Integration of Health and Social Services at the Systems Level: A Framework for Addressing Funding and Jurisdictional Silos

J. Mac McCullough, PhD, MPH, Jonathon P. Leider, PhD, and Megan A. Phillips, MS

Objectives. To examine spending and resource allocation decision-making to address health and social service integration challenges within and between governments.

Methods. We performed a mixed methods case study to examine the integration of health and social services in a large US metropolitan area, including a city and a county government. Analyses incorporated annual budget data from the city and the county from 2009 to 2018 and semistructured interviews with 41 key leaders, including directors, deputies, or finance officers from all health care–, health-, or social service–oriented city and county agencies; lead budget and finance managers; and city and county executive offices.

Results. Participants viewed public health and social services as qualitatively important, although together these constituted only $157 or $1250 total per capita spending in 2018, and per capita public health spending has declined since 2009. Funding streams can be siloed and budget approaches can facilitate or impede service integration.

Conclusions. Health and social services should be integrated through greater attention to the budgetary, jurisdictional, and programmatic realities of health and social service agencies and to the budget models used for driving the systems-level pursuit of population health. (*Am J Public Health.* 2020;110:S197–S203. doi:10.2105/AJPH.2020.305735)

See also Dasgupta, p. S174.

Local government employees are the "boots on the ground" of the public sector. Local public health staff are much more likely to provide direct services than are their peers in state or federal government.[1] This means local government workers are often client facing,[2] and integrating client-facing services is particularly important.[3–7] Research from health care, public health, and the public sector more broadly shows that better integration of services can result in more efficient delivery of services. In some cases, the benefits of improved service integration can include better health outcomes, such as reduced readmission rates or shorter lengths of hospital stays.[6,8–10]

The successful integration of health and social services may depend on several components, including the level at which integration occurs (e.g., agency or program levels), the partners taking part, whether the partners have shared goals and roughly equal willingness and ability to contribute, and the degree of integration.[11] Reviews have explored the various aspects of integration, and the majority of findings indicate that having shared goals or other strategic alignment improves the likelihood of successful integration.[11–15]

The general notion of public sector service integration is decades old,[3,5,6] but the literature is still emerging on strategies and best practices for the integration of specific services or portfolios in the health and social services spaces. There is relatively little research in the scientific literature regarding the overall environments in which integration initiatives take place and what systems-level factors may promote or hinder the likelihood of large-scale, long-term integration successes.[12,13,16]

Numerous practical, political, and financial incentive problems may face entities pursing greater integration. The first is a problem of integration within the government's departments, divisions, and bureaus.[3,7,12,13] Different departments might be serving largely the same clientele, but political, financial, and historical barriers may prevent greater integration.[12,17,18]

The second problem is, perhaps, more intractable: jurisdiction. The United States has approximately 90 000 governments, encompassing cities, towns, county governments, and special districts.[19] These governments generally function independently but may serve the same populations of other governments. Working across governments has become a particular focus in the public health and health care spaces, given the significant challenges faced by those that might benefit from population-based prevention programs.[8,20]

Integration holds potential for improving outcomes and efficiencies.[6,8] However, communities and policymakers face complex, multifaceted barriers to the integration of health and social services across an entire community.[12,13] There is a deficit of empirically driven systems-level evidence regarding how health and social agencies in a community encounter integration barriers and how the individuals leading these

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agencies see and address barriers to systems-level health and social service integration. A systems-level view of bigger-picture strategies and solutions that make integration more likely to occur or more likely to succeed may help to promote larger-scale, longer-term success of integration's goals—namely improved efficiency and better outcomes. We used a case study of spending and resource allocation decision-making by 2 multibillion dollar city and county governments to examine the questions of "within" and "between" integration challenges.

