


# Convergence of Service Providers and Managers' Perspectives on Strengths, Gaps, and Priorities for Rural Health System Redesign: A Whole-Systems Qualitative Study in Washington County, Maine

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## Abstract

**Introduction:** Both rural residents and state government leaders describe a need to redesign rural health care systems. Community members should be at the center of this effort. **Methods:** We conducted 46 in-depth interviews of direct service providers between September and November 2020 in Washington County, Maine. Data were analyzed using a thematic analysis approach. **Results:** Existing strengths included collaboration between government and health systems, and community-based services. Gaps included insufficient workforce, restricted scope of licensing and poor reimbursement, lack of coordination between health systems, and limited paramedicine capacity. Strategies for health system redesign included addressing maldistribution of services and resource optimization, changing federal and state legislation around insurance and scope of practice, and moving toward value-based purchasing models. **Conclusions:** Participants provided pragmatic recommendations based on their deep understanding of the community context. Lessons learned are likely to be salient in areas with similar profiles regarding rurality and poverty.

## Keywords

qualitative methods, rural health, access to care, primary care, underserved communities

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## Introduction

Increasing attention is being paid to the disparities in health care and health care outcomes experienced by approximately 57 million rural Americans. In particular, the COVID-19 pandemic has laid bare the deficiencies in public health, clinical care, and infrastructure and systems<sup>1</sup> between rural and urban areas. Rural Americans experience a widening gap in life expectancy,<sup>2</sup> higher mortality both in the hospital<sup>3</sup> and following discharge, and higher rates of excess death from heart disease, cancer, unintentional injury, chronic lower respiratory disease, and stroke.<sup>4</sup> They also have higher rates of poverty, unemployment, and lack of insurance<sup>5</sup>; and live in communities with lower investment in housing, education, and access to healthy foods.<sup>6</sup>

Hospital closures and clinician shortages contribute to the significant barriers to care faced by rural Americans.<sup>7</sup>

At the time of writing, more than 138 rural hospitals have closed since 2010, overwhelmingly in states that have not adopted Medicaid expansion.<sup>8</sup> Many rural areas have seen closure of nursing homes; service lines including obstetrics, pharmacy, and psychiatry; others have always lacked specialty care.<sup>9</sup> In general, these areas have fewer practitioners per capita than urban regions, particularly primary care and behavioral health clinicians.<sup>10</sup> Depopulation and youth

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out-migration from rural areas further stress the aging health workforce and infrastructure.<sup>11</sup>

In addition to the deterioration of rural health systems, residents face barriers such as traveling long distances for care,<sup>12</sup> insufficient public transport, and poor availability of broadband internet.<sup>13</sup> Despite these challenges, rural communities contain great strengths which enable them provide care to their residents; including pride of place, resilience, social cohesion, cross-sector engagement, innovation,<sup>14</sup> and self-reliance.<sup>15</sup>

The current moment in which disparities have been highlighted and funding increased, both because of the COVID-19 pandemic, provides an opportunity to reimagine rural health systems while leveraging their communities' existing strengths. Rural communities themselves are best positioned to inform solutions. While some work describes rural providers' perceptions of opportunities and challenges for improving care,<sup>16-18</sup> to our knowledge there is scant research on priorities for overall health system redesign. We sought to identify system constraints (local and distant) that affect the ability of Washington County residents to access and utilize health and social services through a qualitative study with key informants in a rural county in Maine. The specific aims of this research were to identify: (1) existing clinical service strengths, (2) local and state gaps in services and the impact of those gaps on quality and safety, and (3) priorities and preferences for sustaining or restoring essential healthcare services. The study objectives were refined in conversation with the Maine Department of Health and Human Services (DHHS) leadership in December 2019, with the aim of sharing findings back to the Maine DHHS internal rural health working group.

