

AIHA National - Moving Boundaries

**CIHC 29th Annual
Professional Development Seminar
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Learning Objectives

1. Understand how AIHA identifies and prioritizes where to invest its resources with respect to creating new educational content and reference materials
2. Be aware of AIHA's current content priorities
3. Learn what specific activities are being pursued to help educate the occupational health and safety professional vis a vis these priorities

2019-21 AIHA Strategic Plan

Our Mission - Empowering those who apply scientific knowledge to protect all workers from occupational hazards

Our Vision – A world where all workers are healthy and safe

2019-21 AIHA Strategic Plan

1. Community
2. Awareness
3. Advancement / Dissemination of Knowledge
4. Integrity of IH Practice
5. Advocacy

Content Portfolio Advisory Group (CPAG)

New Project Ideas: **Evaluation Process**

**Recommend
Content Priorities
to the Board &
facilitate their
implementation.**

**Ensure projects
align with content
priorities or fill gaps.**

Existing Materials: **Portfolio Analysis**

**Review existing
content & make
product lifecycle
recommendations.**

**Solicit proposals
for new products
to fill identified
portfolio gaps.**

Environmental Scanning: **New Content**

**Shepherd content
development in
existing priority
areas.**

**Scan IH profession
& develop new
content based on
future trends &
challenges.**

Future Trends Impacting I.H. (2019 Environmental Scan)

Rejection of Expertise

- Growing skepticism of expertise (including scientific)

Anticipatory Intelligence

- Predictive analytics will be used to anticipate needs, opportunities and threats in the environment

Dark Data

- Rapidly accumulated data that is rarely used (IBM estimates that 90% of sensor data accumulated is never used)

Fast Data

- Emphasis on real time decision; processing and acting on the data with speed creates value

Personalized AI

- Increasing proliferation of sensor technology, wearables and human-machine hybrid work

More Human Humans

- Accelerating speed of change and continual needs for retraining, adapting to new technologies, relating to people

CPAG

Current Content Priorities (2020–2025)

1. Exposure Banding
2. Big Data and Sensor Technology
3. Total Exposure Health
4. Serving the Changing Workforce
5. Communicating IH Concepts

1. Exposure Banding

Why?

The continued addition of chemicals & other exposure hazards impacting the community & workplace far exceeds the capacity of the environmental health community to develop exposure level guidelines.

Exposure Banding

How does it impact the IH profession?

IH's are often left with few resources to help evaluate exposures & make appropriate risk management decisions using current/traditional methods.

Focus of Content Priority

This priority focuses on educating IH's on how to apply banding concepts in evaluating exposures & controls across environments, & on exploring how they relate to technological advancements involving integrated decision-making.

Exposure Banding

Vision Statements

- AIHA in partnership with NIOSH is educating, training, & creating tools for OHS professionals to excel & understand the importance of utilizing Exposure Banding (EB) in their exposure risk assessments.
- IH & allied professionals (e.g., Product Stewards, Occupational Health Nurses & Doctors) develop & actively use practical guidance for application of EB in their professional practice.

Exposure Banding

Initiatives Completed:

- [OEB Wikipedia Page Link](#) (*Lauralynn McKernan*)
- [Body of Knowledge \(BoK\) for Occupational Exposure Banding](#)
- Professional Development Courses (PDC) & technical sessions at AIHce 2017-2019 to educate members on principles & available tools
- AIHA's online community (Catalyst) to communicate about EB to members.

Exposure Banding

Initiatives In-Progress:

- Helping IH professionals understand the NIOSH e-tool and EB principles, by developing educational content, including case studies, to help educate members of all ages and career stages
- AIHA's packaging of NIOSH Exposure Banding e-Tool – distributing, promoting to membership
- Publication of [The NIOSH Occupational Exposure Banding Process for Chemical Risk Management](#)

Exposure Banding

Initiatives In-Progress (cont'd):

- Working with NIOSH, OARS WEEL and ACGIH TLV groups in the practical use of EB in the hierarchy of OELs
- Exploring with universities how EB can be incorporated into curriculum as a fundamental skillset (ABET ramifications)
- Exploring how EB can be used in dermal assessments

2. Big Data and Sensor Technology

Why?

New applications of sensor technologies are allowing for the faster collection & communication of data across a broader set of agents. In addition, advancements in data analysis & Artificial Intelligence (AI) are combining formerly disparate data sets and automating decision-making.

Big Data & Sensor Technology

How does it impact the IH profession?

