Data Brief:

Putting Data to Work: Health Indicators by Occupation and Industry

Findings from the MA Behavioral Risk Factor Surveillance System

Massachusetts Department of Public Health JANUARY 2016

Over three million Massachusetts residents are employed in thousands of workplaces throughout the Commonwealth. While work is fundamental to well-being, working conditions can also negatively affect health. The work environment can have both direct and indirect adverse impacts on health. Direct impacts include workplace injuries and illnesses that occur as a result of exposure to hazards in the workplace such as toxic chemicals, dangerous equipment, and violence at work. There is also increasing evidence that work organization factors, such as shift work, long work hours, and jobs with high demand, low control and poor social support, impact health directly and can also indirectly affect health by influencing lifestyle behaviors – such as eating habits, leisure time exercise, and sleep, as well as ability to manage chronic diseases. Leave and benefit schedules can influence workers' access to healthcare as well as ability to care for dependents. This burden of occupational risks is not borne equally. It is widely recognized that low wage workers, including many immigrant and minority workers, are disproportionately employed in physically demanding, high risk jobs and in high stress positions –those that offer little opportunity to influence how or when they work.

In short, work is an important determinant of health that needs to be taken into account in developing comprehensive approaches to improving population health and reducing health inequities. Many of our state health data systems include limited, if any, information about the employment status of individuals. To address this gap, Massachusetts has added questions about occupation and industry to the Behavioral Risk Factor Surveillance System (BRFSS). In the report attached to this data brief, we present findings from the 2012-2013 Massachusetts BRFSS surveys on 23 key health indicators by occupation and industry groups. The 23 health indicators are grouped into three categories – health access, health outcomes, and health behaviors (Box 1).

Box 1. Health Indicators

Health Access
- No health insurance
- No personal physician
- Could not see doctor due to cost
- No routine check-up in previous year
- No dental visit in previous year

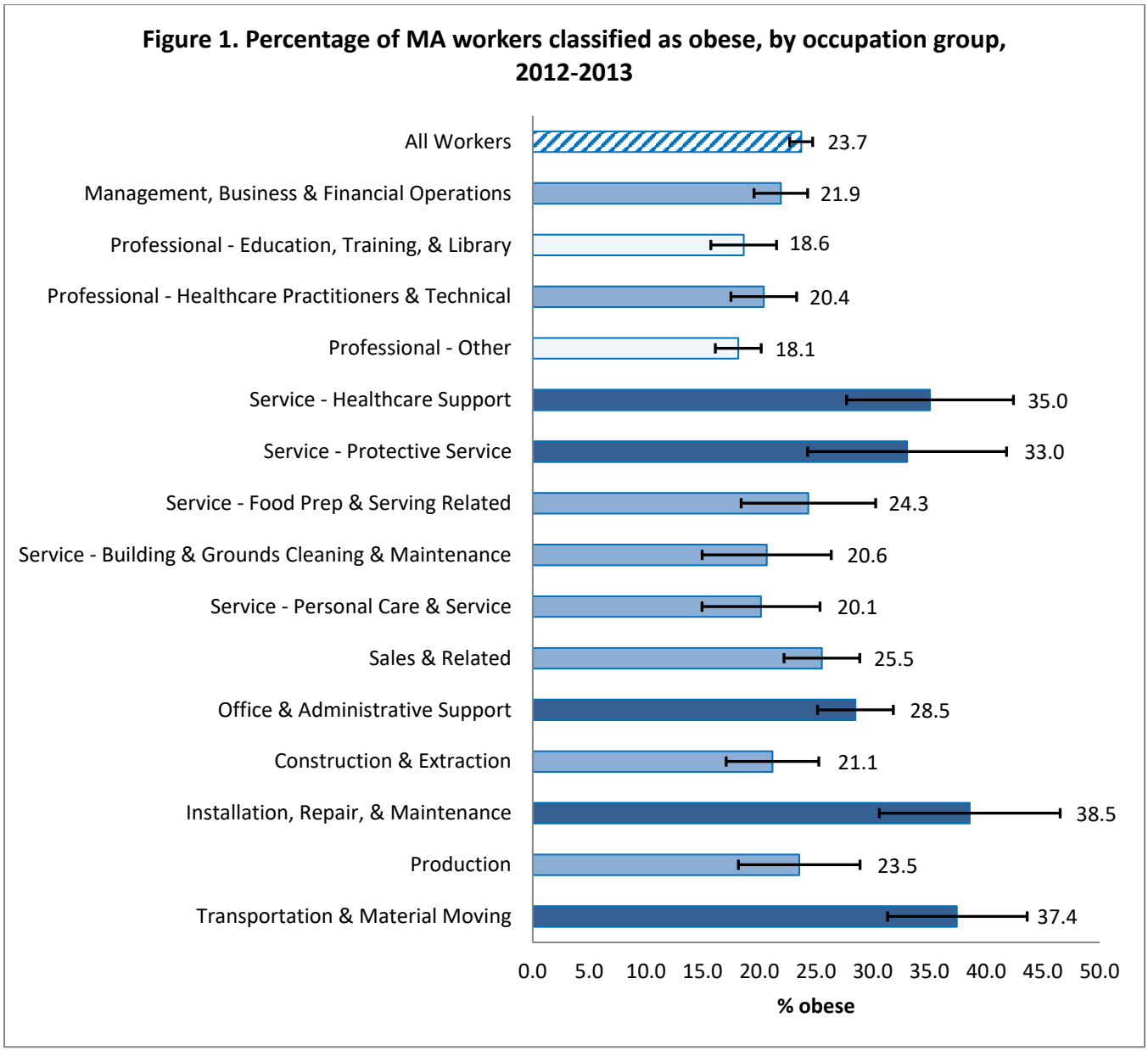
Health Outcomes
- Fair or poor health status
- ≥15 days poor physical health, past month
- ≥15 days poor mental health, past month
- Current asthma
- Hypertension
- Depression (ever diagnosed)
- Obesity
- ≥ 6 teeth lost due to decay

