A Uniform Chart of Accounts: Strengthening Public Health Practice and Research Through Standardized Financial Data

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ABSTRACT

Context: The COVID-19 pandemic made the long-standing need for a national uniform financial reporting standard for governmental public health agencies clear, as little information was available to quantify state and local public health agencies' financial needs during the pandemic response. Such a uniform system would also inform resource allocation to underresourced communities and for specific services, while filling other gaps in practice, research, and policy making. This article describes lessons learned and recommendations for ensuring broad adoption of a national Uniform Chart of Accounts (UCOA) for public health departments.

Program: Leveraging previous efforts, the UCOA for public health systems was developed through collaboration with public health leaders. The UCOA allows state and local public health agencies to report spending on activities and funding sources, along with practice-defined program areas and capabilities.

Implementation: To date, 78 jurisdictions have utilized the UCOA to crosswalk financial information at the program level, enabling comparisons with peers.

Evaluation: Jurisdictions participating in the UCOA report perceptions of substantial up-front time investment to crosswalk their charts of accounts to the UCOA standard but derive a sense of valuable potential for benchmarking against peers, ability to engage in resource allocation, use of data for accountability, and general net positive value of engagement with the UCOA.

Implications for Policy and Practice: The UCOA is considered a need among practice partners. Implementing the UCOA at scale will require government involvement, a reporting requirement and/or incentives, technical assistance, financial support for agencies to participate, and a means of visualizing the data.

KEY WORDS: financial accounting, Foundational Public Health Services, managerial accounting, public health departments, public health finance

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The COVID-19 pandemic made the long-standing need for a national uniform financial reporting standard for governmental public health agencies clear. As urgent pandemic-related requests arose from policy makers and the media to quantify the financial need among public health systems, little precise information was available.[1,2] Yet, a refrain over the last decade in public health has been the need for standardization of financial reporting to guide public health efforts.[3-5]

Efforts to identify system-level standards regarding public health activity have coalesced in recent years around the Foundational Public Health Services (FPHS) model—the core capabilities (eg, assessment, communications) and programs (eg, communicable

disease control) that every community should expect from its governmental public health system.[6] Unfortunately, past efforts to estimate resources needed to ensure FPHS availability have been insufficient.[7] A 2018 publication on the topic ends with prescient urgency regarding the need for "an accurate sense of where our prevention dollars come from, go to, and what we really need for protecting the public's health."[5(p291)] Yet, no such "accurate sense" was available when COVID-19 emerged.

While FPHS is a framework for conceptualizing the organization and distribution of public health services, a Uniform Chart of Accounts (UCOA) was created as a means of implementing, standardizing, and measuring financial resources supporting this framework, as well as additional spending by public health agencies (eg, newborn home visiting, mammography screening) that goes beyond the FPHS. Like data systems and measures standardized for health care service delivery, the UCOA was created for standardizing and capturing financial information for foundational governmental public health services. This article describes the lessons learned from development and implementation of a standardized UCOA for use in public health planning, policy making, and advocacy and the implications of these lessons for policy makers and practice leaders. Successes and challenges regarding adoption of a national UCOA for governmental public health departments within the context of the Public Health Activities and Services Tracking (PHAST) Model for Standardizing Public Health Data are also identified, as the PHAST model depicts elements necessary for increasing the adoption and incorporation of standardized data into public health practice.[8,9] Finally, we provide recommendations for policy makers and national public health practice leaders to support broad UCOA adoption across US governmental public health systems and before the next pandemic.

Context

Difficulties related to the lack of comparable financial reporting were identified well before COVID-19. A 2012 report commissioned by the National Academy of Medicine (NAM) called for development of a public health UCOA to provide public health leaders and policy makers with comparable, detailed financial data necessary to inform practice and drive collective action.[3] Honoré and colleagues[10] described US public health accounting systems as decades behind other public and health care sector reporting standards and blamed this, in part, on the lack of a standard for comparisons across varied public health systems.

Ten years later, a comprehensive retrospective documented lack of progress in the area of public health financing. It identified ongoing "serious questions" regarding the "fair" allocation of public health resources, the inability to track the distribution and use of resources, and the degree to which gaps in tracking and accountability undermine efforts to measure a return on public health investments.[4,11] One of the few recommendations where meaningful progress was identified was in the development of a UCOA.[4,11]

Development of a UCOA for public health builds on prior efforts aimed at reporting comprehensive, comparable, and detailed public health expenditures,[10] including an early state-level precursor that ended in the 1990s[12] and an early version of a UCOA analogue (Public Health Uniform Data System) that was launched in the late 2000s and later led to the first UCOA efforts.[4,10,11]

