

## **Assessing the Public Health Activity Estimate from the National Health Expenditure Accounts: Why Public Health Expenditure Definitions Matter**

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**Jonathon P. Leider, PhD**

Associate Scientist

Johns Hopkins School of Public Health  
Baltimore, Maryland USA

**Beth A. Resnick, DrPH**

Associate Scientist

Johns Hopkins School of Public Health  
Baltimore, Maryland USA

**Arthur L. Sensenig**

Independent Consultant

ALS Economic Measurement  
Silver Spring, Maryland USA

**Natalia Alfonso, MS**

Research Associate

Johns Hopkins School of Public Health  
Baltimore, Maryland USA

**Eoghan Brady, MSc**

Doctoral Student

Johns Hopkins School of Public Health  
Baltimore, Maryland USA

**Ian Patrick Colrick, MiM**

Project Manager

Johns Hopkins School of Public Health  
Baltimore, Maryland USA

**David M. Bishai, PhD**

Professor

Johns Hopkins School of Public Health  
Baltimore, Maryland USA

# **Assessing the Public Health Activity estimate from the National Health Expenditure Accounts: Why Public Health Expenditure Definitions Matter**

## **Abstract**

The United States spends over \$3 trillion on health and healthcare. Official estimates put governmental public health spending at less than 3% of all health spending nationally – \$75.4 billion. However, even this relatively modest estimate may, in fact, be vastly overinflated. The project team engaged in manually recoding expenditure data used to create the national Public Health Activity estimate (PHAE). Teams of 2-3 researchers coded expenditure data based on a framework informed by the Foundational Public Health Services model and the Centers for Medicaid and Medicare Services definitions for public health spending. In 2013, Census data show that state governments spent approximately \$63 billion on non-hospital health spending. Manual recoding suggests this figure, which is used in the construction of the national PHAE, includes about 40% on public health, 21% on Behavioral Health, 20% on Community Health Care, 8% on Disability-Related spending, 3% on Environmental Protection, and 8% on Other. These revised estimates are stable proportionately over the period data were available, 2000-2013. Thus, overall our analyses show the PHAE should be revised downward 50% or more. This has significant implications for local, state, and federal policymakers when considering resource allocations for governmental public health.

## **Acknowledgement**

This work was funded by the de Beaumont Foundation.

This Special Issue of the *Journal of Health Care Finance* honors Dr. Louis C. Gapenski for his contributions to the fields of health care finance, public health finance and health administration. In his writing, teaching and mentoring, he served as a role model for all of us.

## Background

Dr. Louis Gapenski's career spanned decades, resulting in over two dozen books and dozens of articles, as well as numerous reports and contributions to curriculum (Reiter and Pink, 2016). Though much of his academic work focused on healthcare finance, a recent interest included bringing the concepts and standardized methodologies he developed in healthcare finance to the burgeoning field of public health finance (Honore, et al., 2010; Gapenski, Morris and Honoré, 2012). As he, Honoré, and others have noted, the field is a century behind in its methodologies to establish and measure financial performance of health agencies. This is a critical issue.

The United States spends \$3 trillion on healthcare each year (Sisko, et al., 2014). The National Health Expenditure Accounts (NHEA), produced by the Centers for Medicare and Medicaid (CMS), are the source of this widely-cited estimate. The NHEA track the most significant areas of health spending – namely personal healthcare – as well as spending by payer. The NHEA also track how much the United States spends on governmental public health at the federal, state, and local levels. This is reported in the NHEA Public Health Activity estimate (PHAE). Though the PHAE is a relatively small figure in the context of total health spending (less than 3% in recent years - \$75.4 billion in 2013) (Sisko, et al. 2014) the PHAE is central to the field of governmental public health just as the NHEA is to healthcare researchers and policymakers (Committee on Public Health, 2012). Furthermore, spending on public health directly impacts the health of the community, and is credited for many of the gains to life expectancy in the past century (Mays and Smith, 2011; Brown, Martinez-Gutierrez and Navab, 2014; Marmot, et al., 2008; Centers for Disease Control, 2000). Numerous Institute of Medicine (now National Academy of Medicine, [NAM]) reports use the PHAE as the baseline from which they make field-changing recommendations and to highlight the dearth of federal and state investments in public health. Lastly, researchers often utilize the PHAE to determine the value of public health spending – both in broad strokes and for specific types of public health programs (Committee on Public Health, 2012; Mays and Smith, 2011; Brown, Martinez-Gutierrez and Navab, 2014; Mays, 2014; Levi, et al., 2015). However, an examination of these Public Health Activity estimates – which go back to almost six decades – indicates that the estimates may be inflated. Perhaps considerably so.

