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Public Health Services Most Commonly Provided by Local Health Departments in the United States

Gulzar H. Shah
Department of Health Policy and Management, Jiann-Ping Hsu College of Public Health, Georgia Southern University, gshah@georgiasouthern.edu

Huabin Luo
Department of Public Health, Brody School of Medicine, East Carolina University, LUOH@ECU.EDU

Sergey Sotnikov
OSTLTS, CDC, ann0@cdc.gov

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Public Health Services Most Commonly Provided by Local Health Departments in the United States

Abstract

The primary purpose of this research is to identify the most commonly performed public health services by local health departments (LHDs) and highlight variation by LHD characteristics. Data were drawn from the 2008 and 2010 National Profile of LHDs, conducted by the National Association of County and City Health Officials (NACCHO). The descriptive analysis aims to further the essential dialogue triggered by a recent Institute of Medicine (IOM) report about the standard minimum set of services that all LHDs should provide. This study identified a set of 22 activities performed by LHDs that are common in jurisdictions of all sizes. Notable differences in most commonly performed services were found by the size of population in LHD jurisdiction, presence of board of health, type of LHD governance, per capita expenditures, and size of workforce.

Keywords

public health services, local health departments, local board of health, LHD governance, per capita expenditures, LHD workforce

Cover Page Footnote

The authors thank NACCHO for providing access to the 2008 and 2010 Profile of Local Health Departments data sets. The Centers for Disease Control and Prevention and the Robert Wood Johnson Foundation provided funding for collection of these data. Appendix attached as supplemental content

The existing framework for public health practice is based on the concepts of three core functions (assessment, policy development, and assurance) and 10 essential public health services. This paper identifies the most frequently performed public health services across local health departments (LHDs), with the intent to inform the determination of a core, standard, minimum set of public health services as suggested by the 2012 Institute of Medicine Report[1].

METHODS

Data were drawn from the 2008 and 2010 National Profile of LHDs, administered to 2,794 LHDs in 2008 and 2,565 LHDs in 2010. These surveys, conducted by the National Association of County and City Health Officials (NACCHO) had response rates of 83% and 82% respectively. In the Profile surveys, LHDs were asked whether or not any of the 87 public health services or activities were provided in their jurisdiction directly or by contracting out. Detailed methodology for the Profile studies is available elsewhere.[2]

We first computed the mean number of services provided by LHDs by population size and per capita public health expenditure. Next, we computed the proportions of LHDs that directly provided, each of the 87 services and ranked those services. Finally, we investigated variation in ranking by characteristics commonly identified in literature as drivers in LHD performance, such as, population served, per capita expenditure, workforce size and governance. To simplify presentation, only the most frequently performed services are presented (i.e., those for which the rank order is less than the mode number for the respective categories). Data analyses were conducted using Stata 11.

RESULTS

Mean numbers of services/*activities*

Table 1 shows the mean number of services performed by LHDs in 2008 and 2010 by jurisdiction population size and per capita public health expenditure. LHDs with larger jurisdiction population and higher per capita expenditure ($p<0.001$) performed a greater number of services.

Table 1 Mean number of activities performed by LHDs: 2008 and 2010 National Profile of LHDs (by population size and per capita public health expenditure)

Population size and per capita expenditure	2008	2010	p value†
Population size			
<25,000	28.8***	30.1***	0.040
25,000-49,999	34.4	35.3	0.243
50,000-99,999	37.5	37.5	0.991
100,000-499,999	40.0	39.4	0.432
500,000+	43.5	42.6	0.592
All sizes			
Per capita expenditure‡			

1 st quintile	26.3***	27.9***	0.055
2nd quintile	33.9	33.8	0.896
3 rd quintile	34.9	35.7	0.331
4 th quitile	38.3	39.1	0.358
5th quintile	40.8	40.5	0.737

† p values for T test; *** p<0.001 for ANOVA test
‡ The 1st to 5th quintiles in 2008 are: <$17.2, $17.2-29.8; $29.8-44.1; $ 44.1-69.4; >=69.4.
The 1st to 5th quintiles in 2010 are: <$19.8, $19.8-33.6; $33.6-49.0; $ 49.0-79.5; >=79.5.

