Preventive Medicine 82 (2016) 20–27

Contents lists available at ScienceDirect

Preventive Medicine

journal homepage: www.elsevier.com/locate/ypmed

# Prevalence and correlates of local health department activities to address mental health in the United States

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ARTICLE INFO

Available online 12 November 2015

*Keywords:*
Public health
Preventive psychiatry
Mental health services
Primary prevention
Health services research
Health promotion

ABSTRACT

Mental health has been recognized as a public health priority for nearly a century. Little is known, however, about what local health departments (LHDs) do to address the mental health needs of the populations they serve. Using data from the 2013 National Profile of Local Health Departments – a nationally representative survey of LHDs in the United States (N = 505) – we characterized LHDs' engagement in eight mental health activities, factors associated with engagement, and estimated the proportion of the U.S. population residing in jurisdictions where these activities were performed. We used Handler's framework of the measurement of public health systems to select variables and examined associations between LHD characteristics and engagement in mental health activities using bivariate analyses and multilevel, multivariate logistic regression. Assessing gaps in access to mental healthcare services (39.3%) and implementing strategies to improve access to mental healthcare services (32.8%) were the most common mental health activities performed. LHDs that provided mental healthcare services were significantly more likely to perform population-based mental illness prevention activities (adjusted odds ratio: 7.1; 95% CI: 5.1, 10.0) and engage in policy/advocacy activities to address mental health (AOR: 3.9; 95% CI: 2.7, 5.6). Our study suggests that many LHDs are engaged in activities to address mental health, ranging from healthcare services to population-based interventions, and that LHDs that provide healthcare services are more likely than others to perform mental health activities. These findings have implications as LHDs reconsider their roles in the era of the Patient Protection and Affordable Care Act and LHD accreditation.



## Introduction

The promotion of mental health and management of mental illness are integral to population health (Cottler, 2011; Eaton, 2012; Cohen and Galea, 2011; Slade et al., 2015; O'Connell et al., 2009; Perry et al., 2010a). Diagnosable mental illnesses are highly prevalent in the United States (U.S.) – with a past year prevalence of 18.6% (Substance Abuse and Mental Health Services Administration, 2013) among adults and 13.1% among youth ages 8–15 (National Institute of Mental Health) – and among the leading causes of disability (US Burden of Disease Collaborators, 2013). Serious mental illness has a past-year prevalence of 4.1% among U.S. adults (Substance Abuse and Mental Health Services Administration, 2013) and results in approximately $100 billion annually in healthcare expenditures (Insel, 2008). Mental illness is also a risk factor for injuries (Wan et al., 2006; Hiroeh et al., 2001), physical health problems (e.g., cardiovascular disease, obesity) (Pagoto et al., 2011; Jonas et al., 1997; Barlinn et al., 2014; Chapman et al., 2005; Coughlin, 2012), and is associated with health risk behaviors (e.g., smoking, substance misuse) (Centers for Disease Control and Prevention, 2013; McElroy et al., 2004). For these reasons, mental health has been heralded as a public health priority for nearly a century.

In 1926, American Public Health Association President Charles-Edward A. Winslow proclaimed that mental hygiene should play a more central role in public health practice (Winslow, 1926). The second half of the 20th century was marked by interest in applying principles of public health to prevent mental illnesses, as evidenced by a special address from President Kennedy to Congress in 1963 (Kennedy), the First Vermont Conference on the Primary Prevention of Psychopathology in 1975 (Forgays and Albee, 1977), and major reports published by the Institute of Medicine (IOM) (Mrazek and Haggerty, 1994) and National Institute of Mental Health (National Institute of Mental Health, 1994) in 1994. In 1999, the U.S. Surgeon General's report on mental health called for the integration of mental health into core public health functions (Office of the Surgeon General, 1999). In the decade that followed, scholarship focused on how mental health research could be translated into public health practice—such as by integrating physical and mental health promotion initiatives at state and federal levels (Eaton, 2012; Cohen and Galea, 2011; Lando et al., 2006; Colpe et al., 2010; Druss and Satcher, 2010; Druss et al., 2010; Perry et al., 2010b; Power, 2010; Primm et al., 2010; Presley-Cantrell et al., 2010).

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http://dx.doi.org/10.1016/j.ypmed.2015.11.007
0091-7435/

Today, mental health is the focus of 12 Healthy People 2020 objectives (U.S. Department of Health and Human Services), "Mental and Emotional Well-Being" is one of seven priorities of the National Prevention Strategy (National Prevention Council, National Prevention Strategy, 2011), and the Centers for Disease Control and Prevention's chronic disease action plan lists "Develop[ing] strategies for integrating mental health and mental illness into public health systems" as an objective (Centers for Disease Control and Prevention, 2011).

Despite sustained recognition of the need to address mental health as a public health issue, little empirical research has assessed the extent to which mental health is addressed by local health departments (LHDs). A review of 1166 publications in the Public Health Services and Systems Research Reference Library – a database of articles published between 1946 and 2014 about the structure and functions of public health systems – reveals only five relevant reports assigned the keywords "mental health" and/or "behavioral health" and/or "psychological" (Public Health Services and Systems Research and the Public Health Practice-Based Research Networks). These reports have described LHD strategies to enhance psychological resilience after disasters (Morton and Lurie, 2013; Plough et al., 2013), reduce mental health disparities through public policy (Alegría et al., 2003) and organizational cultural competence initiatives (Siegel et al., 2003), and meet the needs of homeless persons with serious mental illness through interagency collaboration (Rosenheck et al., 2001). Only two of these reports present findings from empirical research, neither of which focus on LHDs (Siegel et al., 2003; Rosenheck et al., 2001).

