Anxiety and Depression in Delaware

An analysis of the Delaware 2006 Behavior Risk Factor Surveillance System Survey

prepared for

Delaware Department of Health and Social Services
Division Substance Abuse and Mental Health

by

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EXECUTIVE SUMMARY

In an effort to better understand the prevalence of anxiety and depression among non-institutionalized adults in the State of Delaware, an analysis of data from the 2006 Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance System (BRFSS) survey was conducted. This study provides important baseline information about rates of lifetime diagnoses of anxiety and depression, the incidence of current depression within the general population and identifies high risk population groups based on demographics, health risk behaviors, disease prevalence and healthcare accessibility. The primary purpose of this project is to determine the incidence of anxiety and depression in the general population as an initial step for the purpose of identifying service needs throughout the State of Delaware. The following provides an overview of the findings. In the State of Delaware, it is estimated that…

- 1 in 8 adults have been diagnosed with an anxiety disorder.
- 1 in 6 adults have been diagnosed with a depressive disorder.
- Approximately 8% of adults currently suffer from moderate to severe depression; 13% have mild depressive symptoms.
- 15% of adults with current depressive symptoms have never been diagnosed with depression; over 4% of those never diagnosed currently have moderate to severe depression.
- New Castle County has the highest incidence of anxiety or depression diagnoses. However, rates of current depression are greatest in Kent and Sussex Counties.
- Females are more likely than males to be diagnosed with an anxiety or depressive disorder. Nearly 1 in 4 women have current depressive symptoms; 1 in 10 have moderate to severe depression.
- Current depression is greatest among young adults 18-24 years old. Nearly 1 in 3 young adults have current depressive symptoms; 1 in 9 have moderate to severe depression.
- Minorities have higher rates of current depression and more severe symptoms.
- Diagnosis of an anxiety disorder or depressive disorder is greatest among those with less than a high school education; over 41% of persons with less than a high school education have current depressive symptoms and nearly 1 in 5 have moderate to severe depression.

- Persons unemployed or unable to work have the greatest likelihood of being diagnosed with an anxiety or depressive disorder and have current depressive symptoms.
- Low income households (< $20,0000) have the highest rate of current depression; just under 1 in 5 have moderate to severe depression.
- 35% of current smokers have current depressive symptoms; 1 in 8 have moderate to severe depression.
- Binge drinkers have higher rates of current depression in the population than individuals who do not binge drink; 1 in 6 binge drinkers have moderate to severe depression.
- Just about 1 in 4 adults who drive under the influence of alcohol have current depressive symptoms; 8% have moderate to severe depression.
- Adults engaged in regular physical activity are less likely to be diagnosed with an anxiety or a depressive disorder, or suffer from current depressive symptoms.
- Chronic disease conditions such as diabetes and coronary heart disease are strongly correlated with rates of lifetime depression and current depression severity.
- The disabled population is more susceptible to anxiety and depressive disorders.
- Persons in good health are less likely to be diagnosed with an anxiety or depressive disorder than persons in fair or poor health.
- The likelihood of being diagnosed with a depressive disorder is slightly lower among the uninsured; 11% of uninsured adults have moderate to severe depression.
- 50% of persons unable to see a doctor because of cost have current depressive symptoms; close to 1 in 3 have moderate to severe depression.

In conclusion, the results here indicate that anxiety and depression affect all segments of the population. Identification of the risk factors of anxiety and/or depression is an important first step, but ultimately the goal should be to reduce the rate of anxiety and depression and/or the severity of depression among high risk population groups. Therefore, programs should be developed to address the needs of specific high risk groups and services made available that are not only accessible but financially affordable as well to improve the quality of life of all Delawareans.

INTRODUCTION

The primary purpose of this study is to better understand the corollaries between anxiety/depression and disease prevalence, health risk behaviors and preventative health care practices among adults in Delaware. Of particular interest is the extent to which Delaware's adult population has been diagnosed with an anxiety disorder or a depressive disorder, and the magnitude of current depression and its severity to better identify what segments of the population are at greatest risk. Moving forward, these findings will be a key tool in determining the need for and the development of targeted education, prevention, and/or treatment programs within specific geographic locations in Delaware, among specific population groups, and among individuals with specific health conditions.

Below is a description of the data and methods used for analyzing anxiety and depression in the State of Delaware followed by a summary of lifetime prevalence of being diagnosed with anxiety or depression as well as an examination of current depression rates throughout the State. Lifetime prevalence is then explored by select demographic characteristics, health risk behaviors, preventative health care practices and disease prevalence. Finally, current depression rates are examined with a focus on the severity of depression in the population by select demographic characteristics, health risk behaviors, preventative health care practices and disease prevalence.

DATA AND RESEARCH METHODS

The data used in this study come from the 2006 Centers for Disease Control and Prevention (CDC) Behavioral Risk Factor Surveillance System (BRFSS) survey.
The BRFSS is a national telephone survey administered to a random sample of non-institutionalized adults 18 years of age or older in collaboration with local health and social service agencies to track health risks, preventative health care practices and disease prevalence in the United States. The BRFSS is the primary source of data on health-related behaviors in the State of Delaware. The 2006 questionnaire is included in Appendix C. For purposes of analysis, the data were weighted to more accurately reflect population estimates.

In 2006 a module on anxiety and depression was included in Delaware's questionnaire. This module contained a series of questions that asked about symptoms, behaviors and diagnoses related to anxiety and depression. Of particular interest is lifetime prevalence of anxiety and depression among Delaware's adult population. Two questions included in the module asked whether a healthcare provider had ever told them that he/she had an anxiety disorder or a depressive disorder. These two questions provide the basis for lifetime prevalence rate estimates for anxiety and depression in Delaware and are included below.

1. Has a doctor or other healthcare provider EVER told you that you have an anxiety disorder (including acute stress disorder, anxiety, generalized anxiety disorder, obsessive-compulsive disorder, panic disorder, phobia, postraumatic stress disorder, or social anxiety disorder)?

2. Has a doctor or other healthcare provider EVER told you that you have a depressive disorder (including depression, major depression, dysthymia, or minor depression)?

In addition to measuring lifetime prevalence, current rates and severity of depression are also examined. The anxiety and depression module contained eight of the nine criteria included in the DSM-IV for diagnosis of depressive disorders. The ninth criterion was omitted because it addresses thoughts of self-harm and suicide ideation (McGuire et al 2008). On their own, these eight questions make up the Personal Health Questionnaire 8 (PHQ-8). The PHQ-8 is a widely used tool for identifying depressive disorders in the general population where the risk of suicide is negligible, depression is being assessed as a secondary condition, or data are being collected through self-administration or other fashion in which adequate intervention cannot be conducted (Kroenke and Spitzer 2002).

In its typical format, the PHQ-8 asks respondents to identify how frequently in the past two weeks the respondent experienced particular symptoms associated with depression with responses ranging from not at all to nearly every day. However, to maintain consistency in the way questions are asked in the BRFSS, respondents were asked to indicate the number of days in the past two weeks that symptoms were experienced. Thus, for purposes of analysis, it was

necessary to convert the data so that it was representative of the PHQ-8 response categories. In accordance with McGuire et al (2008) responses were recoded as follows: 0-1 days = not at all, 2-6 days = several days, 7-11 days = more than half of the days, and 12-14 days = nearly every day. To replicate PHQ-8 scoring, points were assigned from 0-3 to each category for each of the eight questions and then summed resulting in a PHQ-8 score ranging from 0 to 24. Respondents with a PHQ-8 score <10 are considered to have no depressive symptoms or only mild depressive symptoms; scores ≥10 are classified as suffering from moderate to severe depression and can be classified as currently depressed. If the response to any of the eight questions was missing, the respondent was not assigned a PHQ-8 score and excluded from the analysis.

Finally, respondents were then classified into three groups based on severity of depression. A PHQ-8 score of 0-4 = no significant depressive symptoms, 5-9 = mild depressive symptoms, 10-14 = moderate depression, 15-19 = moderately severe depression, and 20-24 = severe depression.

DEPRESSION CHARACTERISTICS

Below are the summary results of the extent of anxiety and depression in the State of Delaware. Estimates are weighted to reflect the proportion of the population as a whole who have been diagnosed with anxiety and/or depression and the proportion of the population who are experiencing current symptoms of depression. The results suggest that the prevalence of lifetime anxiety in Delaware is slightly greater than that of the national average (11.3%; CDC 2008a); approximately 12% of Delaware's population has been told at some point in their lifetime that they have an anxiety disorder. Likewise, the incidence of lifetime depression in Delaware is also slightly greater than the national average (15.6%; CDC 2008a); nearly 17% of adults in Delaware have been told that they have a depressive disorder. In addition, roughly 8% of the adult population in Delaware has been diagnosed with both an anxiety disorder and a depressive disorder.

Table 1. Depression Characteristics of Adult Delawareans

			95% CI	
	total	%[a]	lower[a]	upper[a]
Lifetime diagnosis of anxiety (n=3,935)	485	12.11	12.03	12.19
Lifetime diagnosis of depression (n=3,941)	660	16.96	16.87	17.05
Dual Diagnosis of anxiety/depression (n=3,934)	306	7.98	7.91	8.05
Current depression (n=3,780)				
None to Mild	3474	91.83	91.76	91.90
Moderate to Severe	306	8.17	8.10	8.24
Depression severity (n=3,780)				
No significant depressive symptoms	2963	78.28	78.18	78.38
Mild depressive symptoms	511	13.55	13.46	13.63
Moderate depression	186	5.36	5.30	5.42
Moderately severe depression	78	1.83	1.80	1.87
Severe depression	42	0.98	0.96	1.01

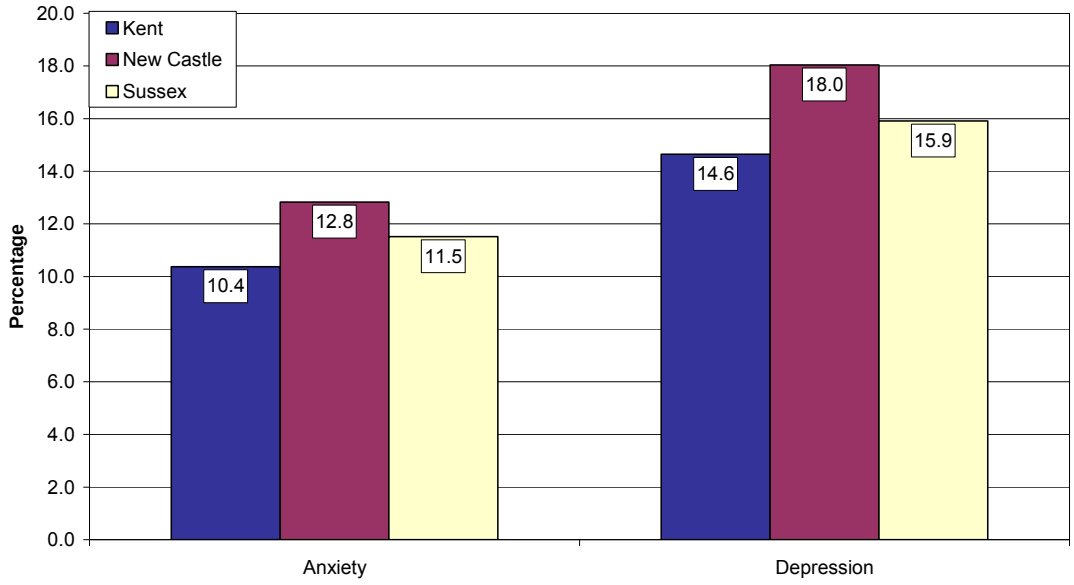
[a]Weighted population estimate.

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Prevalence of current depression (moderate to severe) in the general population is about half of the lifetime prevalence rate; about 8% of the adult population in Delaware has current depressive symptoms as shown above in Table 1. When looking more closely at the distribution of depression severity, about 13.5% of adults in Delaware have mild depressive symptoms. It is this segment of the population experiencing current depressive symptoms that are most likely to go unrecognized by their healthcare providers as being depressed and, as a result, untreated all together (Macaskill and Macaskill, 1999; Tylee and Jones 2005). Further examination of the data reflects that just over 5% of the state's population is moderately depressed, about 2% experience moderate severe depression, and 1% is severely depressed.

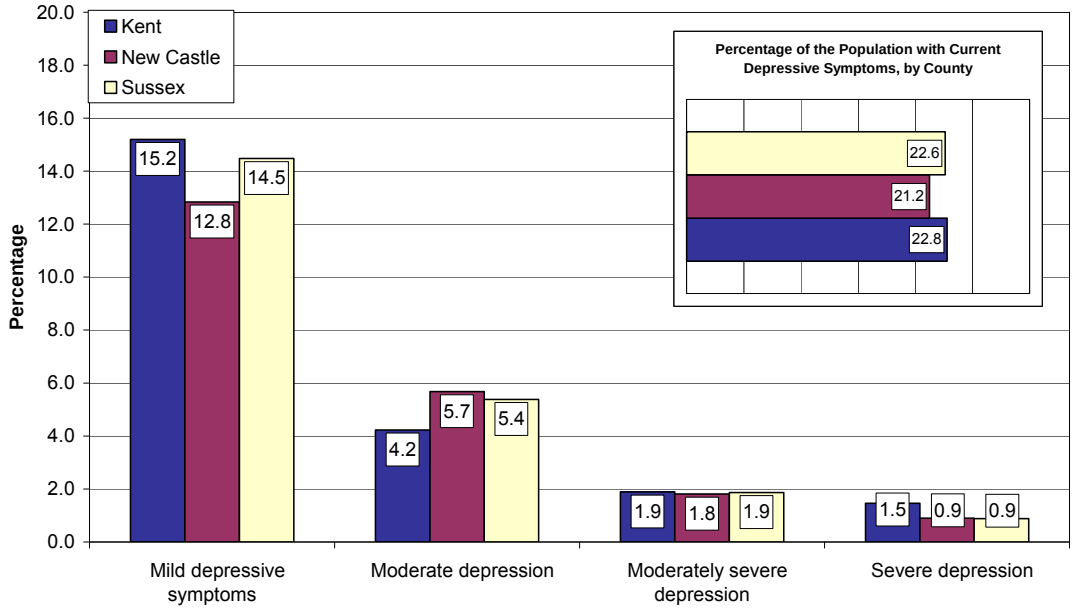
If we examine lifetime prevalence of anxiety and depression by county, as shown in Figure 1, New Castle County has the highest rates, whereas Kent County has the lowest rates. More specifically, approximately 12.8% of the adult population in New Castle County has been told by a healthcare provider that they have an anxiety disorder, compared to 11.5% in Sussex County and 10.4% in Kent County. Similarly, the lifetime prevalence of being diagnosed with a depressive disorder in New Castle County (18%) is higher than the lifetime prevalence of being diagnosed with a depressive disorder in Sussex County (15.9%) or Kent County (14.6%).

Figure 1. Lifetime Prevalence of Anxiety & Depression among Delaware Adults, by County



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 2. Current Depression Severity among Adults in Delaware, by County



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

The prevalence of current depression by county, as measured by the PHQ-8, is somewhat different than the incidence of lifetime depression. In fact, the adult population in New Castle County is slightly less likely than adults in Kent County or Sussex County to have current depressive symptoms. As shown in Figure 2 above, about 21% of residents living in New Castle County have current depressive symptoms. By comparison, roughly 23% of the adult population in Kent and Sussex counties currently has some form of depression.

Looking more closely at the proportion of the population who do exhibit signs and symptoms of depression, persons living in Kent County are more likely to exhibit only mild depressive symptoms (15.2%) compared to New Castle County (12.8%) or Sussex County (14.5%). Moderate depressive symptoms are more pervasive in New Castle County (5.7%) and Sussex County (5.4%), and least likely in Kent County (4.2%). There is little difference between the counties in the prevalence of moderately severe depressive symptoms (~2%) and the prevalence of severe depressive symptoms (~1%) within the general adult population.

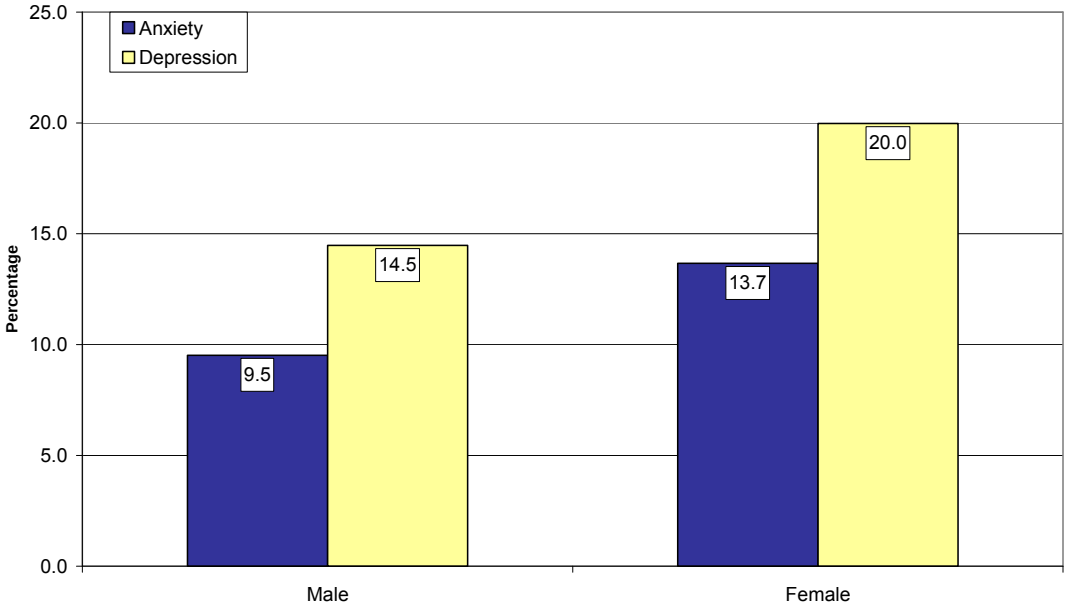
The next section provides a detailed analysis about select characteristics, including socio-demographics, health risk behaviors, preventative health care practices, disease prevalence, and availability of resources among adults in Delaware who have been diagnosed with anxiety or depression at some point during their lifetimes.

LIFETIME ANXIETY AND DEPRESSION

Socio-Demographic Characteristics

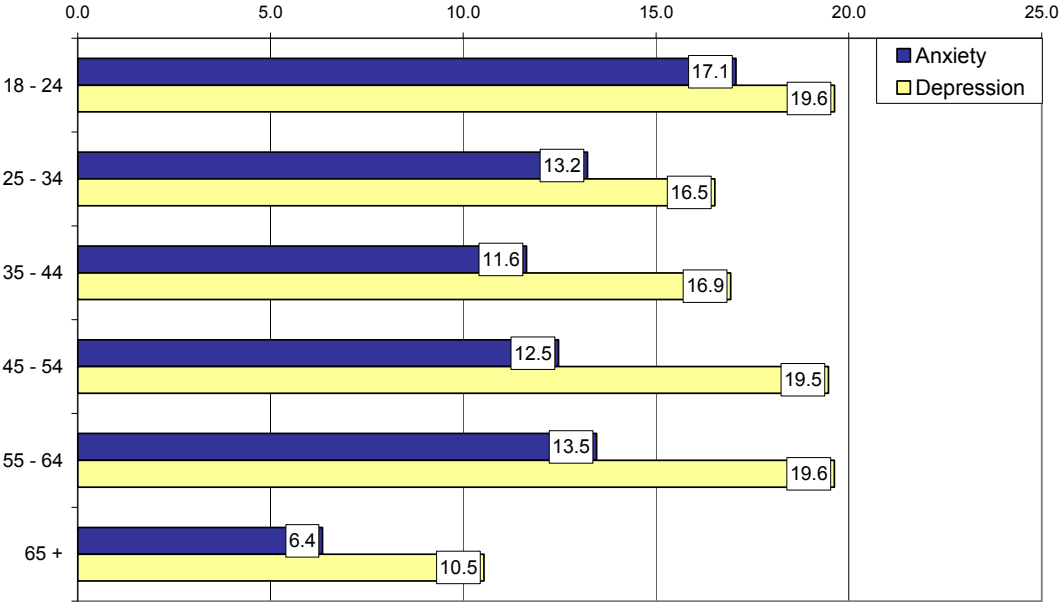
Figure 3 below reflects the lifetime prevalence of anxiety and depression between adult men and adult women in Delaware. The results indicate that women are significantly more likely than men to have been diagnosed, at some point in their lifetimes, with either an anxiety disorder (14.5%) or a depressive disorder (20%). By comparison, the incidence of lifetime anxiety or lifetime depression among men is around 10% and 14% respectively.

Figure 3. Lifetime Anxiety & Depression among Adults in Delaware, by Gender



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 4. Lifetime Anxiety & Depression among Adults in Delaware, by Age



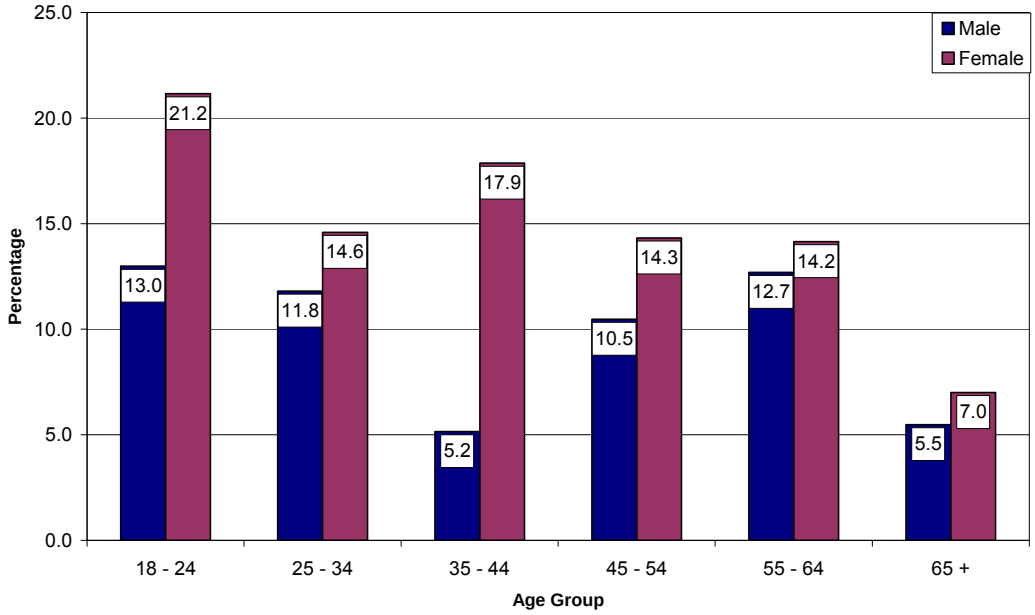
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Older adults are less likely to report ever being diagnosed with an anxiety disorder or a depressive disorder than their younger counterparts (Figure 4, above). Only about 6% of the population over the age of 65 has ever been diagnosed with an anxiety disorder compared to about 17% of 18-24 year olds, 13% of 25-34 year olds, 12% of 35-44 year olds, 13% of 45-54 year olds and about 14% of 55-64 year olds. Similarly, about 11% of the 65 and older population has ever been diagnosed with a depressive disorder; 18-24 year olds and those who are 45-64 years old are most likely to have been diagnosed with a depressive disorder (~20%) and about 17% of 25-44 year olds have also been diagnosed by a healthcare professional as having a depressive disorder.

Given the notable difference between adult males and females in the prevalence of a lifetime diagnosis of anxiety and depressive disorders, it was of interest to determine whether this relationship held true among different age groups. The results, as shown in Figure 5 below, indicate that females have a greater likelihood of ever being diagnosed with an anxiety disorder than males regardless of age. Adult females age 18-24 years old have the highest rates of lifetime anxiety (21.2%) and females older than 65 years of age have the lowest rate of lifetime anxiety. The highest rate of lifetime anxiety among adult men in Delaware is among 18-24 and 55-64 year olds (~13%). The lowest incidence of lifetime anxiety is among men age 35-44 years old and men over 65 years old (~5%).

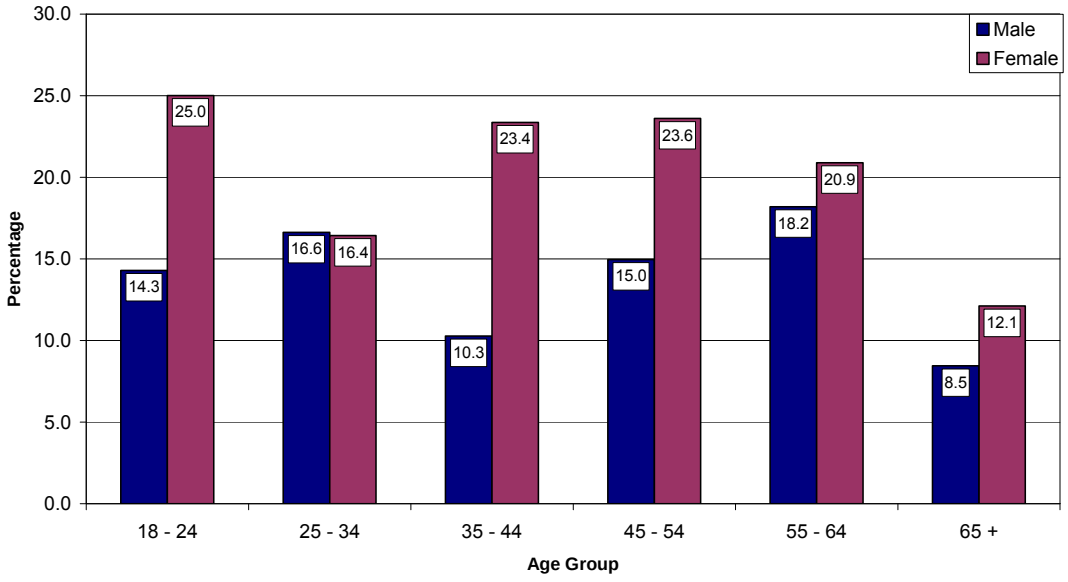
Similar to the differences in the incidence of lifetime anxiety between adult males and females in Delaware is the lifetime prevalence of depression. Below, Figure 6 highlights the stark differences between males and females in the diagnoses of a depressive disorder by age. The highest rate of lifetime depression for adult women in Delaware is among 18-24 year olds (25%). Women aged sixty-five and older have the lowest incidence of lifetime depression (12.1%). By comparison, the highest rate of lifetime depression among adult men in Delaware is within the 55-64 year old age group (18.2%), and the lowest rate of lifetime depression is among 35-44 year olds (10.3%).

