Louisiana Service Worker Wellness Report

Results from the Behavioral Risk Factor Surveillance System 2013 and 2014

Prepared by the Occupational Health and Injury Surveillance Program (OHIS) and the Environmental Public Health Tracking Program (Tracking), Section of Environmental Epidemiology and Toxicology (SEET), in conjunction with the Center for Population Health Informatics (CPHI) Office of Public Health (OPH)

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DEPARTMENT OF HEALTH

Contents

SUMMARY

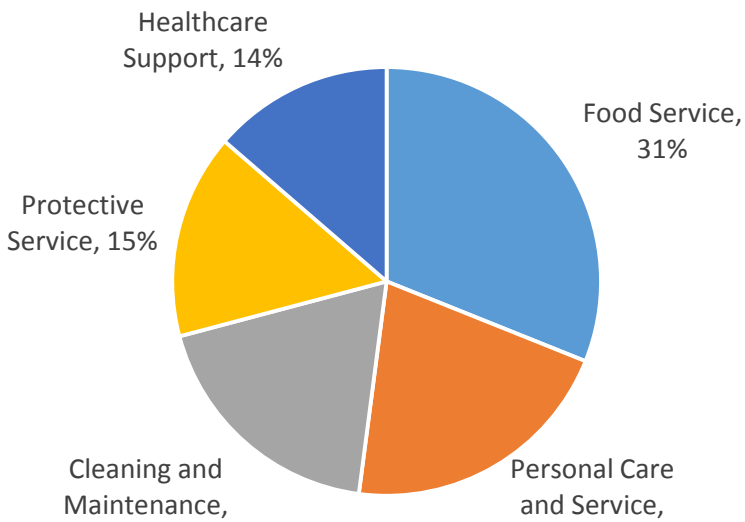
This is the first in-depth analysis of Louisiana's Behavioral Risk Factor Surveillance System (BRFSS) employment data, with an emphasis on service workers' health and well-being. BRFSS 2013 and 2014 data for employed respondents were aggregated into two occupational groups: service workers and all other workers. Service workers represent a broadly defined group that includes: healthcare support; protective service; food service; cleaning and maintenance; as well as personal care and service occupations. Service workers in Louisiana make up about 17 percent of the labor force and have a larger proportion of females, workers less than 45 years old and African Americans. They also have a higher proportion of individuals without a high school education and annual household incomes of less than $50,000 in comparison with other workers. Service workers report significantly greater prevalences of poor health, chronic health conditions and risk behaviors. Significant differences between service workers and all other workers include:

- a higher percentage of workers lack healthcare coverage and ability to see a doctor due to costs;
- a higher prevalence of poor mental and/or physical health;
- a higher prevalence of food insecurity;
- a higher prevalence of shelter/housing insecurity;
- a higher prevalence of smoking;
- and higher prevalences of chronic obstructive pulmonary disease, asthma, diabetes and depressive disorder.

INTRODUCTION

This is the first report to provide population-based estimates on the health and well-being of service workers in Louisiana. Work is one of the most important social determinants of health. Forty-four percent of Louisiana's approximately 4.5 million residents work, with the majority of workers spending 50 percent or more of their waking hours at work.[1,2] Service workers represent a broadly defined group that includes: healthcare support, protective service, food service, cleaning and maintenance and personal care and service occupations.[3] Together, these workers make up about 17 percent of Louisiana's workforce, with food service workers making up almost one-third of all service workers, followed by personal care and service workers at 21 percent (**Figure 1**). Although there is variation among service occupations, many of the jobs are held by women and minorities and involve shift work, low wages and minimum job security. These jobs – especially service jobs that pay below $20 per hour and require only a high school education or less – are predicted to grow far more quickly than higher-wage jobs over the next decade.[4] Between 2010 and

Figure 1. Service Occupational Categories; LA, 2010-2014



2014, the number of food service workers increased approximately 12 percent. The other service occupations also experienced growth during this time period, excluding protective service workers. As the service occupational sector grows in Louisiana, it is important to evaluate their health and well-being in an effort to better inform labor and economic policy and practices.

METHODOLOGY

This report characterizes chronic health conditions, risk behavior factors and preventive measures among selected service occupation workers based on data from Louisiana's Behavioral Risk Factor Surveillance System (BRFSS) for 2013 and 2014. The BRFSS is a cross-sectional annual telephone survey of civilian, non-institutionalized state residents aged 18 years and older. It is coordinated by the Centers for Disease Control and Prevention (CDC) and conducted by all U.S. states, Washington D.C. and several U.S. territories. The BRFSS uses a multistage sampling design to select a representative sample of the adult population in each state. The CDC's standardized methodology for data collection and analysis allows for state-to-state and national comparisons.[5] Louisiana has participated in the survey since 1989. It is administered by the Office of Public Health, which contracts with Louisiana State University's Public Policy Research Lab to conduct the calls and to collect the data. Information obtained by the BRFSS is used to identify the need for health interventions, monitor the effectiveness of existing interventions and prevention programs, develop health policy and legislation and measure progress toward attaining state and national health objectives. For Louisiana and many other states, the BRFSS is the only available data source of timely and accurate data on health-related behaviors.

BRFSS questions are grouped into three categories: 1) core modules that must be included every year, 2) optional modules that can be included at the state's discretion and 3) custom questions designed to address state-specific health concerns. Employment status is a core question that categorizes respondents into two groups: 1) employed (currently employed, self-employed or out of work for less than one year) and 2) unemployed (out of work for at least one year, homemakers, students, retired or unable to work). Beginning in 2013, Louisiana added an optional industry and occupation module to collect information from employed respondents about their "type of business/industry" and the "type of work/occupation." Verbatim responses were collected, coded by NIOSH-certified coders into 3-digit Census occupation codes and then aggregated into broader occupational categories.[5] The five service workers' occupational categories were combined to create a service group, and all other occupation groups were combined to form the all other workers group for comparison (**Table 3**). Some employed respondents did not answer all of the survey questions. These respondents are included in the demographic results only.

Prevalence estimates for 19 survey responses were calculated to compare service workers with all other workers. The BRFSS criteria for publicly reporting data results are that: 1) each cell size must have a count of at least 50 and 2) the coefficient of variation (CV) of the prevalent estimate must be less than 0.30 to indicate stability. Unreliable estimates are not included in the report. SAS 9.3 was used for all data analyses, and Microsoft Excel was used to create all figures and tables. Rao-Scott chi-squared tests were calculated for all prevalence estimates to determine differences between occupation groups. Statistical significance for all tests was set at $p < 0.05$.

SECTION 1: DEMOGRAPHICS

This report combined 2013 and 2014 Louisiana BRFSS responses (5,250 and 6,781, respectively) into a single weighted dataset of 12,031 surveys for data analyses (**Table 1**). Approximately 70 percent of the surveys were conducted by landline and 30 percent by cellphone.[6] The cell-only population is comprised of many hard-to-reach demographic groups, including younger residents, minority residents, and those living in households with unrelated adults. Data were weighted against known population demographics to ensure that BRFSS data were representative of adult Louisiana residents.

Table 1 compares sex, age, race/ethnicity, education, annual household income and employment status between Louisiana and the United States.[7]

Table 1. Distribution of Sociodemographic data for Louisiana and the United States, BRFSS, 2013 and 2014

	Louisiana		United States*	
Characteristic	2013 Overall (N= 5,250 surveys)	2014 Overall (N=6,781 surveys)	2013 Overall	2014 Overall
	%	%	%	%
Sex				
Male	48.3	48.3	48.7	48.7
Female	51.7	51.7	51.3	51.3
Age Group (years)				
18-44	47.9	47.8	46.3	46.1
45-54	17.6	17.2	18.0	17.7
55-64	16.6	16.6	16.9	16.9
>=65	17.8	18.3	19.2	19.6
Race/ethnicity				
White Non-Hispanic	61.4	61.4	74.2	73.9
Black Non-Hispanic	30.4	30.3	7.4	7.6
Hispanic	4.7	4.2	7.6	8.1
Other	3.5	4.1	5.2	5.3
Education				
Some high school	18.4	18.0	12.9	12.5
High School graduate	34.1	33.9	29.5	29.4
Some college	28.2	28.3	30.9	31.2
College Graduate	19.3	19.8	24.0	24.7
Household Income				
Less than $50,000	62.9	59.2	56.1	54.2
>=$50,000	37.1	40.8	43.8	44.7
Employment* **				
Employed	57.2	58.0	60.9	60.5
Not Employed	42.8	42.2	38.7	38.4

*United States' data include surveys from all 50 states, DC and U.S. Territories

**Percentages may not total 100, due to rounding.

***Employed also includes self-employed and out of work less than 1 year; Not Employed includes homemaker, student, retired, out of work more than 1 year, and unable to work

Table 2 shows the distribution of socio-demographic characteristics among Louisiana's employed and unemployed adults. Employed respondents accounted for 48 percent (n=5,715) of the respondents. Ninety-one percent of the employed respondents (n=5,183) completed the Industry and Occupation module.

