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Washington Medicaid Innovation
Profiling Rural Regions for CHART Expansion

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Washington Medicaid Innovation

Profiling Rural Regions for CHART Expansion

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Washington State Health Care Authority

HARVARD Kennedy School

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Executive Summary

This Policy Analysis Exercise aims to assist the Washington State Health Care Authority's (HCA) Medicaid team in prioritizing rural regions for expansion of new healthcare payment models.

With a rise in rural hospital closings, and consistently poorer health outcomes in rural communities, change is needed to ensure that rural residents of Washington State have access to quality healthcare. As one of the largest purchasers of healthcare services in rural Washington, HCA has a unique opportunity to stem the financial difficulties that rural providers are facing and develop models that ensure rural patients receive the care they need.

To that end, HCA has been working on a rural health transformation plan in the North Central Region of Washington, using the Centers for Medicare and Medicaid Services (CMS) Community Health Access and Rural Transformation (CHART) Model. With CHART, HCA will pay healthcare providers a stable, predictable revenue stream, and in exchange, providers will take on financial risk for the population they serve. The increased financial stability should allow providers to invest in long-term services that directly improve the health of their communities, with a focus on behavioral and physical health integration, substance use disorder, maternal care, and broader social determinants of health.

The challenge faced by HCA is to balance the potential benefits of the new payment model against the current financial needs of the healthcare providers. Many rural healthcare providers are reluctant to engage in alternative payment models, fearing impacts on their clinics' financial viability and ability to continue providing essential services in their communities. Conversely, those regions that may be most in need of health transformation are often those without the resources to make the substantive investments in infrastructure needed to manage patient health.

The goal of this report is to give HCA a series of metrics that they can use to understand a region's viability for expansion of CHART. To that end, this report is broken into four main sections:

First, this report provides a high-level background on the condition of rural healthcare in Washington State.

This section describes how healthcare is purchased by Washington State's Medicaid agency, gives an overview of the challenges facing rural healthcare delivery, and describes HCA's rural health transformation efforts through the CHART Model.

Second, this report uses the metrics of the CHART Model to build a profile of the Better Health Together Accountable Community of Health region.

The key areas of focus for this report are the region's demographics, key health outcomes (with a focus on mortality, behavioral health, and maternal health), and healthcare infrastructure. Detailed CHART-related data are housed in the appendix to this report.

Third, the report offers an analysis of the barriers to CHART expansion.

While a region's health disparities may indicate a need for new healthcare approaches, the success of healthcare reforms will depend on the willingness and capability of providers in the region. To better quantify provider willingness, the report analyzes three main challenges to successful CHART expansion:

1. Financial Constraints: Can the health system financially support a shift in their payment models?
2. Patient Populations: How do small patient populations and varied community needs impact the viability of a payment model based on state-wide budgets and priorities?
3. Leadership Resistance: What motivational and capacity constraints keep providers and hospital leaders from engaging with innovation efforts?

Fourth, the report suggests additional analyses that can be done to better understand a region's readiness for healthcare transformation.

In each of the three categories outlined in the prior section, two key descriptive metrics are designated, and potential sources of data for analyzing those metrics are identified.

Armed with this report, the hope is that the HCA will be able to better understand a region's viability for inclusion in the CHART Model. Additionally, the analyses and challenges pointed out in this report could give HCA ideas on how to amend the CHART Model to alleviate the key drivers of local hospitals' reluctance to engage in rural health transformation efforts.

Methodology

This report relied on a mix of quantitative and qualitative metrics.

The quantitative metrics centered on building an understanding of key indicators for the patient population and key indicators for the provider systems in the rural region. This included the demographics of the region and key healthcare outcomes. Additionally, the research catalogued the types of providers that are providing care in the region and the degree to which the providers are reimbursed by Medicaid and Medicare. Broadly, the evaluation of the Better Health Together Region followed along the CHART Model – the Centers for Medicare and Medicaid Services model for Community Health Access and Rural Transformation.

Qualitative factors include interviews with administrators at the Medicaid agency and Washington Department of Health's Office for Rural Health, interviews with providers and hospital CEOs in rural regions, interviews with nonprofits and business associations focused on rural health, and interviews with any individuals that these interviewees referred me to. The goal of these interviews was to gain an understanding of the needs of the rural region and local providers, as well as what has or has not worked in past health innovation programs. Additionally, I sought out key learnings from similar efforts in different states – for instance, the rural transformation completed by Pennsylvania's Medicaid agency.

The information from the expert interviews led to the three key barriers to CHART expansion – Financial Constraints, Patient Populations, and Leadership Resistance – and the development of further analyses under each of these categories to understand a region's viability for payment reform.

A list of interviewed experts can be found in the appendix.

Common Abbreviations and Rural Health Terms

ACH – Accountable Community of Health; independent, regional organizations that work with their communities on specific health care and social needs-related projects and activities.[1]

APM – Alternative Payment Model; referring to methods of paying for healthcare that are different from the traditional model of an insurer (including Medicaid and Medicare) paying for each healthcare procedure as it happens. Commonly, APM refers to the shift to value-based purchasing, where provider groups are paid a set rate per patient and are expected to take financial risk on their patient population.

CAH – Critical Access Hospital; a designation by the Centers for Medicare and Medicaid Services for small hospitals with fewer than 25 beds that are located at least 35 miles from another hospital.[2] These hospitals are often financially vulnerable due to low patient numbers and reimbursement rates that are close to the cost of delivering care.

CHART – Community Health Access and Rural Transformation (CHART) Model; a Centers for Medicare and Medicaid Services initiative aimed at stabilizing rural providers' revenue. CHART solves for the revenue volatility caused by low patient volumes by shifting providers from unpredictable fee-for-service payments to predictable capitated payments.[3]

CMS – Centers for Medicare and Medicaid Services; federal agency tasked with managing the federal Medicare program and coordinating the state-level Medicaid programs.

DOH – Washington State Department of Health.

FFS – Fee-For-Service; the traditional mode of healthcare reimbursement in the United States. Insurers reimburse providers for every healthcare service, according to a pre-set fee schedule.

FQHC – Federally Qualified Health Center; a Centers for Medicare and Medicaid Services designation for safety net healthcare providers that offer services typically

from an outpatient clinic.[4] Predominantly serve low-income populations, either covered by Medicaid or Medicare.[5]

HCA – Washington State Health Care Authority; the state agency that manages the public employee benefits, school employee benefits, and Medicaid benefits within Washington.

HPSA – Health Provider Shortage Area; a designation from the U.S. Department of Health and Human Services, identifying areas or populations as having a shortage of primary care, dental, or mental healthcare providers.[6]

MUA/MUP – Medically Underserved Area or Population; a designation from the U.S. Department of Health and Human Services, identifying areas or populations that lack access to primary care services.[7]

Payer – Refers to the party that pays for healthcare, oftentimes a commercial insurer or a public agency like Medicaid or Medicare.

Provider – Healthcare practitioners; blanket term that covers small and large clinics, single physicians, hospital groups, nurses, etc.

RUCA – Rural Urban Commuting Area; RUCA codes are used by the Federal Office of Rural Health Policy and the US Department of Agriculture to classify US census tracts based upon population density, urbanization, and daily commuting.[8] Populations under 2,500 residents are generally classified as rural, between 2,500 and 9,999 are classified as small town, and 10,000 and above are classified as large towns and urban.[9]

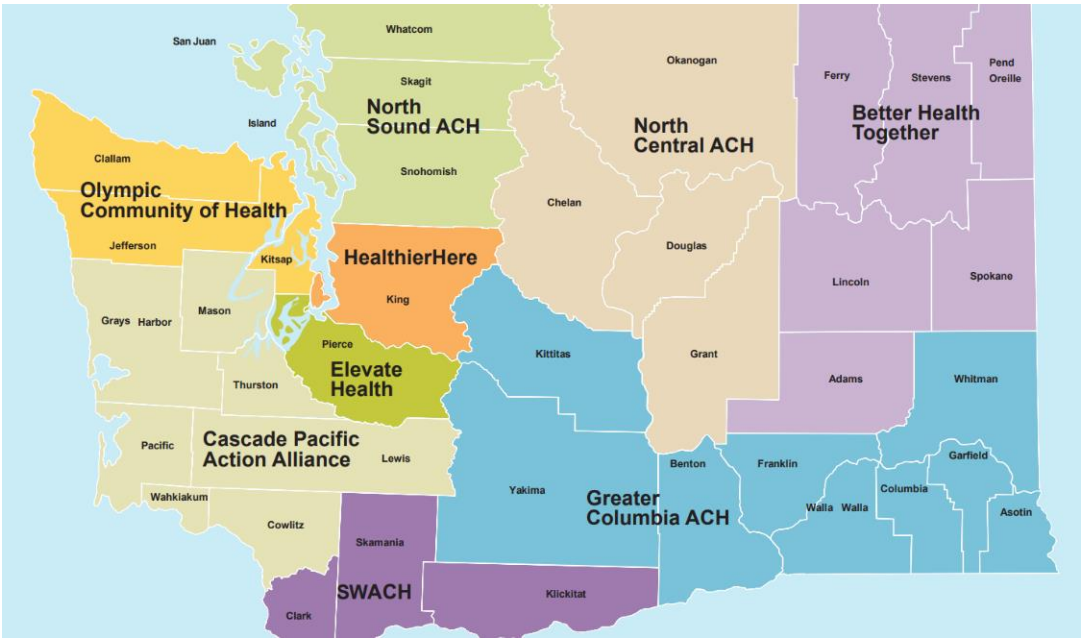
Background

Washington State Medicaid

The Washington State Health Care Authority (HCA) is a state agency tasked with purchasing and managing the healthcare of over 2.5 million Washington residents.[10] HCA manages the state's Medicaid program, Public Employees Benefits Board (PEBB) Program, School Employees Benefits Board (SEBB) Program, and the Compact of Free Association Islander Health Care Program.[11]

Washington State's Medicaid program covers over 2 million children and adults – one in four people in the state – and spent over $14 billion dollars on care last year.[12] Washington's legislature and HCA have been proactive in using Section 1115 demonstration waivers – petitions to use federal Medicaid funding for experimental and pilot programs – to test out novel payment structures that increase healthcare access and improve care quality.[13][14]

As part of these innovation efforts, in 2015 Washington State's Health Care Authority created six Accountable Communities of Health (ACH): independent bodies tasked with coordinating innovation projects in each region.[15]



ACHs coordinate the integration of novel payment methods, collaborate closely with regional healthcare and social services providers, and help drive community health forward through the promotion of population health goals.[16] For ease of coordination, the six ACH regions align geographically with the Health Care Authority's Medicaid purchasing regions.[17]

The map above shows the six ACH regions.[18] Better Health Together, North Central, Greater Columbia, and Cascade Pacific Alliance represent the most rural of the six regions.[19]

In 2017, HCA's Medicaid team launched a series of Medicaid Transformation Projects.[20] These projects align with a broader national shift from fee-for-service to value-based purchasing of healthcare, and include initiatives centered on integrating physical health with treatment for substance use disorder and mental health, supporting older adults and caregivers, boosting tribal healthcare access, and stabilizing the financial models of rural healthcare providers.[21]

Rural Health Transformation

Challenges in Rural Health

In recent years, patients in rural areas have faced a widening of the disparities between the care they receive and the care available to urban counterparts.[22] Rural areas in Washington State face a dearth of healthcare providers, while struggling to care for older and poorer patient populations.[23] Across the country, rural hospitals have been shuttering at a rapid pace.[24] Local hospitals in rural America often play a double role: the only healthcare provider for miles, and the largest employer in the town.[25] The closure of a rural hospital hurts not only the patients seeking care, but the socioeconomic status of the local workers and families reliant on that anchor employer.

