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Additional Information
For more information about the National Occupational Research Agenda (NORA), visit the web site www.cdc.gov/nora

For a monthly update NORA, subscribe to NIOSH eNews by visiting www.cdc.gov/niosh/eNews.

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Introduction

The National Occupational Research Agenda (NORA) is a partnership program to stimulate innovative research and improved workplace practices. Unveiled in 1996, NORA runs in ten year cycles.\(^1\) The third decade began on October 1, 2016, and runs until September 30, 2026. NORA is organized into ten industry sectors based on major areas of the U.S. economy, and seven health and safety cross-sectors organized according to the major health and safety issues affecting the U.S. working population.

### Sectors
- Agriculture, Forestry, and Fishing
- Construction
- Healthcare and Social Assistance
- Manufacturing
- Mining
- Oil and Gas Extraction
- Public Safety
- Services
- Wholesale and Retail Trade
- Transportation, Warehousing, and Utilities

### Cross-Sectors
- Cancer, Reproductive, Cardiovascular and Other Chronic Disease Prevention
- Hearing Loss Prevention
- Immune, Infectious and Dermal Disease Prevention
- Musculoskeletal Health
- Respiratory Health
- Traumatic Injury Prevention
- Healthy Work Design and Well-Being

Each sector and cross-sector has a council of stakeholders from universities, large and small businesses, professional societies, government agencies, and worker organizations. Each council writes and maintains a research agenda for the nation, which collectively make up the National Occupational Research Agenda. Councils work on the areas identified in their agenda through information sharing, partnerships, and enhancing dissemination and implementation of evidence-based practices.

NIOSH is just one of many organizations that make NORA possible. Councils are platforms that help build close partnerships among members and broader collaborations between councils and other organizations. The resulting information sharing and leveraging efforts promote widespread adoption of improved workplace practices based on research results.

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\(^1\) For more on the history of NORA, see [https://www.cdc.gov/nora/history.html](https://www.cdc.gov/nora/history.html)
As the steward of NORA, NIOSH supports this effort in two main ways. First, NIOSH organizes its portfolio of research programs according to the NORA framework. NIOSH sector/cross-sector program leaders co-chair the NORA councils alongside a person from another organization. Second, NIOSH uses the national agenda as a critical input into its own strategic plan.

This report describes the activities and achievements of the 17 NORA councils in the first two years of the third decade of NORA (Oct 2016 - Sept 2018). Accomplishments from the first and second decades of NORA are available in reports on the NORA website.

Accomplishments

Research Agendas

Each council started the third decade by writing a research agenda for the nation. The ten sector councils had previously written agendas for the second decade of NORA and could use those as a starting point. Seven cross-sector councils were formed for the third decade; writing a research agenda became their first task. Councils used varied processes to identify priorities and write research objectives for the nation. For example, the Oil and Gas Extraction and Agriculture, Forestry, and Fishing Councils surveyed their members, the Services Council held a series of webinars, and several other councils did brainstorming activities and later distilled the information into objectives. The following types of information help inform NORA’s priority setting process:

- 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

Once drafted, agendas had a public comment period of at least 60 days. Councils considered public comments, made revisions where needed, and published their agendas online. In the first two years, 11 councils published final versions of their agendas.

Sector Agendas

- National Occupational Research Agenda for Agriculture, Forestry, and Fishing
- National Occupational Research Agenda for Construction
- National Occupational Research Agenda for Manufacturing
- National Occupational Research Agenda for Mining
NORA Councils: 2016-2018 Achievements

- National Occupational Research Agenda for Oil and Gas Extraction
- National Occupational Research Agenda for Services
- National Occupational Research Agenda for Transportation, Warehousing and Utilities (TWU)
- National Occupational Research Agenda for Wholesale and Retail Trade

Cross-Sector Agendas

- National Occupational Research Agenda for Cancer, Reproductive, Cardiovascular and Other Chronic Disease Prevention (CRC)
- National Occupational Research Agenda for Musculoskeletal Health
- National Occupational Research Agenda for Traumatic Injury Prevention

