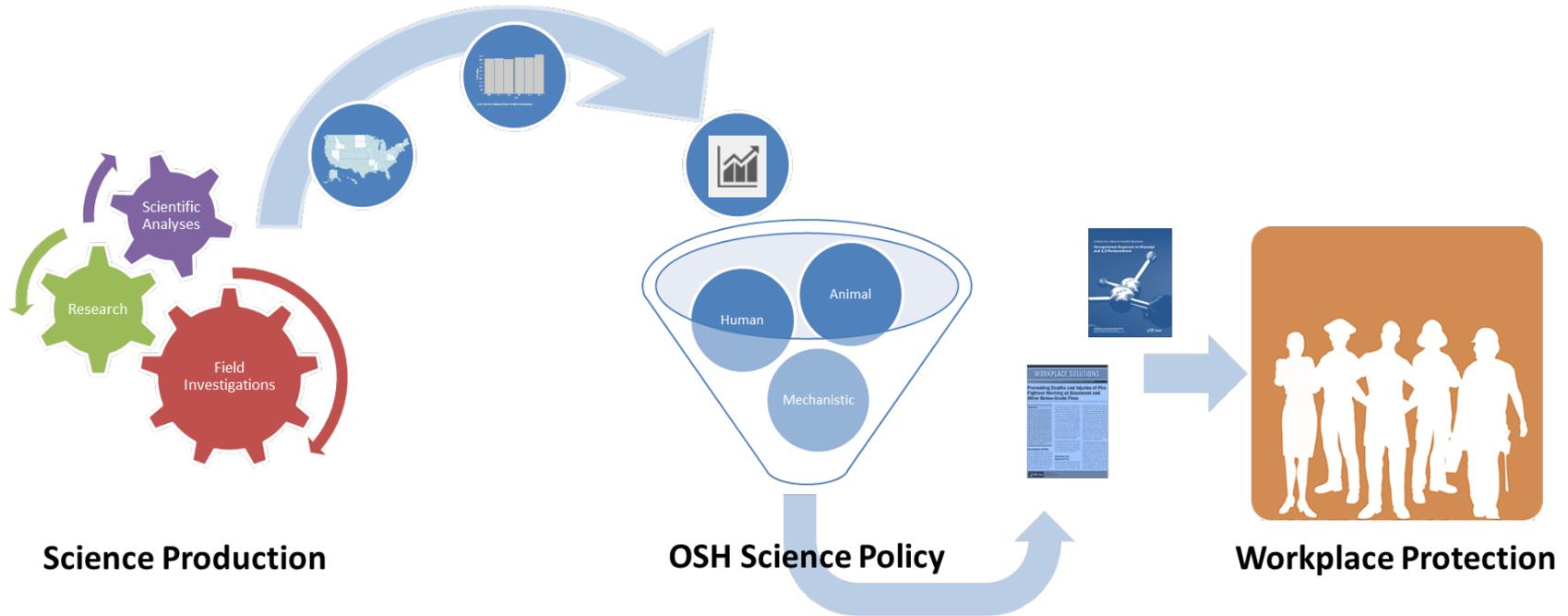
Science is the basis of OSH policy

- Generate indicators of public health problems

- Characterize public health problems

- Formulate and test public health policy responses

- Advise and influence stakeholders and decision-makers on policy choices

NOISE

73% of the time CONSTRUCTION WORKERS are exposed over the NIOSH recommended exposure limit

http:// www.cdc.gov/niosh/topics/buyquiet/infographic-businessesspend.html

PROTECT YOUR WORKERS FROM

HEAT STRESS

Develop an acclimatization plan

Acclimatization is the result of beneficial physiological adaptations (e.g., increased sweating efficiency and stabilization of the circulation) that occur after gradual increased exposure to a hot environment.

TIP 1

Gradually increase the time spent in hot environmental conditions over a 7–14 day period.

TIP 2

For new workers, the schedule should be no more than 20% exposure to heat on day 1 and an increase of no more than 20% exposure on each additional day.