Fee-for-service payment structures make these hospitals reliant on a steady volume of patients – a reliance that proves costly when patient populations are small and service utilization is unpredictable from month to month. This leads critical access hospitals to rely on federal subsidies and local tax revenue to stay afloat and limits their ability to invest in the technologies and staffing necessary to adequately manage their local population's health.[26]

One bright spot is that rural areas often have a larger proportion of Medicare and Medicaid beneficiaries – a fact that gives Medicaid agencies like HCA a chance to make a sizable difference in rural communities through the use of rural health focused initiatives.

CHART Model

To address these problems, HCA volunteered to become one of four lead organizations in a Centers for Medicare and Medicaid Services pilot of a new model for purchasing healthcare in rural regions: the Community Health Access and Rural Transformation (CHART) Model.[27]

The CHART Model seeks to stabilize rural providers' revenue by solving for the volatility in patient volumes – shifting providers from unpredictable fee-for-service payments to predictable capitated payments.[28] Through CHART, HCA will assist rural providers in making up-front investments in the technology and staffing necessary to better manage population health, and will provide ongoing payments based on patient health outcomes.[29] In technical terms, these payment reforms are effectuated through an aligned all-payer capitated alternative payment model (APM), where payments are tied to care quality.[30]

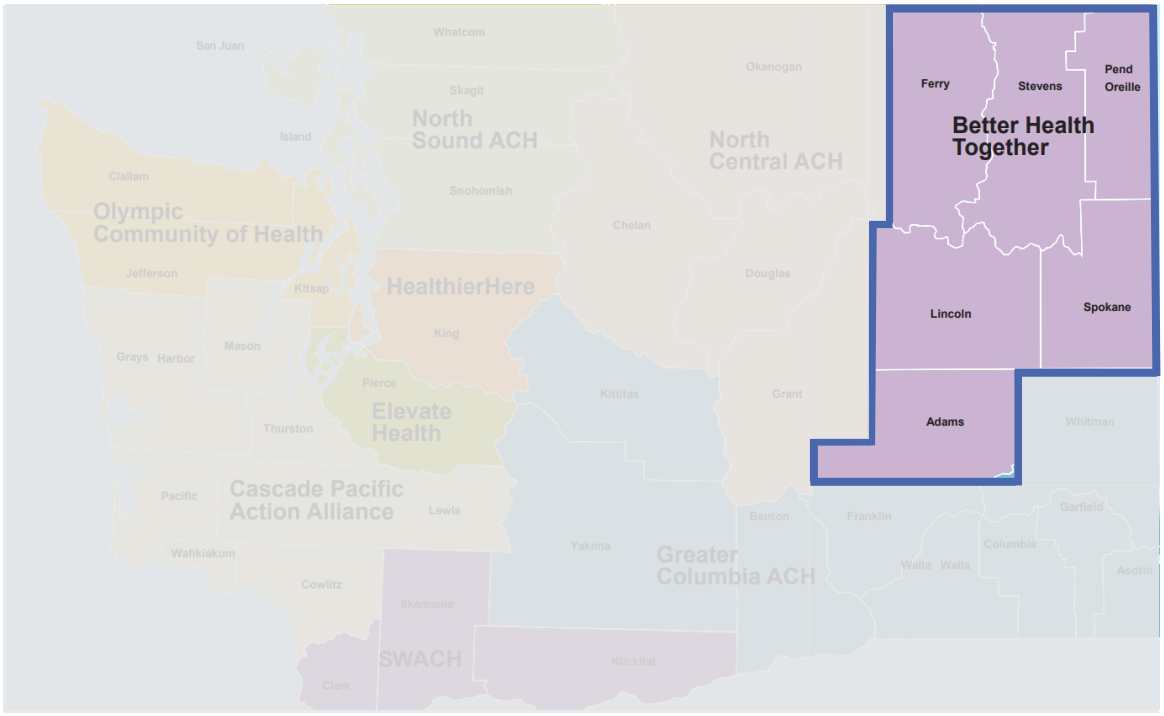
Additionally, the CHART Model will increase rural providers' operational and regulatory flexibility by offering regulatory waivers for local innovation projects.[31] In alignment with a broader mission of addressing social determinants of health and reducing health disparities, HCA will encourage local providers to use the financial predictability from CHART to make long-term investments in social services like food and housing support.[32]

Starting in the fall of 2021, HCA initiated a seven-year, $5 million-dollar program centered on the North Central ACH.[33] Based on the lessons learned in North Central, HCA will seek to expand the CHART program to additional rural areas within Washington. The three other predominantly rural ACH regions are: Better Health Together (eastern Washington), Greater Columbia (southeastern Washington), and Cascade Pacific Action Alliance (western and coastal Washington).

Profile of a Rural Region: Better Health Together

In evaluating a region for expansion of the CHART Model, the first step is to build a regional profile using the metrics outlined in the CHART Application and described in a CHART Narrative. These metrics cut across a range of relevant factors, from a region's demographic makeup to key health outcomes to the healthcare infrastructure of the region.

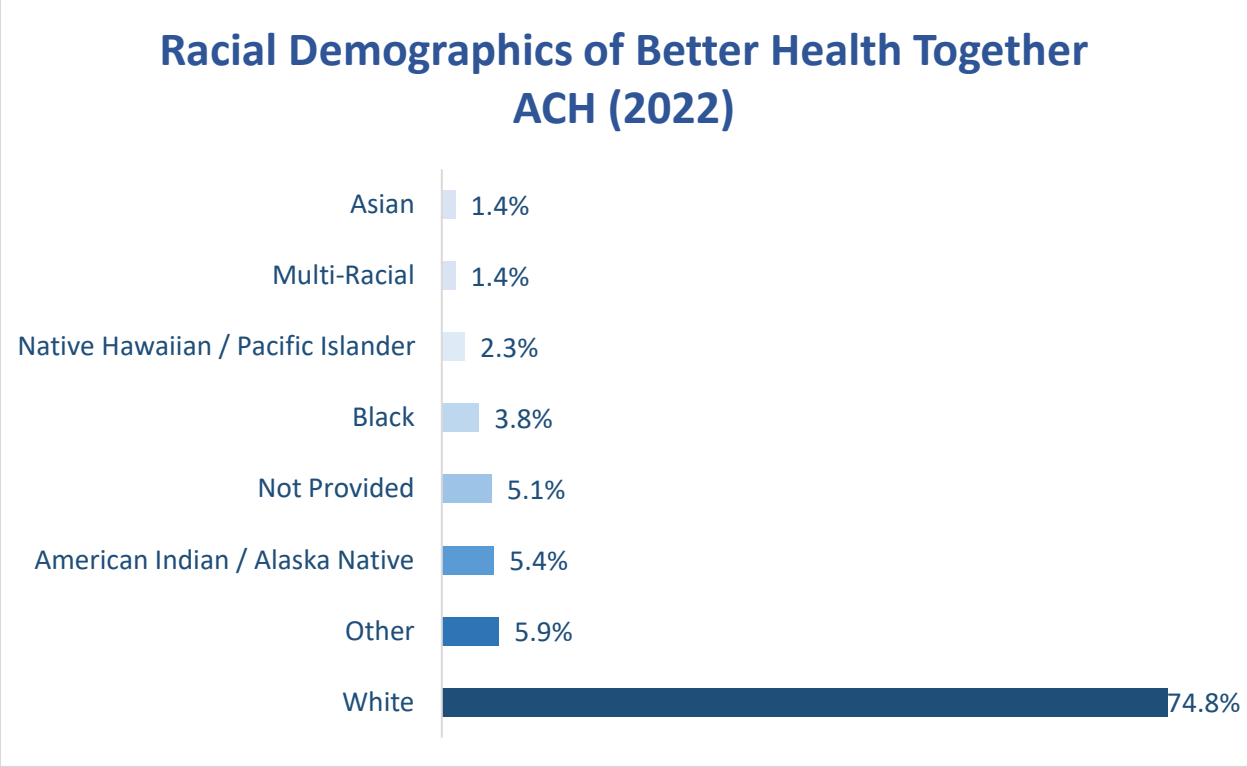
To that end, I have built an initial profile of the Better Health Together ACH region modeled off the key healthcare metrics used in a CHART Narrative.