METHODS

To characterize the current state of, barriers to, and facilitators of integration of health care within and between health and human service agencies, we performed a mixed methods case study to examine the integration of health and social services in a large US metropolitan area. We conceptualized integration as occurring across 2 dimensions. First, integration would occur within a government, because the same city, county, or state government may operate multiple programs separated by political, financial, and historical barriers yet largely serve similar populations.[12] Second, integration would occur between governments, because both a city and a county or state government may operate complementary programs targeting similar health-related outcomes or populations. We examined revenues from city, county, state, federal, fee, and nongovernmental sources and the programmatic integration of programs, outputs, and outcomes from the full suite of city and county agencies.

Our study's setting was a very large, diverse, urban city ("City 1") and the county ("County 2") that includes City 1, its surrounding cities, and the unincorporated areas in its jurisdiction. The city and county are located in a state that did not expand Medicaid under the Affordable Care Act. Both the city and the county provide full portfolios of government services to their constituents. The city is focused heavily on serving city residents, and most—but not all—county services are focused on serving residents in unincorporated areas of the county outside the city limits.

In this mixed methods analysis, we used multiple data collection and analysis procedures. We obtained annual budget data from the city and the county from 2009 to 2018. One challenge in comparing spending across governmental entities is that although generally accepted accounting principles apply, governments categorize and report spending to meet their own needs. There has been a recent movement to standardize expenditures across governments for specific services such as public health.[8–10] To enable valid comparisons of spending across jurisdictions, we obtained data at the object level (i.e., granular budget data for salaries, equipment, travel, etc. as opposed to aggregate service- or program-level expenditure data) from city and county governments. We categorized data on more than 1 000 000 expenditure and revenue records in accordance with existing frameworks and categories as defined by the US Census Bureau.[8–10] We relied on previous expertise with these definitions and frameworks when making initial categorizations. In the event of uncertainty or potential category discrepancy, multiple authors reviewed the spending to make a final determination. The majority of spending could be clearly classified; only approximately 30 of 430 categories required discussion among the authors.

With crosswalked spending data, we were able to compare spending across these 2 large governmental entities. We adjusted spending totals to constant 2018 dollars using the Bureau of Economic Analysis's state and local government deflator. We tracked and analyzed spending estimates and patterns over time. Given the differences in statutory authorities and scope of responsibilities, our purpose was not to identify who was spending more, but rather to explore differences in how funds were allocated for health care, health, and social services by the 2 separate local government entities. In addition, we obtained data from the Dartmouth Atlas on per capita Medicare expenditures and data from the state's Medicaid authority on Medicaid expenditure totals for this county. Combined with data on the estimated number of Medicare and Medicaid enrollees in the county and reports of uncompensated care supported by local property taxes, we used these data to calculate estimated per capita health care spending from public sources in this city and county area.

In addition to budget analyses, we conducted semistructured interviews with 41 key city and county leaders. The sample frame for these interviews included directors, deputies, or finance officers from all health care–, health-, or social service–oriented city and county agencies as well as lead budget and finance managers and city and county executive offices. We conducted interviews with 41 leaders at 21 different organizations: 8 City 1 departments, 10 County 2 departments, and 3 other quasipublic entities in the county area. The regional public hospital system, public behavioral health system, and children's advocacy center are partially supplemented by local government funds and we included them in this study. A complete list of all agencies represented in these interviews is shown in the Appendix (available as a supplement to the online version of this article at http://www.ajph.org). We used an interview guide to ensure coverage of all relevant topics in each interview (the Appendix contains a list of topics).

Before most interviews, we reviewed budget data and, where possible, discussed that organization's budgets, budget history, and budgeting processes. We completed the majority of interviews in person, with approximately 5 taking place via telephone. All interviewees granted oral permission to record interviews. We transcribed recordings and analyzed them using NVivo (QSR International, Melbourne, Australia). Multiple team members analyzed all transcripts to ensure that all potentially relevant findings were surfaced. We performed a comprehensive review of the themes and findings using a constant comparison approach to code and analyze the data to develop concepts.[21] We made every attempt to respect the privacy of interviewees, and we have omitted identifying details linking individuals to any quotations in this report.