### *Is the Public Health Activity Estimate accurate?*

For a number of years, a small but growing group of scholars have examined the accuracy of and outline the reasons why the Public Health Activity estimate may not be an accurate reflection of governmental public health spending (Committee on Public Health, 2012; Sensenig, 2007; Leider, 2016). Broadly, these inaccuracies relate to how the PHAE are constructed. The PHAE are created by CMS using data from the Census Bureau's state and local finance groups, along with expenditure data from the federal budget (Centers for Medicare and Medicaid Services, 2014). The primary issue is this:

**The US Census Bureau does not create a “public health spending” estimate. Rather the Census creates an estimate of all non-hospital health spending (excluding Medicaid and other vendor reimbursements for medical care). CMS then uses the Census’s non-hospital health estimate as the foundation for the Public Health Activity Estimate. However, CMS, in its**

**calculations, fails to sufficiently to account for all the non-public health activity expenditures included in the data they draw from the Census.**

This PHAE inaccuracy, seemingly simple, is in fact quite complex; the CMS characterizations of what constitutes public health used in calculating the PHAE do not align well with what the Census' data measure. The characterization differences largely relate to the Census' inclusion of behavioral healthcare, community healthcare, and certain types of environmental-protection related spending in its non-hospital health estimate, **all** of which CMS **hypothetically** exclude in their official definition of the PHAE – yet, these types of spending all show up, **in practice**, in the PHAE. Because CMS uses aggregate estimates from the Census' non-hospital health estimate to develop the PHAE and does not parse out the types of spending from it before using it in PHAE construction, this underlying disharmony as to 'what is counted' as public health spending may amount to billions of dollars of difference between the official national estimate of public health spending and reality. Additionally, methodological and characterization differences in calculating the transfer of federal funds to state and local governments result in some discrepancies in categorizing spending at the different levels of government (federal, state and local). While these governmental level discrepancies minimally impact the overall size of the PHAE, mischaracterizations of which level of government is paying what proportion of the governmental public health bill has both practical and political implications. The NAM report called for greater federal investment, in part because the PHAE officially shows relatively less federal investment in public health compared to state and local expenditures. This recommendation may be predicated on inaccuracies within the PHAE estimate. As Congress considers federal apportionment of spending to public health activities, more precise estimates are needed to support better understandings of the costs and benefits of public health spending.

Federal and state Medicaid and welfare-related health spending are counted outside of public health spending by both Census and CMS. Additionally, CMS' categorization of federal Maternal/Child Health spending in the NHEA is problematic. CMS does deduct Title V and some other major federal spending from the Census estimate, but not WIC or related services, both of which Census expressly include in their non-hospital health estimates. Given WIC's and the Title V block grant's substantial annual federal investment of \$6.5 billion and \$530 million respectively, especially in relation to the official total PHAE at \$75 billion (Sisko, et al., 2014); United States Department, 2015; HRSA, 2015), precise categorization of this spending is critical to an accurate estimate of national public health spending. Furthermore, source data for Census estimates may include a number of items characterized as public health in some jurisdictions while characterized as not public health in other jurisdictions. Such inconsistency is often then replicated by CMS when constructing the PHAE. The most significant example is perhaps the inclusion/exclusion of EMS spending in the PHAE. As Sensenig has pointed out (2007), EMS spending is counted under nonhospital health spending by the Census when the activity occurs within the health department, but such spending is counted elsewhere if delivered by another governmental agency – if, for instance, a Fire Department delivers EMS services in a jurisdiction it is then counted outside of nonhospital health spending. As EMS cost billions of dollars each year, this is another point of concern worthy of examination within the Census data (Sensenig, 2007).

## ***Aim of the Manuscript***

This paper attempts to address the foundation of major methodological gaps identified by Gapenski and colleagues through a novel analysis of over a decade's worth of state Census of government finance data. This paper identifies potential ways that the PHAE can be validated and improved using harmonized characterizations of public health between Census and CMS. We report the results of an undertaking to re-classify data taken from Census state government administrative expenditure records from 2000-2013. These data are used by the Census to create the national aggregate estimate of non-hospital health spending that CMS then uses as the basis of its construction of the PHAE. This effort was done in an attempt to assess and align the characterizations of public health activity used in the progenitor Census estimate to the final CMS PHAE estimate. Finally, we estimate a new Public Health Activity estimate based on our findings, and discuss the implications of these findings for the field of public health.

