Life Course Indicator: Mental Health Among Adults

The Life Course Metrics Project

As MCH programs begin to develop new programming guided by a life course framework, measures are needed to determine the success of their approaches. In response to the need for standardized metrics for the life course approach, AMCHP launched a project designed to identify and promote a set of indicators that can be used to measure progress using the life course approach to improve maternal and child health. This project was funded with support from the W.K. Kellogg Foundation.

Using an RFA process, AMCHP selected seven state teams, Florida, Iowa, Louisiana, Massachusetts, Michigan, Nebraska and North Carolina, to propose, screen, select and develop potential life course indicators across four domains: Capacity, Outcomes, Services, and Risk. The first round of indicators, proposed both by the teams and members of the public included 413 indicators for consideration. The teams distilled the 413 proposed indicators down to 104 indicators that were written up according to three data and five life course criteria for final selection.

In June of 2013, state teams selected 59 indicators for the final set. The indicators were put out for public comment in July 2013, and the final set was released in the Fall of 2013.

Basic Indicator Information

Name of indicator: Mental Health Among Adults (LC-43)

Brief description: Percent of adults with poor mental health

Indicator category: Mental Health

Indicator domain: Risk / Outcome

Numerator: Weighted number of adults ages 18 and over responding to the BRFSS survey reporting that their mental health, which includes stress, depression, and problems with emotions, was "not good" for ≥14 days out of the past 30 days

Denominator: Weighted number of adults ages 18 and over responding to the BRFSS survey

Potential modifiers: Age, race/ethnicity, gender, education level, income level

Data source: Behavioral Risk Factor Surveillance System (BRFSS)

Notes on calculation: Numerator is based on responses to the question, "Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?" Analysts who use the raw datasets should apply the appropriate survey weights to generate the final estimates.

Similar measures in other indicator sets: HP 2020 Focus area MHMD-4.2

Life Course Criteria

Introduction

Often the term mental health is used interchangeably with mental illness, but the two terms have been differentiated to appropriately measure the independent health conditions that can potentially harm an individual. Mental health, as defined by the Centers for Disease Control and Prevention (CDC), is "a state of well-being in which the individual realizes his or her own abilities, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community" (37). Alternatively, mental illness can be defined as "health conditions that are characterized by alterations in thinking, mood, or behavior (or some combination thereof) associated with distress and/or impaired functioning" (37). Current estimates indicate that only 17 percent of adults in the United States have optimal mental health. Mental health has historically been neglected as a priority public health issue due to traditional separations of health care and psychiatric care. There has been much current effort within public health to integrate behavioral health issues and recognize the need for improved mental health to truly achieve the overall wellness of an individual (23). Mental health, both optimal and suboptimal, is passed on inter-generationally and within communities; individuals learn coping mechanisms, how to mediate stress, and receive support that fosters resilience, or not, through their families and communities (26, 27, 28, 29).

Implications for equity

Mental health equity can be difficult to improve because of the cyclical nature of mental health issues; poor mental health arises from and contributes to social, psychosocial, and environmental inequalities (23). Differences in mental health status exist by race/ethnicity, education, income, age, gender, marital status, weight status and sexual orientation (14, 15, 16, 17, 23). Individuals are at higher risk for poor mental health if they are unmarried, female, unemployed, young adults, without health insurance, and of low socioeconomic status (16, 23). Data from BRFSS have shown frequent mental distress is more prevalent among individuals with extremes in body weight and women of non-heterosexual orientation (15, 16). Members of racial and ethnic minority groups experience a disproportionate burden of poor mental health. BRFSS data from 2001-2002 health-related-quality-of-life (HRQOL) measures indicated frequent mental distress among American Indian/Alaska Native adults (AIANs), and increased odds for reporting frequent depressive symptoms among African American, AIAN, and Hispanic adults (14).

The built environment, the space in which people live, work, and play, also has a direct impact on mental health and can indirectly influence psychosocial consequences contributing to poor mental health. Overcrowding, noise levels, insufficient light exposure, and poor air quality are all factors of the built environment that have been associated with increased psychological distress, although they do not directly produce serious mental illness (31). Housing quality and insecurity have also been linked to poor mental health outcomes. These factors of the built environment influence psychosocial consequences like feelings of hopelessness, lack of social support, and chronic fatigue or stress, which then contribute to an increased risk of frequent mental distress (31).

