

Interrelationships between depression, anxiety, and chronic disease among Maine adults: A call to action for Maine chronic disease programs

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INTRODUCTION

Links between depression, anxiety, and chronic disease have been well-documented^{1,2}:

- Depression is associated with chronic disease risk factors such as tobacco use, physical inactivity, obesity
- Depression is also predictive of some chronic diseases like coronary artery disease and stroke
- Depression can result from having a chronic disease, like asthma, arthritis, cardiovascular disease, diabetes, cancer
- Or follow an event like a heart attack, stroke, or cancer diagnosis
- Among people with a chronic disease
 - having depression can impact the ability to address risk factors and manage the chronic condition
 - treatment of depression has been shown to improve chronic disease management for some conditions

Yet state public health programs have not commonly integrated mental health issues into chronic disease-related interventions.

We analyzed Maine Behavioral Risk Factor Surveillance System (BRFSS) data to use in increasing Maine chronic disease program staff's awareness of the importance of depression and anxiety.

OBJECTIVES

- Determine the prevalence of depression and anxiety among the Maine adult population.
- Describe characteristics of the Maine adult population with depression or anxiety
- Examine the relationships between depression, anxiety, and chronic disease among Maine adults.
- Examine the co-occurrence of chronic conditions and depression and anxiety among Maine adults.
- Disseminate this information to Maine chronic disease program staff.

METHODS

Data Source and Analysis

We used Maine Behavioral Risk Factor Surveillance System (BRFSS) data from 2009-2010 for this analysis. BRFSS is a random-digit-dial telephone survey of non-institutionalized adults. All data are self-reported. All analyses were done using SAS 9.2 procedures appropriate for the complex sampling design and all data were weighted to be more representative of the Maine adult population.

Depression and Anxiety Measures

- Diagnosed Depression: Answered "yes" to "Has a doctor or other healthcare provider EVER told you that you have a depressive disorder (including depression, major depression, dysthymia, or minor depression)?"
- Diagnosed Anxiety: Answered "yes" to "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, posttraumatic stress disorder, or social anxiety disorder)?"
- Current Depression: current symptoms of moderate to severe depression as measured by a score ≥ 10 using the PHQ-8 Scale.³
- Lifetime Depression or Anxiety: Current Depression, OR Diagnosed Depression, OR Diagnosed Anxiety (any one of these, or any combination of these).

Chronic Disease Risk Factors and Condition Measures

- Physical activity, cigarette smoking, fruit & vegetable intake, heavy drinking, binge drinking, high blood pressure, high cholesterol, prediabetes, diabetes, arthritis, asthma, cardiovascular disease history, cancer history.

RESULTS

Table 1. Overall Prevalence of Depression/Anxiety, Maine Adults, 2010

Depression/Anxiety Measure	Total Respondents	Yes			No		
		n	weighted %	95% CI	n	weighted %	95% CI
Current Depression	3,938	346	9.4	7.9 - 10.9	3,592	914,318	90.6 89.1 - 92.1
Lifetime Depression or Anxiety	3,939	1,213	29.2	27.3 - 31.2	2,726	714,109	70.8 68.8 - 72.7

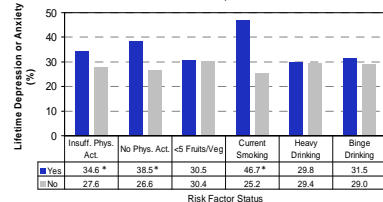
Data Source: Maine Behavioral Risk Factor Surveillance System. All %'s are weighted.

Table 2. Prevalence of Depression/Anxiety by Selected Characteristics, Maine Adults, 2010

