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Staffing and Budget Levels at Local STD Programs by County-Level Sociodemographic Characteristics During COVID-19

Carolyn Luk, MPH¹, Kartika Palar, PhD², Jennifer Ludovic, DrPH, MPH¹, Ryan Cramer, JD, MPH¹, Thomas L. Gift, PhD¹, Rebekah Horowitz, JD, MPH³, Jami S. Leichter, PhD¹

¹Division of STD Prevention, Centers for Disease Control and Prevention

²Department of Medicine, University of California San Francisco

³National Association of County and City Health Officials

Abstract

We examined the relationship between Local Health Department STD program staffing and budget changes and county-level sociodemographic characteristics. We found two population-level sociodemographic characteristics associated with STD budget cuts. Although staffing cuts were observed, none of the sociodemographic characteristics examined were associated with STD staffing cuts.

Summary:

STD program staffing and budget changes made in response to COVID-19 were not correlated with the majority of the county-level population characteristics examined.

Keywords

STD program resources; sociodemographic disparities

Introduction

Publicly funded sexually transmitted disease (STD) programs at health departments have experienced significant workforce and programmatic resource changes in the past decade. Budget reductions have led to reduced staffing, decreased capacity for lab and clinical services, and delayed access to testing and medications for STDs.(1) These trends coincide with rising STD rates(2, 3) and populations that face socioeconomic disadvantage, such as poverty, unemployment, and lack of access to healthcare, often experience a disproportionate burden of STDs.(4-7) Especially when public health crises such as the COVID-19 pandemic occur, it is important to understand if staffing and budget changes in STD programs may disproportionately impact areas with populations that face socioeconomic disadvantage and experience a higher burden of STDs. In this analysis, we examined the relationship between

county-level sociodemographic characteristics and changes in STD program staffing and budget levels at local health departments under the context of COVID-19.

Materials and Methods

The study used data from the 2021 STD Local Health Department (LHD) Infrastructure Survey, conducted by the National Association of County and City Health Officials and funded by the Centers for Disease Control and Prevention, to assess the capacity of publicly funded STD programs at LHDs in the U.S. The sample of 668 LHDs included those in the 50 counties with the highest combined cases and rates of chlamydia, gonorrhea, and primary and secondary (P&S) syphilis in 2018. The remaining 618 LHDs were selected through random sampling and stratified by U.S. Census region and jurisdiction population size. The survey was administered to LHDs from May 2021 through September 2021 and asked questions on STD program infrastructure, including staffing and budget changes, in 2020. A total of 214 LHDs responded to the survey (32% response rate). After excluding LHDs that did not have an STD program (defined as having at least some staff or funding for STD prevention activities) and LHDs that served multiple cities or counties, 156 LHDs were included in the analysis.

Sociodemographic data were used from the 2020 CDC/ATSDR Social Vulnerability Index (SVI). The CDC/ATSDR SVI(8) comprises a set of socioeconomic and demographic factors that contribute to vulnerability risk within a community, particularly during public health emergencies, and includes county-level FIPS codes from the U.S. Census. We included county-level sociodemographic indicators for racial/ethnic minority status (non-Hispanic Black/African American, Hispanic/Latino), socioeconomic status (poverty, unemployment, uninsurance, education, housing cost burden), and household status (single-parent household) in this analysis. The primary outcome measures were whether a LHD had any staffing cuts to its STD program and whether a LHD had any budget cuts to its STD program. STD program staffing cuts were determined by the response of “Yes, there was a net decrease in staffing levels” to the question, “Did your STD program experience a change in staffing levels during calendar year 2020?” STD program budget cuts were determined by a “Yes” response to the question, “From January 2019 to the present, has the STD program had any budget cuts?” Covariates included region, jurisdiction size, and whether any staff were redirected for the COVID-19 response.

Logistic regression analysis was used to assess the relationship between STD program staffing and budget cuts and county-level sociodemographic characteristics. Analyses were conducted using SAS Enterprise Guide, version 8.3 (SAS Institute Inc.). Responses were weighted by region and jurisdiction size to be representative of LHDs nationally.

