

NORA news

National Occupational Research Agenda

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Message from NIOSH

This first issue of *NORA News* reaches you at the two year anniversary of NORA and at a time when we have much good news to share. As implementation of the Agenda moves full steam ahead, the expertise and input of NIOSH's partners in the



public and private sector continue to be the foundation of what is a truly national effort. These partnerships have not only advanced implementation efforts, but also leveraged additional funding for NORA. For example, Congress provided NIOSH with \$5 million in our 1998 budget to support research in NORA priority areas. NIOSH is using much of this investment to fund a request for grant applications to support research in areas of high priority under NORA. What makes this effort particularly exciting is that three NIH institutes — the National Institute of Arthritis and Musculoskeletal and Skin Diseases

(NIAMS), the National Institute of Environmental Health Sciences (NIEHS), and the National Heart, Lung, and Blood Institute (NHLBI) — are matching NIOSH allotments for areas related to their individual missions, resulting in the largest single infusion of funding ever targeted for investigator-initiated and extramural occupational safety and health research — a total of \$8 million (see page 2 for more information). We are thrilled with all of this support for NORA.

The work of making NORA a reality lies with the NORA teams. These 20 teams have been very active — so much so that it's often hard to keep up with them. Knowing that many of you have the same problem, we thought a NORA newsletter would help facilitate communication surrounding NORA activities. This newsletter will serve as a vehicle for both informing those outside the NORA process of our efforts and keeping the NORA teams apprised of the work of their counterparts. We encourage the NORA Teams to use this quarterly newsletter to announce team activities and highlight successes. Feel free to contact Max Lum (by phone at 202/401-3749 or by e-mail at mrl1@cdc.gov) with story ideas or calendar activity.

This is an exciting time for NORA. I can only hope that the next *NORA News* will contain as much good news as this issue.



Linda Rosenstock, M.D., M.P.H.

Director



The Basics of NORA

The United States has made significant progress in changing the high toll of work injuries and illnesses and improving worker protection since Congress passed the Occupational Safety and Health Act in 1970 "to assure so far as possible every working man and woman in the Nation safe and healthful working conditions and to preserve our human resources." Research has generated the data and knowledge that directed the actions - sometimes voluntary, sometimes regulatory - that served as the basis for much of this progress.

Despite this progress, the health and economic toll of work-related conditions is enormous. Each day, an average of 137 individuals die of work-related diseases, and an additional sixteen die of injuries sustained at work. Every five seconds a worker becomes injured; every ten seconds a

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NIOSH and Partners Announce Historic Investment for Grants in Priority Research Areas

The National Institute for Occupational Safety and Health (NIOSH), in partnership with three other federal institutes, announced the largest single infusion of funding ever for occupational safety and health research. The \$8 million investment will support grants for studies in areas of high priority under the National Occupational Research Agenda (NORA).

NIOSH and its three co-sponsors invited proposals for research grants in the areas of occupational irritant dermatitis; work-related musculoskeletal disorders, traumatic injuries, indoor environment, and asthma and chronic obstructive pulmonary disease; nature and magnitude of special risk factors for older and/or minority workers; social and economic consequences of workplace injury and illness, and health services research; and research to evaluate existing or new interventions to protect workers from job-related musculoskeletal disorders, traumatic injuries, asthma and chronic obstructive pulmonary disease, and other occupational risks through changes in work organization, control technology, or other worker protection techniques.

These topics are among the 21 priority research areas highlighted in NORA. Developed by NIOSH with extensive input and outside review by more than 500 organizations and individuals, NORA provides a national blueprint for the research that will do the most to prevent and reduce job-related injuries, illnesses, and deaths over the coming decade.

Joining with NIOSH as co-sponsors for the NORA grants initiative are three institutes in the National Institutes of Health: the National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS), the National Institute of Environmental Health Sciences (NIEHS), and the National Heart, Lung, and Blood Institute (NHLBI). In addition, the portion of the initiative dealing with older workers is of interest to the National Institute on Aging (NIA) in NIH.

"Given that occupational diseases and injuries drain billions of dollars from the U.S. economy every year, research under NORA provides a fabulous opportunity to realize great benefits from modest investments," said NIOSH Director Linda Rosenstock, M.D., M.P.H. "This historic announcement also offers new prospects for broadening the pool of talented researchers and research institutions whose partnership is critical to furthering worker health and safety."

