



HEALTHIER WORKPLACES | A HEALTHIER WORLD

UPDATE: GRAND CHALLENGES

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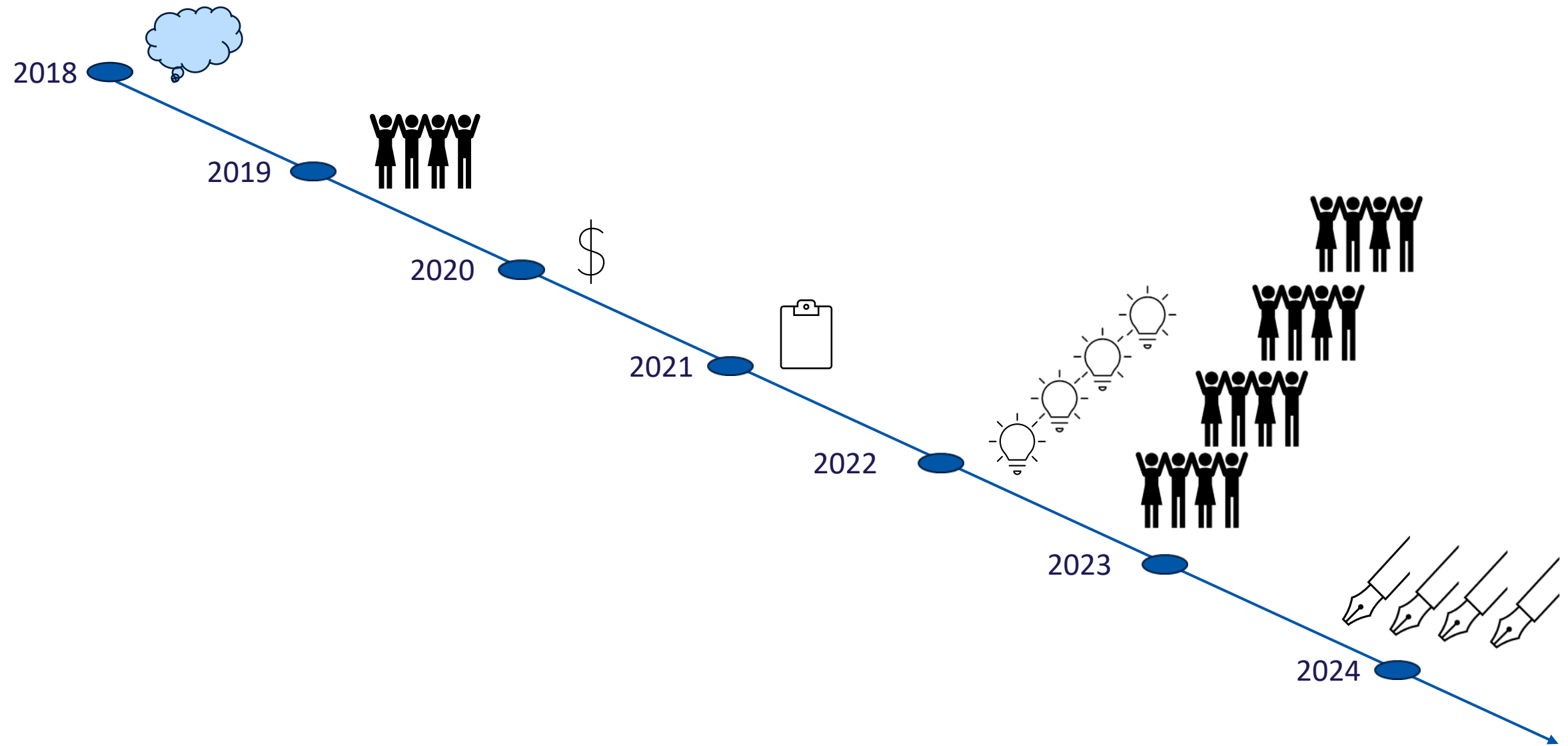
WHAT ARE GRAND CHALLENGES?

- Aspirational!
 - BIG, important, and compelling initiatives geared to solving critical world needs
 - Expected progress in 5-10 years in solving the need
 - Defined, measurable outcome(s)
 - Interdisciplinary collaboration
 - Significant innovations
 - Long-term sustained commitments

AIHA Grand Challenges for Worker Health, Safety, and Well-Being

*And what is the grandest
challenge of all?*





AIHA GRAND CHALLENGES FOR WORKER HEALTH, SAFETY, AND WELL-BEING

- Idea first floated to the AIHA Fellows in May 2018
- Leadership Team assembled, and AIHA BOD approved in 2019
- IRAT proposal from Fellows SIG submitted to AIHA BOD in Fall 2020
- Survey conducted in Spring 2021
- Based on survey results, 4 topic areas agreed
 - *Changing Work Environment*
 - *Climate Change*
 - *Exposure Assessment*
 - *Occupational Health Inequities*
- Concept paper teams assembled in 2022
- Papers being edited for submission to the AIHA BOD

THE PROPOSED GRAND CHALLENGES*

- Exposure Assessment
- Climate Change
- Changing Work Environment
- Occupational Health Inequities