Figure 5. Lifetime Anxiety Prevalence among Adults in Delaware, by Age and Gender



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

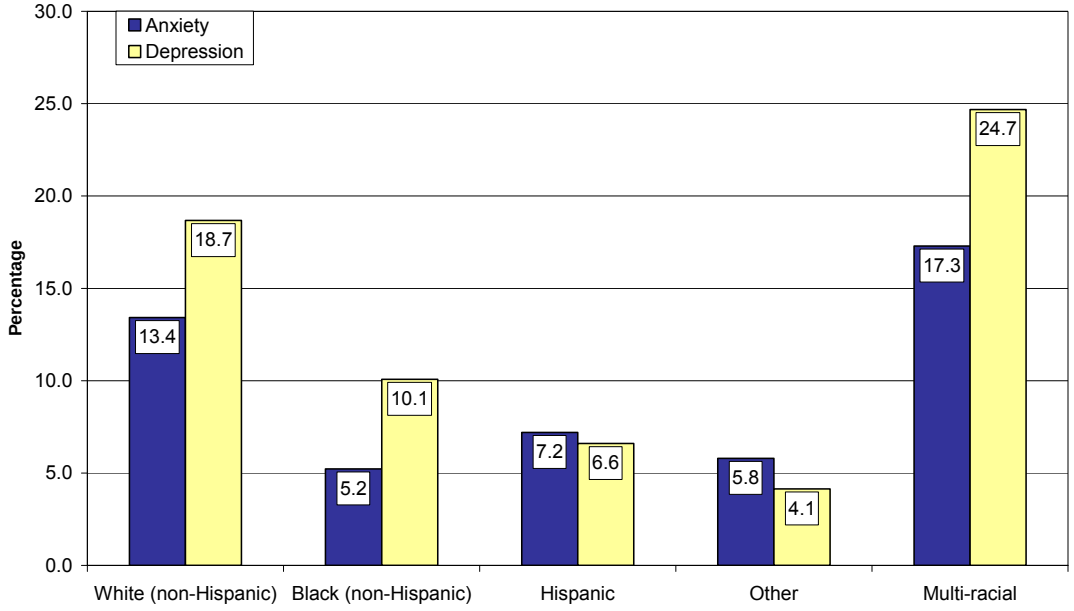
Figure 6. Lifetime Depression Prevalence among Adults in Delaware, by Age and Gender



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

In addition to the differences in lifetime diagnoses of anxiety disorders or depressive disorders across different age groups and between males and females, race/ethnicity appears to be an important corollary as well. As shown in Figure 7, individuals who are multi-racial have the highest incidence of ever being diagnosed with an anxiety disorder (17.3%) or a depressive disorder (24.7%). Among the white (non-Hispanic) population in Delaware, the prevalence of lifetime diagnoses of anxiety disorders (13.4%) or depressive disorders (19.7%) is also significantly greater than that of other racial/ethnic groups. The Black (non-Hispanic) population has the lowest incidence of lifetime anxiety (5.2%) and 'other'[1] the lowest incidence of lifetime depression (4.1%).

Figure 7. Lifetime Anxiety & Depression among Adults in Delaware, by Race and Ethnicity



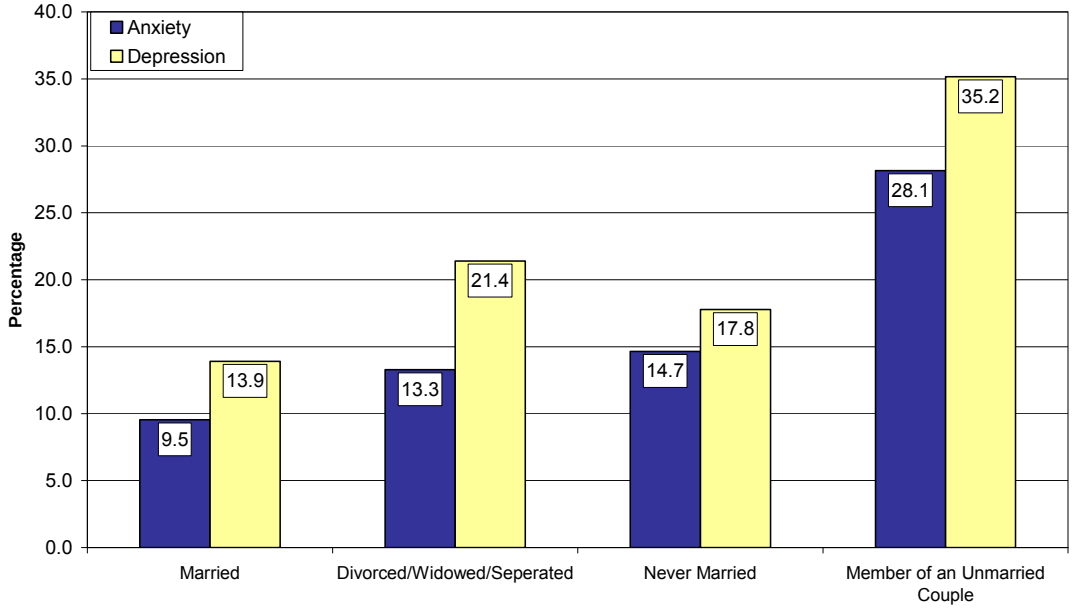
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 8 below shows the prevalence of lifetime diagnoses of anxiety or depression by marital status. Persons who are married are least likely to have ever been diagnosed with an anxiety disorder (9.5%) or a depressive disorder (13.9%). The highest incidence of lifetime anxiety and depression is seen among members of unmarried couples. About 28% of the

[1] Other includes American Indian/Alaska Native, Asian, and Hawaiian/Pacific Islander

population cohabitating has been diagnosed by a healthcare professional as having an anxiety disorder and approximately 35% have been diagnosed with a depressive disorder. Individuals who have never been married (and do not consider themselves a member of an unmarried couple) have the second highest rate of lifetime anxiety (14.7%), whereas those who are divorced, widowed or separated have the second highest rate of ever being diagnosed with a depressive disorder (21.4%).

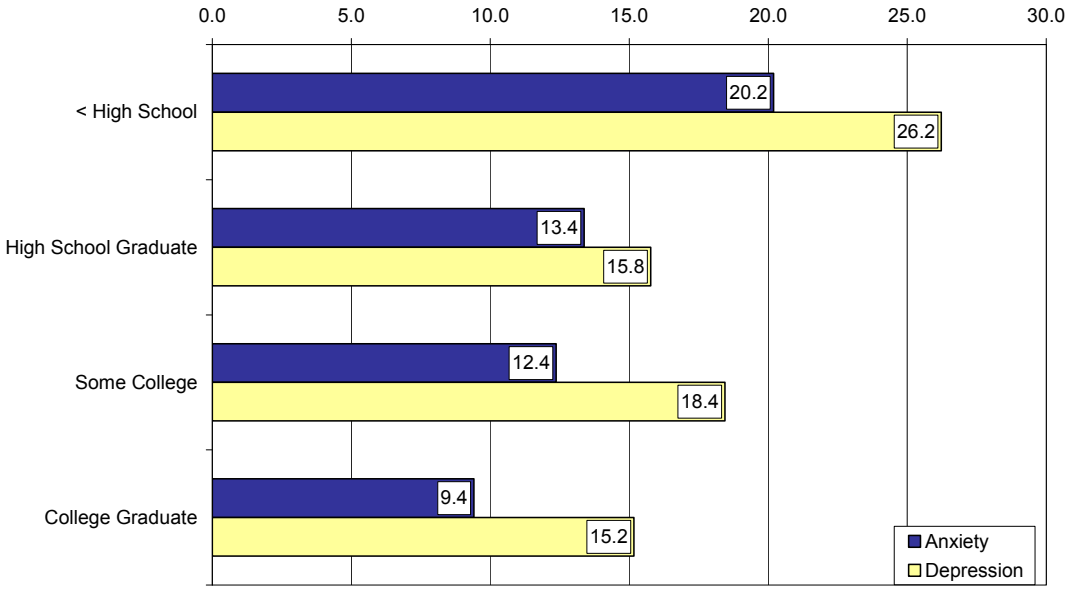
Figure 8. Lifetime Anxiety & Depression among Adults in Delaware, by Marital Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

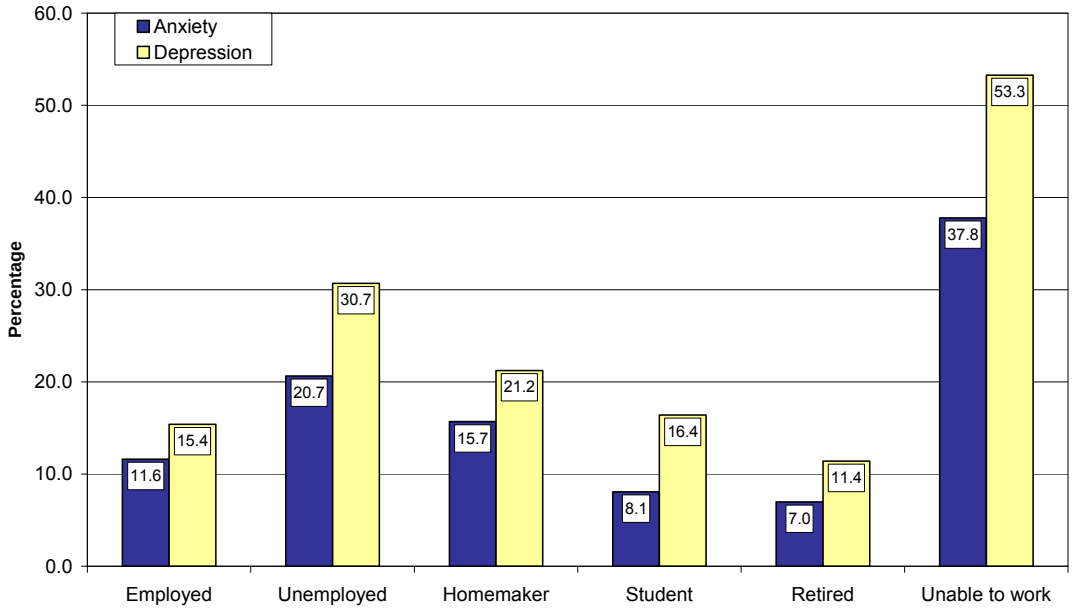
There is a positive relationship between the amount of education completed and lifetime prevalence of anxiety (see Figure 9 on the following page), as the amount of education increases the likelihood of being diagnosed with an anxiety disorder. For adults in Delaware with less than a high school education, approximately 20% have been diagnosed with an anxiety disorder compared to about 9% of college graduates. Similarly, lifetime rates of depression are also highest among that proportion of the population who has less than a high school education (26.2%) and lowest among college graduates (15.2%).

Figure 9. Lifetime Anxiety & Depression among Adults in Delaware, by Level of Education



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

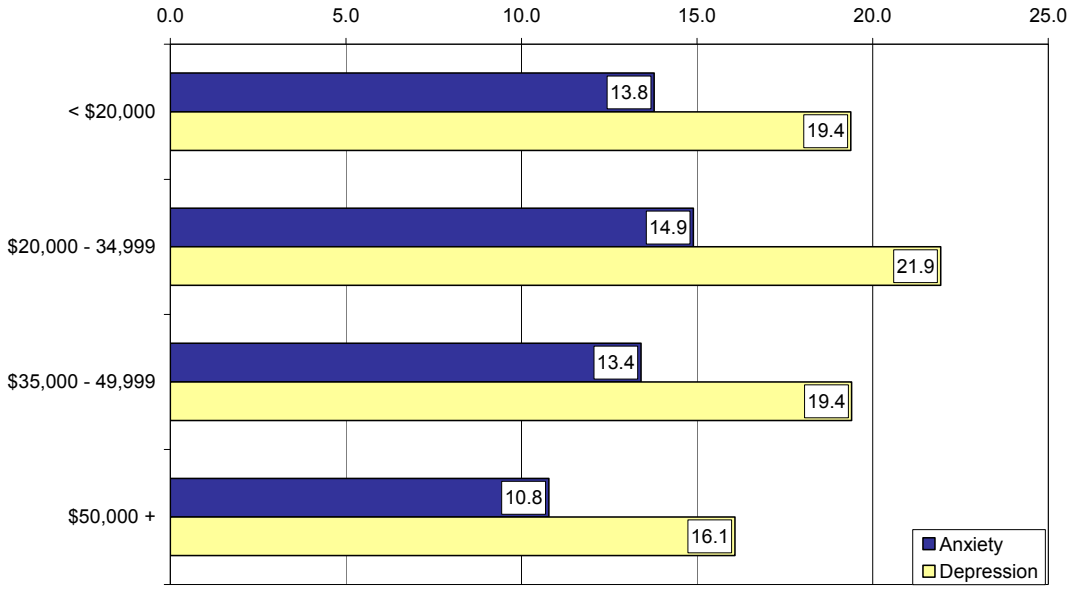
Figure 10. Lifetime Anxiety & Depression among Adults in Delaware, by Employment Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Like other socio-demographic characteristics, employment and ability to work are strongly correlated with lifetime prevalence rates of anxiety and depression (Figure 10, above). Approximately 38% of Delaware residents who are unable to work have been diagnosed by a healthcare provider with an anxiety disorder and about 53% have been diagnosed with a depressive disorder. Delaware's unemployed population also has significantly higher lifetime rates of anxiety (20.7%) and depression (31.7%). Individuals who are retired have the lowest rates of lifetime anxiety (7%) and depression (11.4%) which corresponds to rates of anxiety and depression among Delaware's 65 and older population (see Figure 4, p8).

Figure 11. Lifetime Anxiety & Depression among Adults in Delaware, by Household Income

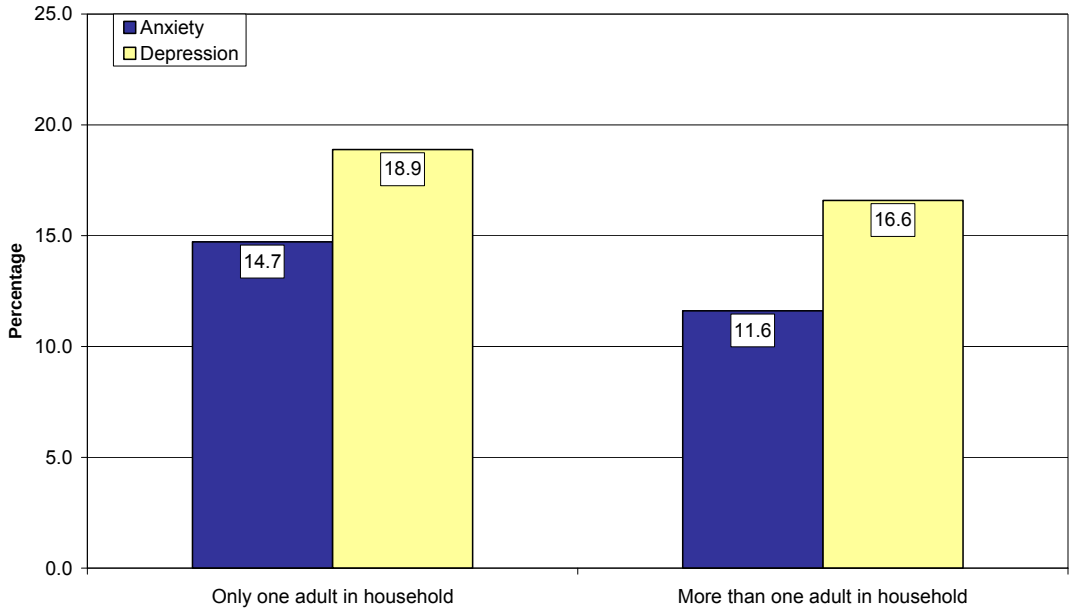


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Like employment status, income is also closely correlated with the lifetime prevalence of anxiety and depression. Figure 11 reflects that individuals with household incomes below $50,000 per year have the highest rates of lifetime anxiety and depression in Delaware. However, the proportion of households earning between $20,000 and $34,999 have the highest rates of lifetime anxiety (14.9%) and depression (21.9%). There is no significant difference in lifetime

prevalence of being diagnosed with an anxiety disorder or depressive disorder among lower income households (<$20,000/yr) and the proportion that earns between $35,000 and $49,999 per year (~14% and ~19% respectively). Households with incomes greater than $50,000 per year have the lowest incidence of lifetime anxiety or depression.

Figure 12. Lifetime Anxiety & Depression among Adults in Delaware, by the Number of Adults in Household



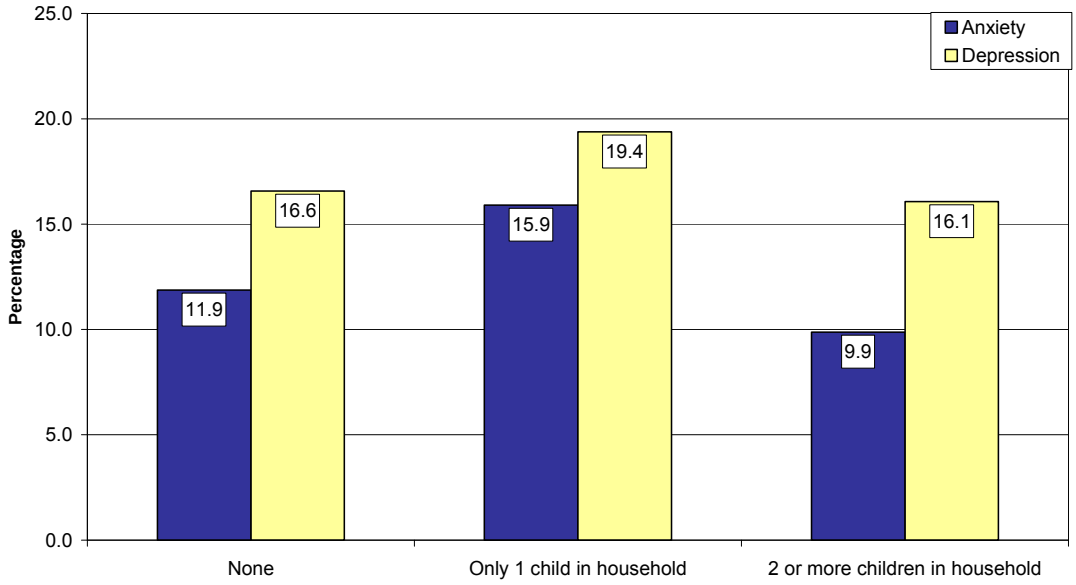
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 12 reflects that individuals who live alone, with no other adults in the household, are more likely to have experienced an anxiety disorder or depressive disorder during their lifetime compared to individuals living with at least one other adult. About 15% of the population who live alone has been diagnosed with an anxiety disorder and close to 20% has been diagnosed with a depressive disorder. When at least one other adult is living in the household, lifetime prevalence of anxiety drops to about 12% and lifetime prevalence of depression is reduced to about 17%.

The number of children living in the household also appears to impact lifetime prevalence rates of anxiety and depression. In fact, as shown in Figure 13 below, the presence of a child increases the likelihood of ever being diagnosed with an anxiety disorder (15.9%) or a

depressive disorder (19.4%) when compared to lifetime rates of anxiety or depression among persons with no children in the household (11.9% and 16.6% respectively). However, when a second child is introduced into the equation, lifetime prevalence of anxiety and depression are significantly reduced; about 10% of the population with two or more children has been diagnosed with an anxiety disorder and roughly 16% has been diagnosed with a depressive disorder.

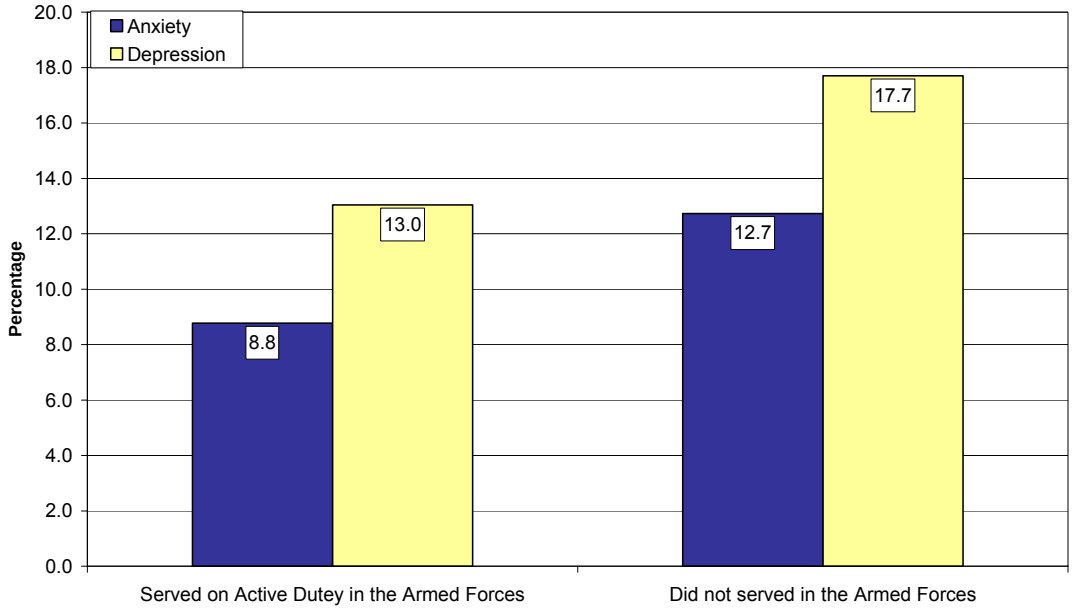
Figure 13. Lifetime Anxiety & Depression among Adults in Delaware, by Number of Children in Household



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Finally, adults in Delaware who have served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit have a lower incidence of ever being diagnosed by a healthcare professional with an anxiety disorder (8.8%) or a depressive disorder (13%) compared to persons who have never served in the United States Armed Forces. About 13% of the civilian population has been diagnosed with an anxiety disorder and roughly 18% with a depressive disorder (table 14, below).

Figure 14. Lifetime Anxiety & Depression among Adults in Delaware, by Service in the Armed Forces

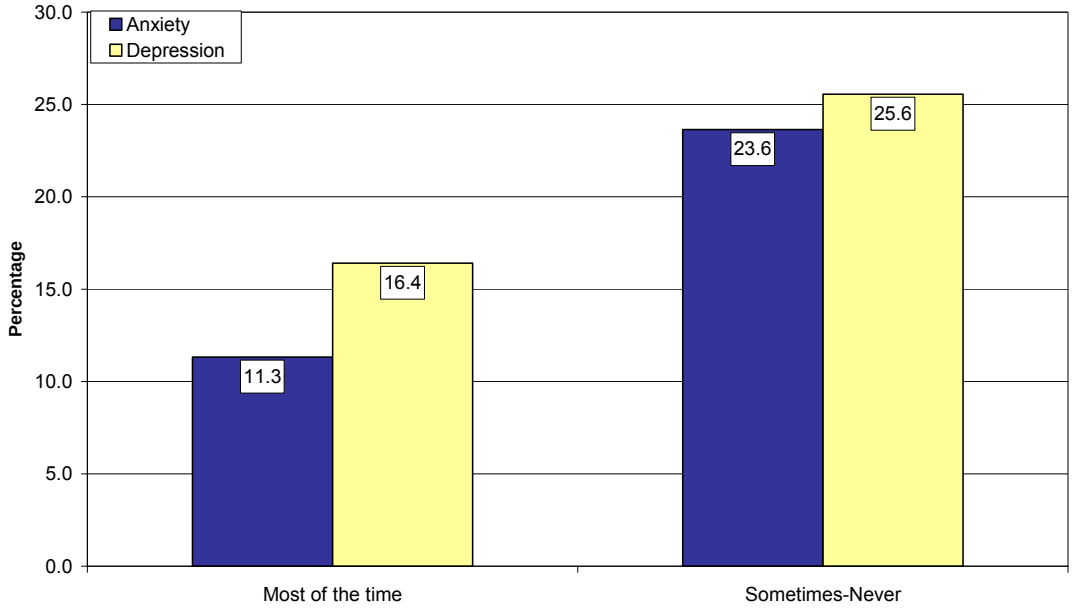


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Health Risk Behaviors

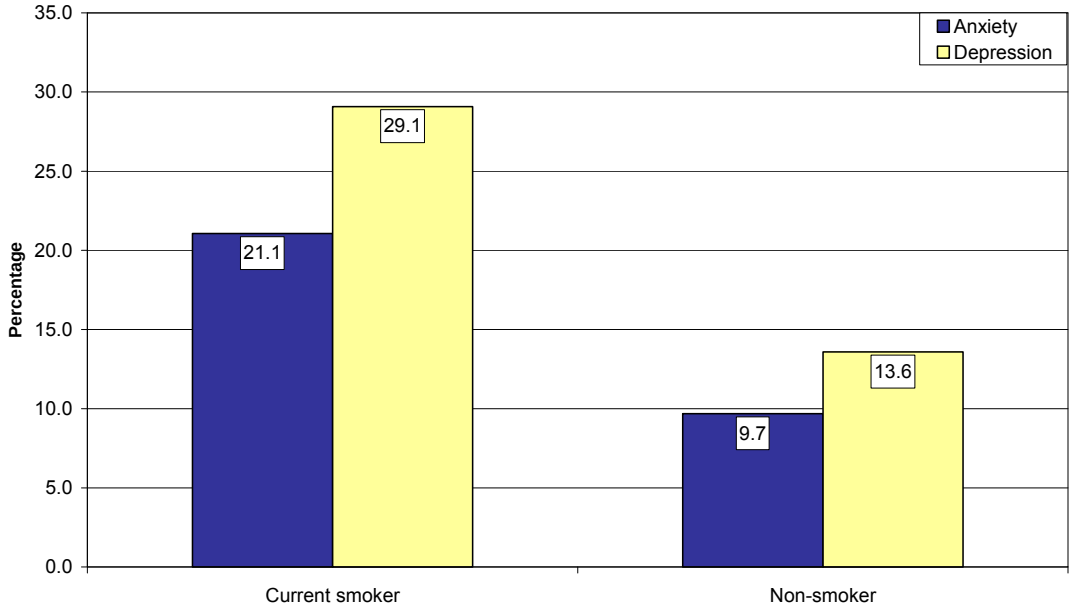
Figure 15 below reflects the lifetime prevalence and depression among the proportion of the population who usually wear a seatbelt while driving/riding in a motor vehicle and the proportion of the population who only sometimes or never wear a seatbelt. It is apparent that individuals who use seatbelts most of the time are significantly less likely to have been diagnosed with either an anxiety disorder or a depressive disorder. Roughly 11% of the population who use seatbelts most of the time has been diagnosed with anxiety compared to about 24% of the population who only sometimes or never wear a seatbelt. Similarly, about 16% of the population who regularly use a seatbelt has been diagnosed with a depressive disorder compared to 26% of the population who do not use a seatbelt on a regular basis.