Program

Developing the UCOA

Building on previous efforts,[10,12] the PHAST team at the University of Washington established a UCOA crosswalk as a financial reporting tool for public health. The PHAST team had experience with using and obtaining public health agency financial data for prior studies demonstrating the impact of public health investments on population health outcomes and in identifying gaps in FPHS spending.[13-15] During 2016-2017, and in collaboration with state and local public health leaders across the country, the UCOA was developed, with funding from the Robert Wood Johnson Foundation (RWJF), to allow state and local agencies to report spending on activities and related funding sources along a set of practice-defined program areas and capabilities.[5]

The UCOA reporting tool established by PHAST collects and reports detailed financial data from public health agencies, using a crosswalk approach.[5] Building on the FPHS framework, the UCOA captures expenditure and revenue data for 6 crosscutting capabilities and 7 major program areas, further broken down into 44 subcategories (Table 1). This structure was developed in collaboration with 20 public health agencies that applied to participate in the 2016-2017 pilot and was inclusive of 16 local health departments (LHDs) from each of the 4 states (Minnesota, Missouri, New York, and West Virginia) and their state public health agencies.[5,16] The categories were established with the objectives of gathering as much reliable detail as possible and desired by practice, while supporting feasibility.

TABLE 1
The UCOA Reporting Tool Structure

		Program Areas						
Capabilities		**Communicable Disease**	**Chronic Disease**	**Injury Prevention**	**Environmental Health**	**Maternal-Child and Family Health**	**Access and Linkage**	**All Other Activities**
All hazards preparedness and response	**Major Programs**	Communicable disease epidemiology	Asthma	Senior falls prevention	Air	Coordination of services	Building health care capacity	Other health care
Assessment		Hepatitis	Cancer	Firearms	Fish and shell fish	Direct services	Eligibility determination	Other social services
Communications		HIV/AIDS	Cardiovascular	Intentional injuries	Food safety	Family planning	Health care licensing	
Community partnerships development		Immunization	Diabetes	Motor vehicle	Lead	Newborn screening	Other access and linkage activities	
Organizational competencies		Other communicable disease activities	Obesity	Occupational injury	Other environmental health activities	Other maternal-child and family activities		
Policy development and support		STD	Other chronic disease activities	Other injury activities	Sewerage	Population-based maternal-child health		
		Tuberculosis	Tobacco	Substance abuse	Solid waste	Supplemental nutrition		
				Unintentional injuries	Toxic substance assessment			
					Vector borne			
					Water			

Abbreviations: STD, Sexually transmitted disease; UCOA, Uniform Chart of Accounts.

Implementation

Operationalizing and implementing the UCOA: Crosswalking data and supporting use

The UCOA reporting tool asks financial and program leaders to map expenditure and revenue information from their agency-specific accounting system to the UCOA. To complete this task, financial managers access online, self-guided training and active technical assistance provided by project staff. To crosswalk an agency's own chart of accounts to the UCOA, users review their own financial codes for major programs and capabilities and assign each of them to the best-fitting UCOA code. In cases where an exact match is not possible, financial and program managers estimate allocations to UCOA categories.

Participating agencies were provided access to their data and deidentified data from other participants through interactive dashboards, allowing users to benchmark their financial performance against others. Agencies could then be compared by type (state vs local) and relative size. Financial data could be downloaded as spreadsheets for analysis, and visualizations downloaded as images or PDFs for communication and reporting. By June 2021 (the end of the PHAST team's RWJF funding to support UCOA data collection and related technical assistance), 5 state and 73 LHDs from across the United States had provided UCOA data and were able to access the related dashboard, inclusive of their data. Descriptive accounts from 66 of the LHDs that were able to provide the most complete data demonstrate the range of FPHS-related expenditures and revenue sources (Table 2).

Evaluation

Evaluation of the UCOA's utility

Lessons learned from the PHAST team's UCOA development and implementation have revealed successes and challenges, as a well as strategies for broader implementation. These are framed in the context of the previously published PHAST Model for Standardizing Public Health Data (Figure 1).[8,9] The model consists of 3 parts: (1) data need/use (practice); (2) data generation and analysis (research); and (3) data access (bridging the gap).[8] Figure 1 is an adaptation of the PHAST model, with the italicized outer layer added to depict what efforts with UCOA implementation have demonstrated.

