The Future of Decent Work

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Scientific Committee Conference
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What Lies Ahead?

2023

2050

?
Decent Work

Employment that respects the fundamental rights of workers in terms of conditions of work, safety, health, remuneration, and respect for the physical and mental integrity of the worker in the exercise of his or her employment.

— United Nations, 2015
Decent Work

1919  A concept that has evolved since the founding of the International Labor Organization (ILO)

1999  Formally promoted by the Director General of the ILO as unifying framework and central priority of the organization

2005  At the UN Summit Decent Work: was made a central objective of development strategies for fair globalization

2015  Incorporated by the United Nations in the 2030 agenda goals for sustainable development
Decent Work: Core of Worker Well-Being

See Su and Chan 2023 for data on the link between decent work and well-being.
Well-Being of Workers

- Aspiring to a good life
- Flourishing
- Characterized by happiness, life satisfaction, positive emotion, self-determination
- Includes health, but goes beyond it
- Related to individual, enterprise, and national productivity
Work, Health & Well-Being

Strong and growing evidence that work, health, and well-being are closely and powerfully linked and need to be addressed together.

— Black, 2007
Outline of Presentation

• Changing world of work
• Occupational Safety and Health (OSH) staging framework for decent work
• Model for an expanded focus for OSH
• Operationalizing decent work and well-being
• Total Worker Health® and implementation science as paths to decent work
The nature of . . .

- Work
- Workforce
- Workplace

. . . is changing

- Need an *expanded focus* for occupational safety and health to address the changes and the future of work
- That ‘expanded focus’ can be achieved through use of the concepts **DECENT WORK** and **WELL-BEING**
Drivers of the Future of Work

- Technology
- Demographics
- Globalization
- Climate
- Pandemics
- Political & Economic Factors
- Urbanization

Global Economy

Future of Work
Changing Nature of Work

- Physical → Mental
- More Service Work
- Work Intensification
- Digitalization
- Many jobs in a working lifetime
- Accelerating-technological impacts
- Employment disruption
- Convergence of technologies
Changing Nature of Work

Accelerating Growth in Technology

Source: Vivisum Partners LLC
Pathway for Convergence of Technologies

Adapted from Yankovskaya and Kukushkin 2021
Assessment of 702 Occupations for Susceptibility to Computerization

Possibly in the next decade or two

Frey & Osborne, 2013
Scenarios of Work
Overview

- Gradual transition from relatively standardized work and working time patterns in organizations
- More complex and diversified working environments (Perosh, 2015; Jimenez, 2016)
- More digital skills and more uses of data
- Definition of employment contracts will be different (DeBruyne & Gerritse, 2018)
- Many of the jobs of 2030 and beyond do not yet exist
U.S. Job Polarization
Job Growth by Year

Categories based on median wage for major occupational groups as US level
Source: BLS, Oregon Office of Economic Analysis
Broad Categorization of Future of Work Scenarios

“Routinization Hypothesis”

<table>
<thead>
<tr>
<th>Nature of Tasks</th>
<th>Skills</th>
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<tbody>
<tr>
<td></td>
<td>Non-routine cognitive</td>
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Autor et al., 2003
Future of Work Scenarios
30-Year Change in Total Employment by Skill Type (Australia)
Current Technological Trends May . . .

- Erode middle-class jobs
- Lead to deepening job polarization (Balliester & Elsheikh, 2018)
- Displace 400 million jobs globally (MGI, 2017)
- Create many new jobs / multiplier for human ingenuity
- Create a mismatch between technology and skills (capabilities)
- Require life-long learning
Anticipated changes to job risks/hazards, by category and direction*

* Direction categories of mitigation/reduction, exacerbation, and creation are not mutually exclusive. Totals sum to more than 17 in each risk/hazard category. (Schulte et al., 2020)
Current and Future Psychosocial Hazards Identified in the Literature

Psychosocial/Organization of Work (Hazards and Effects)

- Stressful interaction with robots
- Anxiety about employment and careers
- Decreased situational awareness
- Blurred work/home boundaries
- Fast pacing of work
- Work intensification
- Privacy invasion
- Loss of social skills
- Inappropriate use of performance enhancing drugs
- Effects on dignity
Changing Workforce

- Older workers
- More immigrants
- More women
- More veterans
- Multigenerational
- More turnover
- Less unionization
- More with chronic disease
Ageing Population
Projected global population aged 60 years or over

- 1990: 0.5 billion
- 2017: 1 billion
- 2050: 2.1 billion
- 2100: 3.1 billion

Source: United Nations Department of Economic and Social Affairs, Population Division, World Population Prospects: The 2017 Revision
Produced by: United Nations Department of Public Information
Dependency Ratios, U.S. and Globally
1950, 2010 and 2050

Note: Total dependency is the number of dependents (people younger than 15 or older than 64) per 100 people of working age. Child dependency is the number of children younger than 15 per 100 people of working age. Old-age dependency is the number of people older than 64 per 100 people of working age.