Figure 15. Lifetime Anxiety & Depression among Adults in Delaware, by Seatbelt Use



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 16. Lifetime Anxiety & Depression among Adults in Delaware, by Smoking Status

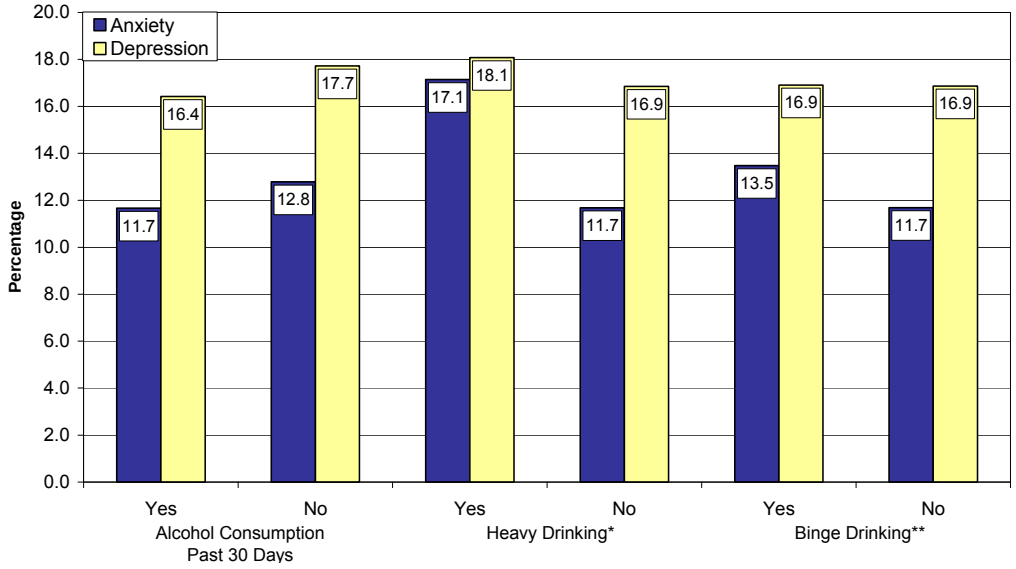


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

There is also a stark contrast in the prevalence of lifetime anxiety and depression between smokers and non-smokers (Figure 16, above). About 21% of current smokers have been diagnosed with an anxiety disorder compared to only around 10% of non-smokers. Likewise roughly 29% of current smokers have been diagnosed with a depressive disorder compared to about 14% of non-smokers.

The co-morbidity of alcohol consumption and mood disorders has been well documented and considered to be a pervasive problem in the United States (Conway et al 2006; NIMH 2007). However, the results of this study indicate that the proportion of the population who consumed alcohol over the past 30 days are slightly less likely to have been diagnosed with either an anxiety disorder or a depressive disorder compared to individuals who did not drink any alcoholic beverages in the past 30 days. About 12% of the adults in Delaware who consumed alcohol have been told by a healthcare professional that they have an anxiety disorder compared to 13% of individuals who did not drink. Likewise, around 16% of persons who drank alcohol within the past 30 days have been diagnosed with a depressive disorder compared to about 18% of persons who did not drink.

Figure 17. Lifetime Anxiety & Depression among Adults in Delaware, by Alcohol Consumption Behavior



*Heavy drinking is defined as males having more than two drinks per day and females having more than one drink per day on average.
**Binge drinking is defined as males having five or more drinks on any one occasion and females having four or more drinks on any one occasion.
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

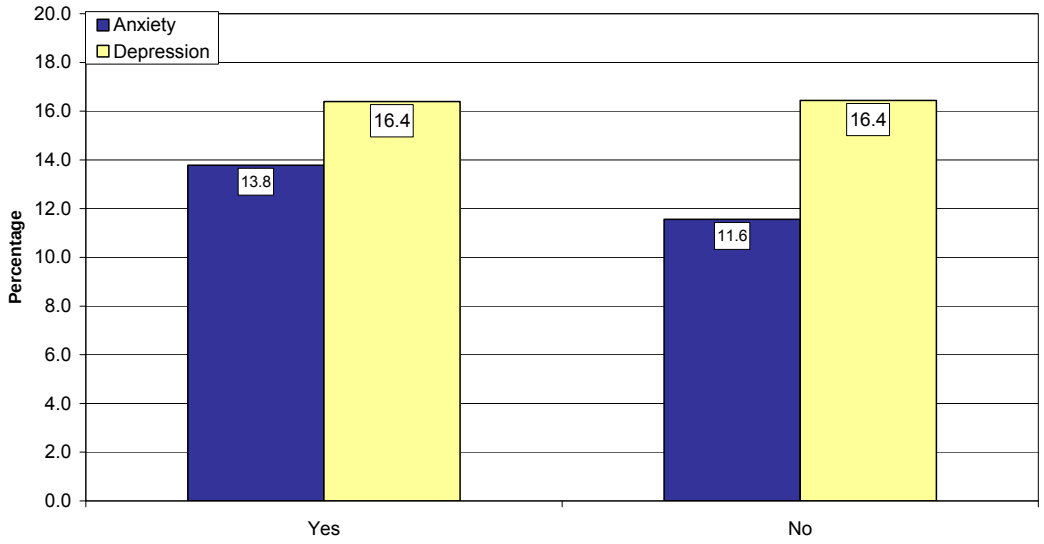
Although the incidence of lifetime anxiety or depression is not greater among that proportion of the population who recently consumed alcohol, consumption behavior appears to be strongly correlated with lifetime prevalence of anxiety and depression (Figure 17, above). More specifically, there is a greater likelihood of being diagnosed with an anxiety disorder or a depressive disorder among people who, within the past 30 days, drank heavily[2] compared to those who did not drink heavily. Approximately 17% of heavy drinkers in Delaware have had a diagnosis of anxiety compared to only about 12% of the population who did not drink heavily. Similarly, 18% of heavy drinkers compared to 17% of non-heavy drinkers have been diagnosed with a depressive disorder.

Like that of heavy drinkers, as shown in Figure 17 above, binge drinkers[3] have a greater likelihood of being diagnosed with anxiety than those who do not binge drink. Approximately 14% of adults in Delaware who binge drink have been diagnosed with an anxiety disorder compared to about 12% of adults who do not meet the criteria for binge drinking in the past 30 days. There is no significant difference in the lifetime prevalence of depression between binge drinkers and non-binge drinkers among adults in Delaware.

In addition to the differences in the prevalence of lifetime anxiety and depression by drinking behavior, this study also finds a correlation between driving under the influence of alcohol and a lifetime diagnosis of these mood disorders as shown in Figure 18 below. The proportion of the population in Delaware who has driven under the influence of alcohol in the past 30 days has a greater likelihood to have been diagnosed with an anxiety disorder compared to the proportion of the population who did not drive under the influence (13.8% and 11.6% respectively). There is no significant difference in rates of lifetime depression between individuals who have driven under the influence and those who have not.

[2] Heavy drinking is defined as males having more than two drinks per day on average and females having more than one drink per day on average (CDC 2008a).
[3] Binge drinking is defined as males having five or more drinks on any one occasion and females having four or more drinks on any one occasion.

Figure 18. Lifetime Anxiety & Depression among Adults in Delaware, by Driving Under the Influence



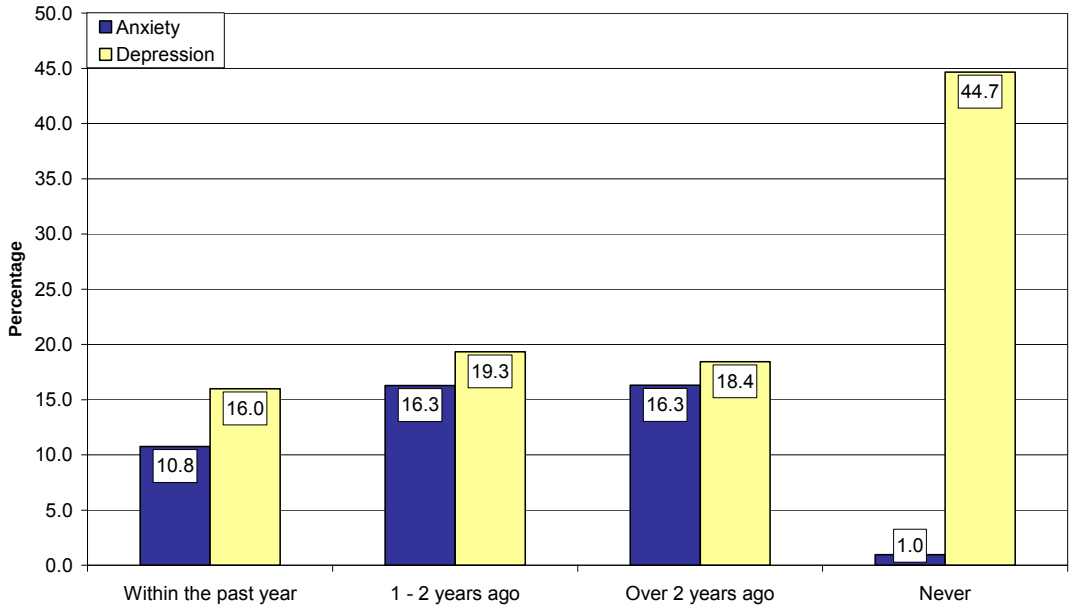
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Preventative Health Care Practices

Adults in Delaware who have never visited a dentist for any reason have significantly lower rates of lifetime anxiety (1%) and significantly higher rates of lifetime depression (44.7%) compared to the general population. Individuals who have visited a dentist in the past year are the least likely to have been diagnosed as having an anxiety disorder or depressive disorder (Figure 19, below).

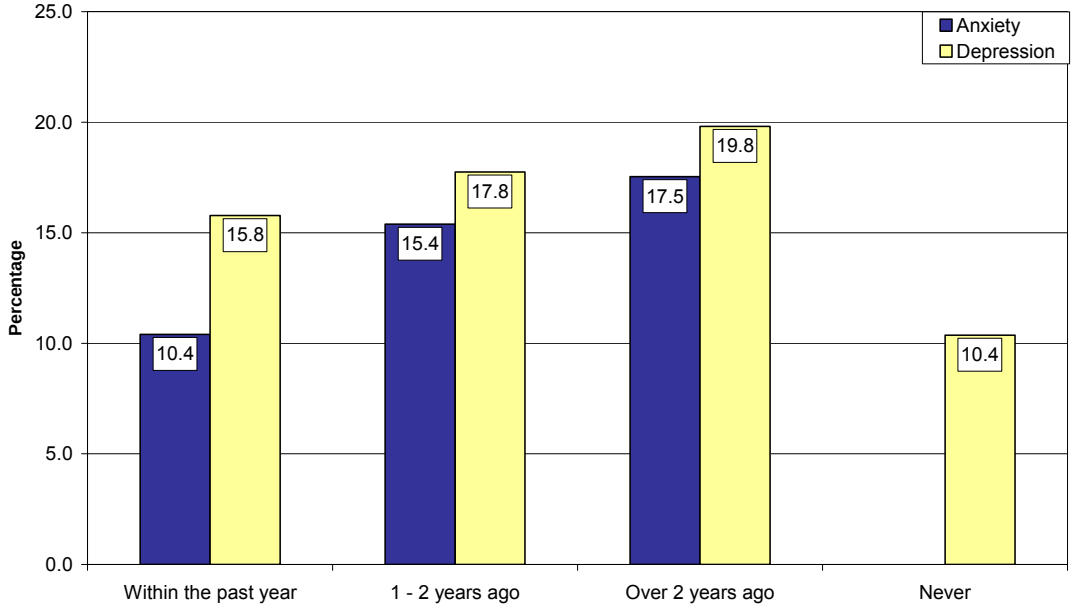
Among adults who have visited a dentist, the prevalence of lifetime anxiety and depression statistically increase with length of time since last dental cleaning (Figure 20, below). Only about 10% of the population that has had their teeth cleaned in the past year has been diagnosed with an anxiety disorder compared to about 15% of the population who last had their teeth cleaned 1-2 years ago, and roughly 18% for whom it has been in excess of two years since their teeth had last been cleaned. The incidence of lifetime depression follows the same pattern. Among individuals whom have never had their teeth cleaned, lifetime anxiety is non-existent and only around 10% have been diagnosed with a depressive disorder.

Figure 19. Lifetime Anxiety & Depression among Adults in Delaware, by Last Dental Visit



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

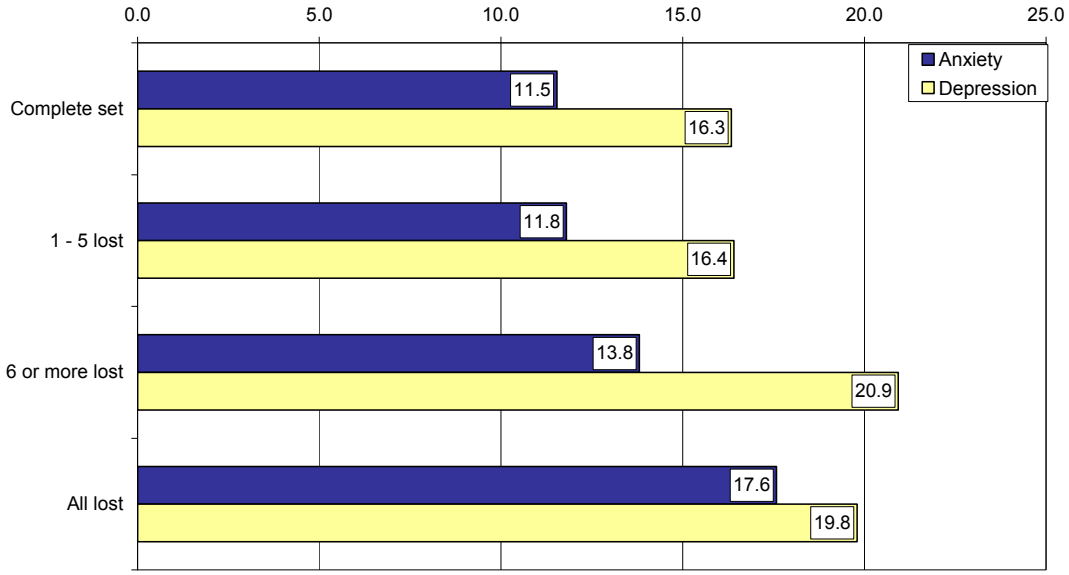
Figure 20. Lifetime Anxiety & Depression among Adults in Delaware, by Last Dental Cleaning



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

The presence of teeth is often associated with preventative health care practices such as receiving regular dental exams and dental cleanings. As shown in Figure 21, individuals who still have all of their teeth or have lost only 1-5 teeth have the lowest incidence of lifetime anxiety and depression (~12% and ~16% respectively). The proportion of the population who have lost all of their teeth have the highest likelihood of being diagnosed with an anxiety disorder (17.6%) and individuals who have lost 6 or more teeth (but not all) have the highest rate of lifetime depression (20.9%).

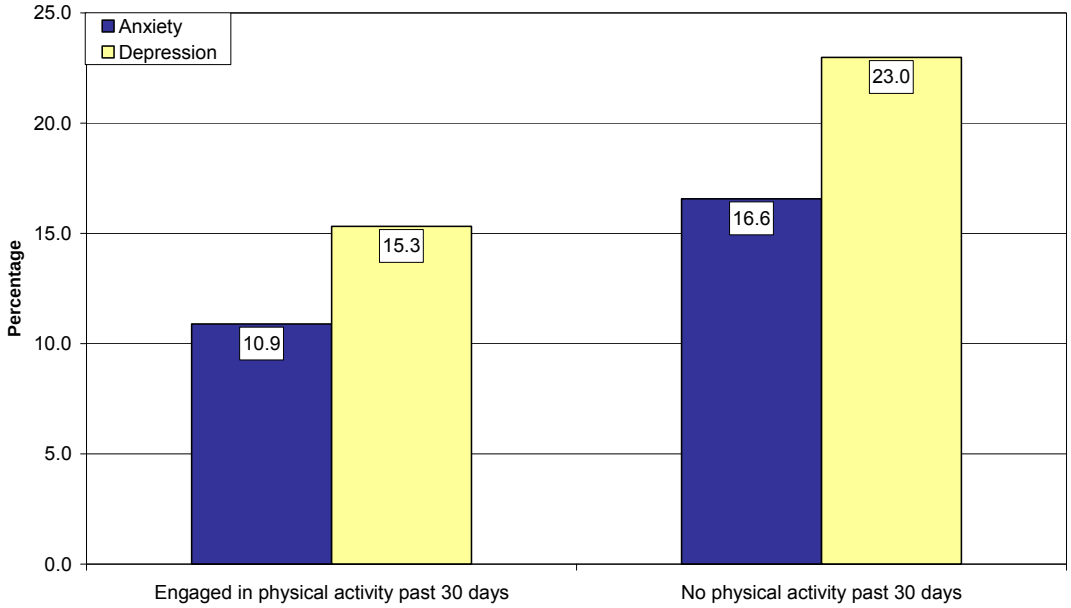
Figure 21. Lifetime Anxiety & Depression among Adults in Delaware, by Presence of Teeth



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

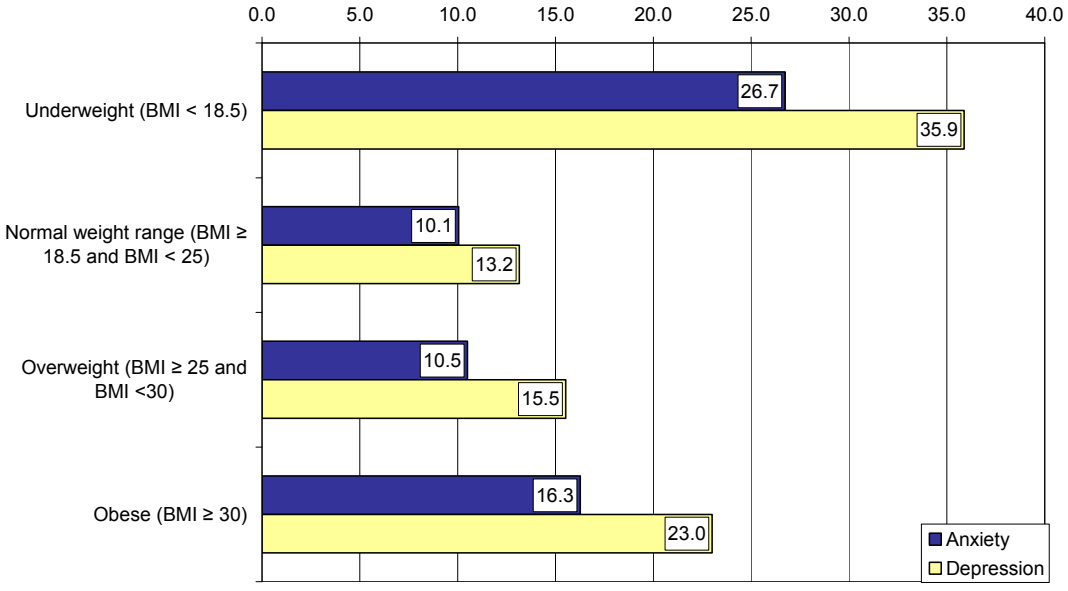
Physical activity appears to have a strong impact on lifetime rates of anxiety and depression (Figure 22, below). Individuals who engage in physical activity are less likely to have ever been diagnosed with an anxiety disorder or a depressive disorder. About 17% of those not engaging in physical activity have been diagnosed with an anxiety disorder compared to only 11% of the population that are physically active. Similarly, 23% of persons who do not engage in physical activity have been diagnosed with a depressive disorder compared to only 15% of those who are physically active.

Figure 22. Lifetime Anxiety & Depression among Adults in Delaware, by Leisure Time Physical Activity



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 23. Lifetime Anxiety & Depression among Adults in Delaware, by Weight Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

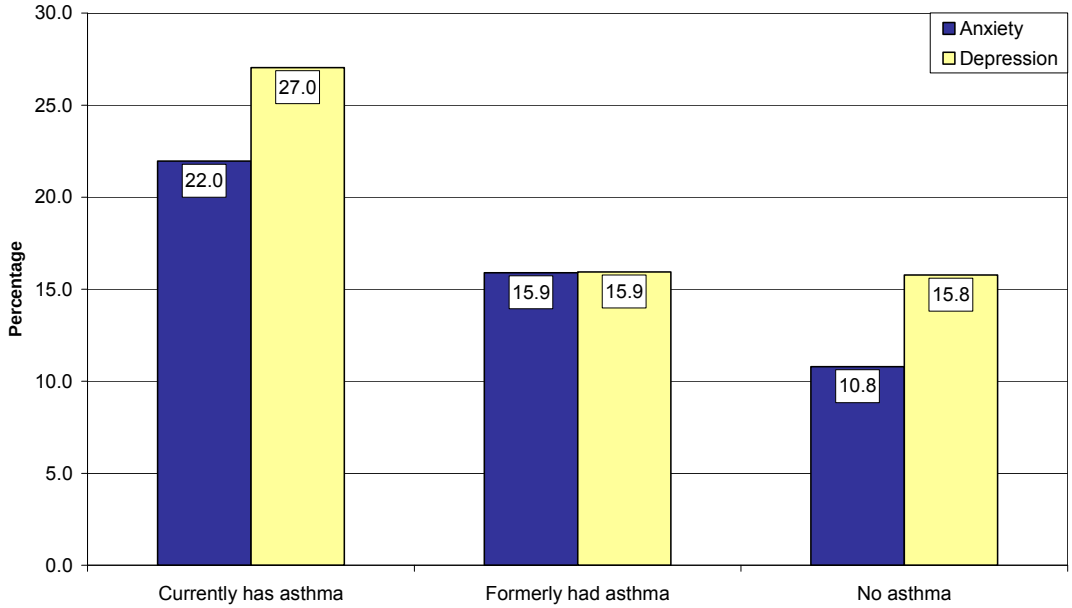
Body mass index (BMI) was used as an estimate for determining weight status. As shown in Figure 23 above, being underweight (BMI<18.5) and obesity (BMI≥30) are two factors that influence lifetime diagnoses of anxiety and depression. However, being underweight has a significantly greater impact than obesity. About 27% of the underweight population has been diagnosed with an anxiety disorder and approximately 40% has been diagnosed with a depressive disorder. By comparison, only around 16% of the obese population has been diagnosed with anxiety and 23% with depression. The percentage of the population that is overweight who have been diagnosed with anxiety is close to 11% and around 16% has been diagnosed with a depressive disorder. These percentages drop slightly among individuals who are within their normal weight range.

Disease Prevalence

Asthma is a disease condition that can hinder many activities and have a negative effect on the quality of life depending on the severity and frequency of attacks. This is apparent in the overall effect asthma has on the lifetime prevalence of anxiety and depression in the population as shown in Figure 24 below. Twenty-two percent of the adult population in Delaware with asthma has been diagnosed with an anxiety disorder compared to only about 11% of the population who do not have asthma. In addition, 27% of asthmatics have been diagnosed with a depressive disorder compared to roughly 16% of non-asthmatics.

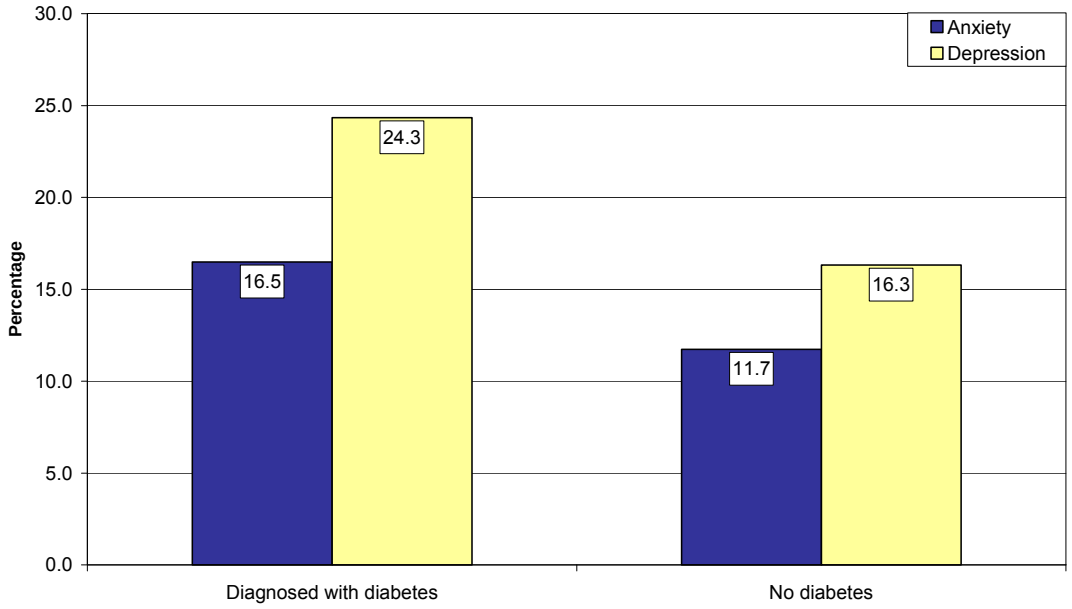
Diabetes also appears to play a role in the lifetime diagnosis of anxiety or depression (Figure 25, below). About 17% of persons diagnosed with diabetes in Delaware have also been diagnosed with an anxiety disorder compared to roughly 12% of the population who has not been diagnosed with diabetes. Likewise, approximately 24% of the population with diabetes has been diagnosed with a depressive disorder compared to around 16% of persons who have not been diagnosed with diabetes.