The results from our experiences with the UCOA from 2016 to June 2021 are drawn from several sources, including surveys and informal feedback from participants, focus groups, guidance from the UCOA's national advisory committee, and

TABLE 2
Per Capita Expenditures and Revenue Sources for 66 Local Health Departments for the Years 2015-2019[a]

	Per Capita Expenditures, Median (IQR)	Revenue Sources						
		Federal	State	Local	Fees/Fines	Medicare/ Medicaid	Other Clinical	Other
Program areas[b]	$28.51 ($16.84-$61.18)	30.6%	20.4%	16.3%	13.0%	7.2%	5.4%	7.3%
Foundational capabilities[c]	$12.50 ($5.46-$22.34)	21.6%	24.9%	38.4%	4.6%	1.8%	0.5%	8.7%
Other health and social services	$5.57 ($0.28-$38.45)	18.7%	19.2%	13.2%	7.2%	20.5%	8.1%	12.8%

Abbreviation: IQR, interquartile range.

[a]Percentages do not add to exactly 100% due to rounding.

[b]Program areas include spending on and revenues for communicable disease control; chronic disease prevention; environmental health; maternal, child, and family health; and access to and linkages with clinical care.

[c]Foundational capabilities include spending on and revenues for all hazards preparedness and response; assessment; communication; community partnership development; policy development and support; organizational competencies; and other capabilities.

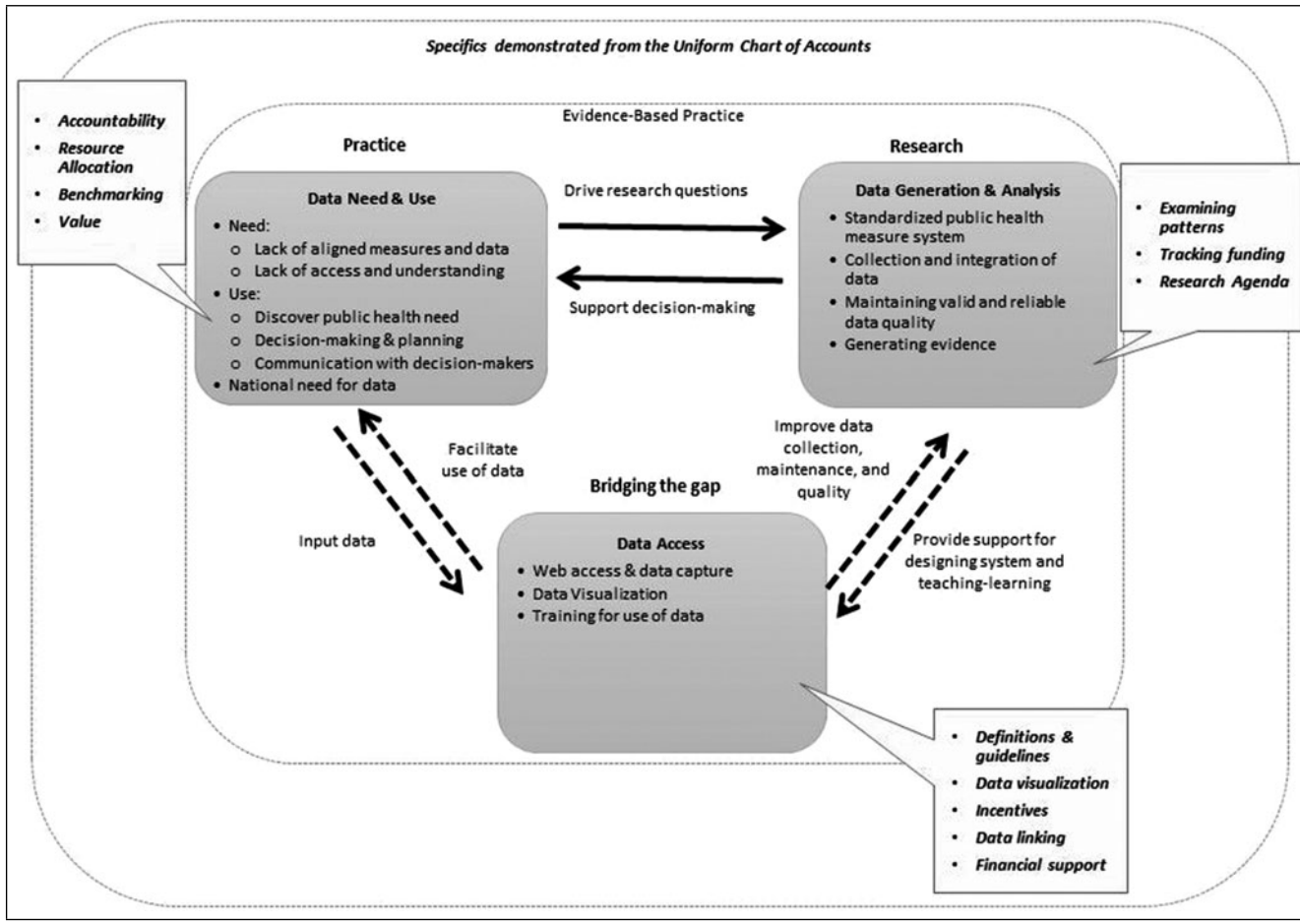

FIGURE 1 The PHAST Model for Standardizing Public Health Data—Adapted to Demonstrate UCOA Findings
Abbreviation: UCOA, Uniform Chart of Accounts.