Congress provided NIOSH with \$5 million in the Institute's appropriation for fiscal 1998 to support additional research specifically related to the NORA priority areas. NIOSH funding under the new request for applications will total \$5 million, with specific amounts allotted for the individual research categories. The co-sponsoring institutes are matching NIOSH allotments for areas related to their individual missions.

"...NORA provides a fabulous opportunity to realize great benefits from modest investments."

Potential grant applicants are requested to submit by May 1, 1998, a letter expressing intent to apply for a research grant. Applications on Form PHS-398 then should be submitted by June 23, 1998.

The purpose of the grants program is to develop knowledge that can be used in preventing occupational injuries and illnesses, and to better understand their underlying causes and effects. As a result, NIOSH said, the initiative will support causal research to identify and investigate the relationships between hazardous working conditions and associated occupational disease and injury; the nature and magnitude of special risk factors experienced by older and/or

minority workers; methods research to develop more sensitive means of evaluating hazards at work sites; and evaluations of the effectiveness of prevention and intervention programs, including new approaches or combinations of techniques that have been developed and implemented in workplaces.

Three types of grants will be funded: research project grants for projects designed to establish, discover, develop, elucidate, or confirm information relating to occupational safety and health; demonstration project grants for projects designed to address the technical or economic feasibility of implementing a new or improved procedure, method, technique, or system for preventing occupational safety and health problems; and pilot study grants for preliminary evaluation in developing the foundations for future, more comprehensive studies. Awards are expected to range up to \$250,000 in direct and indirect costs per year for traditional research and development projects, and up to \$50,000 per year in direct costs for pilot studies.

Applications will be evaluated on a competitive basis, including peer review for scientific merit through the NIH review system, which NIOSH currently uses. Eligible applicants include nonprofit and for-profit organizations, universities, colleges, research institutions, and other public and private organizations, including state and local governments and small, minority-, and/or woman-owned businesses.

The NIOSH request for applications was published in the March 17, 1998, Federal Register (Vol. 63, No. 51, pp. 13051-13057) and also will appear on the NIOSH Home Page at <http://www.cdc.gov/niosh/98044.html>. Additional information on the grants program, application procedures, and application forms is available by calling 1-888-GRANTS4. Form PHS-398 also is available from NIH on the Internet at www.nih.gov/grants/funding/phs398/phs398.html. ■

Partner Perspective



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When NIOSH reached out to a broad range of partners two years ago, it accomplished more than to advance the state of health and safety research. NIOSH also formed relationships that are breaking down old barriers and creating mutual respect and trust in their place. NORA goals were well designed and the efforts to date are well on the way to delivering on their promises:

- The open discussion is setting clear national research goals,
- The integration of diverse research efforts are making the most of limited resources,
- Defining knowledge gaps, research needs, available resources and study targets is focusing efforts where they are needed most.

In addition to working on traditional research areas such as ergonomics, however, NIOSH is reaching out to promising new areas of investigation such as the benefits of non-occupational health services administration in an occupational setting.

The research ends in themselves represent a remarkable achievement. However, the NORA process itself creates noteworthy benefits. The NORA partnership brings representatives of industry, labor, academia, state and federal government together to work towards common goals. The process creates opportunities to share knowledge and to develop mutual respect among a diverse group of professionals. We all have something to contribute and we all have something to gain, and one of the most valuable things we have gained is a great respect for the NIOSH professionals and the other members of the group. It is truly an honor to be a partner in the NORA process. ■

NORA Catalyzes Scientific Symposia

Some of the most significant products catalyzed by the NORA process are conferences and symposia. Since NORA's creation in 1996, NIOSH and its NORA partners have co-sponsored a number of crucial scientific forums on NORA priority areas. For instance, in October 1997 NIOSH and 11 professional societies, academic institutions, and organizations held the first ever National Occupational Injury Research Symposium in Morgantown, West Virginia. More than 300 scientists and engineers from industry, labor, government, and academia convened for three days to exchange the latest findings in occupational injury research and discussed opportunities for future studies in a wide range of industries. Focus of presentations ranged from research needs for job injury prevention in traditional industries such as mining, agriculture, manufacturing, and construction, to emerging areas

involving working adolescents and other special employee populations at risk, workplace violence, injuries in the expanding health-care and service sectors, improvements in injury surveillance, and new applications of advanced technologies.