Services/activities most frequently performed by LHDs

In 2010 a notable variation existed by population size of LHDs in the rank of services/activities most frequently performed by LHDs (Table 2). For instance, for LHDs with larger populations (i.e., jurisdiction population 100,000-499,999 and 500,000+), communicable or infectious disease surveillance was the most commonly performed service (ranked 1st), whereas among medium and small LHDs (population sizes <25,000; 25,000-49,999; 50,000-99,999), adult immunization ranked 1st. Provision of HIV/AIDS screening ranked 4th among LHDs with largest population. Variation in ranking of services most commonly performed by LHDs was more notable for some other services also. For instance, diabetes screening was more commonly performed by LHDs in the smallest population category (<25,000); it ranked 5th. For LHDs in the largest and second largest population categories, diabetes screening ranked 31st, presenting a sharp contrast.

The most commonly performed 22 activities (by all LHDs) in 2010 included: adult immunization, childhood immunization, communicable/infectious disease surveillance, tuberculosis (TB) screening, TB treatment, environmental health surveillance, food service establishment regulation, food safety education, nutrition education, school/day care regulation, tobacco control, septic system regulation, women, infant, and children program, maternal and child health home visits, blood lead screening, maternal and child health, public swimming pool regulation, other sexually transmitted disease (STD) screening, smoke-free ordinance regulation, chronic disease prevention program, other STD treatment, and HIV/AIDs screening (Table 2).

We also ranked the services by additional LHD characteristics, including: (a) presence of one or more local board of health (BoH), (b) size of LHDs workforce (presented as quintiles), (c) type of governance, (d) and per capita LHD expenditures (quintiles). Results are shown in the Appendix A and Appendix B. Rankings of most commonly performed services/activities varied by the presence of local board of health, jurisdiction governance types, and FTEs. For instance, the Women, Infant, and Children (WIC) Program was ranked 26th among most commonly performed services for the locally governed LHDs, whereas it ranked 6th and 7th respectively for the state governed and shared governance LHDs. Septic system regulation ranked 30th for LHDs with workforce size less than 2.44 FTEs per 10,000 people (1st quintile), whereas the rank for this service was 5th or 6th for all other LHDs with larger workforce. As opposed to this, blood lead screening ranked 6th for LHDs with workforce size less than 2.44 FTEs per 10,000 people and the rank for this service was between 45th and 48th for all other LHDs with larger workforce.

Table 2. The rank order of public health activities† most frequently provided by U.S. local health departments, by jurisdiction population size, 2010

Activity	<25,000	25,000-49,999	50,000-99,999	100,000-499,999	500,000+
Adult immunization	1	1	1	3	3
Childhood immunization	2	3	2	2	2
Communicable/infectious disease surveillance	3	2	3	1	1
Tuberculosis screening	4	4	4	4	6
Diabetes screening	5	13	21	31	31
Tuberculosis treatment	6	8	8	5	7
Environmental health surveillance	7	6	6	9	10
Food service establishment regulation	8	5	5	6	18
Food safety education	9	7	7	11	20
Nutrition education	10	12	9	10	9
School/daycare regulation	11	9	12	12	19
Tobacco control	12	11	11	15	11
Septic system regulation	13	14	14	16	28
Women, Infants, and Children program	14	15	20	17	17
Maternal and child health home visits	15	17	15	20	15
Blood lead screening	16	16	16	24	21
Maternal and child health	17	21	13	18	23
Public swimming pool regulation	18	10	10	13	16
Private drinking water regulation	19	19	26	21	e
Other sexually transmitted disease screening	20	18	18	7	5
Smoke free ordinance regulation	21	20	19	19	14
Physical activity promotion	22	30	24	26	26
Family planning	23	26	30	30	22
Chronic disease prevention programs	24	25	23	23	13
Other sexually transmitted disease treatment	25	31	25	14	8
HIV/AIDs screening	26	22	17	8	4
Outreach and enrollment for medical insurance (including Medicaid)	27	b	c	33	32
School-based clinics	28	b	c	63	e
Unintended pregnancy prevention	a	b	33	25	25
Hotel/motel regulation	a	23	28	35	
Children's camps regulation	a	28	27	27	41
Body art (tattoos, piercings) regulation	a	24	22	32	36
Vector control	a	27	32	28	34
Vital records service	a	29	29	22	24
Early periodic screening, detection, and treatment	a	b	c	d	40