Figure 24. Lifetime Anxiety & Depression among Adults in Delaware, by Asthma Status



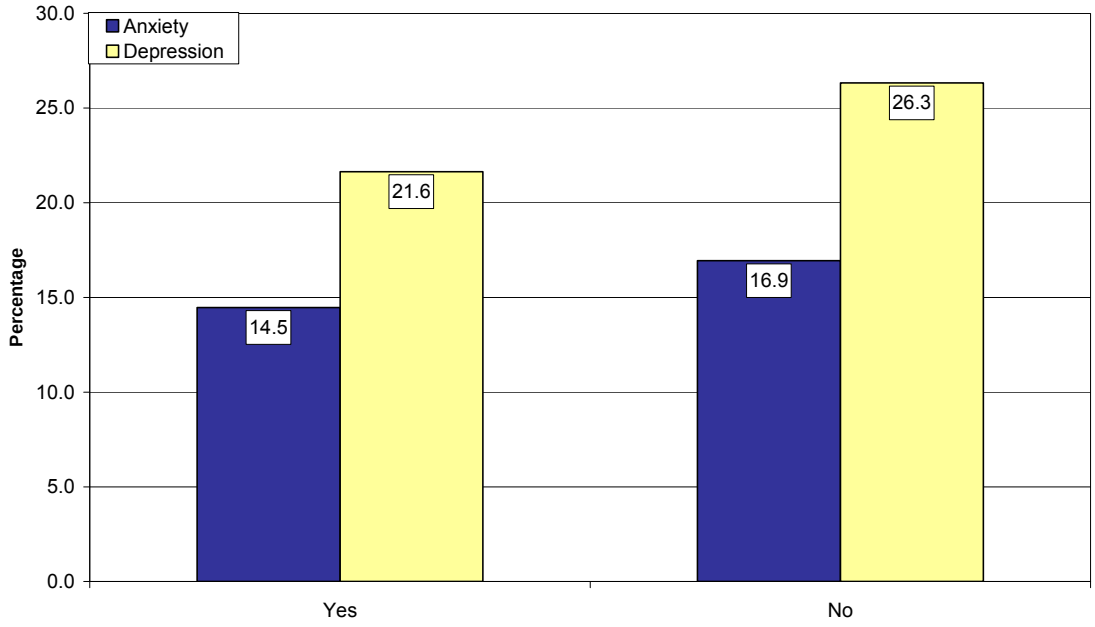
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 25. Lifetime Anxiety & Depression among Adults in Delaware, by Diabetes Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 26. Lifetime Anxiety & Depression among Adults in Delaware with Diabetes, by 'Took Course in Managing Diabetes'

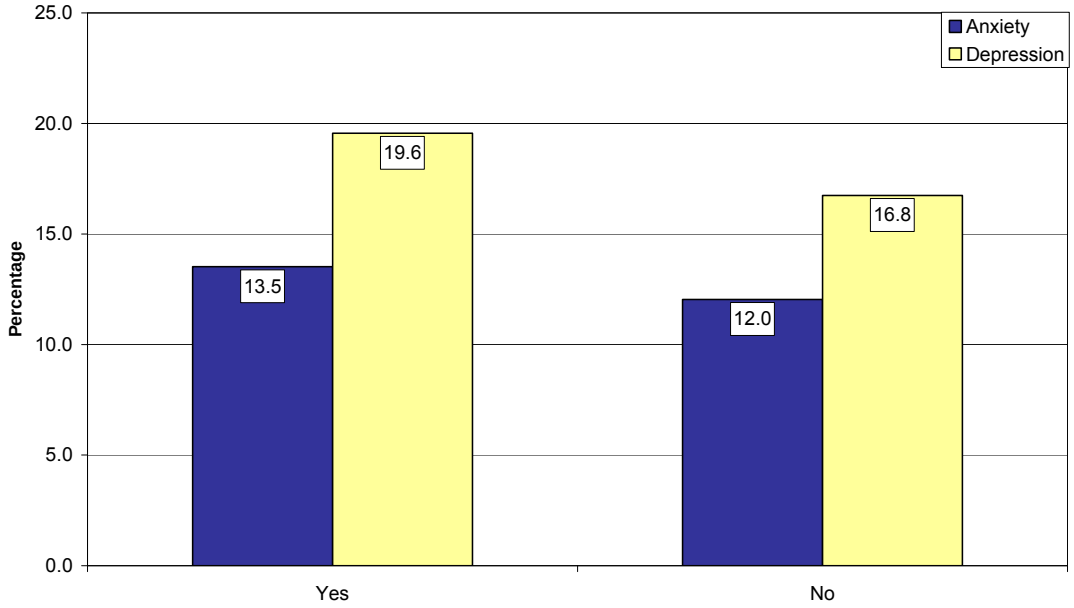


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Anxiety and depression among diabetics can possibly be reduced by ensuring that these patients are provided with education about the disease and providing courses in managing their diabetes. Figure 26 shows that the lifetime diagnosis of an anxiety disorder is lower among adult diabetics in Delaware who have taken a course in managing their diabetes compared to those who have not had such a course (14.5% and 16.9% respectively). Diabetes management education appears to also be an effective mediator in being diagnosed with a depressive disorder as well. About 22% of diabetics who have had a course in managing their diabetes have also been diagnosed with depression whereas around 26% percent of diabetics who have not had a diabetes management course have been diagnosed with a depressive disorder.

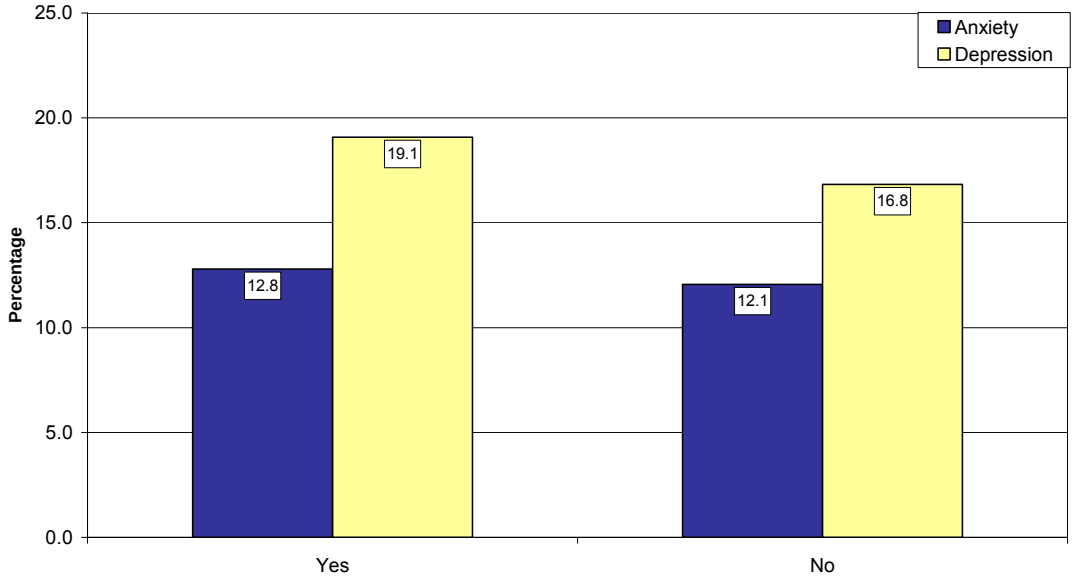
As shown in Figure 27 below, the likelihood of ever being diagnosed with an anxiety disorder or depressive disorder is also increased by incidence of a heart attack. Adults in Delaware who have experienced a heart attack are slightly more likely than those who have not had a heart attack to be diagnosed as having an anxiety disorder (13.5% and 12% respectively).

Figure 27. Lifetime Anxiety & Depression among Adults in Delaware, by 'Ever Told had a Heart Attack'



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 28. Lifetime Anxiety & Depression among Adults in Delaware by 'Ever Told had Angina or Coronary Heart Disease'

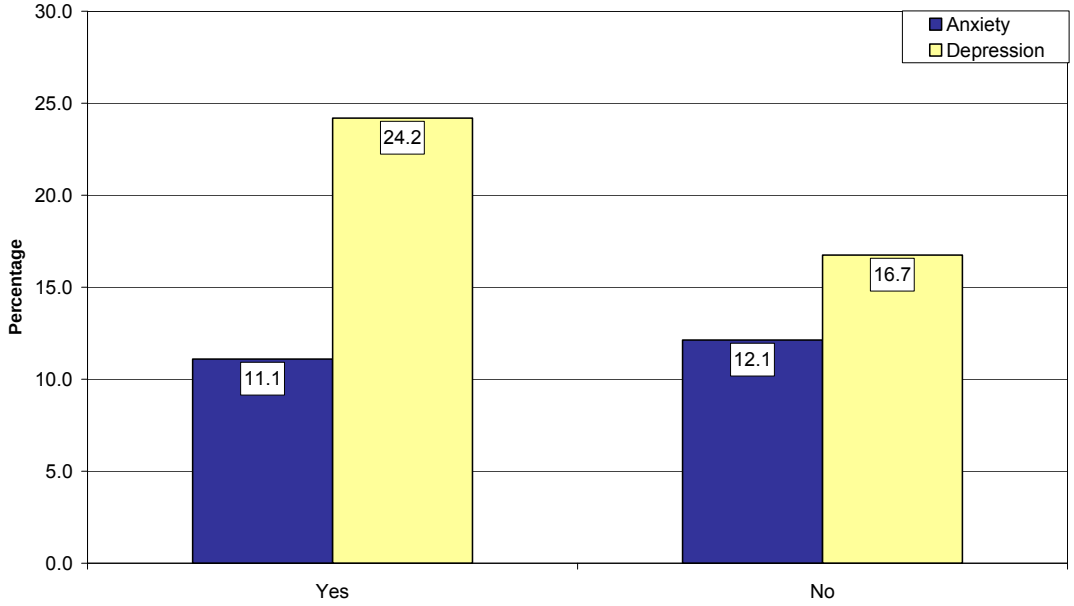


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Having a heart attack is also correlated with being diagnosed with depression; almost 20% of heart attack victims have a depressive disorder compared to about 17% of persons who have not had a heart attack. These rates are virtually identical among the proportion of the population who has been told by a healthcare professional that they have angina or coronary heart disease as shown above in Figure 28. In all likelihood, these two population groups are not mutually exclusive of each other.

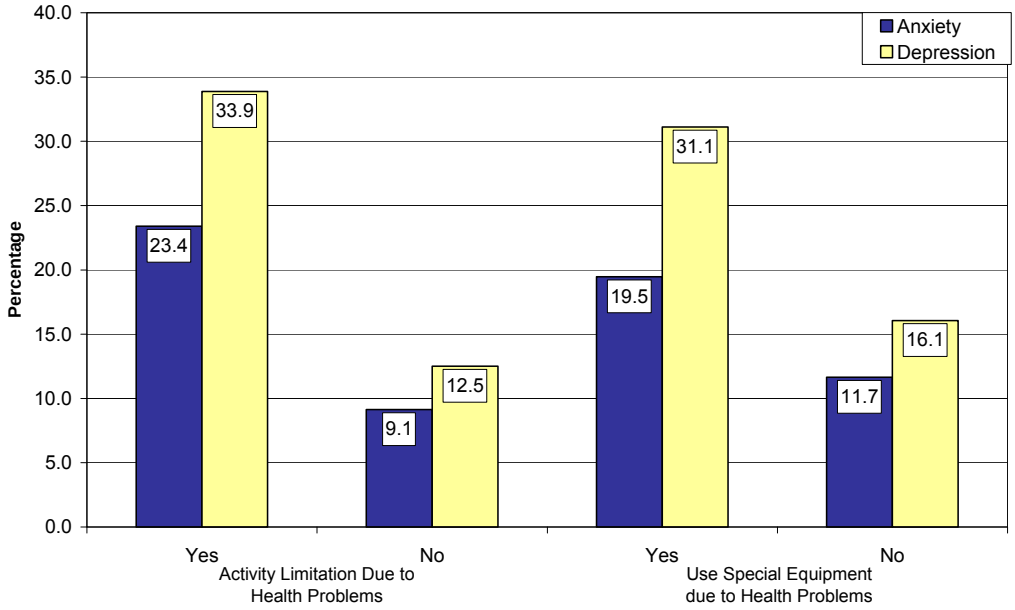
Stroke victims are often left with paralysis or other disabling conditions. This, in turn, could be devastating and greatly impact mental health. Figure 29 displays the overall percentage of stroke victims who have been diagnosed with either an anxiety disorder or a depressive disorder. The lifetime prevalence of anxiety among stroke victims is actually slightly lower than individuals who have not had a stroke (11.1% and 12.1% respectively). However, having a stroke greatly increases the likelihood of being diagnosed with a depressive disorder. About 24% of stroke victims have been diagnosed with a depressive disorder compared to only about 17% of the population who have not had a stroke.

Figure 29. Lifetime Anxiety & Depression among Adults in Delaware, by 'Ever Told had a Stroke'



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 30. Lifetime Anxiety & Depression among Adults in Delaware, by Disability Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

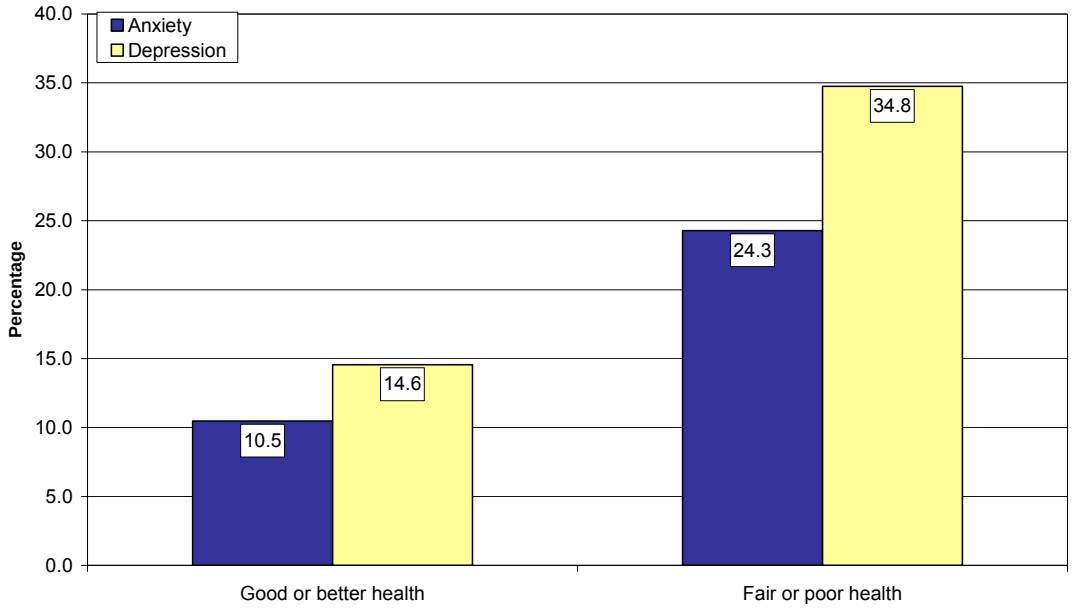
Delaware adults who have health problems in general that limit their activities or use special equipment due to health problems are also much more likely than adults in Delaware without such health problems to be diagnosed with anxiety or depression. Approximately 23% of persons who experience activity limitations due to health problems have been diagnosed with an anxiety disorder compared to only 9% of individuals whose activities are not limited. Furthermore, the rate of lifetime depression is considerably greater for individuals who have health problems that limit their activities (33.4%) than for individuals who do not experience such health problems (12.5%).

The use of special equipment due to health problems also greatly impacts rates of anxiety and depression in the general population (Figure 30). Almost 20% of adults in Delaware that use special equipment have been diagnosed with an anxiety disorder compared to only about 11% of individuals who are not required to use special equipment. Likewise, approximately 31% of

special equipment users have been diagnosed with a depressive disorder compared to only around 16% of the population who do not use special equipment due to health problems.

Given that the disease conditions examined above are strongly correlated with lifetime prevalence rates of anxiety and depression, it is of no surprise that individuals who view themselves being in poor health have greater rates of anxiety and depression than that proportion of the population who consider themselves to be in good health(Figure 31, above). Approximately 24% of the population in fair to poor health has been diagnosed with an anxiety disorder and about 35% has been diagnosed with a depressive disorder. By comparison, just over 10% of the population in good health has been diagnosed with an anxiety disorder and around 15% has been diagnosed with a depressive disorder.

Figure 31. Lifetime Anxiety & Depression among Adults in Delaware, by Perceived Health Status

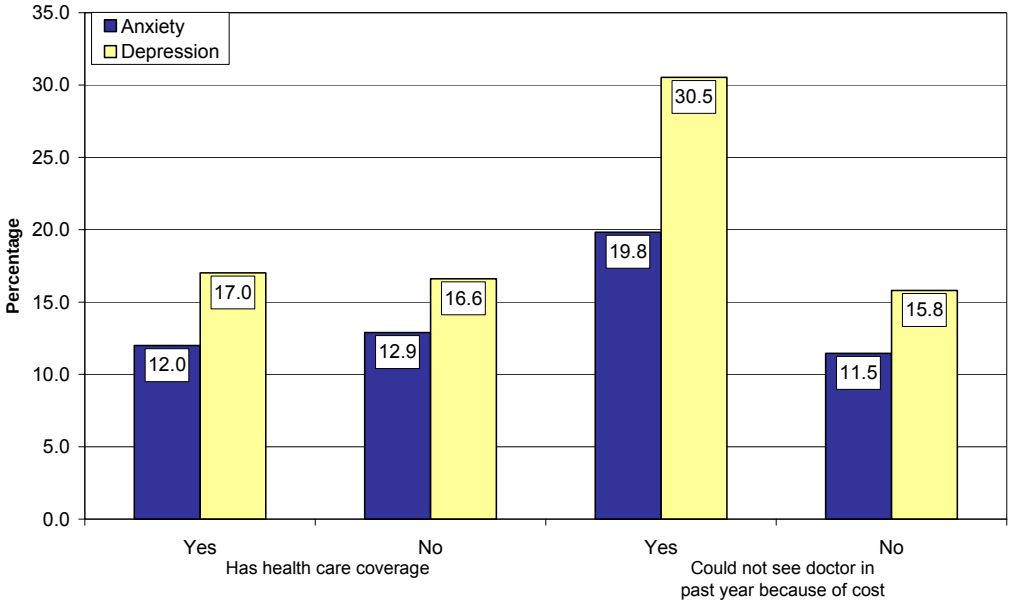


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Access to Healthcare

As shown in Figure 32, there is little difference in the lifetime prevalence of anxiety or depression based on health care coverage. However, the inability to see a doctor because of cost is strongly correlated with prevalence rates. Close to 20% of the population who could not see a doctor in the past year because of cost has been previously diagnosed with an anxiety disorder and almost 31% has been diagnosed with a depressive disorder.

Figure 32. Lifetime Anxiety & Depression among Adults in Delaware, by Availability of Affordable Healthcare

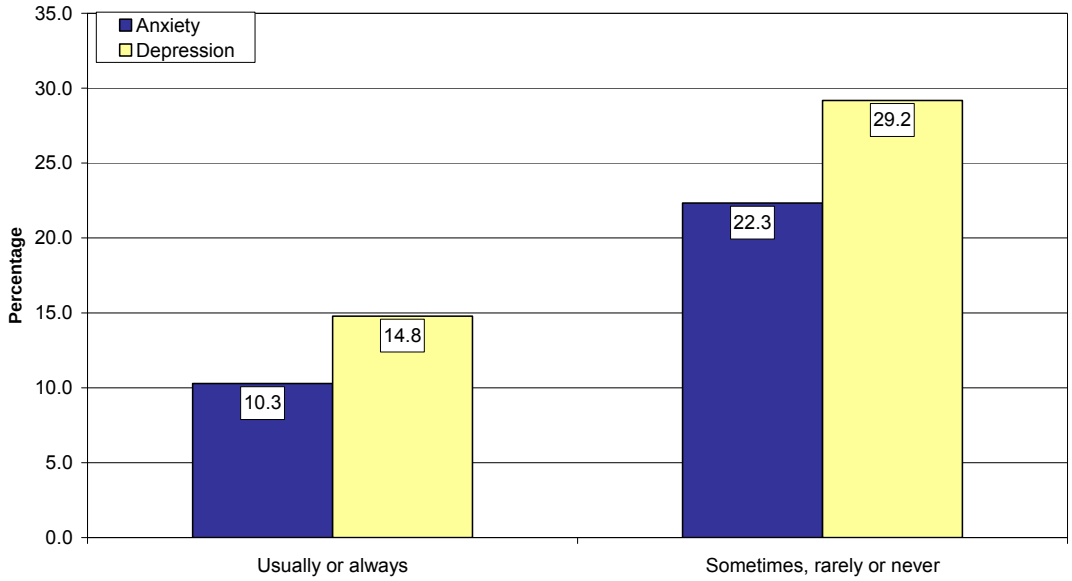


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Emotional Support and Life Satisfaction

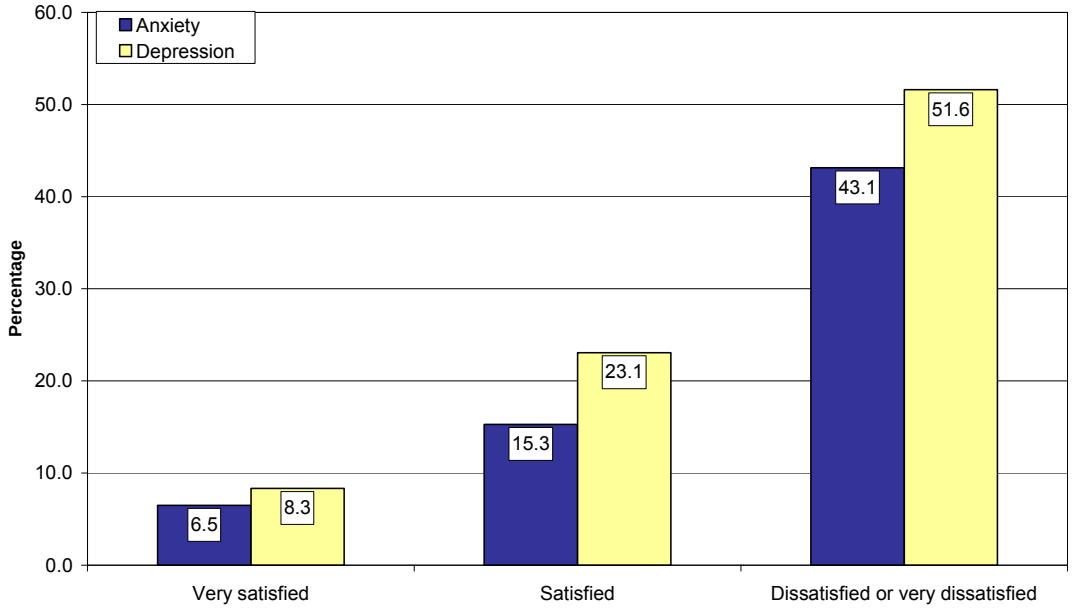
As shown on the following page (Figure 33), the lifetime prevalence of anxiety and depression is much greater among people who do not receive much emotional support. Approximately 22% of adults in Delaware who rarely get emotional support when needed have been diagnosed with an anxiety disorder, and around 29% have been diagnosed with a depressive disorder. Rates of anxiety and depression among those who usually receive emotional support are considerably lower (10.3% and 14.8% respectively).

Figure 33. Lifetime Anxiety & Depression among Adults in Delaware, by Amount of Emotional Support Received



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 34. Lifetime Anxiety & Depression among Adults in Delaware, by Satisfaction in Life



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Finally, life satisfaction is also strongly correlated with the lifetime prevalence of anxiety and depression. Roughly 43% of individuals who are dissatisfied with life have been diagnosed with anxiety compared to just under 7% of persons who are 'very satisfied' and 15% who consider themselves 'satisfied' with life. Likewise, over half (51.6%) of the population who are not satisfied with life have been diagnosed with a depressive disorder compared to only around 8% of those who are 'very satisfied' and about 23% of those who are satisfied (Figure 34).

CURRENT DEPRESSION PREVALENCE

Lifetime Depression vs. Current Depression

Not all individuals experiencing depressive symptoms may have had diagnosis of a depressive disorder. Conversely, individuals who have been diagnosed with a depressive disorder may not currently exhibit symptoms. Therefore, it is important to also look at the rate of current depression in addition to lifetime prevalence to better understand the extent of depression as a current public health issue.

