Putting Data to Work

23 Health Indicators by Occupation and Industry: Findings from the Massachusetts Behavioral Risk Factor Surveillance System, 2012-2013

JANUARY 2016

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

BUREAU OF COMMUNITY HEALTH AND PREVENTION

OCCUPATIONAL HEALTH SURVEILLANCE PROGRAM

OFFICE OF DATA MANAGEMENT AND OUTCOMES ASSESSMENT

HEALTH SURVEY PROGRAM

MASSACHUSETTS DEPARTMENT OF PUBLIC HEALTH

Occupational Health Surveillance Program
Bureau of Community Health and Prevention
Health Survey Program
Office of Data Management and Outcomes Assessment

Putting Data to Work

23 Health Indicators by Occupation and Industry:

Findings from the Massachusetts Behavioral Risk Factor Surveillance System, 2012-2013

Charles D. Baker, Governor
Marylou Sudders, Secretary of Health and Human Services
Monica Bharel, MD, MPH, Commissioner, Department of Public Health
Carlene Pavlos, Director, Bureau of Community Health and Prevention
Letitia Davis, Director, Occupational Health Surveillance Program
Thomas Land, Director, Office of Data Management and Outcomes Assessment

January 2016

TABLE OF CONTENTS

ACKNOWLEDGEMENTS

This report was prepared by Maria McKenna, Kathleen Fitzsimmons, and Letitia Davis. We wish to express our gratitude to the residents of Massachusetts who participated in this survey, and to the dedicated interviewers who helped make this survey possible. Special thanks to Mark Paskowsky, Devan Hawkins, MyDzung Chu, Kathleen Grattan and members of the Occupational Health Surveillance Program's Advisory Board.

This work was supported by the Centers for Disease Control and Prevention (CDC) Cooperative Agreements 2U60OH008490 and 3U58SO000030. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of CDC.

INTRODUCTION

Over three million Massachusetts residents are employed in thousands of workplaces throughout the Commonwealth.[1,2] These workers drive our economy, from the cutting edge sectors of biotechnology and health care to traditional jobs in food services and construction. What these individuals working across a wide range of industries have in common is that work plays a central role in their lives. For full time workers, jobs fill close to half their waking hours - and for the 20% in Massachusetts who work overtime, a good deal more. **Work is fundamental to well-being, providing not only income and often other economic benefits but also, for many, a sense of meaning as well as social support.[3] Yet, at the same time, working conditions can negatively affect health.**

Every week, one to two Massachusetts workers are fatally injured at work.[4] Furthermore, each year in Massachusetts close to 70,000 workers suffer injuries as a result of exposure to **hazards in the workplace** such as dangerous equipment, heavy lifting, toxic chemicals and violence.[5] Chronic illnesses that result from exposure to toxic chemicals, chronic wear and tear and job stress also take a toll that is not reflected in these injury statistics.[6-8]

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 can **indirectly affect health by influencing what are often referred to as personal health behaviors** – such as eating habits, sleep, and leisure time exercise.[9,10] Often neglected, as well, is how the organization of work can impact individuals' ability to manage their chronic health conditions like diabetes or asthma. Work organization factors can also contribute to family–work imbalance, which is another source of stress. Finally, leave and benefit schedules critically influence workers' access to healthcare as well as ability to care for children, elders, and other dependents.[11]

The **burden of these 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 with high psychological stress – those that offer little opportunity to influence how or when they work.[12,13]

In short, **work is an important determinant of health** that needs to be taken into account in developing comprehensive public health approaches to improving population health and reducing health inequities. Yet, many of our state health data systems include limited, if any, information about the work status of individuals. To address this gap, Massachusetts is one of a number of states that has added questions about occupation and industry to the Behavioral Risk Factor Surveillance System (BRFSS).[a] In this chart book, we present findings from the 2012-2013 Massachusetts BRFSS surveys on 23 key health indicators by occupation and industry groups. This information should 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.

Occupation and Industry

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. Information on both occupation and industry is important to accurately characterize work. Typical industries include high school, residential construction, electric utility, grocery store, home health agency, or city fire department. Typical occupations within, for example, a high school might be a principal, secretary, teacher's aide, registered nurse, or custodian.

Methods

The Behavioral Risk Factor Surveillance System (BRFSS) is a continuous multimode telephone survey of adults ages18 years and older residing in a private residence or college housing and is conducted in all states as a collaboration between the

[a] Massachusetts was one of 10 states in 2012 and one of 23 states in 2013 to collect this information in the BRFSS.

federal Centers for Disease Control and Prevention (CDC) and state departments of health. The landline telephone portion of the survey has been conducted in Massachusetts since 1986; a cell phone component was added in 2011. The BRFSS collects data on a variety of health risk factors, preventive behaviors, chronic conditions, and emerging public health issues. Additional information about the Massachusetts BRFSS methods can be found at the end of this report and at www.mass.gov/dph/hsp.

The occupation and industry module is an important part of the Massachusetts BRFSS and has been included in the landline survey since 2010 and the cell phone survey since 2012. The findings in this report are based on data collected in both the landline and cell phone surveys in 2012 and 2013.

All BRFSS respondents who answered that they were currently employed for wages, self-employed, or out of work for less than one year were asked about their occupation and industry. (See Box 1.) Massachusetts BRFSS interviewers were trained on how to ask these questions. This training included information about the general concepts of occupation and industry, techniques on how to probe, and examples of insufficient and sufficient answers.

Box 1. Questions

Occupation question: *What kind of work do you do? (for example, registered nurse, janitor, cashier, auto mechanic)*

Industry question: *What kind of business or industry do you work in? (for example, hospital, elementary school, clothing manufacturing, restaurant)*

***Industry and occupation coding*.** The open-ended responses were coded by CDC's National Institute for Occupational Safety and Health (NIOSH) using the automated NIOSH Industry and Occupation Computerized Coding System as well as trained coding staff. Occupation responses were each assigned a 4-digit 2002 Census Occupation Code (COC); industry responses were each assigned a 4-digit 2002 Census Industry Code (CIC). 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.

***Industry and occupation groupings*.** For analysis, coded responses were categorized into broader occupation and industry groups: 16 for occupation and 20 for industry (see Tables 3 and 4 in Appendix). The 16 occupation groups are based on ten major COC groups, with two major groups further broken down to allow for analysis of important occupation subgroups in Massachusetts: *Professional and Related* was divided into three subgroups and *Servic*e was split into five subgroups. The 20 industry groups were based on 20 established CIC sectors. Notably, other states may choose to categorize occupations and industries differently depending on their workforce distributions.

Comparison of BRFSS respondents with MA workforce. Not all individuals contacted for the BRFSS survey participate. To assess whether survey respondents were representative of the working population in Massachusetts, we compared the distributions of employed respondents by the 16 occupation and 20 industry groups, respectively, with workforce estimates from the Current Population Survey (CPS) (Tables 1 and 2). The CPS, a joint effort of the U.S. Census Bureau and Bureau of Labor Statistics, is a key source of labor force statistics for the U.S. population (www.census.gov/cps/). As shown in Tables 1 and 2, the estimated distributions of employed respondents by occupation and industry in the BRFSS are, for the most part, similar to the corresponding distributions of the Massachusetts workforce based on the CPS. Examples for each group are provided in these tables.

Health Indicators. The 23 health indicators chosen for inclusion in this chart book fall into three broad categories: health access, health outcomes, and health behaviors. (See Box 2.) Some indicators of interest (e.g., diabetes prevalence) were excluded due to insufficient numbers but may be included in future reports. Figures present the prevalence estimates of these 23 health indicators by occupation and industry groups among Massachusetts workers. The 'All workers' bar in each figure represents the estimated prevalence for all employed respondents with an occupation or industry code, respectively, who answered the question about the corresponding health indicator. Bars in the figures are shaded to represent

statistically significant differences. Where the prevalence of an indicator was significantly higher among workers in a particular occupation or industry than among all workers, the bar for that occupation or industry is shaded darker; where the prevalence was significantly lower, the bar is shaded lighter.

Box 2. 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
- High blood pressure
- 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

Table 1: Distribution of BRFSS respondents by occupation group			
Occupation Group[1]	**Example occupations[2]**	**Workforce Distribution (%)**	
		BRFSS	**Current Population Survey[3]**
Management, Business & Financial Operations	legislator, sales manager, accountant, finance officer, bank examiner, HR specialist, school principal	14.3	17.5
Professional – Education, Training, & Library	preschool teacher, high school teacher, tutor, librarian, professor, athletic coach, art conservator	7.9	7.6
Professional – Healthcare Practitioners & Technical	pharmacist, physician, EMT, veterinarian, x-ray tech, nutritionist, registered nurse, licensed practical nurse, physical therapist	9.2	6.2
Professional – Other	software engineer, biostatistician, architect, electrical engineer, geologist, social worker, attorney, actor, paralegal, fashion designer, sports writer, book critic	16.3	15.4
Service – Healthcare Support	home health aide, nurse's aide, medical aide, dental assistant, pharmacy assistant, massage therapist	2.7	2.9
Service – Protective Service	corrections officer, police officer, fire fighter, bailiff, animal control worker, security guard, lifeguard	1.9	1.8
Service – Food Prep & Serving Related	cook, waiter, bar tender, dishwasher, host/hostess	3.7	5.1
Service – Building & Grounds Cleaning & Maintenance	janitor, housekeeper, landscaper, tree trimmer, pest control worker, pesticide applicator	3.6	3.4
Service – Personal Care & Service	barber, hairdresser, manicurist, cosmetologist, daycare worker, personal care attendant, flight attendant, animal trainer, recreation assistant	2.9	3.9
Sales & Related	cashier, store clerk, car salesman, art dealer, travel agent, insurance agent, realtor, telemarketer	9.5	9.2
Office & Administrative Support	bookkeeper, receptionist, customer service agent, library clerk, hotel clerk, mail carrier, courier	10.0	12.3
Farming, Forestry, & Fishing	egg grader, berry picker, orchard hand, log cutter, aquaculture worker, lobsterman, fishing boat captain	0.2	0.3
Construction & Extraction	carpenter, stonemason, roofer, electrician, insulation worker, asphalt worker, construction laborer	5.8	4.6
Installation, Repair, & Maintenance	locksmith, auto body worker, HVAC mechanic, cable TV installer, vending machine servicer	3.4	2.0
Production	electronics assembler, coat maker, furniture refinisher, printing press operator, butcher, distiller	4.3	3.9
Transportation & Material Moving	bus driver, taxi driver, air traffic controller, pumping station operator, parking attendant, waste collector	4.1	3.9

1. Occupation groups based on 2002 Census Occupation Codes: http://www.census.gov/people/io/. COC for each occupation group are included in the Appendix
2. Example occupations do not represent actual responses from BRFSS survey
3. 2012-2013 Current Population Survey: Massachusetts, employed, ages 18-90. http://dataferrett.census.gov

Table 2: Distribution of BRFSS respondents by industry group			
Industry Group[1]	**Examples[2]**	**Workforce Distribution (%)**	
		BRFSS	**Current Population Survey[3]**
Agriculture, Forestry, Fishing & Hunting	apple orchard, tree nursery, dairy farm, vineyard, aerial spraying, vegetable packing, animal breeding, oyster farm, lobstering, fishery	0.6	0.4
Mining, Quarrying, & Oil & Gas Extraction	blasting services for mining, limestone quarry, copper milling, gravel crushing, oil well drilling, petroleum production, natural gas compressing	0.0	0.1
Utilities	electric utility, wind farm, gas works, city water works, waste water treatment plant	0.7	0.6
Construction	general contractor, highway construction, asphalt paving, drywalling, excavating contractor, floor laying, underground cable laying, building demolition	7.1	6.0
Manufacturing	fruit canning, seafood processing, commercial bakery, sawmill, book printing, cement manufacturing, plastic bottle manufacturing, golf ball manufacturing	10.1	7.9
Wholesale Trade	cheese wholesaler, vitamins wholesaler, footwear wholesaler, furniture wholesaler	1.2	2.6
Retail Trade	supermarket, pet supply store, book store, jewelry store, gasoline station, electronic shopping, used car dealer, hardware store, nursery/garden center	9.4	9.4
Transportation & Warehousing	airline, commuter rail system, taxi service, courier service, postal service, city port, commercial trucking, furniture moving, general storage, cold storage plant	2.9	2.7
Information	associated press, newspaper office, internet sports site, radio program producer, cinema, film studio, internet provider, software publishing, book publishing	2.5	2.2
Finance & Insurance	credit union, loan broker, savings bank, auto insurance agency, health insurer	5.4	5.5
Real Estate & Rental & Leasing	real estate firm, building management, car rental agency, clothing rental company	1.7	1.7
Professional, Scientific, & Technical Services	law office, payroll service, accounting firm, surveying service, graphic design firm, website development, advertising agency, animal clinic, photo studio	8.0	10.6
Management of Companies & Enterprises	corporate headquarters, district and regional offices, bank holding company	0.2	0.2
Administrative, Support, & Waste Services	employment agency, credit bureau, travel agency, security service, packaging service, landscaping business, trash collection, recycling center, septic cleaning service	2.8	3.8
Educational Services	elementary school, vocational high school, state university, veterinary school, US Naval Academy, cosmetology school, soccer camp, dance academy	11.9	11.8
Health Care & Social Assistance	medical clinic, dental office, drug treatment center, visiting nurse association, city hospital, nursing home, adoption agency, homeless shelter, child care center	18.8	16.6
Arts, Entertainment, & Recreation	modeling agency, baseball stadium, circus, orchestra, city museum, state park, zoo, amusement park, bowling alley, bathing beach, golf course, health club, ski resort	2.0	2.0
Accommodation & Food Services	hotel, motel, bed and breakfast, recreational camp, bagel shop, fast food restaurant, concession stand, ice cream truck vendor, school cafeteria, cocktail lounge	4.8	6.4
Other Services (except Public Administration)	auto body shop, computer repair service, shoe repair shop, barbershop, nail salon, laundromat, funeral home, city animal shelter, civic organization, labor union	5.1	4.8
Public Administration	statehouse, city tax office, city garage, state court, US prison, city fire department, state police academy, city board of health, state motor vehicle registry, US Army post	4.5	4.5

1. Industry groups based on 2002 Census Industry Codes: http://www.census.gov/people/io/. CIC for each occupation group are included in the Appendix
2. Example industries do not represent actual responses from BRFSS survey
3. 2012-2013 Current Population Survey: Massachusetts, employed, ages 18-90. http://dataferrett.census.gov

HEALTH ACCESS INDICATORS

Access to Care – Health Insurance

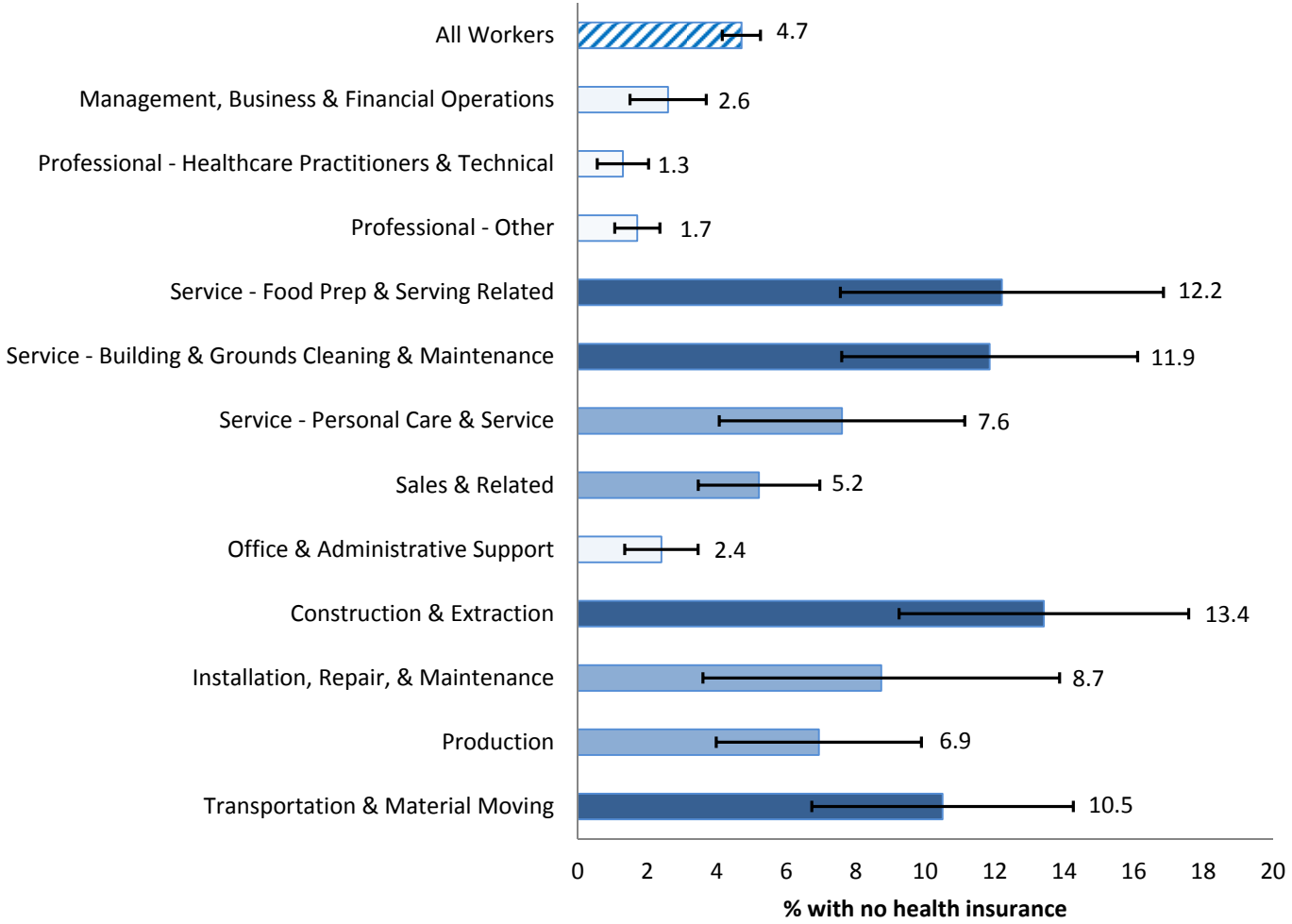
All respondents were asked if they had any type of health care coverage at the time of the interview. Those who indicated that they had no coverage were asked a follow-up question to be certain that they had considered all types of health care coverage

Compared to all workers, the prevalence of NOT having health insurance among workers in the following occupation groups was significantly…

- Higher:
  - Construction & Extraction
  - Service – Food Prep & Serving Related
  - Service – Building & Grounds Cleaning & Maintenance
  - Transportation & Material Moving
- Lower:
  - Professional – Healthcare Practitioners & Technical
  - Professional – Other
  - Office & Administrative Support
  - Management, Business & Financial Operations

All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry & Fishing,
Service – Protective Service,
Service – Healthcare Support,
Professional – Education, Training & Library

Figure 1a. Percentage of MA workers ages 18-64 reporting no health insurance, by occupation group, 2012-2013

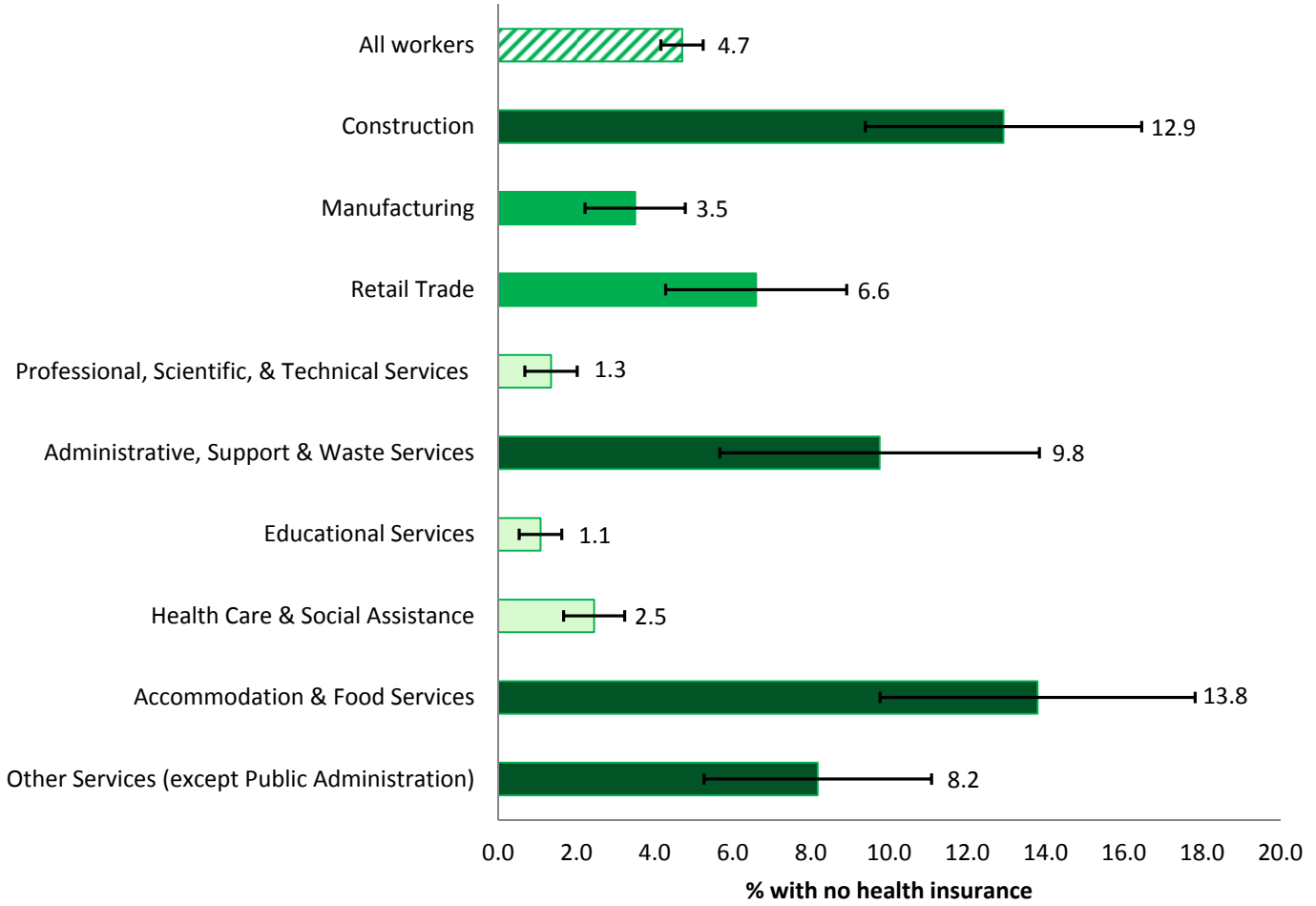


Access to Care –
Health Insurance

Compared to all workers, the prevalence of NOT having health insurance among workers in the following industry groups was significantly…

- Higher:
  - Accommodation & Food Services
  - Construction
  - Administrative, Support & Waste Services
  - Other Services (except Public Administration)
- Lower:
  - Educational Services
  - Professional, Scientific & Technical Services
  - Health Care & Social Assistance

Figure 1b. Percentage of MA workers ages 18-64 reporting no health insurance, by industry group, 2012-2013



All workers = respondents with an industry code

Insufficient data for the following industries:

Agriculture, Forestry, Fishing and Hunting
Mining, Quarrying, and Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Wholesale Trade
Transportation & Warehousing
Information
Finance & Insurance
Real Estate & Rental & Leasing
Arts, Entertainment & Recreation
Public Administration

Access to Care –
Personal Physician

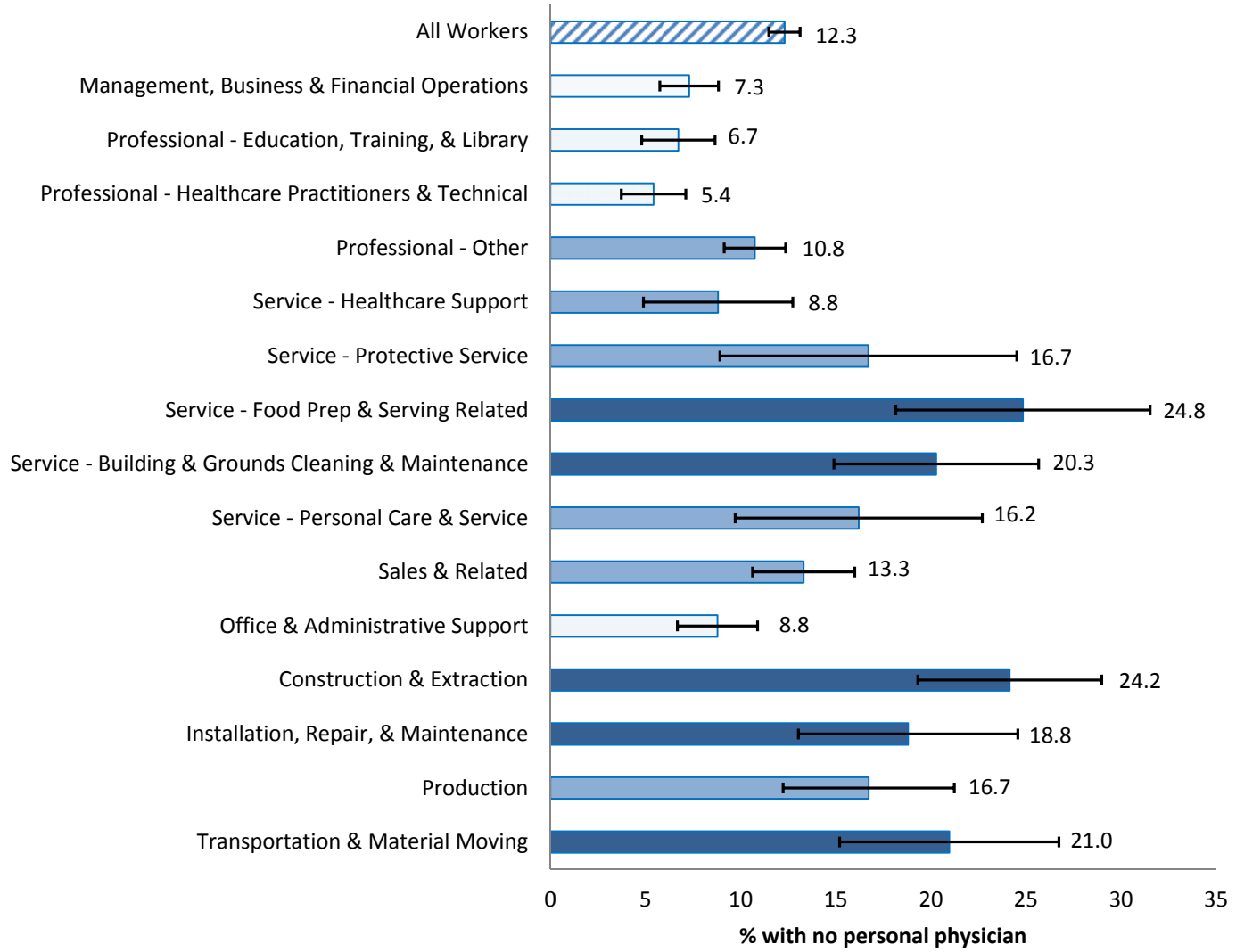
All respondents were asked if they had a person that they thought of as their personal doctor or health care provider.