Table 2. Distribution of demographic data among employed & unemployed adults in Louisiana: BRFSS, 2013 and 2014

Characteristic	Employed/Industry and Occupation asked (N= 5,715)	Unemployed/Industry and Occupation not asked (N= 6,316)
	%	%
Sex		
Male	53.9	40.9
Female	46.1	59.1
Age Group (years)		
18-44	59.9	31.9
45-54	21.3	12.1
55-64	14.1	20.0
>=65	4.7	36.0
Race/ethnicity		
White Non-Hispanic	61.3	61.5
Black Non-Hispanic	30.0	30.8
Hispanic	4.9	3.7
Other	3.7	4.0
Education		
Some high school	13.9	23.8
High School graduate	32.3	36.3
Some college	29.1	27.0
College Graduate	24.6	12.8
Household Income		
Less than $50,000	51.7	74.5
>=$50,000	48.3	25.5

Table 3 shows the annual average distribution of 2013 and 2014 LA BRFSS respondents grouped by 2010 U.S. Census Bureau Occupation Codes compared to the Bureau of Labor Statistics' Current Population Survey (CPS). The CPS is a monthly survey of approximately 60,000 randomly sampled U.S. households representative of the civilian non-institutional population.[8] It includes demographic and labor force and employment data for each household member at least 15 years old. The service occupation groups made up 21.5 percent of the LA BRFSS and 17.3 percent of the CPS's LA respondents, respectively.

Table 3. Average 2013 and 2014 Workforce Distribution of Louisiana BRFSS respondents by major occupation group

Occupation Group	Example occupations	Workforce Distribution (percent)	
		BRFSS	Current Population Survey
Management, Business & Financial Operations	postmaster, manager, buyer & purchasing agent, fundraiser, accountant, analyst	11.4	12.1
Professional – Other	Computer programmer, engineer, environmental scientist, psychologist, community health worker	8.7	7.8
Professional – Education, Training, & Library	kindergarten teacher, middle school teacher, special education teacher, paraprofessional, archivist, librarian	5.0	5.9
Professional – Healthcare Practitioners & Technical	chiropractor, optometrist, pharmacist, registered nurse, therapist, veterinarian	7.4	6.8
Service: Healthcare Support	***massage therapist, dental assistant, phlebotomist, pharmacy aides***	***3.1***	***2.5***
Service: Protective Service	***detective, fish & game warden, firefighter, police officer, correctional officer, security guard***	***3.6***	***2.5***
Service-Food Prep & Serving Related	***chef, bartender, dishwasher, counter attendant, host & hostess, waiter & waitress***	***6.7***	***5.5***
Service –Building & Grounds Cleaning & Maintenance	***janitor, housekeeper, pest control worker, groundskeeper, lawn service worker***	***4.3***	***3.1***
Service-Personal Care & Service	***barber, animal trainer, hairdresser, usher, mortician, baggage porter, tour guide, childcare attendant***	***3.8***	***3.7***
Sales and Related	cashier, travel agent, retail salesperson, telemarketer, insurance sales agent	10.3	11.6
Office & Administrative Support	administrative assistant, court clerk, bill collector, bookkeeping clerk, receptionist, postal service clerk	10.4	13.0
Farming, Forestry, & Fishing	logger, hunter, animal breeder, fisherman, agricultural worker	0.9	0.8
Construction & Extraction	brick mason, floor installer, electrician, construction laborer, drywall installer, painter	9.5	7.7
Installation, Repair, & Maintenance	bus mechanic, locksmith, HVAC technician, maintenance worker, aircraft mechanic	4.0	3.7
Production	baker, butcher, tailor, welder, upholsterer, jeweler, etcher/engraver, inspector	4.8	5.9
Transportation & Material Moving	truck driver, flight attendant, taxi driver, aircraft pilot, parking lot attendant, crane operator	6.1	6.6

Table 4 shows the distribution of socio-demographic characteristics among Louiisiana service workers and all other workers combined for Louisiana's BRFSS 2013 and 2014 data. Service workers were more likely to be female, less than 45 years old, African-American, not have a high school education, and have an annual income less than $50,000 in comparison with other workers.

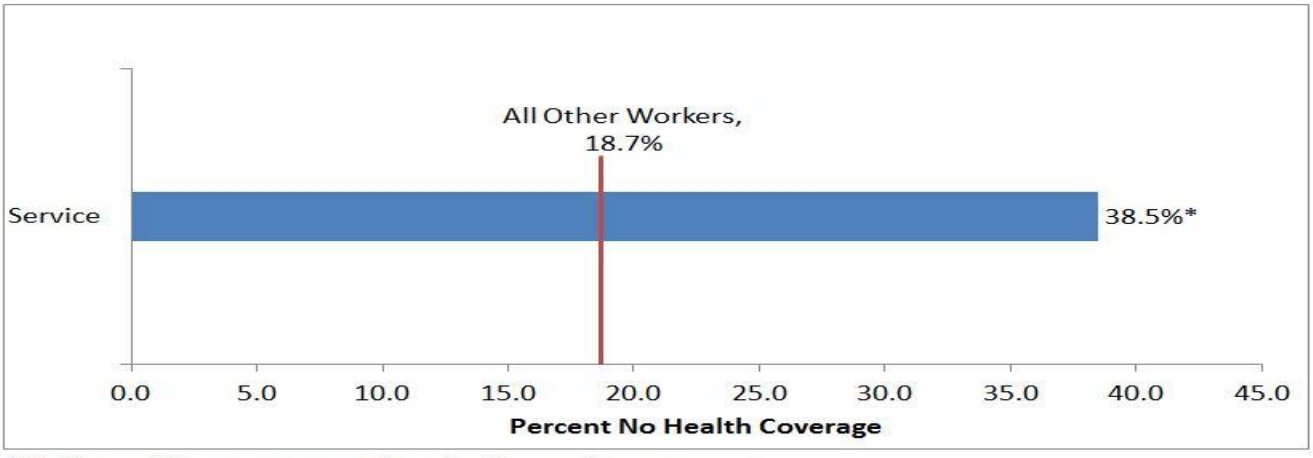
Table 4. Distribution of demographic data among Service Workers & All Other Workers in Louisiana: BRFSS, 2013 and 2014

Characteristic	Service Occupation Group (N=913)	All Other Workers (N=4,270)
	%	%
Sex		
Male	41.1	56.5
Female	58.9	43.5
Age Group (years)		
18-44	68.4	54.9
45-54	17.9	23.8
55-64	10.6	15.7
>=65	3.2	5.6
Race/ethnicity		
White Non-Hispanic	47.0	66.5
Black Non-Hispanic	44.1	26.3
Hispanic	5.7	4.0
Other	3.2	3.3
Education		
Some high school	21.4	11.6
High School graduate	41.9	29.8
Some college	28.4	29.8
College Graduate	8.2	28.8
Household Income		
Less than $50,000	77.3	44.1
>=$50,000	22.7	55.9

SECTION 2: HEALTH CARE ACCESS

Respondents were asked "Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare, or Indian Health Service?" **Figure 2** shows the service workers and all other workers combined who responded that they did not have any type of health care insurance coverage.

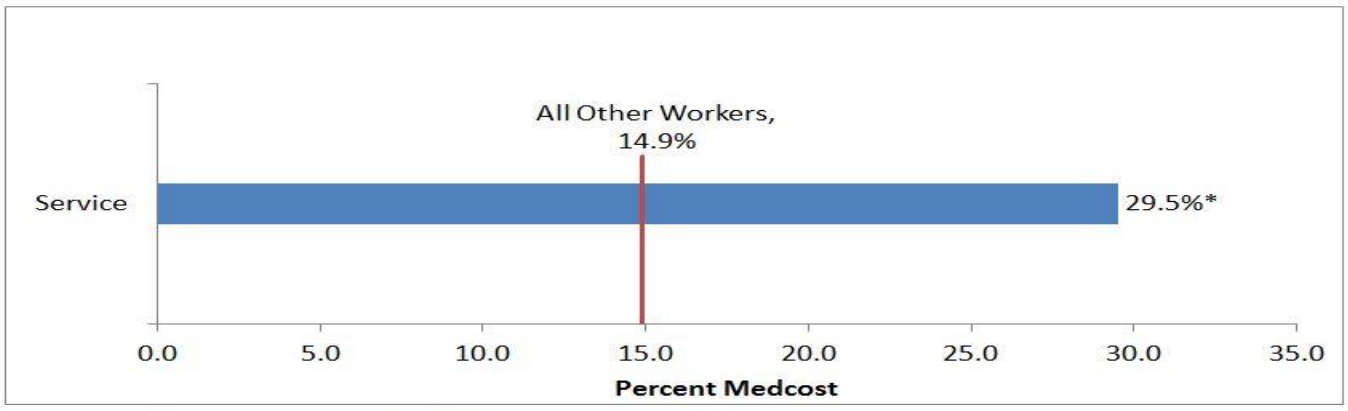
Figure 2. No Health Care Coverage; LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p<0.0001

Respondents were asked "Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?" **Figure 3** shows the service workers and all other workers combined who responded that there was at least one time in the past 12 months when they could not afford to see a doctor.