## Methods

### Study Setting

This research was conducted in Washington County, the most easterly county in Maine with large tracts of unorganized territory and a limited road infrastructure<sup>19</sup> (Figure 1). With a population of 32 000, Washington County consistently has the worst health rankings in the state. As of 2019 its poverty rate was 19.6%, well above the average for Maine (11.1%) and the United States (10.5%). Washington County residents identify primarily as White non-Hispanic/Latinx (89.3%), with notable American Indian/Alaska Native (5.3%), Hispanic/Latinx (2.6%), and multiethnic (2.1%) populations.<sup>20</sup> There is a sizable community of migrant workers (primarily Hispanic/Latinx), whose numbers fluctuate with the agricultural season.<sup>21</sup> There is no large hospital system directly responsible for providing health services in the county. Of the 2 Critical Access Hospitals (a designation given to rural hospitals with 25 or



**Figure 1.** Map of New England showing Washington County.

fewer beds to establish eligibility for a federal payment program intended to aid financial survival by the Centers for Medicaid and Medicare Services [CMS]); one is in bankruptcy with plans to sell its assets to the other at the time of this writing.<sup>22</sup> Washington County is also served by 2 Tribal Health Centers, and 5 Federally Qualified Health Centers (FQHCs) (community-based organizations providing comprehensive primary care and preventive care regardless of individuals' ability to pay or health insurance status).

### Study Design and Sampling

We conducted semi-structured individual and group interviews. We employed a combination of purposive and snowball sampling, recruiting based on participants' roles in a range of clinical- and service-providing institutions, and using snowball sampling to recruit additional participants. While most participants were from Washington County, we also interviewed external participants representing state health and human services, advocacy organizations, and tertiary hospitals or health systems which serve Washington County residents.

### Data Collection

Between September 1 and November 20, 2020, our team conducted 46 interviews with 79 participants: 35 individual interviews and 11 group interviews with between 2 and 11 participants. Interviews were conducted using a

**Table 1.** Roles and Areas of Work of Participants.

Area of work	Role type				Total
	Clinician	Administrator	Clinician/ Administrator	Community	
Behavioral		2	1		3
Critical Access Hospital (CAH)	1	2	2		5
Cancer		1			1
Convenor		1			1
Disability		1			1
Emergency Medical Services (EMS)		1	4		5
Emergency Medical Services (EMS) and Critical Access Hospital (CAH)			2		2
FQHC/Tribal Health	3	4	8		15
Community (individual and group)	1			9	10
Residential/Long Term Care		2			2
State Government		1	1		2
Health System/Tertiary Hospital		2			2
Substance Use		1	1		2
Other (Private tech company; Nonprofit funder)		2			2
Material support organizations (public and private; food, fuel, etc.)		5			5
Social service agencies	6	3	3		12
Total	11	28	22	9	70

semi-structured guide. The COVID-19 pandemic delayed data collection and compelled a change from in-person to remote interviews via Zoom and telephone. One interview took place outdoors and in person. All participants provided verbal informed consent. Interviews were conducted by a physician with public health training and significant research experience (SH), a graduate student with experience as a community health worker in Washington County (AD), and field researcher with decades of experience and some existing relationships with participants in this setting (JB) (accordingly, this interviewer recused himself from interviews where close professional relationships existed). Interviews were audio-recorded and transcribed by team members and, in some cases, by a professional transcription company; all transcripts were reviewed for errors. The transcriptionists were AD and a graduate student with no prior experience with the setting or topic. All transcripts were de-identified prior to analysis.

### Analysis

Our budget provided for full analysis of 39 of the 46 transcripts; we excluded 7 transcripts based on duplication of interviewee types or settings. The analysts (JM, RW) both have doctoral-level training in qualitative research, with no prior experience with the setting or relationships with participants. We developed a codebook with themes determined

a priori based on study aims and background research and added emergent themes inductively while coding.

Transcripts were coded using a thematic content analysis approach with NVivo software (March 2020). Six transcripts were double-coded and reviewed to ensure consistent application of themes; the remaining transcripts were single-coded. Team members analyzed the excerpts within each theme to characterize findings and identify sub-themes.

### Ethical Approval

The study protocol was approved by the Institutional Review Boards of both University of Southern Maine (20-02-1440) and Harvard University (IRB-20-1414).

## Results

### Participants

The individual and group interviews analyzed included 70 participants across a wide range of settings and roles (Table 1). Nearly a third of participants occupied multiple roles (clinician and administrator), sometimes across multiple sites (eg, emergency medical services and critical access hospital). Results are presented by research aim, with a discussion of the most common themes and sub-themes across respondent groups; illustrative quotes are presented throughout the text to emphasize key findings.

### Clinical Service Strengths

Participants identified existing clinical service strengths within Washington County. These were collaborations between government and health systems and providing health and social services in the community.