A Chicago-based national workshop in March 1998 focused on another NORA priority area — Control Technology and Personal Protective Equipment. The workshop was co-sponsored by NIOSH, the American Industrial Hygiene Association, and the American Society of Safety Engineers and was designed to stimulate the formulation of a national plan for research on new strategies to control existing health and safety hazards in the workplace and to anticipate and prevent emerging problems. Over 200 researchers, designers, manufacturers, and users of engineering controls and protective equipment attended.

Individual breakout sessions focused on the areas of chemical protective clothing, engineering controls, noise, non-ionizing radiation, respirators, and traumatic injuries. NIOSH will publish proceedings from the workshop that will both identify research gaps and a detailed agenda for closing them and propose follow-up mechanisms (such as topic-specific follow-up meetings) to ensure that identified research areas are being addressed.

As the NORA Implementation Teams continue to focus on their priority areas, NIOSH and its partners will co-sponsor additional conferences (see NORA Upcoming Events on page 8). Watch future editions of *NORA News* for information on 1998 and 1999 conferences that will focus on musculoskeletal disorders, occupational asthma, occupational latex allergy, male reproductive health, ultraviolet radiation and other areas. ■

NORA Team, Partners Tackle Musculoskeletal Disorders in Chicago

Musculoskeletal disorders are the largest problem facing American workers, costing between \$13 and \$20 billion annually. In order to develop a formal national agenda for addressing these conditions, the NORA Musculoskeletal Disorders Team is holding three regional meetings to solicit information from an array of partners regarding research needs.

The first in this series of meetings, the Midwest Regional Workshop, was held on March 25, 1998 in Chicago. Over 60 experts from industry, labor, and health care providers participated. After a general session, the participants divided into six separate focus groups to target the following industry sectors: heavy manufacturing, light manufacturing, transportation/warehousing, agriculture/food processing, office ergonomics, and health care. NORA Musculoskeletal Disorders Team Members facilitated the group discussions by asking questions about intervention effectiveness research needs, fundamental research issues, unique ergonomic issues not addressed by traditional models, and surveillance and task analysis needs.

After a day of energetic discussion, the groups reconvened in a general session to discuss their answers to the questions. Despite the differences between the targeted industry sectors, separate common areas emerged based on all six group discussions. These common elements include the need for additional research on the cost and effectiveness of ergonomics programs including training, better exposure and diagnostic tools, and medical intervention and management of musculoskeletal disorders. Participants also noted the significance of work organization and psychosocial issues and the need for user-friendly communication products. The NORA Musculoskeletal Disorders Team was pleased with the enthusiastic participation of so many partners.

The Northwestern Regional meeting, scheduled for April 20 in Seattle, will also focus on multiple industry sectors. The final meeting — targeted to the Eastern Region — will be held in Washington, D.C. on April 27 and will focus on ergonomic issues in health care. At the

conclusion of all three meetings, the NORA Musculoskeletal Disorders Team will compile the input to develop a national research proposal, which will then be circulated to involved stakeholders for comments and finalized with the goal of immediate implementation.

For more information on the NORA Regional Workshops on Musculoskeletal Disorders or the NORA Musculoskeletal Disorders Team activities, contact Team Leader Larry Fine, M.D., Dr.P.H., NIOSH, by phone at (513) 841-4428 or by

e-mail at ljf4@cdc.gov. The following NIOSH publications provide detailed information on work-related musculoskeletal disorders and ergonomics: *Musculoskeletal Disorders and Workplace Factors: A Critical Review of Epidemiologic Evidence for Work-Related Musculoskeletal Disorders on the Neck, Upper Extremity, and Low Back* (Publication No. 97-141) and *Elements of Ergonomics Programs: A Primer Based on Workplace Evaluations of Musculoskeletal Disorders* (Publication No. 97-117). ■



Midwest Regional Workshop participants consider musculoskeletal concerns in six industries.