Compared to all workers, the prevalence of NOT having a personal physician among workers in the following occupation groups was significantly…

- Higher:
  - Service – Food Prep & Serving Related
  - Construction & Extraction
  - Transportation & Material Moving
  - Service – Building & Grounds Cleaning & Maintenance
  - Installation, Repair & Maintenance

- Lower:
  - Professional – Healthcare Practitioners & Technical
  - Professional – Education, Training, & Library
  - Management, Business & Financial Operations
  - Office & Administrative Support

Figure 2a. Percentage of MA workers reporting not having a personal physician, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations:
Farming, Forestry &Fishing

Access to Care –
Personal Physician

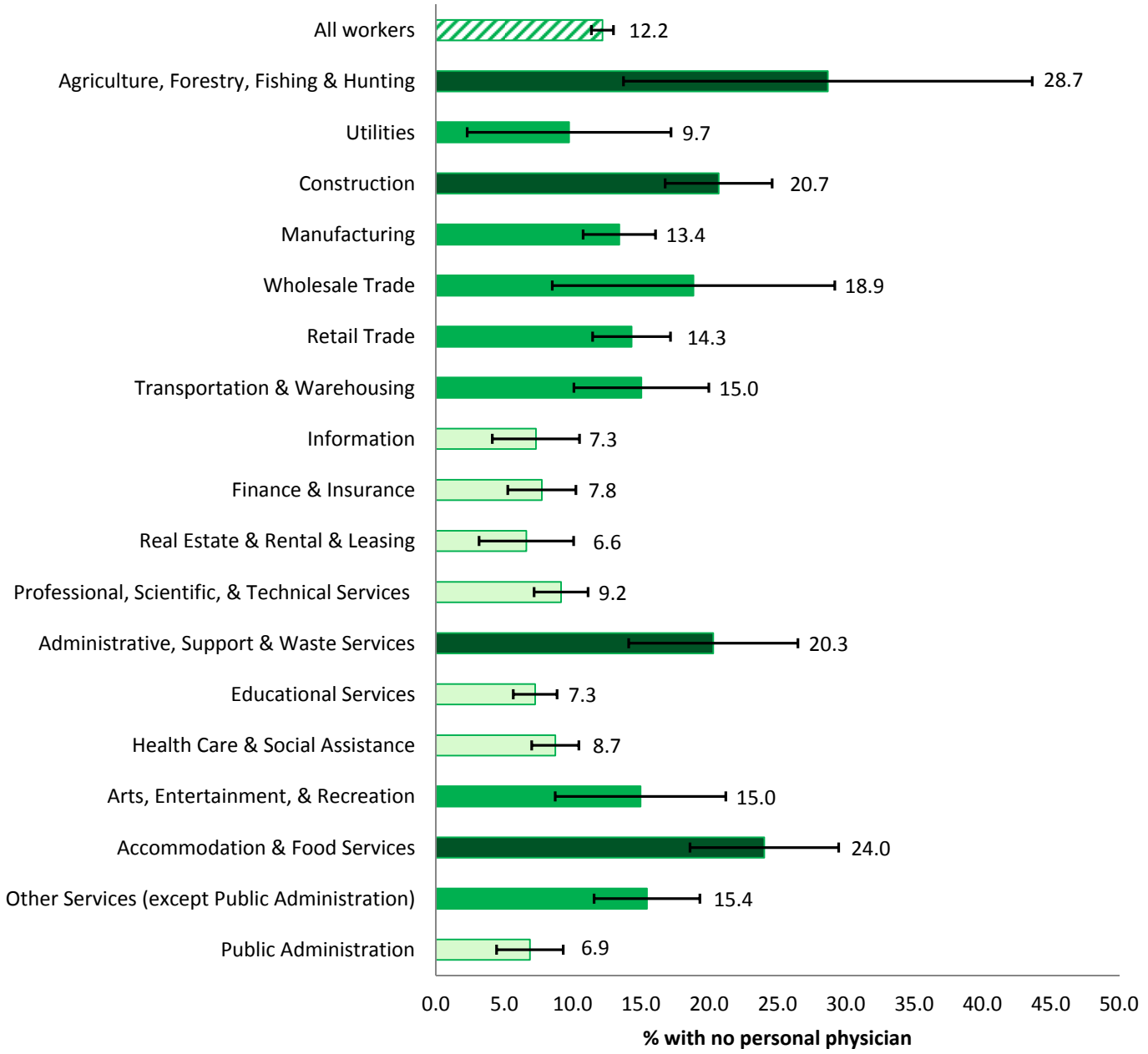
Compared to all workers, the prevalence of NOT having a personal physician among workers in the following industry groups was significantly…

- Higher:
  - Agriculture, Forestry, Fishing & Hunting
  - Accommodation & Food Services
  - Construction
  - Administrative, Support & Waste Services

- Lower:
  - Real Estate & Rental & Leasing
  - Public Administration
  - Information
  - Educational Services
  - Finance & Insurance
  - Health Care & Social Assistance
  - Professional, Scientific & Technical Services

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

Figure 2b. Percentage of MA workers reporting not having a personal physician, by industry group, 2012-2013



Access to Care –
Cost Barrier

All respondents were asked whether there was any time in the past year when they were unable to see a doctor due to cost.

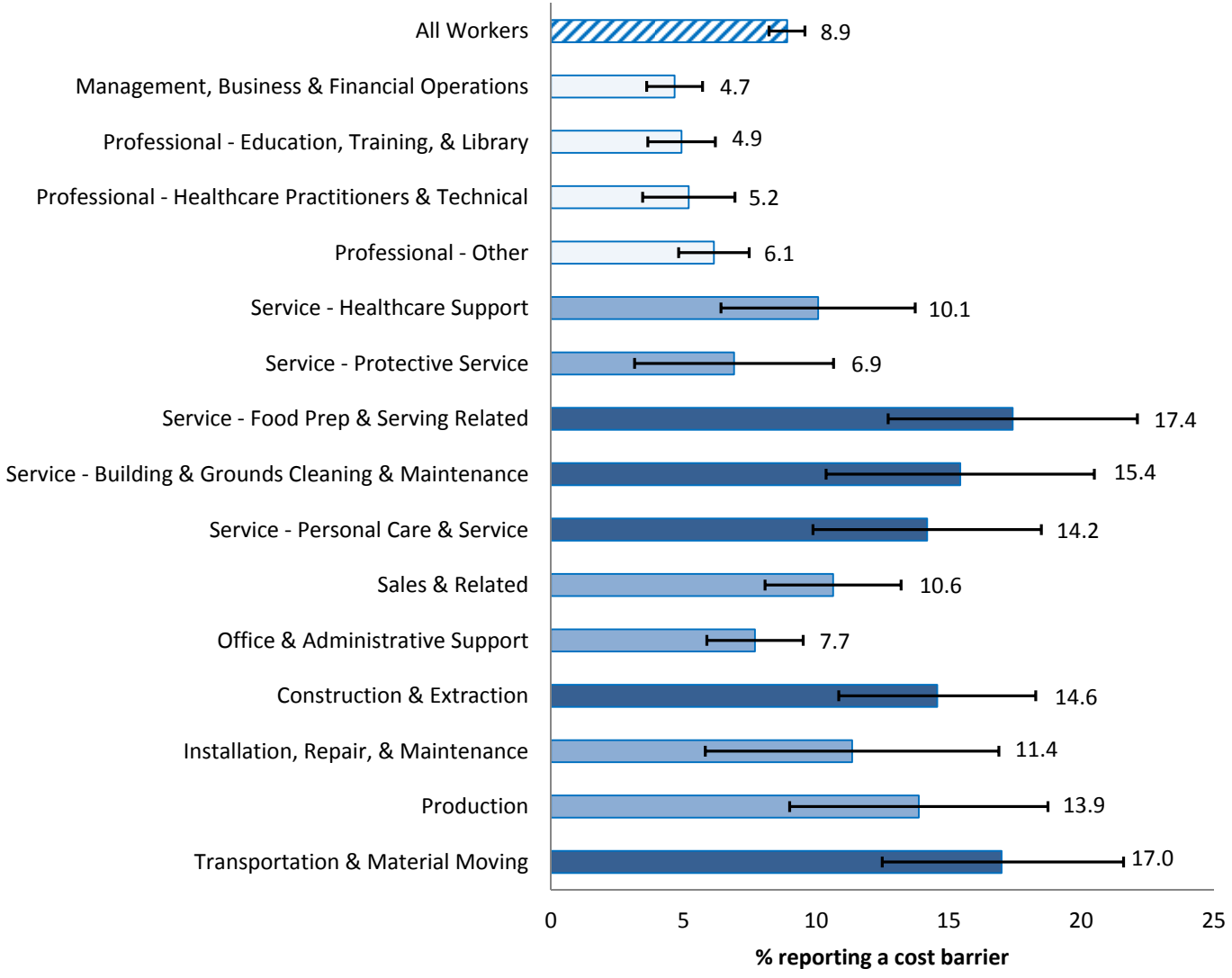
Compared to all workers, the prevalence of reporting a cost barrier to seeing a physician at any time in the past year among workers in the following occupation groups was significantly…

- Higher:
  - Service - Food Prep & Serving Related
  - Transportation & Material Moving
  - Service - Building & Grounds Cleaning & Maintenance
  - Construction & Extraction
  - Service - Personal Care & Service

  Lower:
  - Management, Business & Financial Operations
  - Professional - Education, Training, & Library
  - Professional - Healthcare Practitioners & Technical
  - Professional - Other

All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

Figure 3a. Percentage of MA workers reporting a cost barrier to care, by occupation group, 2012-2013



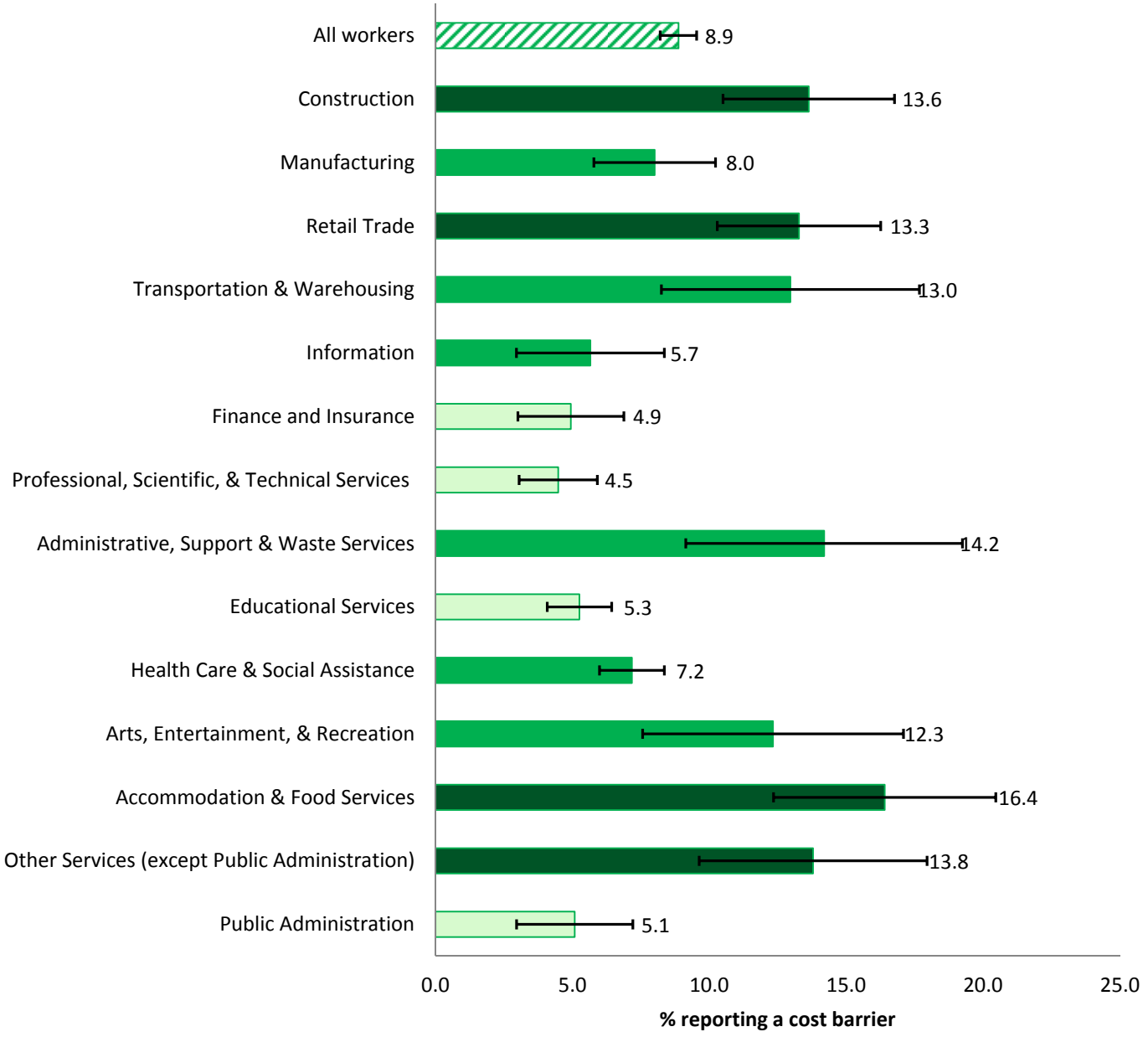
Access to Care –
Cost Barrier

Compared to all workers, the prevalence of reporting a cost barrier to seeing a physician at any time in the past year among workers in the following industry groups was significantly…

- Higher:
  - Accommodation & Food Services
  - Other Services (except Public Administration)
  - Construction
  - Retail Trade
- Lower:
  - Professional, Scientific & Technical Services
  - Finance & Insurance
  - Public Administration
  - Education Services

All workers = respondents with an industry code
Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Wholesale Trade
Real Estate and Rental & Leasing

Figure 3b. Percentage of MA workers reporting a cost barrier to care, by industry group, 2012-2013



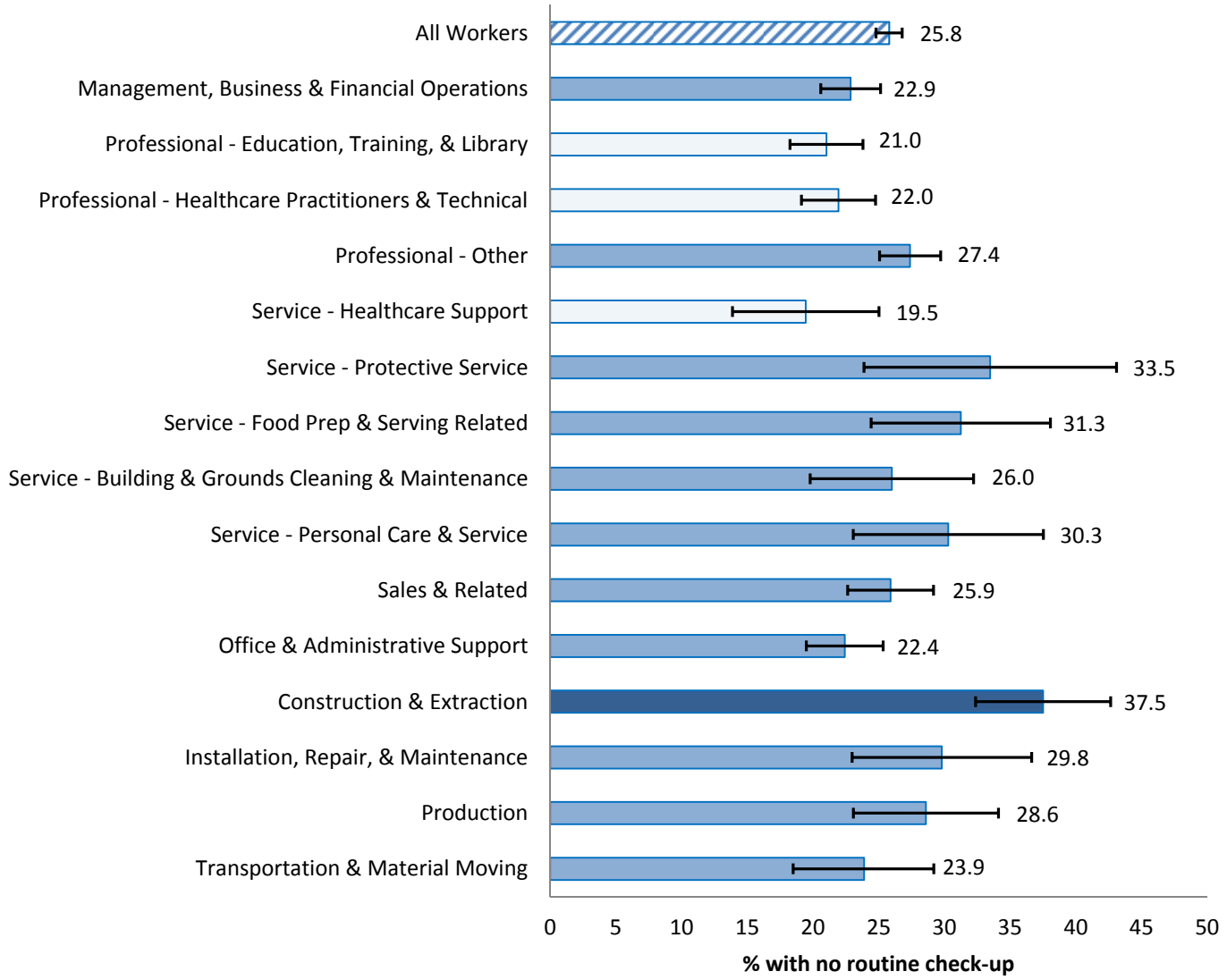
Access to Care –
Routine Check-up

All respondents were asked how long it had been since they last visited a doctor for a routine check-up.

Compared to all workers, the prevalence of NOT having had a routine check-up within the past year among workers in the following occupation groups was significantly…

- Higher:
  - Construction & Extraction
- Lower:
  - Service – Healthcare Support
  - Professional – Education, Training & Library
  - Professional – Healthcare Practitioners & Technical

Figure 4a. Percentage of MA workers reporting no routine check-up in the past year, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations:
Farming, Forestry &Fishing

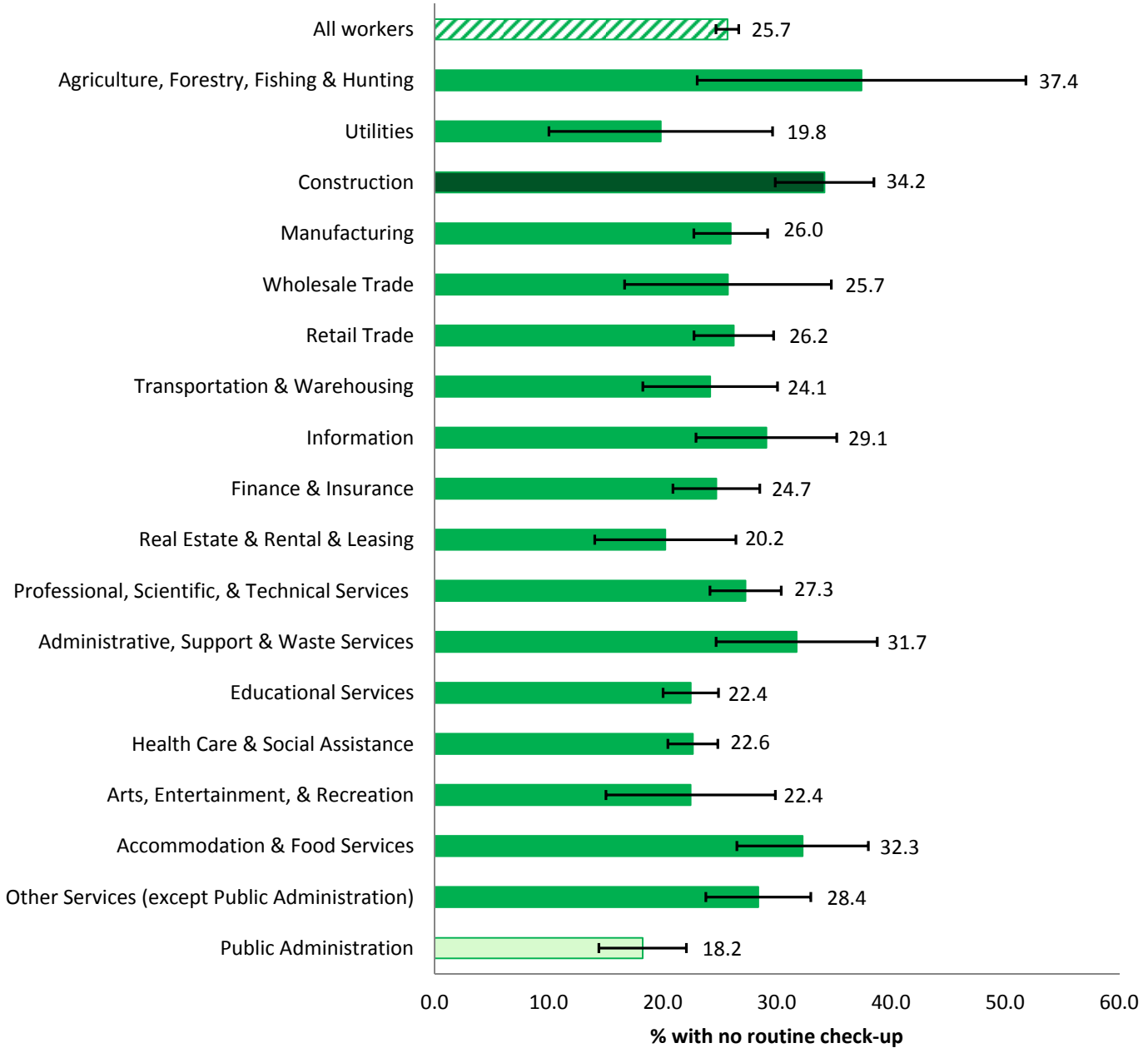
Access to Care
Routine Check-up

Compared to all workers, the prevalence of NOT having had a routine check-up within the past year among workers in the following industry groups was significantly…

- Higher:
  - Construction
- Lower:
  - Public Administration

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

Figure 4b. Percentage of MA workers reporting no routine check-up in the past year, by industry group, 2012-2013



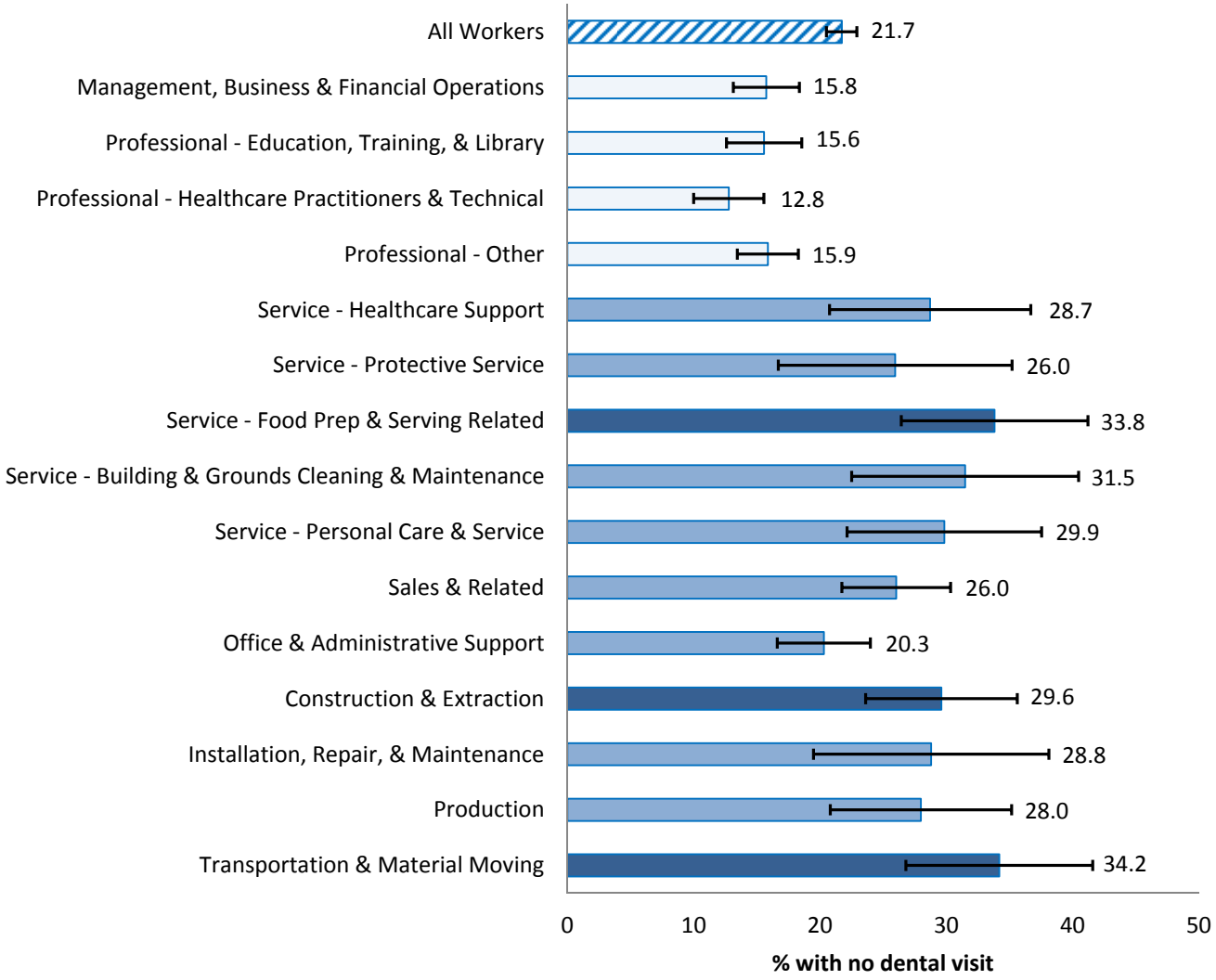
Oral Health
Dental Visit

All respondents were asked how long it had been since they had last visited a dentist or a dental clinic. The wording of the question did not differentiate between a routine cleaning and other types of dental work.

