

avoid the perception of age discrimination. As with workers, employers did not widely use terms such as occupational health, hazards, or exposures. Senior executives cited stress management, ergonomics, lack of diversity, multi-generational workforces, career planning, and retention as important needs. According to most executives interviewed, organizations are not adequately addressing the needs of aging workers. Many of the aging experts agreed that employers' views on aging are changing slowly. They discussed misunderstandings and biases toward aging workers, which they considered challenging but not impossible to overcome. Overall, the experts cited confusing legislation, inflexible workplace policies, age discrimination, differing work styles, workforce development, financial fears, family dynamics, and the health of aging workers as the most important issues to address in the future. Conclusions Respondents' views reflected changing demographic shifts and low numbers of Gen Xers needed to replace retiring Baby Boomers [AARP 2007; Gausepohl 2016]. Respondents across all groups noted employers' and industries' increasing need to address the physical, mental, social, emotional, and financial needs of aging workers. There appears to be a divide between how information sources (e.g., government agencies) and stakeholders (e.g., workers, employers) talk (e.g., words used) about the aging workforce. Efforts to educate stakeholders need to be more consumer-focused and engaging to resonate with key audiences. Strategies to disseminate tools and guidance should be consumer-focused and engaging rather than concentrated in peer review journals and government websites. Strategies include creating: (a) tools to help organizations assess their workforce, (b) benchmarking tools that rate workforce practices against industry standards and provide best practices, (c) more programs that identify risk factors for illness and injury in older workers, and (d) more campaigns in plain-language for stakeholders who do not look for information until problems emerge. Future research areas should include: (a) physical, cognitive, and emotional needs of aging workers; (b) discrimination and biases toward aging workers; (c) effectiveness of multi-generational teams; (d) revised health and retirement studies using quota or field experimental designs to determine before and after impacts; and (e) studies addressing impacts of the "gig" economy.

**Depression and Employees' Risk of Chronic Disease Development:
A critical issue for the workforce**

Michelle` Owens-Gary (NIOSH)

Depression and chronic diseases are alarmingly common in the workplace and represent a growing public health concern for employers and employees due to the long-lasting effect they can have on the workforce. Type 2 diabetes frequently co-exists with depression. Having both depression and diabetes can not only affect workers' physical and emotional health, but can also contribute to diminished work performance as a result of numerous factors (e.g., disease-related complications, reduced productivity), especially when these comorbid conditions go left unrecognized or unaddressed. To mitigate the negative impact that depression and diabetes can have on the future workforce, effective workplace interventions must be developed and made readily available to help employees manage these conditions, improve their work environment, and improve their overall quality of life. Depression affects workers at excessive rates (Wulsin, Alterman, Bushnell, Li, & Shen, 2014). It is estimated that up to 16% of the workforce will experience depression at any given time (Dewa, Hoch, Nieuwenhuijsen, Parikh, & Slutter, 2019), making this condition the most prevalent mental health concern in the workplace. More than 1 in

4 people with depression reporting serious concerns with their ability to function at work (Pratt & Brody, 2005). As a leading cause of disability for people aged 15–44 years, depression results in more disability days per year than many other physical and mental conditions (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). Depression cost the nation \$210 billion in 2010; representing a 21% increased cost from 2005 (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). About half of the economic cost of depression in 2010 was due to workplace costs (e.g., absenteeism, presenteeism, lost productivity, job turnover), 45% was associated with direct medical costs, and 5% was due to suicide-related costs (Greenberg, Fournier, Sisitsky, Pike, & Kessler, 2015). People with depression miss, on average, about five workdays out of a month with about 11 days of reduced productivity for the same timeframe (Valenstein, Vijan, Zeber, et al., 2001). Projections on the burden of mental disorders in the United States suggest that rates of depression will continue to rise dramatically, resulting in considerably higher indirect and direct costs and affecting future workforce participation (Tunceli, Zeng, Habib, & Williams, 2009). Chronic diseases, such as diabetes, are also very common and costly in the United States. In 2015, an estimated 30 million people in the United States had diabetes (Centers for Disease Control and Prevention, 2017). It is projected that by 2023, almost 20 million more people in the United States will also develop this disease (Bodenheimer, Chen, & Bennett, 2009). Diabetes, alone, cost the nation an estimated \$327 billion in 2017; up from \$245 billion in 2012, representing a 26% increase over a five-year period (American Diabetes Association, 2018). Like depression, diabetes also resulted in indirect economic costs, such as absenteeism, reduced work performance for those employed, reduced productivity for those unemployed, disability, and lost economic opportunities due to complications and premature death (American Diabetes Association, 2018; Schulte, Guerin, Schill, et al., 2015). Depression is present in about 1 in five adults with type 2 diabetes (American Diabetes Association, 2018). Additionally, individuals who develop depression also have a 37% increased risk of developing type 2 diabetes. When these two conditions occur together, there is an increased risk for work absenteeism, suboptimal disease management, increased medical expenditures, and poor health outcomes (Owens-Gary, Zhang, Jawanda, et al., 2018). Moreover, complications as a result of untreated depression and diabetes often are primary reasons for missed work and decreased productivity. Given the projected burden of both depression and diabetes on Americans (including those working and those unemployed), there is a need to develop interventions, such as workplace health promotion programs, to protect the future workforce. Employers have opportunities to improve worksites in ways that can help address individual modifiable risk factors (poor nutrition, low physical activity, obesity) and work environment factors (inflexible work schedules, job demands, lack of access to healthy food) that contribute to employees' risk of developing depression and diabetes. Workplace health promotion programs can lower costs for employers, reduce chronic disease risk factors, and lower absenteeism rates (Sorenson, Landsbergis, Hammer, et al., 2011). Yet, we need to understand the specific needs of a shifting work environment. Given that workers now have multiple careers over their lifespan than previous generations, and workplaces are typically smaller than past decades innovative approaches need to be developed to reach employees and incorporate health promotion programs at work (Sorenson, Landsbergis, Hammer, et al., 2011). This presentation will: 1) provide an overview of the burden of depression and diabetes at work; 2) describe how workplace health promotion programs can protect the future workforce; and 3) explore ways in which the changing

work environment needs to be taken into consideration for the prevention and management of depression and diabetes.

12:00–12:45 p.m.

Luncheon Sessions

Philadelphia Ballroom North

Total Worker Health® (TWH) Professionals Collaborative Meeting

Liliana Tenney (University of Colorado Denver)

Join us to discuss the formation of a professional group dedicated the advancement of Total Worker Health® (TWH). The group will serve as a hub, a new community, for individual professionals and both nonprofit and for-profit entities to share ideas and collaborate around TWH research, training, dissemination, and real-world solutions. At this meeting, we will present and discuss proposed activities and opportunities for involvement in 2020 and beyond. We encourage researchers, students, and professionals interested in learning more about this new initiative and expanding the professional field of TWH. The meeting will be facilitated by the Center for Health, Work & Environment, a NIOSH Center of Excellence for Total Worker Health®.

Philadelphia Ballroom South

Partnering with Organizations on Occupational Health Research

Chair: Liu-Qin Yang (Portland State University)

Presenters: Christopher Cunningham (The University of Tennessee at Chattanooga), Thomas Britt (Clemson University), Chu-Hsiang Chang (Michigan State University), Paul Spector (University of South Florida)

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