## **Methods**

### ***An Approach to address a Critical Gap in the Public Health Activity Estimates***

In order to create a sound, reproducible national PHAE, administrative data were pulled from the Census division of state finance for 2000-2013. These data are provided to the Census by state budget offices, and are then coded by Census staff into all areas of government spending. This includes several areas related to health, namely third party reimbursements to medical vendors/social welfare - public insurance (Medicaid and related programs), public hospital spending, and all other non-hospital health spending (Function 32). There were approximately 1.9 million Function 32 records examined and recoded across 49 states from 2000-2013 (Appendix Figure 1). Approximately 1.9 million records were collapsed into program-level records – i.e., combining object/class codes of 'rent,' 'salaries,' 'supplies,' and so on. These items were independently coded by 2-3 researchers using definitions from the Foundational Public Health Services model, which is also in accord with CMS' definitions of public health, as well as CDC's essential services (Centers for M, 2014) (Public Health Leadership, 2014). Records were coded as 'yes-public health,' 'other health services,' and 'maybe.' The "yes" and "maybe" public health categories were combined for purposes of estimates, yielding a conservative approach. Those records falling under 'other health services' were further coded and calculated into other major categories of spending, including Behavioral Health, Community Healthcare, Disability Related, Environmental Protection, and Other. Records where coders disagreed were resolved through discussion and consensus by the full project team. Descriptive statistics were performed, and are reported below.

After coding data from the Census to create state level estimates, as well as state to local intergovernmental transfers, we then prepared alternative models for the national Public Health Activity Estimate. With the exception of California, all state governments submit administrative expenditure information to the Census, and so state-specific estimates were also created. Data from South Carolina were reported, but were missing the state's department of health, and as a result these data were excluded from our estimations, and the state was also tagged as missing alongside California. The nationally-averaged discount was used to impute values for California

and South Carolina. Because local data are collected by the Census Bureau through a local government self-reported approach instead of relying on administrative data (there are 87,000 independent local governments in the United States) (U.S. Bureau of the Census, 2006), we created the ‘local’ estimates by creating two basic models intended to create high and low bookend estimates. For the ‘high’ estimate, we deducted the appropriate proportion of ‘non-public health’ state-to-local transfers for each state from the Census official total. This estimate is ‘high’ because it is based on the premise that any locally-funded expenditures at the local level were true public health spending, which is very unlikely to be the case (Sensenig, 2007). To create the ‘low’ end estimate, the ‘local’ estimate was calculated by applying the refined proportion of state-to-local transfer to the original local estimate for each state; this essentially assumes that all locally-funded expenditures at the local level are in line with the proportion of state nonhospital health spending that is public health that is passed down to the locals. It is possible that locals might spend even less than this amount on public health, in which case estimates would decline further. To calculate our revised PHAE, we replaced the Census-related figures in the CMS’ formula with our recoded data, but kept all else [e.g., modifications to account for federal public health spending] the same (Centers for Medicare and Medicaid Services, 2014).