application of the UCOA in practice and policy making. The surveys were aimed to evaluate the feasibility of the crosswalk method, including the amount of staff time required for data collection and reporting. Focus groups during the 2016-2017 pilot elicited what participants described as the value of the UCOA as applied in practice. Focus groups during the subsequent phase (2018-2020) provided feedback on the data visualization needs and how the UCOA dashboard could be redesigned to better serve public health practice.

Data need/use (practice)

A fundamental issue in ensuring stable public health funding has been the field's inability to demonstrate accountability for its resources. With a means of accounting for how funds are spent, public health leaders can more effectively allocate resources, benchmark themselves relative to other similar agencies and over time, and demonstrate value for funding. Participating agencies have used the information collected in the UCOA reporting tool in various ways to inform practice. These uses are described in the following text, with Table 3 providing specific examples:

Accountability. The standardized financial data reported by agencies using the UCOA offer insights into agencies' sources and specific uses of funding. Thus, the UCOA provides a tool assisting with planning and reporting revenues and expenditures incurred regarding all agency activities.

Resource allocation. With clear identification of funding and costs, agencies are empowered to improve their overall financial management. Agencies can plan spending more strategically, organize funds, control financial activities to meet goals, and speak more cogently with their Boards of Health and others regarding their budgets and needs.

Benchmarking. State and local public health leaders have described the potential for the UCOA to enable benchmarking and comparisons over time and across health departments like their own. In addition,

TABLE 3
Focus Group Responses From Participating UCOA Users

Use	Example
Accountability	"[B]eing able to use a UCOA [. . .] allows you to be [. . .] more deliberate with your coding in your financials [and] in better internal control with your system, which are then going to help springboard you into having cleaner audits when you have better internal controls and when you're more structured with your financials." "[O]ne of the things that the Uniform Chart of Accounts really brings for us is transparency in breaking down some of the larger buckets of money that were appropriated from the Legislature." "I'd like to be able to track and have dashboards that show where we're spending our funding and what types of projects with what groups so that the community can have access to that and see, you know, maybe where there's opportunity for us to be more, or diversify our spending more and offer opportunity to different parts of the community."
Resource allocation	"I manually did the allocation for this first reporting [of the UCOA] and what we realized was this gap that we had in not being able to find this information. So . . . [what] we've done is we had the ability to add an accounting structure. [. . .] That's 100% using the UCOA, but it's been very helpful. I have already been able to use it to answer a few questions for legislators and policy makers on what we spend. One of the things that we are using it for is to track expenditures for the coronavirus." "[. . .] using data to drive decision making. And what we're doing is looking at the results of this data . . . and making decisions about, you know, does our allocation of time across the state match—what the need is in a particular community at where the public health nurses are based. [. . .] we had a pretty intense strategy meeting just this week with our leadership team to then look at areas that we may not be spending as much time in [. . .] So within our section, we're already finding the data that we put together to be extremely helpful."
Benchmarking	"[O]ne of the things that we would love to see is comparison data with other local public health agencies and what's hard is to adjust for different size counties or different size agencies. So, some sort of population adjusted or normalized sense of where our expenditure levels are in comparison to other agencies in a way that makes sense." "[W]e were kind of compared to it, an entity that was participating in the project that was closer to our size and to me, that was fantastic information because I was able to look at FTE and salary wages overall, to kind of give me an idea of where we were on it compared to another state, [. . .] and I feel like the comparisons whenever the data gets there, it's going to be one of those tools that everybody is going to really be interested in."
Value	"I think one of the things the UCOA brings us is the ability to summarize this data categorically and since we put it in the accounting system, we will be able to do it at the touch of a button. Once it's fully implemented, which will be very nice, [it will] make it a lot easier. We have to present a lot of our data in ways that align with the way the state budget is appropriated to us. [. . .] That will allow us to use some of these visualizations that you already provide."

Abbreviations: FTE, full-time equivalent; UCOA, Uniform Chart of Accounts.

they identified benchmarking as a means to support funding requests and compare revenue sources and amounts.

Value. Among the drivers behind chronic underfunding, the public health literature cites the inability to assess spending within the governmental public health enterprise and to thereby support the public health value proposition.[17] UCOA participants identified value in being able to demonstrate how funds are expended for specific purposes, the ability to be transparent with their communities and policy makers regarding their efforts, and the potential for demonstrating health impacts.