Compared to all workers, the prevalence of NOT having a dental visit in the past year among workers in the following occupation groups was significantly…

- Higher:
  - Service – Food Prep & Serving Related
  - Transportation & Material Moving
  - Construction & Extraction
- Lower:
  - Professional – Healthcare Practitioners & Technical
  - Professional – Education, Training & Library
  - Management, Business & Financial Operations
  - Professional - Other

Figure 5a. Percentage of MA workers reporting no dental visit in the past year, by occupation group, 2012



All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

Oral Health

Dental Visit

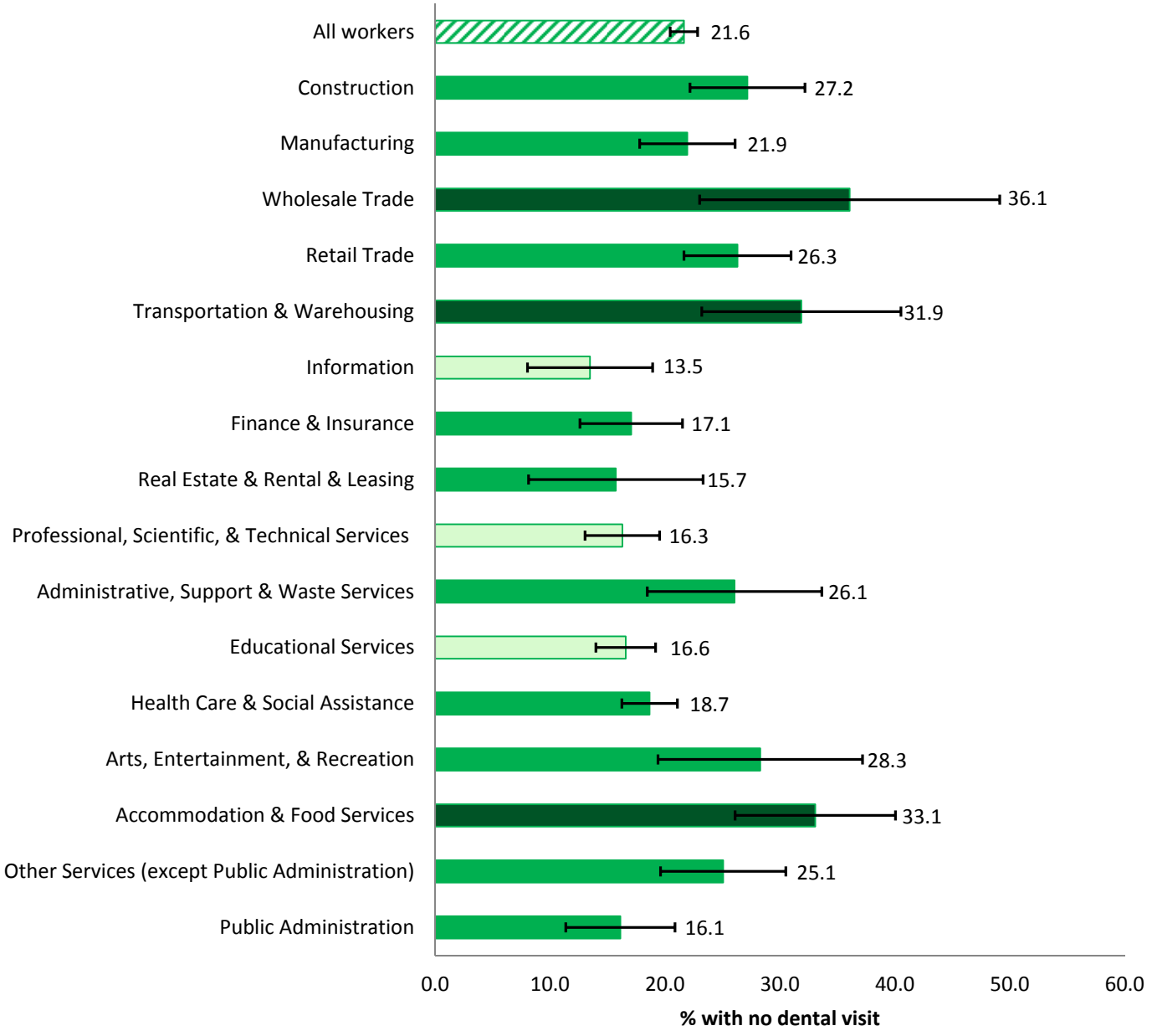
Compared to all workers, the prevalence of NOT having a dental visit in the past year among workers in the following industry groups was significantly…

- Higher:
  - Wholesale Trade
  - Accommodation & Food Services
  - Transportation & Warehousing
- Lower:
  - Information
  - Professional, Scientific & Technical Services
  - Educational Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 5b. Percentage of MA workers reporting no dental visit in the past year, by industry group, 2012



HEALTH OUTCOME INDICATORS

General Health Status

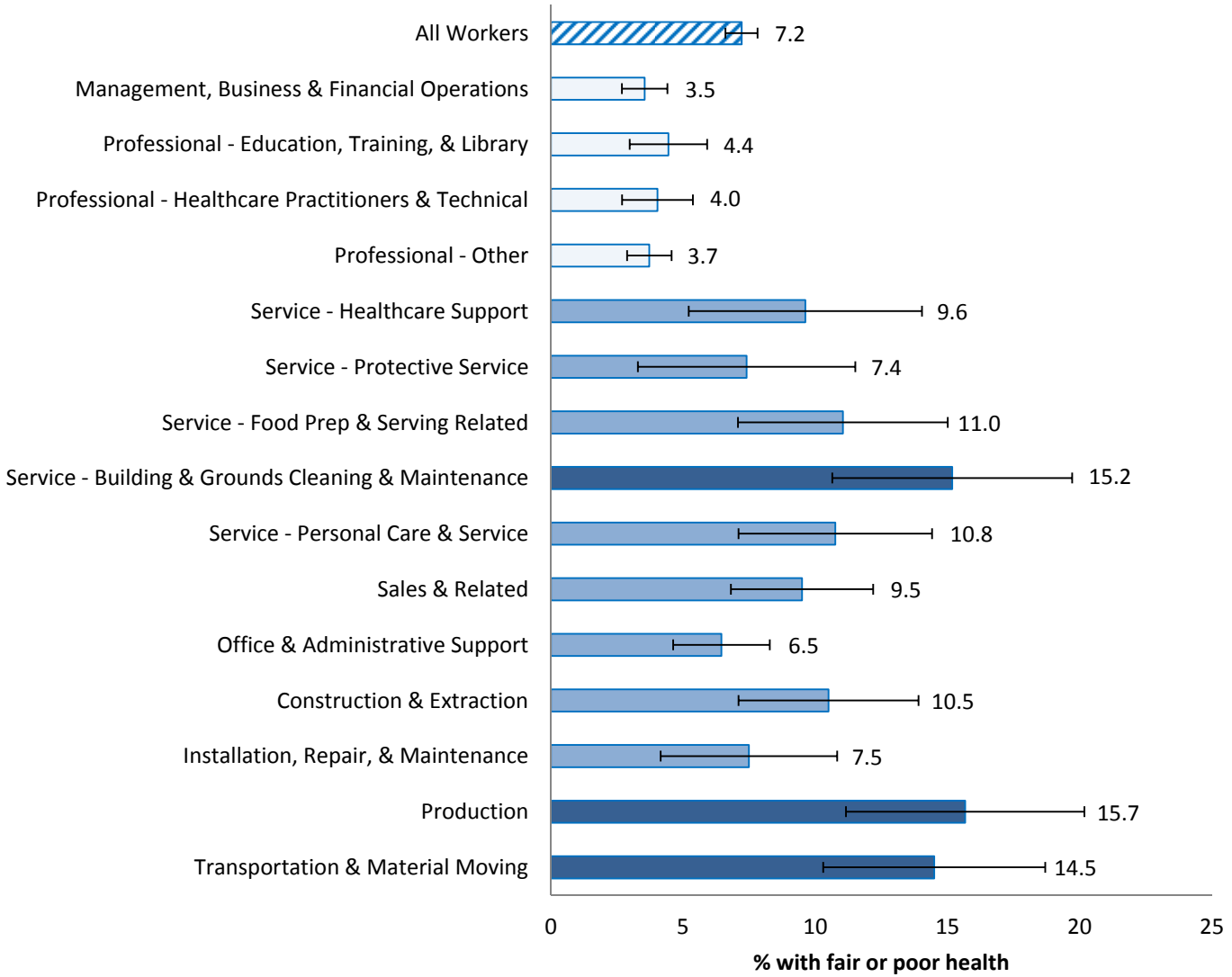
All respondents were asked to describe their overall health as excellent, very good, good, fair, or poor.

Compared to all workers, the prevalence of fair or poor self-reported overall health status among workers in the following occupation groups was significantly…

- Higher:
  - Production
  - Service – Building & Grounds Cleaning & Maintenance
  - Transportation & Material Moving
- Lower:
  - Management, Business & Financial Operations
  - Professional - Other
  - Professional – Healthcare Practitioners & Technical
  - Professional – Education, Training & Library

All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

Figure 6a. Percentage of MA workers reporting fair or poor health status, by occupation group, 2012-2013



General Health Status

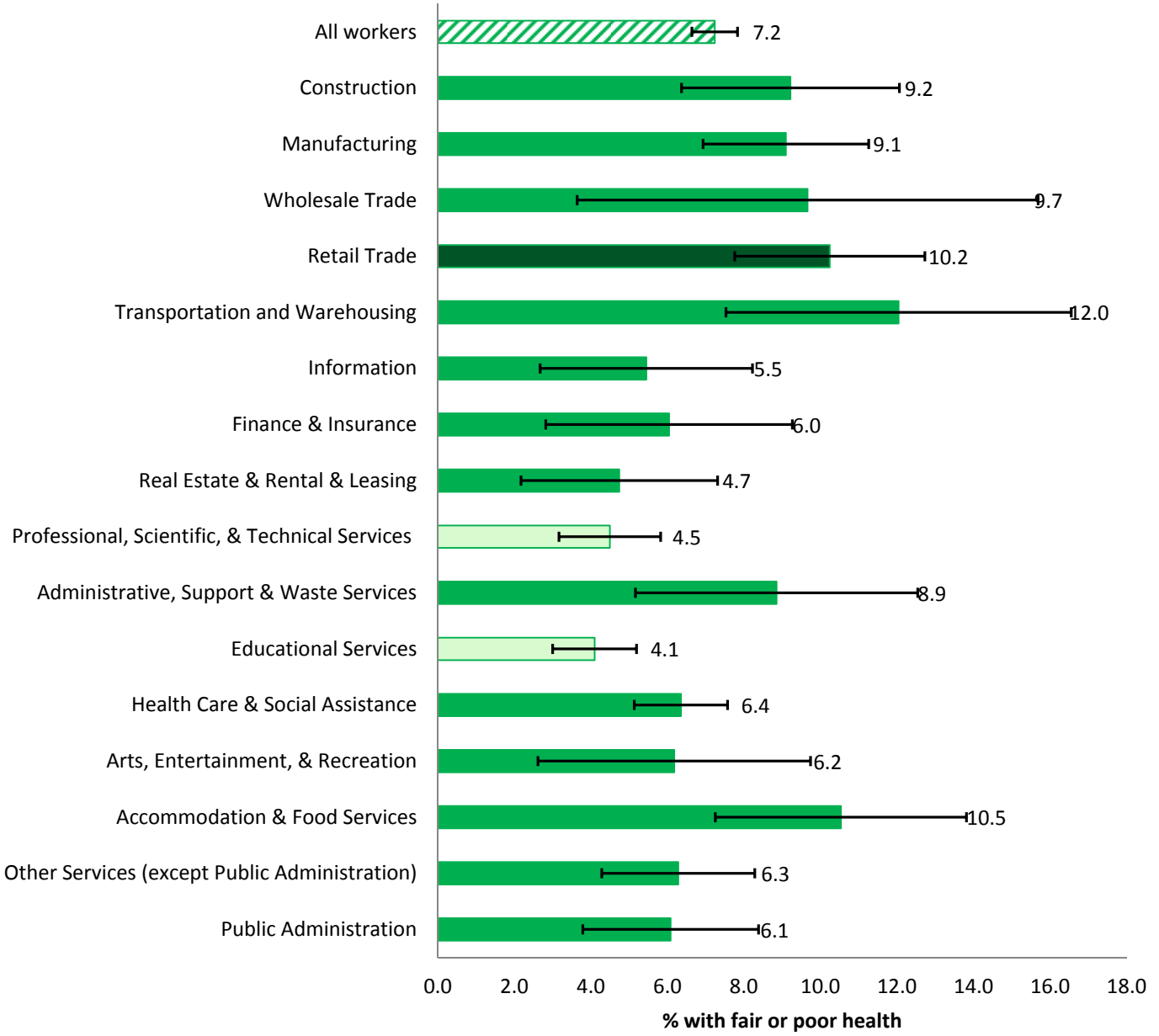
Compared to all workers, the prevalence of fair or poor self-reported overall health status among workers in the following industry groups was significantly…

- Higher:
  - Retail Trade
- Lower:
  - Educational Services
  - Professional , Scientific & Technical Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 6b. Percentage of MA workers reporting fair or poor health status, by industry group, 2012-2013



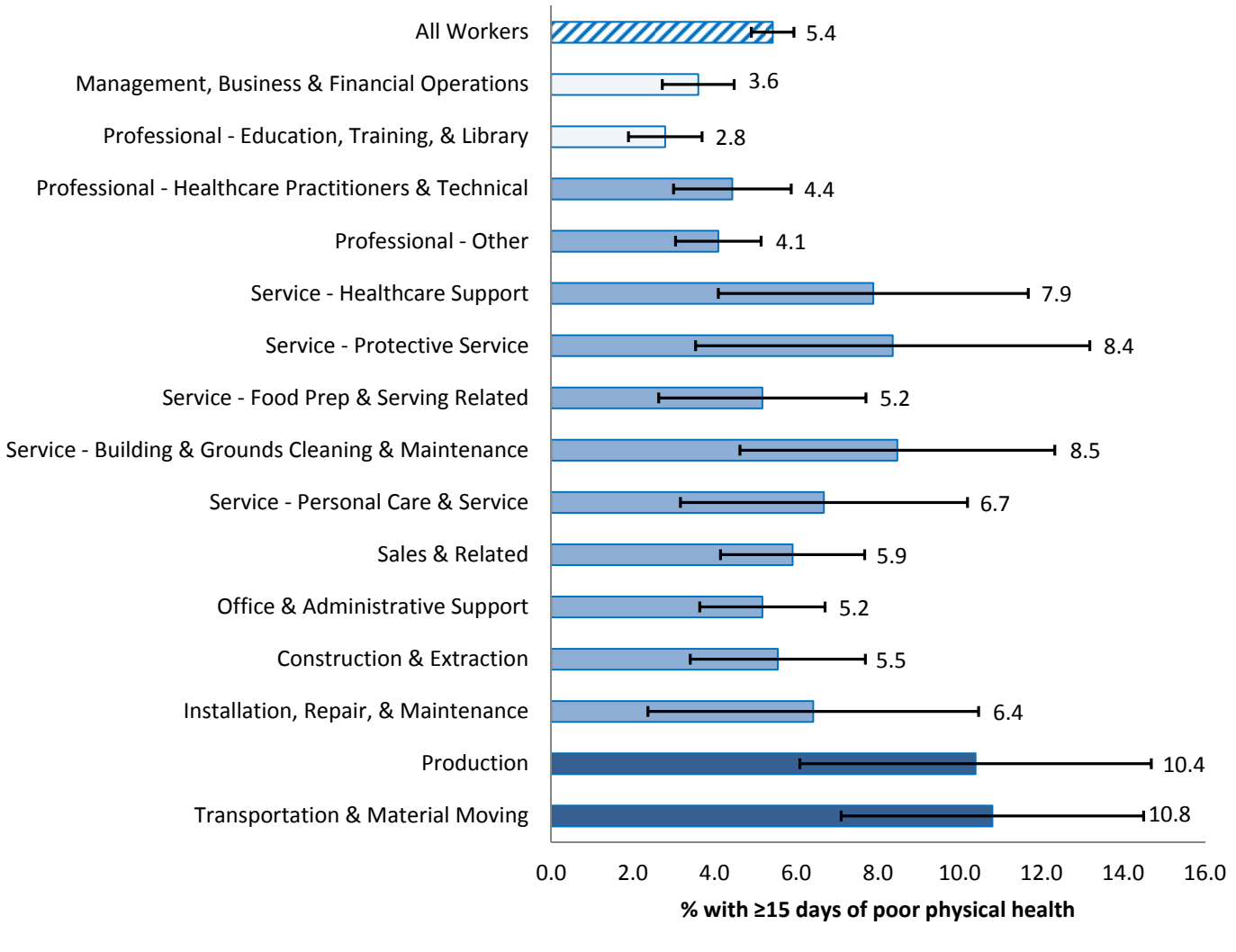
Quality of Life –
Physical Health

Compared to all workers, the prevalence of frequent poor physical health among workers in the following occupation groups was significantly…

- Higher:
  - Transportation & Material Moving
  - Production
- Lower:
  - Professional – Education, Training & Library
  - Management, Business & Financial Operations

All respondents were asked to report the number of days during the past month that their physical health, which includes physical illness and injury, had not been good. Presented here are the percentages of workers who reported that they had experienced at least 15 days of poor physical health in the previous month.

Figure 7a. Percentage of MA workers reporting poor physical health on ≥15 days in the past month, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations: Farming, Forestry &Fishing

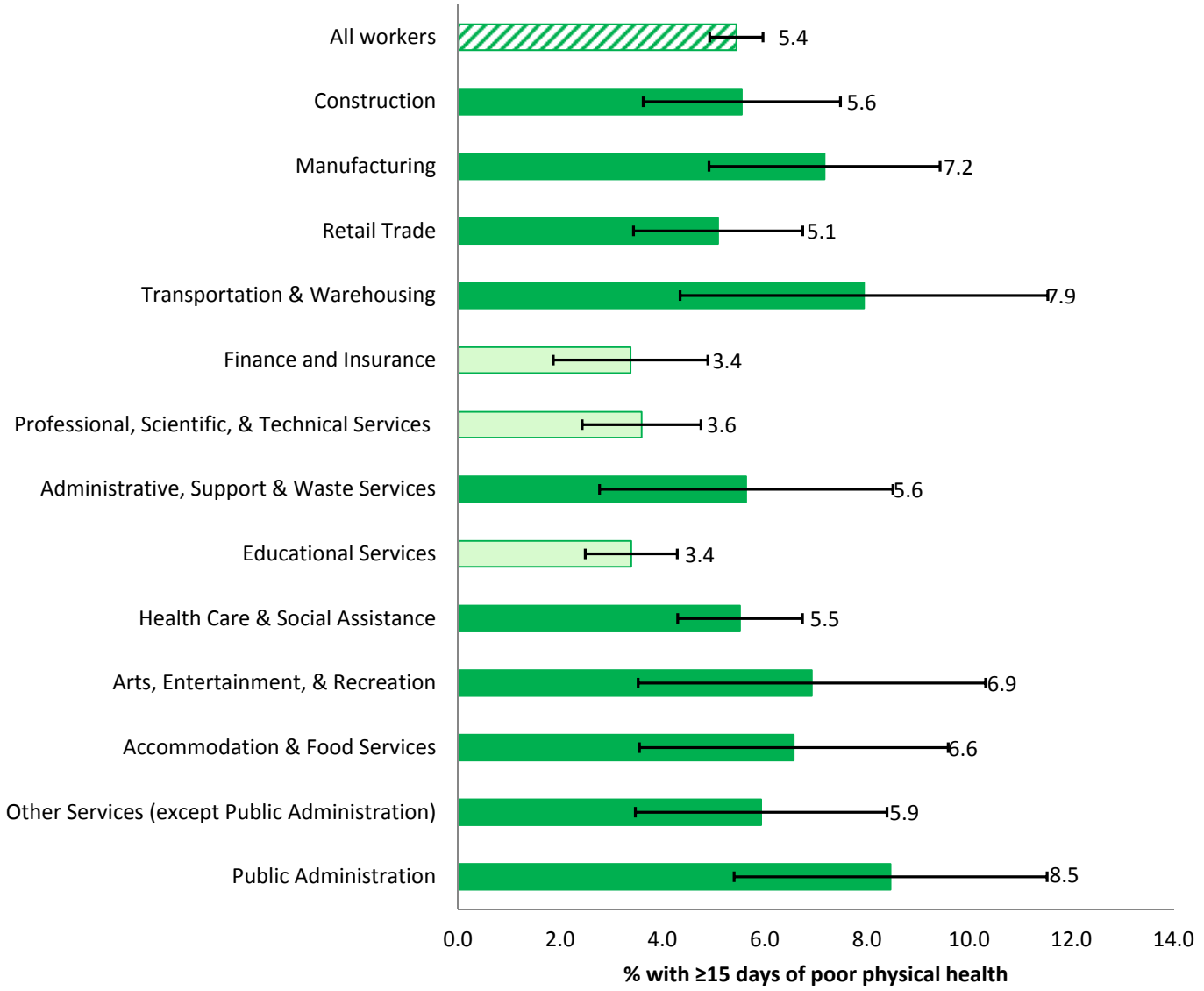
Quality of Life –
Physical Health

Compared to all workers, the prevalence of frequent poor physical health among workers in the following industry groups was significantly…

- Higher:
  - No industry groups
- Lower:
  - Finance & Insurance
  - Educational Services
  - Professional, Scientific & Technical Services

All workers = respondents with an industry code
Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Wholesale Trade
Information
Real Estate and Rental & Leasing

Figure 7b. Percentage of MA workers reporting poor physical health on ≥15 days in the past month, by industry group, 2012-2013



Quality of Life –
Mental Health

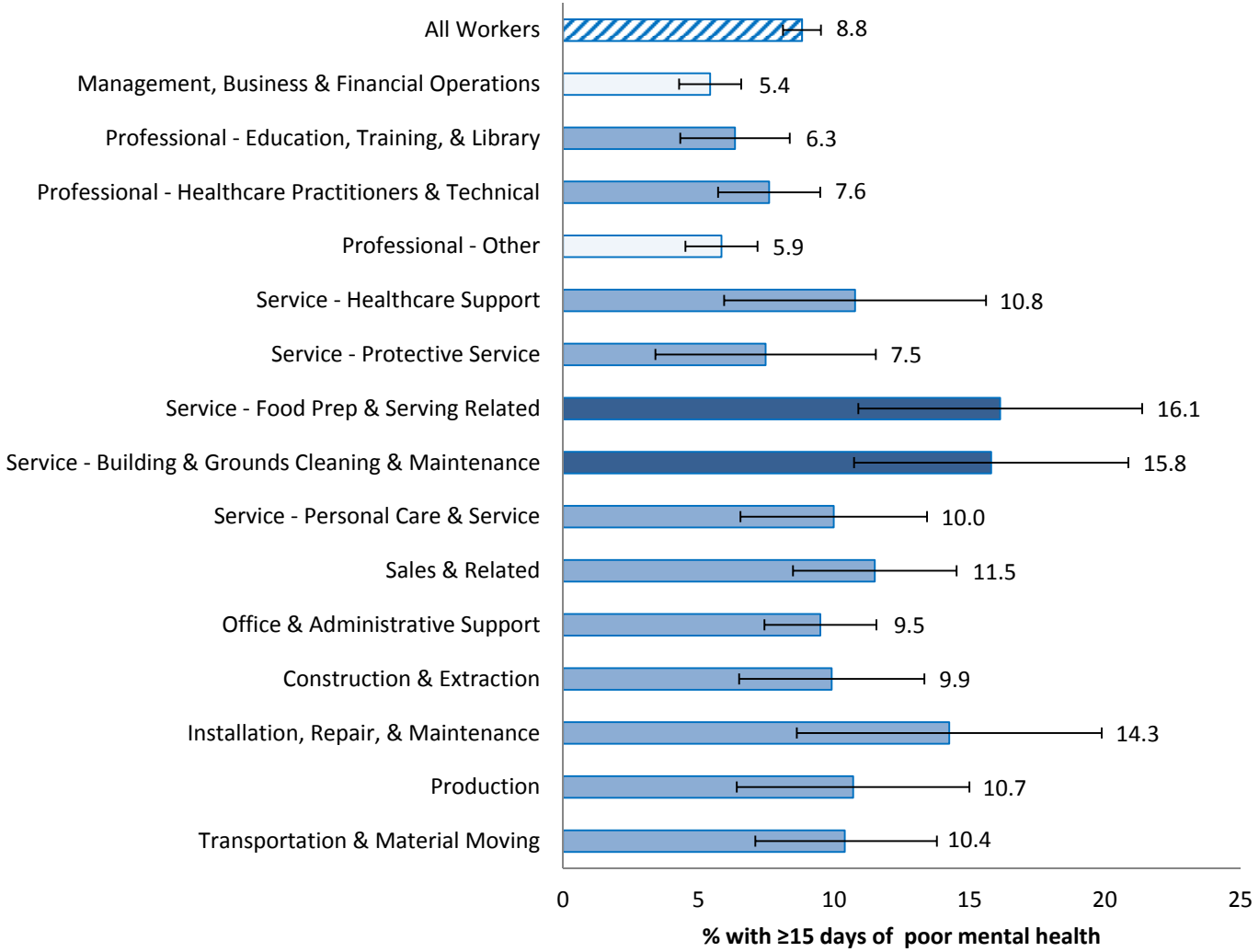
Compared to all workers, the prevalence of frequent poor mental health among workers in the following occupation groups was significantly…

- Higher:
  - Service – Food Prep & Serving Related
  - Service – Building & Grounds Cleaning & Maintenance
- Lower:
  - Management, Business & Financial Operations
  - Professional – Other

All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

All respondents were asked to report the number of days during the past month that their mental health, which includes stress, depression, and problems with emotions, had not been good. Presented here are the percentages of workers who reported that they had experienced at least 15 days of poor mental health in the previous month.