Since People are Living Longer, They are Working Longer

- Some countries have extended the age of eligibility for public pensions and people have to work longer

- Some people have to work longer for economic reasons
  - Pensions inadequate
  - To keep health insurance
  - Lack of savings

- Some people work longer
  - Greater work abilities
  - Sense of satisfaction and purpose
Negative Consequences of Working Longer

- Injuries
- Burnout
- Job lock
- Age discrimination
- Job insecurity and unemployment
- Less non-work time
- Continued exposure to hazards
- Burden of chronic diseases
Negative Consequences of Working Longer

Schematic view of the impact of early and late environmental exposure on elder outcomes

- Cumulative Risk Assessment
- Exposome

NAS, 2004
Work + Aging + Chronic Disease
Total Costs of Chronic Diseases in the U.S., 2016

- Diabetes: $528.8 billion
- Cardiovascular Conditions: $1,461.3 billion
- Arthritis and Back Pain: $843.4 billion
- Alzheimer’s: $268.3 billion
- Cancers: $261.0 billion
- Other: $267.5 billion

Total Costs = $3.7 trillion

Source: Milken Institute
Productivity: Presenteeism

Data Source: Bank One. Figures are based on annual data for 2000. Worker’s compensation accounted for less than 1% of the indirect medical costs.
Forgone Economic Output Due to Chronic Disease

DeVol & Bedroussian, 2007
Young Workers

Young workers, aged between 15 and 24:

- Suffer up to 40% higher rate of nonfatal injuries than older workers
- Twice as high as workers age 25 and older

BILA, 2023
Changing Workplaces

- New work arrangements
- More telecommuting
- Contractors/Temporary
- More small businesses
- Decrease in social protection
- Pandemics
- Climate change
Impact of Pandemics on Work and Well-being

- Until recently: little empirical evidence on the impact of pandemics on work
- Transforms work – decentralization
- Accelerate future trends
- Anxiety, stress, fear, and depression
- Disparate impacts by race and SES
- Impact on the “deskless” workforce (www.quinyx.com)
  - Workers on the front lines
  - Workers without the luxury of ‘working from home’
Climate Change

- Likely to be a major influence on the workplace
- Increasingly becoming a larger occupational hazard
- Prior to 2009, the relationship between climate and occupational safety and health generally had not been comprehensively characterized
- There was a broad range of literature on individual hazards but not on the totality of climate-related hazards
Why are workers at risk from the effects from climate?

- Likely to have more and greater exposure than general public
- Workers are not free to avoid climatic conditions
- Employers may not be sufficiently informed or prepared to institute adequate risk management
- Workers are generally not a specific part of states’ and businesses’ climate action plans
The Workplace of the Future . . . will be a Mosaic of Hazards

- Changes in work, the workforce, and the workplace bring new hazards and risks
- While we still face older deadly hazards and risks
- Climate-related effects could be significant
Decent Work and UN Sustainable Development Goals
## Elements (Pillars) of Decent Work

<table>
<thead>
<tr>
<th>Employment Creation</th>
<th>Social Protection</th>
<th>Rights of Workers</th>
<th>Social Dialogue</th>
</tr>
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<tbody>
<tr>
<td>Employment opportunities</td>
<td>Good working conditions</td>
<td>Ability to bargain for wages and safe conditions</td>
<td>Exercise of workplace democracy</td>
</tr>
<tr>
<td>Worker training</td>
<td>Occupational safety and health</td>
<td>Refusal of unsafe work</td>
<td>Workers’ voice</td>
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<td>Precarious work</td>
<td>Social security</td>
<td>Equality</td>
<td>Dialogue between workers and employers</td>
</tr>
<tr>
<td>Unemployment</td>
<td>Health insurance</td>
<td>Dignity</td>
<td>Dialogue that includes workers, employers, labor unions, and governments</td>
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<td>Underemployment</td>
<td>Workers’ Compensation</td>
<td>Nondiscrimination at work</td>
<td>Collective bargaining</td>
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<tr>
<td>High quality jobs</td>
<td>Unemployment benefits</td>
<td>No forced or child labor</td>
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</tr>
<tr>
<td>Technological displacement</td>
<td>Hours of work</td>
<td>Freedom of association</td>
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<tr>
<td>Adequate earnings</td>
<td>Adequate rest</td>
<td>Safe work standards</td>
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<td></td>
<td>Work-life balance</td>
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Article

Occupational Safety and Health Staging Framework for Decent Work

Framework to Identify OSH at the Intersection of Pillars and Determinants of Decent Work

<table>
<thead>
<tr>
<th>Determinants of Decent Work²</th>
<th>Pillars¹ of Decent Work</th>
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</thead>
<tbody>
<tr>
<td>Demographics: Aging &amp; Gender</td>
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<tr>
<td>Globalization</td>
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<td>Informal Work</td>
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<td>Migration</td>
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<td>Pandemics</td>
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<td>OSH Policies</td>
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<tr>
<td>Climate Change</td>
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</table>

Challenges for the OSH Community

- Examine the intersection between determinants and pillars of decent work.
- Identify issues and needed actions in each cell.