## Results

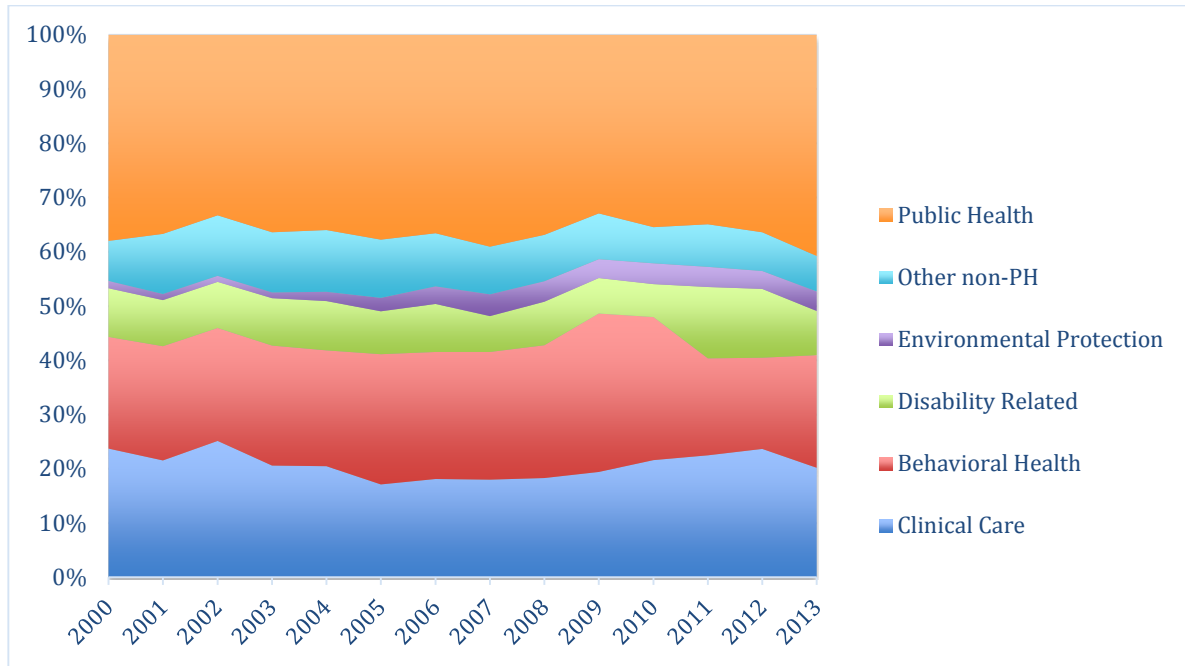
### *State level spending on public health*

For the 2013 Census of government data, using our coding framework, we determined that state governments spent approximately \$63 billion on non-hospital health spending across direct spending and state to local transfers. Manual recoding suggests this figure, which CMS implicitly uses in the PHAE, includes about 41% on public health, 21% on Behavioral Health, 20% on Community Healthcare, 8% on Disability-Related spending, 4% on Environmental Protection, and 7% on Other. These revised estimates are stable proportionately over the period data were available, 2000-2013 (Figure 1). These findings show the ‘state’ portion of the PHAE estimate vastly overstates how much state governments are spending on public health (Figure 2).

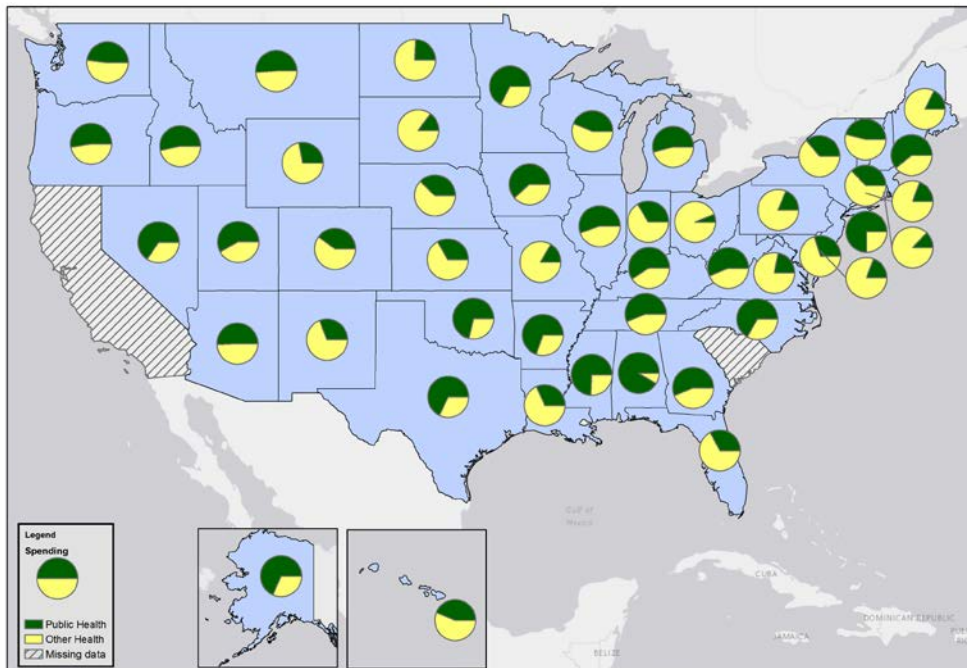
Included in the 1.9 million Census records that the team of researchers recoded were state to local governmental transfers, which represent a substantial source of revenue for local governments. Between 2000 and 2013 approximately 30% of total transfers were for public health. Twenty-five percent were for community healthcare, 27% were for behavioral health, 11% were for disability-related care, 1% were for environmental protection, and 5% were for all other. These state to local transfers varied considerably by state, with the median proportion for public health state-to-local transfers at 51% in 2013 across the states in the dataset.