Health Behaviors
- Smoking
- Environmental tobacco smoke exposure at work – among non-smokers
- No influenza vaccination in past year
- Did not meet guidelines for aerobic activity
- Did not meet guidelines for muscle strengthening activity
- Consumed <5 servings of fruits and vegetables daily
- Binge drinking
- Heavy drinking
- Lack of seatbelt use
- Mean number hours of sleep per night

Occupation describes the kind of work a person does to earn a living (i.e., job title), whereas industry describes what a person's employer or business does. All respondents to the BRFSS who were employed within the previous year were asked their occupation and industry. Responses were grouped into 16 categories for occupation and 20 categories for industry based on codes from the U.S. Census Occupation and Industry Classification Systems, respectively. Overall, 20,421 respondents (55.5%) in the 2012 and 2013 samples

reported having been employed within the last year. Of these, 17,311 (84.7%) were assigned an occupation code and included in the occupation analyses, and 17,955 (87.9%) were assigned an industry code and included in the industry analyses.

Below are examples of charts from the attached report for the health outcome indicator obesity. All respondents were asked to report their height and weight. Respondents' obesity status was categorized based on their Body Mass Index (BMI), which equals weight in kilograms divided by height in meters squared. All adults with a BMI greater than or equal to 30.0 were classified as being obese.