RESULTS

The case in question was a large metropolitan county in the Southern United States. Although there are other municipal governments in the county area, City 1 and County 2 account for 92% of all noneducation, nonspecial district spending in the county area. Overall, the 2 governments spent

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approximately $1455 per capita in 2009, $1184 in 2013, and $1250 in 2017 (all in 2018 dollars; Figure 1). Although spending increased to $1475 per capita in 2018, this growth is almost entirely attributable to large pension expenditures for City 1 police; spending across most of the rest of the 2 governments has increased nominally, but decreased after accounting for population growth and inflation between 2009 and 2018. The largest areas of spending were public safety ($682 per capita in 2009 and $728 in 2018), health and social services ($195 in 2009 and $157 in 2018), and other county services ($578 in 2009 and $590 in 2018). Excluded from our analyses were businesslike operations, public works, and debt service. Activity definitions are available in the Appendix.

Health Care vs Public Health and Population-Based Prevention

Combined Medicaid, Medicare, and hospital uncompensated care expenditure estimates show that at least $1.6 billion public were spent annually on health in County 2 and $4.6 billion in City 1, on average, between 2010 and 2016. The city and county leadership (n = 15) identified adequate access to health care as a major issue.

Approximately 3.3% of health spending with public dollars went toward public health, whereas 96.7% went toward health care, as shown in Figure 2. Interviewees talked about crowd out, both between public health and health care specifically (n = 12) and between health and social services more broadly (n = 18). The problem of prioritizing treatment versus prevention is well known in the county, and several interviewees talked about this as an intractable issue. One interviewee said, "Somebody who is dying of a heart attack in the street, you can't say we're not going to take care of that individual. You absolutely will take care of that individual."

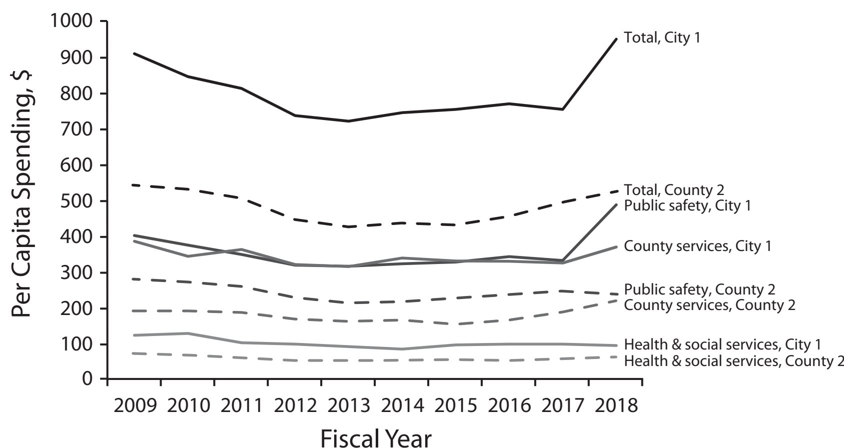
Between City 1 and County 2 governments, $57 per capita was spent on public health in 2009, decreasing to $48 per capita in 2018. In the County 2 government, operations in 2018 were supported 68% by federal grants and related funds, 14% by Medicaid and Medicare revenue, 9% by state revenue, 6% by fees and fines, 1% by local funds, and 1% by other revenue. Interviewees consistently noted that funding from local sources was of outsized importance. Local funds tended to offer at least some flexibility in spending decisions. Other major streams of revenue were reported to be appreciated but offered substantially less flexibility, as they often could only be used in support of specific, siloed activities.