Per capita spending on non-hospital health activities varied significantly across the states (Table 1). On average, in 2013, the state mean per capita spending was \$81 (median \$69). Intergovernmental transfers toward public health averaged \$13 per person across the states (median \$7).

**Figure 1.** Proportion of Current State Estimates for Non-Hospital Health Spending (Function 32), by type of Spending, 2000-2013 – Based on Project Team’s Recoding of Census Data



**Figure 2.** State Government Spending on Public Health Activity versus All Other Non-Hospital Health Services in Function 32, in 2013 – Based on Project Team’s Recoding of Census data



*Note: California data were not reported to the Census Bureau, and South Carolina data on health department spending appear to be missing from the dataset for 2013*

**Table 1.** Per capita Public Spending on Non-Hospital Health Activities in 2013

Activity	Total Spending (\$)					
	Mean	Standard Deviation	Max	25 <sup>th</sup> Percentile	Median	75 <sup>th</sup> Percentile
Clinical Care	41	49	283	9	24	53
Behavioral Health	43	55	266	9	20	56
Disability Related	15	27	99	0	1	10
Environmental Protection	11	13	49	4	6	12
Other non-Public Health	14	27	153	2	5	13
Public Health	81	53	337	50	69	98
State to Local Transfers (\$)						
Clinical Care	7	14	65	0	1	4
Behavioral Health	12	24	102	0	2	10
Disability Related	9	11	28	0	0	18
Environmental Protection	2	3	15	0	1	3
Other non-Public Health	6	27	142	0	0	1
Public Health	13	26	135	2	7	13

***Using Revised State Government Estimates to Revisit the Public Health Activity Estimate***

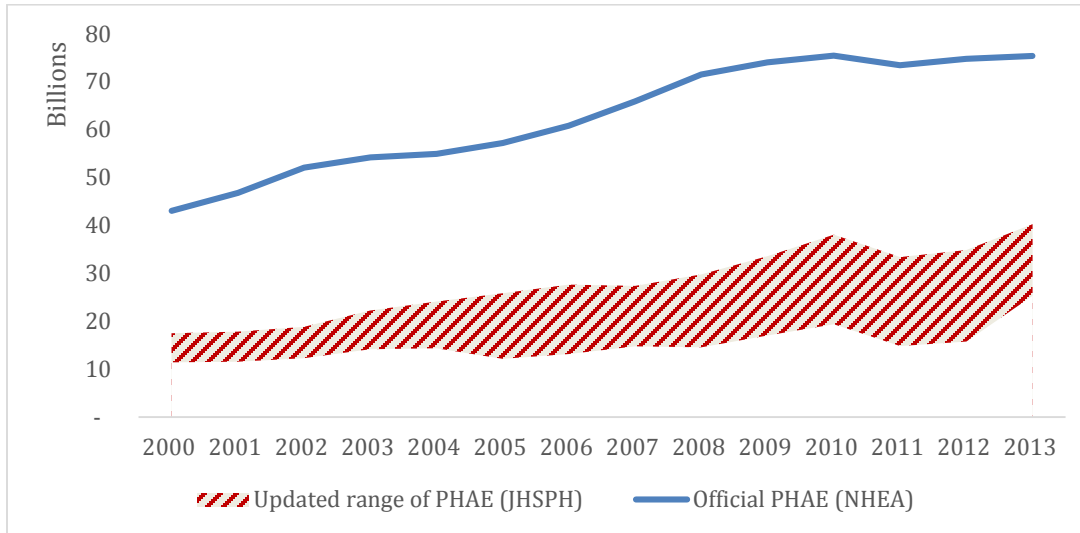
In each year from 2000-2013, our revised estimates found public health spending accounted for between 33% and 41% of national public spending on non-hospital health services. To calculate a revised Public Health Activity estimate, we adjusted the state-spending component CMS uses and modeled two possible scenarios for local spending. In the first scenario (upper bound of revised estimate band), we deducted from the local total only the state-to-local intergovernmental transfers from the recoded dataset that were tagged as not public health-related. This yielded a conservative estimate (Figure 4). Our second approach (lower bound of revised estimate band) assumed that local-level spending, aggregated by state, was the same as total percent of state-to-local intergovernmental transfers in that state. The first approach suggests the Public Health Activity estimate was \$40 billion in 2013, about 53% of the \$75 billion reported in the official CMS estimates for that year. The second estimate was significantly lower, at \$25 billion, about 33% of CMS' 2012 estimate. The final difference in PHAE is substantial under either scenario. However, significant uncertainty continues to exist about the exact level of the PHAE in the US.