Data generation and analysis (research)

Comparable public health financial data are critical for research and evidence that will improve practice and inform the allocation of resources to health departments and returns on investments.[8,18] Some evidence has been generated with the data compiled to date.

Examining spending and revenue patterns. Despite not being nationally representative, data from the UCOA provide preliminary insights into the levels and patterns of agencies' spending and revenue sources. Median total spending by the 16 pilot LHDs (2016-2017) amounted to $32.87 per capita, with the largest spending in maternal, child, and family health, followed by foundational capabilities, environmental public health, and communicable disease control.[16]

Levels of spending and corresponding revenue sources have varied substantially across UCOA participant agencies, yet patterns have emerged. A study using UCOA data to identify relationships between spending patterns on the foundational capabilities and agency performance in accreditation, for instance, showed that agencies that invested resources

across all of the FPHS capabilities had higher performance scores on Public Health Accreditation Board standards than agencies that, for example, invested primarily in capabilities only related to "Organizational Competencies" (eg, human resources).[19] This study by Dada et al[19] demonstrates the potential for detailed, comparable financial data to guide specific resource allocations associated with performance.

Tracking funding streams. The UCOA also provides a means to track revenue streams and programmatic expenditures from federal sources to states and then to local agencies. Information on expenditure and revenue flows across agencies supports examinations of how public health systems are managing allocated resources and supporting specific activities. Figure 2 illustrates how 33 LHDs that participated in the UCOA between 2016 and 2020 layered and braided funding to maintain capacity for specific program areas. Tracking revenues and expenditures is potentially a condition for governmental funding, as in the *Public Health Infrastructure Saves Lives Act*, sponsored by Senator Patty Murray in 2021. Allocating the proposed additional governmental public health infrastructure funding of $4.5 billion annually in this Act requires a "standardized approach to financial reporting" to track these new funds and their uses.[20]

Research agenda. Standardized financial data for public health are key to many of the 12 research questions raised in the 2012 Public Health Systems and Services Research (PHSSR) research agenda related to "public health financing and economics."[21] With the availability of such data, researchers have the tools needed to answer these questions and update a long-overdue PHSSR research agenda for the future.[22]

Data access (bridging the gap)

Providing a "bridge" between meeting the needs of practice and for generating evidence needed for transparency and demonstration of value requires technical support regarding uptake and incorporation of standardized measures in practice and for data to be consistent, comparable, high quality, and durable.[8] Our experience regarding UCOA implementation suggests that creating that supportive "bridge" requires clear definitions and guidelines, data visualization, incentives and financial support, and data linking.

Definitions and guidelines. UCOA participants in our focus groups described the need for data consistency across their agencies, further driving our efforts to provide detailed definitions for each UCOA major program and capability and developing

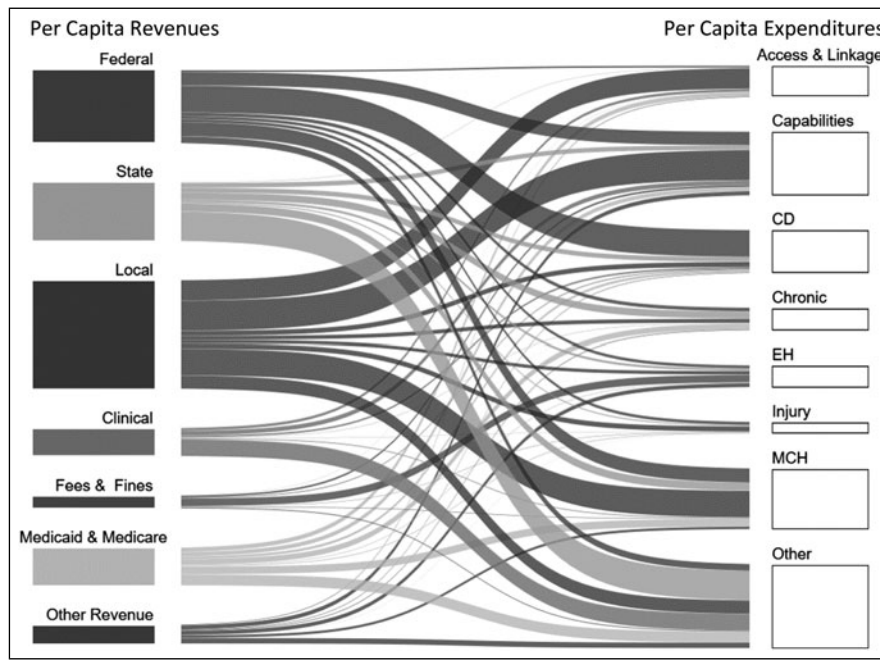

FIGURE 2 UCOA Data Showing High-Level Expenditure Categories Relative to Revenue Sources[a]
Abbreviations: CD, communicable disease control; chronic, chronic disease prevention; EH, environmental public health; injury, injury and violence prevention; MCH, maternal and child health; UCOA, Uniform Chart of Accounts.
[a]The thickness of the lines represents relative amount of per capita dollars (aggregated for 33 agencies).

crosswalking guidelines. In addition, UCOA definitions have evolved to maintain alignment with national efforts to refine the FPHS.