Integrating Health and Social Services in Governments

We identified several key barriers to the intragovernmental integration of health and social services. As detailed in the box on page S201, intragovernmental barriers precluding the integration of agencies within a single local government included structural and procedural obstacles. For example, interviewees reported that annual budgets tended to be built based on the previous year's. Budgeting is most often performed on a department-by-department basis, making annual expenditure tracking easier but also making integration of multiple departments in cross-sector efforts harder. Distinct departmental business administrative services and physical separation of agencies also discourage better collaboration. Many interviewees stated that there could be more data sharing between departments to better track the relationship between social services and health. Intragovernmental barriers can also exist within an agency because of siloed department budgets, physically separated working locations, and employee turnover. We identified as facilitators to better collaboration the integration of relevant offices into public health agencies—such as public policy, environmental health, and veterinary services—as well as program-based budgeting across departments within agencies.

As with the question of barriers to integrating health care and public health, interviewees raised revenue stream inflexibility as a significant issue. Different agencies reported receiving funding from differing sources (local, state, federal), and even when funding was received from a similar source there were often limits on how much flexibility each agency had for using that money. For example, federal funds from the US Department of Housing and Urban Development may be limited to mold abatement, and federal funds from the Centers for Disease Control and Prevention (CDC) might be directed toward prevention of insect-borne disease; these funding sources could not be integrated regardless of the level of cooperation between the agencies.

These same barriers can also be intergovernmental, limiting the collaboration between multiple local governments serving overlapping populations. To truly address population health, more collaborative governmental processes must be established to encourage integration.



Note. All expenditures are represented as per capita. Amounts were adjusted for inflation to 2018 dollars.

FIGURE 1—Total Per Capita Spending for Health and Social Services, Public Safety, and Other Government Services for City and County Governments: Large US Metropolitan Area, Fiscal Year 2009 Through Fiscal Year 2018

Integration Between Governments

Between-government integration was a particular issue that surfaced in interviews.

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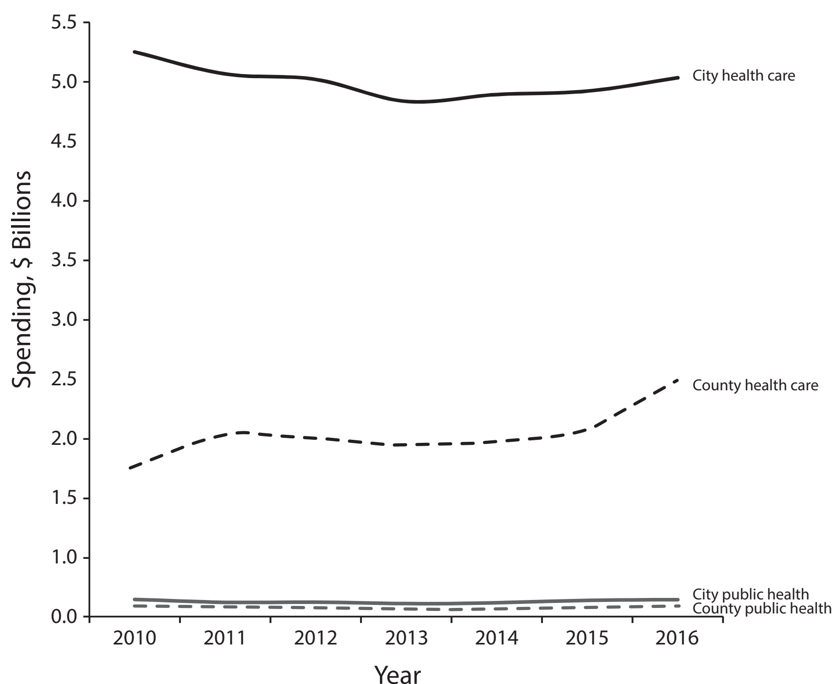

Note: Amounts were adjusted for inflation to 2018 dollars. Health care spending includes Medicare and Medicaid spending on enrollees, disproportionate share spending, separate city and county spending on health care, and property tax spending on uncompensated care. It does not include hospital community benefit spending on charity care, financial assistance, or subsidized health care services.