*pending approval of the AIHA Board of Directors



AIHA GRAND CHALLENGES FOR WORKER HSWB

- ***Climate Change***
 - Eliminate worker exposure to direct impacts of climate change.
 - Eliminate worker exposure to indirect impacts of climate change.
 - Eliminate OEHS hazards resulting from spin-off technologies.
- ***Changing Work Environment***
 - Ensure HSWB of Workers with non-standard work arrangements.
 - Minimize the impacts of shift work, long hours of work, and sleep deficiency on the HSWB of workers.
 - Advance HSWB affected by rapidly advancing technology.
 - Improve work design and organizational practices to advance the HSWB of workers.
 - Optimize education, training, and skill-building needs approaches to improve HSWB of workers.
- ***Promoting Occupational Health Equity and Eliminating Precarity in the Workplace***
 - Reduce inequities in the workplace.
 - Improve community health.
 - Minimize precarious work.
 - Issue a global call to action for worldwide worker HSWB.
- ***Improving Exposure Assessment***
 - Improve decision-making when exposure monitoring data are available.
 - Improve decision-making when exposure monitoring data are not available.
 - Improve dermal exposure assessments.
 - Improve the use of data resulting from real-time detection systems.
 - Embrace and influence TSCA risk evaluations.

CLIMATE CHANGE

- 1. Minimize worker exposure to direct impacts of climate change.
 - Heat, UVR, O3
- 2. Minimize worker exposure to indirect impacts of climate change.
 - Severe weather, infectious diseases, air pollution, climate migration, psychosocial
- 3. Minimize OEHS hazards resulting from spin-off technologies.
 - Batteries, recycling, geoengineering

CHANGING WORK ENVIRONMENT

- ***Ensure HSWB of Workers with non-standard work arrangements***
 - Provide clear definitions; improve data and action plans; implement a continual improvement process.
- ***Minimize the impacts of shift work, long hours of work, and sleep deficiency on the HSWB of workers***
 - Data collection systems; modify work schedules; continual improvement process.
- ***Advance HSWB affected by rapidly advancing technology***
 - Impact of advancements in sensor technology, advancing technologies, automation, AI, robotics.
 - Assess the impact of increasing number of global Occupational Exposure Limits (OEL's).
- ***Improve work design and organizational practices to advance the HSWB of workers***
 - Modify organizational practices; implement feedback and early reporting systems; inclusive review procedures.
- ***Optimize education, training, and skill-building needs approaches to improve HSWB of workers***
 - Accessible and effective for all workers; develop a skilled workforce; ID training barriers for OEHS professionals.

PROMOTING OCCUPATIONAL HEALTH EQUITY AND ELIMINATING PRECARIETY IN THE WORKPLACE

- **Reduce inequities in the workplace**, including those due to gender, race, age, class, and social determinants of health (SDOH) , and establish work and workplaces as determinants of health.
- **Improve community health** through innovative, cross-sectoral partnerships.
- **Minimize precarious work** by supporting a public health goal of work that promotes HSWB for all, including children.
- **Issue a global call to action** for worldwide worker HSWB, including workers, worker organizations, professional associations, and other advocates for workers.

IMPROVING EXPOSURE ASSESSMENT

- **Improve Decision-Making When Exposure Monitoring Data Are Not Available**
 - Expand conventional defense of professional judgment.
 - Promote and train users on using new and emerging AI tools such as ChatGPT.
 - Promote collaborative partnerships with manufacturers that aid in the implementation of the hierarchy of controls to pursue data collection.
- **Improve Decision-Making When Exposure Monitoring Data Are Available**
 - Through AIHA's Improving Exposure Judgment "culture shift" campaign, identify and reduce barriers to adoption of best-in-class exposure decision-making
 - Influence academic faculty to introduce students to the importance of statistics to their future practice.
- **Improve the Use of Data Resulting from Real-time Detection Systems**
 - Create NIOSH or OSHA methods or guidelines for using direct reading instruments.
 - Incorporate AI software into detection software to assist with determining exposures.
- **Improve Dermal Exposure Assessments**
 - Develop a standardized and simplified method to set dermal exposure guidelines.
 - Develop tools using existing chemical and physical parameters to identify chemicals with high dermal absorption potential.
 - Develop easy to use, free, and accessible models to estimate dermal exposures.
- **Embrace and Influence TSCA Risk Evaluations**
 - Advocate for regulatory authorities responsible for implementation of evaluations to solicit expertise in occupational hygiene from scientific societies such as AIHA.
 - Create a harmonized approach for performing exposure assessments within chemical risk evaluations.
 - Continue to communicate AIHA's TSCA Task Force efforts and action items to aid in a unified approach to addressing exposure assessments with TSCA and among UNECE member states.



NEXT STEPS

- Internal team review
- Presentation to the AIHA BOD in February 2025
- Collaboration with partners
- Wide dissemination
 - APHA, TWH Centers of Excellence (e.g., CO, UIC),
 - *The Synergist*, Grand Challenges book, presentations at other associations (APHA)
 - Body of Knowledge (BoK) for AIHA, with distribution to other organizations
 - Develop a training module for inclusion in TWH training
 - Presentations for AIHA Connect

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QUESTIONS?

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