AJPH Features NORA

The March 1998 issue of *American Journal of Public Health* (Vol. 88, No. 3, pages 353-356) features an article entitled "The National Occupational Research Agenda: A Model of Broad Stakeholder Input into Priority Setting," by Dr. Linda Rosenstock, Mr. Christopher Olenec, and Dr. Gregory Wagner of NIOSH. The article provides a detailed description of the process NIOSH and its partners used to create NORA, as well as a master list of top priorities that were considered for inclusion in the Agenda. Requests for reprints should be sent to Linda Rosenstock, M.D., M.P.H., National Institute for Occupational Safety and Health, 200 Independence Avenue, SW, Room 715H, Washington, DC 20201.

The *Journal* also contains an Editorial, "NORA—More than a Name" by Dr. David H. Wegman of the Department of Work Environment, University of Massachusetts, Lowell. Dr. Wegman notes that the efforts of NIOSH and its partners in developing NORA through a precedent setting, broadbased consensus-building process has positioned the United States to be a global leader in worker safety and health. Dr. Wegman emphasizes the importance of NORA in the context of the fact that both NIOSH and occupational safety and health research in the United States have not historically received sufficient funding. ■

The Basics of NORA

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worker becomes temporarily or permanently disabled. In 1995, occupational injuries alone cost \$121 billion in lost wages and productivity, administrative expenses, health care expenses, and other costs.

In addition, the U.S. workplace is rapidly changing. Jobs in our economy continue to shift from manufacturing to the service sector. Longer hours, compressed workweeks, shift work, reduced job security, and part-time and temporary work have become realities of the modern workplace. The workforce is also changing. As the U.S. workforce grows to approximately 147 million by the year 2005, it will become older and more racially diverse. By the year 2005, minorities will represent 28% and women approximately 48% of the workforce. These changes are presenting new challenges to protecting worker safety and health.

No single organization has the resources necessary to conduct occupational safety and health research to adequately serve the needs of workers in the United States. These constraints mandate that the entire occupational safety and health community engage in collaboration and coordination of its resources. The National Institute for Occupational Safety and Health (NIOSH) and its public and private partners developed the National Occupational Research Agenda (NORA) to provide a framework to guide occupational safety and health research in the next decade - for NIOSH and the entire occupational safety and health community. Approximately 500 organizations and individuals outside NIOSH participated in the development of the research agenda. NIOSH undertook the task of setting research priorities in response to a broadly perceived need to systematically address those topics most pressing and most likely to yield gains to the worker and the nation.

The agenda identifies 21 priority research areas to protect U.S. workers from job-related injuries, illnesses and deaths. The 21 areas are divided into 3 categories: (1) disease and injury; (2) work environment and workforce; and (3) research tools and approaches.

The NORA Liaison Committee has worked with NIOSH to transform NORA from an ambitious concept to a practical reality. The Liaison Committee consists of members from academia, labor, industry and professional organizations and provides outreach and commentary on the development, progress and direction of NORA. In addition, over 40 federal partners — the Federal Liaison Committee — are also collaborating with NIOSH to implement the agenda and establish baseline data to assess the overall federal investment in NORA research priority areas.

Over the first year, the vision of NORA became a reality with the formation of 20 research priority teams (two priority

areas - musculoskeletal disorders of the upper extremities and low back disorders - are being addressed by one team). This overall effort has brought together over 120 NIOSH researchers and over 140 external partners. The teams will provide visionary leadership for their NORA area of occupational safety and health research.

The growth of the NORA teams is only one product of NORA. It is already apparent that there has been increased investment in the NORA priority research areas. This is due in part to changes in the research focus within NIOSH and facilitated cooperation among federal agencies and with industry and labor that will provide new resources for research in these priority areas. ■

NORA Priority Research Areas

Disease and Injury

- Allergic and Irritant Dermatitis
- Asthma and Chronic Obstructive Pulmonary Disease
- Fertility and Pregnancy Abnormalities
- Hearing Loss
- Infectious Diseases
- Low Back Disorders
- Musculoskeletal Disorders of the Upper Extremities
- Traumatic Injuries

Work Environment and Workforce

- Emerging Technologies
- Indoor Environment
- Mixed Exposures
- Organization of Work
- Special Populations at Risk