Figure 8a. Percentage of MA workers reporting poor mental health on ≥15 days in the past month, by occupation group, 2012-2013



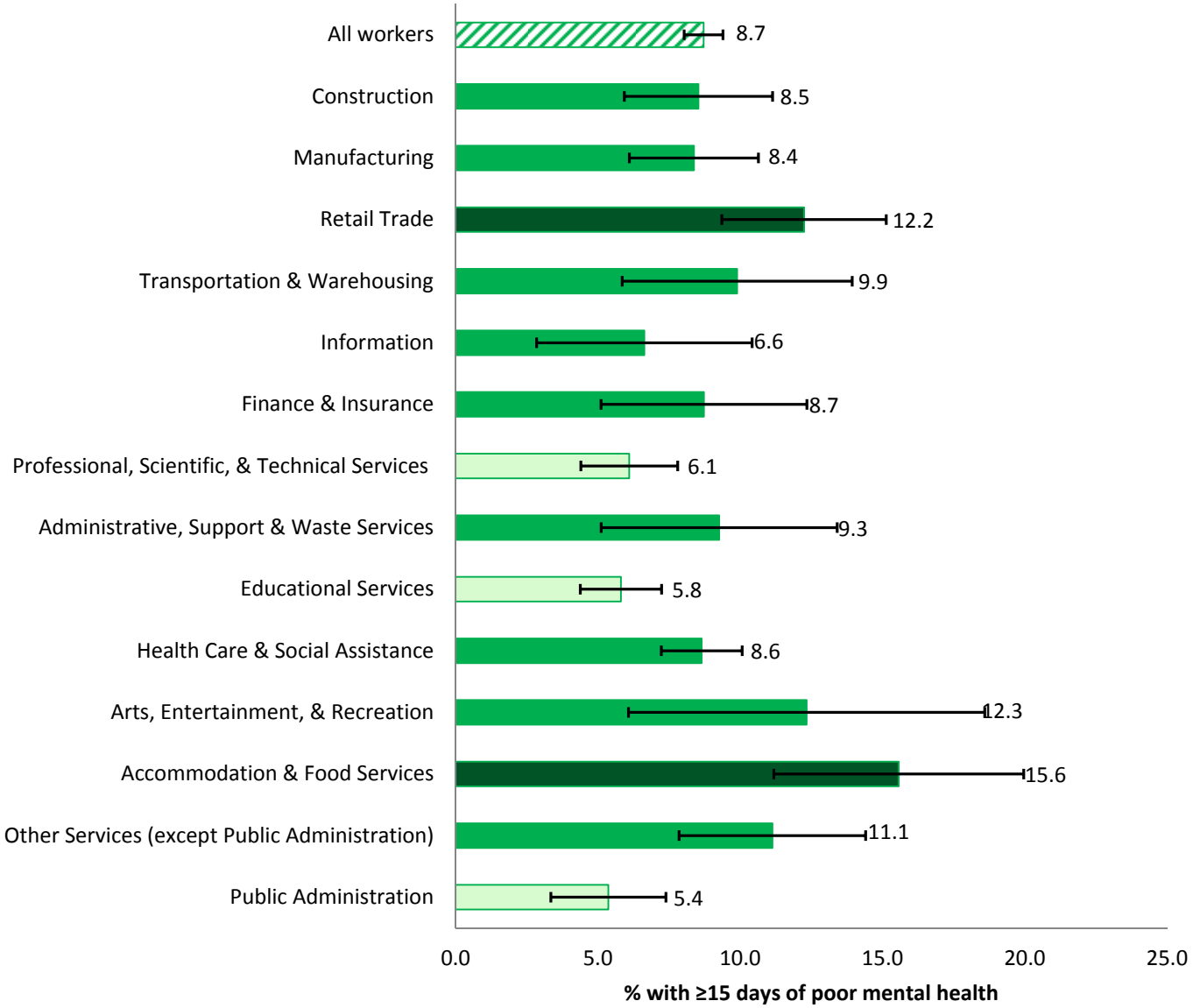
Quality of Life –
Mental Health

Compared to all workers, the prevalence of frequent poor mental health among workers in the following industry groups was significantly…

- Higher:
  - Accommodation & Food Services
  - Retail Trade
- Lower:
  - Public Administration
  - Professional, Scientific & Technical Services
  - Educational Services

All workers = respondents with an industry code
Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Wholesale Trade
Real Estate & Rental & Leasing

Figure 8b. Percentage of MA workers reporting poor mental health on ≥15 days in the past month, by industry group, 2012-2013



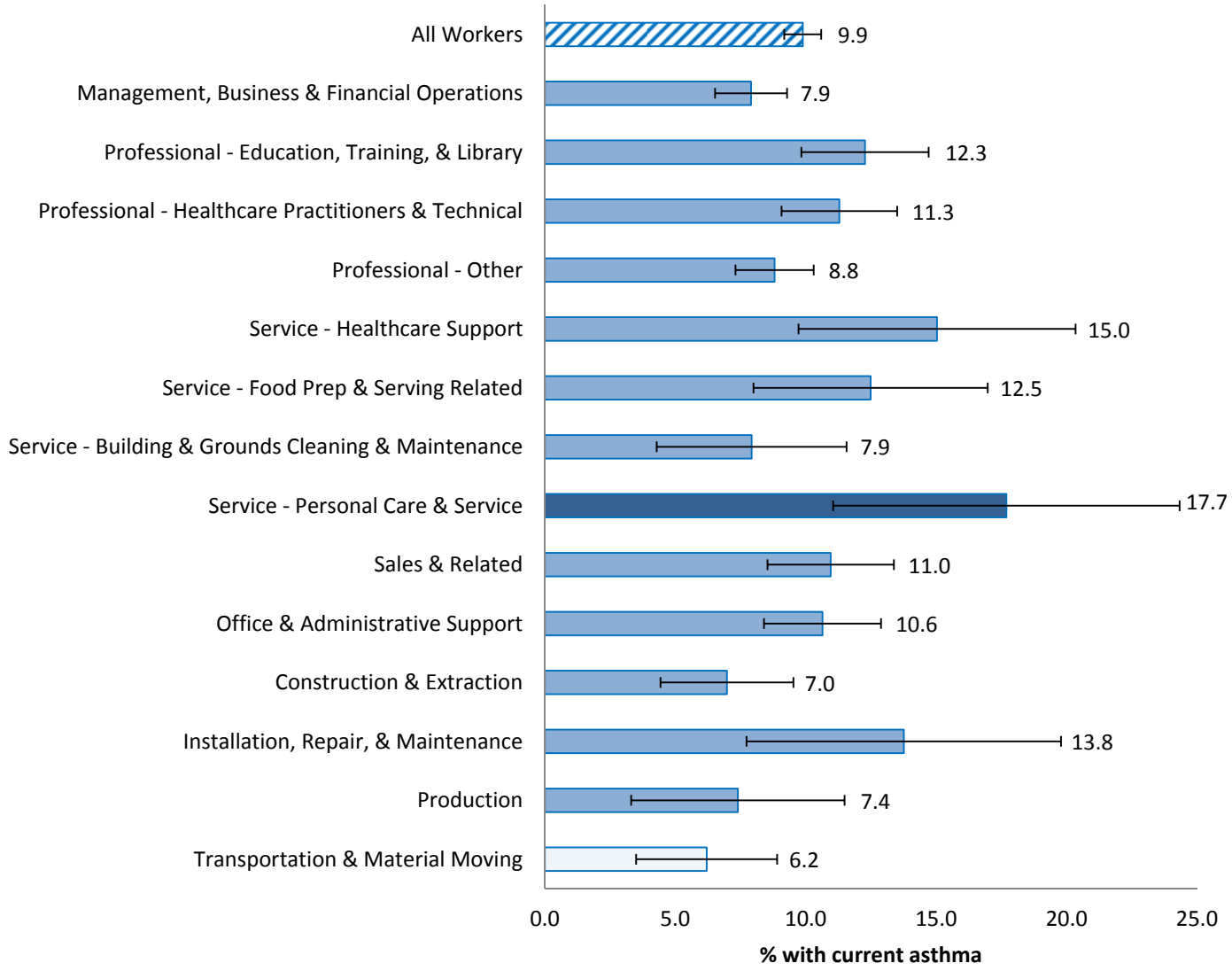
Asthma

Compared to all workers, the prevalence of current asthma among workers in the following occupation groups was significantly…

- Higher:
  - Service – Personal Care & Service
- Lower:
  - Transportation & Material Moving

All respondents were asked if a doctor, nurse, or other health care professional had ever told them that they had asthma. Those who reported ever having asthma were then asked if they currently have asthma.

Figure 9a. Percentage of MA workers reporting current asthma, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations: Farming, Forestry &Fishing Service – Protective Service

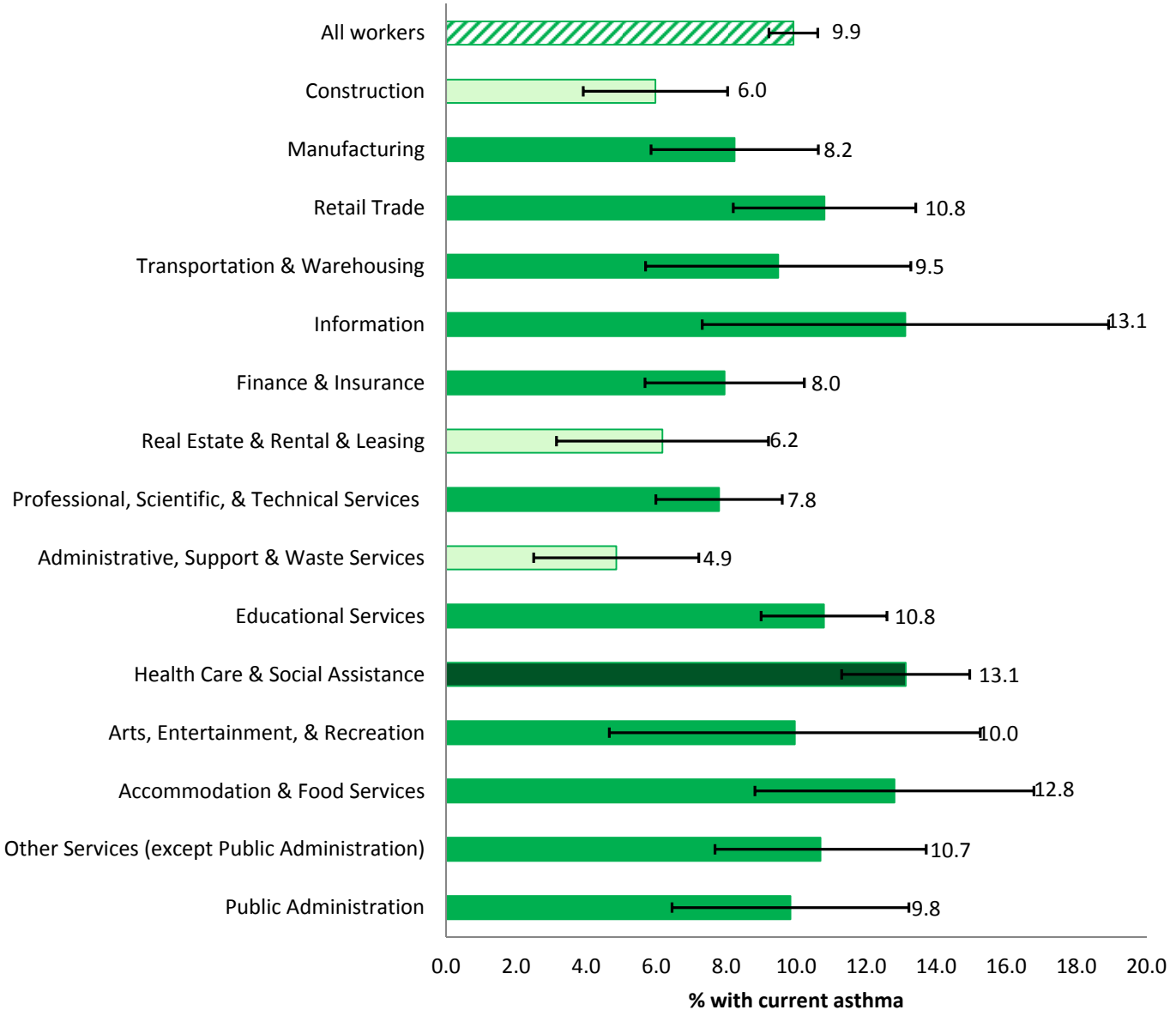
Asthma

Compared to all workers, the prevalence of current asthma among workers in the following industry groups was significantly…

- Higher:
  - Health Care & Social Assistance
- Lower:
  - Administrative, Support & Waste Services
  - Construction
  - Real Estate & Rental & Leasing

All workers = respondents with an industry code
Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Wholesale Trade

Figure 9b. Percentage of MA workers reporting current asthma, by industry group, 2012-2013



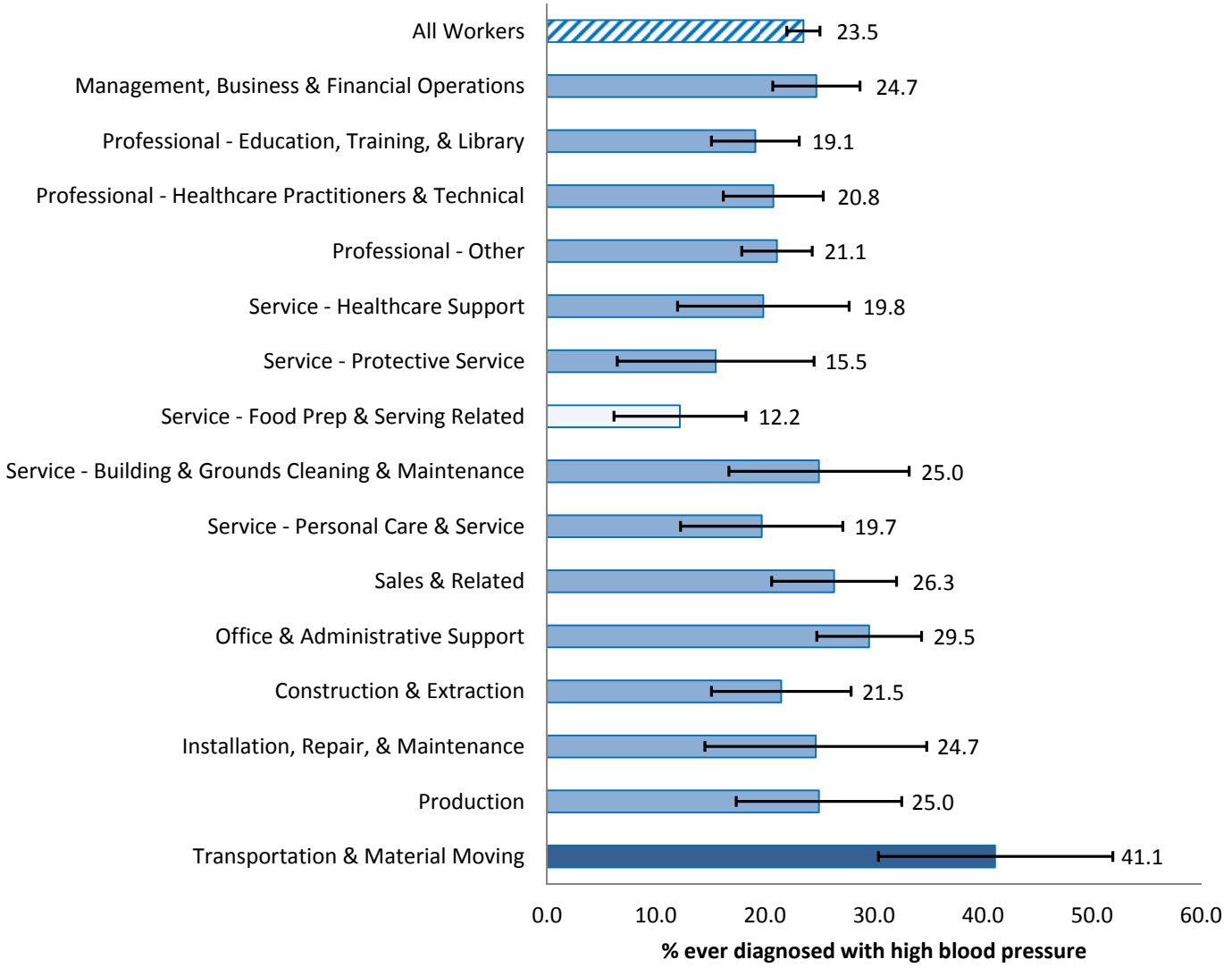
Hypertension

Compared to all workers, the percent that were ever told their blood pressure was high among workers in the following occupation groups was significantly…

- Higher:
  - Transportation & Material Moving
- Lower:
  - Service – Food Prep & Serving Related

All respondents were asked if a doctor, nurse, or other health professional had ever told them that they had high blood pressure.

Figure 10a. Percentage of MA workers reporting ever diagnosed with high blood pressure, by occupation group, 2013



All workers = respondents with an occupation code

Insufficient data for the following occupations:
Farming, Forestry &Fishing

Hypertension

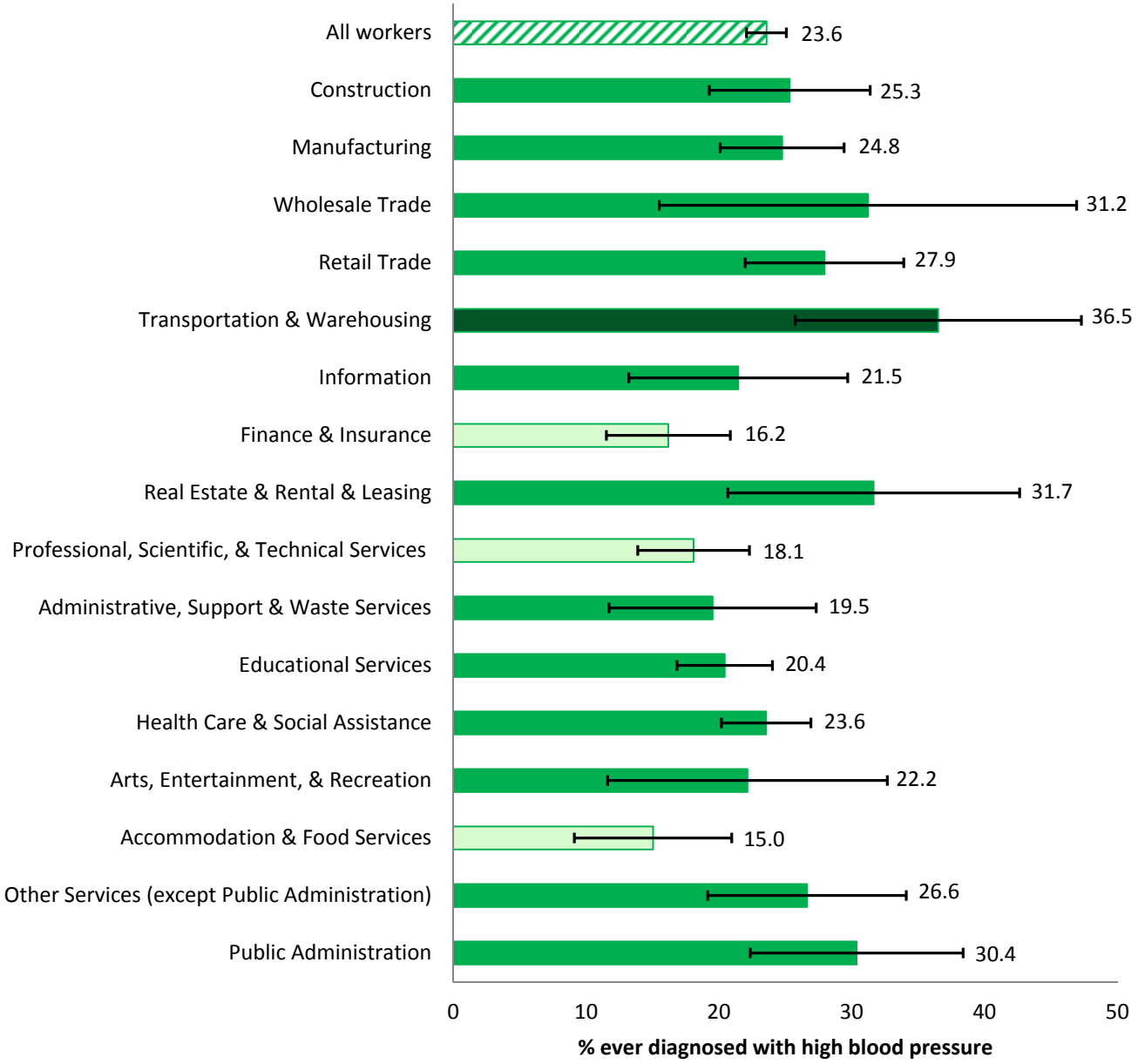
Compared to all workers, the percent that were ever told their blood pressure was high among workers in the following industry groups was significantly…

- Higher:
  - Transportation & Warehousing
- Lower:
  - Accommodation & Food Services
  - Finance & Insurance
  - Professional, Scientific & Technical Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 10b. Percentage of MA workers reporting ever diagnosed with high blood pressure, by industry group, 2013



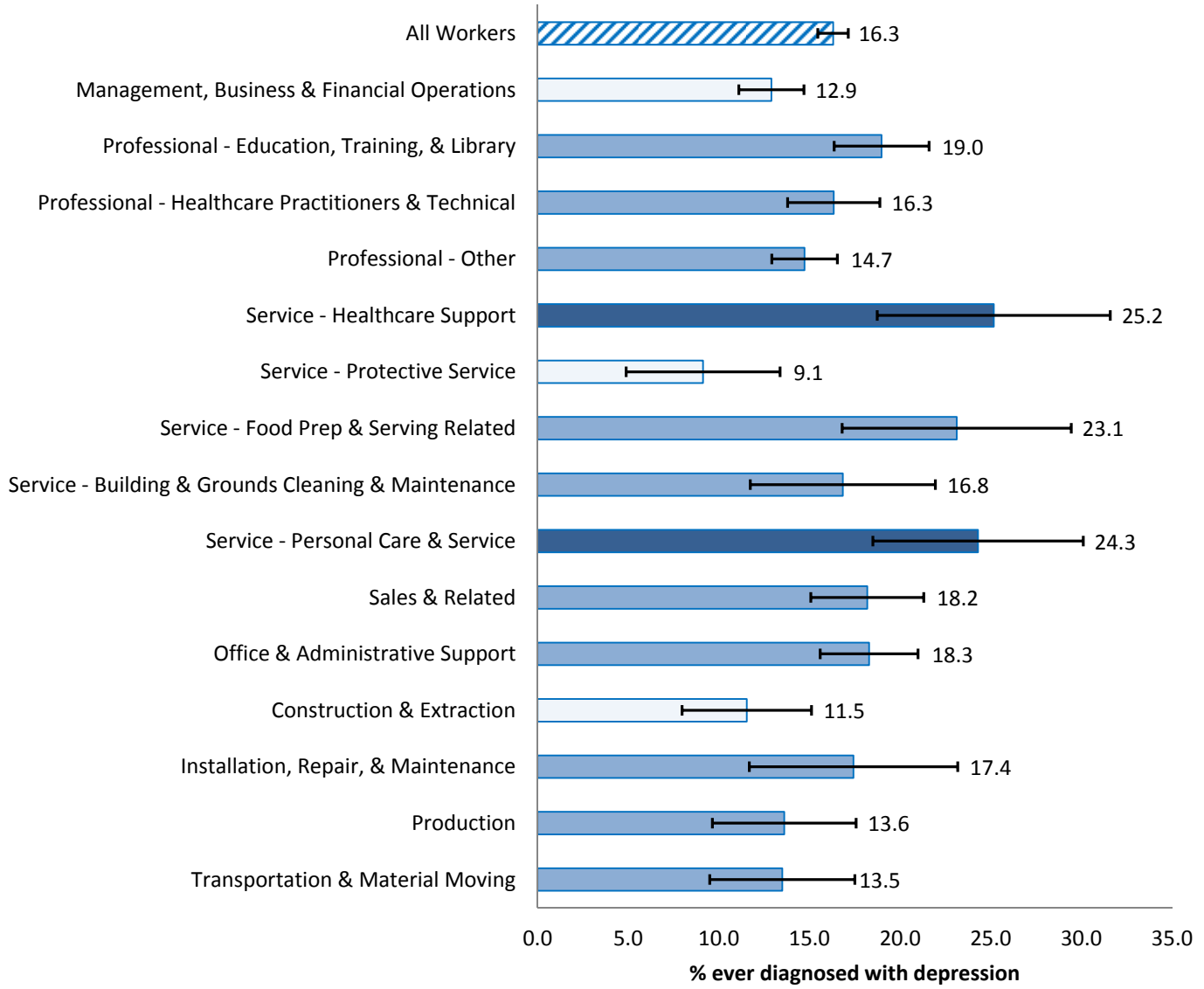
Depression

All respondents were asked if a doctor, nurse or other health professional had ever told them they had a depressive disorder, including depression, major depression, dysthymia, or minor depression.

Compared to all workers, the percent that were ever told they had a depressive disorder among workers in the following occupation groups was significantly…

- Higher:
  - Service – Healthcare Support
  - Service – Personal Care & Service
- Lower:
  - Protective Service
  - Construction & Extraction
  - Management, Business & Financial Operations

Figure 11a. Percentage of MA workers reporting ever diagnosed with depression, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations:
Farming, Forestry &Fishing

Depression

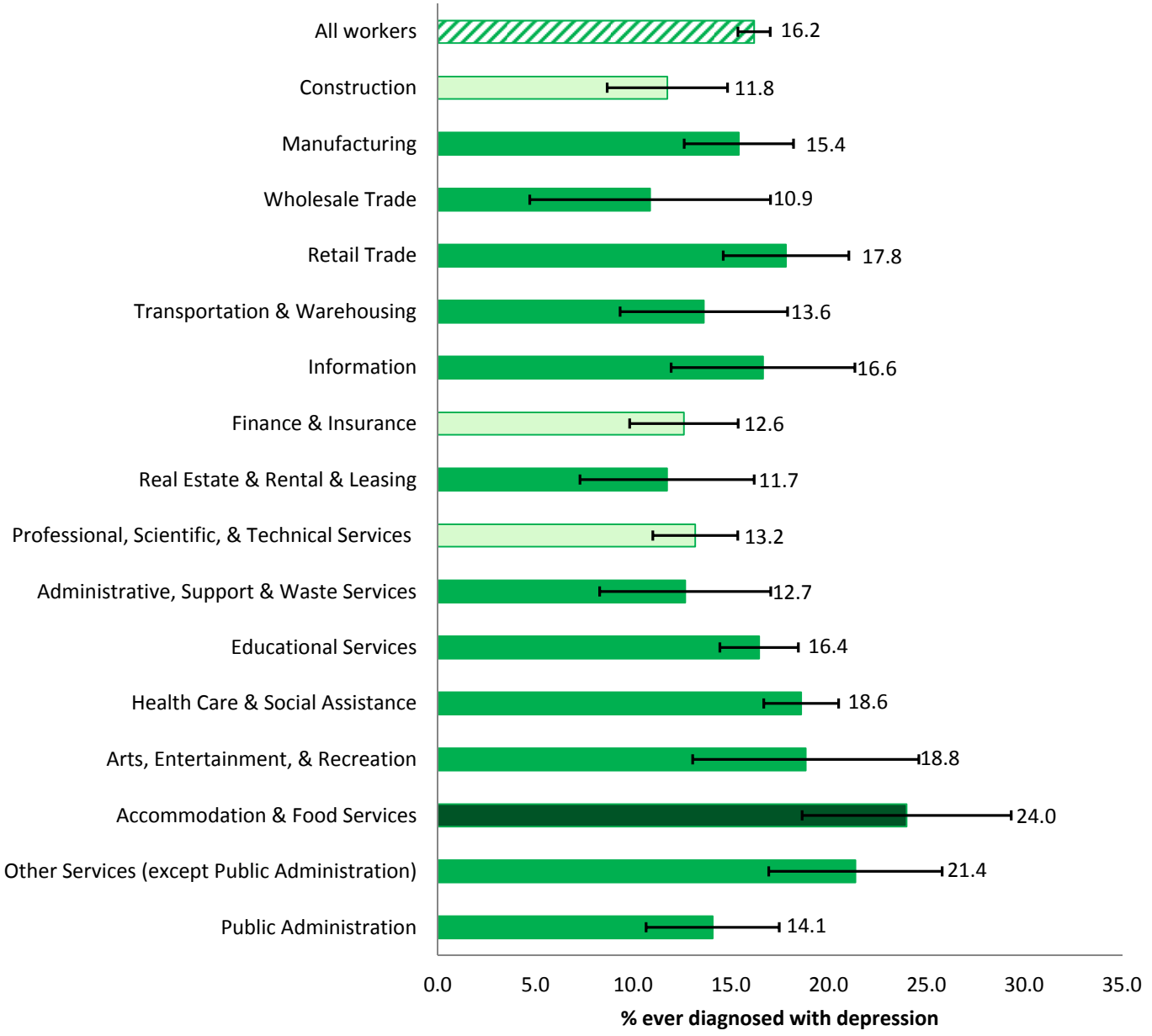
Compared to all workers, the percent that were ever told they had a depressive disorder among workers in the following industry groups was significantly…

- Higher:
  - Accommodation & Food Services
- Lower:
  - Construction
  - Finance & Insurance
  - Professional, Scientific & Technical Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 11b. Percentage of MA workers reporting ever diagnosed with depression, by industry group, 2012-2013



Obesity

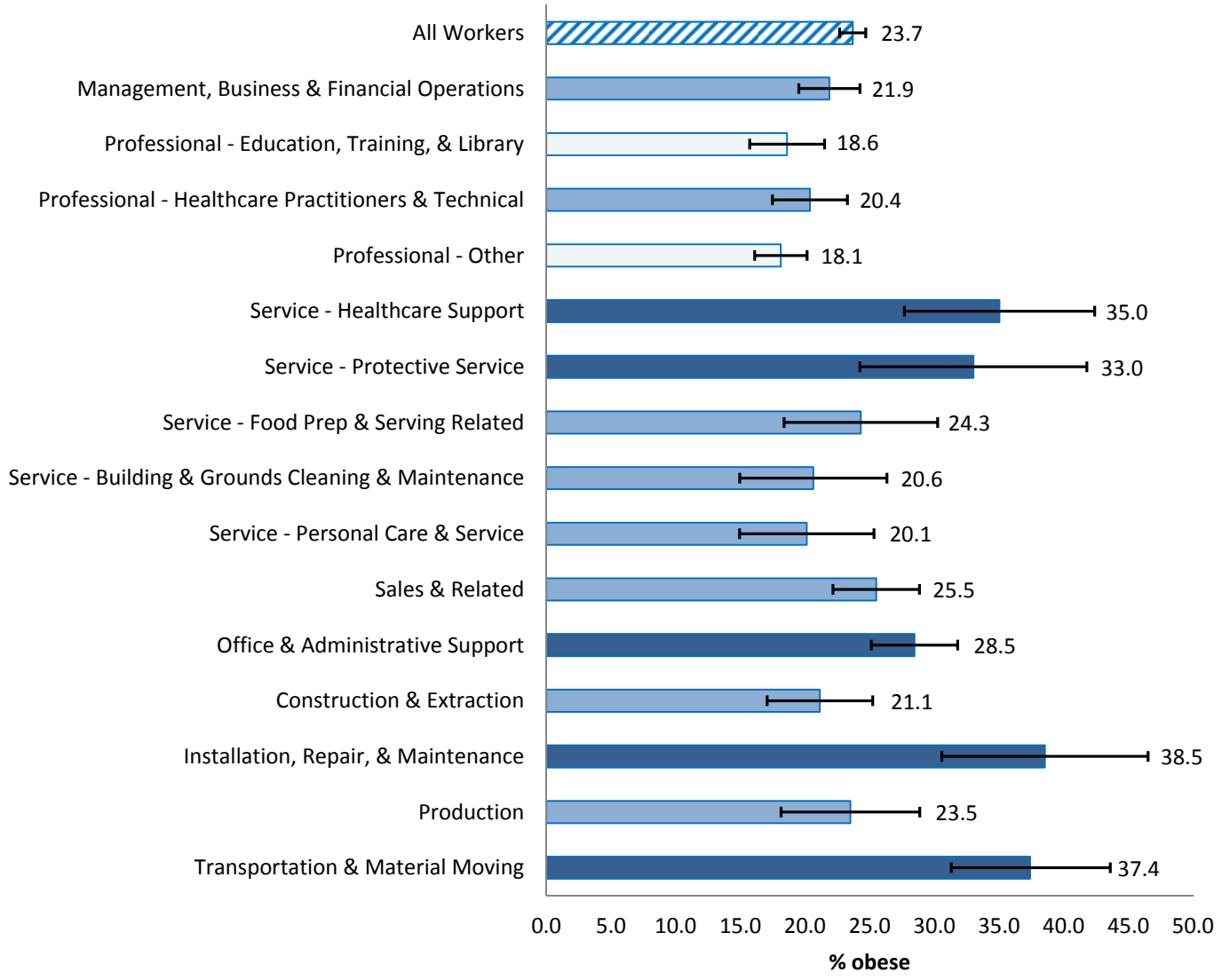
Compared to all workers, the prevalence of obesity among workers in the following occupation groups was significantly…

- Higher:
  - Installation, Repair & Maintenance
  - Transportation & Material Moving
  - Service – Healthcare Support
  - Service – Protective Service
  - Office & Administrative Support
- Lower:
  - Professional – Other
  - Professional – Education, Training & Library

All workers = respondents with an occupation code
Insufficient data for the following occupations: Farming, Forestry &Fishing

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.