Data visualization. Currently, agencies have limited ability to gather insights from their financial data due, in part, to the "siloed" nature of funding streams.[4] This creates barriers to thoughtfully reallocating resources. The UCOA was, thus, found to need a user-centered data visualization dashboard to facilitate making data accessible to users for examining finances and budgets across their funding and expenditure streams.[23]

Incentives. UCOA pilot participants received financial support through RWJF grant funding and free technical assistance to support their crosswalking efforts.[13] The PHAST team found that it takes approximately 40 hours of agency-level staff time to complete the UCOA crosswalk the first time. However, these hours vary greatly, based on agencies' size and complexity, as well as the structure of existing accounting systems. When financial incentives were discontinued in 2018, it became more difficult to recruit new UCOA participants despite the value that had been identified by pilot UCOA participants. Given existing demands on public health staff, Yeager et al[4] found that practitioners describe the UCOA effort as "too much work." Our focus group data with practitioners also emphasized that agency leaders felt they were not adequately incentivized or financially supported for the initial UCOA crosswalk effort needed, suggesting that financial supports and incentives are important for broad adoption.

Data linking. UCOA participants and interested partners have often asked whether a growing database of financial data could be connected to local, regional, and national metrics on population health status, community capabilities, areas of need, and local health outcomes. Their interest demonstrates a desire to have linked data to support evaluation of specific public health investments on related health outcomes, showing a return on investment.

Discussion

The UCOA has demonstrated its feasibility, value, potential, and importance in serving as a national standard for public health financial reporting. However, lessons learned from these efforts suggest that specific actions are needed to successfully scale up the UCOA nationally and have it support accountability for public health finances, as well as adequately meet urgent data and information needs for practice and research. We highlight our recommendations in the text that follows.

Ensure data accessibility and usability for those providing the data

Our experiences affirm those of Honoré and colleagues[10] that the UCOA "would need to be directly and immediately useful to those health departments in their day-to-day work"(p513) for agencies to participate. UCOA participants reported seeing the potential for benchmarking their expenses and revenues over time and in comparison with others, having access to related visualizations, and better understanding sources of funding for varied services. Similarly, Yeager et al[4] found support for implementation of a UCOA for better understanding and comparing costs. Even so, we found, like Yeager et al,[4] that the initial effort needed to crosswalk their data was a barrier. In addition, comparison with peer agencies requires a critical mass of data for the insights gained to be meaningful. Given this mix of interest in the data, along with barriers to participation, we strongly recommend that UCOA data providers (ie, local and state health departments) be assured easy access to and use of the data that they and their peers provide. This should include user-centered visualization features that support meaningful data-driven decision-making.[18] Such accessibility would also support improved financial management practices among practitioners—an area of high need for improved public health workforce competencies and related tools.[24]

Ensure practical relevance of the data

While it should serve as a useful standard with definitions and a means to ensure comparability, we also recommend that the UCOA remain aligned with national efforts such as public health accreditation and the FPHS framework. Frequently, health department leaders have related the UCOA to the financial management standards described in the Public Health Accreditation Board's accreditation process.

While FPHS definitions reflect the interconnected nature of public health practice, they are less well-suited as measures for identifying underlying activities and use of human and capital resources in implementing specific programs. Thus, the UCOA was designed to capture all services of a public health agency, including those not depicted in the FPHS. Regardless, ensuring UCOA capacity to track FPHS-related spending, especially those more-difficult-to-measure expenditures regarding capabilities or infrastructure, will be key to maintaining the UCOA's relevance. This is particularly important, given that stable funding for public health system capabilities such as community assessment,

communications, and policy development (Table 1) has been elusive.[17]

UCOA data are of interest to national organizations that regularly collect high-level (ie, without detail) state and local expenditure data—data that still require agency time and effort but that are at such a high level they do not support deep comparisons, monitoring, benchmarking, and other analyses. National partners such as the National Association of County and City Health Officials, Association of State and Territorial Health Officials, and Trust for America's Health would mutually benefit from health departments providing UCOA data as a means to improve their organizations' own public health financial data collected from among public health agencies for use in research, advocacy, and planning. The PHAST team has proposed that these national organizations consider adopting the UCOA as part of their member surveys or in related data collection, although such UCOA data collection would require incentives and supports.