Figure 3. Could Not See Doctor Due to Medical Costs; LA BRFSS, 2013 and 2014



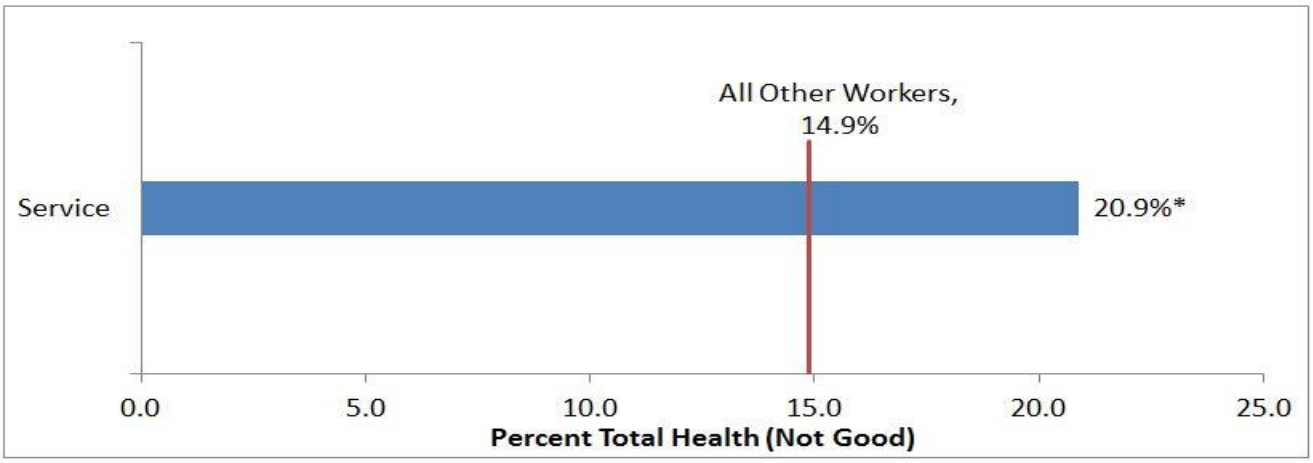
*Significant difference compared to All Other Workers: p<0.0001

SECTION 3: HEALTH STATUS

Total Health is a combination of two separate questions regarding perceptions of physical and mental health. Respondents were asked: 1) "Now thinking about your physical health, which includes physical illness and injury, for how many days during the past 30 days was your physical health not good?" and 2) "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?"

CDC's Health-Related Quality of Life concept recommends that the results for the two responses be combined and maxed out for a total of 30 days.[9,10] For example, if a respondent indicated that he was physically ill for 25 days and mentally ill for 15 days in the past 30 days, then his response for Total Health would be that he was either physically and/or mentally ill for 30 days in the past 30 days. **Figure 4** shows the service workers and all other workers combined who responded that their physical and/or mental health was not good between 11 and 30 days in the past 30 days.

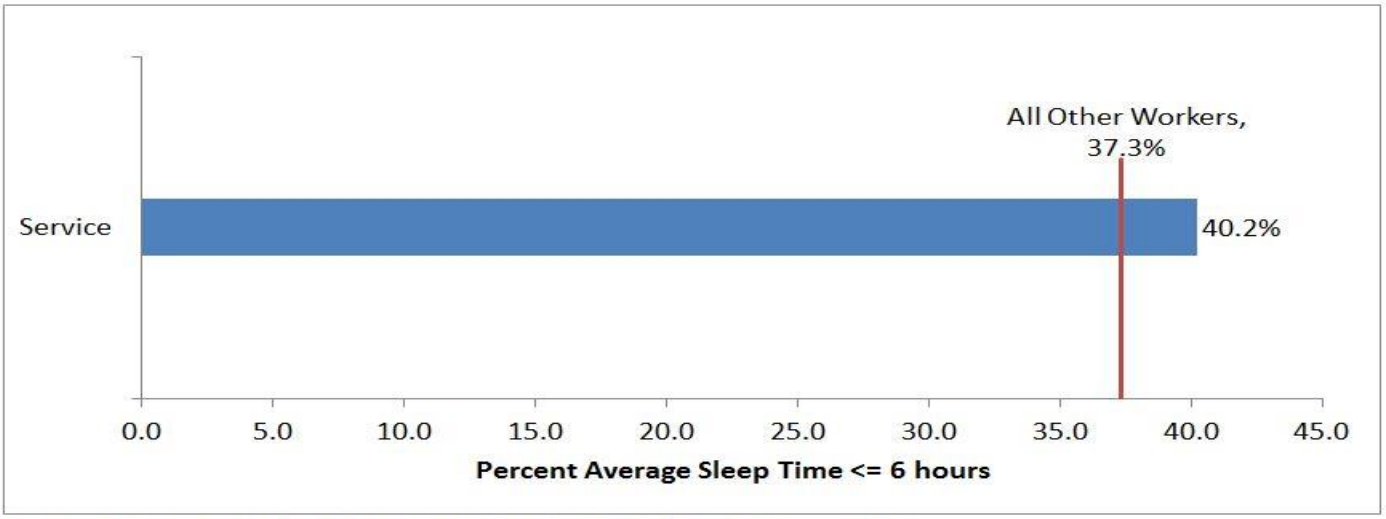
Figure 4. Physical and/or Mental Health not good (11-30 days); LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p=0.003

Respondents were asked "On average, how many hours of sleep do you get in a 24-hour period?" in order to determine sleep patterns. **Figure 5** shows the service workers and all other workers combined who responded that they get an average of 6 or fewer hours of sleep.

Figure 5. Average Sleep Time <=6 hours; LA BRFSS, 2013 and 2014

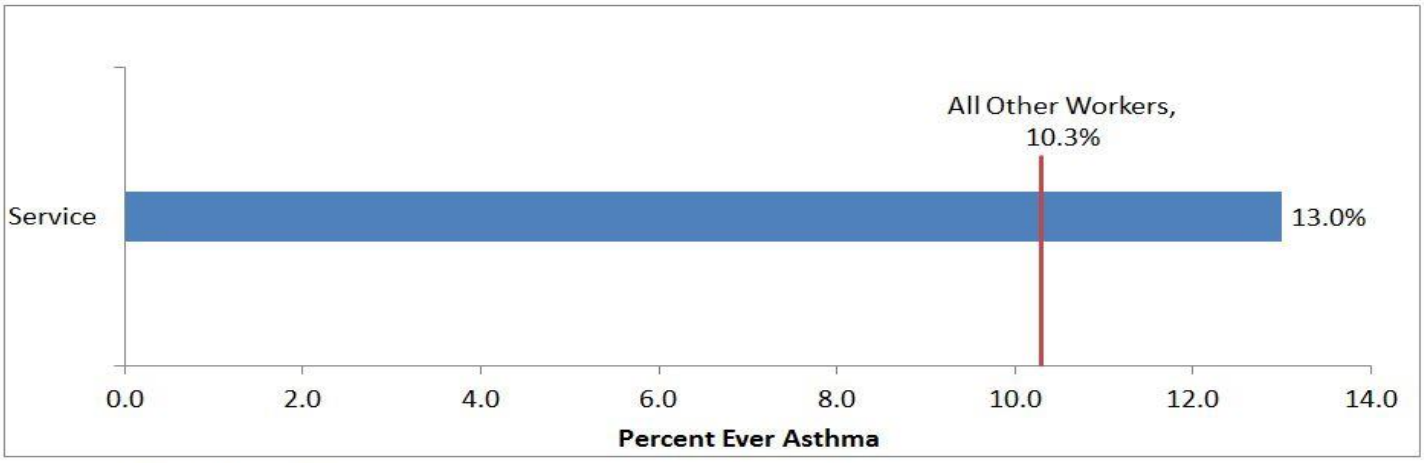


No statistically significant difference compared to All Other Workers: p=0.13

SECTION 4: CHRONIC HEALTH CONDITIONS

Respondents were asked "[Were you] ever told you had asthma?" **Figure 6** shows the service workers and all other workers combined who responded that they were told that they had asthma.