Better Health Together Demographics

The Better Health Together ACH contains six counties – Adams, Ferry, Lincoln, Pend Oreille, Spokane, and Stevens – as well as the lands of the Spokane tribe, the Kalispel tribe, and a portion of the confederated Colville tribes.[34]

The population of this region is 75% white (compared to 67% of the statewide population), and 94% of the population list English as their preferred language.[35] However, there are outliers within this region: 78% of Adams County identifies as Hispanic, and 27% of the population in Ferry County identifies as American Indian or Alaska Native.[36] Ferry and Adams counties are also considered to be "frontier" counties – meaning they are even more sparsely populated than "rural" counties.[37]



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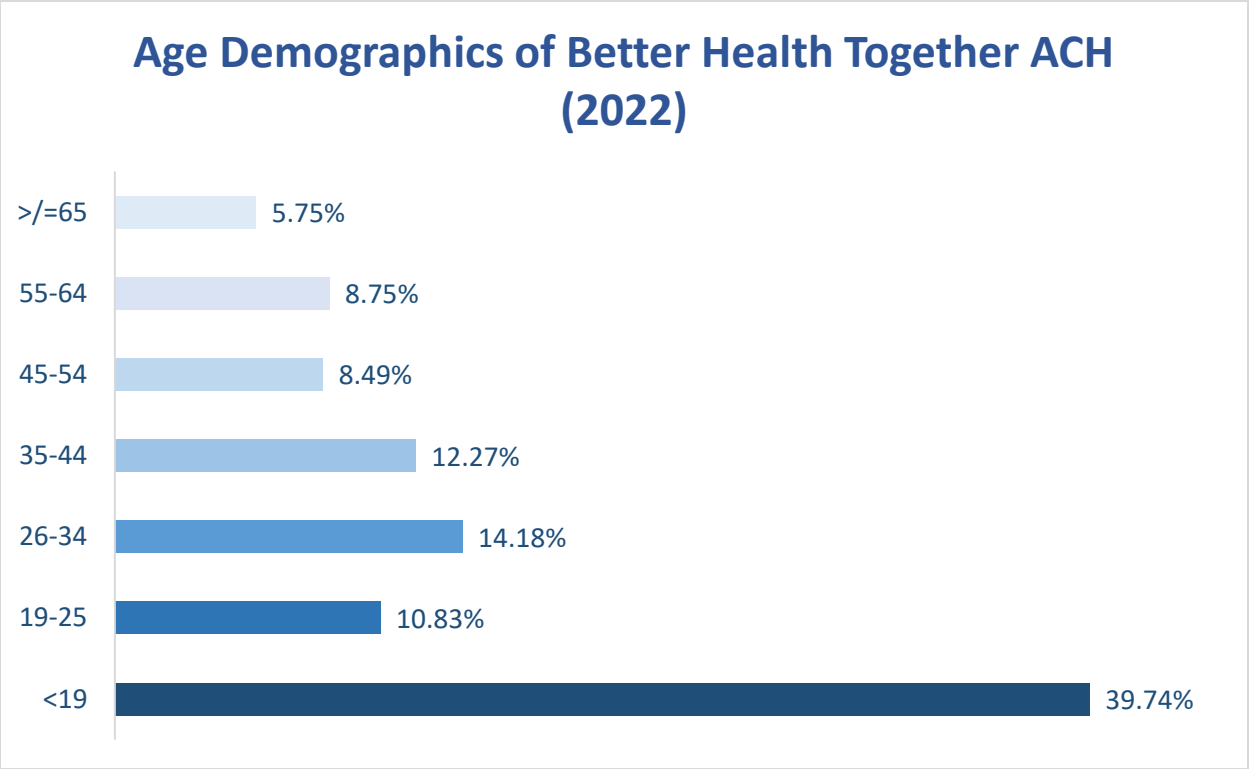

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Regional experts tied the largest health disparities to those areas that are most economically depressed.[40] In particular, experts pointed to the challenges within the region's tribal populations, which are both economically depressed and face a lack of healthcare access due to limitations in how the federal Indian Health Service – and to some extent Medicaid – fund care within tribal areas.[41]

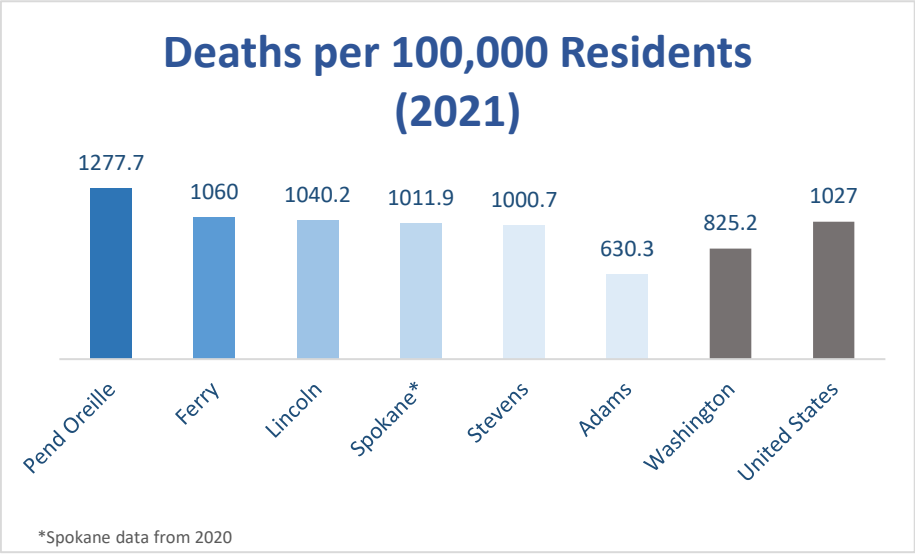
As of December 2021, Ferry, Stevens, Pend Oreille, and Adams counties had some of Washington's highest unemployment rates, with Ferry having the highest rate: 7%.[42] Conversely, Lincoln and Spokane counties just to the south of Ferry, Stevens, and Pend Oreille, had some of Washington's lowest unemployment rates in December 2021: 3.9% and 3.8%, respectively.[43]

Better Health Together Health Outcomes

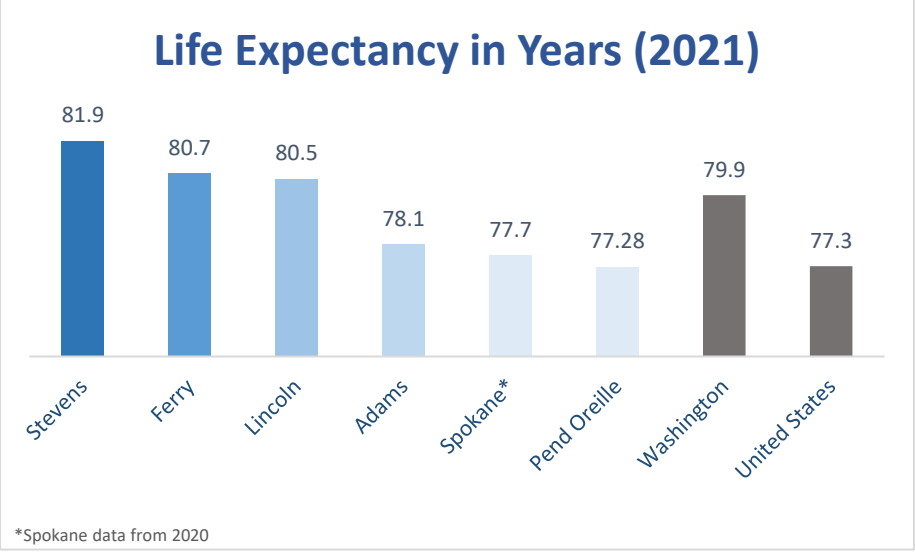
Life Expectancy

In the Robert Wood Johnson Foundation's 2019 county health rankings for Washington State, Ferry, Pend Oreille and Adams were ranked in the bottom ten counties for overall health outcomes (39th, 35th, and 33rd, respectively).[44]

Pend Oreille County's mortality rate was higher than any other Washington county in 2021.[45]

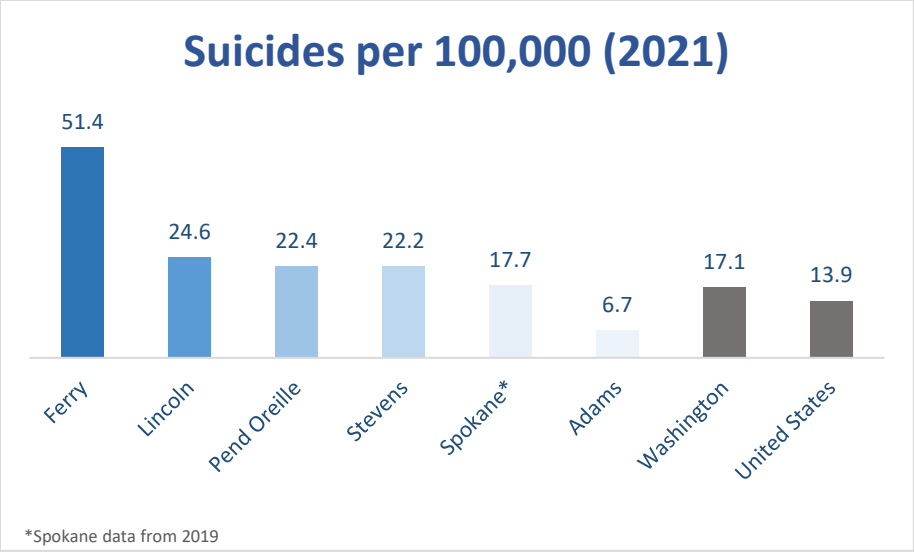


Similarly, Pend Oreille had the lowest life expectancy of any county in 2021.[46]

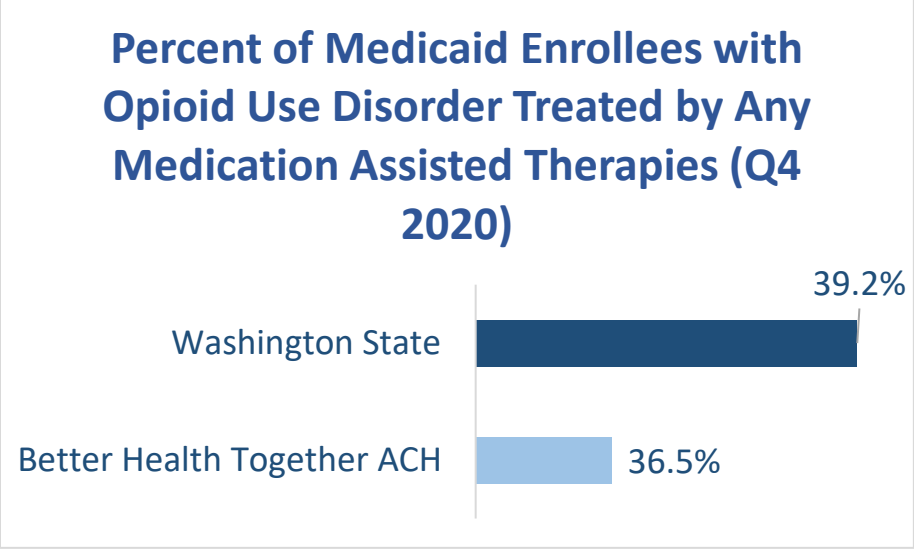


Mental Health

In terms of mental health, 30% of Better Health Together ACH's Medicaid population in 2017 had a diagnosed mental illness, and 12% sought substance abuse treatment.[47]