Table 2. Current Depression and Severity of Depression among Adults in Delaware by Diagnosis of a Depressive Disorder

	Never diagnosed %	Diagnosed %
Current Depressive Symptoms	15.1	55.3
Current Depression Severity		
No significant depressive symptoms	84.9	44.7
Mild depressive symptoms	10.9	27.0
Moderate depression	3.4	15.5
Moderately severe depression	0.6	7.9
Severe depression	0.2	4.9

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

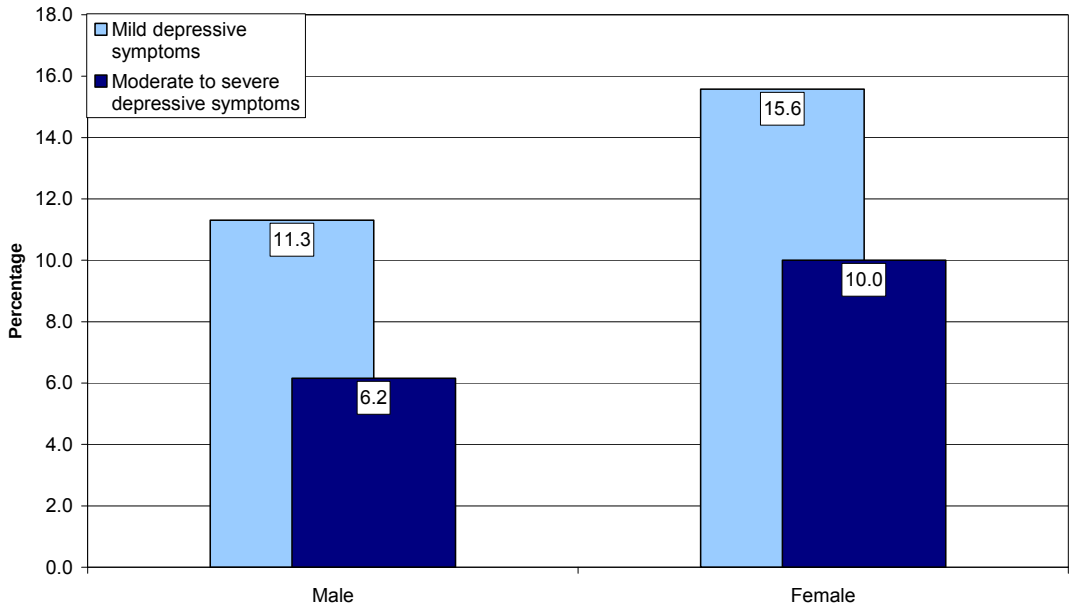
Table 2 highlights the distribution of current depressive symptoms and the severity of depression among adults in Delaware who have never been diagnosed with a depressive disorder and those who have been diagnosed. Approximately 15% of adults in Delaware who currently have depressive symptoms have never been diagnosed with a depressive disorder and almost 45% of the population who has been diagnosed with a depressive disorder is not currently experiencing

any symptoms of depression. Further analysis reflects that about 11% of adults who have never been diagnosed with depression but who currently have depressive symptoms, the symptoms are considered mild. However, approximately 4% of adults who have never been diagnosed have moderate to severe depression and are most likely going untreated for their depression. The current prevalence of mild depressive symptoms and more serious forms of depression is about the same for adults in Delaware who have been diagnosed with a depressive disorder (27% and 28.3% respectively).

Socio-Demographic Characteristics

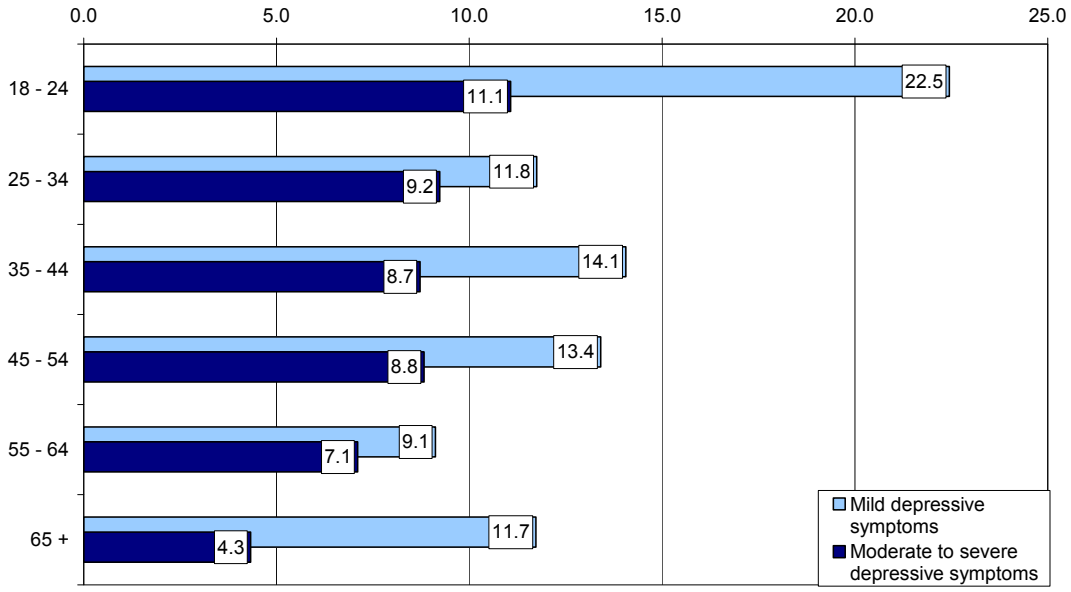
Analysis of current depression prevalence between adult men and adult women in Delaware shows that almost 26% of women currently have some form of depression, compared to roughly 18% of men. In large part, these rates reflect the higher rate of mild depressive symptoms as opposed to more serious depressive disorders; roughly 16% of women and 11% of men have only mild depressive symptoms. However, this does not negate the prevalence of moderate to severe depression and the differences between the genders; approximately 10% of adult women in Delaware have moderate to severe depression, whereas only 6% of adult men are similarly depressed (Figure 35).

Figure 35. Current Depression Prevalence among Adults in Delaware, by Gender



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 36. Current Depression Prevalence among Adults in Delaware, by Age

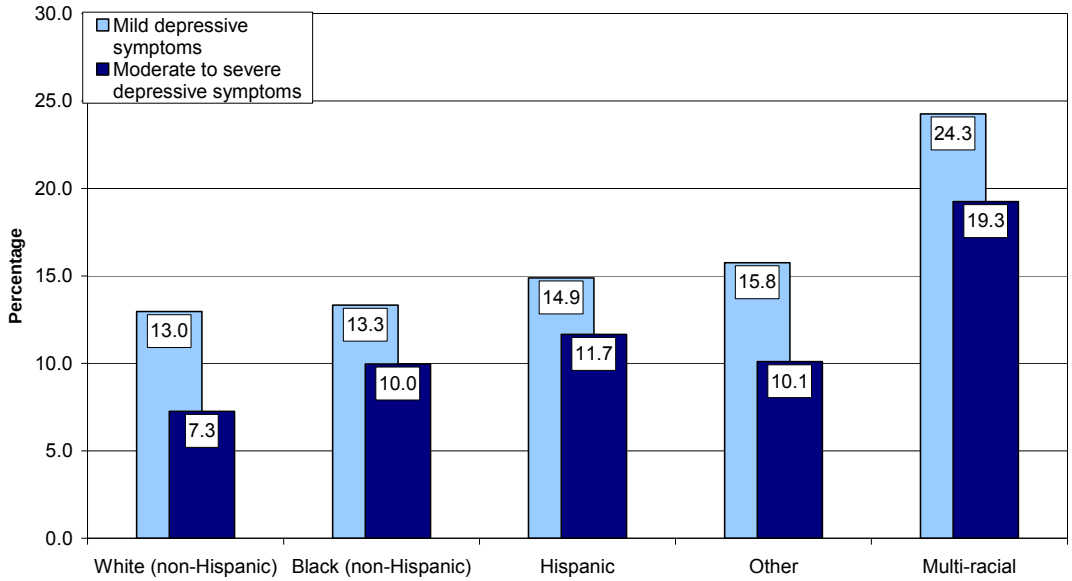


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Overall, the current depression rate of Delaware's adult population is greatest among young adults (18 – 24 years old) and lowest among individuals over the age of 55 (Figure 36). Approximately 34% of young adults in Delaware have some form of depression compared to around 16% of adults 55 years of age or older. Rates of depression among 25 year olds through 54 year olds range from around 21% to just below 23%.

There is some variability in the rates of mild depression by age group. However, the greatest incidence is among 18-24 year olds (22.5%) and lowest among 55-64 year olds (9.1%). All other age groups range from a low of about 12% to a high of 14% in rates of mild depressive symptoms. Moderate to severe depression, on the other hand, appears to level off in the middle years, and decreases significantly over the age of 65. More specifically, approximately 11% of 18-24 year olds in the population have moderate to severe depression. This rate levels off at about 9% from age 25 through 54, and drops to around 4% of the adults aged 65 or older.

Figure 37. Current Depression Prevalence among Adults in Delaware, by Race and Ethnicity



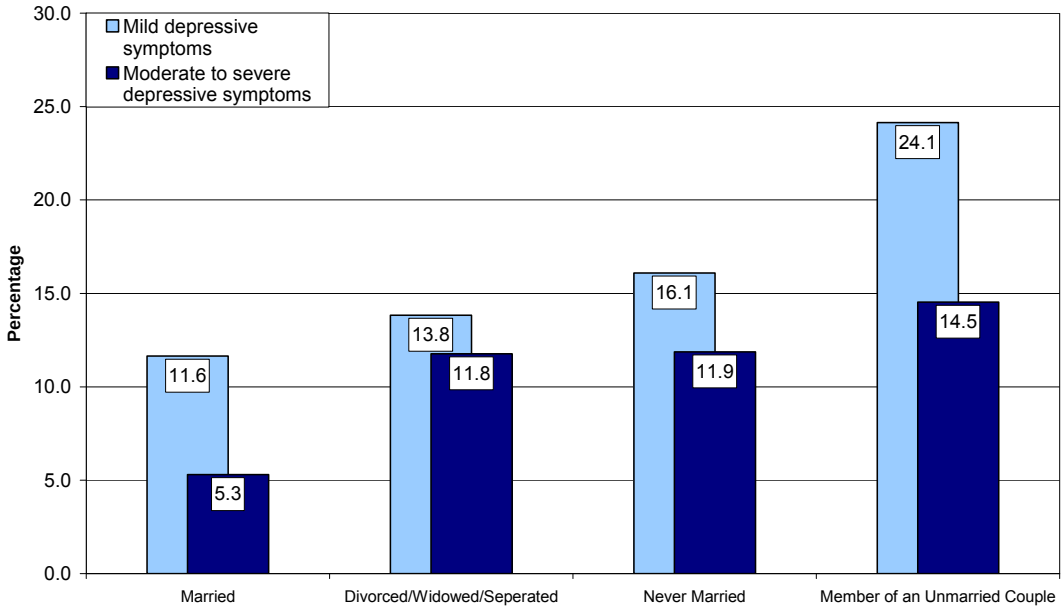
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

The rate of mild depressive symptoms among Delaware's adult White (non-Hispanic) and Black (non-Hispanic) population groups is around 13%. Delaware's Hispanic population and other racial groups have slightly higher rates (14.9% and 15.8% respectively). Mild depressive symptoms are greatest among Delaware's multi-racial population (24.3%). Likewise, moderate to severe depression is also fairly high (19.3%) among individuals who classify themselves as multi-racial. Similar rates of moderate to severe depression are present among adult Black (10%), Hispanic (11.7%) and other (10.1%) population groups in Delaware. The proportion of the population that is White (non-Hispanic) is the least likely to be experiencing moderate to severe depression (Figure 4).

Marital status is also a strong correlate of current rates of depression (Figure 38, below). Married individuals are the least likely to have current depressive symptoms, either mild (11.6%) or moderate to severe (5.3%). By comparison, members of unmarried couples have the highest rate of mild depressive symptoms (24.1%) and moderate to severe depression (14.5%). The proportion of the population who has never been married (and do not consider themselves part of

an unmarried couple) are slightly more likely than individuals who are divorced, widowed or separated to display mild depressive symptoms (16.1% and 13.8% respectively) and equally as likely to have moderate to severe depression (~12%).

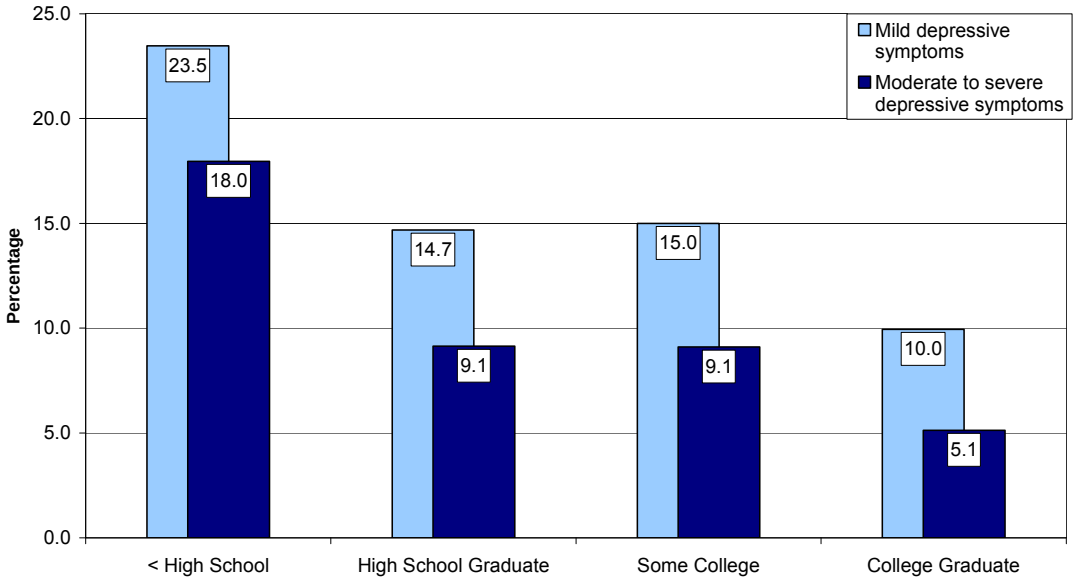
Figure 38. Current Depression Prevalence among Adults in Delaware, by Marital Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

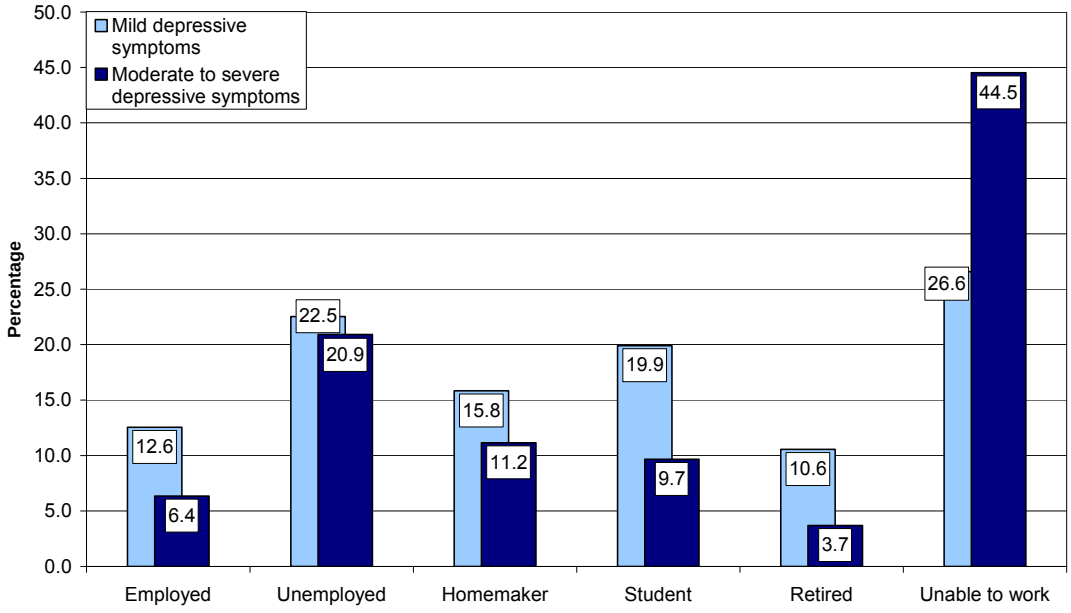
Level of education is also strongly correlated with rates of current depression as shown in Figure 39 below. Rates of current depressive symptoms are much higher among those who did not graduate high school than individuals who did graduate high school or pursued higher education. In fact, close to 24% of Delaware's uneducated adult population has mild depressive symptoms and 18% has moderate to severe levels of depression. By comparison, the rate of mild depressive symptoms among college graduates is about 10% and moderate to severe depression is around 5%. High school graduates and the proportion of the population with some college education are equally likely to have current depressive symptoms.

Figure 39. Current Depression Prevalence among Adults in Delaware, by Level of Education



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

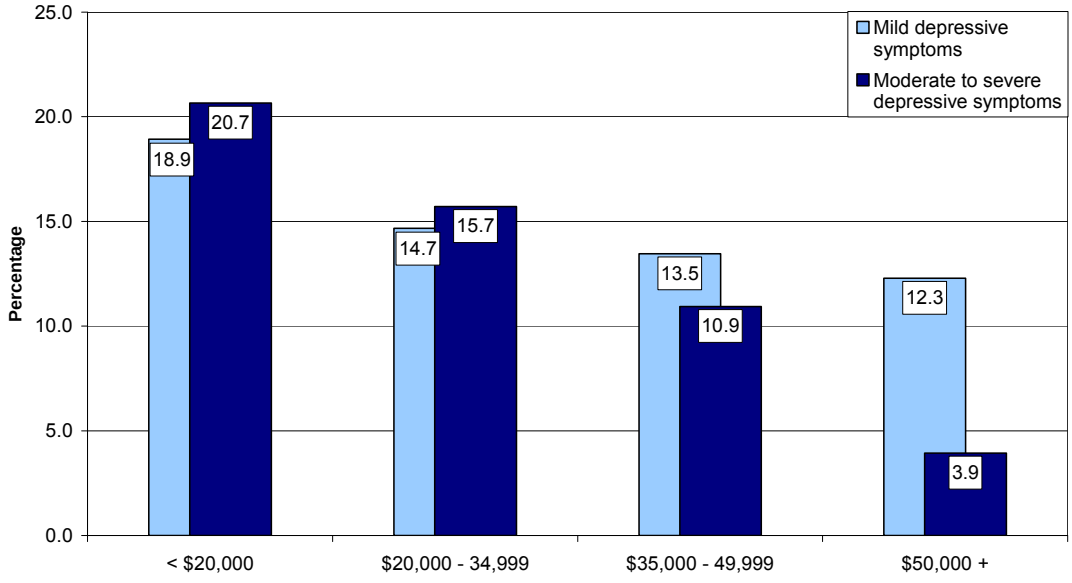
Figure 40. Current Depression Prevalence among Adults in Delaware, by Employment Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

In addition to the apparent impact level of education has on current depression among adults in Delaware, employment status is also correlated with rates of current depression (Figure 40, above). In fact, the proportion of the population who are unable to work has the highest rates of depression in the population. The rate of mild depressive symptoms among those who are unable to work is around 27% and almost 45% of those unable to work have moderate to severe depression. Delaware's retired population is the least depressed with only about 11% exhibiting symptoms of mild depression and 4% moderate to severe depression. Delaware's employed population has slightly higher rates of current depression than the retired population but still considerably lower than those who are unemployed, those who are homemakers and those who are students.

Figure 41. Current Depression Prevalence among Adults in Delaware, by Household Income

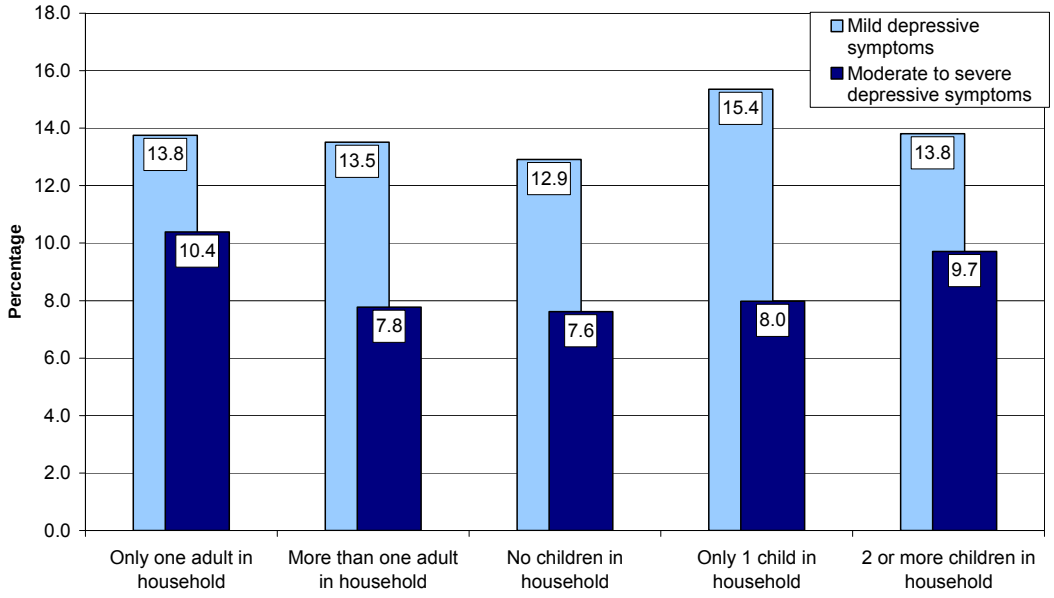


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

The data in this study also show a strong negative correlation between income and current rates of depression (Figure 41, above); as household income increases current rates of depression decrease. In fact nearly 20% of the adult population in Delaware with a household income below $20,000 has some level of depression; about 19% of individuals in low income

households have mild depressive symptoms and approximately 21% have moderate to severe depression. These rates drop considerably as household income increases. Mild depressive symptoms affect around 14% or so of individuals with household incomes between $20,000 to less than $49,999 and 12% of individuals with household incomes at or above $50,000. Approximately 16% of individuals with household incomes of $20,000 to $34,999 have moderate to severe depression, which drops to around 11% for individuals with household incomes of $35,000-$49,999 and to only about 4% for individuals with household incomes at or above $50,000.

Figure 42. Current Depression Prevalence among Adults in Delaware, by Household Composition

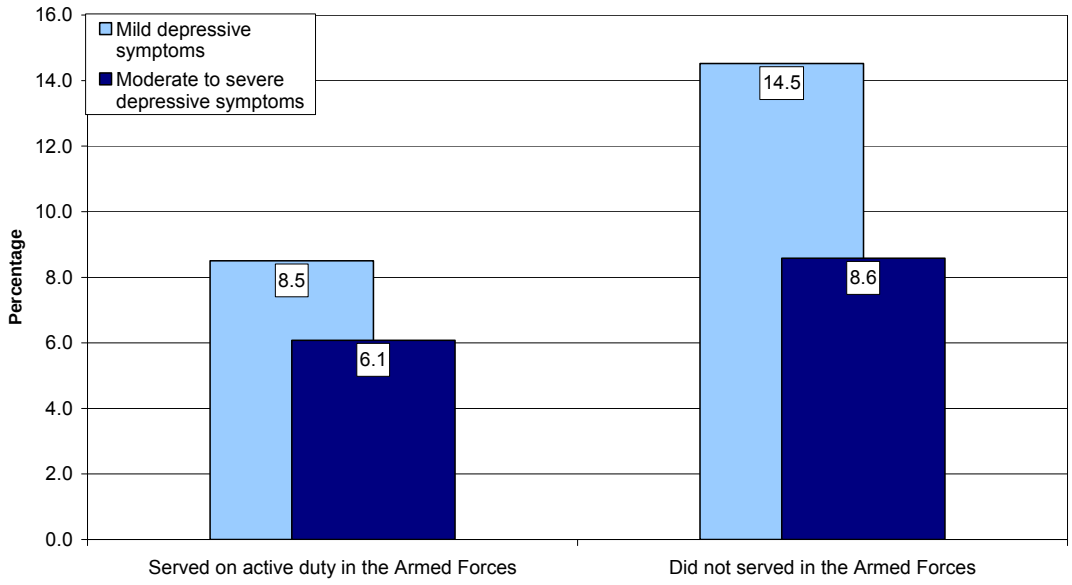


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 42 depicts current depression prevalence among adults in Delaware by household composition. Mild depressive symptoms remain fairly constant regardless of the number of adults or the number of children in the household, ranging from about 13% to 15%. Being the only adult living in the household or having two or more children living in the household appears to increase the likelihood of moderate to severe depression (10.4% and 9.7% respectively) when compared to those who live with another adult in the household or have fewer than two children (~8%).

Serving on active duty in the military appears to reduce the likelihood of having depressive symptoms (Figure 43). Around 9% of Delaware veterans have mild depressive symptoms and around 6% currently have moderate to severe depression. By comparison, slightly less than 15% of the civilian population exhibits mild depressive symptoms and close to 9% currently has moderate to severe depression.