The first, more conservative, approach suggests the national PHAE is less than half of official CMS estimates, and even less under our second approach that assumes local spending is in line with state to local transfers. It is plausible that total spending could be lower still if local governments spend less than we project on public health. Moreover, if CMS' definitions were strictly interpreted and Maternal/Child Health expenditures were fully separated out per the NHEA methodology (MCH has its own line item), the PHAE would decrease even more. About \$7 billion in our revised 2013 PHAE relates to MCH, and at least \$14 billion in total of the Census non-hospital health related spending (Function 32) data in 2013 related to MCH spending in some way, including clinical MCH, non-clinical or population-based MCH, and supplemental nutrition/WIC.



CMS subtracted less than \$2 billion MCH expenditures from Census' 2013 estimate when they calculated the official 2013 PHAE (using data from HRSA's Maternal Child Health Bureau as their primary source) (Centers for M, 2014).

**Figure 3.** Public Health Activity Estimate in the US, 2000-2013



## Discussion

### The Importance of Accuracy and Precision in Measuring Public Health Spending

Our detailed analyses of administrative data that are used directly by the Census -- and in turn used by CMS in the creation of the Public Health Activity estimates -- shows that those estimates have included items which are not consistent with common characterizations of public health, like those used by CMS or CDC's essential services framework. The PHAE has been used by governments, academics, and advocacy organizations to help create a context for the public health enterprise, and to provide data to assess the fundamental question from policymakers -- what is the value of public health? Research has broadly shown public health's value in specific topical areas, including harm reduction for smoking, vaccinations, water fluoridation and chlorination, communicable disease control, and family planning, among others (Leider, 2016; Peterson, et al., 2014; Abbas, 2014; Nghiem, et al., 2013; Lin, Lasry, Sansom and Wolitski, 2013; Harris and Mueller, 2013; Carande-Kulis, Getzen and Thacker, 2007; Sing, 2014; Bradley, et al. 2016). Public health scholars in the last several years have also attempted to show the impact of systems-level spending of public health on health outcomes. With few exceptions, these studies tend to focus on spending solely by health departments, and not spending by all government agencies on public health activities (Singh, 2014; Bradley, et al., 2016). The latter is ostensibly what Census set out to measure, though it uses different characterizations and approaches to do so. Fundamentally, this means that many recent studies examining connections between public health spending and health

outcomes are limited by excluding spending by any public agencies conducting public health activities outside of health departments (e.g., Departments of environment, agriculture, etc.).

From a research perspective, the basic cause of the discrepancy in Public Health Activity estimates is straightforward – the Census and CMS have different characterizations of public health – but the solution is not so clear-cut. Currently, the Census parses governmental health spending into hospital and non-hospital (which also includes an environmental health subcategory), as well as welfare-related healthcare costs like Medicaid, which are separated from the first two items. A logical approach would be to create a new subcategory under Function 32 specifically for population-oriented and prevention-oriented public health, as was done for Function 27 (environmental health) in 2007. The new subcategory could use CMS’ own definitions and translate more readily into the national estimates. However, aside from creating a new subcategory for ‘public health’ within Function 32, there is not a clear path forward for refining those estimates for use by CMS in creating a more precise and accurate PHAE moving forward.