State of the Science Meeting

NIOSH commenced the third decade of NORA with the 2017 Expanding Research Partnerships: State of the Science conference held in June 2017 in Aurora, CO, in collaboration with the Center for Work, Health and Environment at the Colorado School of Public Health. The purpose of the conference was to: 1) enhance and expand intramural and extramural partnerships in occupational safety and health research, and 2) launch the third decade of NORA. The opening plenary presentations highlighted accomplishments from the second decade and introduced the third. On the second day, one of the discussion-based roundtables focused on NORA councils. Throughout the conference, presentations were organized by NORA sectors and cross-sectors. NIOSH also produced a short video about the conference.

Information Sharing

One of the most important functions of NORA councils is information sharing. Some councils routinely feature presentations from council members and invited guest speakers during their council meetings. Examples include:

- Natalie Roy from the AgriSafe Network spoke to the Agriculture, Forestry, and Fishing Council on how the AgriSafe Network collaborates with researchers to make their safety and health training programs evidence-based. The AgriSafe network also informs researchers about information they need to create high-quality training.
- Michael Foley of the Washington State Department of Labor and Industries, and Tim Bushnell of NIOSH presented an economic perspective on healthy work design and work arrangements to the Healthy Work Design and Well-Being Council.
- The Immune, Infectious, and Dermal Disease Prevention Council invited Dr. John Hines of SC Johnson Professional to discuss the importance of a routine skin care regimen for high risk occupations including healthcare, personal services, and food preparation exposed to contact irritants such as soap and water, cleaning solutions and hairdressing products.
• The Wholesale and Retail Trade Council invited Wayne S. Maynard of Liberty Mutual Insurance to speak about slips, trips, and falls in the workplace and a model for prevention.

Other councils held events focused on a particular topic. Examples include:

• The NORA Mining Council hosted a forum at the 2017 Society of Mining, Metallurgy, and Exploration (SME) Annual Conference, titled NORA Research Objectives and Their Priority: A Discussion on Mining Research Priorities for the Third Decade of the National Research Agenda of NIOSH. The session featured five speakers from industry and research organizations.

• A webinar, Fire Arm Noise Exposures & Hearing Loss Prevention, hosted by the NORA Public Safety Council featured a presentation by William Murphy of NIOSH. Open to the public, the meeting welcomed more than 270 people.

• A webinar on the use of simulation and virtual reality training in the TWU sector included presentations by two council members (Donald Fisher of Volpe National Transportation Systems Center and Rob Raheb of FAAC Inc.) and a guest presenter, Aaron Kimbrough of Walmart.

Councils occasionally held joint meetings with presentations on areas of mutual interest. Three councils - TWU, CRC, and Respiratory Health – met to discuss the value, challenges, and opportunities for medical claims analyses to advance the health of TWU workers. Presenters included CRC and Respiratory Health Council members, Paul Landsbergis of SUNY Downstate School of Public Health and Megan Casey of NIOSH, and a presentation by TWU Council member Tim Bushnell of NIOSH.

Beyond presentations, councils routinely share information informally. Several councils devote time at meetings to round-robin updates, and others are in frequent email contact to share new resources. The Wholesale and Retail Trade Council publishes a newsletter about twice a year, with articles on topics of interest to council members.

Partnerships

The NORA councils are an important vehicle for developing and maintaining partnerships. In this third decade of NORA, seven new cross-sector councils formed, bringing together stakeholders around specific health and safety outcomes that affect multiple industry sectors. Some sector councils also grew during this period, expanding their partnerships. The Services Council and Healthcare and Social Assistance Council, for example, recruited new members to fill gaps in expertise and bring in a younger generation of stakeholders, respectively.

Partnerships tend to be informal in nature, with members and their organizations sharing their time and expertise on an ad hoc basis. For example, organizations and individuals represented on the Traumatic Injury Prevention Council made significant contributions to the National Occupational Injury Research Symposium held in Morgantown, WV in October 2018, moderating and presenting in plenaries and breakout sessions. As a follow up to the meeting, the National Safety Council is sponsoring a special issue of the Journal of Safety Research devoted to work
presented at the conference. The submissions will represent the spectrum of objectives in the NORA Traumatic Injury Prevention Agenda.