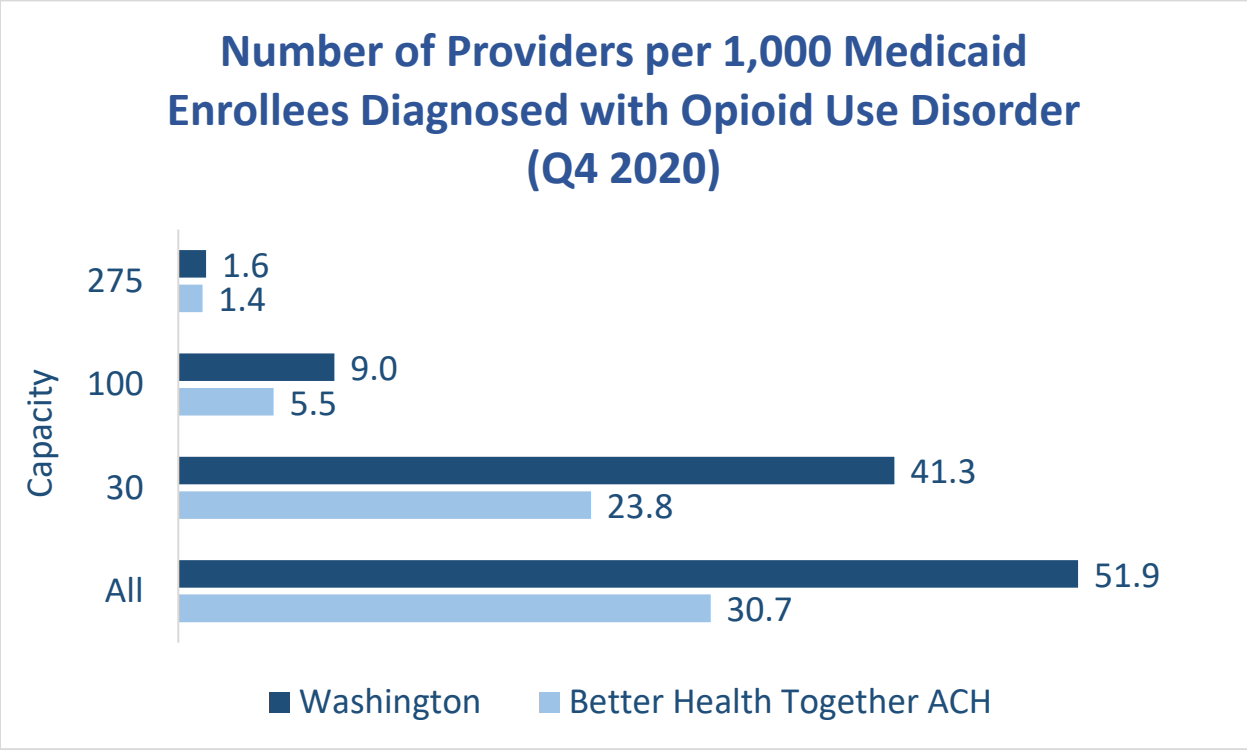


Counties in this region have elevated rates of suicide, one element of the "deaths of despair" that have become characteristic of rural counties across the United States.[48]



In the last quarter of 2020, Better Health Together was below the state average in almost every category of opioid use disorder treatment.[49]

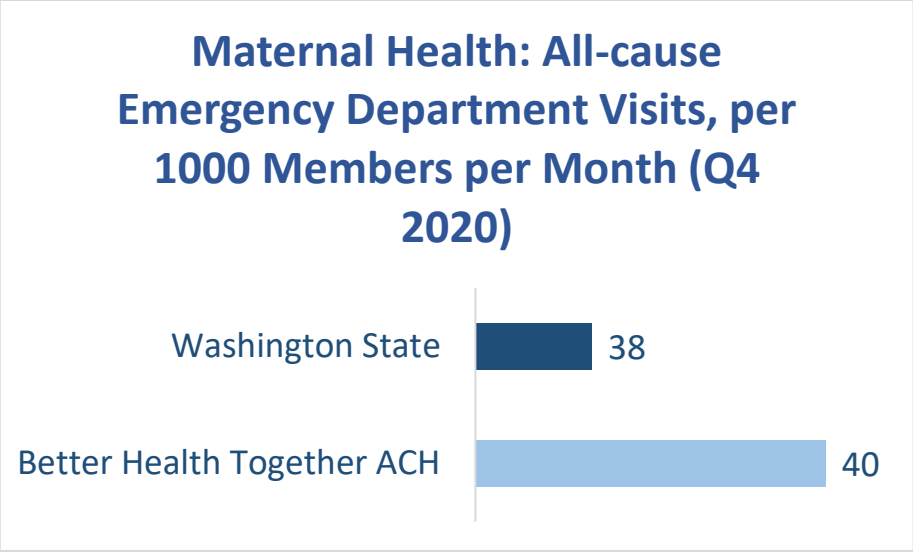
The lack of mental health infrastructure echoes the difficulties of recruiting and retaining medical professionals in rural counties.[50]



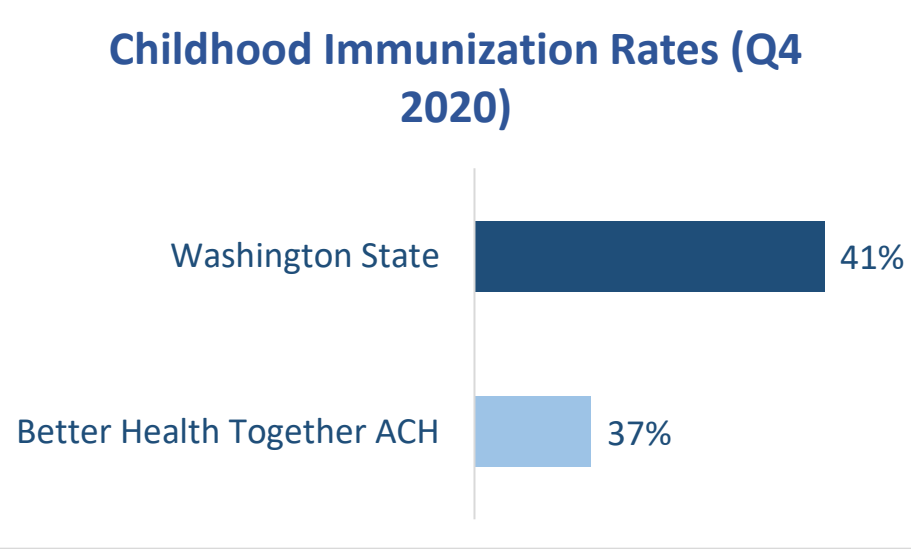
Maternal Health

Maternal health indicators paint a less clear picture of the region. For instance, in the last quarter of 2020 Better Health Together ACH had a higher percentage of well child visits in the first 30 months of life (70% vs. 67%); a higher percentage of women receiving timely prenatal care (93% vs 89%); and slightly higher rates of contraceptive care (28% vs. 27%), compared to the Washington State average.[51]

However, maternal all-cause emergency department visits were higher in the Better Health Together Region.[52]



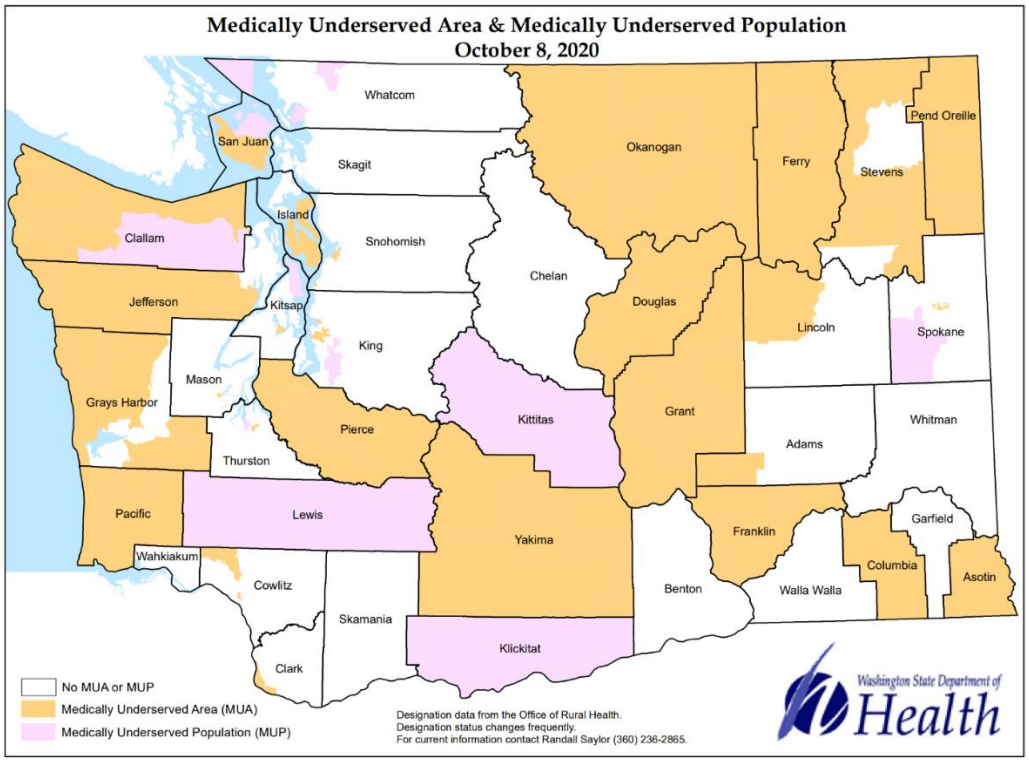
Childhood immunizations were lower in the region, and a lower percentage of Better Health Together patients had a well-child visit within 15 months (54% vs. 57%).[53]