TIP 3

For workers who have had previous experience with the job, the acclimatization schedule should be no more than:

DAY 1	DAY 2	DAY 3	DAY 4
50% EXPOSURE	**60%** EXPOSURE	**80%** EXPOSURE	**100%** EXPOSURE
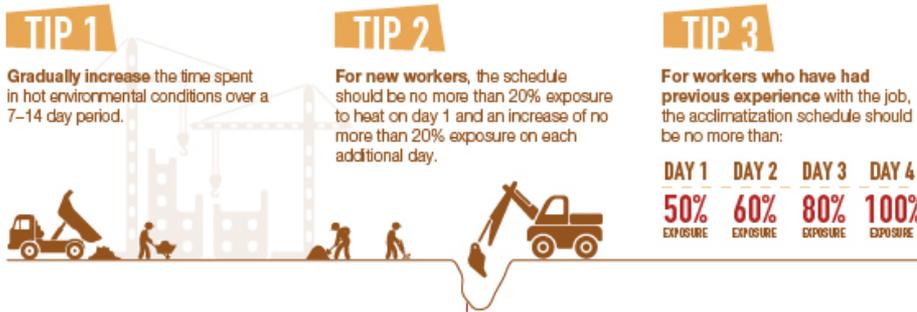
http:// www.cdc.gov/niosh/topics/heatstress/infographic.html

Challenges in moving science to policy and policy to practice

Developing OSH policy can be modeled generically according to three major processes

Generating and Collecting Inputs → Developing Drafts → Disseminating Final Reports
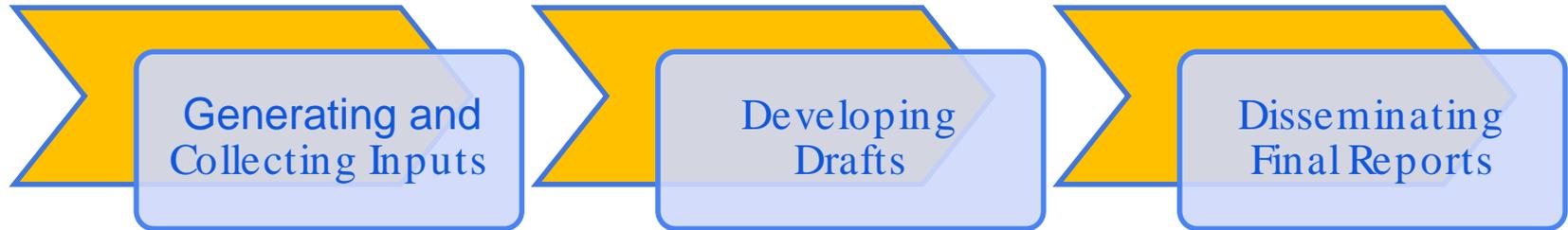
Developing OSH policy is a complex endeavor

Cognitive   Applying technical knowledge and experience

Procedural   Executing intricate procedures

Organizational   Working within an organizational environment

Environmental   Meeting the needs of the decision making environment

Examples of Cognitive and Procedural Challenges

Cognitive	Inherent difficulty of public health questions
	Navigating uncertainty or constraints
	Technical knowledge across disciplines
	Professional experience
Procedural	Multiple interlocking steps
	Process is not always forward flowing
	Risk of review and revision cycle

Examples of Organizational and Environmental Challenges

Organizational	Need for coordination across organizational structures
	Natural tensions within organizations
	Organizational competence to manage the science policy process
Environmental	Consequences of scientific findings and implications for science policy
	Competing needs of stakeholders
	Accountability requirements
	Decision making criteria (e.g. evidence requirements or conflicting objectives)