Figure 12a. Percentage of MA workers classified as obese, by occupation group, 2012-2013



Obesity

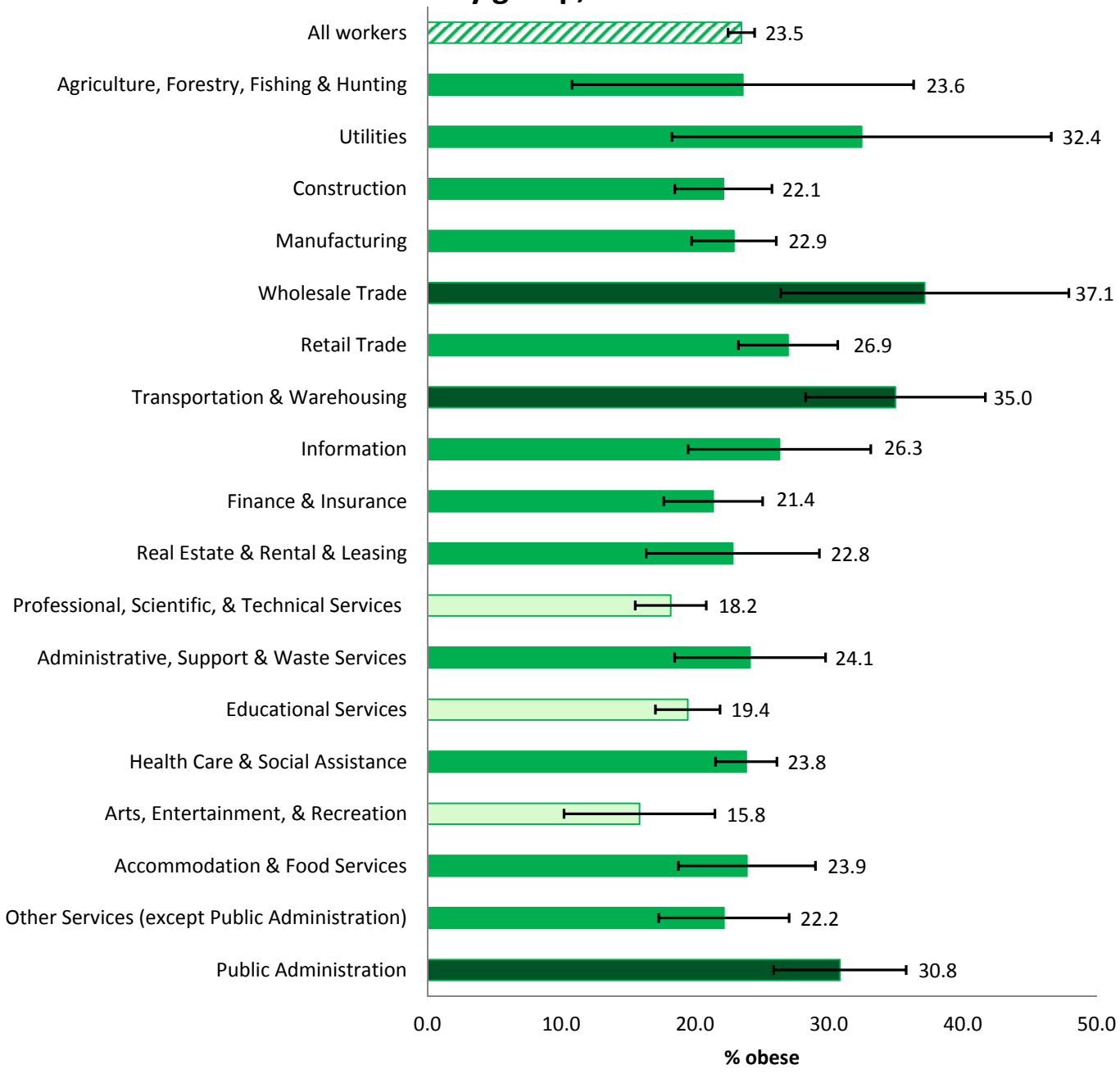
Compared to all workers, the prevalence of obesity among workers in the following industry groups was significantly…

- Higher:
  - Wholesale Trade
  - Transportation & Warehousing
  - Public Administration
- Lower:
  - Arts, Entertainment, & Recreation
  - Professional, Scientific & Technical Services
  - Educational Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Mining, Quarrying, & Oil &Gas Extraction
Management of Companies &Enterprises

Figure 12b. Percentage of MA workers classified as obese, by industry group, 2012-2013

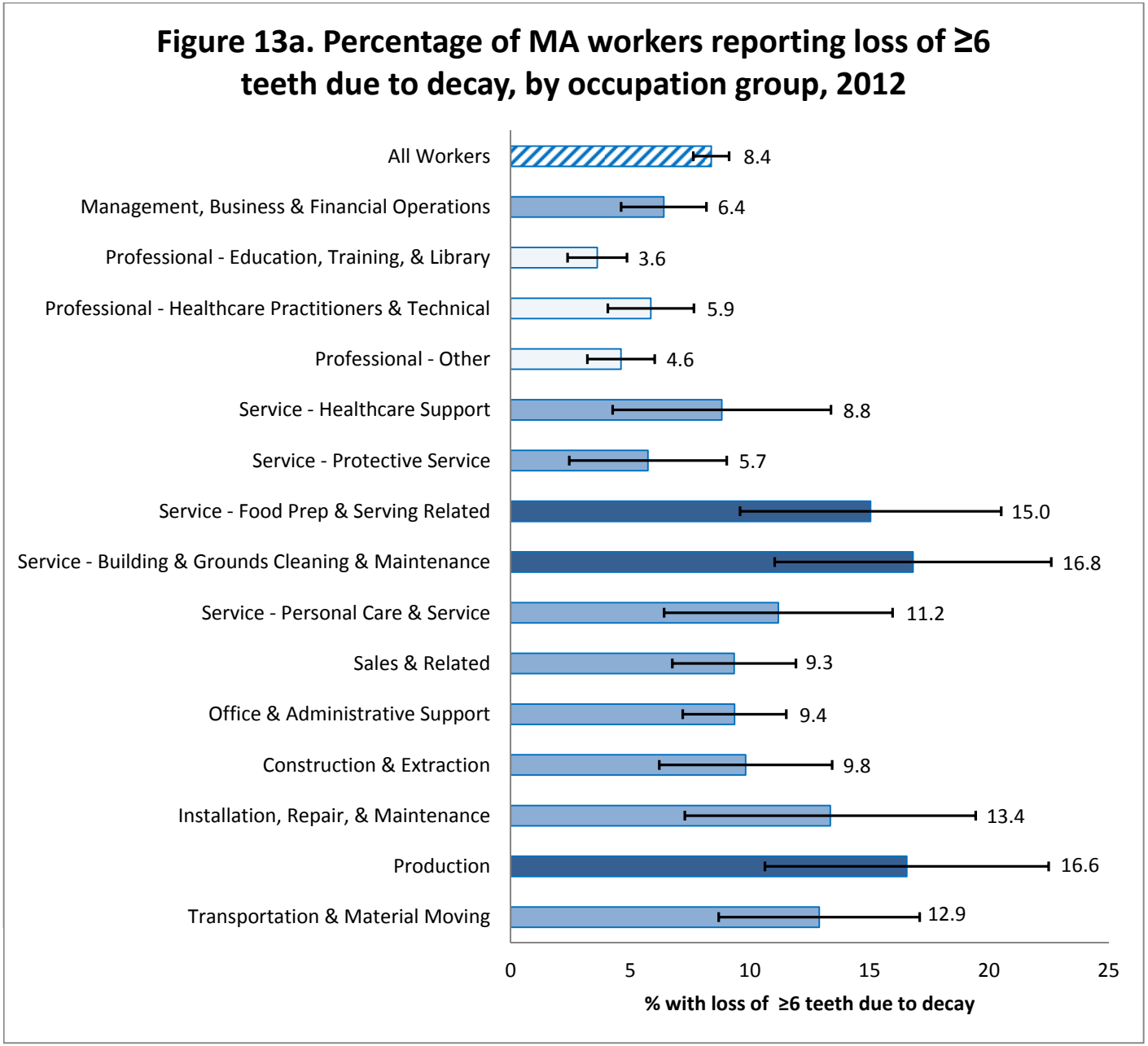


Oral Health
Tooth Loss

All respondents were asked how many of their teeth were missing due to decay or gum disease only. The number of teeth missing due to injury or orthodontic purposes is not included.

Compared to all workers, the prevalence of having lost six or more teeth due to decay among workers in the following occupation groups was significantly…

- Higher:
  - Service – Building & Grounds Cleaning & Maintenance
  - Production
  - Service – Food Prep & Serving Related
- Lower:
  - Professional – Education, Training & Library
  - Professional - Other
  - Professional – Healthcare Practitioners & Technical



All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

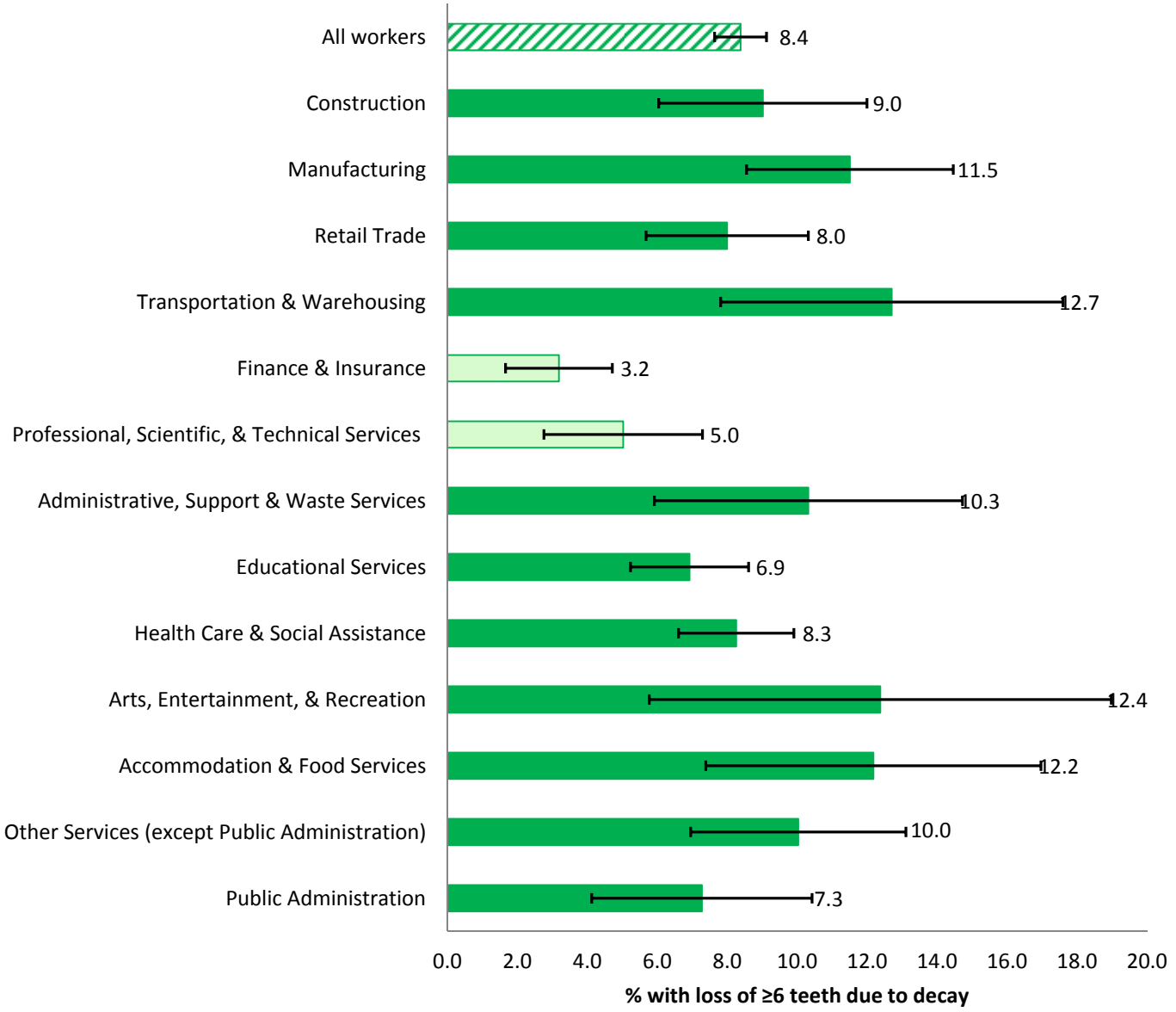
Oral Health
Tooth Loss

Compared to all workers, the prevalence of having lost six or more teeth due to decay among workers in the following industry groups was significantly…

- Higher:
  - No industry groups
- Lower:
  - Finance & Insurance
  - Professional, Scientific & Technical Services

All workers = respondents with an industry code
Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Wholesale Trade
Information
Real Estate and Rental & Leasing

Figure 13b. Percentage of MA workers reporting loss of ≥6 teeth due to decay, by industry group, 2012



HEALTH BEHAVIOR INDICATORS

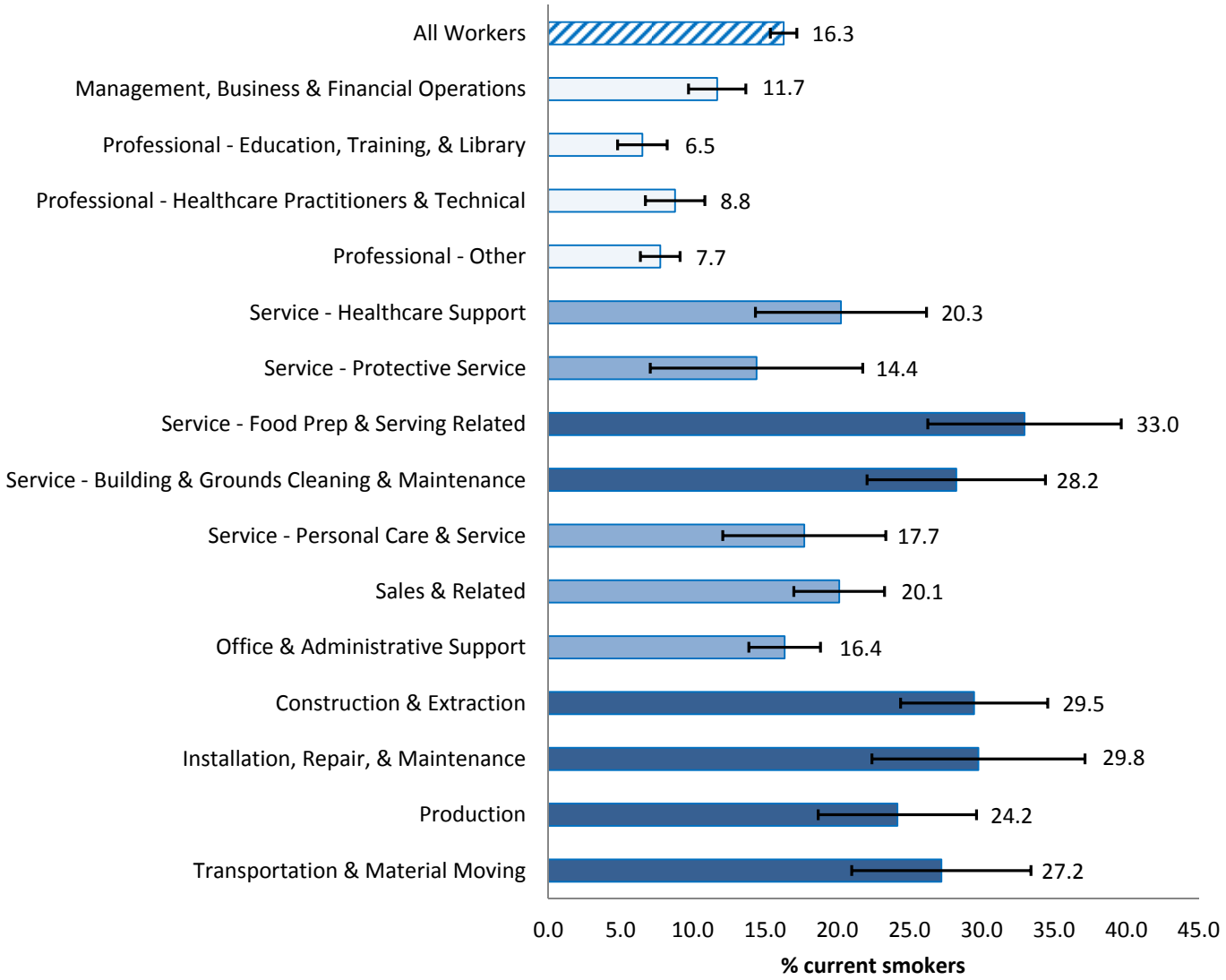
Smoking

Any respondent who had smoked at least 100 cigarettes in his/her lifetime and who currently smokes either some days or everyday was considered a current smoker.

Compared to all workers, the prevalence of current cigarette smoking among workers in the following occupation groups was significantly….

- Higher:
  - Service – Food Prep & Serving Related
  - Installation, Repair, & Maintenance
  - Construction & Extraction
  - Service - Building & Grounds Cleaning & Maintenance
  - Transportation & Material Moving
  - Production
- Lower:
  - Professional - Education, Training, & Library
  - Professional - Other
  - Professional - Healthcare Practitioners & Technical
  - Management, Business & Financial Operations

Figure 14a. Percentage of MA workers reporting current cigarette smoking, by occupation group, 2012-2013



All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

Smoking

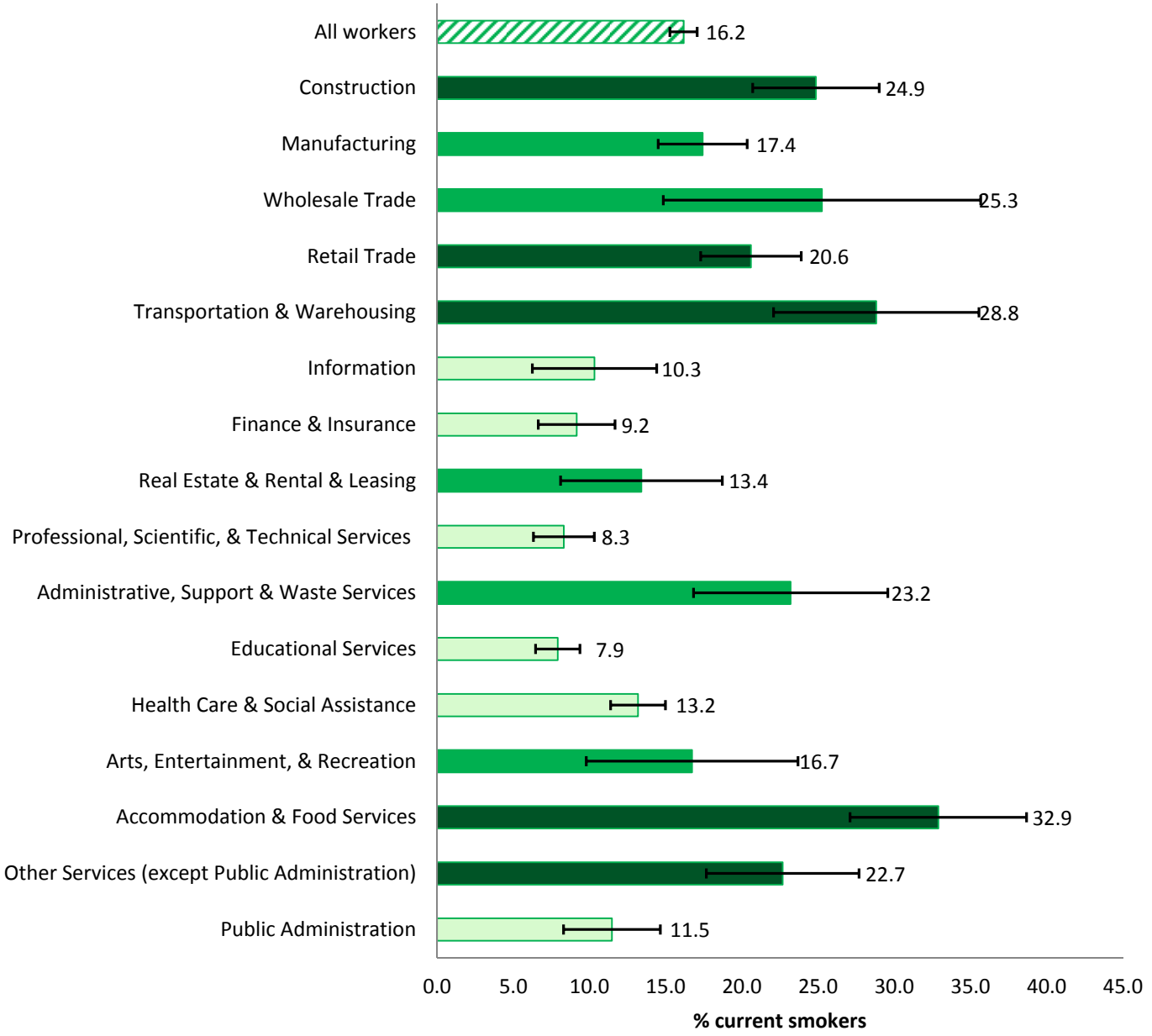
Compared to all workers, the prevalence of current cigarette smoking among workers in the following industry groups was significantly….

- Higher:
  - Accommodation & Food Service
  - Transportation & Warehousing
  - Construction
  - Other Services (except Public Administration)
  - Retail Trade
- Lower:
  - Educational Services
  - Professional, Scientific & Technical Services
  - Finance & Insurance
  - Information
  - Public Administration
  - Health Care & Social Assistance

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 14b. Percentage of MA workers reporting current cigarette smoking, by industry group, 2012-2013



Environmental Tobacco Smoke (ETS) Exposure at Work among Non-Smokers

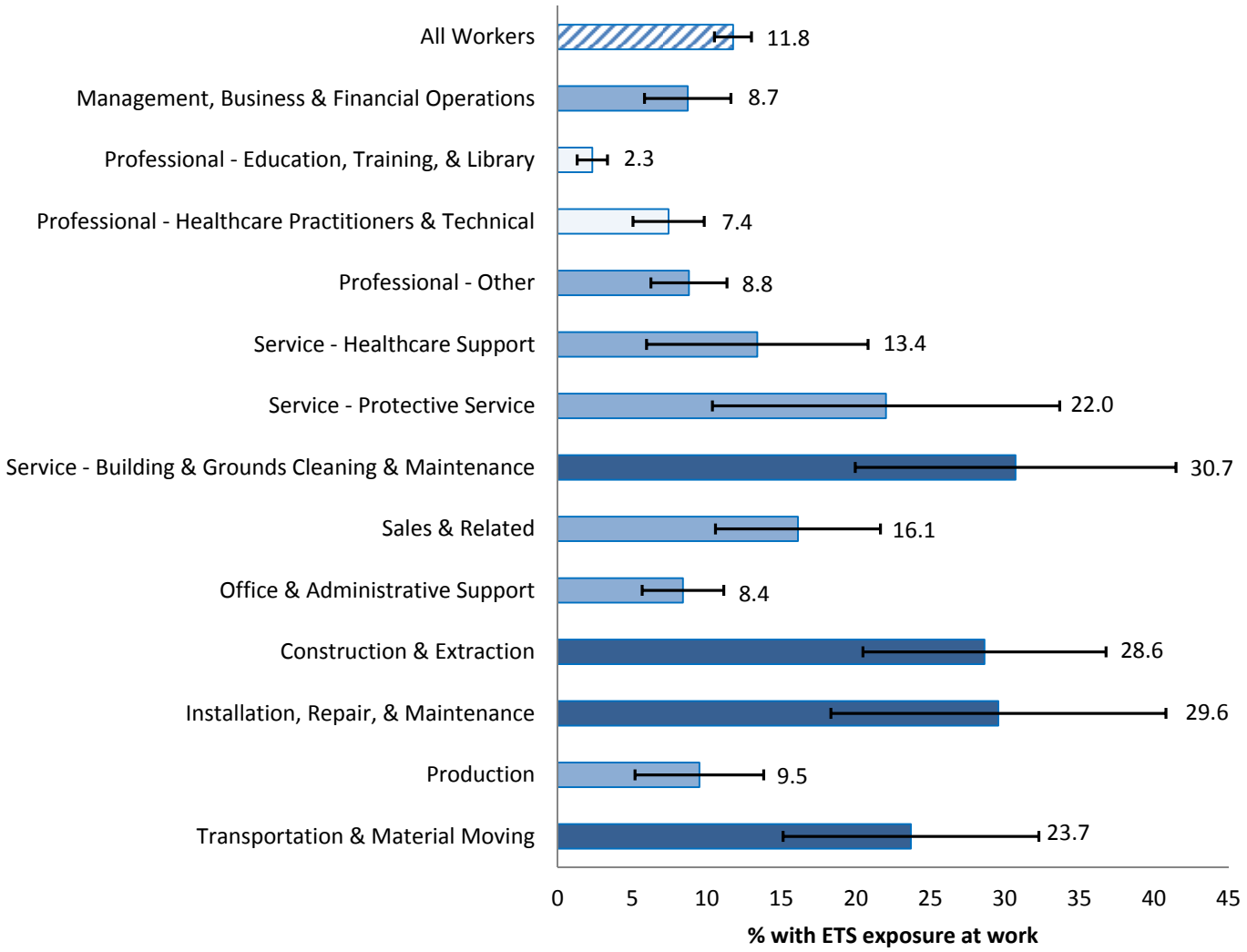
All respondents were asked how many hours in a week they were exposed to other people's cigarette smoke when at work. Results here are presented as any exposure among non-smokers only. In 2012 and 2013 these questions were only asked of respondents on the landline survey who were currently employed.