Better Health Together Healthcare Infrastructure

The Better Health Together region is comprised of 17 ambulatory surgical centers, nine critical access hospitals, six federally qualified health centers, and ten acute care hospitals.[54] Spread out over six geographically large counties, this health infrastructure is severely limited in its scope. Five out of the six counties are considered to have critical provider shortages, with Spokane being the outlier.[55]

Even in Spokane county, the disparities in healthcare infrastructure are evident in the concentration of providers in the city of Spokane, and the dearth of providers in the county's rural areas. For instance, while the city of Spokane had the second largest population of nurse practitioners in the state, only 6% of nurse practitioners in the Better Health Together region worked in rural areas in 2019.[56]



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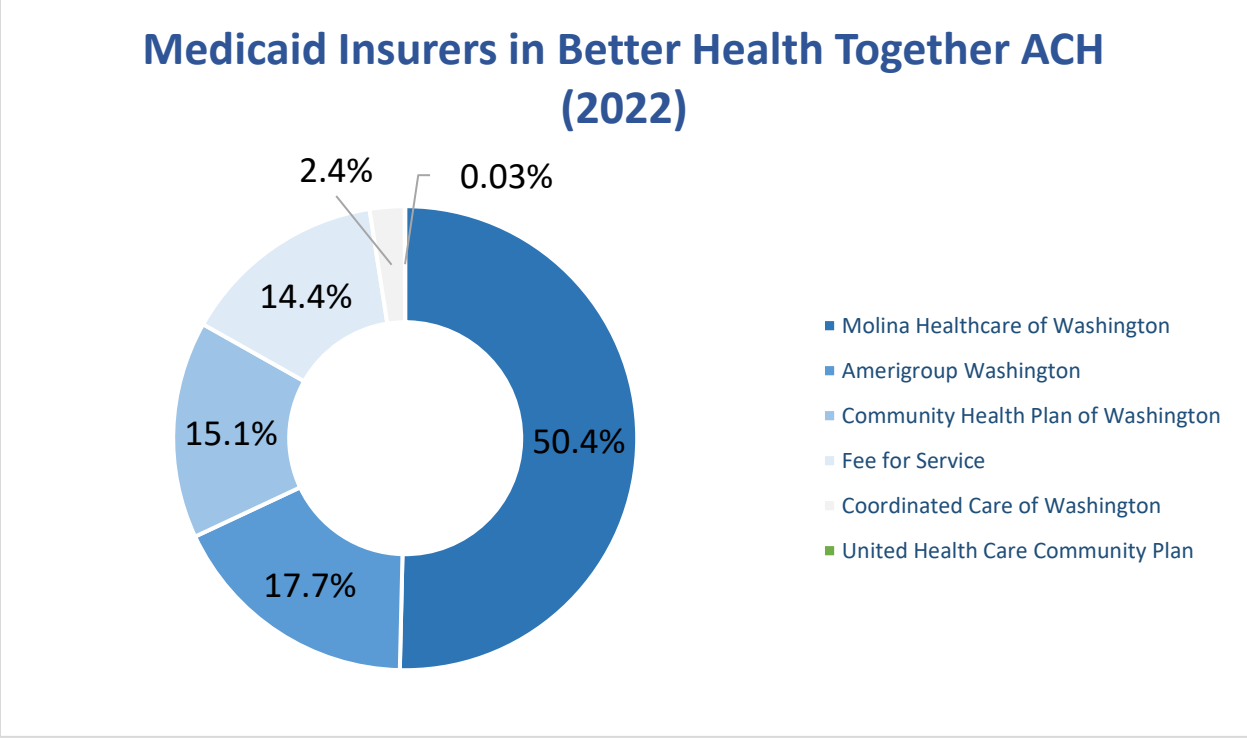
The HCA is responsible for the healthcare of 46% of the Better Health Together region – over 230,000 Medicaid members, alongside 55,000 public employee (PEBB) and school employee (SEBB) members.[58]

While Spokane County – by far the largest county in the region – accounted for the largest total Medicare reimbursement in fiscal year 2020 (~$465 million), Lincoln County accounted for the highest per capita Medicare expenditures (~$930).[59] Of the nine critical access hospitals, six hospitals receive 40-50% of their funding from Medicare, and six receive greater than 20% of their funding from Medicaid.[60]

Except for Lincoln County, all counties had an uninsured rate of greater than ~6% in 2019.[61] The primary Medicaid insurers are: Molina, Amerigroup, Community Health Plan, Coordinated Care, and United.[62]



see endnote[63]

There are bright spots, though. Most of the hospitals in the region are now engaged in an Accountable Care Organization (ACO) model and have invested in their analytic and technological capacities.[64] These investments allow the hospitals to engage in some degree of population health management. For instance, hospitals are now able to aggregate and quickly reference data on which of their patients have elevated blood A1c levels (a key metric for diabetes management).[65]

Appendix 1, Figure 1 includes a more detailed description of the healthcare infrastructure of the region.

Barriers to Rural Health Transformation

An initial inclination when evaluating a rural region for CHART expansion is to look at the healthcare disparities of the ACH regions and prioritize those communities with the greatest need. However, in discussions with stakeholders on the ground, it quickly became clear that the defining factor in the success of a rural health transformation project is whether the provider community is ready for change. As badly as a community may need investments in its healthcare infrastructure, if the community lacks the capacity or will to change, any attempts at reform will be short-lived.

Experts I spoke with continually reiterated a common theme: you cannot force providers into new payment arrangements, so you need to identify those hospitals, clinics, and advisory boards that are most willing to partner.[66] From there, the relationship between a lead organization like the HCA and the local provider groups needs to be built on a foundation of collaboration and mutual trust.

To better quantify the willingness of provider groups to engage in healthcare transformation, I defined three broad categories of challenges: Financial Constraints, Patient Populations, and Leadership Resistance.

Financial Constraints

The primary challenge that local provider groups face is a financial constraint on their ability to engage in alternative payment models. One state policymaker broke down Washington's 39 critical access hospitals into three tranches: one-third financially stable, one-third moderately financially stable, and one-third on the edge of solvency.[67] News reports indicate that the picture may be more grim, with 33 out of 39 critical access hospitals operating on negative margins.[68]

As described earlier, the CHART model is premised on three financial goals: 1) financial stability for rural providers, through consistent, capitated payments; 2) a shifting of risk from the state agency to the provider groups; and 3) a decrease in overall payments over time, as value-based care leads to healthcare savings.

First, for many hospitals on the financial edge, the need for consistent revenue is counterbalanced by the need for enough revenue to stay afloat.[69] For one rural hospital I spoke with – which is running at -1% margins – it is difficult to imagine a future if Medicaid payments were to decrease.[70]

Second, small counties and rural hospitals are often insufficiently capitalized to take financial risk on their populations.[71] While most providers agree with the clinical shift to population health management – centered on care coordination, illness prevention, and reduced downstream adverse health events – questions remain as to how to build a sustainable financial model for bearing risk on an exceedingly small population of patients.[72] Since much of the research on value based care has been in dense urban hospitals, there is limited understanding of how the numbers could work for a rural setting with such low patient volumes.[73]

Finally, providers raised concerns about managing risk and coordinating care across multiple payment models.[74] For instance, hospitals raised the challenge of forecasting revenue and creating the proper care coordination structures when one subset of their patient population is in a Medicaid capitated model, and another subset is in a commercial insurer fee-for-service model, without any coordination between the payers in the region.

Patient Populations

The financial struggles of rural providers are rooted in their exceedingly low patient volumes. One hospital made this point clear: their emergency room had an average of five patients per day – less patients than there are staff in the clinic.[75]

The CHART Model relies on accurate projections of patient healthcare costs. The goal of the model is to provide clinics with a sufficient monthly payment to cover the costs of treating each patient, plus a suitable margin. To do so, HCA and the local providers need to be able to build forward-looking models of patient healthcare utilization and projected costs, alongside potential cost savings from improved patient care management.

In these sparsely populated, geographically large areas, it can be nearly impossible to get statistically relevant patient numbers. This makes it difficult to build confidence in the projected patient costs or whether the capitated payments will be sufficient.[76] For a hospital on the brink of financial solvency, a slight statistical variance in determining the reimbursement can mean the difference between staying afloat or closing down.

Finally, hospital leaders emphasized the need for flexibility and nuance in the payment models. They worried that a model centered on global budgets would be too one-size-fits-all and may not take into account the unique patient panels within their local catchment area.[77] These patient panels represent key community healthcare challenges, significant revenue drivers for the clinic, or services that the community has come to expect from their healthcare provider.[78] In almost every conversation, flexibility in the model was a recurring theme.

Leadership Resistance

Finally, clinic leaders may be resistant to transformation efforts for two additional reasons: 1) the motivations of the leaders, and 2) the capacity of the staff.

Hospital leadership boards have a primary motivation: the solvency of their hospital. Some boards fear that any large-scale payment reforms will be fleeting or will require significant financial disruptions without commensurate financial payoffs and health outcomes. More than one interviewee mentioned their memories of the Health Maintenance Organization phase of the 1990s, and likened value-based payment reforms to another passing fad.[79]

Additionally, in short-staffed rural hospitals, providers know that they will bear the burden of managing care in accordance with new reimbursement guidelines and worry that outdated information technology infrastructure will hamper their ability to analyze population health data.[80] Investment in analytic capacity was continually referenced as one of the most important precursors to health transformation.[81] Without such investment, providers are reluctant to take on additional time-intensive work.[82]

Experts emphasized the role that reimbursement rates play in recruiting staff, and the knock-on effects on willingness to take risk on a population. For instance, one expert pointed out the difficulty of recruiting behavioral health experts into their rural region because of low reimbursement rates. The lack of behavioral health staff made it difficult to adequately treat the mental health needs of patients in the community, and these untreated mental health issues then went on to exacerbate comorbid physical illnesses. Providers in this region later pushed back against any risk-bearing model because "it is nearly impossible to take risk on a patient's physical health without adequate safeguards for their mental health."[83] In effect, the low reimbursements made it tough to recruit providers, which made it tough to treat patients, which made providers reluctant to bear risk on the population.[84]

How to Prioritize a Region for Expansion

Each of the three dimensions – Financial Constraints, Patient Populations, and Leadership Resistance – come with their own unique set of challenges. To help HCA analyze a rural region's ability to engage in health transformation, I have identified two metrics in each category that could act as useful proxies. For each of these metrics, I have identified potential analyses that can be used to build a clearer profile of a rural region's readiness for alternative payment models.

