AIHA's 2021 State of Research Report

aiha.org

AIHA®

3141 Fairview Park Drive
Suite 777
Falls Church
Virginia 22042

Environmental Scan

In 2019, AIHA conducted a comprehensive environmental scan to understand the emerging issues critical for industrial hygiene (IH) / occupational and environmental health and safety (OEHS) practitioners to advance AIHA's mission and the profession. A professional environmental scan helps us understand the context in which AIHA and its members operate. It allows AIHA to predict and prepare for future challenges and opportunities and address our members' needs more accurately.

The environmental scan's key findings included identifying the current and future trends and uncovering new trends and developments on the horizon. This scan identified five emerging issues: Communicating IH/OEHS Concepts, Total Exposure Health, Big Data & Sensor Technology, Exposure Banding, and Serving the Changing Workforce. These are known as AIHA's content priorities.

AIHA sees the environmental scan as an opportunity to consider new content for AIHA products and will continue to focus on creating new content around these emerging priorities. The Content Portfolio Advisory Group (CPAG) will uphold its mission of managing these content priorities and overseeing studies, summits, surveys, reports, and publications that attempt to address these critical issues head-on.

For more information on the 2020 environmental scan study, visit bit.ly/2020Scan.

> *"The Content Portfolio Advisory Group enacts AIHA's view of the future of the profession and what is needed in today's educational and advisory content to prepare for it."*
>
> — John Baker, 2020-21 CPAG Chair

Communicating IH/OEHS Concepts

Increasing growth and diversification in information sources and communication channels are continuing to dilute the influence of science-based expertise. Simultaneously, public skepticism toward traditional experts is growing in the face of unresolved concerns and perceived biases as various advocacy groups leverage scientific systems for their benefit. These trends, coupled with technological advances around data analysis and artificial intelligence, further diminish reliance on scientific expertise.

Communicating IH/OEHS Concepts focuses on developing the "soft skills" of these professionals to listen, relate, share, and collaborate effectively with a broad spectrum of stakeholders who may not be technically trained. Collectively we promote the profession's influence and value to society.

CPAG's Vision for this Content Priority

The Communicating IH/OEHS Concepts content priority will focus on developing new content to:

- Generate awareness and promote the IH/OEHS profession's value to the U.S. business sector and the broader public.
- Foster student interest in IH/OEHS careers to ensure a sustainable and viable pipeline of professionals.

- Develop practice tools to support IH/OEHS professionals in communicating risk assessment, analysis, and management concepts, more readily understandable by audiences at all levels within a company and those in their surrounding communities.
- Ensure educational offerings always include a take-away message on making the business case for a proposed technical solution that reflects risk management concepts and positive impact on the bottom line.
- Leverage best-in-class offerings to empower IH/OEHS professionals with critical soft skills to communicate effectively with stakeholders.

For more information on this content priority, visit bit.ly/IH-OEHS-Concepts.

Total Exposure Health

Human health outcomes result from a complex interaction of factors, including exposure to environmental agents, socioeconomic stressors, personal behaviors, and individual genomics. Advancements in science and technology allow for the more robust collection and integration of these factors to inform interventions and decision-making.

Total Exposure Health focuses on positioning IH/IH/OEHS professionals as valued participants in this discourse (i.e., how it relates to Total Worker Health, Exposomics, Genomics, Toxicology). Total Worker Health is a NIOSH initiative that encompasses policies, programs, and practices that integrate protection from work-related safety and health hazards to promote injury and illness prevention efforts to advance worker well-being. An already widely utilized term defining this area of practice would strengthen the link between AIHA and NIOSH.

CPAG's Vision for this Content Priority

The Total Exposure Health content priority will focus on developing new content to:

- Develop an understanding of how occupational and non-occupational exposures combine to affect health outcomes and engage IH/OEHS skill sets in assessing all exposures and their integration.
- Distinguish AIHA members as exposure science experts that anticipate, recognize, evaluate, and control all exposures that combine to impact human health.
- Ensure AIHA members are valued partners collaborating with other scientific communities on initiatives involving integrating exposure data with other determinants of human health (i.e., Total Worker Health, Genomics, Exposomics, Toxicology).

For more information on this content priority, visit bit.ly/ExposureHealth.

Big Data & Sensor Technology

New applications of sensor technologies allow for the faster collection and communication of data across a broader set of agents. Simultaneously, advancements in data analysis and artificial intelligence are combining formerly disparate data sets and automating decision-making. Together these developments will fundamentally alter the role of health and safety professionals.

This content priority focuses on helping IH/OEHS professionals leverage cutting-edge technologies to collect and integrate data to inform risk assessment and management decisions and stay relevant in the face of transformative change.