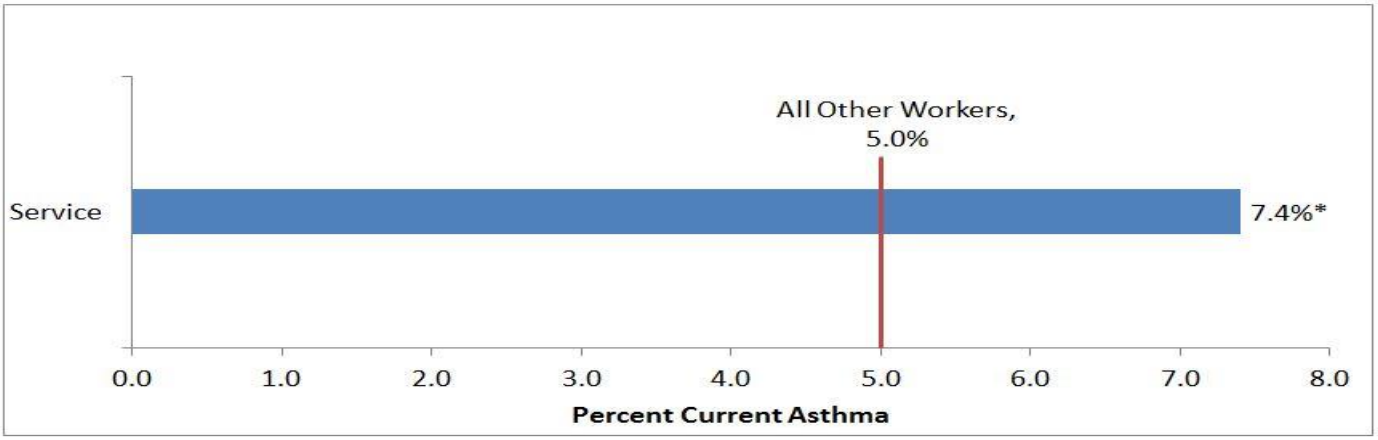
Figure 6. Ever Had Asthma; LA BRFSS, 2013 and 2014



No statistically significant difference compared to All Other Workers: p=0.07

Respondents who stated they were told that they had asthma were asked if they currently have asthma. **Figure 7** shows the service workers and all other workers combined who responded that they currently have asthma.

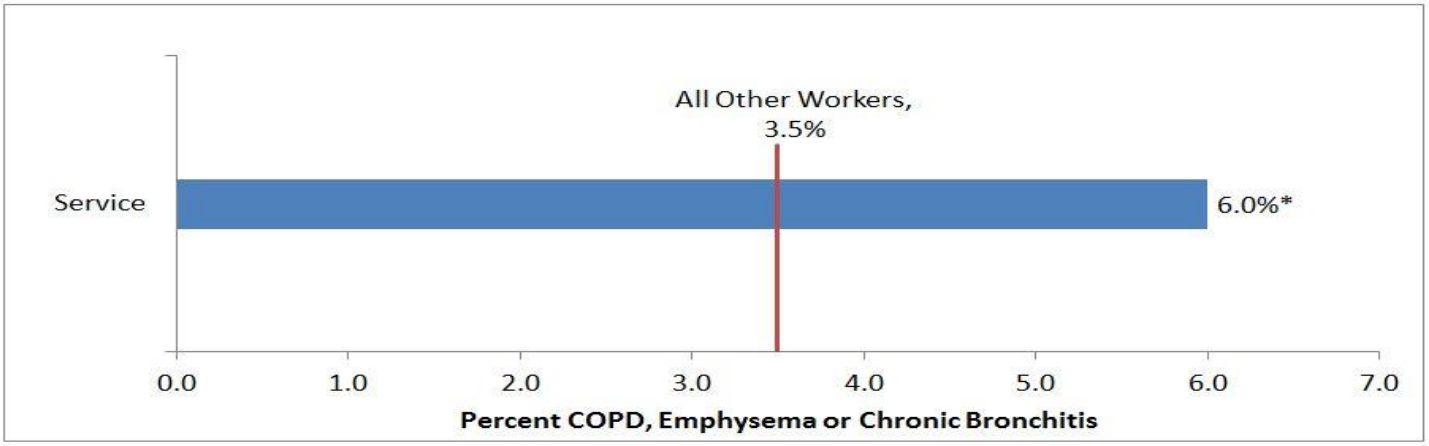
Figure 7. Current Asthma; LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p=0.04

Respondents were asked "[Were you] ever told you have chronic obstructive pulmonary disease (COPD), emphysema or chronic bronchitis?" **Figure 8** shows the service workers and all other workers combined who responded that they were told that they had COPD, emphysema or chronic bronchitis.

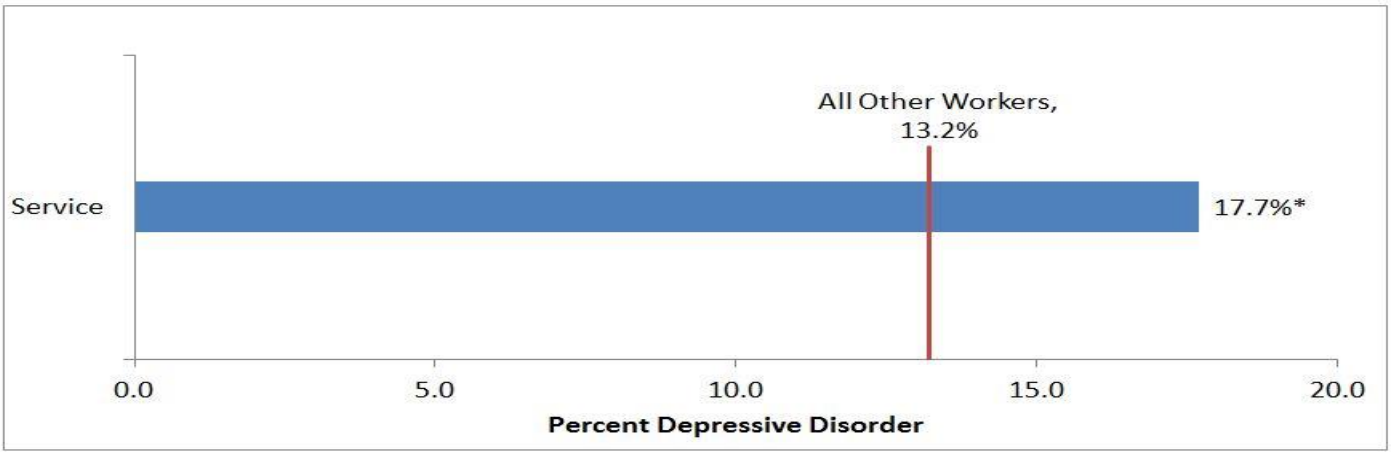
Figure 8. COPD, Emphysema or Chronic Bronchitis; LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p=0.008

Respondents were asked "[Were you] ever told you that you have a depressive disorder, including depression, major depression, dysthymia, or minor depression?" **Figure 9** shows the service workers and all other workers combined who responded that they were told that they had a depressive disorder.

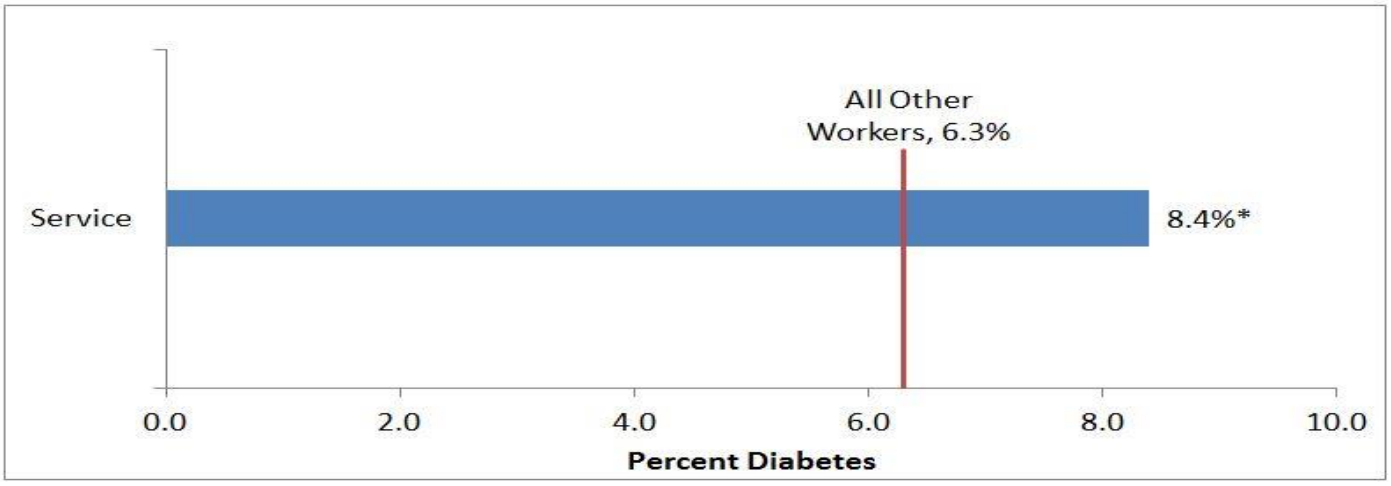
Figure 9. Depressive Disorder; LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p=0.01

Respondents were asked "[Were you] ever told you have diabetes?" **Figure 10** shows the service workers and all other workers combined who responded that they were told that they had diabetes. It excludes females who were told that they have diabetes only when they were pregnant (gestational diabetes) and those with pre-diabetes and borderline diabetes; those responses were set as missing. The question does not distinguish between respondents with type 1 and type 2 diabetes, which may have different causes and treatments.