Financial Constraints

Metric #1: Hospital Financial Thresholds

To evaluate a healthcare organization's financial capacity to engage with alternative payment models, HCA can review the financials of clinics that have successfully transitioned to a value-based purchasing arrangement in the past. Based on this review, HCA can establish size and revenue thresholds for targeting clinics in the region.

Size can act as a barometer for the types of services that can be efficiently provided to a small population. Revenue thresholds can help determine where the revenue is so low that a transition may not be worth the administrative burden on the payer or the provider. Additionally, the providers most interested at the outset may be the larger groups that have the resources but dwindling revenue.[85] The CHART model may offer them a chance to invest in capacities to expand revenue in the longer term.

Alternately, HCA could set up a fiscal risk rating for organizations within a region.[86] One existing risk approach would be to look at the organization's bond rating.[87]

Potential Analyses

The Centers for Medicare & Medicaid Services Innovation Center has put together dashboards of Medicare data to highlight the hospitals that would be the best candidates for payment reform. These dashboards are not yet publicly available but should be available to HCA.[88]

Additionally, the Washington State Department of Health has two data dashboards that are helpful for understanding the hospital-level financial data: the Comprehensive Hospital Abstract Reporting System (CHARS) and the Hospital Financial Data.[89, 90]

Financial Constraints

Metric #2: Public Insurance Makeup

In discussions with experts, there was consensus that hospitals would be more inclined to be associated with a new payment model if the hospital receives a certain threshold of its payments from public sources like Medicare and Medicaid. One expert thought using a threshold of 70% of funding coming from Medicare or Medicaid could be a useful starting point.[91]

Because of the payer mix identified for the key hospitals in the region (see Appendix 1, Figure 1), it is clear that Medicare patients will have to be involved for this threshold to be met.[92] Ideal targets will be those hospitals that are acting as Medicare Accountable Care Organizations, taking on downside risk, and maintaining financial viability.[93]

For instance, seven members of the Washington Rural Hospital Association are in a Centers for Medicaid and Medicare Innovation Accountable Care Organization, with full upside and downside risk.[94]

Potential Analyses

Medicare cost reports will give a sense of the Medicare contribution to local providers. Additionally, the CMS Geographic Variation File will give a sense of the distribution of Medicare spending by county, as well as key patient quality indicators, such as admissions rates.

For Medicaid spending on providers within the region, HCA should be able to access the payer mix of the hospitals, Medicaid reports breaking down total costs for these areas, and a breakdown of total costs spent in hospital services vs. long term care. One key indicator is the share of Medicaid patients across providers, and whether those providers who accept Medicaid patients are at capacity.[95]

Patient Populations

Metric #1: Managing Risk & Understanding Volatility

The goal of this metric is to answer the question: what kind of minimum population is needed for a provider to be able to bear risk under the CHART Model?

To alleviate the difficulty of assessing patient census and spending volatility at the hospital level, HCA can break ACH regions down into subregions that can be used to pool and cooperatively manage risk. One approach is to look at Rural-Urban Commuting Area (RUCA) codes to determine the variability in spending at the sub-regional level and see if regions are more or less viable for CHART-style risk management. One caveat is that this variability will likely be very high, based on the small patient population numbers.[96]

An additional approach to pooling risk is to explore reinsurance models. While reinsurance has been explored in different contexts on the payer side, aggregating risk on the provider side may require novel thinking.[97] In Pennsylvania, for instance, rather than a whole reinsurance scheme, there is a further review protocol, which helps providers to flag high-cost claims.[98]

Potential Analyses

To better understand this metric, HCA can look to RUCA codes to determine the viability of different subregions for aggregating risk.[99]

Additionally, HCA can look to the all-payer database to see the distribution of spending by people per county; and look to see how much of that spending falls in the right tail of the distribution (the high cost spenders).[100] This will give a sense of the high-cost claims that could be smoothed through a reinsurance model.

Finally, using Medicare claims, it would be helpful to know where the residents of these counties actually receive care.[101] This can be seen in the Dartmouth Atlas for Health Care's maps of hospital service areas.[102]

Patient Populations

Metric #2: Health Disparities & Local Needs

The goal of this metric is to help local providers identify the potential for savings under a transition to the CHART Model.

One approach is to focus on key patient panels for specific regions – let the Accountable Community of Health and local provider groups identify those healthcare claims that play a key role in the population's health and provider group revenue. By finding those panels that align with the CHART model's global budget, HCA can identify those regions whose unmet healthcare needs can generate the greatest degree of savings, which in turn can then be reinvested in population health measures.

Potential Analyses

As mentioned earlier, the CMS Geographic Variation File will have information on the distribution of Medicare spending by county (which will be meaningful for Spokane, but very noisy for the other, smaller, counties), patient quality indicators, admission rates, and other useful information.

HCA should also survey the Accountable Communities of Health and local provider groups to hear directly which patient panels are most meaningful for each region and clinic.

Leadership Resistance

Metric #1: Motivations of the Hospital Leaders

In conversations with experts, a recurring theme was the need to get hospital boards in alignment with any transformation efforts. To gauge the motivations of providers and hospital boards, HCA can look to a mix of direct feedback and proxy metrics.

For instance, direct conversations with providers and their boards will offer HCA a clear understanding of attitudes towards CHART expansion.

However, proxy metrics can help HCA fill in any gaps in their provider conversations, or help make a case to hesitant hospital boards.

For instance, if a clinic has patients that are in a patient centered medical home arrangement, that would act as a helpful first step in managing population health.[103] Conversely, multiple experts noted that if a provider is not yet in a Medicare Accountable Care Organization arrangement, then CHART may be too ambitious.[104]

Potential Analyses

HCA's most direct way of understanding the motivations of hospital leaders would be to survey local clinics and hospital boards. Additionally, conversations with Accountable Community of Health Directors can act as a proxy for attitudes within their region.[105] One expert noted that the Executive Directors of County Medical Societies should have a sense of local providers' willingness to engage with change initiatives.[106]

As a proxy, it is helpful to understand the percentage of risk business the hospitals and physicians currently have.[107] Finally, since any large-scale initiative will also involve private payers and nonprofit conveners, it is best to find the place where there is willingness among all stakeholders to put in the elbow grease necessary for health transformation.[108]

Metric #2: Provider Capacity

Almost every expert emphasized that the most important element of any transformation project is provider buy-in[109] Especially in small, understaffed hospitals where providers do their own coding, the burden can be too great if they are being asked to both treat patients and manage care under a complicated new reimbursement model.[110]

Potential Analyses

The capacity of providers to engage in transformation efforts can be gauged through surveys of key stakeholders. At the hospital or clinic level, the Chief of Medical Staff will have a feel for physician capacity.[111] At a more macro level, the Association of Washington Public Health Districts will likely have a sense of the capacities of member health providers.[112] Accountable Community of Health Directors could give a birds' eye view of their region, including how many change initiatives are in progress at any point in time.[113] Early adopters of new initiatives would be ideal partners, so long as they are not already overburdened.[114] Additionally, the Washington State Department of Health Leader of Community-based Interventions would have a sense of early adopter capacity.[115]

From a technical capacity perspective, it would be helpful to discern the degree to which the hospital and physicians on its staff have the ability to communicate electronically.[116] Most importantly, to what extent they can communicate with insurers and other health systems electronically beyond billing.[117] For instance, to pull up the patient's formulary in real time with the patient sitting there, or to share data across other health systems to manage care.[118]

Conclusion

While the CHART Model holds the promise of re-invigorating the health of rural communities, there are significant barriers to acceptance by local providers. To ensure the success of CHART expansion, HCA needs to address the concerns of reluctant provider groups, and work closely with rural leaders to build a relationship founded on mutual respect and trust.

First and foremost, HCA must acknowledge the unique Financial Constraints faced by rural providers, and be clear about the steps they are taking to address provider concerns about the long-term financial viability of a shift to alternative payment models. HCA should look to those providers that are of sufficient size and annual revenue to support the investments in a shift to population health management. Additionally, HCA should focus on those providers who receive a significant share of their revenue from Medicare and Medicaid patients.

Closely linked to the financial considerations are the unique characteristics of Patient Populations within each rural community. Working closely with local providers, HCA should identify those patient panels that play a key role in the local community's health and the provider group's revenue stream, and incorporate adequate payment mechanisms into the CHART Model to ensure proper coverage for patients and sustained financial viability for providers. Additionally, HCA should consider alternative risk-pooling mechanisms, like reinsurance or RUCA-level risk aggregation to help smaller provider groups and communities to take risk on their populations.

Finally, HCA can take steps to break down Leadership Resistance to change, by understanding the motivations of hospital leaders, by demonstrating a commitment to partnership, and by being willing to co-develop the parameters of the CHART Model for each region. Additionally, upfront investments by HCA can help providers build the capacity needed to handle a shifting workload and increased population health management responsibilities.

As stated in the introduction to this report, the hope is that HCA will be able to use this document to better understand a region's viability for inclusion in the CHART Model. Additionally, the challenges outlined could give HCA ideas on how to alleviate local providers' concerns about alternative payment models.