Public health impact

The 2011 BRFSS data indicate the average number of poor mental health days experienced by people in the United States is 3.9 days within the last 30 days. Mental health status is a marker of quality of life and is a key component of the population's overall health and wellness (32). Poor mental health can be a predictor for future health events, including health services utilization (33). Poor mental health is associated with chronic mental and physical health problems throughout the life course; individuals reporting a higher number of poor mental health days per month are more likely to be underweight or obese, smoke, binge drink, engage in no leisure time physical activity, have no health insurance, and rate their physical health as poor or fair. Individuals with chronic health conditions, such as diabetes, hypertension, heart disease, and cancer, are also more likely to report a higher number of poor mental health days each month (18,34). Poor mental health has been shown to decrease the ability to participate in the treatment and recovery programs necessary to overcome chronic disease or improve health. A simultaneous approach to improving the mental health and treatment of physical health conditions is therefore essential to improving overall health of populations (34).

Poor mental health is commonly reported by individuals with mental health disorders such as anxiety and depression (19,20,21,22). Extreme cases of poor mental health can also lead to suicide, which is the 10th leading cause of death among all ages in the United States (32). Approximately 46 percent of adults are expected to have a mental health

disorder within their lifetime. Additionally, the costs of medical treatment for mental illness can total approximately $100 billion annually (32). Early diagnosis and treatment of mental health disorders is essential to decrease this burden and improve the overall well-being and quality of life of individuals and create a lasting impact on public health (34).

Leverage or realign resources
There are a number of opportunities to leverage or realign resources as multiple potential partners, including many non-traditional, have a vested interest in improving mental health status in the United States. These opportunities include:

- Public health agencies incorporating mental health promotion into chronic disease prevention efforts and conducting surveillance for improved knowledge and evidence based research (25)
- Mental health organizations conducting public awareness campaigns that address stigma and the barriers to seeking treatment (25)
- School health clinics including mental health services to meet a preventive need (23)
- Public and private practitioners using electronic health information that includes both physical and mental health data (23)
- Disaster and emergency responders utilizing and incorporating mental health expertise for early intervention (23)
- Homeless shelters conducting outreach that connects those experiencing homelessness to mental health benefits (35)
- Private sector organizations educating employers on the benefits of providing mental health services to employees (35)

MCH programs traditionally have focused on physical and developmental health outcomes as they pertain to the pregnant mother and her fetus, infant, or child. The inclusion of a mental health support perspective beyond perinatal depression could include collaboration with state and federal mental health programs, social services, the department of education, community and environmental planners, the private sector, and chronic disease programs. There is much opportunity to collaborate with existing chronic disease prevention efforts and the existing partnerships that would leverage resources for mental health. Other stakeholders, including private business partners, social service groups, and emergency responders, play a pivotal role in connecting individuals with the prevention or treatment services they need (23, 24, 25, 35). Improved mental health will likely lead to expanded productivity, economic development, and improved physical health that will provide tremendous benefit to all partners involved.

Predict an individual's health and wellness and/or that of their offspring
Mental health has been incorporated into a great deal of life course research, which reveals that both good and poor mental health can be passed on inter-generationally and within communities, as individuals first learn ways of coping and mediating stress through their families and from others around them (26, 27, 28, 29). Poor mental health, as measured by number of poor mental health days per month, is associated with a wide variety of chronic diseases, risk factors, and risk behaviors. Individuals reporting a higher number of poor mental health days per month are more likely to have no health insurance coverage, rate their physical health as poor or fair, have a chronic health condition, experience mental illness, be obese or underweight, use tobacco and engage in substance abuse or risky sexual behavior (12). These risk factors and behaviors pose an increasingly serious threat to the health of an individual throughout their life course.

Because mental health status has serious implications for the well-being of an individual throughout their life course, prevention and promotion interventions are essential at each life stage. The stigma associated with poor mental health status can be pervasive through one's life course. The majority of lifetime mental illnesses develop before adulthood, which validates the importance of intervention strategies targeted within childhood and adolescent years (36). Prevention efforts that reduce maternal depression for women of reproductive age also positively influence the mental health of the family. Behavioral risks such as maternal smoking can effect infant behavioral problems, attention-deficit disorders, and contribute to risk for low birth weight. Breastfeeding also is associated with improved intelligence and a decreased risk of hypertension, obesity, and diabetes, which are all factors that can influence mental health later in life (36). Mental health status is typically at its strongest in the period of an adult's midlife. For midlife adults, the risk of depression is low and their employment and marital status are typically stable. Poor mental health becomes a risk again in the later stages of adult life initiated by role transitions, increased physical health problems, and a decreased sense of control (28).

Data Criteria

Data availability

The BRFSS is the world's largest, on-going telephone health survey system, tracking health conditions and risk behaviors in the United States yearly since 1984. Currently, data are collected monthly in all 50 states, the District of Columbia, Puerto Rico, the U.S. Virgin Islands and Guam for adults 18 years and older. CDC provides state and national level prevalence data on their website.