Injury prevention	a	b	c	39	33
Lead inspection	a	b	31	34	27
Chronic disease surveillance	a	b	c	37	35
Ground water protection	a	b	c	38	38
Syndromic surveillance	a	b	c	29	12
Cancer screening	a	b	c	40	37
Behavioral risk factors surveillance	a	b	c	d	39
Campground & recreational vehicle regulation	a	b	c	36	44
Laboratory service	a	b	c	d	29
Oral health	a	b	c	d	30
Injury surveillance	a	b	c	d	42

Note: † To simplify presentation we did not include all the 87 activities. The activities presented in this table are: 28, 30, 33, 40, 44 activities [the mode number] for the five different sizes of LHDs.
a. The activity ranks after 28th for LHDs with jurisdiction population sizes of <25,000.
b. The activity ranks after 30th for LHDs with jurisdiction population sizes of 25,000-49,999.
c. The activity ranks after 33rd for LHDs with jurisdiction population sizes of 500,000-99,999.
d. The activity ranks after 40th for LHDs with jurisdiction population sizes of 100,000-499,999.
e. The activity ranks after 44th for LHDs with jurisdiction population sizes of 500,000+.
The bold are the 20 activities commonly performed by all LHDs.

SUMMARY AND DISCUSSION

Chronic disease prevention, nutrition education, and smoking control were among the most commonly performed activities/services across LHDs of different sizes in 2010, an indication that LHDs continue to tackle the important public health issues. Traditionally, the "basic six" services provided by LHDs have included vital statistics, communicable disease control, environmental sanitation, public health laboratory services, maternal and child health services, and public health education.[3] In addition, some personal health services (e.g., maternal and child care) are among the most commonly performed services of LHDs of all sizes.

The average number of services and the rank order of some population health activities such as diabetes screening, private drinking water regulation, physical activity promotion, family planning vary considerably across LHDs of different sizes. Variation in commonly performed services by the size of workforce and per capita expenditures may also be suggestive that certain services and activities might be more sensitive to economies of scale, level of funding, infrastructural capacity, and priority of the needs in communities. These results indicate a significantly smaller number of services performed by poorly funded LHDs (per capita expenditures in first quintile) consistent with previous research that resources indeed do matter[4].

Our results may have implications for the development of a minimum package of services for LHDs. Ground breaking work on foundational public health services is in process by a few different groups of researchers and practitioners at state level, including those in Washington State, Ohio[5] and Colorado. In 2012, NACCHO (http://www.naccho.org/advocacy/positions/upload/12-18-Minimum-Package-of-Benefits.pdf) issued a policy statement underscoring the importance of establishing minimum packages of public health services. According to a recent IOM report,

currently, $32 are spent on medical care for every $1 spent on public health from the Federal, state, and local funds. Defining minimum services package is important for enabling policy makers to gauge LHD's financial, technological, and human resource needs and to highlight the need for tipping the scale of public spending towards public health[1]. Our findings about variation in services by LHD characteristics is aimed to complement these efforts by highlighting that priority need of community, the potential volume of services being utilized, workforce capacity, and resource availability are among important drivers of priority in service provision by LHDs, and that these factors should be taken into consideration when developing the minimum set of public health services for LHDs.

Limitations of this study included: the data were self-reported; the intensity of the services was not measured; there is no definition for some of the activities, misclassification of services by respondents could have happened; and the effect of categorical funding for services is not known.

SUMMARY BOX

- A recent IOM report highlighted the need for determining a core set of public health services needed to be performed in a local health department's jurisdiction, to pinpoint which public health services were absolutely necessary to keep people healthy, to address social determinants of health, and to eliminate health disparities.
- This study identified the most frequently performed public health services by LHDs and variation in those services by scale, resources, and other LHD characteristics, for furthering the dialogue on minimum set of public health services.
- It is reassuring that chronic disease prevention, nutrition education, smoking control were among the most commonly performed activities/services across LHDs of different sizes in 2010, an indication that LHDs continue to tackle the important public health issues.
- In addition, some personal health services (e.g., maternal and child care) are among the most commonly performed services of LHDs of all sizes.

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