FIGURE 2—Federal, State, and Local Spending on Health Care and Public Health in City–County Area: Large US Metropolitan Area, 2010–2016

Although a small number of respondents noted that they collaborated with their analog in the other government, most said services were delivered distinctly. Collaboration is complicated by several factors: financial, cultural, and statutory authorities. Redundancies were also discussed at some length—but more as political issues than functional problems. Another theme interviewees explicitly discussed was the idea of collaborations being win–lose or zero–sum. The potential for greater collaboration or integration also means that certain services may be redundant or prioritized to one government versus the other. As one interviewee said, "The biggest challenge is that the county and the city don't collaborate together well on anything that they do. . . . If it's giving dollars and power to the county and taking away from the city, that's not good for the city."

Expenditure patterns across the 2 jurisdictions tended to support this. Funding for many service areas tended to move change in the same direction—albeit by different amounts—for both City 1 and County 2 between 2009 and 2017 (Table 1). For example, between 2009 and 2017, City 1 decreased library spending by $13 per capita (–35% from 2009, after accounting for inflation and population changes), whereas County 2 decreased spending by $4 per capita (–25% from 2009). Public health spending decreased to $64 per capita (–5%) in 2017 in City 1 and to $39 (–13%) in 2017 in County 2. Parks and recreation spending decreased to $54 (–11%) in 2017 in the city and to $33 (–32%) in the county.

DISCUSSION

The integration of health and social services can improve the health of individuals and communities.[11,13] However, empirically derived frameworks are uncommon for common systems-level policy and political challenges facing communities working toward integration. We analyzed the budgets and perspectives of 2 large local government agencies that share a very large, diverse, urban area in the United States to advance such systems-oriented frameworks.

Integration Barriers Observed in Practice

For most service areas we analyzed, both city and county actors were involved in providing services to the community. The needs of residents of any given city are complex and often do not respect the distinctions between government agencies. Funding for each service can come from 1 or more sources, including federal, state, and local revenue streams. Therefore, improving systems-level capacity for health across a community requires that multiple jurisdictions work together and that multiple funding sources be "braided" together. Funding and jurisdictional barriers have been mentioned briefly in previous literature, yet nearly all our interviewees stressed the seriousness of the challenge of integration in the face of jurisdictional or funding silos.

Resolving this barrier may require adding flexibility to budgeting processes, even if it does not require additional funds. Although the Institute of Medicine has recognized the need to coordinate funding streams, the scope of the recommendation extended mainly to the Health Resources and Services Administration and the CDC; even then, the Institute of Medicine found that as of 2012 the current funding system was not well positioned for promoting integration.[11] Our work shows the clear need for an even larger-scale approach that could enable integration across multiple federal agencies and across federal, state, or local sources.

Identifying Solutions to Observed Barriers

Solving funding and jurisdictional integration issues may be informed by examples from across the United States and internationally. Some cities or states have used performance- or outcomes-based budgeting in an attempt to ensure that spending is aligned with city priorities. Baltimore, Maryland, developed an outcome budgeting system to use data and evidence to focus resources on the most effective and promising services and programs.[22] Georgia has experimented with using performance-based budgeting linked to public

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BARRIERS TO INTRAGOVERNMENTAL INTEGRATION BETWEEN HEALTH AND SOCIAL SERVICES: LARGE US METROPOLITAN AREA, 2019