The CDC develops approximately 80 BRFSS questions each year. Some of these are core questions asked each year, and some are rotating core questions asked every other year. There also are CDC supported modules that address specific topics that states can use on an optional basis. States can also develop additional questions to supplement the core questions (1). Modules used by states are noted on the CDC website.

Local level estimates for BRFSS data can be obtained using the Selected Metropolitan/Micropolitan Area Risk Trends (SMART) data. Local areas are metropolitan or micropolitan statistical areas (MMSAs) as defined by the Office of Management and Budget. SMART data is currently available for data going back to 2002 for MMSAs with 500 or more respondents.

The question addressing mental health is part of the Health-Related Quality of Life (HRQOL) module that is a core component of the survey; it has been included every year in all states and territories conducting the BRFSS since 1993. The CDC refers to these types of questions as Healthy Days or HRQOL measures. The mental health question is sometimes also referred to as the Frequency of Mental Distress indicator (2).

Data quality

Numerous studies have compared estimates of chronic conditions and behaviors obtained from BRFSS to other national surveys including the National Health Interview Survey and the National Health and Nutrition Examination Survey; while there are some differences, findings on overall health status and certain chronic conditions tended to be similar despite declining response rates for BRFSS.

Since some questions on the BRFSS address sensitive health conditions and behaviors, there is intermittent missing data throughout the dataset. However, refusal to answer generally accounts for a small proportion of responses for most data elements. The notable exception is income, where refusals accounted for over 23 percent of the data in one state in 2010; the median percent missing across BRFSS for income in 2010 was 14 percent.

Quality control computer programs are used to check the raw data for values out of range. CDC performs quality checks for core questions, and each state has its own protocol for checking state-specific questions. Interviewers are monitored during the annual questionnaire pilot period and intermittently during the data collection period to determine whether any interviewer bias exists and to correct any bias that might be found. On an ongoing basis, 10 percent of interview calls are verified.

Prior to 2011, the sampling for BRFSS represented only adults living in a private residence with a landline telephone, but starting in 2011, the sample also included data from respondents living in cell phone-only households. Weighted response rates are presented by state. For 2011, the median weighted response rate for the combined cell phone and landline was 49.72 percent.

The survey adjusts for non-response to reduce the known differences between respondents and non-respondents. Although participants interviewed may not represent a state in terms of age, sex and race distribution, it is believed that weighting the data corrects for this potential bias. As with other health surveys, estimates are based on self-report data and they may over- or underestimate the actual prevalence of a particular risk factor in the population. Despite some oversampling in states by geography, the annual sample size is too small to compute precise estimates at the county level. The child prevalence data are reliant on proxy report from the adult respondent to the BRFSS and may be subject to misclassification related to this method.

The HRQOL measures were developed by the CDC based on clinical guidelines. The HRQOL measures, including the mentally unhealthy days question, have been employed in a variety of federal surveys in addition to BRFSS, including the

Youth Risk Behavior Survey, the National Health and Nutrition Examination Survey, the General Social Survey and the Medicare Health Outcomes Survey. All HRQOL questions have been thoroughly tested for validity and reliability (3, 4, 5, 6, 7). A 2001 review of a wide variety of quality of life indices determined that the CDC BRFSS HRQOL index had undergone considerable reliability and validity testing and was satisfactory for measuring health-related quality of life to inform national policy (8).

Other factors that might impact the quality of the BRFSS and/or mental health days data include:

- The prevalence of poor mental health might be underestimated because BRFSS excludes persons in institutions and hospitals, who might be disproportionately likely to report poor mental health problems (2).
- This question relies on a self-reported mental health assessment. As with all self-reported data, individuals may feel uncomfortable sharing information regarding their mental health with a stranger over the phone or they may choose to give a socially desirable response. This tendency may vary by race/ethnicity, gender or age.

Simplicity of indicator

The BRFSS Mental Health-Related Quality of Life indicator is based on responses to the following survey question:

Now thinking about your mental health, which includes stress, depression, and problems with emotions, for how many days during the past 30 days was your mental health not good?

This indicator defines "poor mental health" as respondents reporting that their mental health was not good for at least 14 or more days out of the past 30 days. This is consistent with the official CDC definition of the Frequency of Mental Distress indicator. Research indicates that the 14 day minimum period is similar to the period used by clinicians as a marker for clinical depression and anxiety disorders (9). Other health indices use this same mental health indicator from the BRFSS, but instead report the average or median number of mentally unhealthy days reported (10, 11). The accompanying physical healthy days question is often combined with the mentally healthy days question to form a healthy days index (12, 13). Since this indicator is consistent with definitions of poor mental health, it should be relatively easy to calculate and explain.

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