Results

The majority of LHD STD programs were in the South (n=62) and Midwest (n=54), followed by the West (n=31) and the Northeast (n=9) (Table 1). Nearly half (n=76) were in small jurisdictions with populations under 50,000, followed by medium jurisdictions with populations between 50,000 and 499,999 (n=60) and large jurisdictions with populations

over 500,000 (n=20). LHD STD programs in the South had the highest percentage of Black/African American population (18.2%), population below 150% poverty (26.0%), uninsured (9.8%) and single-parent households (2.5%). Small jurisdictions had the highest percentage of the population below 150% poverty (25.1%), with no high school diploma (9.2%), and uninsured (9.9%). Overall, 36% of LHDs (n=54) reported staffing cuts in their STD programs and 11% (n=17) reported budget cuts in their STD programs. Nearly 90% of LHDs (n=130) had staff redirected for the COVID-19 response.

In adjusted analyses, higher percentage of Hispanic/Latino population in a county was associated with higher odds of budget cuts (aOR=1.1; 95% CI: 1.0, 1.2) in local STD programs (Table 2), and higher percentage of the population with no high school diploma was associated with lower odds of budget cuts (aOR=0.68; 95% CI: 0.48, 0.97) in local STD programs. No associations were found between county-level sociodemographic characteristics and local STD program staffing cuts.

Discussion

This study assessed the relationship between STD program staffing and budget changes at LHDs and the sociodemographic characteristics of the counties where LHDs were located. Although our findings suggest that STD program budget cuts were associated with a few county-level sociodemographic characteristics, additional research is needed to identify if other factors may be contributing to the associations observed. Because there were no associations with the majority of the county-level sociodemographic characteristics examined, LHD staffing and budget cuts are likely related to factors not included in the model.

Findings showed that staffing cuts were more than three times as likely as budget cuts and the majority of LHDs had staff redirected for COVID-related activities. Disease Intervention Specialists (DIS) trained to conduct contact tracing and case investigations for STD prevention and control may have been heavily relied upon because these specific skillsets were valuable in tracking and controlling the spread of COVID-19. Although widespread redirection of STD program staff to COVID-19 activities was expected given DIS expertise in contact tracing, our analysis revealed that staffing changes during this period were likely made across the board irrespective of the demographics of populations being served by the LHDs we examined.

Higher spending in public health, particularly STD-specific spending, has been linked with lower STD rates,(9, 10) indicating the importance of publicly funded resources in reducing the impact of STDs. While over one-third of LHDs experienced staffing cuts and nearly 90% had staff redirected to COVID-19 activities, budget cuts for STD programs were less common among LHDs (11% of LHDs) and occurred at the same time that federal funding for the COVID-19 response increased in 2020.(11) Any cuts in an STD program's budget could have been offset by the increase in federal funding for the pandemic and redistribution of funds during the public health emergency, helping to maintain STD program funding even as staff were reassigned to pandemic response.. Furthermore, existing federal funding for STD programs allocates resources in a manner that accounts for STD burden(12) often

experienced to a greater extent by populations facing socioeconomic disadvantage. Although there is variation in how states distribute funding to local jurisdictions, it is possible that this funding structure enables STD program resources to be more appropriately distributed particularly in areas with populations especially in need of publicly funded STD care.

The study has several limitations. First, a causal link cannot be made between any county-level indicator and STD program resource change due to the ecological nature of the study. Second, because survey response rates were low, generalizability across LHDs is limited. Low response rates likely correspond to the time period for data collection, which occurred in 2021 when many LHDs were still experiencing significant constraints in their capacity and resources due to ongoing COVID-19 response activities. Decisions made to redirect resources dedicated to STD programs were likely done so to support activities related to the COVID-19 response.

Our findings suggest that staffing and budget decisions were related to the response for COVID-19 and occurred independently of the county-level population characteristics we examined. Therefore, reduced staffing and budget levels at local STD programs were not disproportionately different in areas that served populations facing greater socioeconomic disadvantage. These findings may provide context for understanding how public health emergencies may impact STD program staffing and budget resources across different communities.