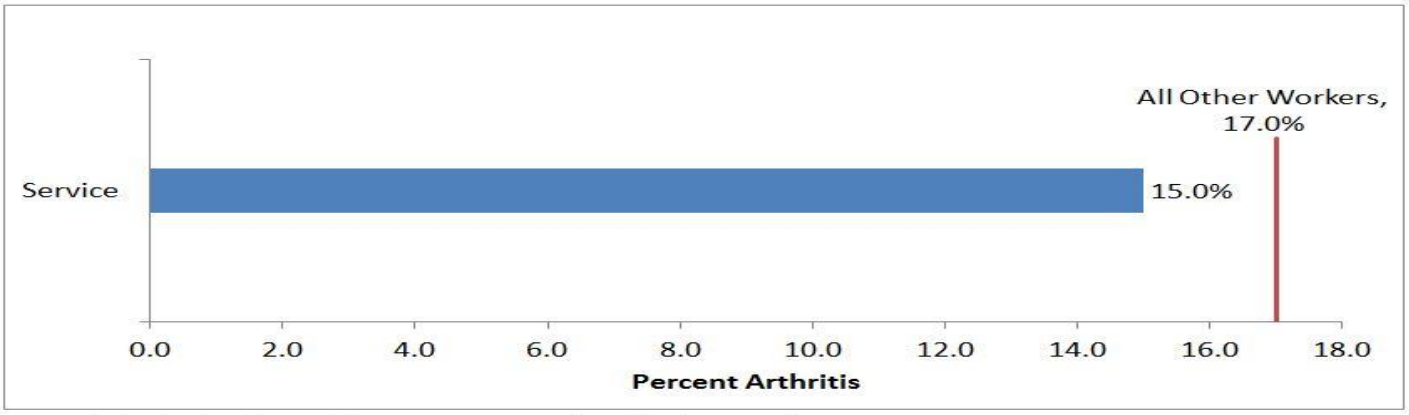
Figure 10. Diabetes; LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p=0.01

Respondents were asked "(Were you) ever told you have some form of arthritis, rheumatoid arthritis, gout, lupus, or fibromyalgia? [Arthritis diagnoses include: rheumatism, polymyalgia rheumatica; osteoarthritis (not osteporosis); tendonitis, bursitis, bunion, tennis elbow; carpal tunnel syndrome, tarsal tunnel syndrome; joint infection, etc.]" **Figure 11** shows the service workers and all other workers combined who responded that they were told that they had arthritis.

Figure 11. Arthritis; LA BRFSS, 2013 and 2014

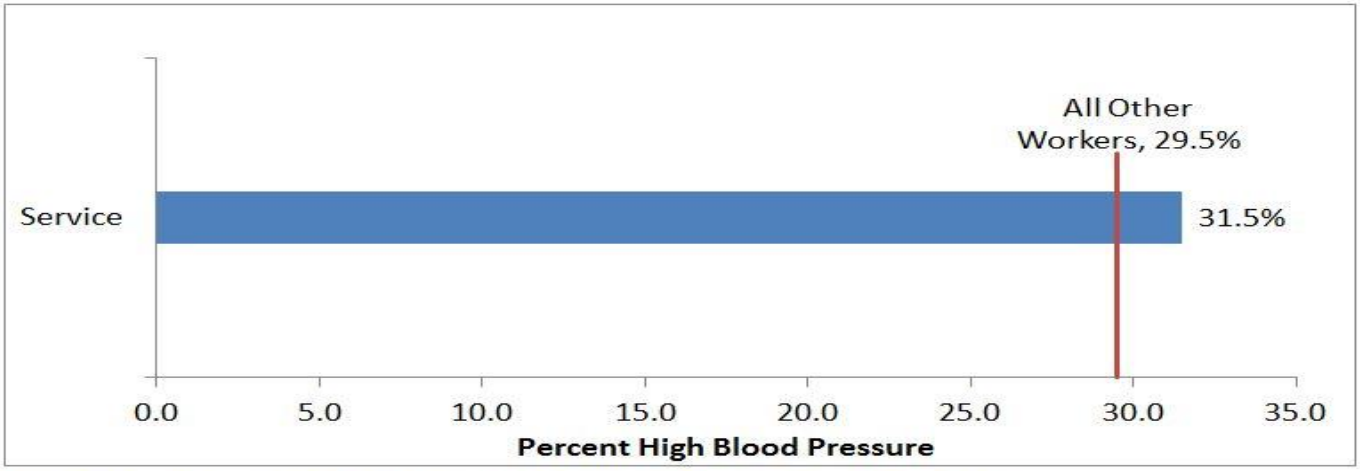


No statistically significant difference compared to All Other Workers: p=0.20

The following questions regarding high blood pressure and high blood cholesterol were only asked of respondents for the 2013 LA BRFSS survey.

Respondents were asked "Have you EVER been told by a doctor, nurse or other health professional that you have high blood pressure?" **Figure 12** shows the service workers and all other workers combined who responded that they have ever been told that they have high blood pressure. It excludes females who were told that they have high blood pressure only when they were pregnant (gestational hypertension) and those with pre-hypertension and borderline hypertension; those responses were set as missing.

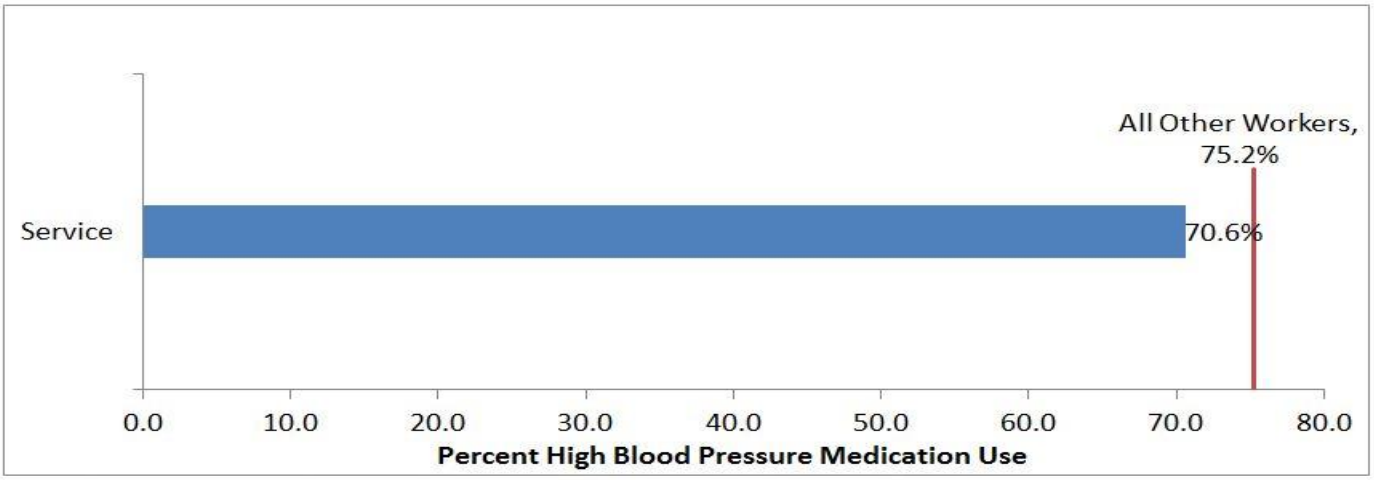
Figure 12. High Blood Pressure; LA BRFSS, 2013



No statistically significant difference compared to All Other Workers: p=0.25

Respondents were asked “Are you currently taking medicine for your high blood pressure?” **Figure 13** shows the service workers and all other workers combined who responded that they are currently using medication for high blood pressure.