Research Tools and Approaches

- Cancer Research Methods
- Control Technology and Personal Protective Equipment
- Exposure Assessment Methods
- Health Services Research
- Intervention Effectiveness Research
- Risk Assessment Methods
- Social & Economic Consequences of Workplace Illness and Injury
- Surveillance Research Methods

NORA Partnership Teams

Bold type indicates Team Leaders

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NORA Partnership Teams

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Bradley Rein (*U.S. Department of Agriculture*)
Gordon Smith (*Johns Hopkins University*)
Karl Snyder (*NIOSH*)
Lisa Steiner (*NIOSH*)

NORA Upcoming Events

April

April 24-26

Round Table Discussion on the Organization of Work Society for Industrial and Organizational Psychology Conference

Wyndham Anatole Hotel/Dallas, TX

Sponsor: Society for Industrial and Organizational Psychology

Contact: Lois Tetrick, Ph.D., Department of Psychology,
University of Houston, (713) 743-8516

April 27

NORA Musculoskeletal Team Focus Group Meeting (open to the public) — focus on ergonomics issues in health care

Washington Plaza Hotel, Monroe Room/Washington, D.C.

Contact: Bruce Bernard, NIOSH, (513) 841-4589

April 30 - May 2

Occupational Asthma: In and Out of the Work Place Conference

NIOSH Appalachian Laboratories for Occupational Safety
and Health/Morgantown, WV

Sponsors: NIOSH and West Virginia University, School of
Continuing Education

Co-sponsors: National Heart, Lung, and Blood Institute, NIH;
American Thoracic Society; Environmental
Protection Agency; National Institute for
Environmental Health Sciences, NIH; National
Institute of Allergy and Infectious Diseases, NIH;
American Academy of Asthma, Allergy, and
Immunology

Contact: Jeff Fedan, NIOSH, (304) 285-5766

May

May 5

Natural Rubber/Latex Allergy: Recognition, Treatment, and Prevention

Live National Satellite Video conference (1:00 - 4:15 p.m. ET)

Produced by the Food and Drug Administration's Center for
Devices and Radiological Health, Division of Communication
Media

Co-sponsors: American Dental Association; American Hospital
Association; American Medical Association;
American Nurses Association; American
Pharmaceutical Association; Royal College of
Physicians & Surgeons Canada; Centers for
Disease Control and Prevention; Food and Drug
Administration; Food and Drug Law Institute;
Health Canada/Bureau of Medical Devices;
Health Care Financing Administration; Health
Industry Manufacturers Association; NIOSH;
Occupational Safety and Health Administration;
Public Health Foundation; U.S. Consumer
Products Safety Commission; Veterans Health
Administration

Contact: Video conference web page <http://latex.fdli.org>

May 14-15

Conference on Hazardous Substances and Male Reproductive Health

Mount Sinai Medical Center / Page & William Black
Postgraduate School, New York Academy of Medicine/
New York, NY

Sponsors: Mount Sinai School of Medicine; National
Institute for Environmental Health Sciences,
NIH; NIOSH; and New York Academy of
Medicine

Contact: Anne Golden, Ph.D., Mount Sinai School of Medicine,
Box 1057, One Gustave L. Levy Place, New York, NY 10029,
agolden2@smtplink.mssm.edu

September

September 16-18

Research Workshop on the Risks and Benefits of Exposure to Ultraviolet Radiation and Tanning

National Institutes of Health Campus/Rockville, MD

Sponsors: National Institute of Arthritis and
Musculoskeletal and Skin Diseases, NIH;
NIOSH; Other federal agencies

Contact: Boris Lushniak, NIOSH, (513) 841-4503

Other Upcoming NORA-Related Conferences (Dates TBA)

Workshop on the 1998 Revision of the American Thoracic Respiratory Symptom Questionnaire

In conjunction with NORA Asthma & Chronic Obstructive
Pulmonary Disease Team

Functional, Economic, and Social Outcomes of Occupational Injuries and Illnesses (Spring 1999)

In conjunction with NORA Social and Economic Consequences
of Work Team and NORA Health Services Research Team



**Delivering on the Nation's promise:
Safety and Health at work for all people
through research and prevention**

**For more information on NORA
contact NIOSH at:
1-800-35-NIOSH
(1-800-356-4674)**

**or visit the NIOSH Homepage at:
<http://www.cdc.gov/niosh>**