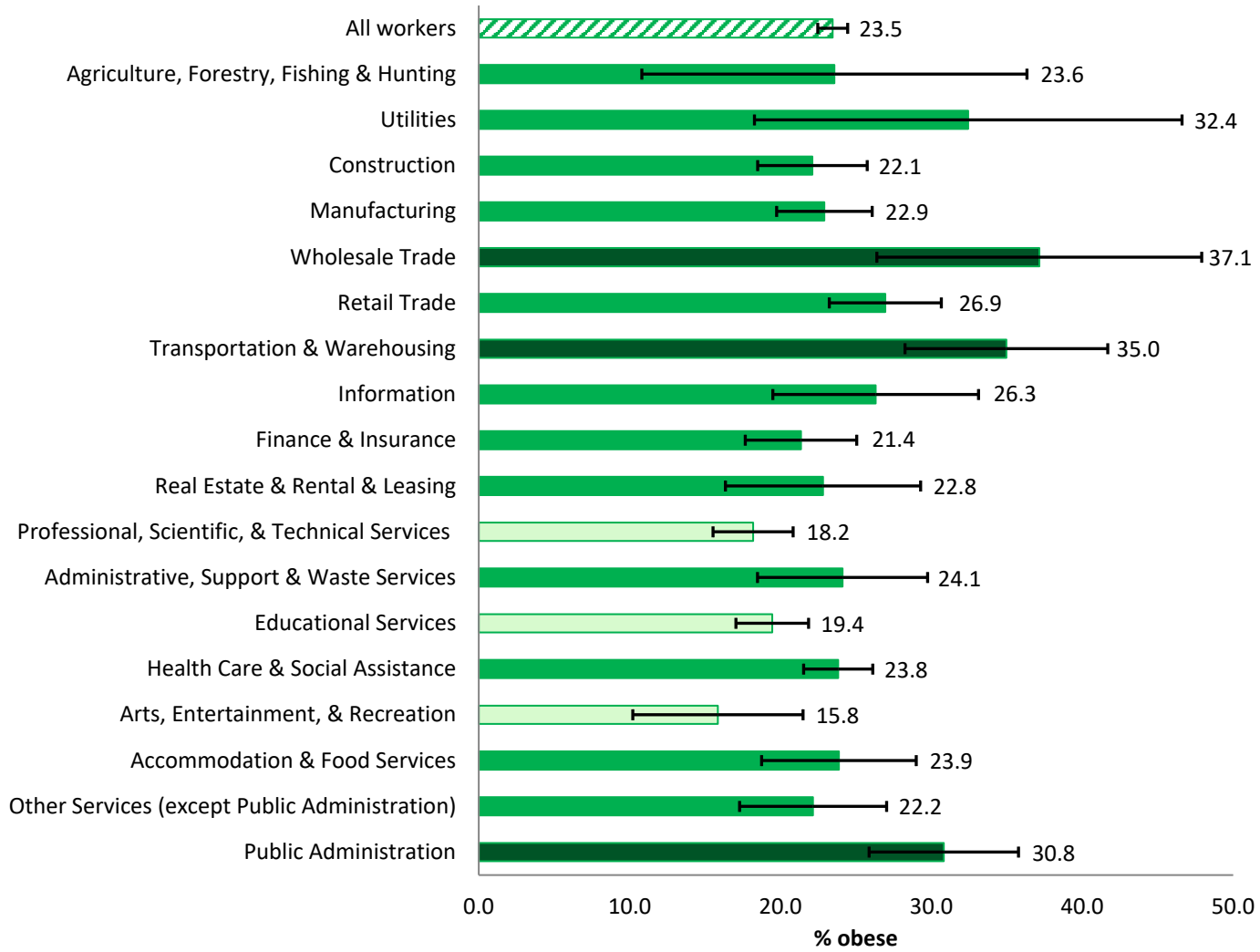


All workers = respondents with an occupation code; Insufficient data for Farming, Forestry & Fishing

Overall, 23.7% +/- 1% of all workers with an occupation code were classified as obese. The prevalence of obesity, however, was not equal across occupation groups. Workers in healthcare support, protective service, office & administrative support, installation, repair & maintenance, and transportation & material moving occupations were significantly more likely than all workers to be classified as obese (indicated by darker bars). Professional workers

(excluding healthcare practitioners and technical) were less likely than all workers to be classified as obese (indicated by lighter bars).

Figure 2. Obesity among MA workers, by industry group, 2012-2013



All workers = respondents with an industry code; Insufficient data for the following industries: Mining, Quarrying, & Oil &Gas Extraction and Management of Companies &Enterprises

Overall, 23.5% +/- 1% of all workers with an industry code were classified as obese. The prevalence of obesity also varied across industry groups. Those workers in wholesale trade, transportation & warehousing, and public administration were significantly more likely than all workers to be classified as obese (indicated by darker bars); whereas those employed in professional, scientific & technical services, educational services, and arts, entertainment & recreation were less likely than all workers to be classified as obese (indicated by lighter bars).

Overall, the information presented in the attached report may be useful in targeting activities to both protect and promote the health of working people. In providing this information, we encourage readers to go beyond thinking about the workplace solely as a venue to address “personal health choices” and to consider the potential impact of work exposures and work organization on health and health related behaviors.