The gap in knowledge about the prevalence and correlates of LHD activities to address mental health warrants attention because LHDs have great potential to improve population mental health through the 10 Essential Public Health Services (Centers for Disease Control and Prevention)—such as mental health surveillance (Colpe et al., 2010; Perou et al., 2013), policy advocacy to address the social determinants of mental health (Eaton, 2012; Cohen and Galea, 2011), and stigma reduction campaigns (Presley-Cantrell et al., 2010; Substance Abuse and Mental Health Services Administration, 2006). While local behavioral health departments – government entities responsible for addressing the mental health and/or substance abuse needs of a population in a jurisdiction smaller than a state – exist alongside LHDs in many jurisdictions, behavioral health departments are typically limited to the provision of clinical healthcare services (i.e., testing and treatment of disorders) to individuals and do not have the mandate or capacities to implement population-based interventions (National Association of County Behavioral Health & Developmental Disability Directors). Understanding LHDs' level of involvement in mental health activities and identifying factors associated with these activities are first steps toward developing strategies for LHDs to promote population mental health, independently or in collaboration with local behavioral health departments. Such information also has practice implications as LHDs redefine their roles and responsibilities in the era of Patient Protection and Affordable Care Act (ACA) implementation, growing interest in population health, and health department accreditation.

The purpose of this study was to address these knowledge gaps. The primary aim was to estimate the proportion of LHDs in the U.S. that perform different types and combinations of mental health activities. The secondary aims were to estimate the proportion of the U.S. population living in jurisdictions where these activities are performed and to identify associations between LHD characteristics and the types of mental health activities performed.

## Methods

### Data

We analyzed data from the 2013 National Profile of Local Health Departments Study (Profile Study), a web-based survey conducted by the National Association of County and City Health Officials (NACCHO) (National Association of County and City Health Officials, 2013). The Profile Study is widely used and regarded as the premier source for information on the structure and functions of LHDs in the U.S. (Leep and Shah, 2012) NACCHO maintains a comprehensive list of LHDs in the U.S. (2532) which served as the sampling frame for the 2013 survey (National Association of County and City Health Officials, 2013). A core survey was sent to every LHD and an additional supplemental survey (module 2) was sent to a population-stratified random sample of 616 LHDs. The core and module 2 surveys were completed by 505 LHDs (response rate 82%). We limited our analysis to these 505 LHDs because module 2 included the majority of questions about mental health activities.

### Measures

#### LHD mental health activity variables

We used eight Profile Study variables to assess LHD mental health activities. These variables were classified by NACCHO as spanning four domains of LHD activity: 1) mental healthcare services, 2) activities to ensure access to mental healthcare services (e.g., assessing gaps in access to services), 3) population-based primary prevention activities to address mental illness, and 4) mental health policy/ advocacy activities. Because the proportion of LHDs reporting that they contracted out healthcare services was small (i.e., <4.0%), we combined these responses with those indicating that the LHD directly provided services and use term "provided services" throughout. All mental health variables were coded dichotomously (0, 1).

The Profile Study survey used a variety terms related to LHDs' mental health activities (e.g., "provided mental health services," "performed mental illness prevention," "implemented strategies to address mental health service needs"). Throughout this article, we use the terms as they appeared in the survey when discussing each mental health activity variable.

#### Covariates

The selection of covariates was informed by Handler and colleagues' framework of the measurement of public health system performance. We focused on three of the five elements of the conceptual framework: macro environmental factors, structural capacity, and process measures of services provided (Handler et al., 2001). To assess macro environmental factors (i.e., those beyond the control of LHDs), we classified each LHD according to the size of its jurisdiction's population and, at the regional level, its U.S. Census region (i.e., West, Midwest, Northeast, or South) (U.S. Census Bureau). As a measure of structural capacity (i.e., resources available for LHDs to achieve their mission), we used Profile Study data on jurisdiction size and workforce to calculate the number of full-time equivalent (FTE) staff per 10,000 population and classified each LHD according to its staffing quartile rank. Number of FTE staff was highly correlated with LHD annual budget ($\rho = .974$). As a process measure (i.e., services provided to address public health problems), we also classified each LHD according to whether it provided primary healthcare or substance abuse services. Although substance abuse services are considered mental health activities in some jurisdictions, we classified substance abuse services separately because the Profile Study differentiates between the two.

### Analysis

Profile Study module 2 sampling weights, provided by NACCHO, were applied to adjust for differential response rates—which ranged from 72% for LHDs serving a population < 25,000 to 93% for LHDs serving a population ≥ 1 million (National Association of County and City Health Officials, 2013). These weights allowed us to generate nationally representative estimates. Each of the eight mental health variables was independently analyzed as a binary (0, 1) outcome variable. Univariate descriptive statistics were produced to estimate the proportion of LHDs performing each mental health activity. We stratified LHDs by covariates and, within strata, estimated the proportions conducting different mental health activities with 95% confidence intervals (CIs). We summed the jurisdiction population sizes of LHDs performing each mental health activity to estimate the proportion of the U.S. population living in jurisdictions where these activities were performed by the LHD.

Bivariate analyses were then conducted in which $X^2$ tests were used to identify associations between each type of mental health activity and covariates. The $X^2$ tests had two degrees of freedom and compared the proportion of LHDs with one covariate characteristic to all other LHDs combined within that covariate category (e.g., the proportion of LHDs in the Northeast providing mental healthcare services vs. the proportion providing the services in the South,