CPAG's Vision for this Content Priority

The Big Data & Sensor Technology content priority will focus on developing new content to:

- Ensure AIHA members have the knowledge to leverage cutting edge sensor technologies and data management functions to inform risk assessment and management decisions.

- Educate IH/OEHS professionals on the competencies needed to apply sensor technologies and "big data" analytics to provide an integrated profile for hazards and exposures.
- Ensure AIHA members have the necessary tools that use standardized data criteria and facilitate the transfer of data and use of data repositories.

For more information on this content priority, visit bit.ly/Big-Data-Sensor.

Exposure Banding

The continued addition of chemicals and other exposure hazards impacting the community and workplace far exceed the capacity of the environmental health community to develop occupational exposure level guidelines. As such, IH/OEHS professionals are often left with few resources to evaluate exposures and make appropriate risk management decisions using traditional methods. NIOSH and other entities have developed an occupational exposure banding process for exposure risk assessments in response.

Exposure Banding focuses on educating IH/OEHS professionals on applying banding concepts to evaluate exposures and controls across environments and explore how they relate to technological advancements involving integrated decision-making.

CPAG's Vision for this Content Priority

The Exposure Banding content priority will focus on developing new content to:

- Educate IH/OEHS professionals on the importance of utilizing Occupational Exposure Banding (OEB) in their exposure risk assessments, in partnership with NIOSH.
- Ensure IH/OEHS and allied professionals develop and actively use practical guidance to apply exposure banding in their professional practice.

For more information on this content priority, visit bit.ly/ExposureBand.

To learn more about resources developed by our Volunteer Groups and how to get involved, visit bit.ly/VG-Work. AIHA members have free access to hundreds of white papers, guidance documents and checklists that have been developed by volunteer groups over the years. These resources can be found at www.aiha.org.

Serving the Changing Workforce

In today's work environment, workers increasingly engage in nontraditional work arrangements, such as gig work, contract work, telework, and multiple employers. Also, the workforce is aging, raising issues around health, chronic disease, and information processing. These global economic shifts and migration will significantly impact the evolution and management of occupational and environmental health concerns.

Serving the Changing Workforce focuses on educating IH/OEHS professionals on the circumstances driving these changes, the implications they will have, and how the IH/OEHS community can respond to protect human health in the workplace and community.

CPAG's Vision for this Content Priority

The Serving the Changing Workforce content priority will focus on developing new content to:

- Create awareness of the importance of nontraditional exposure profiles (i.e., multiple employers, gig work, telecommuting).
- Create awareness of the changing workforce (i.e., aging, chronic disease).
- Create awareness of causes shaping changes in the workforce (such as global economic shifts, migration) to understand the differences better.

For more information on this content priority, visit bit. ly/ServingWorkforce

AIHA University

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AIHA University is the go-to resource for IH/OEHS science-based education. From traditional print material to online education classes, multiple learning formats are available for both members and the public to access. The wide range of educational choices allows IH/OEHS professionals the freedom to control their professional development. Visit aiha.org/education for a complete overview of available material.

NEW eLibrary subscription additions at bit.ly/AIHA_eLibrary

- Guidelines for the Selection and Use of Environmental Surface Disinfectants in Healthcare, 2nd edition
- AIHA® Laboratory Quality Assurance Manual, 6th edition

Guideline Documents

Visit BackToWorkSafely.org for science-based guideline documents prepared for 26 industries ready to "go back to work." A team of Certified Industrial Hygienists has created these complimentary guides targeted at small businesses that do not have access to readily available IH/OEHS resources.

IH/OEHS Apps & Tools

The following software tools provide the practicing industrial hygienist with quick and easy access to the information necessary to evaluate exposure profiles and determine if the exposures are acceptable, not acceptable or if more data is needed to determine acceptability. Visit bit.ly/IH-Apps for a complete list of available online tools.

IH Calculator App

AIHA and NIOSH collaboratively have updated the IH Calc app based on the previously available *AIHA IH Calculator lite* app, which has aided many IH/OEHS professionals with their evaluations. Using both apps as a foundation, developers have created a newer version that entered a review phase in late 2020. AIHA volunteers assessed the accuracy of equations under five different categories. Based on volunteers' feedback, this product is enhanced to deliver greater value to the user.

(This application will launch mid-2021 after a NIOSH scientific and technical review. Visit AIHA.org for more information.)

Standards

Consensus standards remain one of the most essential and promising tools to implement best practices in human activities, having a significant impact on public health and workers' health. Therefore, AIHA must have ongoing and relevant representation in both national and international consensus standards development and implementation processes. The AIHA Standards Advisory Panel is responsible for ensuring a systematic and continuous effort to identify significant trends, issues, and developments for occupational health and safety consensus standards that can impact the future of the IH/OEHS profession.

Visit bit.ly/AIHA-Standards to see the various standards and standards-setting committees, with AIHA member representatives noted.