Appendix

Appendix 1: List of Interviewees

(*In alphabetical order*)

- Alison Poulsen: Executive Director of the Better Health Together Accountable Community of Health.
- Dan Lessler, MD: Former Chief Medical Officer of the Washington State Healthcare Authority.
- David Kaplan: Senior Partner and Global Lead for Health Management at Mercer, Retired.
- David Liebers, MD/MPP: Graduate of Harvard Kennedy School and Harvard Medical School whose PAE focused on quality metrics used in rural health payment models.
- Eileen Kazura: Rural Health Equity Program Manager, Washington State Department of Health.
- Elya Prystowsky, PhD: Executive Director of the Rural Collaborative in Washington.
- Hadda Estrada: Chief Equity and Strategy Officer of Better Health Together Accountable Community of Health.
- Janice Walters: Chief Operating Officer, Rural Health Redesign Center.
- Joseph Newhouse, PhD: John D. MacArthur Professor of Health Policy and Management, Director of the Division of Health Policy Research and Education, Harvard University.
- Jonathan Fried, MD/MPP: Graduate of Harvard Kennedy School and Harvard Medical School whose PAE focused on quality metrics used in rural health payment models.
- Judy Zerzan-Thul: Chief Medical Officer, Washington State Health Care Authority.

- Lex Mundell, MD Candidate: University of Washington School of Medicine Targeted Rural Underserved Track Fellow.
- Matt Holman: Partner at Camber Collective with prior experience analyzing rural healthcare within Washington State.
- Nader Niani: Managing Partner at Frazier Healthcare.
- Pat Justis: Executive Director, State Office of Rural Health, Washington State Department of Health.
- Rachel Quinn: Special Assistant for Health Policy and Programs, Policy Division, Washington State Health Care Authority.
- Shane McGuire: CEO of Columbia County Health System, a Critical Access Hospital in rural Washington State.
- Sule Gerovich: Senior Fellow at Mathematica with experience working on Washington, Maryland, and Pennsylvania's rural health transformation initiatives.

Appendix 2: Better Health Together Regional Data

Figure 1: Detailed Health Infrastructure Data for the Better Health Together ACH

Category	Community-level data	Source
A list of the contiguous or noncontiguous rural counties or rural census tracts that comprise the Community	Adams, Ferry, Lincoln, Pend Oreille, Spokane and Stevens Counties	Better Health Together
Ambulatory surgical centers (ASC)	17 ASCs, payer mix publicly N/A **Spokane County:** Advanced Dermatology and Skin Surgery Chestnut Institute of Cosmetic and Reconstructive Surgery Columbia Surgery Center Empire Eye Physicians Empire Eye Surgery Center Multicare Rockwood Eye Surgery Center NEOS Surgery Center Northwest Orthopaedic Specialists Plastic Surgery Northwest Surgery Center Providence Surgery and Procedure Center Shape Cosmetic Surgery and Medspa South Perry Endoscopy Spokane Digestive Disease Center Spokane Surgery Center Spokane Valley Ambulatory Surgery Center SRM (Seattle Reproductive Medicine) Spokane	DOH facility search

	The Spokane Eye Surgery Center	
CAHs	9 CAHs; 2019 data Hospital Name — Medicare — Medicaid FERRY COUNTY MEMORIAL HOSPITAL — 50% — 10% PROVIDENCE ST JOSEPHS HOSPITAL — 49% — 24% LINCOLN HOSPITAL — 49% — 19% PROVIDENCE MOUNT CARMEL HOSPITAL — 45% — 25% ODESSA MEMORIAL HOSPITAL — 44% — 24% NEWPORT COMMUNITY HOSPITAL — 42 % — 20% EAST ADAMS RURAL HOSPITAL — 39% — 20% WHITMAN HOSPITAL & MEDICAL CENTER — 39% — 16% OTHELLO COMMUNITY HOSPITAL — 17% — 53%	Data from HCA DOH Hospital Inpatient Discharge Database Reports
Federally qualified health centers (FQHCs)	6 FQHCs, 38 locations, payer mix N/A publicly	Health Resources & Services Administration
Home health agencies (HHA)	50 HHAs, payer mix N/A publicly	DOH facility search; In Home Services Agency License
Acute care hospitals	10 acute care hospitals, payer mix in excel sheet	DOH Hospital Inpatient Discharge Database Reports

<table>
<tr><td>Opioid treatment programs</td><td>2 opioid treatment programs</td><td>Substance Abuse and Mental Health Services Administration (SAMHSA) directory</td></tr>
<tr><td>Physician practices</td><td>Data N/A publicly</td><td></td></tr>
<tr><td>Rural health clinics (RHCs)</td><td>13 RHCs, payer mix N/A</td><td>DOH Health Professional Shortage Areas</td></tr>
<tr><td>Mental Health (MH) and Substance Use Disorder (SUD) treatment clinics</td><td>MH only: 43
SUD only: 44
MH and SUD: 87
payer mix N/A publicly</td><td>Map - SAMHSA Behavioral Health Treatment Services Locator</td></tr>
<tr><td>Annual FFS Medicare revenue:
FY 2020
FY 2019</td><td>Annual FFS Medicare revenue: FY 2020
<table><tr><th>COUNTY</th><th>Total Enrollment</th><th>Total Reimbursement</th><th>Total Per Capita</th></tr><tr><td>Adams</td><td>2,956</td><td>11,895,871</td><td>676.27</td></tr><tr><td>Ferry</td><td>3,816</td><td>15,135,075</td><td>659.29</td></tr><tr><td>Lincoln</td><td>6,054</td><td>33,716,163</td><td>928.45</td></tr><tr><td>Pend Oreille</td><td>7,402</td><td>26,177,940</td><td>594.81</td></tr><tr><td>Spokane</td><td>115,034</td><td>464,800,877</td><td>686.66</td></tr><tr><td>Stevens</td><td>18,539</td><td>68,367,095</td><td>618.53</td></tr></table>
Annual FFS Medicare revenue: FY 2019</td><td>FFS Data from CMS</td></tr>
</table>

	COUNTY / Total Enrollment / Total Reimbursement / Total Per Capita Adams 2,985 12,784,290 718.35 Ferry 3,724 14,677,368 659.10 Lincoln 5,917 31,846,557 899.41 Pend oreille 7,124 27,549,069 649.60 Spokane 118,010 519,328,829 745.12 Stevens 18,866 74,406,899 662.67	
Number of beneficiaries whose primary residence is within the Community and average annual total cost of care for the following Medicare and Medicaid groups	FFS Medicare 51,284 Medicare Managed Care 82,482 FFS Medicaid 33,066 Medicaid Managed Care 197,095 Dual-Eligible 16,149 Average annual total cost of care N/A	HCA Medicaid client eligibility dashboard (February 2022); Medicare Data from HCA (2019)
Number of uninsured residents	County / Number / Percent Adams 1,479 7.4% Ferry 557 7.3% Lincoln 328 3.0% Pend Oreille 906 6.6% Spokane 30,845 5.9%	U.S. Census Bureau and Office of Financial Management (OFM)

	Stevens 3,201 7.0% Total 37,315 6.0%	
Public Employees Benefits Board (PEBB) and School Employees Benefits Board (SEBB) members	55,045 PEBB and SEBB members	PEBB and SEBB enrollment reports
Medicaid, PEBB/SEBB covered lives %, calculated	230,161 Medicaid & 55,045 PEBB and SEBB members, appx 46% of population	HCA, program enrollment data

Figure 2: Health Professional Shortage Areas for Primary Care in Washington State[119]

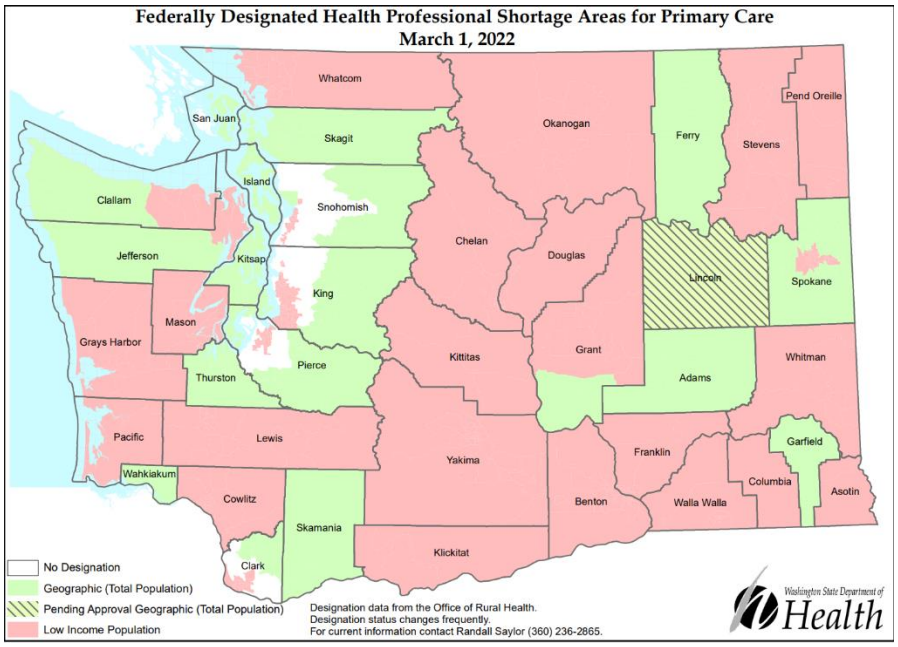
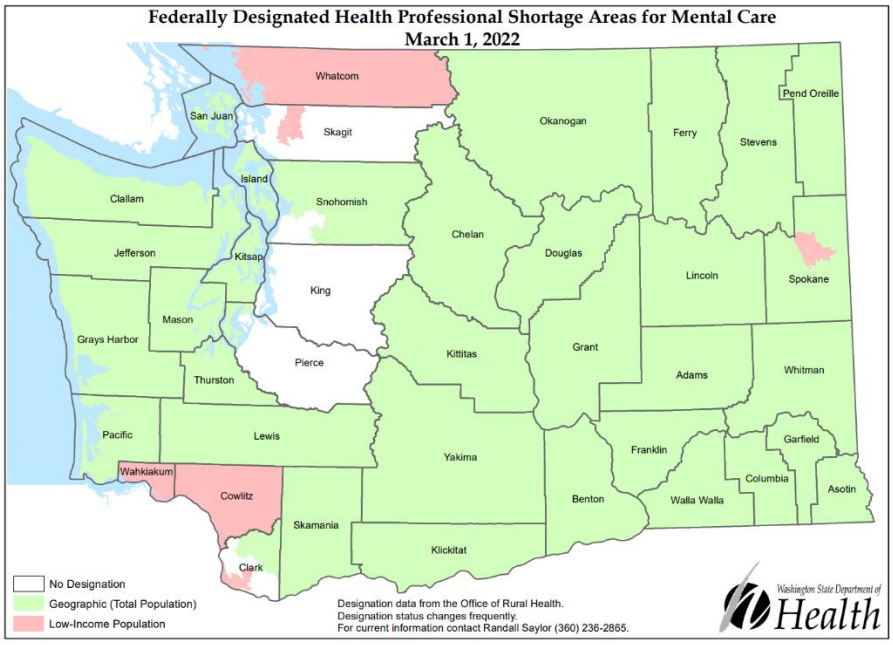


Figure 3: Health Professional Shortage Areas for Mental Health Care in Washington State[120]



Endnotes

All photographs in this report were taken by the author, Simon Borumand.