Technological advancements & developments will fundamentally alter the role of health & safety professionals

Focus of Content Priority.

This priority focuses on helping IH professionals leverage cutting-edge technologies for collecting & integrating data to inform risk assessment & management decisions, & to stay relevant in the face of transformative change.

Big Data & Sensor Technology

Vision Statements:

- AIHA members are leveraging cutting edge sensor technologies & data management functions to inform risk assessment & management decisions.
- AIHA members understand & possess competencies in the application of sensor technologies & "big data" analytics to provide an integrated profile for hazards and exposures.

Big Data & Sensor Technology

Vision Statements (cont'd):

- AIHA members have software platforms that use standardized data criteria & tools that facilitate the transfer of data & use of data repositories.
- AIHA members have a collaborative Data Dictionary & Database with NIOSH to collaboratively upload & share data.

Big Data & Sensor Technology

Initiatives Completed:

- Conducted a research study to determine interest in AIHA entering the sensor certification space
- Conducted multiple educational sessions at AIHce
- Publication of [AIHA Future of Sensors Research Paper](#)
- Sensor Technology Summit (2016)
- Big Data Summit (2017)

Big Data & Sensor Technology

Initiatives Completed (cont'd):

- Rocky Mountain Section Big Data Workshop held in March 2019
- Big Data PDCs and sessions at AIHce 2017-2019
- [*Will Big Data Change Industrial Hygiene Synergist article*](#) (March 2018)

Big Data & Sensor Technology

Initiatives In-Progress:

- Identifying IH data sets used by members or allied professionals that can be used as a test case to help inform the profession's understanding of Big Data & the development of tools to analyze & manage those datasets.
- “Data Analytics for the Practicing IH”: How to capture Data Analytics skills for the IH; using real time feeds to manipulate in real time.

Big Data & Sensor Technology

Initiatives In-Progress (cont'd):

- Forming new Big Data BoK team to assist IHs in understanding, communicating, and applying concepts of data analytics on the job
- Updating and expanding the Field Use of Direct Reading Instruments (DRI) Body of Knowledge
- Joint NIOSH/AIHA presentation on IH Data Standardization to be presented at AIHce 2020 (Atlanta)

3. Total Exposure Health

Why?

Human health outcomes are being recognized as the result of complex interaction of factors including exposure to environmental agents, socioeconomic stressors, personal behaviors, & individual genomics.

Total Exposure Health

How does it impact the IH profession?

Advancements in science & technology are allowing for more robust collection & integration of exposure to environmental agents, socioeconomic stressors, personal behaviors, & individual genomics to inform interventions & decision-making.

Focus of Content Priority.

This priority focuses on ensuring IH professionals are positioned to be valued participants in this discourse (e.g., Total Worker Health, Exposomics, Total Exposure Health). We are recognized as pre-eminent experts in the anticipation, recognition, evaluation, & control of exposures to environmental agents in the workplace, home & community.

Total Exposure Health

Vision Statements:

- IH Professionals understand how occupational & non-occupational exposures combine to affect health outcomes & are engaging IH skill-sets in assessing all exposures & their integration for overall exposure.
- IH Professionals are recognized as exposure science experts that anticipate, recognize, evaluate, & control all exposures that combine to impact human health.
- IH Professionals are valued partners collaborating with other scientific communicates on initiatives involving integration of exposure data with other determinants of human health (e.g. Total Worker Health, Exposome, Total Exposure Health).

Total Exposure Health

Initiatives Completed:

- Summarized the impacts/opportunities for IH profession as an output of the NIOSH Total Worker Health™ symposium
- Assembled thought leadership documents to promote the total worker health concept to the IH profession
- Explored how the IH profession can engage in non-occupational exposure assessment & integrate into the NIOSH Total Worker Health concept
- Education at AIHce 2018 & 2019
- [*A New Approach to the Exposure Sciences Synergist article*](#)
(June 2019)

Total Exposure Health

Initiatives In-Progress:

- Partnering with external organizations to represent the IH profession & its value in Total Worker Health™ - helping the IH profession understand its role in TWH
- Stewardship & Sustainability Product Exposure Assessment Project
- IEQ committee project development on how to conduct a building water quality assessment

Total Exposure Health

Initiatives In-Progress (cont'd):

- Recently formed a new Total Worker Health Task Force to help bring clarity to the role of the IH professional in this initiative
- Clarifying/Ensuring AIHA engagement & the IH's role with Total Worker Health, Total Exposure Health, Exposome and Computational Toxicology and Molecular Biology
- Developing educational content to support the Total Exposure Health concept; create new content around non-occupational exposures

4. Serving the Changing Workforce

Why?