Collaborations between government and health systems: Participants described successful collaborations between government and health systems, including creative efforts to use limited resources in a wide variety of settings; and agricultural businesses coordinating with FQHCs, Maine Department of Health and Human Services, Maine Department of Labor, and other local agencies in response to COVID-19. Active networking and collaboration included a CAH hosting quarterly meetings of local clinicians, and regional emergency medical services (EMS) regarding COVID-19 response. As 1 participant reflected:

*I think one of the things that [is] a real asset is that Washington County is so collaborative and so resourceful and so creative in meeting its needs and dealing with the fact that there are limited resources, and we leverage them incredibly well. (Clinician/Administrator, Social Services)*

Providing healthcare and social services in the community: Multiple FQHCs deliver integrated care in the community (eg, dental clinics in schools, primary care in agricultural workplaces). Clinicians serving seasonal agricultural and seafood workers described strategies such as offering services at nights and on weekends, providing a year's worth of medications for those leaving the area, proactively engaging individuals with chronic conditions upon their return, and cultivating strong relationships with community partners to enable quick responses for emergent needs. Participants also commented on previous efforts and ongoing strategic advocacy to establish community paramedicine and home health visits by emergency medical technicians (EMTs) and paramedics to extend primary care and urgent care services, and to support thriving-in-place for older Mainers. Several trusted social services were also cited, including well distributed food pantries, a multi-generational education-based program supporting the economic wellbeing of families, and a recovery residence:

*We just opened a recovery residence for women and their children at [redacted]. Brand new, super exciting. So much support for that initiative, holy cow. I've never worked on anything in my career that received the kind of enthusiasm and support that that house has received. Writing those grants, it was like butter. They just wrote themselves. It was a beautiful thing. We got a couple of really nice grants, and now there'll be some money coming from Maine Housing. (Clinician/Administrator, Substance Use)*

### Gaps in Services

Participants identified key gaps in services at local and state levels: insufficient workforce, restricted scope of licensing and poor reimbursement for behavioral health, lack of coordination between health systems, and limited paramedicine capacity. We also discuss the consequences of delayed and missed care caused by these gaps as described by participants.

Insufficient workforce: The insufficient number of clinicians in all areas and at all levels was a recurring theme described by participants. A related and frequently cited challenge was the difficulty of recruiting clinicians across most areas of care. High turnover rates were named as leading to a detrimental effect on continuity of care for patients. Participants expressed the need for more funding to support health professionals to stay locally, along with more training and residency opportunities. Participants depicted workforce shortages leading to long work hours, burnout, and creating a barrier to developing or offering more advanced services. As 1 participant reported:

*Turnover is accelerated in a rural community health center because the level of need that you're seeing in patients is so enormous as opposed to a place that might have more resources. That adds to very quick burnout, and then if you're not recruiting providers who have been in rural before or who grew up in a rural place or who intentionally want to live in a rural place then people don't appreciate that lifestyle and leave really quickly. (Clinician, FQHC)*

Although advanced practice providers (eg, physician assistants, nurse practitioners, certified nurse midwives) were discussed as being easier to hire than physicians, there is sometimes a need for physician oversight contingent on credentials and experience of the new hire. Expanding the role of nurses in integrated behavioral health was also broached.

Restricted scope of licensing and poor reimbursement for behavioral health: Multiple participants spoke of reimbursement rules stipulating payment only for specific clinician credentials. This was a particular challenge in hiring behavioral and mental health clinicians, in which it is more feasible to hire a generalist for mental and behavioral health care (eg, a licensed clinical social worker) because their time is billable, despite another type of clinician (eg, a licensed clinical professional counselor) who might be more appropriate for the care itself. As 2 participants described:

*Mental health services are always a money loser for any agency. . . in Washington County, since I've been here in the past 10 years, just about all the other agencies have pulled out because you can't survive on outpatient mental health. (Administrator, Behavioral Health)*



*We weren't able to find a psychiatrist in Washington County completely a few years back. I mean, they just [did not exist]. There were several psychiatrists in the Bangor area, but they would only accept cash. So they wouldn't bill any insurance because*

*they didn't want the headache. So well, for our patient population, people don't have that kind of money to pay out of pocket. And because we're funded with federal resources, we can't pay for a service in a day either. So there was a catch-22 for psychiatric services that we were not able to get out of for a long time. (Administrator, FQHC)*

Additionally, participants noted that behavioral support specialists can only bill for patients served through a single school or agency, rather than through an umbrella agency with multiple sites; this restriction similarly limits options for hiring and care provided.