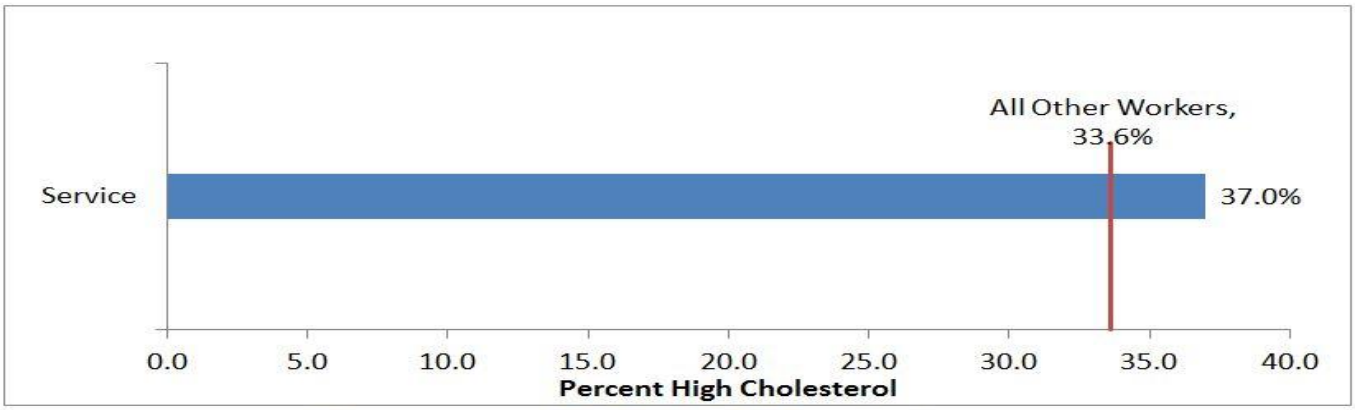
Figure 13. High Blood Pressure Medication Use; LA BRFSS, 2013



No statistically significant difference compared to All Other Workers: p=0.50

Respondents were asked “Have you EVER been told by a doctor, nurse or other health professional that your blood cholesterol is high?” **Figure 14** shows the service workers and all other workers combined who responded that they have ever been told that they have high blood cholesterol.

Figure 14. High Cholesterol; LA BRFSS, 2013



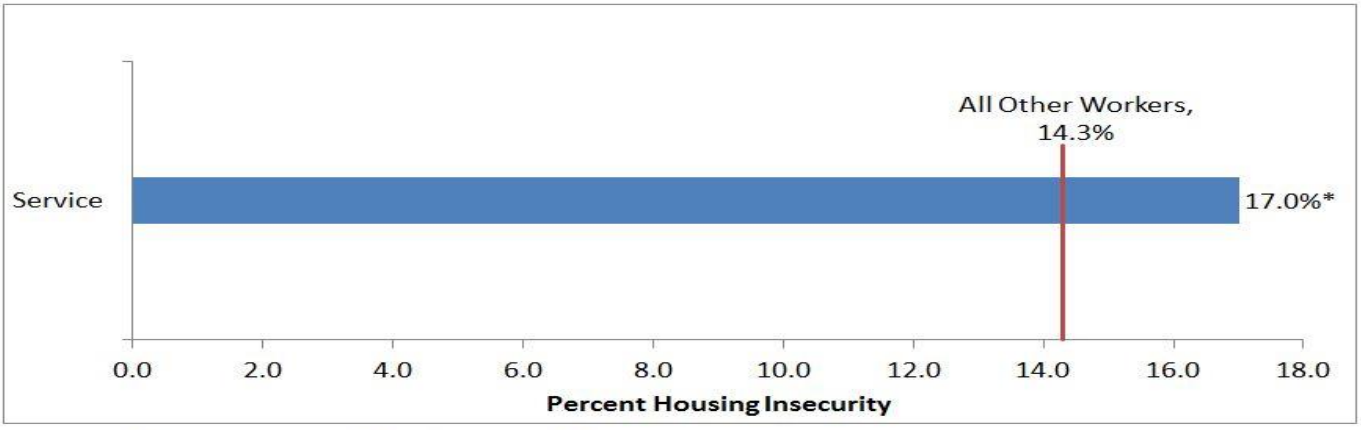
No statistically significant difference compared to All Other Workers: p=0.44

SECTION 5: HOUSING AND FOOD INSECURITY

The following questions regarding housing and food insecurity were only asked of respondents in the 2013 LA BRFSS survey.

Respondents were asked "How often in the past 12 months would you say you were worried or stressed about having enough money to pay your rent/mortgage? Would you say you were worried or stressed always, usually, sometimes, rarely or never?" **Figure15** shows the service workers and all other workers combined who responded that they were always or usually stressed about being able to afford their rent/mortgage.

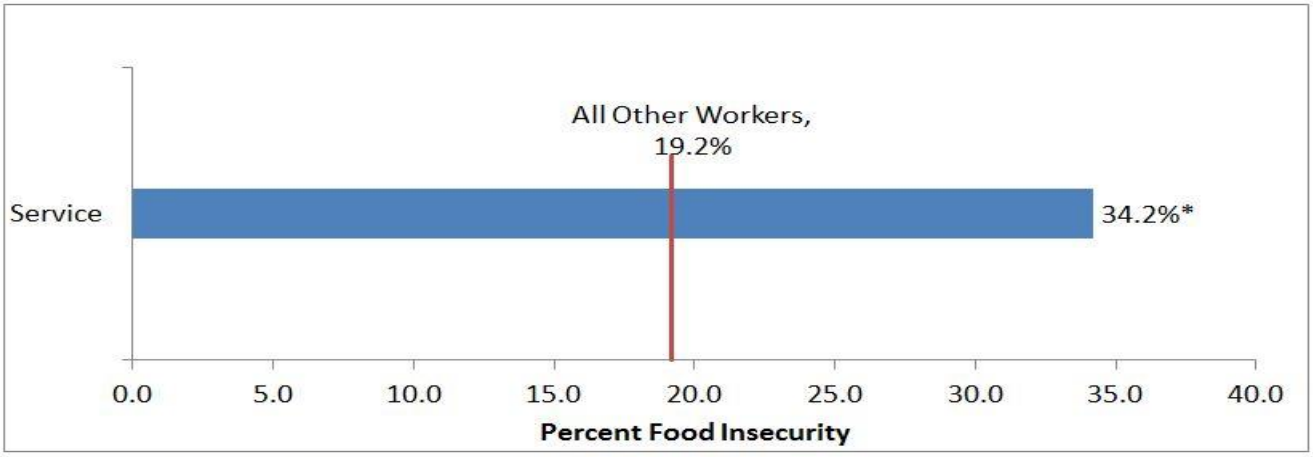
Figure 15. Housing Insecurity; LA BRFSS, 2013



*Significant difference compared to All Other Workers: p=0.007

Respondents were asked "How often in the past 12 months would you say you were worried or stressed about having enough money to buy nutritious meals? Would you say you were worried or stressed always, usually, sometimes, rarely or never?" **Figure16** shows the service workers and all other workers combined who responded that they were always, usually or sometimes stressed about being able to afford nutritious meals.

Figure 16. Food Insecurity; LA BRFSS, 2013

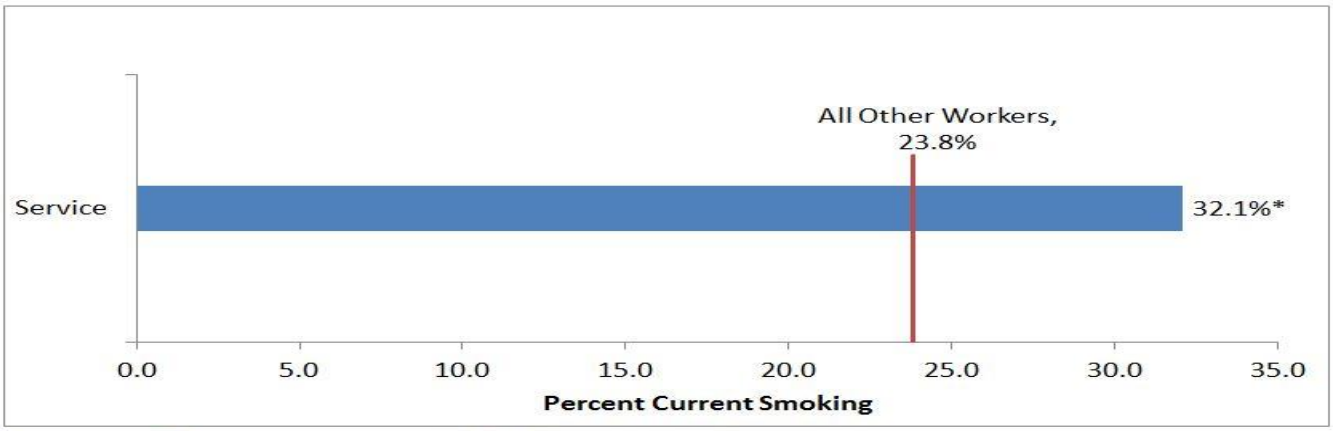


*Significant difference compared to All Other Workers: p=0.0001

SECTION 6: RISK FACTORS AND BEHAVIORS

This is a calculated variable based on responses from two questions. Respondents were asked "Have you smoked at least 100 cigarettes in your entire life? [Note: 5 packs = 100 cigarettes]" and [Are you a/an] Everyday smoker, Someday smoker, Former smoker, Non-smoker?" **Figure 17** shows the service workers and all other workers combined who responded that they currently smoke tobacco (everyday and someday smokers).