Characteristics of Successful OSH Policies

- Present cogent scientific arguments to peers and decision makers

- Communicate effectively to intended audience

- Transition to public health practice

- Meet procedural requirements

Transparency and engagement as resources for overcoming challenges

The push for transparency in science and public health policy

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Data Management	OSTP February 2013, "Increasing Access to the Results of Federally Funded Scientific Research" and OMB May 2013, "Open Data Policy Managing Information as an Asset"
Plain Writing	Public Law 111–274, October 2010 "Plain Writing Act of 2010"
Good Guidance	OMB January 2007, "Final Bulletin for Agency Good Guidance Practices"
Peer Review	OMB December 2004, "Final Information Quality Bulletin for Peer Review"
Information Quality	Public Law 106–554; H.R. 5658), section 515(a), Information Quality Act

Transparency and Engagement during Science Production
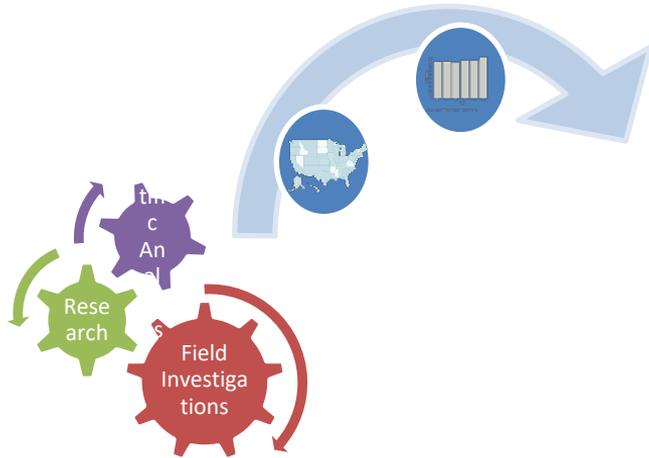
Science Production

- National Occupational Research Agenda
- Partnership program to stimulate innovative research and improved workplace practices
- Setting priorities considers:
  - The numbers of workers at risk for a particular injury or illness
  - The seriousness of the hazard or issue
  - The probability that new information and approaches will make a difference

NIOSH DATA AND STATISTICS GATEWAY

Data are fundamental to worker safety and health research and surveillance conducted at NIOSH. They drive health and safety research priorities and recommendations produced by NIOSH. The data produced and used by NIOSH can also benefit other researchers and practitioners as well as the general public. This NIOSH Data and Statistics page has been developed to provide centralized access to NIOSH data. It can be used to find available NIOSH data and statistics and resources in a variety of forms. See data definitions to easily identify data types. The NIOSH Data A-Z index below categorizes topics for which data are available.

NIOSH Data A-Z Index

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

Research Data

Data collected in NIOSH studies and tools to aid coding in research and surveillance studies.

[Research Data](#)

Surveillance Data

Access to a range of CDC/NIOSH surveillance resources. Can be used as a central checkpoint for the latest NIOSH surveillance data and statistics as well as historic NIOSH surveillance information.

[Surveillance Data and Statistics](#)

Other Data Resources

Systems that provide information about NIOSH investigations, products, hazards, and a variety of tests and measurements.

[Other Data Resources](#)

Transparency and Engagement during OSH Policy

OSH Science Policy
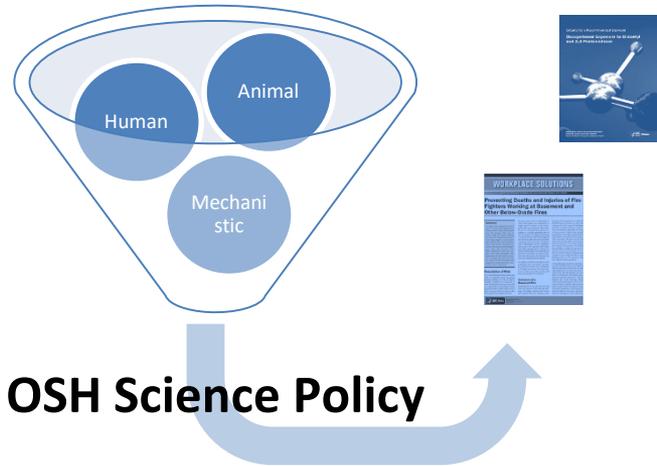
- NIOSH Peer Review Agenda
- NIOSH Docket
- Systematic Review

Who is an expert?