Barriers	Quote
Duplicative government services (n = 12)	"I think there is a divide typically between municipal governments. . . . We each have different crime labs, different animal control systems, different shelters, different property rooms for evidence storage, different library systems. . . . So there hasn't been a lot of collaboration even if the needs overlap."
Political barriers and rapidly shifting priorities (n = 7)	"This is an election year for the mayor, and obviously while we're all real supportive . . . we need to give the mayor projects, because those are the things that people can relate to and that's what they vote for."
Budgeting is largely based on historical allotments; not much say in shifting funding (n = 7)	"The challenge is just figuring out how do we start shifting resources away from things that probably don't make as much sense to the things that are more cost effective or are going to get us better outcomes. But how do you move this ship that for however many years this county has been around, has been designing a budget at least for the past 14 years in the same way, right?"
Varied funding sources make it difficult to track spending and develop reports (n = 6)	"There's these other kinds of [spending] that aren't all reported in the same format. We are not yet at the place where we have a really consistent methodology and system for tracking all of the things that we're doing because we are required to report in many different reporting systems both locally and federally."
Lack of a regional strategy (n = 5)	"I think one of the areas of biggest improvement within the county is bringing all of the county departments and services together and how do we have a true plan and structure to where we leverage and do better across systems. We don't have that. We're still very siloed. We work when we can, but we don't on a regular basis coordinate those services."
Limited data sharing and analysis capacity to focus on outcomes (n = 4)	"[We need] someone to come in and look at how we currently plan for use of our resources and guide us through shifting that . . . how do we look at what we're currently doing and look at it through the eyes of health outcomes?"
Lack of general funding that is not tied to a specific grant or purpose (n = 4)	"If I had general dollars to address the community's health, and then to layer on that the social determinants of health, let's stop spending a billion plus dollars in our hospital systems, transition some of that money to the upstream solutions and then we can do it."

health outcomes.[23] To the extent that certain sectors, such as public health, may feel underfunded under current budgeting approaches, this approach could conceivably offer a path to rightsizing investments based on a community's priorities and perceptions of program impacts.

Even if a major budgeting overhaul is not possible—many agency interviewees mentioned the importance of working collaboratively on multisector projects—budgetary processes may need to be adapted to ensure that funding silos do not impede progress toward an integrated, multisector pursuit of improved health. For instance, a top-level budget line that aggregates predetermined existing budget lines could be developed to track spending on social determinants of health. This would not be new spending but could be used to allow clear tracking of all investments that a community makes in the health of its citizens, similar to an approach New Zealand recently adopted.[24]

Although agencies may have differing statutory authorities and funding sources, the potential for alignment is in agencies' complementary big-picture mission and vision, as well as the constituents they serve. Key stakeholders broadly understood and agreed that their work contributed not only to sector-specific objectives (e.g., well-run parks, affordable housing availability, safe streets) but also to broader impacts on the health, well-being, and happiness of residents. This is big-picture goal alignment that is hypothesized to be fundamental to integration efforts.[11]

To take advantage of this, it may be beneficial to consider approaches proposed and implemented elsewhere. For example, Healthy People 2020 recommends a chief health strategist to support cross-sector partnerships to promote community health and prioritize prevention and wellness.[25] Atlanta, Georgia, recently appointed their first-ever chief health officer to focus on developing relationships between local governments and stakeholders.[26] San Antonio, Texas, and Austin, Texas, use a chief equity officer to address health disparities, promote diversity and inclusion, and improve connectivity and data sharing across public and private sectors.[27] A systems-level office or officer could serve as an organizing or convening entity to address the observed integration barriers within and across jurisdictions. This may help to ensure that strategies and tactics are originated and constructed to support integrative work rather than patching individual programs or services together after the fact.

In light of our findings, it may be reasonable to consider these strategies as potentially promising practices for the integration barriers we have identified. Further research would be needed to determine their efficacy and their impact on promoting systems-level integrated service provision.

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TABLE 1—Per Capita Spending Across City and County Governments for All Selected Health, Social, and Governmental Services: Large US Metropolitan Area, 2009, 2013, and 2017

Area	Service	Jurisdiction	Per Capita Spending, $		
			2009	2013	2017
County services	Administration	City 1	329	295	304
		County 2	92	62	94
	Natural resources	County 2	46	29	34
	Other social services	City 1	57	20	21
		County 2	27	37	22
	Transportation	County 2	27	33	39
Health and social services	Libraries	City 1	20	10	12
		County 2	8	6	6
	Other health services	City 1	5	4	5
		County 2	10	8	9
	Other social services	City 1	31	28	22
		County 2	10	7	8
	Parks and recreation	City 1	32	23	27
		County 2	23	15	16
	Public health	City 1	36	25	32
		County 2	21	16	19
Public safety	Corrections	County 2	23	15	16
	Fire and ambulance	City 1	137	111	116
		County 2	2	2	2
	Judicial	City 1	9	7	7
		County 2	80	64	72
	Police	City 1	256	199	209
		County 2	175	132	157

Note. All expenditures are represented as per capita. Amounts were adjusted for inflation to 2018 dollars.