Lack of coordination between health systems: Participants lamented the lack of a statewide planning health authority and inability of health systems to work in a coordinated manner. As 1 participant stated:

*There's not a planning authority, I guess, right? There's no real structure right now by which the State allowed, encouraged something to do—I mean, I guess, one could just work as DHHS [Department of Health and Human Services] or the Office of Rural Health and say, “We're conducting a health planning exercise in Washington County.” But between the independence of the independent hospitals and then frankly, the hegemony of the major health systems, I think they would very quickly say, under what authority are you doing that? (Clinician/Administrator, State of Maine)*

Several participants pointed to the challenges posed by federal rules and restrictions guiding out-of-system care for community members whose care falls primarily under Indian Health Services (IHS) or the Veterans Affairs Administration (VA). One participant reflected on the lack of coordination between IHS and the VA:

*There's supposed to be a mechanism between the Tribal Health Center and the VA to reimburse for providing care to veterans, but it doesn't always necessarily work that well. And there's no guarantee that if...[a tribal member] needs to have an X-ray for example...the VA will probably pay for that visit, but they may not pay for that X-ray at [every] hospital or [a] CAT scan or something like that. So there's a huge disconnect. And if our provider prescribes a medication, [insurance] may not cover it if you fill that prescription for the patient. So it's really not the best vehicle to get people [what] they need. (Administrator, Tribal Health)*

Other examples of lack of coordination included federal guidance regarding IHS referrals and payments that make it difficult for patients to access specialist care

outside the IHS system, where billing problems lead to patients being “on the hook” for costs of care, and to resulting friction between IHS and other health systems. Respondents also described how community members receiving care through the VA had limited access to specialist care within the 30-mile radius of a VA facility, making it difficult for veterans to receive convenient care and for non-VA health institutions to provide them with needed services.

Limited paramedicine capacity: Participants spoke at length about limited paramedicine capacity, both because of staff shortages, and due to challenges regarding scope of practice regulations and reimbursement policies which impact paramedics' and EMTs' ability to provide services. As 1 participant described:

*[Rural emergency medicine] services do not have the personnel to make community paramedicine a high priority option because they barely have enough providers to make emergency medicine a high priority. It's not unheard of for one ambulance service to have to go to another coverage area because they don't have anybody working or available to cover a call at that time. (Clinician/Administrator, CAH)*