### ***Implications for the Future of Public Health Finance and Public Health Practice***

In the overall landscape of health spending, our finding that expenditures on public health actually account for only 1% to 2% of national health spending, rather than the 3% as currently estimated by CMS is not earth-shattering. From our perspective, that the US spends so little on public health (whether 1% or 3%) is clear. However, within the field of governmental public health, the evidence that the national estimates should be revised downward 50% or more is extremely consequential, especially in the context of a national conversation about how much to invest in public health systems and infrastructure, as well as a need for greater use of cost-benefit analyses. In 2012, the NAM called for a ‘minimum package of public health services’ that would support public health across all jurisdictions, state, local, and federal (Committee on Public Health, 2012).<sup>5</sup> In addition to funding a base level for the well-known topical areas like communicable disease control or maternal/child health, the minimum package would also support the cross-cutting infrastructure of the public health system that helps the silos function. This approach has evolved into the Foundational Public Health Services model (Public Health Leadership, 2014; (Leider, et al., 2015). Both the cost-estimation work associated with the FPHS, as well as the estimates of need cited by the NAM in the 2012 public health finance report, look at additional needed spending for public health departments, and not necessarily the government overall (Committee on Public Health, 2012). This is problematic, as spending in both areas – within and outside health departments – are needed to accurately determine the appropriate level of investment in public health nationwide. This is a difficult task, and one that may not be possible with current data limitations. Another consideration relates to cost-benefit analysis in public health; if the PHAE ought to be revised downward by half, the value of public health is considerably greater than historically estimated and discussed. This point especially bears further examination in future research.

This paper has shown that the primary national expenditure estimate used for governmental public health in the United States is likely an overestimate due to inclusion of mis-categorized clinical care spending and other characterization discrepancies. These issues stem from a central difference – the data creator (Census) uses a different characterization of public health than its data user (CMS, the creator of the PHAE). More must be done to align the two and establish valid and reliable measures of public health spending over time.

## Corresponding Author

Jonathon P. Leider, PhD  
Johns Hopkins School of Public Health  
615 N. Wolfe Street  
Baltimore, MD 21205 USA  
E-mail: leider@gmail.com

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## Appendix: Expenditure functions for the newly-created code 27 (“Environmental Health”)

### Code Function 27

#### Federal and State Environmental Health

Sector: General Government

**Definition:** Provision of services for the conservation, improvement, and regulation of environmental health.

**Includes:** Expenditures for regulation of air and water quality; health and safety regulations for solid hazardous waste and pesticides; regulation of underground storage and cleanup; cleanup of toxic chemical spills and dumps; and nuclear waste disposal. Also includes state or local expenditure financed by Federal Government “Superfund” for cleanup of hazardous waste sites.

**Excludes:** Expenditures for general health activities, categorical health activities and programs, health-related inspections, and community healthcare programs (report at *Health*, code Function 32).

#### Examples:

- Regulation of air and water quality – sanitary engineering and other environmental activities. Air emission fees, pollution prevention, state indoor radon monitoring.
- Inspection, protection, and monitoring of point source water supplies. Water quality cooperative agreements, cleanup, clean city water grants.
- Federal Government – most activities of the Environmental Protection Agency (with the exception of grant programs for sewerage construction). Activities of the Department of Agriculture as they relate to environmental health.
- Public education relating to conservation, improvement, and regulation of environmental health.

#### Special Considerations:

1. Prior to 2007, the expenditures for states in this code were included in *Health*, code Function 32.
2. This is a state level exhibit code only. The expenditures here are included at *Health*, code Function 32 in the state and local government totals.
3. All local government spending in this area should be coded to *Health*, code Function 32.
4. Prior to 2007, the expenditures for the cleanup of toxic waste spills and dumps were included in Solid Waste Management, code \*81.
5. Prior to 2007, the expenditures for nuclear waste disposal were included in Other and Unallocable, code \*89

#### \*Applicable Coding Options for this Expenditure Function\*

Direct Expenditure		Intergovernmental Expenditure	
E27	Current Operations	L27	To state governments
F27	Construction	M27	To local governments
G27	Land and Existing Structures		
K27	Equipment (Federal, states)		
J27	Assistance and Subsidies (Federal)		