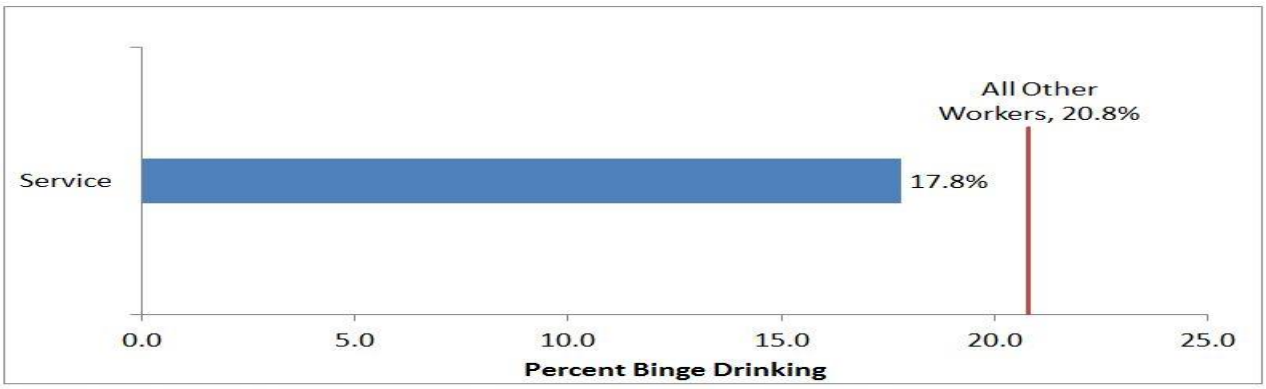
Figure 17. Current Smoking; LA BRFSS, 2013 and 2014



*Significant difference compared to All Other Workers: p=0.0004

Binge drinking is a calculated variable defined by the BRFSS as males having five or more drinks on one occasion and females having four or more drinks on one occasion. Respondents were asked "Considering all types of alcoholic beverages, how many times during the past 30 days did you have 5 or more drinks for men or 4 or more drinks for women on an occasion?" **Figure 18** shows the service workers and all other workers combined who responded that they engaged in binge drinking during the specified period.

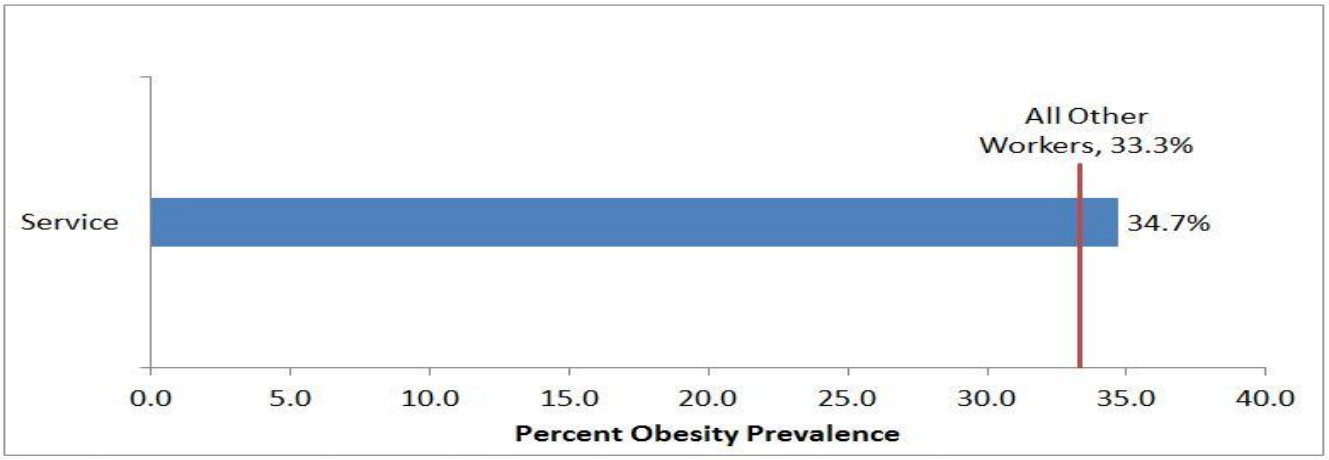
Figure 18. Binge Drinking; LA BRFSS, 2013 and 2014



No statistically significant difference compared to All Other Workers: p=0.19

Body mass index (BMI) is a calculated variable that uses responses from two questions regarding height and weight to classify a respondent as underweight, normal, overweight or obese. Obesity is defined as a BMI of 30 or greater. Respondents were asked "About how much do you weigh without shoes?" and "About how tall are you without shoes?" **Figure 19** shows the service workers and all other workers combined who were defined as classified as obese.

Figure 19. Prevalence of Obesity; LA BRFSS, 2013 and 2014

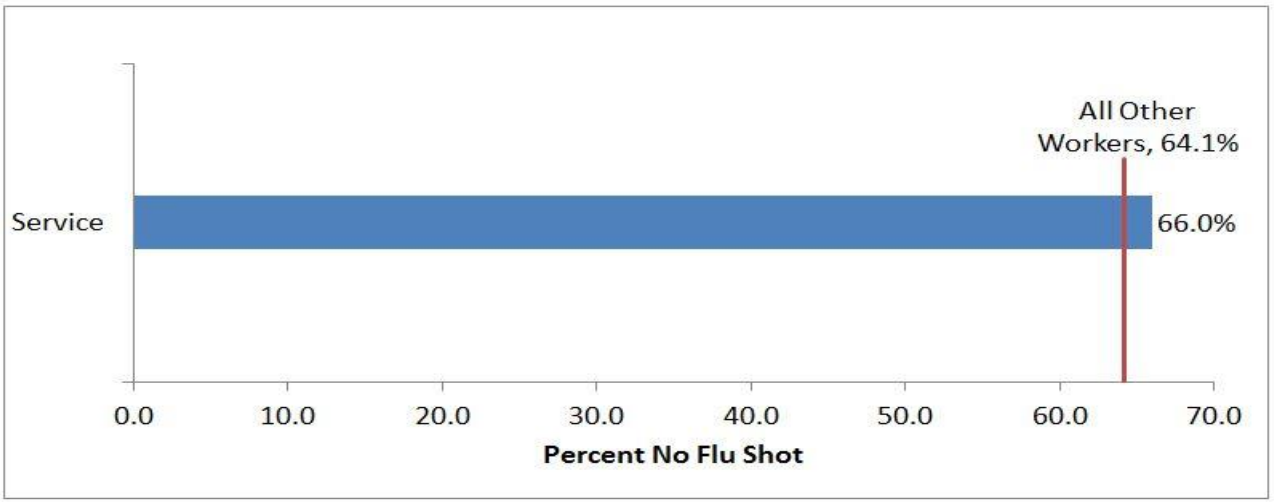


No statistically significant difference compared to All Other Workers: p=0.43

SECTION 7: IMMUNIZATION

Respondents were asked "During the past 12 months, have you had either a flu shot or a flu vaccine that was sprayed in your nose? (A new flu shot came out in 2011 that injects vaccine into the skin with a very small needle. It is called Fluzone Intradermal vaccine. This is also considered a flu shot.)" **Figure 20** shows the service workers and all other workers combined who responded that they had not received a flu shot/spray in the past 12 months.

Figure 20. No Flu Shot; LA BRFSS, 2013 and 2014



No statistically significant difference compared to All Other Workers: p=0.43

DISCUSSION

This is the first in-depth analysis of Louisiana's Behavioral Risk Factor Surveillance System (BRFSS) employment data with an emphasis on service workers' health and well-being. Educational attainment, employment status, and income level are some of the strongest predictors of health behaviors, access to healthcare, and health status. Despite the growing labor market in Southeast Louisiana and the economic resurgence of the New Orleans' area, the income gap has widened, and poverty remains entrenched throughout many areas of Louisiana. Twenty-one percent of Louisiana's population above the age of 25 has less than a high school education, compared to 15 percent of the nation's population above 25 years old.[11] Louisiana's poverty rate also exceeds the nation, with 19 percent of the state's population with incomes below the federal poverty level, compared to 16 percent of the nation's population.