	Current Depression		Lifetime Depression or Anxiety	
	%	95% CI	%	95% CI
Total	9.4	7.9 - 10.9	29.2	27.3 - 31.2
Gender				
Male	8.5	6.0 - 11.1	23.2	20.2 - 26.2
Female	10.2	8.4 - 11.9	34.9	32.4 - 37.4
Race/Ethnicity				
Non-Hispanic White	9.3	7.7 - 10.9	29.2	27.2 - 31.2
Other Race or Hispanic	11.3	5.4 - 17.2	33.2	23.3 - 43.1
Age				
18-24	14.3	7.3 - 21.3	25.1	16.6 - 33.7
25-34	11.0	7.5 - 16.4	34.3	27.7 - 40.8
35-44	7.9	5.4 - 10.5	30.5	26.0 - 35.0
45-54	10.9	6.3 - 15.4	32.7	28.1 - 37.4
55-64	10.2	8.1 - 12.2	37.7	29.5 - 35.9
65+	4.0	2.7 - 5.2	20.4	18.0 - 22.9
Household Income				
Less than \$15,000	26.5	17.5 - 35.6	49.5	40.9 - 58.0
\$15,000-24,999	15.0	11.0 - 19.1	32.5	27.6 - 37.4
\$25,000-34,999	8.5	4.8 - 12.1	34.2	28.1 - 40.3
\$35,000-49,999	8.6	5.0 - 12.1	28.7	23.9 - 33.6
\$50,000+	3.7	2.4 - 5.1	22.9	20.3 - 25.5
Education Level				
Less than High School	20.7	12.9 - 28.6	40.2	30.8 - 49.6
High School or GED	12.2	8.9 - 15.5	30.4	26.6 - 34.2
Some Post High School	9.9	7.2 - 12.6	29.9	26.3 - 33.6
College Graduate	4.1	2.8 - 5.5	25.6	22.7 - 28.5
Health Insurance Type				
Private	5.7	4.2 - 7.2	24.4	22.0 - 26.8
Medicaid	19.8	14.2 - 25.3	48.7	41.3 - 56.1
Medicare	8.9	6.6 - 11.3	26.5	23.3 - 29.7
Other*	9.2	5.6 - 12.9	36.1	28.4 - 43.8
Uninsured	--	--	--	--

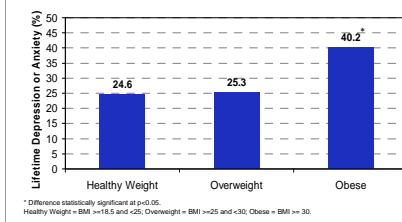
Data Source: Maine Behavioral Risk Factor Surveillance System.
* "Other" health insurance includes VA, Indian Health Service, etc.
All %'s are weighted.

Figure 1. Prevalence of Lifetime Depression or Anxiety by Chronic Disease Risk Factor Status, Maine Adults



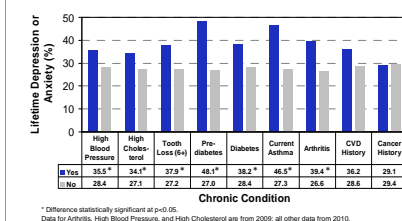
* Difference statistically significant at p<0.05.
Data for Recommended Physical Activity and Fruit & Vegetable Consumption are from 2009; all other data from 2010.

Figure 2. Prevalence of Lifetime Depression or Anxiety by Weight Status, Maine Adults, 2010



* Difference statistically significant at p<0.05.
Healthy Weight = BMI <=18.5 and <25; Overweight = BMI >25 and <30; Obese = BMI >= 30.

Figure 3. Prevalence of Lifetime Depression or Anxiety by Chronic Condition, Maine Adults



* Difference statistically significant at p<0.05.
Data for Arthritis, High Blood Pressure, and High Cholesterol are from 2009; all other data from 2010.

- Nearly 1 in 10 (9%) Maine Adults
 - Have BOTH a chronic condition* AND lifetime depression or anxiety
- Nearly 5 in 10 (45%) Maine Adults
 - Have either a chronic condition* OR lifetime depression or anxiety

* Chronic condition is heart, cancer, asthma, diabetes, or any history.

LIMITATIONS

All data are self-reported. The survey is cross-sectional, or point-in-time, and temporal relationships cannot be assessed. Measures of depression and anxiety reflect only diagnosed depression or anxiety and current symptoms of depression.

CONCLUSIONS

- 1 in 10 Maine adults have current depression; 3 in 10 have lifetime depression or anxiety.
- Lifetime depression or anxiety higher among women than men
- Affects people of all age groups; lower prevalence among 65+
- Prevalence higher among people in lower education and income groups
- Prevalence higher among Medicaid recipients

Maine adults with chronic conditions or risk factors are more likely to have lifetime depression or anxiety than those without.

- Lifetime depression/anxiety nearly 50% among current smokers; 40% among those who are obese; nearly 50% among those with prediabetes; more than 45% among those with current asthma
- Relationships were similar for current depression, with smaller prevalence rates (data not shown)

- 1 in 10, nearly 100,000 Mainers, have BOTH a chronic condition and lifetime depression/anxiety.
- These Mainers are more likely to be female, to be older, to have a lower education level, to have a lower household income level, and to have Medicaid or Medicare

Given the substantial prevalence of depression and anxiety among Maine adults with chronic conditions and risk factors and the impact depression and anxiety can have on making lifestyle changes and managing chronic conditions, Maine public health programs must incorporate mental health issues into chronic disease-related interventions to be successful.

- We have:
 - Presented these data at the "Bridging Mental Health and Public Health Summit,"
 - Made data tables and slide sets of the information available to Maine CDC chronic disease program staff,
 - Incorporated depression and anxiety measures into our chronic disease surveillance activities.

REFERENCES

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