Limitations

Our findings should be viewed in light of several limitations. First, we conducted our study in a very large and diverse setting, but because of its intensely localized focus its results may not generalize to other settings. We carefully considered this and attempted to differentiate our findings, which are likely to be context specific (e.g., because of unique local administrative or regulatory issues), unlike those that may be common across jurisdictions.

Second, our 10-year retrospective budgetary review includes the Great Recession (2007–2009) and its aftermath, which may have uniquely affected public budgets. We note, however, that this period also included lengthy periods of continued, if modest, economic expansion and job growth. A review of any given 10-year budget window will often include periods of economic expansion and contraction, and therefore the inclusion of budgets representing a range of macroeconomic conditions is relevant and important for this type of research.

Third, our study's sample frame was limited to organizations for which comparable budget data were available (i.e., public and quasipublic agencies). Additional nongovernmental integration efforts are likely ongoing and may be important for maximizing the impact of public health and social services on population health.

Public Health Implications

Our findings suggest the presence of a critical set of systems-level considerations that may promote or hinder integration efforts. Integration efforts may need to be embedded upstream into budgeting processes to promote more than one-off efforts to integrate otherwise fragmented services. Integration efforts may also benefit from linkage to an overall community-wide strategy for the pursuit of improved population health. Our findings also suggest that integration efforts may be beneficial if supported by purposeful evidence, partnerships, and workforce initiatives.

Given that state and federal funders are often funding multiple local governments in a community, there is a clear role for these entities in aligning metrics and mechanisms for collaboration across cities and counties in a community. Strong political and bureaucratic will is likely essential. Budget structures can facilitate service integration, and greater attention should be given to the budget models used in a community. Budgeting globally, budgeting based on an integrated health and social service project, and including aggregate social determinants of health spending in the annual budget (such as the novel estimate calculated here) could promote more integration of health and social services. Our findings suggest a path to improving the prospects for the integration of health and social services through greater attention to the budgetary, jurisdictional, and programmatic realities of health and social service agencies. AJPH

CONTRIBUTORS

J. M. McCullough led the preparation of the initial article draft and was responsible for obtaining funding for the study. J. M. McCullough and J. P. Leider conceptualized the study. All authors contributed to data collection and analysis, the initial article draft, and critical revision of the article.

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CONFLICTS OF INTEREST

The authors have no conflicts of interest to declare.

HUMAN PARTICIPANT PROTECTION

The Arizona State University institutional review board reviewed and approved the study protocol.

REFERENCES

1. Hunter EL. Rebooting our boots on the ground. *J Public Health Manag Pract*. 2015;21(suppl 6):S1–S2.

2. Quinlivan D. Rescaling the balanced scorecard for local government. *Aust J Public Adm*. 2000;59(4):36–41.

3. Kahn AJ, Kamerman SB. *Integrating Services Integration: An Overview of Initiatives, Issues, and Possibilities*. New York, NY: National Center for Children; 1992.

4. Melaville AI, Asayesh G, Blank MJ. *Together We Can: A Guide for Crafting a Profamily System of Education and Human Services*. Darby, PA: Diane Publishing; 1993.

5. Dunst CJ, Bruder MB. Valued outcomes of service coordination, early intervention, and natural environments. *Except Child*. 2002;68(3):361–375.

6. Page S. What's new about the new public management? Administrative change in the human services. *Public Adm Rev*. 2005;65(6):713–727.