**Appendix: Table 1: Full definitions of Census and CMS**

<b>Census State &amp; Local finance data definitions of Function 32 (Health)</b>	<b>Centers for Medicare and Medicaid definitions of Public Health Activity</b>
<p><b>Definition:</b> Provision of services for the conservation and improvement of public health, other than hospital care, and financial support of other governments' health programs.</p> <p><b>Includes:</b> Expenditures for general health activities, categorical health activities and programs, health-related inspections, community healthcare programs, animal control, and ambulance and emergency medical services ONLY IF handled separately from the local fire department. Additional examples by category are listed below.</p> <p><b>Excludes:</b> Vendor payments for medical appliances, supplies, or services under public assistance programs (use <i>Vendor Payments for Medical Care</i>, code E74); examination and licensing of health-related professions – e.g., doctors and nurses (report at <i>Protective Inspection and Regulation, NEC</i>, code *66); operation or construction of nursing homes (report at <i>Public Welfare</i>, codes *77/*79); vocational rehabilitation (report at <i>Education</i>, codes *18/*21); coroners and crime labs (report at <i>Police Protection</i>, code *62). Expenditures for regulation of air and water quality, and animal control (report at <i>Federal and State Environmental Health</i>, code Function 27).</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"> <li>• General health activities – public health administration, laboratories, public education, vital statistics, research, alcohol and drug abuse prevention/rehabilitation and other general health activities.</li> <li>• Categorical health activities – control of cancer, TB, socially transmitted diseases, mental illness, etc. and maternal, activities funded by Federal W.I.C. funds – Women, Infants, and Children, and child healthcare.</li> <li>• Health related inspections – inspection of restaurants, food handlers, nursing homes, agricultural standards or protection of agricultural products from disease.</li> <li>• Community healthcare programs – community and visiting nurses; immunization programs; outpatient health clinics.</li> <li>• Federal Government – includes the Food and Drug Administrations.</li> </ul>	<p>In addition to funding the care of individual citizens, government is involved in organizing and delivering publicly provided health services such as epidemiological surveillance, inoculations, immunization/vaccination services, disease prevention programs, the operation of public health laboratories, and other such functions. In the NHEA, spending for these activities is reported in government public health activity. Funding for health research and government purchases of medical structures and equipment are reported in their respective categories. Government spending for public works, environmental functions (air and water pollution abatement, sanitation and sewage treatment, water supplies, and so on), emergency planning and other such functions are not included. Most federal government public health activity emanates from the HHS. The Food and Drug Administration and the Centers for Disease Control and Prevention (CDC) account for the great majority of federal spending in the area. Since the 9/11 attacks, substantial public health funding has come from two other sources: The Public Health and Social Services Emergency Fund, a part of the HHS Departmental Management Budget, and the Department of Homeland Security. State and local government public health activity expenditures are primarily for the operation of state and local health departments. Federal payments to state and local governments are deducted from the Census estimates to avoid double counting, as are expenditures made through the HRSA MCH Program and the Crippled Children's Program. Disbursements made by state and local government departments for environmental functions (water and sewer authorities, for example) are not included. There are two basic data sources used in estimation of government public health activity. Federal spending is taken from annual budget documents prepared by the various agencies and summarized in the budget of the U.S. (Executive Office of the President, 1960-2014).</p>

**Appendix: Table 1:** Continued

<b>Census State &amp; Local finance data definitions of Function 32 (Health)</b>	<b>Centers for Medicare and Medicaid definitions of Public Health Activity</b>
<p style="text-align: center;"><b>EXPENDITURE FUNCTIONS</b></p> <p><b>Code Function 32</b></p> <p style="text-align: center;"><b>Health</b></p> <p><b>Special Considerations:</b></p> <ol style="list-style-type: none"> <li>1. Effective 1988, the Census Bureau clarified the classification of nursing homes at <i>Public Welfare – Institutions</i> (except inspection of such homes), code *77, and of ambulance services at <i>Health</i> only if such service is not organized under a fire department.</li> <li>2. Effective 2005, the <i>Agriculture</i> function was removed as a valid function in government finance surveys. Expenditure for maintaining agricultural standards or for the protection of agricultural products from disease was moved to <i>Natural Resources, Other</i>, code *59, rather than to this <i>Health</i> function.</li> <li>3. Prior to 2007, the expenditures in <i>Federal and State Environmental Health</i>, code Function 27, were included in this code. For the state and local government totals code Function 27 is included in code Function 32.</li> </ol>	<p>State and local government spending is estimated using data from the quinquennial (5-year) Census of Governments (U.S. Census Bureau, 1957, 1962, 1967, 1972, 1977, 1982, 1987, 1992, 1997, 2002, and 2007) and from its annual survey of state and local government finances [U.S. Census Bureau, 1960-2011]; the latter surveys all state governments and a sample of local government units drawn from the 5-year census. Estimates for 2012 are based on unpublished data from the Census Bureau and 2012 spending is extrapolated to 2013 using the prior year’s growth rate. These state fiscal year estimates are then converted to calendar year estimates.</p>