¹ Pillars are strategic objectives of the International Labor Organization to promote decent work.
² “Determinants” means factors that positively or negatively influence the realization of decent work.

Schulte, et al., 2022
## Target Audiences to Affect Decent Work

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<tr>
<td>Practitioners</td>
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<td>Researchers</td>
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<td>Advocates</td>
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<td>Policy-Makers/Governments</td>
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<td>Educators</td>
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**Expanded Focus for Occupational Safety & Health**

**Broader horizontally**

- Traditional OSH
  - Personal Risk Factors
    - WHO*
  - Traditional OSH
    - Eurofound*
  - Social & Economic Risk Factors

**Broader horizontally & vertically**

- Well-Being & Decent Work
  - TWH

- Traditional OSH
  - Working life continuum

* Builds on Total Worker Health (TWH), WHO, 2010; Eurofound, 2016

Adapted from Schulte et al., 2020
Expanded Focus for Occupational Safety & Health

Relation of Work and Workplace Hazards to Disease & Injury

**Occupational Disease & Injury**
 Primarily caused by chemical, physical, biological, and social factors in the workplace
 Attributable fraction (AF)
 AF > 50%

**Work-Related Disease & Injury**
 Occupational and other diseases and injuries whose etiology is partly affected by work-related factors
 AF < 50%

WHO, 2003
Expanded Focus for Occupational Safety & Health

Broader horizontally & vertically

Traditional OSH

- Personal Risk Factors
  - WHO*
- Social & Economic Risk Factors
  - Eurofound*

Well-Being & Decent Work
TWH

Working life continuum

* Builds on Total Worker Health (TWH), WHO, 2010; Eurofound, 2016

Adapted from Schulte et al., 2020
The Working Life Continuum and Dynamic Nature of Work

NON-WORK HAZARDS & RISKS

Working Life

JOB_n
- Occupational Hazards & Risks_n
- Work-Related Hazards & Risks_n

Pre-work
(school/training)

JOB_1
- Occupational Hazards & Risks_1
- Work-Related Hazards & Risks_1

Post-work
(retirement)

- Precarious employment
- Between jobs
- Unemployed

Schulte et al., 2017
Health Effects of Unemployment

- Physical and mental
- Job loss increases odds of fair or poor health by 54%
- Job loss increases odds new health conditions by 83% among those with no pre-existing conditions

Strully, 2015
Underemployment (involuntary, part-time or poverty wage) seems to have health effects more like those of unemployment than adequate employment.

Dooley & Catalano, 1991
Expanded Focus for Occupational Safety & Health

Broader horizontally & vertically

Well-Being & Decent Work

Broader horizontally

TWH

Personal Risk Factors

Traditional OSH

Social & Economic Risk Factors

Traditional OSH

Broader horizontally & vertically

TWH

Personal Risk Factors

Traditional OSH

Social & Economic Risk Factors

Traditional OSH

Working life continuum

Adapted from Schulte et al., 2020

* Builds on Total Worker Health (TWH), WHO, 2010; Eurofound, 2016
Operationalizing the Concept of Well-being

**Research**
- Independent Variable
  - Impact of well-being on health, productivity, and organizational effectiveness
- Dependent Variable
  - Causes of lack of well-being
  - Effect of interventions on well-being

**Practice**
- Workers
  - Self-appraisal
- Employers
  - Assess well-being of workforce
  - Promote well-being at work
  - Measure effectiveness of programs

**Policy**
- Target / Goal
  - As a standard, achieve a given level of well-being
  - Identify how to build well-being into policy
- Indicator
  - Assess whether policy will have an impact
  - Address drivers of well-being
  - Evaluate policy
NIOSH Worker Well-Being Questionnaire (WellBQ) – Released April 2021

- First-ever survey to comprehensively measure worker well-being
- Characterizes quality of life by:
  - Health status
  - Work-related physical environment/safety climate
  - Work evaluation and expertise, psychosocial factors
  - Workplace policies and culture
  - Home, community, society

Issues Relevant to Advancing Worker Well-being Using Total Worker Health® Approaches