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Disclaimer:

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Table 1. County-Level Sociodemographic Characteristics of 156 Participating Local Health Departments (LHDs), by U.S. Census Region and Population Jurisdiction Size

Characteristic	U.S. Census Region						Population Jurisdiction Size			
	Total (N=156)	Northeast (n=9)	Midwest (n=54)	South (n=62)	West (n=31)	p-value	<50,000 (n=76)	50,000- 499,999 (n=60)	500,000+ (n=20)	p-value
Racial/Ethnic Minority Status										
% Black or African American (Not Hispanic or Latino)	10.6 (8.3-13.0)	8.8 (5.4-12.2)	5.6 (3.3-7.9)	18.2 (13.6-22.7)	2.0 (1.2-2.9)	<.0001	7.6 (4.6-10.7)	12.4 (8.5-16.2)	20.0 (12.5-27.4)	0.0041
% Hispanic or Latino	9.7 (8.1-11.4)	16.1 (9.9-22.4)	6.0 (4.4-7.6)	7.8 (5.8-9.9)	19.3 (13.4-25.2)	<.0001	7.7 (5.4-9.9)	10.3 (7.7-12.9)	18.7 (13.9-23.6)	0.0005
Socioeconomic Status										
% Persons Below 150% Poverty	23.0 (21.8-24.3)	15.8 (11.5-20.1)	21.8 (20.1-23.5)	26.0 (24.4-27.6)	22.0 (19.1-24.8)	<.0001	25.1 (23.3-27.0)	21 (19.3-22.8)	19.6 (17.0-22.2)	0.0002
% Persons (Age 16+) Unemployed	2.5 (2.4-2.6)	3.1 (2.6-3.5)	2.1 (1.9-2.3)	2.7 (2.5-2.9)	2.5 (2.1-2.8)	<.0001	2.2 (2.0-2.4)	2.7 (2.6-2.9)	3.0 (2.7-3.3)	<.0001
% Persons (Age 25+) with No High School Diploma	8.2 (7.6-8.8)	6.5 (5.4-7.6)	7.0 (6.2-7.7)	9.7 (8.7-10.6)	7.8 (6.3-9.3)	<.0001	9.2 (8.3-10.2)	7.0 (6.3-7.7)	7.4 (6.6-8.2)	0.0005
% No Health Insurance	8.8 (8.2-9.5)	6.1 (5.1-7.1)	8.1 (7.1-9.1)	9.8 (8.9-10.8)	9.2 (7.3-11.0)	0.0040	9.9 (8.9-10.9)	7.5 (6.8-8.3)	8.3 (6.6-9.9)	0.0017
% Households with Housing Cost Burden	9.3 (8.9-9.7)	10.4 (9.7-11.1)	8.8 (8.2-9.3)	9.3 (8.6-10.0)	9.8 (9.0-10.6)	0.0646	8.2 (7.8-8.7)	10.3 (9.6-10.9)	11.1 (10.5-11.8)	<.0001
Household Status										
% Single-Parent Households with Children Under 18	2.3 (2.2-2.5)	2.2 (1.7-2.6)	2.4 (2.1-2.6)	2.5 (2.3-2.7)	1.9 (1.7-2.2)	0.0044	2.2 (2.0-2.4)	2.5 (2.3-2.7)	2.6 (2.3-2.9)	0.0091

Table 2.
Associations Between County-Level Sociodemographic Characteristics of Participating LHDs and LHD Staffing and Budget Cuts

Characteristic	Staffing Cuts Adjusted Odds Ratio (95% CI)	Budget Cuts Adjusted Odds Ratio (95% CI)
Racial/Ethnic Minority Status		
% Black or African American (Not Hispanic or Latino)	0.99 (0.95-1.0)	1.0 (0.98-1.1)
% Hispanic or Latino	1.0 (0.94-1.1)	1.1 (1.0-1.2)
Socioeconomic Status		
% Persons Below 150% Poverty	1.0 (0.89-1.1)	1.1 (0.92-1.3)
% Persons (Age 16+) Unemployed	0.77 (0.41-1.4)	1.7 (0.69-4.0)
% Persons (Age 25+) with No High School Diploma	1.0 (0.84-1.3)	0.68 (0.48-0.97)
% No Health Insurance	0.97 (0.84-1.1)	0.88 (0.76-1.0)
% Households with Housing Cost Burden	1.1 (0.88-1.5)	0.81 (0.62-1.1)
Household Status		
% Single-Parent Households with Children Under 18	0.87 (0.39-1.9)	1.5 (0.63-3.6)

Note: Boldface indicates statistical significance of $p \leq 0.05$. Covariates included U.S. census region, population jurisdiction size, and staff redirected for the COVID-19 response.