Enable researchers to use UCOA data

For UCOA data to support the generation of evidence, it is not enough to merely make detailed data available should the UCOA achieve wide adoption. As such, we strongly recommend a UCOA Data Governance Board for ensuring data quality as the UCOA becomes more widely utilized and able to support PHSSR. The current scarcity of funding for PHSSR and related financial research is also a barrier to making full use of the data as more data become available; a rich data set alone will not support the research needed without PHSSR funding.[22] Clearly, further analyses using UCOA data from a larger representative sample of agencies are also needed to understand what drives financial variation and to determine the specific resources needed for programs and capabilities and under what types of conditions.

Institutionalize the UCOA

Major investments are currently being made to bolster the infrastructure of our nation's public health systems.[25,26] While these may be one-time funds, the *Public Health Infrastructure Saves Lives Act* could establish ongoing federal public health infrastructure investments. Congress, the public, and public health leaders should expect these investments to meet critical needs, address inequities, and allocate resources equitably. Such tracking and accountability require institutionalization of a uniform financial reporting system.[20] New national public health infrastructure investments could provide the initial funds health departments need to support agencies' initial UCOA crosswalk, with a portion of funding tied to use of an approved UCOA with standardized, interoperable, and transparent performance data. The resulting UCOA data would help in assessing a national return on investment of new public health funds, help prevent supplanting of resources, and support the monitoring of resources displaced during the COVID-19 pandemic and future crises.

Finally, Honoré and colleagues[10] recommended that a UCOA crosswalk become mandatory reporting, similar to Medicare Cost Reports and Health Resources and Services Administration data systems for community health centers. Our UCOA efforts support such mandatory standardized financial reporting, as incentives related to perceived value and relevance to accreditation appear inadequate to drive large-scale uptake of the UCOA.

Conclusion

The UCOA has been developed and identified as a valuable contribution to guiding practice, research, and policy making and has the potential to be scaled up to a national reporting system, similar to federal health care data systems. Such scale-up would, however, require substantive government involvement, reporting requirements and/or incentives, targeted technical assistance, a process capable of crosswalking all (or some critical mass of) state and local public health agencies' charts of accounts into the national standard, and a user-centered means of visualizing and making use of the data. Once established, a fully standardized financial reporting system would significantly improve the ability of public health leaders and policy makers to equitably allocate resources and

Implications for Policy & Practice

- Standardized financial information is not currently expected in public health, even as it is common across other parts of the public sector, including health care systems.
- A lack of standardized financial information makes it challenging to understand how much is currently spent on public health activities and the value of that spending.
- The UCOA project has evolved out of multiple iterations and a call from the NAM for a national standard for public health financial reporting to support comparisons of spending and staffing in the field.
- To scale up the UCOA nationally, incentives for participation, data sharing, and federal investment for a robust national data infrastructure are needed.

demonstrate the value of public health services. To advance the state of the science and facilitate data-driven public health insights, widespread UCOA adoption is, thus, imperative. We, therefore, strongly recommend that the field build on what has been developed, tested, and learned from these UCOA efforts to foster a 21st-century postpandemic public health finance infrastructure that will support a more robust public health future.