- Scientific peers

- Extended peer networks

- Stakeholders

- Public

Krueger et al Environmental Modelling and Software 2012

Peer Reviewers

- Expert
- Independent
- Conflict of interest
- Bias
- Impartiality

National Academy of Sciences, "Policy and Procedures on Committee Composition and Balance and Conflicts of Interest for Committees Used in the Development of Reports," May 2003: Available at: http://www.nationalacademies.org/coi/index.html.

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NIOSH Scientific Information Quality Peer Review Agenda

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Overview

This site provides information on the independent peer review of documents defined by NIOSH as influential in terms of their potential impact on public policy or the private sector. NIOSH makes this information available to demonstrate its efforts to utilize only the most transparent and independent peer review, appropriate research methods, and the highest level of data quality. In addition, this information demonstrates NIOSH compliance with the specific requirements of the Information Quality Act (2000), 44 U.S.C. §3516 ⬚, and of peer review standards developed by the Office of Management and Budget (OMB), Department of Health and Human Services (DHHS), and Centers for Disease Control and Prevention (CDC). OMB requirements, described in the Peer Review Bulletin 📄 ⬚, include making publicly available specific information on the peer review of influential documents disseminated by the federal government. OMB has defined two special categories of influential information, Influential Scientific Information (ISI) and Highly Influential Scientific Assessments (HISAs).

The National Institute for Occupational Safety and Health is making selected documents available for public review.

For issues related to the NIOSH Peer Review Agenda please contact:

Information Quality Peer Review Staff
Centers for Disease Control and Prevention
Office of Science Quality
1600 Clifton Road, NE MS D-72
Atlanta, GA 30333
peer.review@cdc.gov

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Draft Documents for Public Review

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Overview

The overall goal of the review process is to enhance the quality and credibility of NIOSH recommendations by ensuring that their underlying research receives appropriate public assessment. NIOSH recognizes the value of input from stakeholders and other interested parties.

> **Generally, an individual is on notice that any information submitted to the NIOSH Docket is considered public information.**

Contact Docket Office

National Institute for Occupational Safety and Health

Docket Office

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Cincinnati, OH 45226

Telephone: (513) 533-8611

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Email: nioshdocket@cdc.gov

NIOSH Dockets Currently Open

- Request for Nominations to Serve on the World Trade Center Health Program Scientific/Technical Advisory Committee (NIOSH – 229G)
- Request for Nominations of Scientific Peer Reviewers of Proposed Additions to the List of WTC-Related Health Conditions (NIOSH – 294)
- Request for information about inorganic lead (NIOSH – 315)
- Current Intelligence Bulletin: NIOSH Practices in Occupational Risk Assessment (NIOSH – 316)

Systematic Review

Define the question	• Define the question(s) to be evaluated.
Create a review protocol	• Develop a systematic review protocol, or use a template from published method, to describe the systematic review process that will be used.
Conduct a literature review	• Identify and select relevant studies using pre-defined search terms and inclusion/exclusion criteria.
Evaluate individual studies	• Conduct detailed quality analysis of individual studies and extract data using pre-defined evaluation criteria.
Integrate and interpret data	• Integrate and interpret evidence across studies and across lines of evidence.
Develop a report	• Make conclusions about a body of evidence, develop recommendations, and produce a report.

Transparency and Engagement during Transitioning to Practice

Workplace Protection

- Partnership engagement
- Dissemination strategies

Tips for Developing OSH Policy

- Science is the basis for OSH policy
- OSH policy is vital to protecting worker safety and health and other interests
- Transparency and engagement can help overcome challenges
- Development of science and OSH policy is a team sport
- Engage decision makers and partners early

General Discussion

- Have you ever participated in the development of occupational safety and health policy?

- What went well and what could be improved?

- Are there additional opportunities for NIOSH to engage others in the development of occupational safety and health policy?

Thank you to all of our partners

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For more information, contact CDC
1-800-CDC-INFO (232-4636)
TTY: 1-888-232-6348   www.cdc.gov

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.