Prevention and Control of Hazards and Exposures
- Biological Agents
- Chemicals
- Ergonomic Factors
- Physical Agents
- Psychosocial Factors
- Risk Assessment and Management

Built Environment Supports
- Accessible and Affordable Health Enhancing Options
- Clean and Equipped Breakrooms, Restrooms, and Lactation Facilities
- Healthy Workspace Design and Environment
- Inclusive and Universal Design
- Safe and Secure Facilities

Community Supports
- Access to Safe Green Spaces and Pathways
- Healthy Community Design
- Safe and Clean Environment (Air and Water Quality, Noise Levels, Tobacco-Free)
- Safe, Healthy, and Affordable Housing Options
- Transportation and Commuting Assistance

Compensation and Benefits
- Adequate Wages and Prevention of Wage Theft
- Affordable, Comprehensive, and Confidential Healthcare Services
- Chronic Disease Prevention and Management Programs
- Continual Learning, Training, and (Re-)Skilling Opportunities
- Disability Insurance (Short- and Long-Term)
- Employee Assistance and Substance Use Disorder Programs
- Equitable Pay, Performance Appraisals, and Promotions
- Minimum Guaranteed Hours
- Paid Time Off (Sick, Vacation, Caregiving, Parental)
- Prevention of Healthcare Cost Shifting to Workers
- Retirement Planning and Benefits
- Work-Life Programs
- Workers’ Compensation Benefits

Healthy Leadership
- Collaborative and Participatory Environment
- Corporate Social Responsibility
- Responsible Business Decision-Making
- Supportive Managers, Supervisors, and Executives
- Training
- Worker Recognition, Appreciation, and Respect

Organization of Work
- Adequate Breaks
- Comprehensive Resources
- Fatigue, Burnout, Loneliness, and Stress Prevention
- Job Quality and Quantity
- Meaningful and Engaging Work
- Safe Staffing
- Work Intensification Prevention
- Work-Life Fit

Policies
- Elimination of Bullying, Violence, Harassment, and Discrimination
- Equal Employment Opportunity
- Family and Medical Leave
- Human and Natural Resource Sustainability
- Information Privacy
- Judicious Monitoring of Workers and Biomonitoring Practices
- Optimizing Function and Return-to-Work
- Prevention of Stressful Job Monitoring Practices
- Reasonable Accommodations
- Transparent Reporting Practices
- Whistleblower Protection
- Worker Well-Being Centered
- Workplace Supported Recovery Programs

Technology
- Artificial Intelligence
- Robotics
- Sensors

Work Arrangements
- Contracting and Subcontracting
- Free-Lance
- Global and Multinational
- Multi-Employer
- Non-Standard
- Organizational Restructuring, Downsizing, and Mergers
- Precarious and Contingent
- Small- and Medium-Sized Employers
- Temporary
- Unemployment and Underemployment
- Virtual

Workforce Demographics
- Diversity and Inclusivity
- Multigenerational
- Productive Aging across Lifecourse
- Vulnerable Workers
- Workers with Disabilities

Total Worker Health® is a registered trademark of the US Department of Health and Human Services

Updated January 2020
New Emphasis

Historic Focus of Occupational Safety and Health Field

Basic Etiologic Research

New Focus: To Promote and Realize Decent Work

Implementation & Translation Science

Implementation + Impact

Systems Thinking & Transdisciplinary Approaches

Multi-level modeling Socioeconomic and contextual factors
Translation & Implementation Science

...the application of scientific investigative approaches to study how the outputs of basic and applied research can be effectively translated into practice and have an impact.

Schulte, et al., 2015

...comprehensive applied research that strives to translate the available knowledge and make it useful.

Narayan, et al., 2000

...approach that considers multilevel contextual factors... in an increasingly dynamic and complex global economy.

Guerin, et al., 2021
Systems Thinking

Understanding the interconnections of a system in such a way as to achieve a desired purpose.

Distinguishing problems, symptoms, and trends from underlying or root causes.

The relationship between problems and their causes is sometimes indirect and not obvious.

Seeing the big picture.

Stroh, 2015
Transdisciplinary Approaches

- A process in which team members representing different fields work together
- Over extended period
- Develop shared and conceptual framework
- Integrate and transcend their disciplinary perspectives

Stroh, et al., 2008
Evolution of OSH

Historic focus of OSH

Systems thinking

Implementation Science

Transdisciplinary Approaches

Decent Work

Well-being
Questions to Consider

• How does the OSH field adapt to having decent work & well-being as the focus rather than health?

• What are the practical implications of this adaptation?

• How do we train new professionals to investigate, promote, and foster decent work and well-being?

• What are the next steps?
The findings and conclusions in this report are those of the author and do not necessarily represent the views of the National Institute for Occupational Safety and Health.