[1] "Accountable Communities of Health (ACHs) | Washington State Health Care Authority," accessed March 2, 2022, https://www.hca.wa.gov/about-hca/medicaid-transformation-project-mtp/accountable-communities-health-achs.
[2] "Rural Health | Washington State Department of Health," accessed March 24, 2022, https://doh.wa.gov/public-health-healthcare-providers/rural-health/rural-health-systems.
[3] "Community Health Access and Rural Transformation (CHART) Model | Washington State Health Care Authority," accessed March 2, 2022, https://www.hca.wa.gov/about-hca/value-based-purchasing/community-health-access-and-rural-transformation-chart-model.
[4] "Federally Qualified Health Center," accessed March 24, 2022, https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/Downloads/FQHC-Text-Only-Factsheet.pdf.
[5] "Federally Qualified Health Center."
[6] "An Overview of Federal Health Professional Shortage Area and Medically Underserved Area/Population Designations in Washington State," accessed March 24, 2022, https://doh.wa.gov/sites/default/files/legacy/Documents/2900//346032.pdf.
[7] "An Overview of Federal Health Professional Shortage Area and Medically Underserved Area/Population Designations in Washington State."
[8] "USDA ERS - Rural-Urban Commuting Area Codes," accessed March 29, 2022, https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/.
[9] "USDA ERS - Rural-Urban Commuting Area Codes."
[10] "Who We Are | Washington State Health Care Authority," accessed March 2, 2022, https://www.hca.wa.gov/about-hca/who-we-are.
[11] "Who We Are | Washington State Health Care Authority."
[12] "Medicaid Special Report 2021: A Financial Checkup for Washington's Apple Health," Office of the Washington State Auditor, August 5, 2021, https://sao.wa.gov/medicaid-special-report-2021-a-financial-checkup-for-washingtons-apple-health/.
[13] "Medicaid Transformation Project (MTP) | Washington State Health Care Authority," accessed March 2, 2022, https://www.hca.wa.gov/about-hca/medicaid-transformation-project-mtp.
[14] "Section 1115 Demonstrations | Medicaid," accessed March 2, 2022, https://www.medicaid.gov/medicaid/section-1115-demonstrations/index.html.
[15] "Accountable Communities of Health (ACHs) | Washington State Health Care Authority."
[16] "Accountable Communities of Health (ACHs) | Washington State Health Care Authority."
[17] Expert Interview.
[18] "Ach-Map.Pdf," accessed March 2, 2022, https://www.hca.wa.gov/assets/program/ach-map.pdf.
[19] Expert Interview.

[20] "Medicaid Transformation Project (MTP) | Washington State Health Care Authority."
[21] "What We're Working on | Washington State Health Care Authority," accessed March 2, 2022, https://www.hca.wa.gov/about-hca/medicaid-transformation-project-mtp/what-were-working.
[22] Mark Walker, "Rural Health Care Providers Get $7.5 Billion in Relief Funds," *The New York Times*, November 23, 2021, sec. U.S., https://www.nytimes.com/2021/11/23/us/politics/rural-health-care-relief-funds.html.
[23] "An Overview of Federal Health Professional Shortage Area and Medically Underserved Area/Population Designations in Washington State."
[24] "Rural Hospitals That Closed between 2017-20: Profitability and Liquidity in the Year Before Closure," *Sheps Center* (blog), accessed March 2, 2022, https://www.shepscenter.unc.edu/product/rural-hospitals-that-closed-between-2017-20-profitability-and-liquidity-in-the-year-before-closure/.
[25] Expert Interview.
[26] Expert Interview.
[27] "Community Health Access and Rural Transformation (CHART) Model | Washington State Health Care Authority."
[28] "Chart Model: CMS Innovation Center," accessed March 2, 2022, https://innovation.cms.gov/innovation-models/chart-model.
[29] "Chart Model: CMS Innovation Center," accessed March 2, 2022, https://innovation.cms.gov/innovation-models/chart-model.
[30] CHART Narrative, North Central ACH. Washington State Health Care Authority.
[31] "Chart Model: CMS Innovation Center," accessed March 2, 2022, https://innovation.cms.gov/innovation-models/chart-model.
[32] "Chart Model: CMS Innovation Center," accessed March 2, 2022, https://innovation.cms.gov/innovation-models/chart-model.
[33] "Community Health Access and Rural Transformation (CHART) Model | Washington State Health Care Authority."
[34] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[35] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[36] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[37] Expert Interview.
[38] "Workbook: Client Dashboard - (External Version)," accessed March 1, 2022, https://hca-tableau.watech.wa.gov/t/51/views/ClientDashboard-Externalversion/AppleHealthClientDashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.
[39] "Workbook: Client Dashboard - (External Version)."
[40] Expert Interview.
[41] Expert Interview.

[42] "WA_SA_EMPLOYMENT," Tableau Software, accessed March 8, 2022, https://public.tableau.com/views/WA_SA_EMPLOYMENT/Story1?:embed=y&:showVizHome=no&:host_url=http%3A%2F%2Fpublic.tableau.com%2F&:tabs=no&:toolbar=yes&:animate_transition=yes&:display_static_image=no&:display_spinner=no&:display_overlay=yes&:display_count=yes&:showTabs=y&:loadOrderID=0.
[43] "WA_SA_EMPLOYMENT."
[44] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[45] "County Health Insights," accessed March 28, 2022, https://countyhealthinsights.org/.
[46] "County Health Insights," accessed March 28, 2022, https://countyhealthinsights.org/.
[47] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[48] "County Health Insights."
[49] "Workbook: OUDTreatment," accessed March 3, 2022, https://hca-tableau.watech.wa.gov/t/51/views/OUDTreatment/Dashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.
[50] "Workbook: OUDTreatment," accessed March 3, 2022, https://hca-tableau.watech.wa.gov/t/51/views/OUDTreatment/Dashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.
[51] "Workbook: MaternalandChildHealth," accessed March 3, 2022, https://hca-tableau.watech.wa.gov/t/51/views/MaternalandChildHealth/Dashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.
[52] "Workbook: MaternalandChildHealth."
[53] "Workbook: MaternalandChildHealth."
[54] See Appendix 2, Figure 1 for full data and sources.
[55] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[56] "Washington State Primary Care Needs Assessment," accessed March 3, 2022, https://www.ahecww.org/home/showpublisheddocument/8948/637526261245000000.
[57] "Hardcopy Maps | Washington State Department of Health," accessed March 3, 2022, https://doh.wa.gov/data-statistical-reports/data-systems/geographic-information-system/hardcopy-maps.
[58] See Appendix 2, Figure 1 for full data and sources.
[59] See Appendix 2, Figure 1 for full data and sources.
[60] See Appendix 2, Figure 1 for full data and sources.
[61] See Appendix 2, Figure 1 for full data and sources.
[62] "Workbook: Client Dashboard - (External Version)," accessed March 1, 2022, https://hca-tableau.watech.wa.gov/t/51/views/ClientDashboard-Externalversion/AppleHealthClientDashboard?%3AisGuestRedirectFromVizportal=y&%3Aembed=y.
[63] "Workbook: Client Dashboard - (External Version)."

[64] Expert Interview.
[65] Expert Interview.
[66] Expert Interview.
[67] Expert Interview.
[68] Sheila Hagar, "A Hospital's Heart: Rural Struggles a Common Thread," Union-Bulletin.com, accessed March 22, 2022, https://www.union-bulletin.com/news/health_fitness/a-hospitals-heart-rural-struggles-a-common-thread/article_eaa1d766-b5ea-11e8-98a3-ffa9acf2753e.html.
[69] Expert Interview.
[70] Expert Interview.
[71] Expert Interview.
[72] Expert Interview.
[73] Expert Interview.
[74] Expert Interview.
[75] Expert Interview.
[76] Expert Interview.
[77] Expert Interview.
[78] Expert Interview.
[79] Expert Interview.
[80] Expert Interview.
[81] Expert Interview.
[82] Expert Interview.
[83] Expert Interview.
[84] Expert Interview.
[85] Expert Interview.
[86] Expert Interview.
[87] Expert Interview.
[88] Expert Interview.
[89] "Comprehensive Hospital Abstract Reporting System (CHARS) | Washington State Department of Health," accessed March 8, 2022, https://doh.wa.gov/data-statistical-reports/healthcare-washington/hospital-and-patient-data/hospital-discharge-data-chars.
[90] "Hospital Financial Data | Washington State Department of Health," accessed March 8, 2022, https://doh.wa.gov/data-statistical-reports/healthcare-washington/hospital-and-patient-data/hospital-financial-data.
[91] Expert Interview.
[92] Expert Interview.
[93] Expert Interview.
[94] Expert Interview.
[95] Expert Interview.
[96] Expert Interview.
[97] Expert Interview.

[98] Expert Interview.
[99] Expert Interview.
[100] Expert Interview.
[101] Expert Interview.
[102] "Home," Dartmouth Atlas of Health Care, accessed March 22, 2022, https://www.dartmouthatlas.org/.
[103] Expert Interview.
[104] Expert Interview.
[105] Expert Interview.
[106] Expert Interview.
[107] Expert Interview.
[108] Expert Interview.
[109] Expert Interview.
[110] Expert Interview.
[111] Expert Interview.
[112] Expert Interview.
[113] Expert Interview.
[114] Expert Interview.
[115] Expert Interview.
[116] Expert Interview.
[117] Expert Interview.
[118] Expert Interview.
[119] "Hardcopy Maps | Washington State Department of Health."
[120] "Hardcopy Maps | Washington State Department of Health."