Compared to all workers, the percent who report being exposed to ETS at work among the following occupation groups was significantly…

- Higher:
  - Service – Building & Grounds Cleaning & Maintenance
  - Installation, Repair & Maintenance
  - Construction & Extraction
  - Transportation & Material Moving
- Lower:
  - Professional – Education, Training & Library
  - Professional – Healthcare Practitioners & Technical

All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing
Service – Personal Care & Service
Service – Food Prep & Serving Related

Figure 15a. Percentage of non-smoking MA workers reporting exposure to environmental tobacco smoke at work, by occupation group, 2012-2013



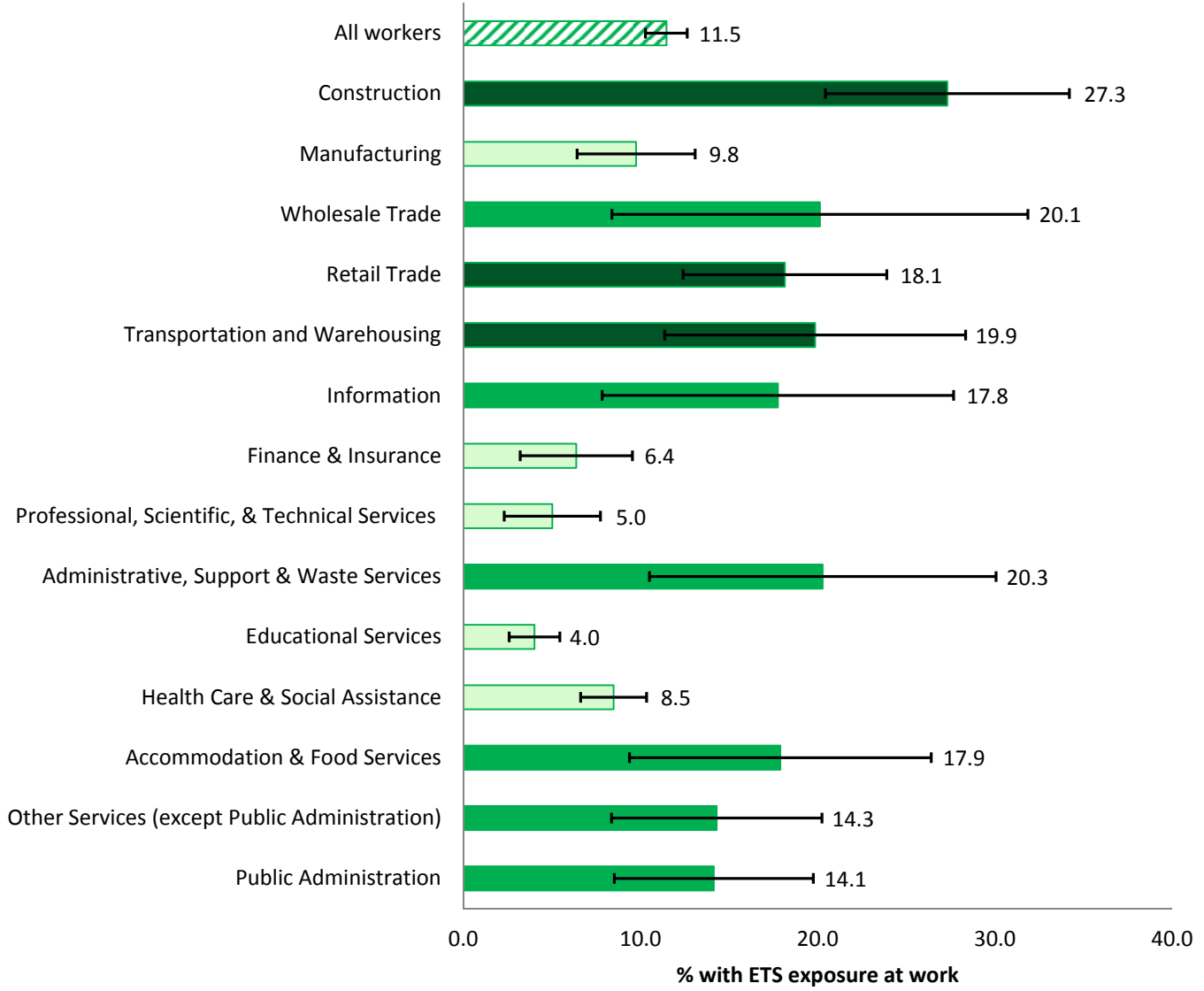
Environmental Tobacco Smoke (ETS) Exposure at Work among Non-Smokers

Compared to all workers, the percent who report being exposed to ETS at work among the following industry groups was significantly…

- Higher:
  - Construction
  - Transportation & Warehousing
  - Retail Trade
- Lower:
  - Educational Services
  - Professional, Scientific & Technical Services
  - Finance & Insurance
  - Health Care & Social Assistance
  - Manufacturing

All workers = respondents with an industry code
Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises
Real Estate & Rental & Leasing
Arts, Entertainment, & Recreation

Figure 15b. Percentage of MA workers reporting exposure to environmental tobacco smoke at work, by industry group, 2012-2013



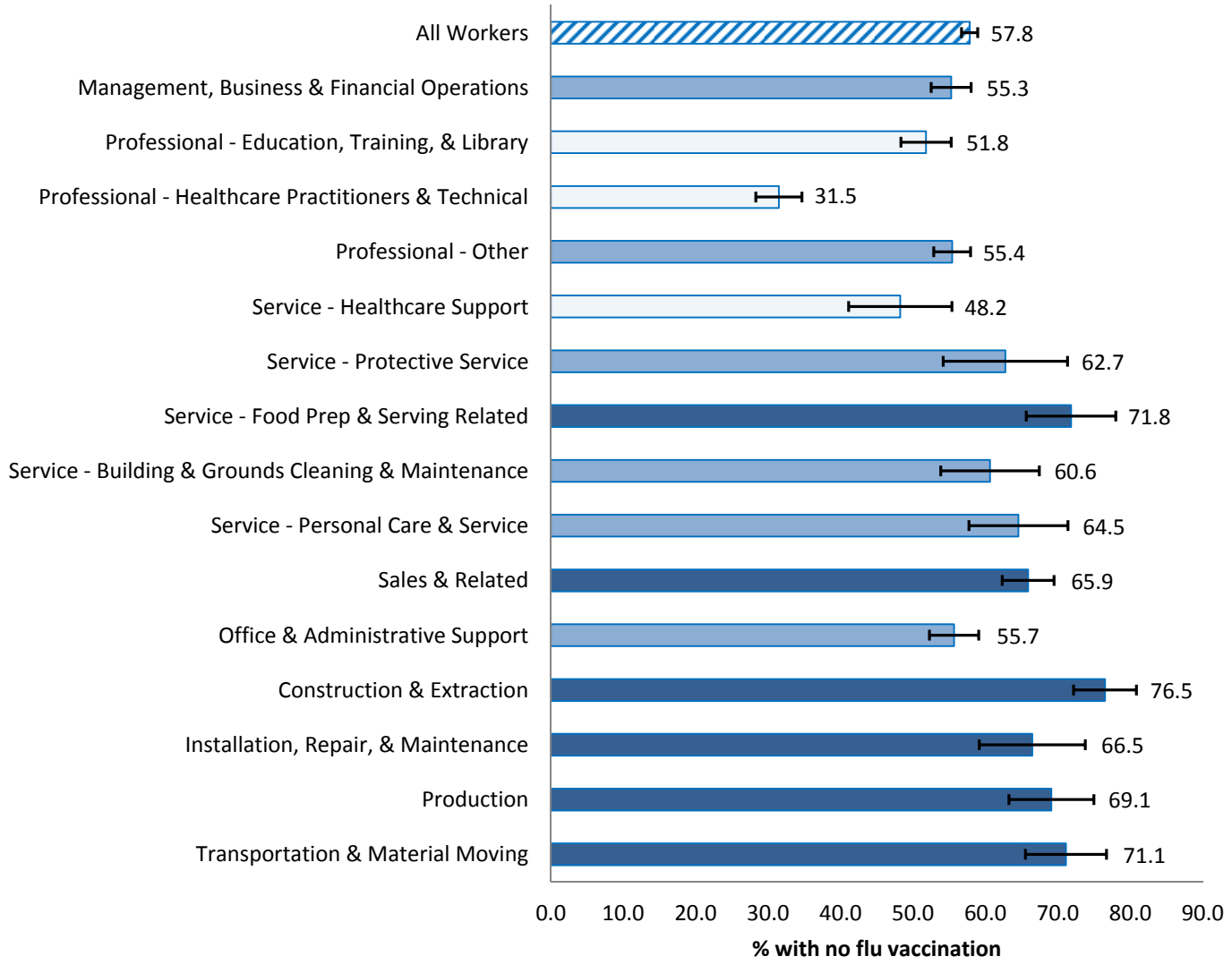
Influenza Vaccination

Compared to all workers, the prevalence of NOT having received an influenza vaccine among workers in the following occupation groups was significantly…

- Higher:
  - Construction & Extraction
  - Service - Food Prep & Serving Related
  - Transportation & Material Moving
  - Production
  - Installation, Repair, & Maintenance
  - Sales & Related
- Lower:
  - Professional – Healthcare Practitioners & Technical
  - Service – Health Care Support
  - Professional - Education, Training, & Library

All respondents were asked if they had received an influenza vaccine (flu shot) or nasal flu spray (flu mist) within the past 12 months.

Figure 16a. Percentage of MA workers reporting no influenza vaccination in the past year, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations: Farming, Forestry &Fishing

Influenza Vaccination

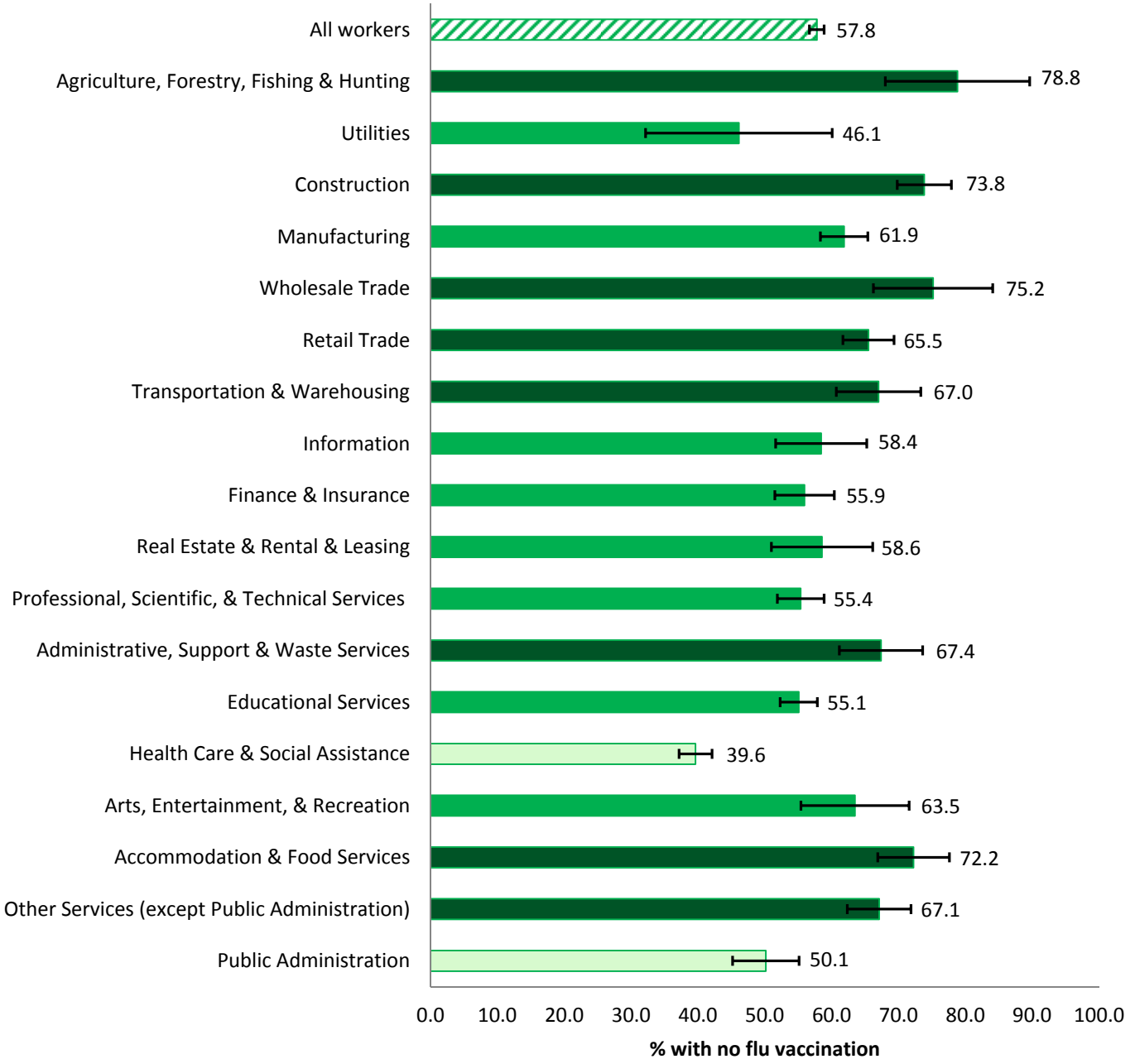
Compared to all workers, the prevalence of NOT having received an influenza vaccine among workers in the following industry groups was significantly…

- Higher:
  - Agriculture, Forestry, Fishing & Hunting
  - Wholesale Trade
  - Construction
  - Accommodation & Food Services
  - Administrative, Support &Waste Services
  - Other Services (except Public Administration)
  - Transportation & Warehousing
  - Retail Trade
- Lower:
  - Health Care & Social Assistance
  - Public Administration

All workers = respondents with an industry code

Insufficient data for the following industries:
Mining, Quarrying, & Oil &Gas Extraction
Management of Companies &Enterprises

Figure 16b. Percentage of MA workers reporting no influenza vaccination in the past year, by industry group, 2012-2013



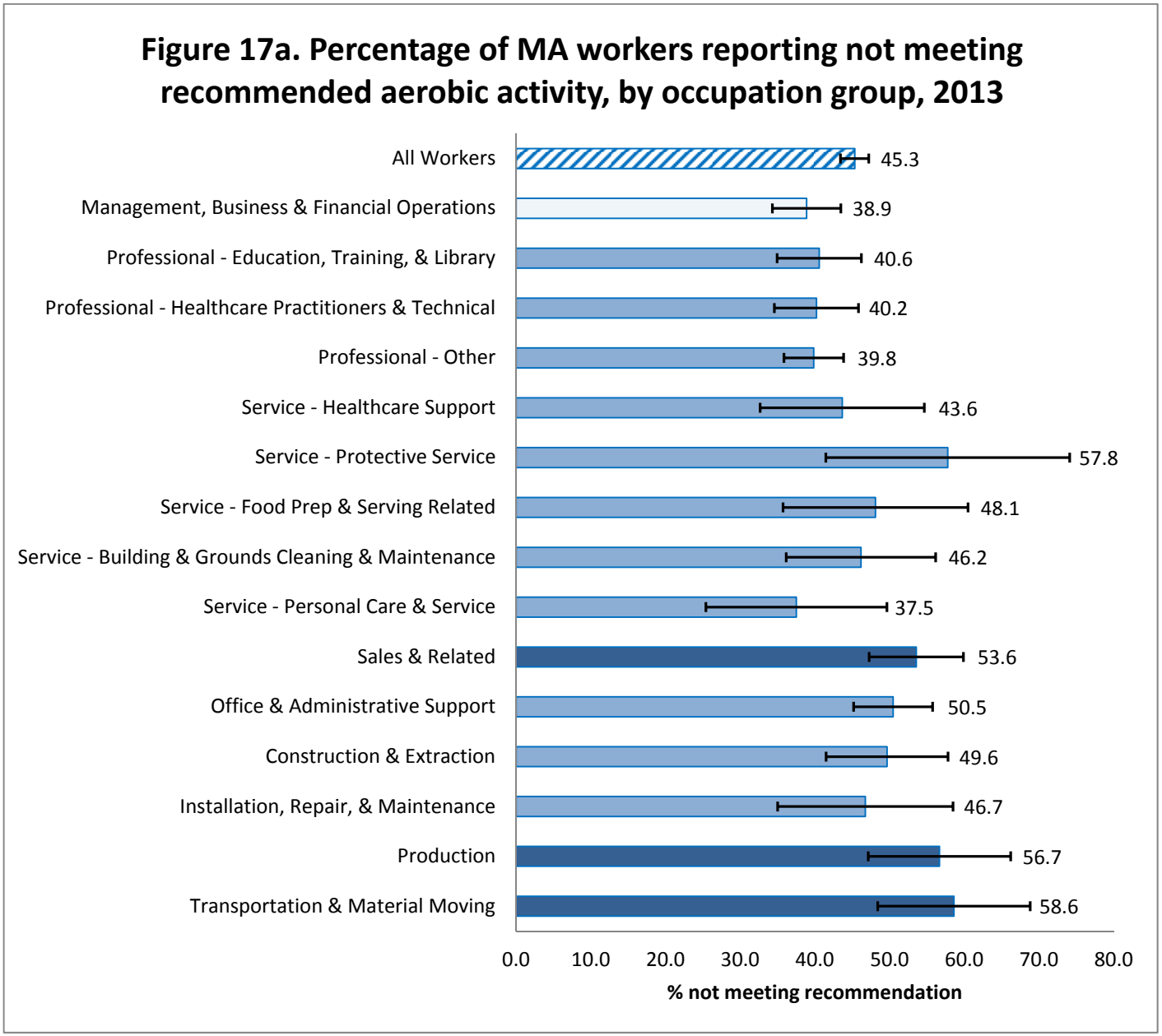
Physical Activity
Aerobic Activity

All respondents who reported ANY leisure-time physical activity were asked what two types of physical activity gave them the most exercise in the past month. They were also asked how frequently and for how long they took part in these activities. The Healthy People 2020 objective of 150 minutes of aerobic activity weekly was used as the recommendation for these analyses.

Compared to all workers, the percent who report NOT meeting the recommendation for aerobic activity among workers in the following occupation groups was significantly…

- Higher:
  - Transportation & Material Moving
  - Production
  - Sales & related

- Lower:
  - Management, Business & Financial Operations



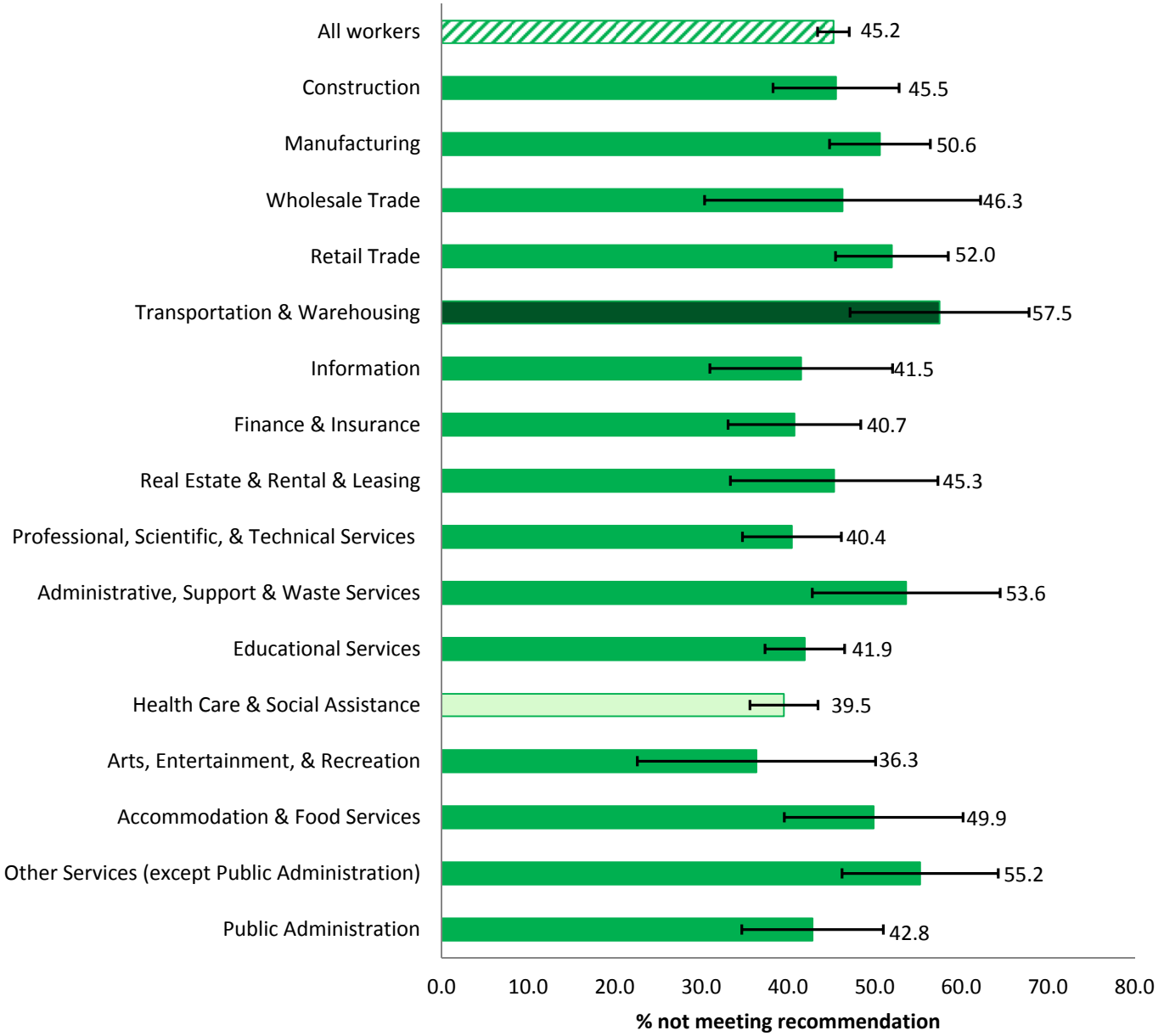
All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing

Physical Activity
Aerobic Activity

Compared to all workers, the percent who report NOT meeting the recommendation for aerobic activity among workers in the following industry groups was significantly…

- Higher:
  - Transportation & Warehousing
- Lower:
  - Health Care & Social Assistance

Figure 17b. Percentage of MA workers reporting not meeting recommended aerobic activity, by industry group, 2013



All workers = respondents with an industry code

Insufficient data for the following industries:

Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

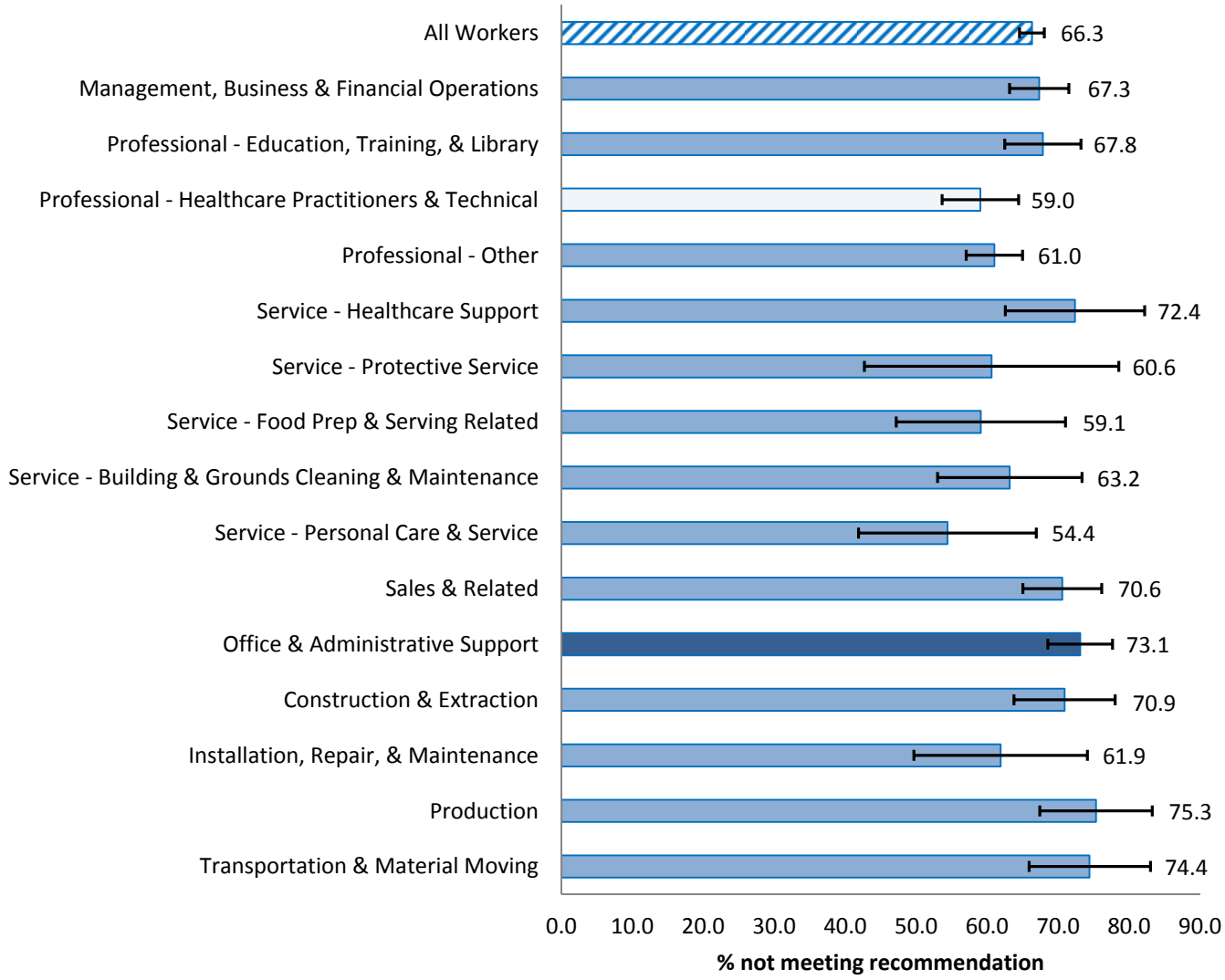
Physical Activity
Muscle Strengthening

All respondents were asked how frequently they took part in activities or exercises to strengthen muscles. The Healthy People 2020 objective of muscle strengthening activity on two or more days per week was used as the recommendation for these analyses.

Compared to all workers, the percent who report NOT meeting the recommendation for muscle strengthening activity among workers in the following occupation groups was significantly….