References

1. Sellers FS. Coronavirus shows why we need better public health funding, experts say. https://www.washingtonpost.com/health/coronavirus-shows-why-we-need-better-public-health-funding-experts-say/2020/03/12/c2b0bc9e-5cac-11ea-9055-5fa12981bbbf_story.html. Published 2020. Accessed June 13, 2022.
2. Weber L, Ungar L, Smight MR, Recht H, Barry-Jester AM. Hollowed-out public health system faces more cuts amid virus. https://khn.org/news/us-public-health-system-underfunded-under-threat-faces-more-cuts-amid-covid-pandemic. Published 2020. Accessed June 13, 2022.
3. Institute of Medicine (IOM). For the public's health: investing in a healthier future. http://www.iom.edu/Reports/2012/For-the-Publics-Health-Investing-in-a-Healthier-Future.aspx. Published 2012. Accessed February 27, 2017.
4. Yeager VA, Balio CP, McCullough JM, et al. Funding public health: achievements and challenges in public health financing since the Institute of Medicine's 2012 report. *J Public Health Manag Pract*. 2022;28(1):E244-E255.
5. Bekemeier B, Singh SR, Schoemann A. A uniform chart of accounts for public health agencies: an "essential ingredient" for a strong public health system. *J Public Health Manag Pract*. 2018;24(3):289-291.
6. Kronstadt J, Meit M, Siegfried A, Nicolaus T, Bender K, Corso L. Evaluating the impact of national public health department accreditation—United States, 2016. *MMWR Morb Mortal Wkly Rep*. 2016;65(31):803-806.
7. Mamaril CBC, Mays GP, Branham DK, Bekemeier B, Marlowe J, Timsina L. Estimating the cost of providing foundational public health services. *Health Serv Res*. 2018;53(suppl 1):2803-2820.
8. Bekemeier B, Park S. Development of the PHAST model: generating standard public health services data and evidence for decision-making. *J Am Med Inform Assoc*. 2018;25(4):428-434.
9. Bekemeier B, Park SE, Whitman G. Challenges and lessons learned in promoting adoption of standardized local public health service delivery data through application of the PHAST model. *J Am Med Inform Assoc*. 2019;26(12):1660-1663.
10. Honoré PA, Leider JP, Singletary V, Ross DA. Taking a step forward in public health finance: establishing standards for a Uniform Chart of Accounts crosswalk. *J Public Health Manag Pract*. 2015;21(5):509-513.
11. Orr JM, Leider JP, Singh S, et al. Regarding investment in a healthier future: impact of the 2012 Institute of Medicine finance report. *J Public Health Manag Pract*. 2022;28(1):E316-E323.
12. Barry M, Bialek R. Tracking our investments in public health: what have we learned? *J Public Health Manag Pract*. 2004;10(5):383-392.
13. Bekemeier B, Yip MP, Dunbar MD, Whitman G, Kwan-Gett T. Local health department food safety and sanitation expenditures and reductions in enteric disease, 2000-2010. *Am J Public Health*. 2015;105(suppl 2):S345-S352.
14. Bekemeier B, Dunbar M, Bryan B, Morris ME. Local health departments and specific maternal and child health expenditures: relationships between spending and need. *J Public Health Manag Pract*. 2012;18(6):615-622.
15. Bekemeier B, Marlowe J, Squires LS, Tebaldi J, Park S. Perceived need versus current spending: gaps in providing Foundational Public Health Services in communities. *J Public Health Manag Pract*. 2018;24(3):271-280.
16. Singh SR, Bekemeier B, Leider JP. local health departments' spending on the foundational capabilities. *J Public Health Manag Pract*. 2020;26(1):52-56.
17. Alfonso YN, Leider JP, Resnick B, McCullough JM, Bishai D. US public health neglected: flat or declining spending left states ill equipped to respond to COVID-19. *Health Aff (Project Hope)*. 2021;40(4):664-671.
18. Backonja U, Park S, Kurre A, et al. Supporting rural public health practice to address local-level social determinants of health across Northwest states: development of an interactive visualization dashboard. *J Biomed Inform*. 2022;129;104051.
19. Dada OO, Bekemeier B, Flaxman A, de Castro AB. Associations between local health department expenditures on foundational capabilities and PHAB accreditation standard scores. *Front Public Health*. 2022;10:861587.
20. Murray P. *S.4740—Public Health Infrastructure Saves Lives Act, 116th Congress*. Washington, DC: Congress.gov; 2020:1-11.
21. Consortium from Altarum Institute; Centers for Disease Control and Prevention; Robert Wood Johnson Foundation; National Coordinating Center for Public Health Services and Systems Research. A national research agenda for public health services and systems. *Am J Prev Med*. 2012;42(5)(suppl 1):S72-S78.
22. Martin EG, Bekemeier B. Investing in evidence to inform practice: reimagining the U.S. public health system. *Health Aff Blog*. https://www.healthaffairs.org/do/10.1377/hblog20210405.773991/full. Posted 2021. Accessed June 13, 2022.
23. Public Health Activities and Services Tracking (PHAST). Uniform Chart of Accounts Dashboard. https://phastdata.org/viz/coa-dashboard. Published 2020. Accessed August 9, 2022.
24. Bogaert K, Castrucci BC, Gould E, Rider N, Whang C, Corcoran E. Top training needs of the governmental public health workforce. *J Public Health Manag Pract*. 2019;25(2)(suppl 2), Public Health Workforce Interests and Needs Survey 2017:S134-S144.
25. Centers for Disease Control and Prevention. Public health surveillance and data. https://www.cdc.gov/surveillance/surveillance-data-strategies/dmi-investments.html#:~:text=The%20Coronavirus%20Aid%2C%20Relief%2C%20and%20Economic%20Security%20%28CARES%29,data%20and%20surveillance%20infrastructure%20of%20the%20United%20States. Published 2022. Accessed June 13, 2022.
26. Centers for Disease Control and Prevention. Public health workforce development. https://www.cdc.gov/workforce/resources/infrastructuregrant/index.html. Published 2022. Accessed June 13, 2022.