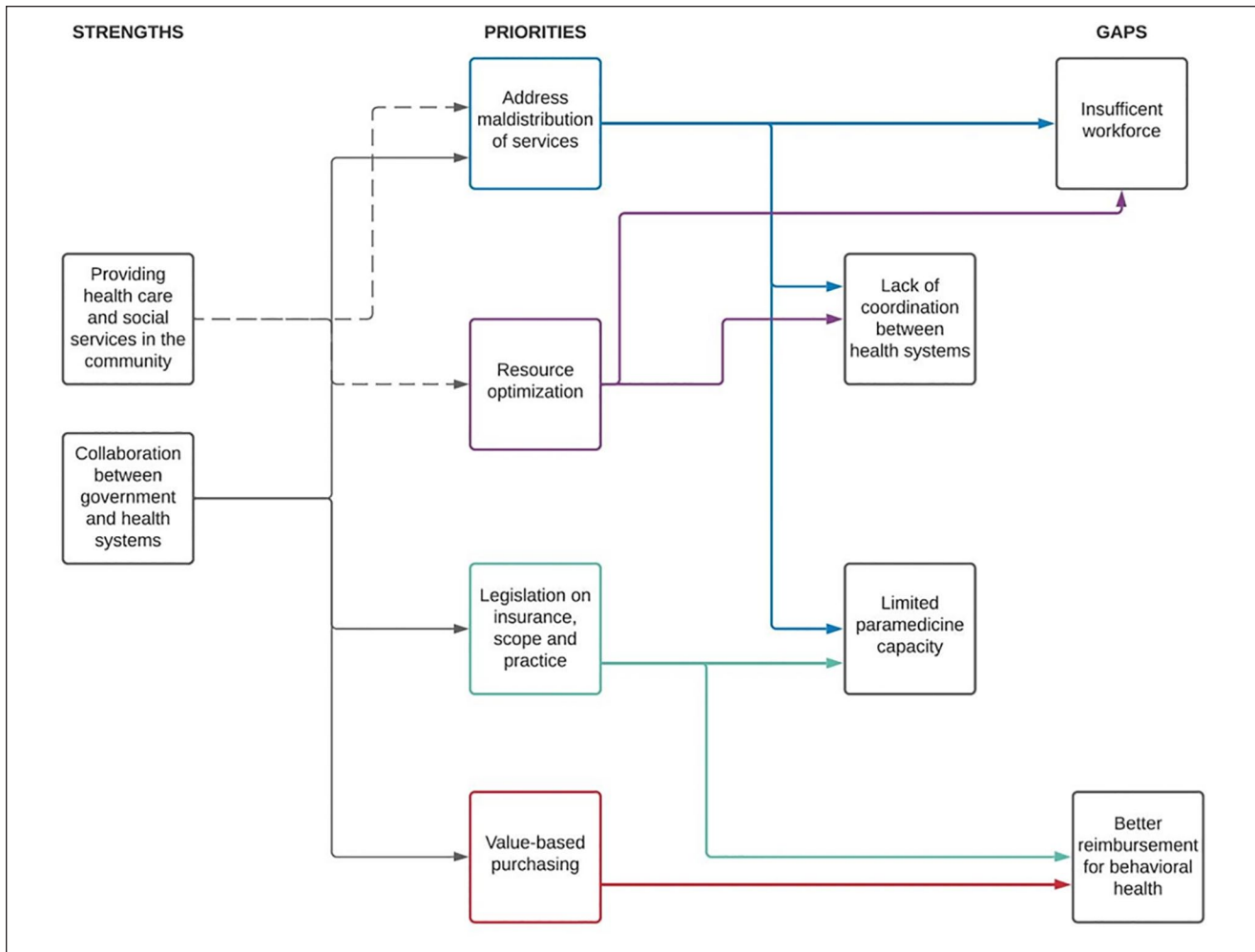
Participants also noted people relying on the emergency department for primary care or unmanaged chronic conditions. In the case of EMS, gaps in coordination among services were identified as contributing to delays in treatment. In the worst cases, participants reported patients dying because of delayed or missed care:

*We're quite literally five minutes away, and these folks are waiting 40-plus minutes for a paramedic to arrive to provide life-saving care. People have died. People have suffered much, much longer than they need to because of that delay. (Clinician/Administrator, Emergency Medical Services)*

Challenges regarding reimbursement for community paramedicine included billing for services performed during an EMS shift (allowable) versus “off-duty” time (unallowable), and MaineCare policy which does not allow paramedics and EMTs to be reimbursed for delegated practice level of care.

### **Priorities and Strategies for Sustaining or Restoring Health Services**

Participants described 5 key priorities and strategies for sustaining and restoring health services in Washington County: addressing maldistribution of health care services, optimizing resources, changing legislation around insurance, scope, and practice, and shifting to a value-based purchasing model. Figure 2 depicts the relationship between existing strengths, gaps, and priorities identified.



**Figure 2.** Strengths, gaps, priorities.

Addressing maldistribution: Participants described the need for collaboration between institutions to address maldistribution of care. This was attributed in part to the growth of larger healthcare systems and hospital acquisitions outside of Washington County.

Participants frequently reported how the maldistribution of services resulted in significant barriers to access as they had to travel long distances to access care, particularly specialty services. For example:

*I think that the transportation barrier for so many people to get to services we don't have in Washington County is huge. Whether it's taking your children to appointments in Bangor, Augusta, beyond, it's [challenging] accessing those specialty services. (Clinician/Administrator, Health and Social Service Agency)*

Participants identified a need for the state to take an active role planning health and social service distribution, and statewide resource rationalization. Several participants

suggested using a shared workforce model by which care coordinators and managers can serve as a central repository of information across institutions and facilitate referrals. Other participant-generated ideas to address maldistribution included a health system-based solution outside of Washington County in which multiple hospitals centralize with a single hospital board, 1 set of physician bylaws, and 1 administrative team to help ensure facilities are not in competition with one another. Others suggested unifying FQHCs and

CAHs as permitted by law to help address financial challenges and mitigate hospital closures that exacerbate maldistribution.

