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Where you live may affect your state of mind

Stress and depression vary by region, according to new study

San Diego, CA, April 14, 2009 – Frequent Mental Distress (FMD), defined as having 14 or more days in the previous month when stress, depression and emotional problems were not good, is not evenly distributed across the United States. In fact, certain geographic areas have consistently high or consistently low FMD incidence, as shown in a study published in the June 2009 issue of the *American Journal of Preventive Medicine*.

Combining data from annual large-scale surveys in 1993-2001 and 2003-2006 by the Centers for Disease Control and Prevention, researchers found that the adult prevalence of FMD was 9.4% overall, ranging from 6.6% in Hawaii to 14.4% in Kentucky. FMD prevalence varied both over time and by geographic area within states. From the earlier period to the later period, the mean prevalence of FMD increased by at least 1 percentage point in 27 states and by more than 4 percentage points in Mississippi, Oklahoma and West Virginia. The Appalachian and the Mississippi Valley regions had high and increasing FMD prevalence, and the upper Midwest had low and decreasing FMD prevalence.

The state-based Behavioral Risk Factor Surveillance System (BRFSS) has asked questions about mental health since 1993 and collects data from random telephone surveys of adult residents across the U.S. More than 1.2 million people were surveyed in each of the two periods. FMD prevalence was determined by county, and the results were smoothed to reduce variation from random sampling due to small sample sizes in less populous counties.

For the 1993-2001 period, the smoothed FMD prevalence was less than 8% in 31.8% of the 3112 counties analyzed and was $\geq 12.0\%$ in 4.8% of the counties. For the 2003-2006 period, the smoothed FMD prevalence was $< 8\%$ in 15.9% of the 3113 counties analyzed and was $\geq 12.0\%$ in 16.1% of the counties. Consistent multicounty geographic patterns were evident for both periods—including areas where smoothed FMD prevalence was $< 8\%$ in adjoining parts of several states in the upper Midwest region (ND, SD, NE, KS, MN, IA, MO, WI, IL) and an area

where FMD prevalence was $\geq 12\%$ that was centered on Kentucky (IN, OH, KY, WV, VA, TN). Differences in physical conditions (like disability or diabetes mellitus), stressful life events (like job loss), and social circumstances (like income) may be associated with differences in FMD prevalence.

"Because FMD often indicates potentially unmet health and social service needs, programs for public health, community mental health and social services whose jurisdictions include areas with high FMD levels should collaborate to identify and eliminate the specific preventable sources of this distress," said Dr. Matthew M. Zack, the study's lead investigator. "With the growing scientific literature linking FMD to treatable mental illnesses and preventable mental health problems, the increased use of these surveillance data in community mental health decision making is especially warranted. The continued surveillance of mental distress may help these programs to identify unmet needs and disparities, to focus their policies and interventions and to evaluate their performance over time."

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The article is "Geographic Patterns of Frequent Mental Distress: U.S. Adults, 1993 and 2003" by David G. Moriarty, BS, Matthew M. Zack, MD, MPH, James B. Holt, PhD, Daniel P. Chapman, PhD, MSc and Marc A. Safran, MD, MPA, DFAPA, FACPM. It appears in the *American Journal of Preventive Medicine*, Volume 36, Issue 6 (June 2009) published by Elsevier.