Figure 43. Current Depression Prevalence among Adults in Delaware, by Service in the Armed Forces

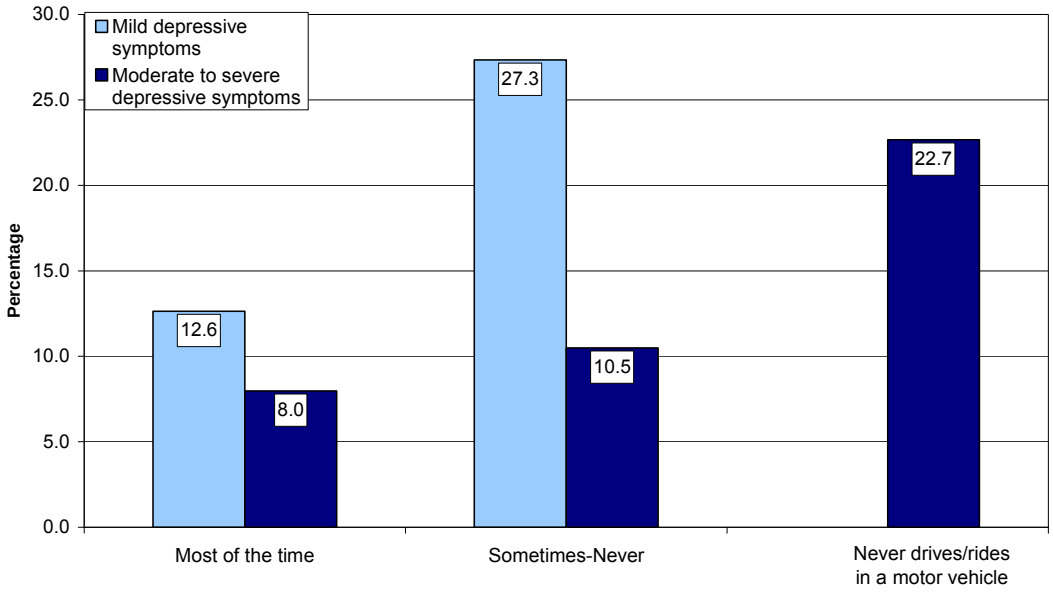


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Health Risk Behaviors

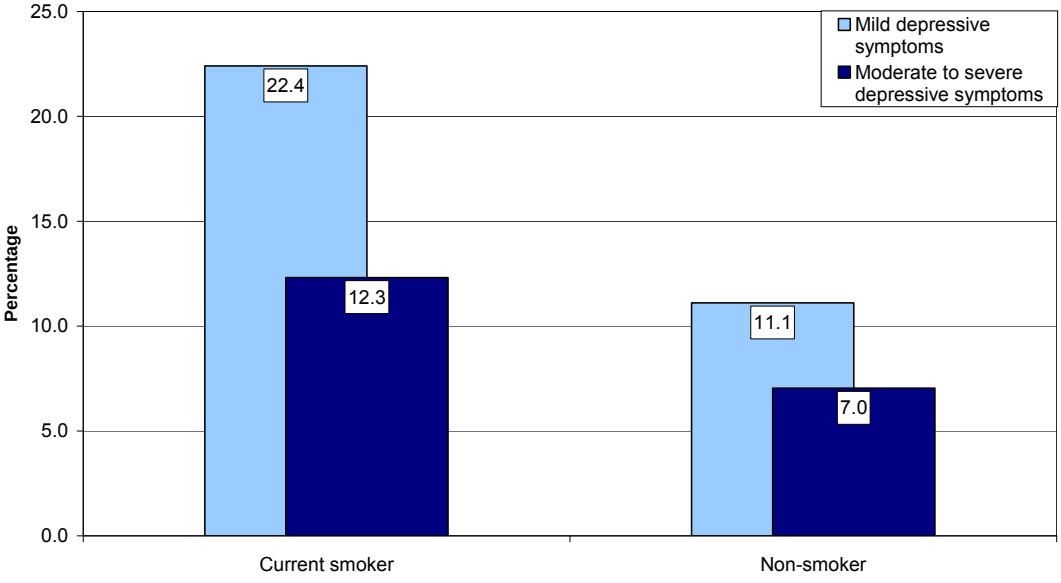
Individuals who never drive or ride in a motor vehicle have the highest rate of moderate to severe depression among adults in Delaware (Figure 44, below). In addition, there does appear to be a correlation between people who wear their seatbelts and current rates of depression. In fact, the proportion of the population who wears their seatbelt regularly and has mild depressive symptoms (12.6%) is significantly lower than those individuals who only sometimes, rarely or never wear their seatbelt (27.3). The data also show a difference in rates of moderate to severe depression among individuals who typically do and individuals who typically don't wear their seatbelt, although the difference is not as dramatic (8% and 10.5% respectively).

Figure 44. Current Depression Prevalence among Adults in Delaware, by Seatbelt Use



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 45. Current Depression Prevalence among Adults in Delaware, by Smoking Status



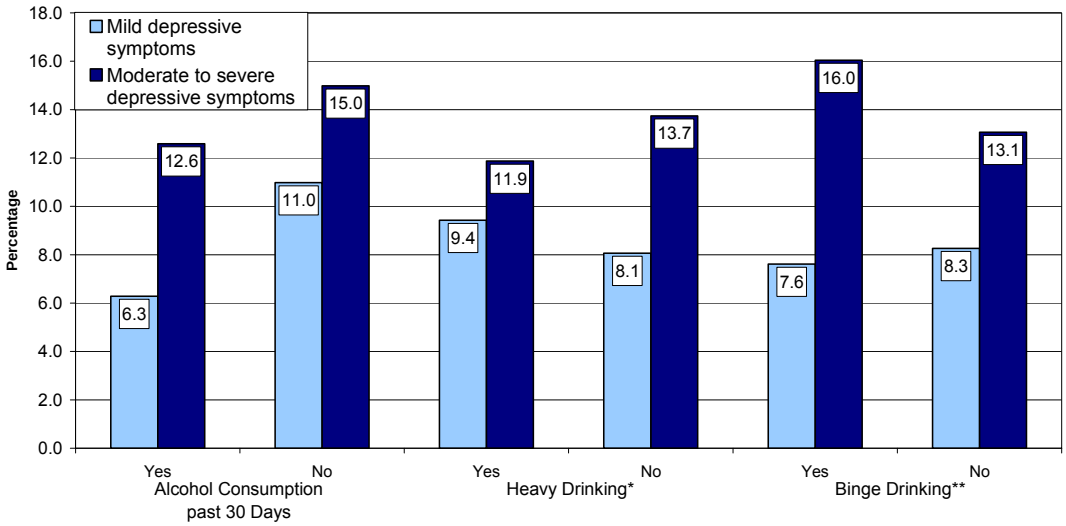
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 45 above reflects the difference in current depression among smokers and non-smokers. Current smokers of cigarettes are about twice as likely as non-smokers to suffer from mild depressive symptoms (22.4% and 11.1% respectively). In addition, smokers have a greater likelihood of having moderate to severe depression; approximately 12% of smokers are currently depressed compared to only 7% of non-smokers.

As discussed previously, alcohol consumption in and of itself does not increase the incidence of lifetime depression diagnosis in the population. However, drinking behavior may play a factor. To better understand the relationship between alcohol consumption, consumption behaviors and depression it is important to explore rates of current depression as well. As shown in Figure 46 below, the same pattern holds true for current depression as it does for lifetime depression among individuals who consumed alcohol within the past 30 days. Rates of current depression are lower for people who consumed alcohol compared to those who did not (13% and 15% respectively). Likewise, only around 6% of alcohol drinkers have moderate to severe depression, while 11% of non-drinkers are similarly depressed.

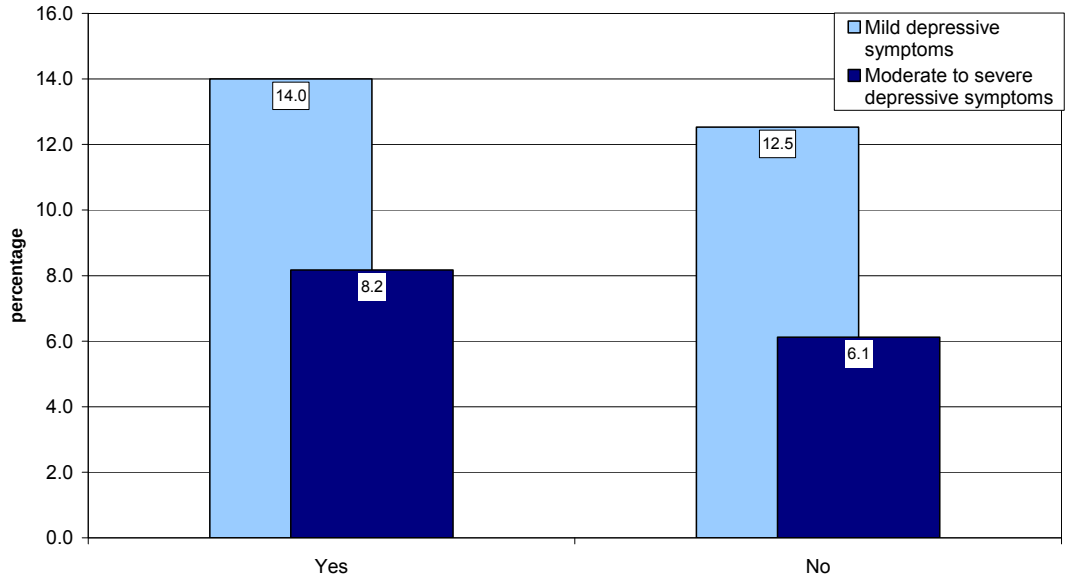
When looking at current depression and drinking behavior a different pattern emerges from that of lifetime depression. In fact, heavy drinkers are about as likely to be suffering from current depression as individuals who are not heavy drinkers (~25%). However, rates of current depression among binge drinkers (~24%) are greater than for individuals who do not engage in binge drinking (~21%). Despite the rates of current depression being similar among heavy drinkers and other drinkers the severity of the depression varies slightly between these two groups. About 12% of heavy drinkers have only mild depressive symptoms and less than 9% have moderate to severe depression, whereas roughly 14% of other drinkers have mild depression symptoms and around 8% have moderate to severe depression. Binge drinking, on the other hand, appears more strongly related to mild depressive symptoms. Sixteen percent of binge drinkers have mild depressive symptoms compared to about 13% of non-binge drinkers. Rates of moderate to severe depression are around 8% for both groups.

Figure 46. Current Depression Prevalence among Adults in Delaware, by Alcohol Consumption Behavior



*Heavy drinking is defined as males having more than two drinks per day and females having more than one drink per day on average.
**Binge drinking is defined as males having five or more drinks on any one occasion and females having four or more drinks on any one occasion.
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 47. Current Depression Prevalence among Adults in Delaware, by Driving Under the Influence



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

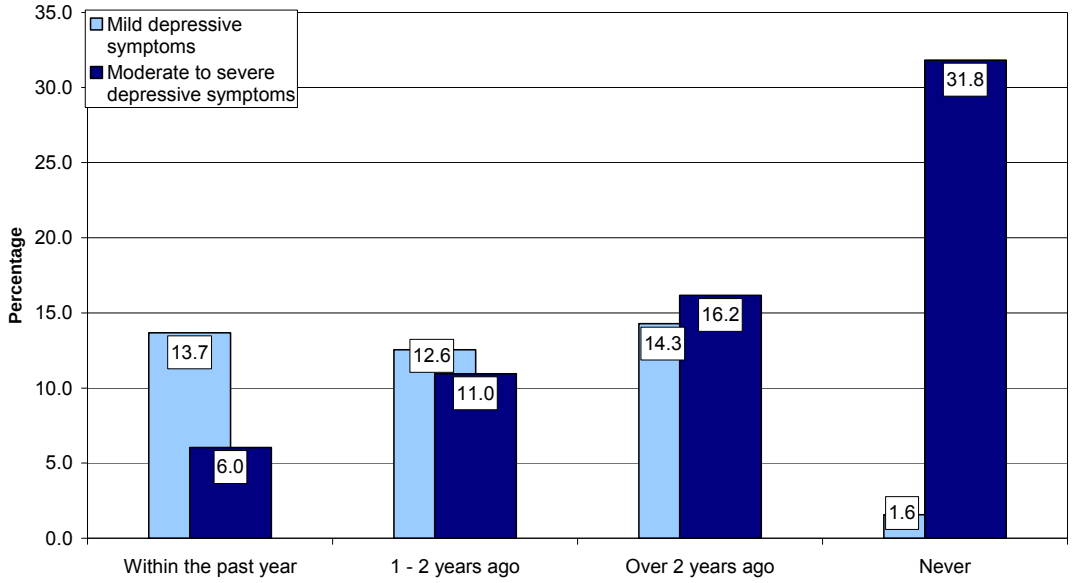
Individuals who have driven a motor vehicle in the past 30 days when they perhaps had too much to drink have higher rates of mild depressive symptoms and more severe depressive disorders than individuals who have not driven under the influence in the past 30 days (Figure 47, above). More specifically, 14% of adults who drove under the influence have mild depressive symptoms compared to less than 13% of those who did not. In addition, about 8% of the population who drove under the influence has moderate to severe depression compared to only about 6% of people who did not drink and drive.

Preventative Healthcare Services

Rates of current depression are also closely linked to the receipt of dental services. Moderate to severe depression significantly increases with length of last dental visit and is highest among individuals who have never visited a dentist (Figure 48, below). More specifically, only about 6% of the adult population who has seen a dentist in the past year have moderate to severe depression, 11% of persons who last visited the dentist between one and two years ago, and around 16% of those for whom it has been over two years since last visiting a dentist. Almost 32% of Delaware's adult population who have never visited a dentist currently have moderate to severe depression. There is little variability in the rate of mild depressive symptoms in the population by last dental visit. However, mild depressive symptoms affect only about 2% of those who have never visited a dentist.

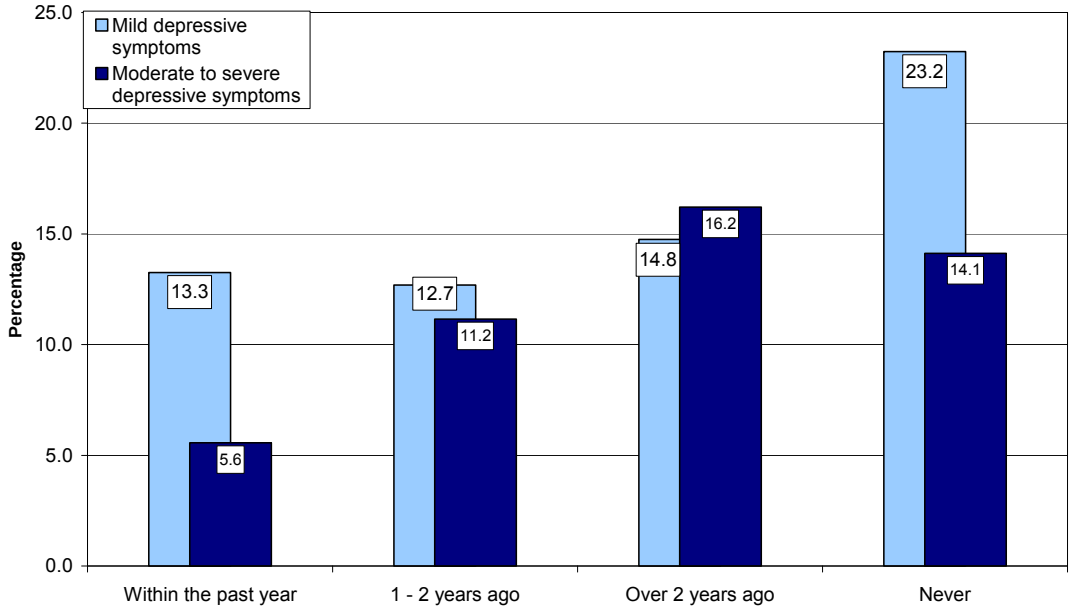
Of the proportion of the population who have visited the dentist we see an almost identical trend in the rates of current depression with regards to the length of time since their last dental cleaning and their last dental visit (Figure 49, below). However, among the proportion of the population who have visited the dentist but have never had their teeth cleaned about 23% have mild depressive symptoms and around 14% have moderate to severe depression.

Figure 48. Current Depression Prevalence among Adults in Delaware, by Last Dental Visit



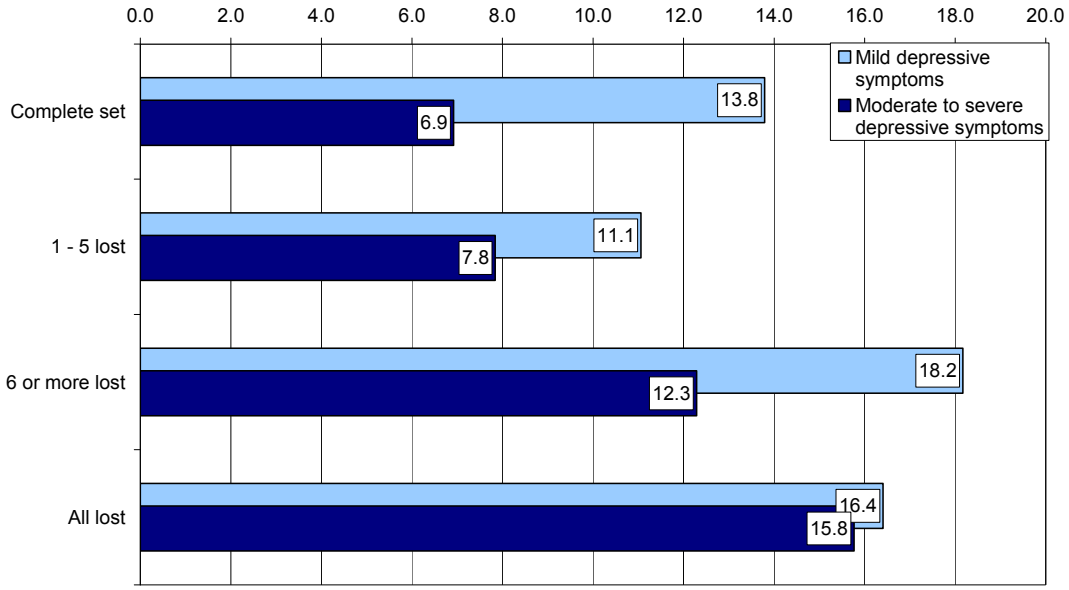
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 49. Current Depression Prevalence among Adults in Delaware, by Last Dental Cleaning



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 50. Current Depression Prevalence among Adults in Delaware, by Presence of Teeth

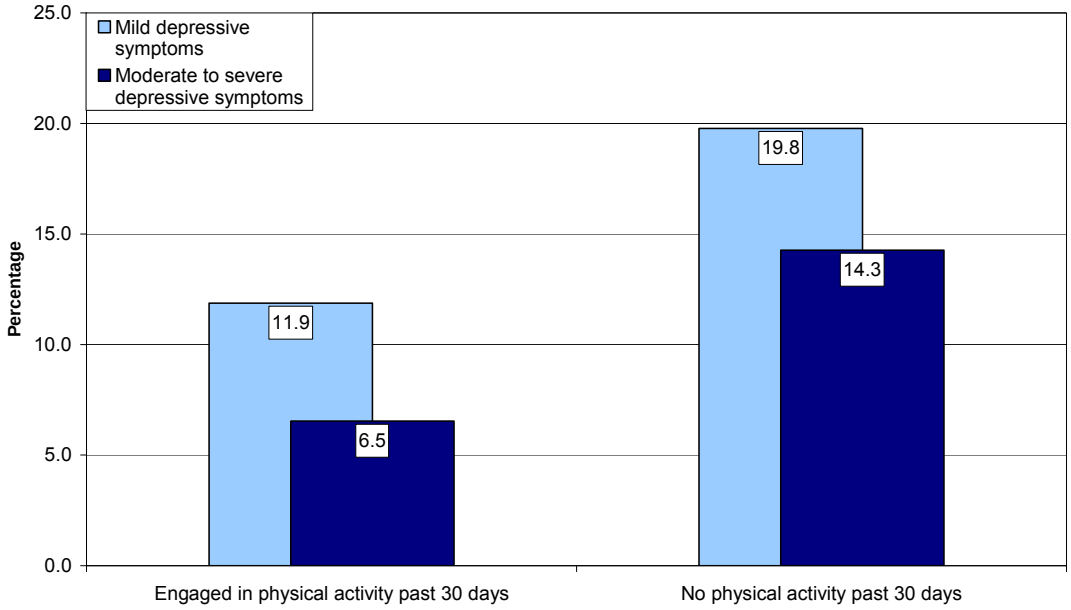


Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Although there does not appear to be a direct connection between tooth loss and mild depressive symptoms, rates of moderate to severe depression seem to increase with tooth loss (Figure 50). Around 7% of adults in Delaware who have all of their teeth have moderate to severe depression, with the loss of 1-5 teeth this increases to 8%. With the loss of 6 or more (but not all) teeth, moderate to severe depression jumps to around 12% in the population. Finally, among the proportion of the population who has lost all of their teeth, about 16% have moderate to severe depression.

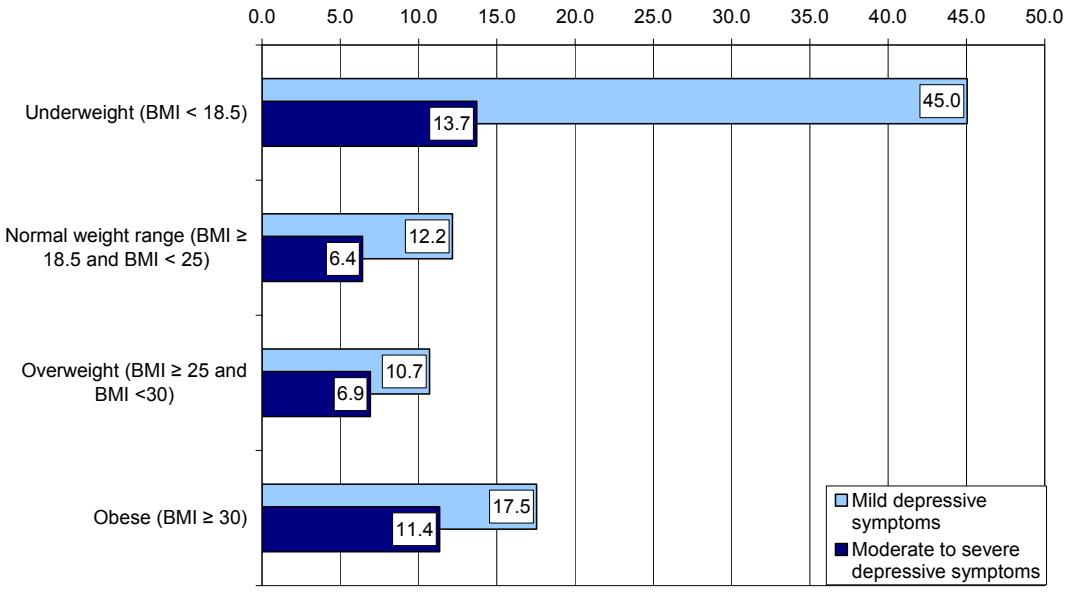
As shown in Figure 51 below, leisure time physical activity is strongly correlated with rates of depression. Approximately 12% of the adult population who engage in leisure time physical activity has mild depressive symptoms compared to almost 20% of those who do not engage in such activity. In addition, rates of moderate to severe depression among physically active adults are almost half the rate of moderate to severe depression among adults who do not engage in leisure time physical activity (6.5% and 14.3% respectively).

Figure 51. Current Depression Prevalence among Adults in Delaware, by Leisure Time Physical Activty



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 52. Current Depression Prevalence among Adults in Delaware, by Weight Status



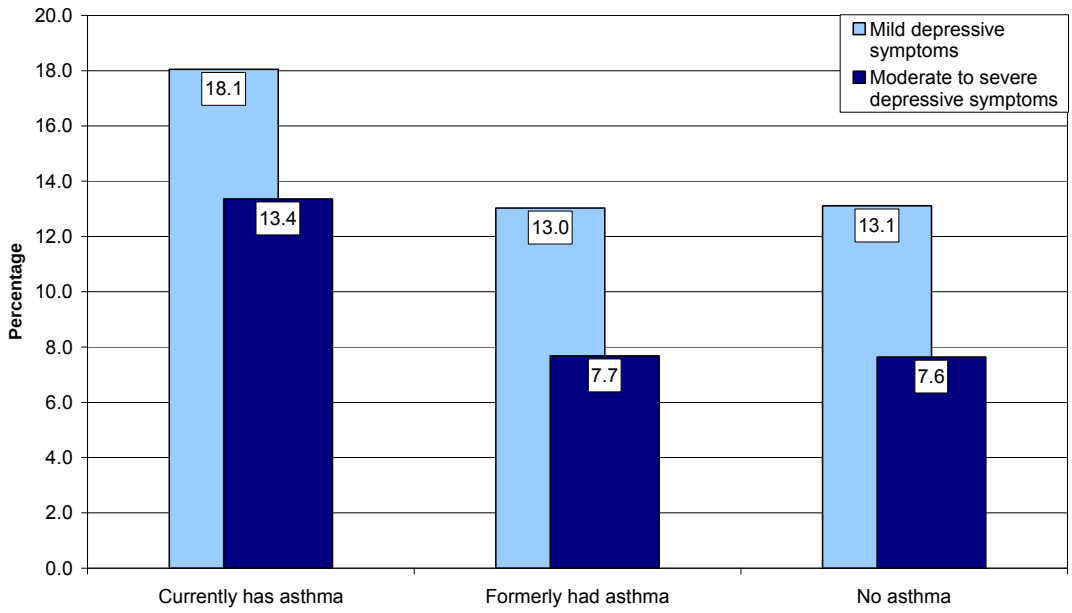
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Similar to patterns of lifetime depression, the proportion of the population who are underweight and the proportion of the population who are obese have the highest rates of depression (Figure 52, above). Although about 14% of Delaware's adult population who are underweight has moderate to severe depression, 45% has mild depressive symptoms. Rates of depression are much lower among all other groups by weight status, however individuals who are obese do have a greater likelihood to have mild depressive symptoms (17.5%) or have moderate to severe depression (11.4%) than people who are within their normal weight range or overweight (~11.5% and ~6.5% respectively).