7. Campbell D. Public managers in integrated services collaboratives: what works is workarounds. *Public Adm Rev*. 2012;72(5):721–730.

8. Winters S, Magalhaes L, Kinsella EA, Kothari A. Cross-sector service provision in health and social care: an umbrella review. *Int J Integr Care*. 2016;16(1):10.

9. Fraze T, Lewis VA, Rodriguez HP, Fisher ES. Housing, transportation, and food: how ACOs seek to improve

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population health by addressing nonmedical needs of patients. *Health Aff (Millwood)*. 2016;35(11):2109–2115.

10. Lachance LL, Friedman Milanovich AR, Garrity AN. Clinic and community: the road to integration. *Am J Prev Med*. 2016;51(6):1072–1078.

11. Committee on Integrating Primary Care and Public Health; Board on Population Health and Public Health Practice; Institute of Medicine. *Primary Care and Public Health: Exploring Integration to Improve Population Health*. Washington, DC: National Academies Press; 2012.

12. Agranoff R. Human services integration: past and present challenges in public administration. *Public Adm Rev*. 1991;51(6):533–542.

13. Fisher MP, Elnitsky C. Health and social services integration: a review of concepts and models. *Soc Work Public Health*. 2012;27(5):441–468.

14. Brewster AL, Tan AX, Yuan CT. Development and application of a survey instrument to measure collaboration among health care and social services organizations. *Health Serv Res*. 2019;54(6):1246–1254.

15. Brewster AL, Kunkel S, Straker J, Curry LA. Cross-sectoral partnerships by area agencies on aging: associations with health care use and spending. *Health Aff (Millwood)*. 2018;37(1):15–21.

16. Page S. Measuring accountability for results in interagency collaboratives. *Public Adm Rev*. 2004;64(5):591–606.

17. Akins S, Burkhardt BC, Lanfear C. Law enforcement response to “frequent fliers”: an examination of high-frequency contacts between police and justice-involved persons with mental illness. *Crim Justice Policy Rev*. 2016; 27(1):97–114.

18. Allen A. The “frequent flier” program that grounded a hospital’s soaring costs. *Politico*. December 18, 2017. Available at: https://www.politico.com/magazine/story/2017/12/18/parkland-dallas-frequent-flier-hospital-what-works-216108. Accessed May 25, 2020.

19. US Census Bureau. *Census of Governments*. Washington, DC: US Government Printing Office; 2012.

20. DeSalvo KB, O’Carroll PW, Koo D, Auerbach JM, Monroe JA. Public Health 3.0: time for an upgrade. *Am J Public Health*. 2016;106(4):621–622.

21. Gibbs GR. *Analyzing Qualitative Data*. London, UK: Sage; 2007.

22. Results for America. Baltimore’s advanced outcome budgeting system allows city leaders to invest taxpayer dollars in programs and services that matter most. 2018. Available at: https://results4america.org/wp-content/uploads/2018/01/Final-Baltimore-Case-Study.pdf. Accessed October 30, 2019.

23. Hepburn VA, Eger R 3rd, Kim J, Slade C. Structuring a framework for public health performance-based budgeting: a Georgia case study. *J Public Health Manag Pract*. 2007;13(2):173–179.

24. Mintrom M. New Zealand’s Wellbeing Budget invests in population health. *Milbank Q*. 2019;97(4):893–896.

25. US Department of Health and Human Services. *Public Health 3.0: A Call to Action to Create a 21st Century Public Health Infrastructure*. Washington, DC; 2016.

26. Miller P. Mayor appoints Atlanta’s first-ever chief health officer. *AJC*. July 26, 2019. Available at: https://www.ajc.com/news/local/mayor-appoints-atlanta-first-ever-chief-health-officer/qKcyWMZrmHLOZOcWeGLkPM. Accessed October 28, 2019.

27. Kimbrough C. Local governments hiring chief diversity officers to lead equity and inclusion work. *Natl Civ Rev*. 2017;106(3):55–63.

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