People are increasingly engaging in non-traditional work arrangements such as gig work, contract work, telecommuting & working for multiple employers. In addition, the workforce is aging, raising issues around health, chronic disease, & information processing; Coupled with global economic shifts & migration.

Serving the Changing Workforce

How does it impact the IH profession?

Changes in the engagement in non-traditional work arrangements shows that these changes will significantly impact the evolution of occupational & environmental health concerns & how they are managed.

Focus of Content Priority.

This priority focuses on educating IH's on the circumstances driving these changes, the implications they will have, & how the IH community can respond to protect human health in the workplace & community.

Serving the Changing Workforce

Vision Statements:

- IH Professionals are aware of the importance of non-traditional exposure profiles (i.e., multiple employers, gig work, telecommuting).
- IH Professionals are aware of the changing workforce (i.e., aging, chronic disease).
- IH Professionals are aware of the causes that are shaping changes in the workforce (global economic shifts, migration) to better understand implications of the changes.

Serving the Changing Workforce

Initiatives In-Progress:

- Discussing a thought leadership document with NIOSH (i.e. white paper) to promote the changing workforce concept to the IH profession (this may tie into NIOSH's new **Future of Work** Initiative)
- Creating educational content (i.e., webinars, PDCs)
- Determining the level of IH awareness of the Changing Workforce by surveying the membership via Catalyst

5. Communicating IH Concepts

Why?

There is an increasing growth & diversification in information sources & communication channels is continuing to dilute the influence of science-based expertise.

At the same time, public skepticism toward traditional experts is growing in the face of unresolved concerns & perceived biases as various advocacy groups leverage scientific systems for their benefit.

Communicating IH Concepts

How does it impact the IH profession?

Trends coupled with technological advances around data analysis & Artificial Intelligence in the IH profession where the challenge is to further diminish the reliance on scientific expertise.

Focus of Content Priority.

This priority focuses on developing the “soft skills” of IHS to listen, relate, communicate & collaborate effectively with a broad spectrum of stakeholders in order to promote the influence & value of the IH profession in the modern social-technological landscape.

Communicating IH Concepts

Vision Statements:

- AIHA develops education and content to support the value of IH professionals in communication with Management, the C-suite, & the community.
- AIHA products strive to reflect consideration of the content priorities.
- AIHA identifies how IH Skills in Enterprise Risk Management demonstrate value of the profession.

Communicating IH Concepts

Initiatives Completed (cont'd)

- Created educational content (PDCs, road courses, webinars) related to IH Value, Business Case – Business Value Presentation BoK.
- AIHA PDCs now include content on how to sell the business case for the technical solution (i.e., helping IH professionals communicate with upper management)
- Phase 1 of AIHA's Brand Refresh Initiative involved developing new brand positioning and strategy statements targeted at different audiences “not like ourselves”).

Communicating IH Concepts

Initiatives In-Progress:

- Developing a new leading health metrics guidance document that will help inform a new OHS leading health metrics standard (ASSP/ANSI) – supports mission of CSHS
- Working on promotional materials, proposal formatting, & establishing a simple manner of VG proposals to address the content priorities on a forward fit basis
- Under AIHA's Brand Refresh Initiative, developing a series of 'awareness of the profession' marketing campaigns, targeted at different audiences (students of all ages, C-suite executives will be initial focus in 2020)

Communicating IH Concepts

Initiatives Proposed:

- AIHA marketing staff work with Communication & Training VG, to create a framework of "Communicating IH Concepts" both inward (AIHA Members Audience) & outward (employers, collaborating volunteer groups in & out of AIHA).
- Management and Leadership and Students/Early Career Professionals Committees establish a roadmap to help drive professional development in the area of soft skills.

Communicating IH Concepts

Initiatives Proposed (cont'd):

- Outreach to graduate schools to scan environment for IH specific curriculum and how we can strengthen it
- AIHA and a CSHS working group to formulate the strategic approach for promotion of our Enterprise Risk Management BoK



Technology Initiatives

- Identify current / scan for new OHS technology tools
- Drive development of mobile device apps for OHS professionals
- Drive development of OHS tools utilizing digital assistants (e.g. Siri, Alexa)
- Drive increased awareness, acceptance, and use of technological tools related to Big Data, Machine Learning, and Artificial Intelligence
- Improve use of technology to open new avenues of delivery for AIHA created content



**Thank You for
Listening!**