Disease Prevalence

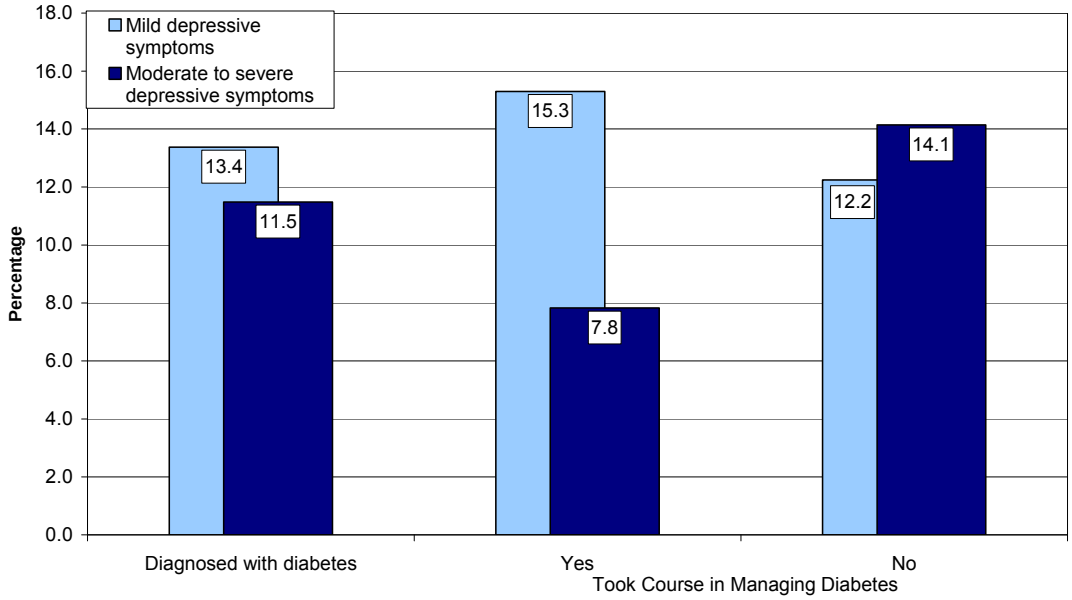
As shown in Figure 53, the proportion of the adult population who currently has asthma has a higher incidence of both mild depressive symptoms and moderate to severe depression. Around 18% of asthma sufferers have mild depressive symptoms compared to about 13% of persons without asthma. Likewise, around 13% of the population with asthma has moderate to severe depression compared to about 8% of non-asthma sufferers.

Figure 53. Current Depression Prevalence among Adults in Delaware, by Asthma Status



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 54. Current Depression Prevalence among Adults in Delaware, by Diabetes Status



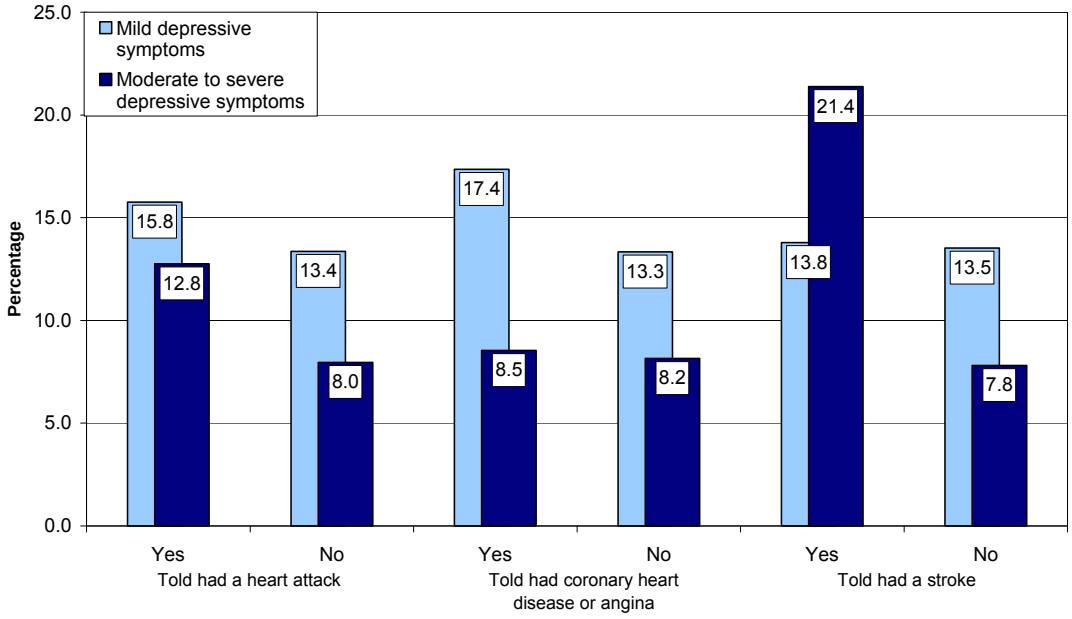
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

As discussed previously, rates of lifetime depression are higher among persons with diabetes than individuals who do not have diabetes. Figure 54 shows the current rate of depression among adult diabetics in Delaware and the severity of their depression. About 25% of the adult population with diabetes has some form of current depression; about 13% has only mild depressive symptoms and slightly less than 12% has moderate to severe depression.

Also shown in Figure 54 are the rates of depression and the severity of that depression among diabetics who have taken a course in managing their diabetes. In sum, taking a course in diabetes management could potentially reduce rates of depression among diabetics. In total, about 23% of adult diabetics who have taken a course in how to manage their diabetes are depressed or have depressive symptoms, compared to 26% of diabetics who have not taken any diabetic management education courses. There is also a considerable difference in the severity of depression among diabetics who have and have taken a class on how to manage their diabetes; approximately 8% of diabetics who have taken a diabetes management course have moderate to severe depression compared to around 14% of diabetics who have not taken such a course. When

examining rates of mild depressive symptoms among diabetics who have taken a class to manage their diabetes and those who have not, the rate of mild depression is greater among persons who have taken a diabetes education course than those who have not (15.3% and 12.2% respectively). This is not an indication that diabetic management education increases mild depressive symptoms, but rather, it appears to reduce the severity of depression among diabetics.

Figure 55. Current Depression Prevalence among Adults in Delaware, by Select Health Conditions



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

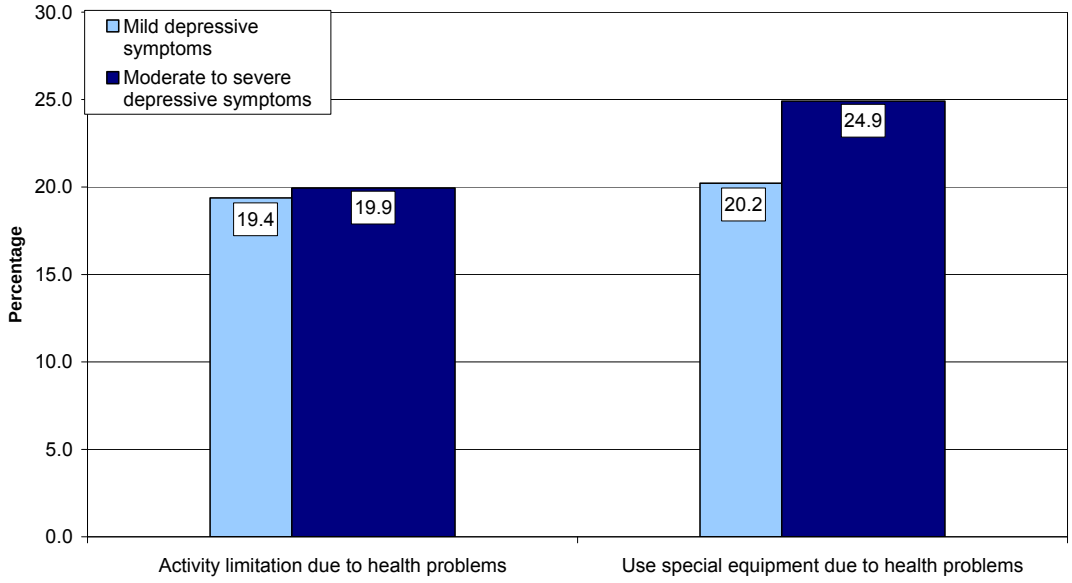
Other health conditions related to higher rates of depression include heart attack, coronary heart disease and stroke (Figure 55). About 15% of adults in Delaware who have had a heart attack have mild depressive symptoms compared to only around 13% of adults who have not had a heart attack. Similarly, almost 13% of heart attack survivors have moderate to severe depression compared to only 8% of the general population.

Like the proportion of the population who has had a heart attack, there is a difference in the incidence of mild depression between persons who have been told by a healthcare professional that they have coronary heart disease or angina and those who have not. About 17%

of adults with coronary heart disease have mild depression compared to about 13% of individuals who do not have coronary heart disease. There is no significant difference in the rate of moderate to severe depression between individuals diagnosed with heart disease and those who are not (~8%).

Among the disease conditions highlighted in Figure 55 above, being the victim of a stroke has the greatest impact on depression. Although there is no significant difference in the rate of mild depressive symptoms among those who have had a stroke and those who have not (~14%), moderate to severe depression is considerably higher within the proportion of the population who have had a stroke; just over 21% of stroke victims have moderate to severe depression compared to about 8% of the general population.

Figure 56. Current Depression Prevalence among Adults in Delaware, by Disability Status



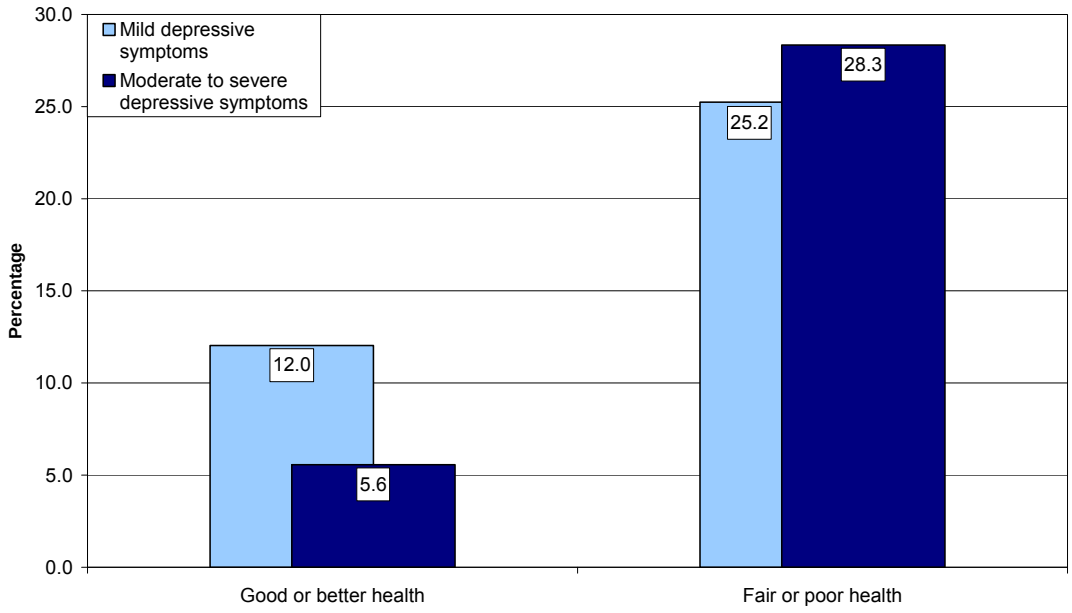
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

As discussed previously, disability status is strongly correlated with lifetime rates of depression and over 33% of the disabled population has been diagnosed with depression (see Figure 30, p31). However, further analysis, shown in Figure 56, indicates that around 40% of the

adult population in Delaware with activity limitations due to health problems is currently depressed, with about half experiencing moderate to severe depression (~20%). Furthermore, nearly 45% of the adult population who need special equipment due to their health problems is currently depressed and about 25% has moderate to severe depression.

Figure 57 compares depression severity by perceived health status. Over 50% of the population who consider themselves as having only fair to poor health are currently depressed compared to about 18% of persons in good or better health. Approximately 25% of persons with fair to poor health have mild depressive symptoms and around 28% have moderate to severe depression. Comparably, 12% of individuals who are in good or better health have mild depressive symptoms and only around 6% have moderate to severe depression.

Figure 57. Current Depression Prevalence among Adults in Delaware, by Perceived Health Status



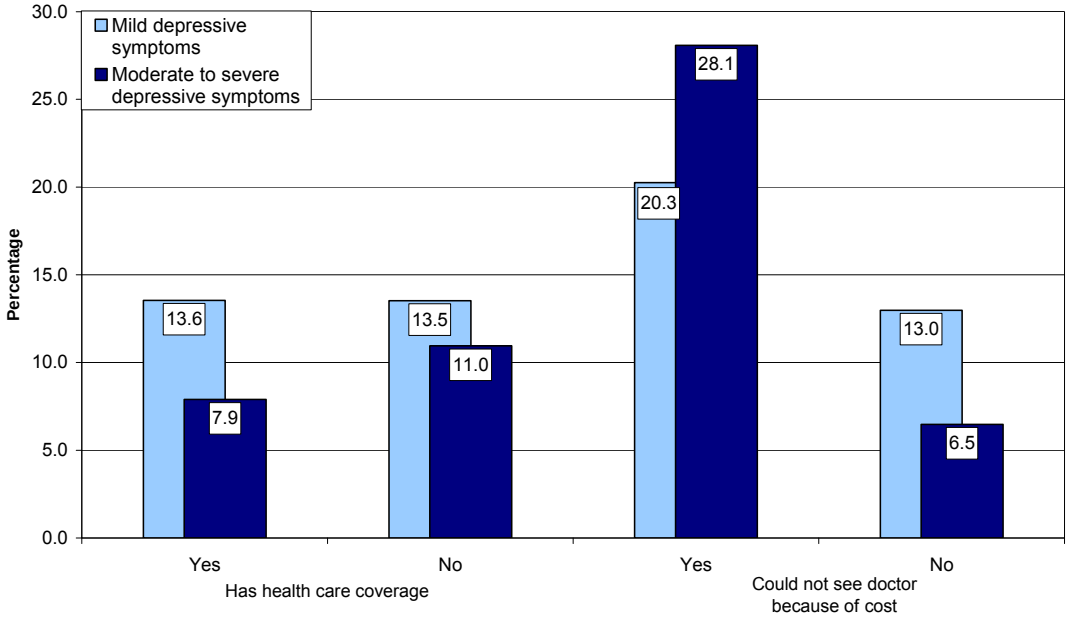
Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Access to Healthcare

Financial access to health care services plays an important role in the receipt of preventative healthcare services and disease prevalence. Figure 58 below highlights the

importance health insurance and availability of affordable healthcare play in prevalence of current depression in the population. Although there is no difference in the rate of mild depressive symptoms among the proportion of the population who has health care coverage and the proportion of the population who does not have health care coverage (~13.5%), there is a considerable difference in rates of moderate to severe depression. More specifically, individuals who do not have health care coverage are more likely to have moderate to severe depression, which due to the lack of coverage may go untreated.

Figure 58. Current Depression Prevalence among Adults in Delaware, by Availability of Affordable Healthcare



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

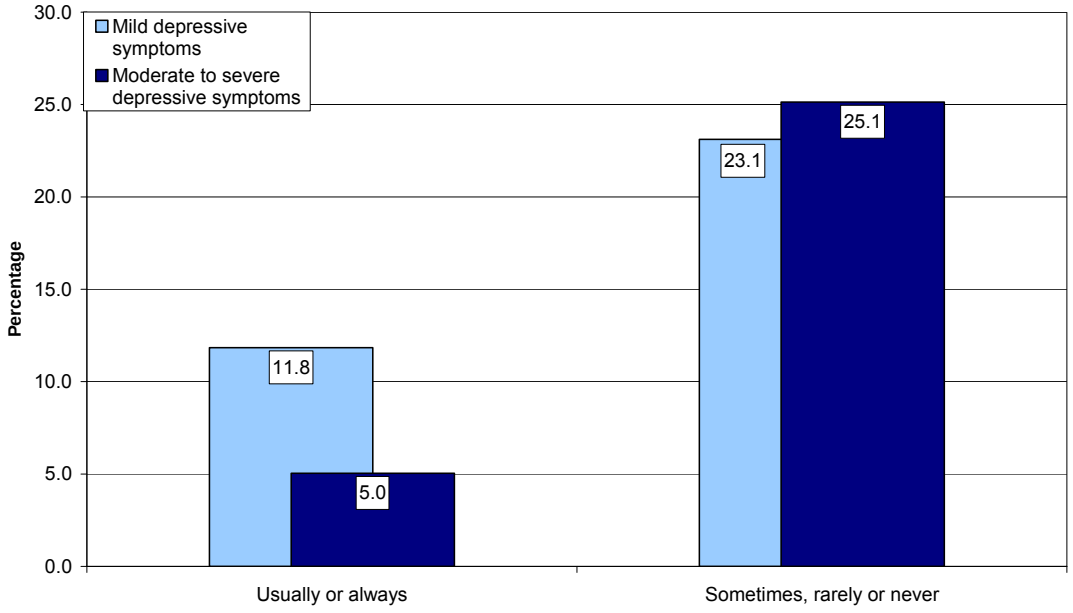
Similarly, current rates of depression are highest among individuals who are not able to see a doctor because it is cost prohibitive (Figure 58). Around 20% of the adult population in Delaware who could not see a doctor because of cost has mild depressive symptoms compared to 13% of the population who do not find healthcare services cost prohibitive. Likewise, around 28% of individuals who cannot afford healthcare have moderate to severe depression, compared

to slightly less than 7% of individuals who do not see cost as a barrier to seeking and obtaining healthcare services.

Emotional Support and Life Satisfaction

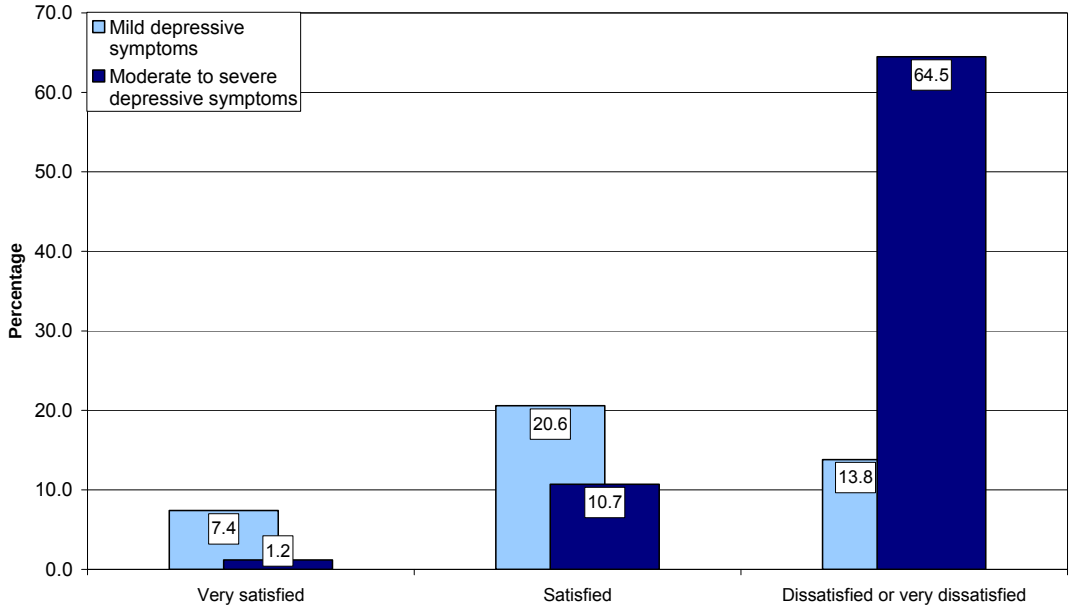
Depicted in Figure 59 is the relationship between emotional support and rates of current depression. It is apparent that there is a strong correlation between the frequency of emotional support and rate of depression. Overall, nearly 50% of the adults in Delaware who only sometimes, rarely or never receive emotional support have some form of depression compared to only around 17% of the population who believe that they usually or always get the emotional support that they need. Among those who lack emotional support, around 25% currently have moderate to severe depression; the remaining 23% have mild depressive symptoms. Comparably, the rate of moderate to severe depression among people who typically receive emotional support is 5% and about 12% of those receiving emotional support most of the time have only mild depressive symptom.

Figure 59. Current Depression Prevalence among Adults in Delaware, by Frequency of Emotional Support



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Figure 60. Current Depression Prevalence among Adults in Delaware, by Life Satisfaction



Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

When exploring current rates of depression and overall life satisfaction, it is apparent that people who are dissatisfied or very dissatisfied with their lives have the highest rate of depression in society (Figure 60). More specifically, almost 80% of adults in Delaware who are dissatisfied or very dissatisfied in life have some form of depression; over 64% have moderate to severe depression and about 14% have only mild depressive symptoms. By comparison, individuals who are very satisfied in life, only around 1% have moderate to severe depression and 7% have mild depressive symptoms.

CONCLUSIONS

The purpose of this study is to better understand the distribution and prevalence of anxiety and depression among non-institutionalized adults in the State of Delaware. Of particular interest is the relationship between being diagnosed with an anxiety or a depressive disorder and disease prevalence, health risk behaviors, preventative health care practices and access to affordable healthcare. Also examined were the extent of current depression within the population and the severity of depressive symptoms among different population groups. The results suggest

that anxiety and depression are current public health issues affecting virtually all segments of the adult population in Delaware.

The results indicate that about 1 in 8 adults in Delaware (~12%) have been diagnosed with an anxiety disorder and 1 in 6 (~17%) have been diagnosed with a depressive disorder. Symptoms of depression currently impact the lives of about 1 in 5 persons in the population with around 8% suffering from moderate to severe depression. The results further reveal that among persons with current depressive symptoms, 15% are undiagnosed.

Depression appears particularly high among women, young adults and minorities in Delaware. Other corollaries include lack of education, inability to work, unemployment and poverty. In addition, health risk behaviors such as smoking and alcohol consumption patterns tend to result in higher rates of depression and an increase in the severity of depressive symptoms. Regular physical exercise appears to reduce the prevalence and severity of depression symptoms in general.

The relationship between diagnoses of anxiety or depression and rate/severity of current depression and chronic disease conditions is also addressed in the current study. Anxiety and depression diagnoses are significant among persons who have been diagnosed with a chronic disease, who have had a heart attack or a stroke, have a disabling health condition or, in general, consider themselves to be in fair or poor health. Likewise, these population groups are more likely to be currently depressed and have more severe depressive symptoms than that of the general population.

An important finding herein revolves around the prevalence of depression among persons who are unable to afford healthcare services in the state. Overall, adults unable to see a doctor because of cost are twice as likely as the rest of the population to have current depressive symptoms and, in most instances, suffering from moderate to severe depression.

This study provides important baseline information about rates of lifetime diagnoses of anxiety and depression, the incidence of current depression within the general population and

identifies high risk population groups. However, further studies should be undertaken to examine the inter-relationships among corollaries of anxiety and depressive disorders. Such insight will aid in better identifying the population groups at greatest risk and greatest need for intervention and treatment. In conclusion, it is only through identification of the factors that have the greatest impact on rates of anxiety and depression in society that public policy and programs can evolve that seek to target and reduce the rates of anxiety, depression and the severity of depression among high risk population groups throughout the State of Delaware.