Low wage jobs, including service jobs, increasingly characterize the local economy. More than 70 percent of jobs in Louisiana pay less than $20 per hour, with most paying less than $15 per hour[4]. These jobs – especially service jobs that pay below $20 per hour and require only a high school education or less – are predicted to grow far faster than higher-wage jobs over the next decade.[4] Findings in this report provide critical insight regarding the health and well-being of Louisiana's service occupations. Employment data for 2014 show that there are approximately 340,000 service workers representing almost 17 percent of Louisiana's workforce.[3] Service occupations employ a larger proportion of females, workers less than 45 years old, African-Americans and Hispanics than all other occupations. These jobs have a higher proportion of individuals without a high school education and annual incomes less than $50,000 in comparison with other workers. In additon, low-wage earners in general are more likely to have long commutes to work, creating an additional financial burden.[12]

In 2014, service workers in the U.S. made up 37 percent of the 9.5 million workers classified as "working poor," where at least 27 weeks were spent in the labor force but their income was less than the federal poverty level.[13] The actual percentage is likely higher, as researchers have shown that the federal poverty rate is inadequate for measuring economic hardship in today's economy. Female service workers fare worse than men. Among Service occupations in the United States, women generally earned 79 percent of what men earned in the same fields. Children living in families with incomes below the federal poverty level are at risk for poor physical and mental health as well as poor social, behavioral and academic outcomes.[11]

Despite active employment, Louisiana's BRFSS data indicate that many service workers do not earn enough money to afford basic necessities, such as medical care, food and shelter. Thirty-nine percent did not have health insurance, and 30 percent could not see a doctor due to medical costs. Furthermore, 17 percent reported that they were stressed about being able to afford their rent or mortgage, and 34 percent were stressed about being able to afford nutritious meals. The impact of food insecurity is severe: 98 percent of adults surveyed in the United States who were living in households with very low food security worried that their food would run out before they had enough money to replenish their food supplies; 69 percent of those respondents reported being hungry but unable to eat due to lack of money.[14] Service workers' lack of health insurance contributes to other negative outcomes, such as uncontrolled chronic health conditions, lower quality of life, fewer visits to the doctor and larger out-of-pocket health care expenses.[15]

Chronic health conditions have long-lasting effects and require more frequent doctor visits, extensive medical care and longer hospital stays. Treatment and management of these conditions impact not only the patient, but also the state's health care systems. Medical costs are greatly reduced when individuals manage their health conditions via routine clinic visits and avoid expensive ED and hospital visits. Although the estimated

prevalence of service workers who were ever told that they had asthma was not significantly different compared to all other workers, the proportion of service workers with current asthma (7.4 percent) was significantly greater than for all other workers (5.0 percent). While we were not able to study sub-populations in the BRFSS data, previous studies of asthma among Louisiana's population have documented stark racial-sex differences. The asthma hospitalization rate for black women was more than twice the rates for all other race-sex groups.[16] In Orleans parish, rates of ED visits for asthma for African-Americans are 79 percent greater than their white counterparts.[17] In addition to racial disparities, asthma disproportionately affects individuals with less education and lower incomes. Among those without a high school diploma in Louisiana, 8.4 percent are currently diagnosed with asthma, compared with 5.1 percent of individuals with college degrees. Similarly, among those in households with an annual income of less than $15,000, 14.9 percent are currently diagnosed with asthma, compared with 2.7 percent among residents in households with annual income of $75,000 or more.[18] BRFSS data also show that service workers had a significantly greater proportion of COPD (6.0 percent) than all other workers combined (3.5 percent).

Obesity is a health issue which has many contributing factors, such as behavior and genetics, and increased risks for certain diseases and conditions, such as type 2 diabetes, heart disease, stroke, sleep apnea and disability.[19] Louisiana's population struggles with obesity with rates of about 36 percent for all adults.[11] Although there was no statistically significant difference in proportions of obesity among service workers (34.7 percent) and all other workers combined (33.3 percent), the high prevalence of this condition is a pressing health concern. Research has shown that in Louisiana, obesity rates are significantly higher among African-Americans, individuals who didn't complete high school and those in the lowest earning households.[18]

A significant proportion of service workers had diabetes (8.4 percent) compared to all other workers combined (6.3 percent). The question however did not distinguish between type 1 diabetes (characterized by the immune system attacking the pancreatic cells and causing insulin resistance that can be controlled by getting regular insulin injections and taking medications orally) and type 2 diabetes (more often seen in overweight or obese persons and may sometimes be controlled or reversed through diet and exercise).[20] Despite this limitation, service workers are at risk due to high rates of obesity, and recent research has found an association between long work hours among low socioeconomic groups and type 2 diabetes. Possible explanations include limited time for healthy behaviors, such as exercise and adequate sleep.[21] In addition to obesity, the health condition may also be present along with other chronic health conditions, such as high blood pressure and high blood cholesterol; however, the BRFSS data did not detect a difference in proportions of high blood pressure or high blood cholesterol among service workers compared with all other workers.[22]

Lack of sleep is another important factor that impacts many health conditions.[23] The CDC recommends that adults get at least 7 hours of sleep each night to promote general health; too little sleep has been linked to increased risk of high blood pressure, fatigue, physical and mental stress, obesity and motor vehicle crashes due to impaired driving.[24] Forty percent of service workers reported that they get an average of six or fewer hours of sleep. This was slightly higher than all workers combined, although there was not a statistically significant difference. Depression is closely linked to sleep in addition to chronic diseases, excessive alcohol intake, stress and risky behaviors.[25] A significantly larger proportion of service workers (17.7 percent) reported being diagnosed as having a depressive disorder than all other workers combined (13.2 percent). In view of the economic struggles, lack of health insurance, and poor health status, it is not surprising that one out of five service workers reported that their physical or mental health was not good for more than 11 out of the past 30 days. This finding was significantly greater than all other workers.

Information on risky behaviors was mixed: service workers reported a smaller proportion of binge drinking (17.8 percent) than all other workers combined (20.8 percent), yet service workers had a significantly higher percentage of smokers than all other workers (32.1 percent vs 23.8 percent). The high smoking rate has important implications for service workers with asthma, as tobacco smoke is a significant risk factor for poor asthma control and is a potential exposure for many asthmatics.[26] Despite slight reductions in smoking rates among Louisiana adults, BRFSS data indicate the importance of making free or affordable smoking cessation programs available to Louisiana workers.[27] Also related to improved health conditions is following recommended preventive measures, such as getting a flu shot/spray. Two-thirds of service workers did not receive a flu shot/spray. Although only slightly higher than other workers, it highlights the limited spread of this preventive measure and suggests that efforts are needed to expand access through use of non-traditional settings and broadened use of interventions to remove barriers to vaccination.[28]

CONCLUSION

This report provides critical information on the health and well-being of service workers in Louisiana that can be used by policymakers, community leaders, and business leaders to better understand the economic hardships, chronic health conditions, and other quality of life issues faced by this growing occupational sector. This information, in turn, can better inform policy and legislation and health intervention and prevention programs.

Data in this report pre-date Medicaid expansion which, as pointed out in the recently released Louisiana State Health Assessment and Improvement plan, is the single greatest action our state can take to ensure that every working Louisianan has access to health care.[11] Medicaid expansion is expected to provide health care to more than 300,000 working Louisianans, including many service workers, who could otherwise not afford to pay for health insurance. Other important structural changes that have potential for widespread impact are statewide legislation to increase the minimum wage to $8 per hour, and an ordinance setting $10.55 as the minimum wage for certain companies that do business with the City of New Orleans.

Educational attainment is another key factor for improved economic health by enabling local workers to secure jobs that pay sufficient wages and offer opportunities for advancement. This can be achieved by supporting workforce training programs at community and technical colleges that help students develop skills targeted to in-demand occupations.[12] Complementary efforts for high-wage job opportunities for students with advanced education levels and limited job experience or training are also needed.

Poor health outcomes and unhealthy behaviors are strongly linked to a living wage, access to healthcare and education. Improvements can also be made by directing outreach and prevention efforts to specific occupations, promoting worksite interventions and addressing some of the unique barriers faced by service workers. Sleep deprivation due to shift work may be addressed by reducing shift rotations when possible, allowing sufficient rest time between shifts and encouraging input from the workers on decisions related to their work schedules.

Lastly, for the purposes of presenting data that meet minimum reporting standards, data for the five service occupations were aggregated, which may have resulted in masking occupation-specific issues. As additional years of data are received, a similar analysis can be done for each of the five service sectors. This analysis sets the important foundation for that work.

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