- Higher:
  - Office & Administrative Support
- Lower:
  - Professional – Healthcare Practitioners & Technical

Figure 18a. Percentage of MA workers reporting not meeting recommended muscle-strengthening activity, by occupation group, 2013



All workers = respondents with an occupation code

Insufficient data for the following occupations:
Farming, Forestry &Fishing

Physical Activity
Muscle Strengthening

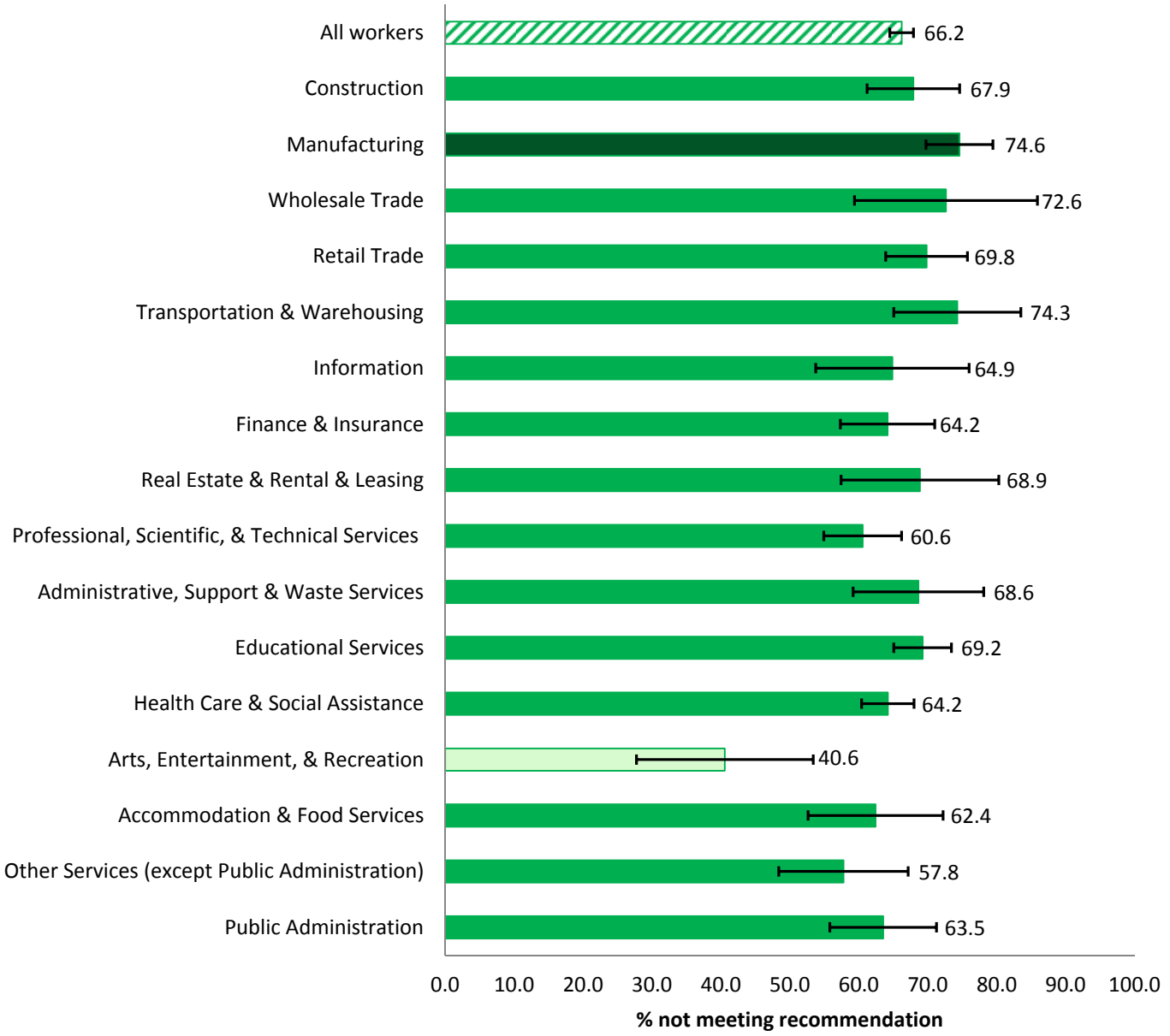
Compared to all workers, the percent who report NOT meeting the recommendation for muscle strengthening activity among workers in the following industry groups was significantly….

- Higher:
  - Manufacturing
- Lower:
  - Arts, Entertainment & Recreation

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing and Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 18b. Percentage of MA workers reporting not meeting recommended muscle-strengthening activity, by industry group, 2013



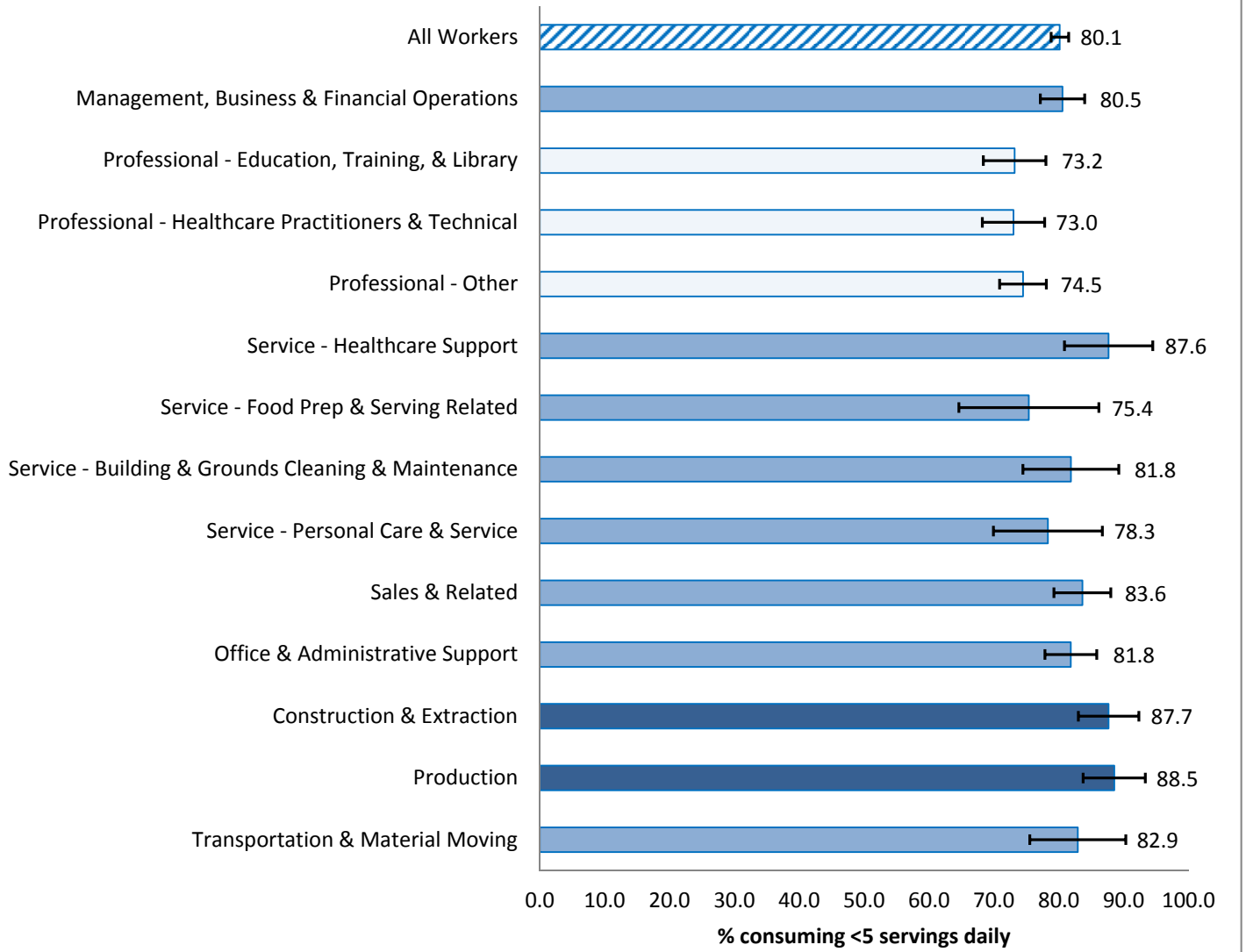
Fruit & Vegetable Consumption

Compared to all workers, the percent who reported consuming fewer than five servings of fruits and vegetables daily among workers in the following occupation groups was significantly…

- Higher:
  - Production
  - Construction & Extraction
- Lower:
  - Professional – Healthcare Practitioners & Technical
  - Professional – Education, Training & Library
  - Professional – Other

All respondents were asked how many times per day they consumed fruit and how many times they consumed vegetables.

Figure 19a. Percentage of MA workers reporting consuming fruits and vegetables <5 times daily, by occupation group, 2013



All workers = respondents with an occupation code

Insufficient data for the following occupations:

Farming, Forestry &Fishing

Service – Protective Service

Installation, Repair & Maintenance

Fruit & Vegetable Consumption

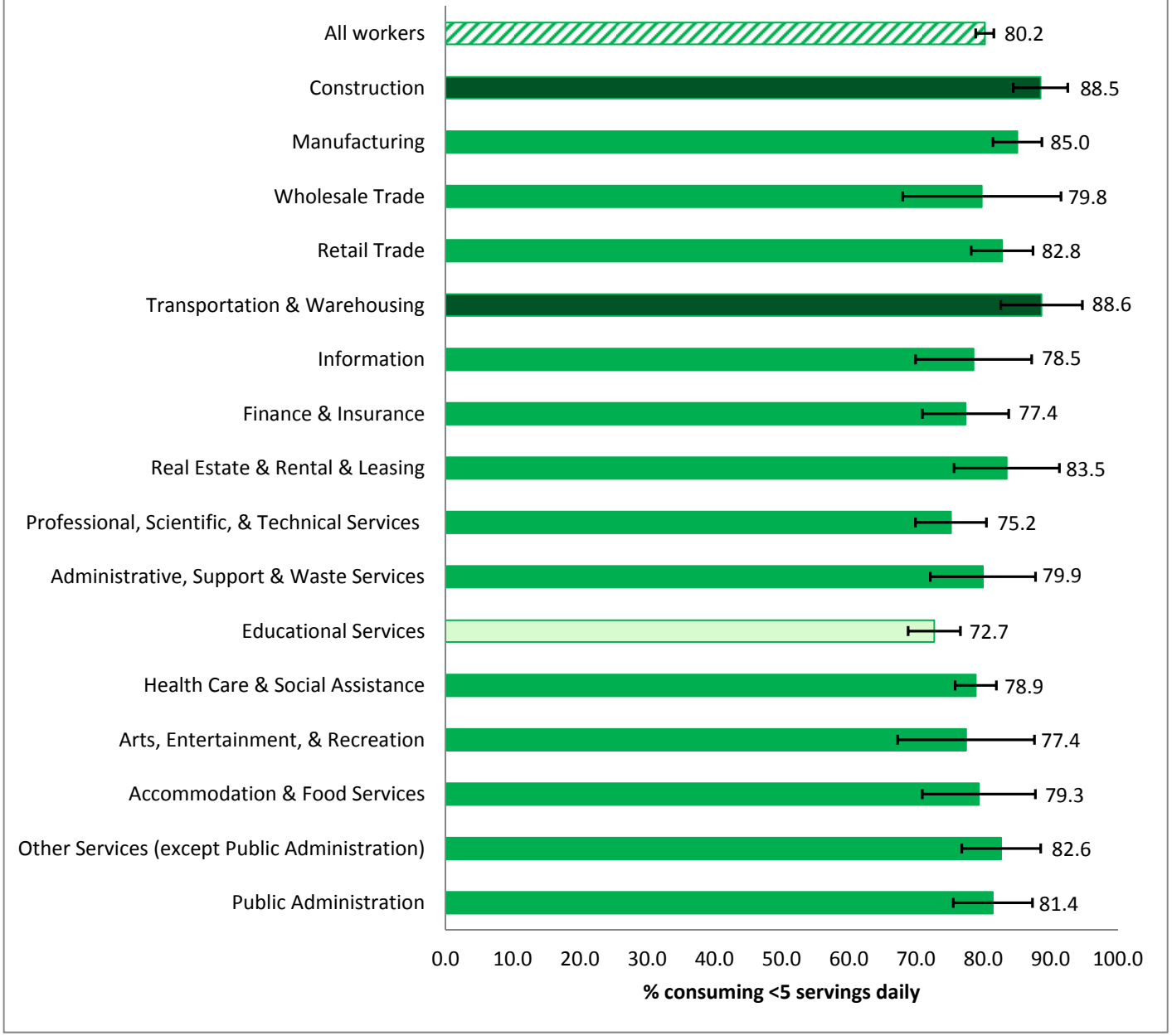
Compared to all workers, the percent who reported consuming fewer than five servings of fruits and vegetables daily among workers in the following industry groups was significantly…

- Higher:
  - Transportation & Warehousing
  - Construction
- Lower:
  - Educational Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 19b. Percentage of MA workers reporting consuming fruits and vegetables <5 times daily, by industry group, 2013



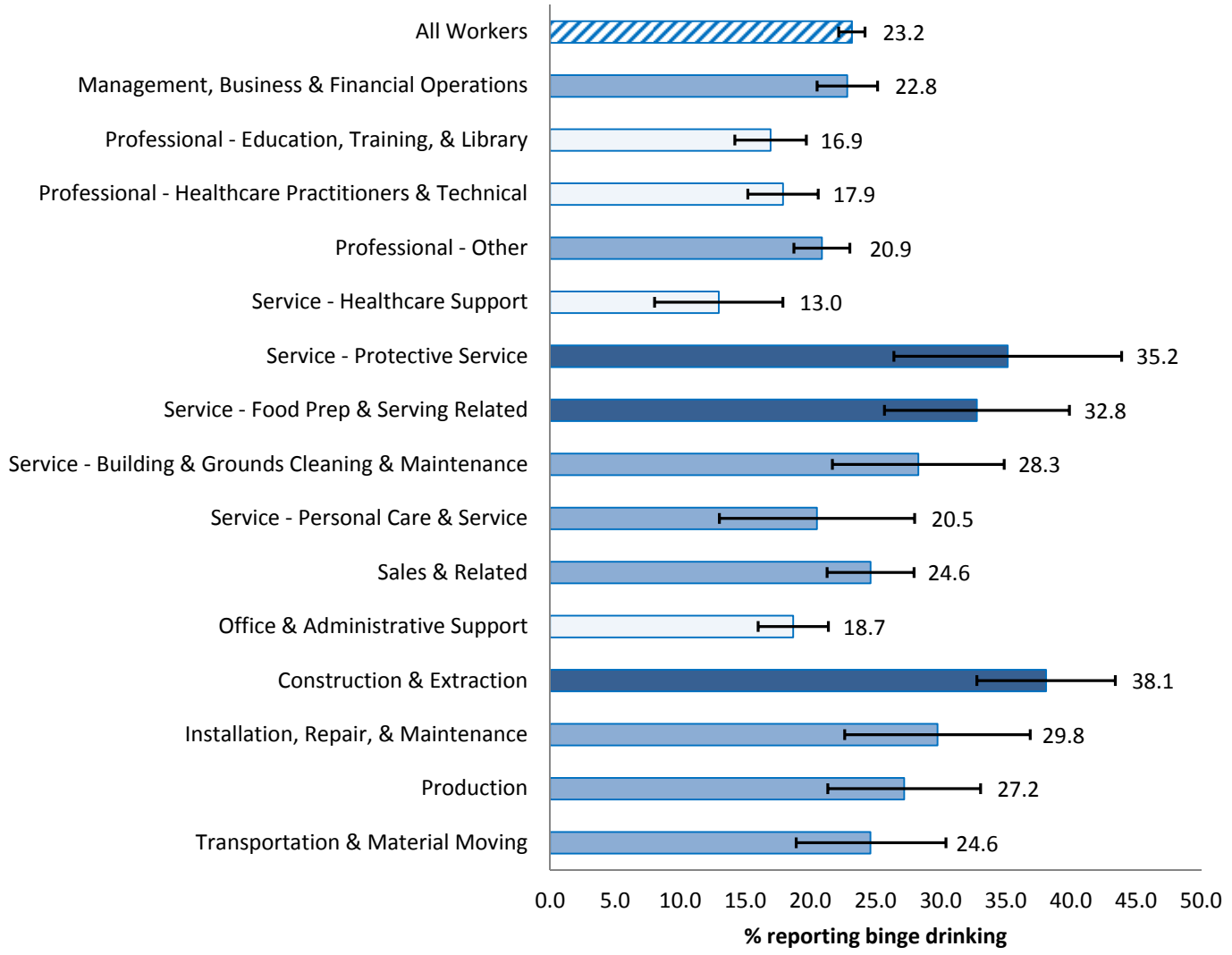
Alcohol Consumption
Binge Drinking

All respondents were asked about their consumption of alcohol in the past month. A drink of alcohol was defined as a twelve ounce can or bottle of beer, one five ounce glass of wine, or one drink with one shot of liquor. Binge drinking was defined as consumption of five or more drinks for men or four or more drinks for women, on any one occasion in the past month.

Compared to all workers, the prevalence of reported binge drinking among workers in the following occupation groups was significantly…

- Higher:
  - Construction & Extraction
  - Service – Protective Service
  - Service – Food Prep & Serving Related
- Lower:
  - Service – Healthcare Support
  - Professional – Education, Training & Library
  - Professional – Healthcare Practitioners & Technical
  - Office & Administrative Support

Figure 20a. Percentage of MA workers reporting binge drinking in the past month, by occupation group, 2012-2013



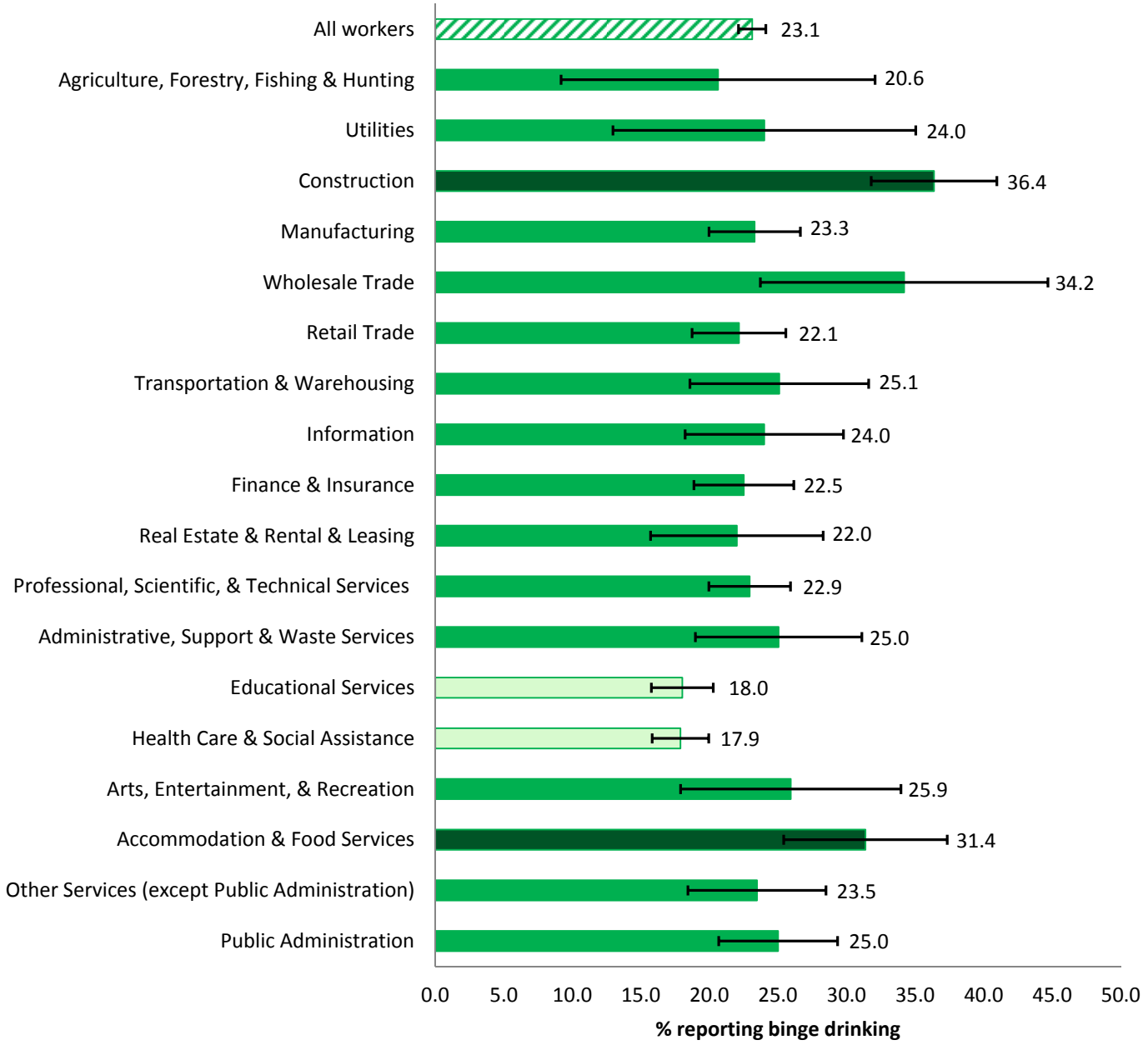
All workers = respondents with an occupation code
Insufficient data for the following occupations: Farming, Forestry &Fishing

Alcohol Consumption
Binge Drinking

Compared to all workers, the prevalence of reported binge drinking among workers in the following industry groups was significantly…

- Higher:
  - Construction
  - Accommodation & Food Services
- Lower:
  - Educational Services
  - Health Care & Social Assistance

Figure 20b. Percentage of MA workers reporting binge drinking in the past month, by Industry Group, 2012-2013



All workers = respondents with an industry code

Insufficient data for the following industries:
Mining, Quarrying, & Oil &Gas Extraction
Management of Companies &Enterprises

Alcohol Consumption
Heavy Drinking

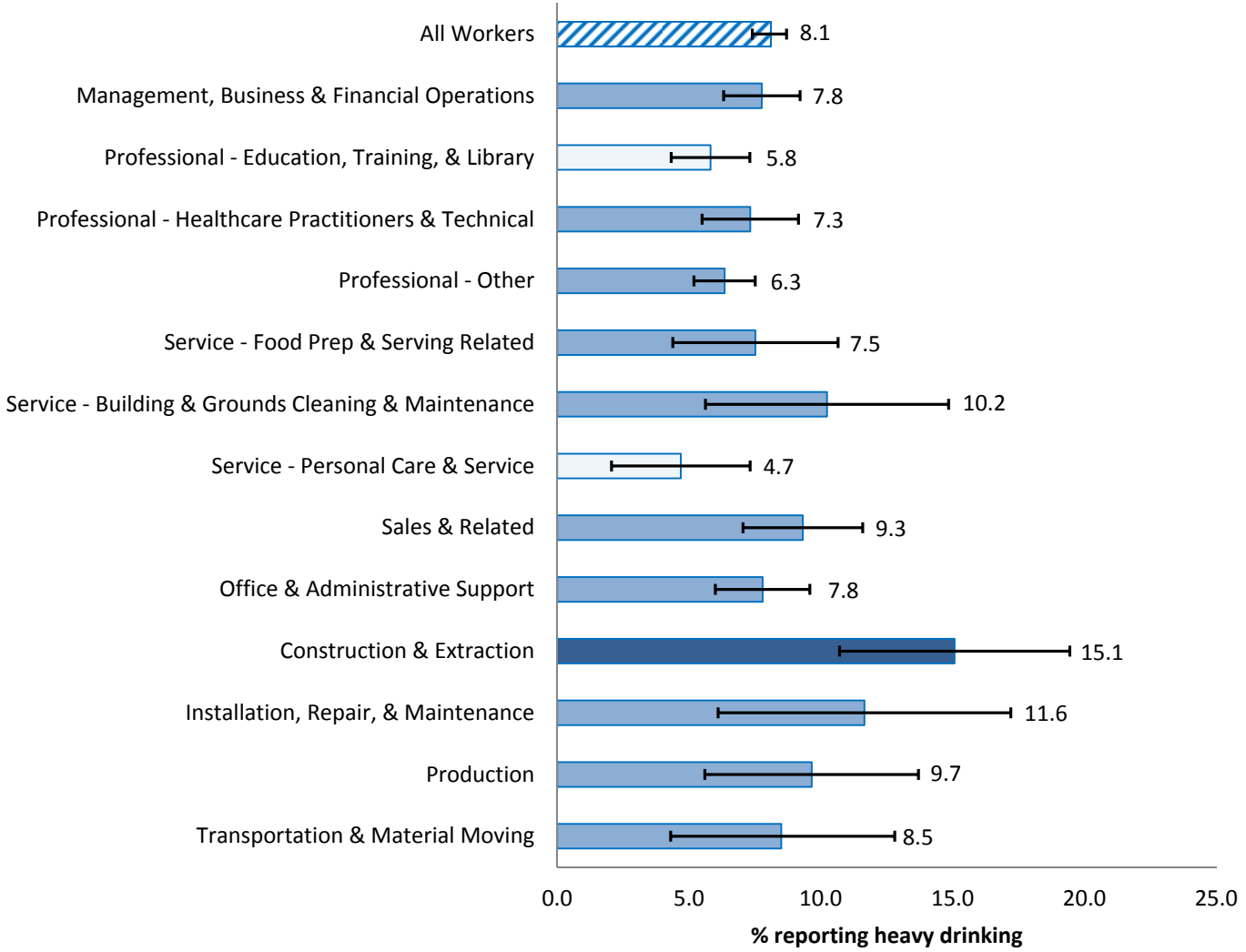
All respondents were asked about their consumption of alcohol in the past month. A drink of alcohol was defined as a twelve ounce can or bottle of beer, one five ounce glass of wine, or one drink with one shot of liquor. Heavy drinking was defined as consumption of more than 60 drinks in the past month for men and consumption of more than 30 drinks in the past month for women.