Similarly, the Public Safety Council was instrumental in arranging two sessions at the International Society for Respiratory Protection in September 2018. At the first, a wildland fire technical session, two Public Safety Council members presented, as well as six other stakeholders, and a former council member chaired the session. At the second session, on general public safety topics, six stakeholders presented. Along those same lines, many members of the NORA Construction Council participated in and presented at the Research to Practice (r2p) Consortium meeting that occurred in June 2018 in Washington, D.C. The r2p Consortium is hosted by CPWR-The Center for Construction Research and Training.

Another example comes from the Manufacturing Council and Services Council, where several members and some of their students added their efforts to NIOSH’s to expand and improve occupational safety and health information in Wikipedia. This work helps to make sure that the occupational safety and health information that reaches Wikipedia’s millions of readers is complete, up-to-date, and free of errors. The Harvard School of Public Health wrote an article describing the effort. The NORA Wikipedia page got an update along with many others.

**Promoting Evidence-Based Solutions**

While much of the focus in 2016-2018 has been on writing new agendas for the third decade, councils were also able to devote time to promoting evidence-based solutions. The NORA Manufacturing Council published a new website about hazardous energy control in September 2018. It features a resource guide with customizable materials and templates to help with implementation of effective strategies for the administrative control of unsafe release of hazardous energy. Members of the council compiled, reviewed, and adapted resources to help companies and businesses start or improve and maintain their existing lockout program.

The NORA Construction Council continues to actively participate in the National Campaign to Prevent Falls in Construction. The signature annual event of the campaign, the National Safety Stand-Down to Prevent Falls in Construction, began in the Construction Council in 2012. Coordinated by NIOSH, the Occupational Safety and Health Administration (OSHA), and CPWR-The Center for Construction Research and Training, this activity has reached well over one million construction workers. In 2016 and 2017, work groups developed a series of infographics (images or charts conveying a brief message), available in English and Spanish. To celebrate the Campaign’s fifth anniversary in 2018, NIOSH produced two retrospective videos. The first video shares perspectives from NIOSH, OSHA, the U.S. Air Force, BrandSafway, Clark Construction, and several states. The second video highlights the role of Fatality Assessment and Control Evaluation (FACE) Programs in Kentucky, Massachusetts, Washington and Oregon, funded by NIOSH.

The NORA Construction Council members have also collaborated on the topics of safety culture, safety climate, and safety leadership. Numerous members of the NORA Construction Council (including safety and health professionals, OSHA representatives, subject matter experts, and labor leaders, among others) partnered together and were instrumental in the development and implementation of the Foundations for Safety Leadership (FSL) module. It was integrated into
the OSHA 30 training as a required module in March 2017 and introduces construction workers, particularly supervisors, to safety leadership concepts. A council workgroup has also had active input into products on this topic produced by CPWR-The Center for Construction Research and Training. The most recent is the Safety Climate Assessment Tool for Small Contractors (S-CATc), a tool contractors can use to assess their safety climate across eight leading indicators.

The Oil and Gas Extraction Council has collaborated to increase awareness of health and safety hazards. The council contains members from the National Service, Transmission, Exploration & Production Safety (STEPS) Network, OSHA, and NIOSH. All three organizations are in an OSHA Alliance, so the council has contributed to the Alliance’s hazard alerts sent out to the oil and gas industry. After a member brought the issue of ground disturbance to the council, the Alliance developed the Ground Disturbance Hazard Alert, published in 2018.

Looking Forward

The 17 NORA councils are poised to make strides in FY 2019 and beyond. An updated website published in September 2018 provides a fresh look and a place for councils to publish new resources. Several councils are in the final stages of completing their agenda, and those who have finished are working on the issues identified in their research agendas. Many councils have formed workgroups and are actively working on projects such as health and safety campaigns, webinar series’, and symposia at professional society meetings. Those interested in joining a council are welcome to contact NORACoordinator@cdc.gov
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