Resource optimization: Participants depicted the way in which healthcare institutions developed siloed, single-solution strategies and services throughout Washington County as leading to a need for increased collaboration and communication to optimize and share resources. One participant described how FQHCs and CAHs struggled to work

together due to different federal funding streams, and their vision for a new way to collaborate and share resources:

*If somehow the laws could be changed to. . .meld those two models. So that you've got a subsidized primary care practice. You got the dental piece, you got an emergency room, you got basic surgery if you need it. And it's not competing with one another. They're not fighting with one another over what few patients [they have]. They're uniting the resources. That seems to be a really smart thing to do for rural communities. (Administrator, Health System/Tertiary Hospital)*

Participants also noted building trust and psychological safety among clinicians as being key to resource optimization in Washington County.

Legislation regarding insurance, scope, and practice: Participants spoke about the need for changing legislation around insurance and reimbursements to allow for increased funding, including enhancement of MaineCare (and covering children). For example:

*As long as we lose money on every MaineCare resident, [every] rural area is going to be impacted more because they have fewer options. There is less private pay. There is less Medicare. (Administrator, Residential Care)*

Other ideas included making low-cost loans available for healthcare facility improvement and maintenance, regulatory changes regarding training provided in-house, scope of practice for behavioral and mental health clinicians and for paramedics; and targeted financial support to prevent additional loss of already-limited facilities (such as nursing homes). Several respondents also spoke of the need for changes in legislation to allow for EMTs/paramedics to be reimbursed for non-emergent care and in-home care, and to move toward a community paramedicine model:

*Community paramedicine is a very hot topic in the state of Maine right now. There are some services doing it really well, but they're supported by hospitals. . .the areas that need it like Washington County, we're aware, we need it, but protocols aren't really all that expanded yet. . .the number one thing that would advance it would be insurance reimbursement. (Clinician/Administrator, Transfer)*

Value-based purchasing: Many participants emphasized that the fee-for-service model does not work in low-volume rural health care settings; as volume of patients declines, cost per unit of service rises, and more care must be written off. Because Washington County does not have a large hospital system with a direct financial stake in helping solve local challenges, participants suggested that the state pilot alternative payment models to demonstrate health and cost-benefit of alternative care models in Washington County. Shifting from a fee-for-service system to value-based purchasing was

described by participants as having potential to improve healthcare quality despite being fraught with financial risk. One participant described how they would restructure reimbursement in Maine:

*It would be probably an enhanced MaineCare rate or providers and staff that will join a particular healthcare model together as an organization. . .to have a catchment area, to be responsible for that populace within that area, and develop models within that and have them have a direct binding contract with HHS or sub-bureaus. . .to measure their effectiveness with the number of folks from that populace that end up having cumulative bed-days in a hospital setting. (Clinician/Administrator, Behavioral Health)*

Participants advocated for Maine to continue advancing value-based purchasing to support health system redesign and said that fee-for-service interferes with innovation by not paying for services that would better serve the health of the population. Capitation was also broached as an alternative payment model, whereby providers or groups of providers are provided a set amount based on average expected healthcare utilization of each patient, as opposed to fee-for-service payments. As 1 participant stated:

*In a fee-for-service world, I think the real answer in my mind is moving to capitation [payment], the primary care payment or proactive population-based payments, whatever we want to call it, but getting away from the horrendous fee-for-service system. (Clinician/Administrator, State of Maine)*

## Discussion

To improve primary care, it is imperative to understand the points of connection, weaknesses, and strengths in the community. Our study revealed existing opportunities to leverage strengths, address gaps, and integrate proven solutions into the existing fragmented health care system based on the experience-driven recommendations of frontline providers and residents from Washington County. Those recommendations include exploring workforce and infrastructure investments to address maldistribution, supporting existing/creating new improvement entities to problem solve at the whole-region level, and enacting new credentialing and payment mechanisms at the state level. We discuss each recommendation in turn.

It is no secret that rural communities have long faced health professional shortages, and geospatial research has shown that the primary care workforce in particular is unequally distributed across the United States.<sup>23</sup> Unsurprisingly, addressing maldistribution of healthcare services was identified as a priority for restructuring health care in Washington County. This is of particular importance in the case of emergency services, and is a trend seen nationwide: of the 48 835 active emergency physicians in the United

States, only 8% practice in rural areas<sup>24</sup>; there is a need for expanded rural residency training and funding, for example, through the Teaching Health Graduate Medical Education Program. Additionally, increased funding provision of close-to-home community-based services can address maldistribution while creating new healthcare workforce jobs. Maldistribution of services is additionally compounded by insufficient transportation in the state. Improving patient access to care requires a systems-thinking approach that includes evaluating how transportation services may better support access to primary and specialty care within and outside the county.<sup>25</sup> We recommend that MaineCare conduct interviews with end users, and transportation services, to match its policies with the realities of life for the individuals and families they serve.