Compared to all workers, the prevalence of reported heavy drinking among workers in the following occupation groups was significantly…

- Higher
  - Construction & Extraction
- Lower:
  - Service – Person Care & Service
  - Professional – Education, Training & Library

All workers = respondents with an occupation code
Insufficient data for the following occupations:
Farming, Forestry &Fishing
)Service – Protective Service
Service – Healthcare Support

Figure 21a. Percentage of MA workers reporting heavy drinking in the past month, by occupation group, 2012-2013



Alcohol Consumption
Heavy Drinking

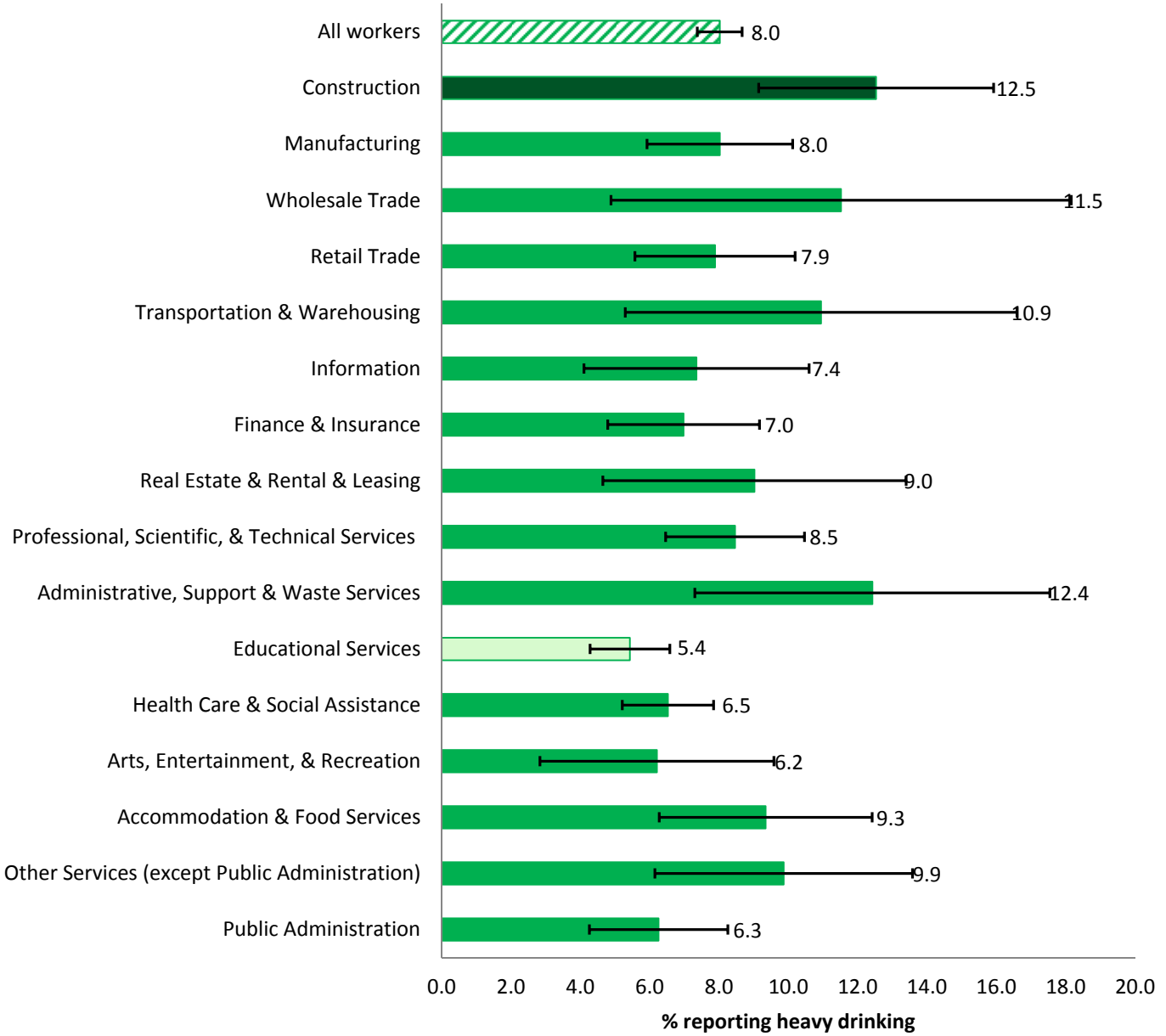
Compared to all workers, the prevalence of reported heavy drinking among workers in the following industry groups was significantly…

- Higher:
  - Construction
- Lower:
  - Educational Services

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 21b. Percentage of MA workers reporting heavy drinking in the past month, by industry group, 2012-2013



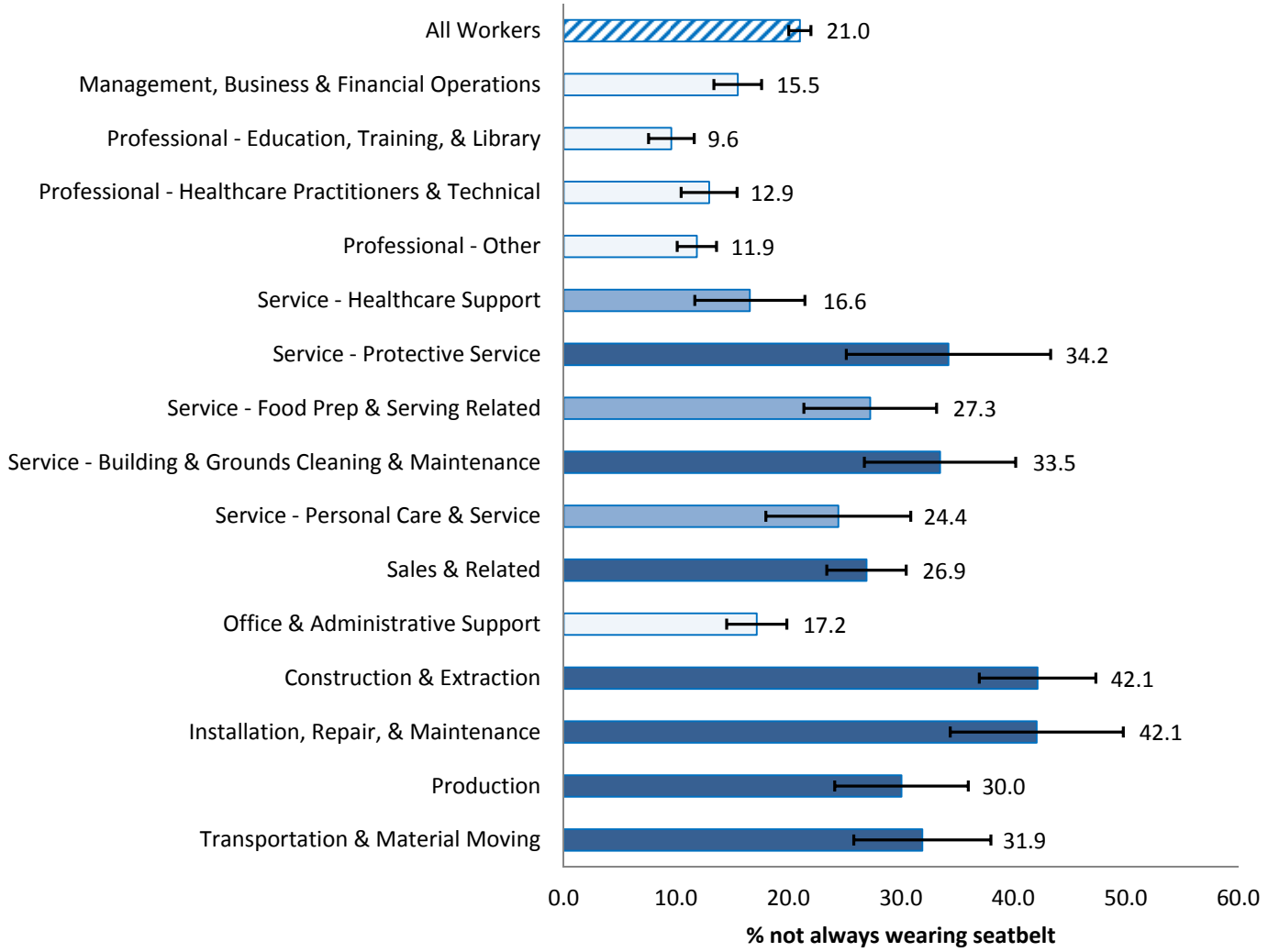
Seatbelt Use

All respondents were asked how often they wear a seatbelt when driving or riding in a car.

Compared to all workers, the percent who reported NOT always wearing a seatbelt among workers in the following occupation groups was significantly…

- Higher:
  - Construction & Extraction
  - Installation, Repair & Maintenance
  - Service – Protective Service
  - Service – Building & Grounds Cleaning & Maintenance
  - Transportation & Material Moving
  - Production
  - Sales & Related
- Lower:
  - Professional – Education, Training & Library
  - Professional - Other
  - Professional – Healthcare Practitioners & Technical
  - Management, Business & Financial Operations
  - Office & Administrative Support

Figure 22a. Percentage of MA workers reporting not always wearing a seatbelt when driving/riding in a car, by occupation group, 2012-2013



All workers = respondents with an occupation code

Insufficient data for the following occupations: Farming, Forestry &Fishing

Seatbelt Use

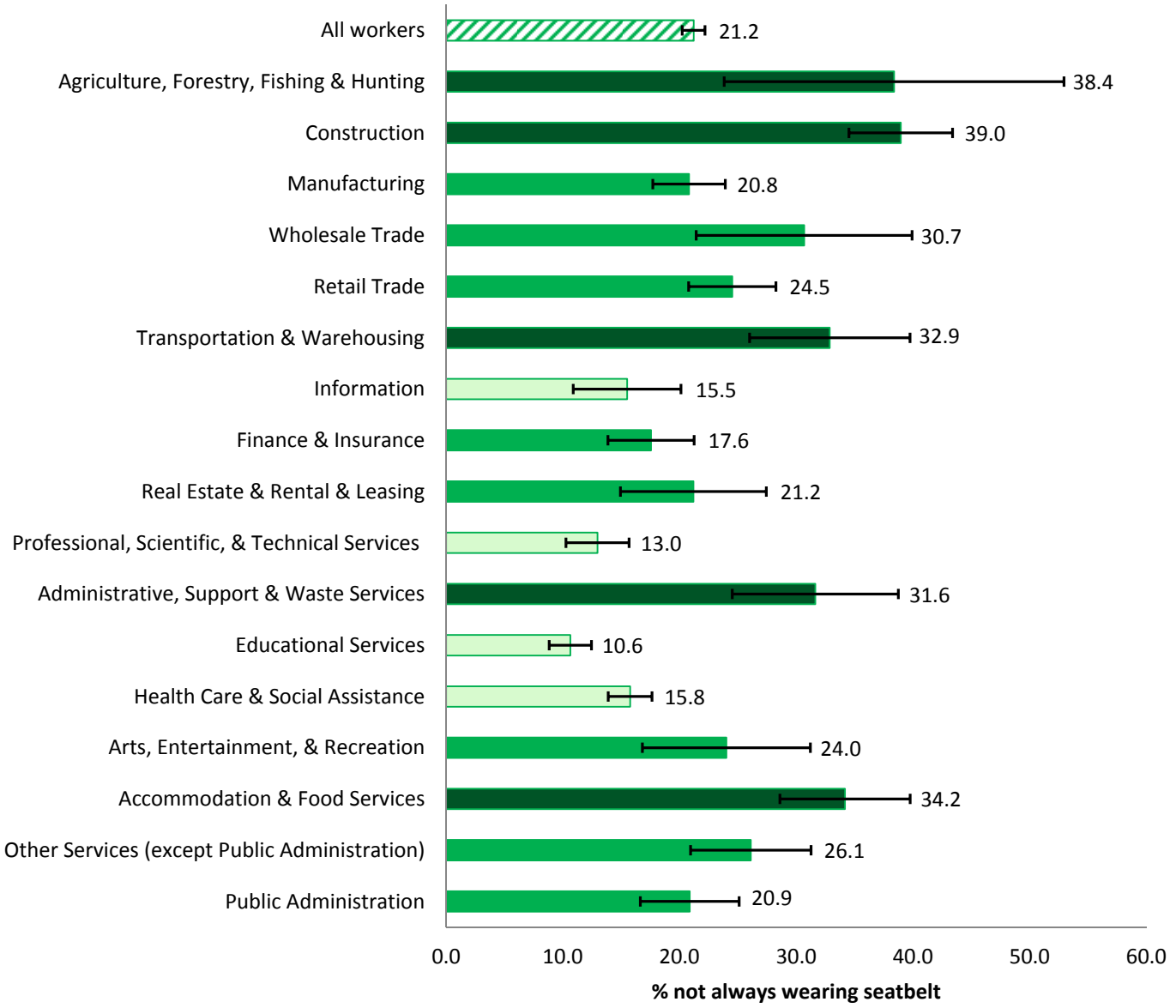
Compared to all workers, the percent who reported NOT always wearing a seatbelt among workers in the following industry groups was significantly…

- Higher:
  - Construction
  - Agriculture, Forestry, Fishing & Hunting
  - Accommodation & Food Services
  - Transportation & Warehousing
  - Administrative, Support and Waste Services
- Lower:
  - Educational Services
  - Professional, Scientific & Technical Services
  - Information
  - Health Care & Social Assistance

All workers = respondents with an industry code

Insufficient data for the following industries:
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 22b. Percentage of MA workers reporting not always wearing a seatbelt when driving/riding in a car, by industry group, 2012-2013

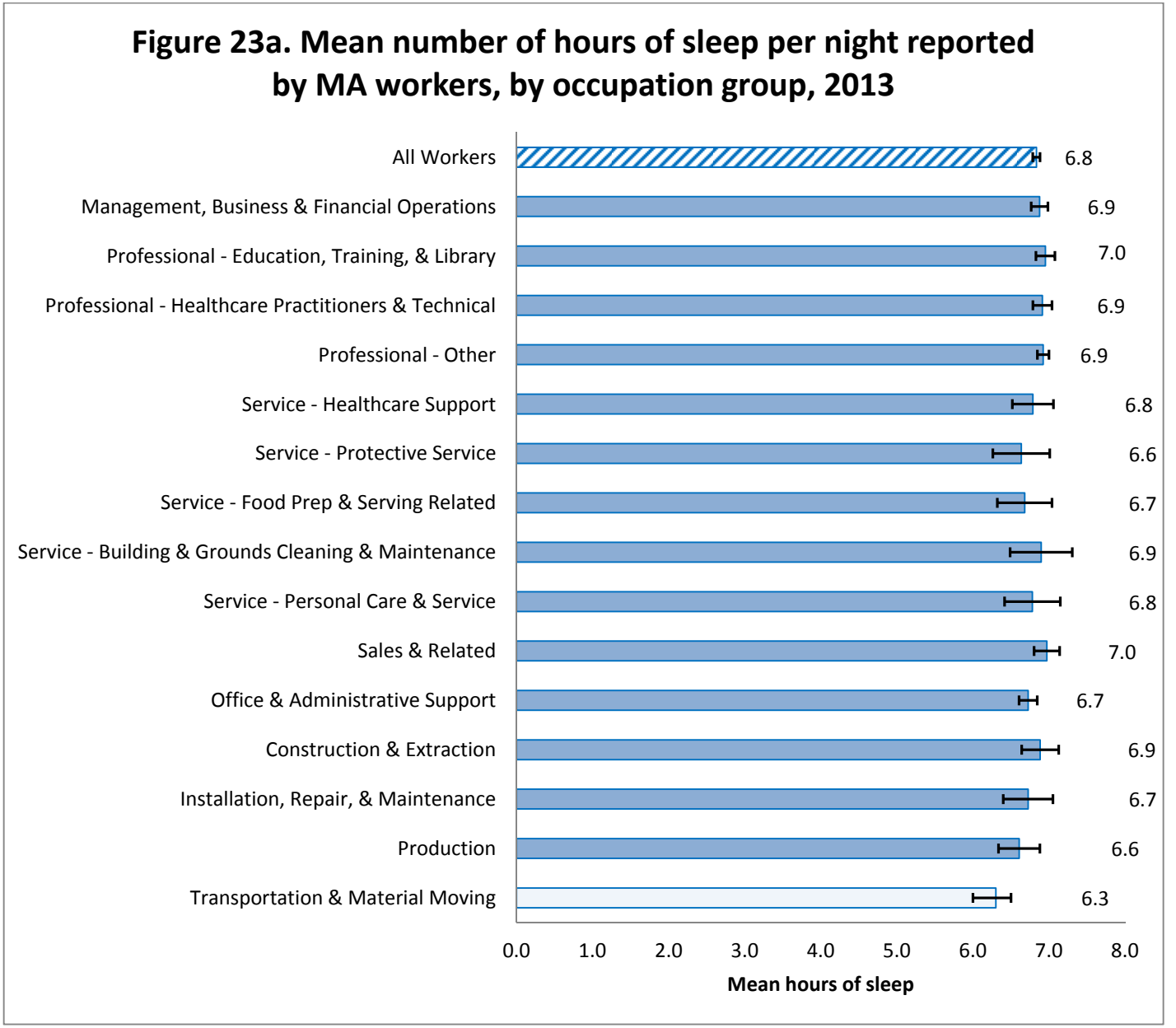


Sleep Adequacy

All respondents were asked, on average, how many hours of sleep they got in a 24 hour period.

Compared to all workers, the mean number of hours of sleep in a 24 hour period among workers in the following occupations was significantly …

- Higher:
  - No occupations
- Lower:
  - Transportation & Material Moving



All workers = respondents with an occupation code

Insufficient data for the following occupations:
Farming, Forestry &Fishing

Sleep Adequacy

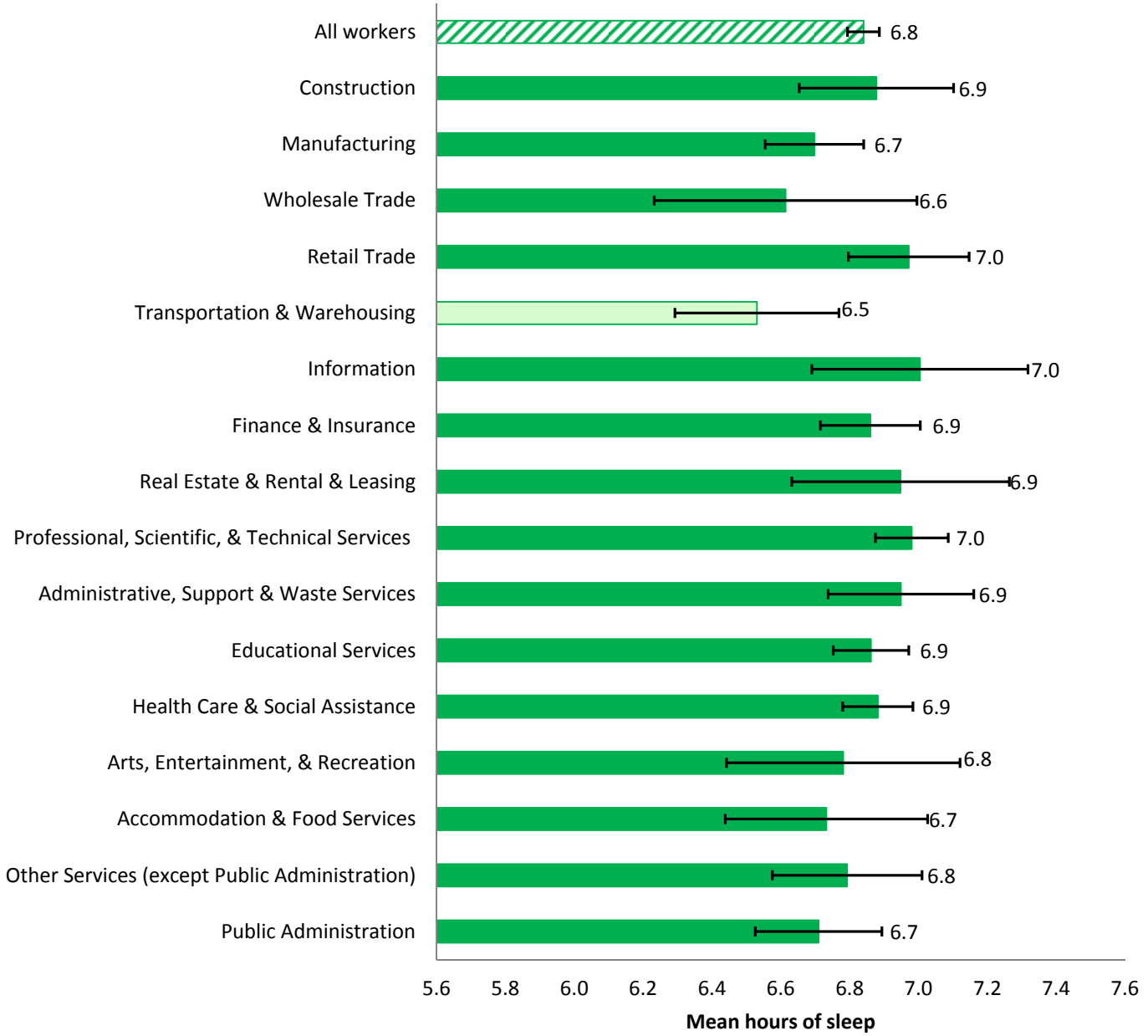
Compared to all workers, the mean number of hours of sleep in a 24 hour period among workers in the following industries was significantly …

- Higher:
  - No industries
- Lower:
  - Transportation & Warehousing

All workers = respondents with an industry code

Insufficient data for the following industries:
Agriculture, Forestry, Fishing & Hunting
Mining, Quarrying, & Oil &Gas Extraction
Utilities
Management of Companies &Enterprises

Figure 23b. Mean number of hours of sleep per night reported by MA workers, by industry group, 2013



Appendix

Table 3: 2002 Census Occupation Codes (COC) for 16 Occupation Groups	
Occupation Group	**COC**
Management, Business & Financial Operations	0010-0950
Professional - Education, Training, & Library	2200-2550
Professional - Healthcare Practitioners & Technical	3000-3540
Professional – Other • Computer & Mathematical • Architecture & Engineering • Life, Physical, & Social Services • Community & Social Services • Legal • Arts, Design, Entertain., Sports, & Media	 1000-1240 1300-1560 1600-1960 2000-2060 2100-2150 2600-2960
Service - Healthcare Support	3600-3650
Service - Protective Service	3700-3950
Service - Food Prep & Serving Related	4000-4160
Service - Building & Grounds Cleaning & Maintenance	4200-4250
Service - Personal Care & Service	4300-4650
Sales & Related	4700-4960
Office & Administrative Support	5000-5930
Farming, Forestry, & Fishing	6000-6130
Construction & Extraction	6200-6940
Installation, Repair, & Maintenance	7000-7620
Production	7700-8960
Transportation & Material Moving	9000-9750

Table 4: 2002 Census Industry Codes (CIC) for 20 Industry Groups	
Industry Group	**CIC**
Agriculture, Forestry, Fishing & Hunting	0170-0290
Mining, Quarrying, & Oil & Gas Extraction	0370-0490
Utilities	0570-0690
Construction	0770
Manufacturing	1070-3990
Wholesale Trade	4070-4590
Retail Trade	4670-5790
Transportation & Warehousing	6070-6390
Information	6470-6780
Finance and Insurance	6870-6990
Real Estate & Rental & Leasing	7070-7190
Professional, Scientific, & Technical Services	7270-7490
Management of Companies & Enterprises	7570
Administrative, Support & Waste Services	7580-7790
Educational Services	7860-7890
Health Care & Social Assistance	7970-8470
Arts, Entertainment, & Recreation	8560-8590
Accommodation & Food Services	8660-8690
Other Services (except Public Administration)	8770-9290
Public Administration	9370-9590

DATA NOTES AND LIMITATIONS

All data in this report are from the Massachusetts Behavioral Factor Surveillance System (BRFSS). The BRFSS is a continuous, random–digit–dial, telephone survey of adults ages 18 and older residing in a private residence or college housing and is conducted in all states as a collaboration between the federal Centers for Disease Control and Prevention (CDC) and state departments of health.

Readers should be aware that all data collected by the BRFSS are based on self-reported information from respondents. Self-reported data may be subject to error for several reasons: an individual may have difficulty remembering events that occurred a long time ago or the frequency of certain behaviors; some respondents may over-report socially desirable behaviors or under-report behaviors they perceive to be less acceptable; and respondents may also report certain risks, behaviors and perceptions differently due to their respective cultural and linguistic backgrounds.

Because the BRFSS surveys a randomly selected sample of Massachusetts adults, these results may differ from another random sample to some extent simply due to chance.

The health characteristics estimated from the BRFSS pertain to the Massachusetts adult population, aged 18 years and older, who live in households or college housing with either a landline telephone or a cell phone. Persons with the most severe limitations and certain disabilities are not represented in the sample since individuals living in institutions are not included in the BRFSS. BRFSS methodology also precludes anyone from assisting respondents in completing the interview if the selected adult had difficulty in participating for any reason, such as an intellectual or developmental disability.

All BRFSS data is cross-sectional. As such, no inferences are made regarding causality.

All data presented in this bulletin are crude percentages, or prevalence estimates. The crude percentage is the weighted proportion of respondents in a particular category, and reflects the burden of that particular health status indicator in a specific group of the population. No age-adjustment was done.

Statistical significance was considered as a basis when we used the terms “higher” or “lower”. Differences between workers in a particular industry or occupation and all workers are presented when a difference is statistically significant. We considered the difference between two percentages to be statistically significant if the p-value was less than 0.05.

Estimates and their 95% confidence intervals are not presented in the charts if a) the underlying sample size is less than 50 respondents or b) if a ratio of standard error to the estimate itself exceeds 30% (relative standard error of greater than 30%). Standard error of the estimate is a measure of its variability. Larger standard errors yield wider confidence intervals and less reliable estimates

Additional information about the Massachusetts BRFSS methods can be found at www.mass.gov/dph/hsp.

RESOURCES

Resources for additional information on creating healthy workplaces:

1. World Health Organization, Healthy Workplaces: A Model for Action
   http://www.who.int/occupational_health/healthy_workplaces/en/
2. U.S. Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, Total Worker Health
   http://www.cdc.gov/niosh/twh/
3. Massachusetts Department of Public Health, Working on Wellness Program
   http://www.mass.gov/eohhs/gov/departments/dph/programs/community-health/mass-in-motion/work/wellness-program/
4. University of Massachusetts Lowell's CPH-NEW Healthy Workplace Participatory Program
   http://www.uml.edu/Research/Centers/CPH-NEW/Healthy-Work-Participatory-Program/
5. Harvard School of Public Health's Center for Work, Health, and Well-being
   http://centerforworkhealth.sph.harvard.edu/

REFERENCES

1. U.S. Department of Labor, U.S. Bureau of Labor Statistics. (2014). Geographic Profile of Employment and Unemployment, 2013. Washington, DC. Retrieved from http://www.bls.gov/opub/gp/pdf/gp13full.pdf. Accessed 7/22/2015.
2. U.S. Department of Labor, U.S. Bureau of Labor Statistics. (2014). Quarterly Census of Employment and Wages (QCEW), Washington, DC. Retrieved from http://www.bls.gov/data/home.htm#employment. Accessed 9/2/2014.
3. Waddell G, Burton AK. (2006). Is work good for your health and well-being? Available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/214326/hwwb-is-work-good-for-you.pdf
4. Massachusetts Department of Public Health, Occupational Health Surveillance Program (2014). Census of Fatal Occupational Injuries (CFOI) and the Fatality Assessment and Control Evaluation (FACE) Projects. Fatal Occupational Injuries in Massachusetts, 2008 – 2013. (unpublished data)
5. Bureau of Labor Statistics. 2014. Survey of Occupational Injuries and Illnesses (SOII), Occupational Injuries/Illnesses and Fatal Injuries Profiles Database Query (multiscreen). Washington, DC: U.S. Department of Labor. Available at http://www.bls.gov/data/home.htm#WorkplaceInjuries. Accessed 9/2/2014.
6. Chandola T, Britton A, Brunner E, Hemingway H, Malik M, Kumari M, Badrick E, Kivimaki M, Marmot M. Work stress and coronary heart disease: what are the mechanisms? Eur Heart J. 2008 Mar;29(5):640-8. doi: 10.1093/eurheartj/ehm584. Epub 2008 Jan 23.
7. Carnethon C, Whitsel L, Franklin B, Kris-Etherton P, Milani R, Pratt C, Wagner G [2009]. AHA Statement: Worksite Wellness Programs for Cardiovascular Disease Prevention. Circulation;120:1725-1741.
8. Silverstein, Barbara and Evanoff, Bradley. "Musculoskeletal Disorders." Ed. Barry S. Levy, David H. Wegman, Sherry L. Baron, and Rosemary K. Sokas. Occupational and Environmental Health: Recognizing and Preventing Disease and Injury. 6th ed. New York: Oxford UP, 2011. 335-365.
9. Hurrell, Joseph J., Jr. "Occupational Stress." Ed. Barry S. Levy, David H. Wegman, Sherry L. Baron, and Rosemary K. Sokas. Occupational and Environmental Health: Recognizing and Preventing Disease and Injury. 6th ed. New York: Oxford UP, 2011. 296-312.
10. Nobrega S, Champagne N, Abreu M, et al. Obesity/overweight and the role of working conditions: A qualitative, participatory investigation. Health Promotion Practice (MS HPP-14-0219.R2, accepted 2015).
11. Egerter S, Dekker M, An J, Grossman-Kahn R, Braveman P. (2008). Work matters for health. Robert Wood Johnson Foundation Commission to Build a Healthier America, Issue Brief 4: Work and Health. Available at: http://www.commissiononhealth.org/PDF/0e8ca13d-6fb8451dbac87d15343aacff/Issue%20Brief%204%20Dec%2008%20%20Work%20and%20Health.pdf
12. Baron SL, Beard S, Davis LK, Delp L, Forst L, Kidd-Taylor A, Liebman AK, Linnan L, Punnett L, Welch LS. Promoting integrated approaches to reducing health inequities among low-income workers: applying a social ecological framework. Am J Ind Med. 2014 May;57(5):539-56. doi: 10.1002/ajim.22174. Epub 2013 Mar 26.
13. Massachusetts Department of Public Health. 2010. Health of Massachusetts. Boston: Massachusetts. Available at www.mass.gov/dph/healthofmassachusetts