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APPENDIX A

Table A1. Lifetime Anxiety & Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Ever told had an anxiety disorder			Ever told had a depressive disorder		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
STATE	12.11	12.03	12.19	16.96	16.87	17.05
COUNTY						
Kent	10.37	10.18	10.55	14.64	14.43	14.86
New Castle	12.83	12.73	12.94	18.04	17.92	18.16
Sussex	11.51	11.35	11.68	15.91	15.72	16.10
GENDER						
Male	9.52	9.42	9.62	13.66	13.54	13.78
Female	14.47	14.35	14.59	19.97	19.83	20.10
AGE GROUP						
18 - 24	17.07	16.81	17.32	19.63	19.36	19.90
25 - 34	13.22	13.02	13.41	16.52	16.30	16.74
35 - 44	11.64	11.46	11.81	16.93	16.72	17.14
45 - 54	12.47	12.28	12.66	19.47	19.24	19.69
55 - 64	13.46	13.24	13.68	19.62	19.36	19.88
65 +	6.35	6.20	6.49	10.54	10.36	10.72
RACE/ETHNICITY						
White (non-Hispanic)	13.42	13.33	13.52	18.67	18.56	18.77
Black (non-Hispanic)	5.23	5.07	5.38	10.08	9.87	10.29
Hispanic	7.20	6.88	7.53	6.60	6.28	6.91
Other	5.80	5.47	6.14	4.14	3.85	4.42
Multi-racial	17.29	16.73	17.86	24.69	24.04	25.33
MARITAL STATUS						
Married	9.54	9.44	9.63	13.91	13.80	14.02
Divorced/Widowed/Separated	13.28	13.08	13.48	21.40	21.17	21.64
Never Married	14.65	14.45	14.84	17.77	17.56	17.98
Member of an Unmarried Couple	28.14	27.64	28.64	35.16	34.62	35.69
EDUCATION						
< High School	20.19	19.80	20.58	26.22	25.79	26.64
High School Graduate	13.38	13.23	13.53	15.77	15.61	15.93
Some College	12.37	12.21	12.53	18.44	18.25	18.62
College Graduate	9.41	9.29	9.53	15.17	15.03	15.31
EMPLOYMENT						
Employed	11.62	11.53	11.72	15.40	15.29	15.50
Unemployed	20.65	20.13	21.17	30.68	30.09	31.28
Homemaker	15.70	15.27	16.13	21.23	20.75	21.71
Student	8.08	7.76	8.40	16.40	15.96	16.83
Retired	6.98	6.83	7.13	11.41	11.23	11.60
Unable to work	37.80	37.18	38.42	53.27	52.64	53.90
HOUSEHOLD INCOME						
< $20,000	13.78	13.54	14.03	19.38	19.10	19.67
$20,000 - 34,999	14.89	14.62	15.16	21.94	21.63	22.25
$35,000 - 49,999	13.40	13.17	13.63	19.40	19.13	19.66
$50,000 +	10.78	10.67	10.88	16.08	15.96	16.21

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A1. Lifetime Anxiety & Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Ever told had an anxiety disorder			Ever told had a depressive disorder		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
NUMBER OF ADULTS IN HOUSEHOLD						
Only one adult in household	14.72	14.51	14.94	18.88	18.64	19.12
More than one adult in household	11.61	11.53	11.70	16.59	16.50	16.69
CHILDREN IN HOUSEHOLD						
None	11.87	11.77	11.97	16.57	16.45	16.69
Only 1 child in household	15.90	15.69	16.11	19.38	19.15	19.61
2 or more children in household	9.87	9.72	10.03	16.07	15.88	16.25
VETERAN STATUS						
Served on Active Duty in the Armed Forces	8.77	8.60	8.94	13.04	12.83	13.24
Did not served in the Armed Forces	12.73	12.64	12.82	17.70	17.60	17.80
SEATBELT USE						
Most of the time	11.33	11.25	11.41	16.41	16.31	16.50
Sometimes-Never	23.64	23.22	24.05	25.56	25.13	25.98
Never drives/rides in motor vehicle	18.38	15.84	20.91	--	--	--
SMOKING STATUS						
Current smoker	21.06	20.84	21.27	29.08	28.84	29.32
Non-smoker	9.68	9.60	9.76	13.58	13.49	13.68
ALCOHOL CONSUMPTION IN PAST 30 DAYS						
Yes	11.66	11.56	11.76	16.42	16.30	16.54
No	12.78	12.66	12.91	17.72	17.58	17.87
HEAVY ALCOHOL CONSUMPTION						
Yes	17.14	16.80	17.49	18.08	17.73	18.44
No	11.68	11.60	11.76	16.85	16.75	16.94
BINGE DRINKING						
Yes	13.48	13.28	13.67	16.91	16.81	17.01
No	11.69	11.60	11.78	16.87	16.66	17.08
DRIVING UNDER THE INFLUENCE						
Yes	13.78	13.32	14.23	16.39	15.90	16.88
No	11.56	11.45	11.66	16.44	16.31	16.56
LAST DENTAL VISIT						
Within the past year	10.76	10.67	10.85	15.98	15.87	16.08
1 - 2 years ago	16.28	15.96	16.59	19.33	18.99	19.67
Over 2 years ago	16.29	16.06	16.59	18.43	18.19	18.67
Never	0.95	0.68	1.21	44.66	43.29	46.04
LAST DENTAL CLEANING						
Within the past year	10.40	10.31	10.49	15.78	15.67	15.89
1 - 2 years ago	15.39	15.07	15.70	17.75	17.42	18.09
Over 2 years ago	17.54	17.29	17.80	19.81	19.54	20.07
Never	--	--	--	10.37	9.30	11.44
PRESENCE OF TEETH						
Complete set	11.54	11.43	11.64	16.34	16.22	16.46
1 - 5 lost	11.80	11.66	11.95	16.41	16.24	16.58
6 or more lost	13.81	13.56	14.07	20.93	20.64	21.23
All lost	17.58	17.16	18.00	19.80	19.36	20.25

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A1. Lifetime Anxiety & Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Ever told had an anxiety disorder			Ever told had a depressive disorder		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
LEISURE TIME PHYSICAL ACTIVITY						
Engaged in physical activity past 30 days	10.89	10.80	10.97	15.32	15.22	15.41
No physical activity past 30 days	16.57	16.38	16.77	22.98	22.75	23.20
BODY MASS INDEX						
Underweight (BMI < 18.5)	26.73	25.83	27.63	35.88	34.90	36.86
Normal weight range (BMI >=18.5 and BMI < 25)	10.05	9.92	10.17	13.15	13.00	13.29
Overweight (BMI >=25 and BMI <30)	10.50	10.38	10.62	15.52	15.37	15.66
Obese (BMI >=30)	16.26	16.08	16.44	23.00	22.79	23.20
ASTHMA STATUS						
Currently has asthma	21.96	21.64	22.29	27.04	26.69	27.39
Formerly had asthma	15.89	15.48	16.29	15.94	15.53	16.34
No asthma	10.79	10.71	10.88	15.77	15.68	15.87
DIABETES						
Diagnosed with diabetes	16.49	16.16	16.81	24.34	23.97	24.71
No diabetes	11.74	11.65	11.82	16.32	16.23	16.42
TAKEN A CLASS IN MANAGING DIABETES						
Yes	14.47	14.01	14.94	21.64	21.10	22.18
No	16.94	16.49	17.38	26.33	25.81	26.85
TOLD HAD HEART ATTACK						
Yes	13.52	13.13	13.91	19.56	19.11	20.01
No	12.04	11.96	12.12	16.75	16.66	16.85
TOLD HAD CORONARY HEART DISEASE						
Yes	12.80	12.40	13.21	19.08	18.60	19.55
No	12.06	11.98	12.14	16.83	16.74	16.93
TOLD HAD STROKE						
Yes	11.09	10.62	11.56	24.19	23.56	24.83
No	12.13	12.05	12.21	16.74	16.65	16.84
ACTIVITY LIMITATIONS						
Yes	23.39	23.16	23.61	33.87	33.62	34.13
No	9.14	9.06	9.22	12.50	12.41	12.59
USE SPECIAL EQUIPMENT						
Yes	19.46	19.06	19.85	31.11	30.65	31.58
No	11.65	11.57	11.74	16.06	15.97	16.15
PERCEIVED HEALTH STATUS						
Good or better health	10.47	10.39	10.55	14.56	14.47	14.65
Fair or poor health	24.28	23.97	24.58	34.75	34.41	35.09
HEALTH CARE COVERAGE						
Yes	11.99	11.91	12.08	17.02	16.92	17.12
No	12.90	12.63	13.16	16.61	16.32	16.90
COULD NOT SEE DOCTOR BECAUSE OF COST						
Yes	19.83	19.49	20.18	30.53	30.13	30.93
No	11.46	11.38	11.54	15.80	15.71	15.89

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A1. Lifetime Anxiety & Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Ever told had an anxiety disorder			Ever told had a depressive disorder		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
EMOTIONAL SUPPORT						
Usually or always	10.28	10.19	10.36	14.79	14.69	14.88
Sometimes, rarely or never	22.33	22.07	22.58	29.19	28.91	29.46
SATISFACTION WITH LIFE						
Very satisfied	6.50	6.41	6.58	8.34	8.25	8.44
Satisfied	15.29	15.16	15.42	23.07	22.92	23.22
Dissatisfied or very dissatisfied	43.12	42.53	43.70	51.61	51.03	52.20

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A2. Current Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Moderate to severe depressive symptoms			Mild depressive symptoms		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
STATE	8.17	8.10	8.24	13.55	13.46	13.63
COUNTY						
Kent	7.58	7.42	7.74	15.20	14.98	15.42
New Castle	8.38	8.30	8.47	12.84	12.74	12.95
Sussex	8.14	7.99	8.28	14.48	14.29	14.67
GENDER						
Male	6.16	6.07	6.24	11.31	11.19	11.42
Female	10.00	9.90	10.11	15.58	15.45	15.70
AGE GROUP						
18 - 24	11.07	10.85	11.28	22.45	22.16	22.74
25 - 34	9.23	9.05	9.40	11.75	11.56	11.94
35 - 44	8.72	8.56	8.88	14.06	13.87	14.26
45 - 54	8.83	8.67	8.99	13.41	13.22	13.61
55 - 64	7.10	6.93	7.27	9.12	8.93	9.31
65 +	4.33	4.21	4.45	11.73	11.54	11.93
RACE/ETHNICITY						
White (non-Hispanic)	7.26	7.19	7.34	12.96	12.87	13.05
Black (non-Hispanic)	9.97	9.75	10.18	13.33	13.09	13.57
Hispanic	11.66	11.25	12.07	14.89	14.44	15.35
Other	10.10	9.64	10.57	15.76	15.24	16.28
Multi-racial	19.25	18.69	19.82	24.27	23.62	24.93
MARITAL STATUS						
Married	5.31	5.23	5.38	11.64	11.53	11.74
Divorced/Widowed/Separated	11.77	11.58	11.97	13.83	13.62	14.03
Never Married	11.87	11.69	12.06	16.09	15.88	16.29
Member of an Unmarried Couple	14.53	14.14	14.92	24.14	23.66	24.62
EDUCATION						
< High School	17.96	17.57	18.35	23.47	24.33	21.00
High School Graduate	9.14	9.01	9.27	14.68	14.53	14.84
Some College	9.10	8.96	9.24	15.00	14.83	15.18
College Graduate	5.13	5.04	5.22	9.95	9.83	10.07
EMPLOYMENT						
Employed	6.35	6.28	6.43	12.55	12.44	12.65
Unemployed	20.91	20.39	21.44	22.54	21.99	23.08
Homemaker	11.16	10.78	11.54	15.84	15.41	16.28
Student	9.65	9.30	9.99	19.91	19.44	20.38
Retired	3.69	3.58	3.81	10.56	10.37	10.74
Unable to work	44.52	43.87	45.16	26.58	26.00	27.15
HOUSEHOLD INCOME						
< $20,000	20.65	20.36	20.94	18.93	18.64	19.21
$20,000 - 34,999	15.71	15.42	15.99	14.67	14.40	14.95
$35,000 - 49,999	10.94	10.72	11.15	13.46	13.22	13.69
$50,000 +	3.94	3.88	4.01	12.29	12.18	12.41

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A2. Current Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Moderate to severe depressive symptoms			Mild depressive symptoms		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
NUMBER OF ADULTS IN HOUSEHOLD						
Only one adult in household	10.39	10.20	10.59	13.75	13.53	13.97
More than one adult in household	7.77	7.69	7.84	13.51	13.42	13.60
CHILDREN IN HOUSEHOLD						
None	7.62	7.53	7.71	12.91	12.80	13.02
Only 1 child in household	7.98	7.82	8.14	15.35	15.14	15.56
2 or more children in household	9.71	9.56	9.86	13.81	13.63	13.99
VETERAN STATUS						
Served on Active Dutey in the Armed Forces	6.08	5.93	6.23	8.50	8.33	8.68
Did not served in the Armed Forces	8.58	8.50	8.65	14.52	14.42	14.61
SEATBELT USE						
Most of the time	7.98	7.91	8.05	12.64	12.56	12.73
Sometimes-Never	10.49	10.19	10.80	27.33	26.89	27.77
Never drives/rides in motor vehicle	22.66	19.92	25.40	--	--	--
SMOKING STATUS						
Current smoker	12.31	12.14	12.49	22.41	22.19	22.63
Non-smoker	7.04	6.97	7.11	11.11	11.02	11.20
ALCOHOL CONSUMPTION IN PAST 30 DAYS						
Yes	6.28	6.20	6.36	12.59	12.49	12.70
No	10.98	10.86	11.10	14.98	14.84	15.12
HEAVY ALCOHOL CONSUMPTION						
Yes	9.42	9.15	9.69	11.87	11.57	12.17
No	8.06	7.99	8.13	13.74	13.65	13.83
BINGE DRINKING						
Yes	7.61	7.46	7.76	16.04	15.84	16.25
No	8.26	8.18	8.34	13.06	12.96	13.15
DRIVING UNDER THE INFLUENCE						
Yes	8.17	7.81	8.54	14.00	13.54	14.47
No	6.12	6.04	6.20	12.53	12.42	12.64
LAST DENTAL VISIT						
Within the past year	6.04	5.97	6.11	13.68	13.58	13.77
1 - 2 years ago	10.96	10.68	11.23	12.55	12.27	12.81
Over 2 years ago	16.16	15.92	16.39	14.29	14.07	14.51
Never	31.83	30.55	33.12	1.57	1.23	1.92
LAST DENTAL CLEANING						
Within the past year	5.57	5.51	5.64	13.26	13.16	13.36
1 - 2 years ago	11.15	10.87	11.42	12.69	12.40	12.98
Over 2 years ago	16.21	15.96	16.46	14.75	14.51	14.99
Never	14.12	12.86	15.38	23.23	21.70	24.76
PRESENCE OF TEETH						
Complete set	6.92	6.84	7.01	13.79	13.68	13.91
1 - 5 lost	7.84	7.71	7.97	11.06	10.91	11.20
6 or more lost	12.29	12.04	12.53	18.17	17.88	18.46
All lost	15.77	15.35	16.19	16.41	15.98	16.83

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A2. Current Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Moderate to severe depressive symptoms			Mild depressive symptoms		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
LEISURE TIME PHYSICAL ACTIVITY						
Engaged in physical activity past 30 days	6.54	6.47	6.60	11.87	11.78	11.96
No physical activity past 30 days	14.27	14.08	14.46	19.78	19.56	19.99
BODY MASS INDEX						
Underweight (BMI < 18.5)	13.72	13.01	14.44	45.04	44.01	46.07
Normal weight range (BMI ≥ 18.5 and BMI < 25)	6.42	6.32	6.53	12.16	12.02	12.30
Overweight (BMI ≥ 25 and BMI <30)	6.92	6.82	7.03	10.70	10.57	10.83
Obese (BMI ≥ 30)	11.35	11.19	11.51	17.54	17.35	17.73
ASTHMA STATUS						
Currently has asthma	13.36	13.09	13.64	18.05	17.74	18.36
Formerly had asthma	7.68	7.38	7.98	13.03	12.65	13.41
No asthma	7.64	7.57	7.71	13.11	13.01	13.20
DIABETES						
Diagnosed with diabetes	11.48	11.20	11.76	13.38	13.07	13.68
No diabetes	7.89	7.82	7.96	13.56	13.48	13.65
TAKEN A CLASS IN MANAGING DIABETES						
Yes	7.83	7.47	8.18	15.30	14.83	15.78
No	14.14	13.72	14.56	12.24	11.84	12.64
TOLD HAD HEART ATTACK						
Yes	12.76	12.37	13.16	15.76	15.33	16.19
No	7.96	7.89	8.03	13.36	13.24	13.45
TOLD HAD ANGINA OR CORONARY HEART DISEASE						
Yes	8.54	8.19	8.88	17.35	16.88	17.82
No	8.15	8.08	8.22	13.33	13.24	13.41
TOLD HAD STROKE						
Yes	21.38	20.76	22.01	13.79	13.27	14.32
No	7.81	7.75	7.88	13.52	13.43	13.60
ACTIVITY LIMITATION DUE TO HEALTH PROBLEMS						
Yes	19.94	29.72	20.16	19.38	19.16	19.59
No	5.15	5.09	5.21	12.06	11.97	12.15
USE SPECIAL EQUIPMENT						
Yes	24.91	24.45	25.36	20.22	19.79	20.64
No	7.18	7.11	7.24	13.15	13.06	13.24
PERCEIVED HEALTH STATUS						
Good or better health	5.56	5.50	5.62	12.03	11.95	12.12
Fair or poor health	28.34	28.01	28.67	25.24	24.92	25.55
HEALTH CARE COVERAGE						
Yes	7.89	7.82	7.96	13.55	13.46	13.64
No	10.95	10.70	11.19	13.52	13.25	13.79
COULD NOT SEE DOCTOR BECAUSE OF COST						
Yes	28.08	27.68	28.48	20.25	19.90	20.61
No	6.47	6.40	6.53	12.98	12.89	13.06

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

Table A2. Current Depression Prevalence Rates among Adults in Delaware by Select Characteristics

	Moderate to severe depressive symptoms			Mild depressive symptoms		
		95% CI			95% CI	
	%	lower	upper	%	lower	upper
EMOTIONAL SUPPORT						
Usually or always	5.04	4.98	5.10	11.84	11.76	11.93
Sometimes, rarely or never	25.13	24.86	25.40	23.12	22.86	23.38
SATISFACTION WITH LIFE						
Very satisfied	1.17	1.13	1.21	7.39	7.30	7.48
Satisfied	10.70	10.58	10.81	20.57	20.42	20.73
Dissatisfied or very dissatisfied	64.48	63.90	65.05	13.80	13.38	14.21

Source: CDC BRFSS; Center for Applied Demography & Survey Research, University of Delaware

APPENDIX B

2006 BRFSS Survey Questions Relevant to the Analysis

How many members of your household, including yourself, are 18 years of age or older?

_____ Number of adults

1.1 Would you say that in general your health is—

Please read:
1 Excellent
2 Very good
3 Good
4 Fair
Or
5 Poor
Do not read:
7 Don't know / Not sure
9 Refused

3.1 Do you have any kind of health care coverage, including health insurance, prepaid plans such as HMOs, or government plans such as Medicare?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

3.3 Was there a time in the past 12 months when you needed to see a doctor but could not because of cost?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

4.1 During the past month, other than your regular job, did you participate in any physical activities or exercises such as running, calisthenics, golf, gardening, or walking for exercise?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

5.1 Have you ever been told by a doctor that you have diabetes?
If "Yes" and respondent is female, ask: "Was this only when you were pregnant?" If respondent says pre-diabetes or borderline diabetes, use response code 4.

1 Yes
2 Yes, but female told only during pregnancy
3 No
4 No, pre-diabetes or borderline diabetes
7 Don't know / Not sure
9 Refused

6.1 How long has it been since you last visited a dentist or a dental clinic for any reason? Include visits to dental specialists, such as orthodontists.

Read only if necessary:
1 Within the past year (anytime less than 12 months ago)
2 Within the past 2 years (1 year but less than 2 years ago)
3 Within the past 5 years (2 years but less than 5 years ago)
4 5 or more years ago
Do not read:
7 Don't know / Not sure
8 Never
9 Refused

6.2 How many of your permanent teeth have been removed because of tooth decay or gum disease? Include teeth lost to infection, but do not include teeth lost for other reasons, such as injury or orthodontics.
NOTE: If wisdom teeth are removed because of tooth decay or gum disease, they should be included in the count for lost teeth.

1 1 to 5
2 6 or more but not all
3 All
8 None
7 Don't know / Not sure
9 Refused

6.3 How long has it been since you had your teeth cleaned by a dentist or dental hygienist?

Read only if necessary:
1 Within the past year (anytime less than 12 months ago)
2 Within the past 2 years (1 year but less than 2 years ago)
3 Within the past 5 years (2 years but less than 5 years ago)
4 5 or more years ago
Do not read:
7 Don't know / Not sure
8 Never
9 Refused

Now I would like to ask you some questions about cardiovascular disease.

Has a doctor, nurse, or other health professional EVER told you that you had any of the following? For each, tell me “Yes”, “No”, or you’re “Not sure.”

7.1 (Ever told) you had a heart attack, also called a myocardial infarction?

1 Yes
2 No
7 Don’t know / Not sure
9 Refused

7.2 (Ever told) you had angina or coronary heart disease?

1 Yes
2 No
7 Don’t know / Not sure
9 Refused

7.3 (Ever told) you had a stroke?

1 Yes
2 No
7 Don’t know / Not sure
9 Refused

8.1 Have you ever been told by a doctor, nurse, or other health professional that you had asthma?

1 Yes
2 No
7 Don’t know / Not sure
9 Refused

8.2 Do you still have asthma?

1 Yes
2 No
7 Don’t know / Not sure
9 Refused

9.1 Are you limited in any way in any activities because of physical, mental, or emotional problems?

1 Yes
2 No
7 Don't know / Not Sure
9 Refused

9.2 Do you now have any health problem that requires you to use special equipment, such as a cane, a wheelchair, a special bed, or a special telephone?
Include occasional use or use in certain circumstances.

1 Yes
2 No
7 Don't know / Not Sure
9 Refused

10.1 Have you smoked at least 100 cigarettes in your entire life?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

10.2 Do you now smoke cigarettes every day, some days, or not at all?

1 Every day
2 Some days
3 Not at all
7 Don't know/Not sure
9 Refused

11.1 What is your age?

___ Code age in years
07 Don't know / Not sure
09 Refused

11.2 Are you Hispanic or Latino?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

11.3 Which one or more of the following would you say is your race?
(Check all that apply)

Please read:
1 White
2 Black or African American
3 Asian
4 Native Hawaiian or Other Pacific Islander
5 American Indian or Alaska Native
Or
6 Other [specify]_____
Do not read:
8 No additional choices
7 Don't know / Not sure
9 Refused

11.5 Are you…?

Please read:
1 Married
2 Divorced
3 Widowed
4 Separated
5 Never married
Or
6 A member of an unmarried couple
Do not read:
9 Refused

11.6 How many children less than 18 years of age live in your household?

___ Number of children
88 None
99 Refused

11.7 What is the highest grade or year of school you completed?

Read only if necessary:
1 Never attended school or only attended kindergarten
2 Grades 1 through 8 (Elementary)
3 Grades 9 through 11 (Some high school)
4 Grade 12 or GED (High school graduate)
5 College 1 year to 3 years (Some college or technical school)
6 College 4 years or more (College graduate)
Do not read:
9 Refused

11.8 Are you currently…?

Please read:
1 Employed for wages
2 Self-employed
3 Out of work for more than 1 year
4 Out of work for less than 1 year
5 A Homemaker
6 A Student
7 Retired
Or
8 Unable to work
Do not read:
9 Refused

11.9 Is your annual household income from all sources—

Read only if necessary:
04 Less than $25,000 **If "no," ask 05; if "yes," ask 03**
($20,000 to less than $25,000)
03 Less than $20,000 **If "no," code 04; if "yes," ask 02**
($15,000 to less than $20,000)
02 Less than $15,000 **If "no," code 03; if "yes," ask 01**
($10,000 to less than $15,000)
01 Less than $10,000 **If "no," code 02**
05 Less than $35,000 **If "no," ask 06**
($25,000 to less than $35,000)
06 Less than $50,000 **If "no," ask 07**
($35,000 to less than $50,000)
07 Less than $75,000 **If "no," code 08**
($50,000 to less than $75,000)
08 $75,000 or more
Do not read:
77 Don't know / Not sure
99 Refused

11.10 About how much do you weigh without shoes?
Round fractions up

_____ Weight *(pounds/kilograms)*
7 7 7 7 Don't know / Not sure
9 9 9 9 Refused

11.11 About how tall are you without shoes?
Round fractions down

___ / ___ Height *(ft/inches/meters/centimeters)*
7 7 7 7 Don't know / Not sure
9 9 9 9 Refused

11.12 What county do you live in?

003 Kent County
005 New Castle County
007 Sussex County
7 7 7 Don't know / Not sure
9 9 9 Refused

11.13 What is your ZIP Code where you live?

_____ ZIP Code
77777 Don't know / Not sure
99999 Refused

11.17 **Indicate sex of respondent. Ask only if necessary.**

1 Male
2 Female

12.1 Have you ever served on active duty in the United States Armed Forces, either in the regular military or in a National Guard or military reserve unit?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

13.1 During the past 30 days, have you had at least one drink of any alcoholic beverage such as beer, wine, a malt beverage or liquor?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

13.2 During the past 30 days, how many days per week or per month did you have at least one drink of any alcoholic beverage?

1____ Days per week
2____ Days in past 30 days
8 8 8 No drinks in past 30 days
7 7 7 Don't know / Not sure
9 9 9 Refused

13.3 One drink is equivalent to a 12-ounce beer, a 5-ounce glass of wine, or a drink with one shot of liquor. During the past 30 days, on the days when you drank, about how many drinks did you drink on the average?

____ Number of drinks
7 7 Don't know / Not sure
9 9 Refused

13.4 Considering all types of alcoholic beverages, how many times during the past 30 days did you have **X [CATI X = 5 for men, X = 4 for women]** or more drinks on an occasion?

____ Number of times
8 8 None
7 7 Don't know / Not sure
9 9 Refused

13.5 During the past 30 days, what is the largest number of drinks you had on any occasion?

____ Number of drinks
7 7 Don't know / Not sure
9 9 Refused

16.1 How often do you use seat belts when you drive or ride in a car? Would you say—

Please read:
1 Always
2 Nearly always
3 Sometimes
4 Seldom
5 Never
Do not read:
7 Don't know / Not sure
8 Never drive or ride in a car
9 Refused

17.1 During the past 30 days, how many times have you driven when you've had perhaps too much to drink?

____ Number of times
8 8 None
7 7 Don't know / Not sure
9 9 Refused

22.1 How often do you get the social and emotional support you need?

Please read:
1 Always
2 Usually
3 Sometimes
4 Rarely
5 Never
Do not read:
7 Don't know / Not sure
9 Refused

22.2 In general, how satisfied are you with your life?

Please read:
1 Very satisfied
2 Satisfied
3 Dissatisfied
4 Very dissatisfied
Do not read:

7 Don't know / Not sure
9 Refused

Mod4.12. Have you ever taken a course or class in how to manage your diabetes yourself?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

Mod14.1. Over the last 2 weeks, how many days have you had little interest or pleasure in doing things?

___ 01-14 days
88 None
77 Don’t know / Not sure
99 Refused

Mod14.2. Over the last 2 weeks, how many days have you felt down, depressed or hopeless?

___ 01-14 days
88 None
77 Don’t know / Not sure
99 Refused

Mod14.3. Over the last 2 weeks, how many days have you had trouble falling asleep or staying asleep or sleeping too much?

___ 01-14 days
88 None
77 Don't know / Not sure
99 Refused

Mod14.4. Over the last 2 weeks, how many days have you felt tired or had little energy?

___ 01-14 days
88 None
77 Don't know / Not sure
99 Refused

Mod14.5. Over the last 2 weeks, how many days have you had a poor appetite or ate too much?

___ 01-14 days
88 None
77 Don't know / Not sure
99 Refused

Mod14.6. Over the last 2 weeks, how many days have you felt bad about yourself or that you were a failure or had let yourself or your family down?

___ 01-14 days
88 None
77 Don't know / Not sure
99 Refused

Mod14.7. Over the last 2 weeks, how many days have you had trouble concentrating on things, such as reading the newspaper or watching the TV?

___ 01-14 days
88 None
77 Don't know / Not sure
99 Refused

Mod14.8. Over the last 2 weeks, how many days have you moved or spoken so slowly that other people could have noticed? Or the opposite – being so fidgety or restless that you were moving around a lot more than usual?

___ 01-14 days
88 None
77 Don't know / Not sure
99 Refused

Mod14.9. Has a doctor or other healthcare provider EVER told you that you had an anxiety disorder (including acute stress disorder, anxiety, generalized anxiety disorder, obsessive-complusive disorder, panic disorder, phobia, posttraumatic stress disorder, or social anxiety disorder)?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

Mod14.10. Has a doctor or other healthcare provider EVER told you that you have a depressive disorder (including depression, major depression, dysthymia, or minor depression)?

1 Yes
2 No
7 Don't know / Not sure
9 Refused

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