Optimization of resources requires supporting existing/creating new improvement entities to problem solve at the whole-region level. This is especially important in Maine where there is no overarching authority responsible for ensuring equitable access to essential health services across all regions of the state. By contrast, as reported by our participants, interdisciplinary coalitions of healthcare and civic organizations in Washington County (and throughout Maine) have formed to solve shared problems within a common geography.

Creating a learning and knowledge-sharing hub within Maine DHHS that ties these regional health care coalitions to each other and to the state health leaders can seed development of ideas to leverage strengths and fill systemic gaps, rather than creating siloed solutions.

Participants named behavioral health as the largest single unmet need in Washington County, driven by challenges with licensing and reimbursement. Chronically low reimbursement rates and serial closures of behavioral health services over the last 10 years have left the region, like most rural areas, with a substantial deficit of providers. Throughout the COVID-19 pandemic, rates of substance use and needs for social and mental health services have risen while in-person access to behavioral health services was reduced to limit the risk of spreading the disease.<sup>26</sup> The rapid uptake of telemedicine for behavioral health care during the COVID-19 pandemic is evidence that sensible legislation changes to increase access to care is possible, but there is room for improvement: a growing number of states implemented telehealth parity for Medicaid, and Medicare expanded access to telehealth beyond designated rural areas; allowing FQHCs to serve as distant site providers. However, lack of funding for equipment and lack of training remain major barriers to uptake, as well as reimbursement for behavioral health.<sup>27</sup> In 2021, Maine DHHS announced increased rates across a number of services including behavioral health,<sup>28</sup> time will tell the impact these changes have on rural providers and their patients.

Changing credentialing standards and reimbursement rules could also alleviate the burden caused by insufficient workforce in multiple fields, including behavioral health, substance use, elder care, and paramedicine. For example, paramedics could provide urgent care in the home, alleviating the problem of finding transportation to an emergency room which is “overqualified” to provide the needed level of care. Revising credentialing standards and/or reimbursement rules will allow payment to providers with the skill set to perform certain proscribed services such as Licensed Clinical Professional Counselors for substance use disorder services; this would allow providers with a broader skill set, such as licensed clinical social workers or physicians, to provide care for which they are uniquely qualified.

The final priority among respondents was moving from fee-for-service to value-based purchasing across all health care services. The status of value-based purchasing in Maine is not dissimilar to the rest of the country, with minimal progress. In 2011, MaineCare launched a value-based purchasing strategy investing in 3 models, including an ACO comprised of 4 major hospital-based health systems. However, there is no major hospital system in Washington County; the 2 remaining hospitals are not part of any ACO efforts. One ACO exists in the county and is primarily geared toward FQHCs; while they can be more innovative without a tie to a large hospital, they are also attached to fixed prospective payment rates for Medicaid reimbursement. In some cases, employers have been able to use their purchasing power to innovate health insurance solutions, but again this is a challenge in rural Washington County which lacks a large local employer. Thus, in Maine, it falls on the state government to change the status quo. There is a real need to continue advocating for primary care payment change at the state level and break the deadlock that large hospital systems have on change.

We acknowledge that this study has several limitations. Our purposive sampling method may introduce bias into the data; while we had a large overall sample, there was a small number of participants distributed across each role and setting. This research may not be generalizable to other settings outside of Washington County; however, we believe that the large sample and cross-section of people in diverse roles at the interface of care has yielded themes and lessons learned that are likely to be salient in a variety of contexts, especially those with similar profiles of rurality and poverty.

## **Conclusion**

This qualitative study highlighting the views of key health system actors provides pragmatic recommendations to restructure rural health systems based on their lived experience as residents of Washington County and as clinicians and health system administrators.



Conducting a deep exploration of the system in 1 local context in a challenged part of 1 state can inform improvement both throughout the state of Maine and elsewhere in the country. Other rural governments can partner with researchers to collect local information in their contexts to inform policy, advocacy, and regional learning collaboratives.

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