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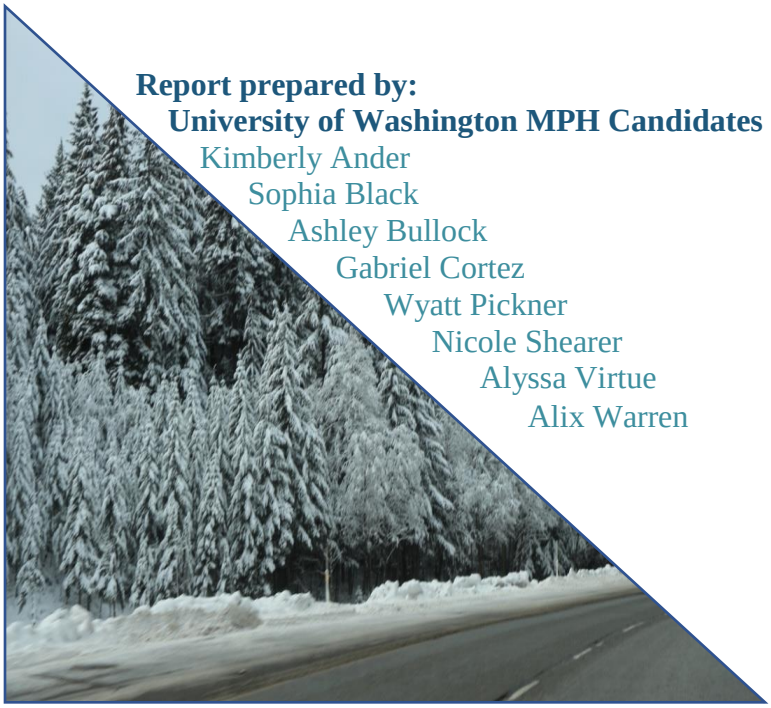


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## Executive Summary

The 2013 Community Health Needs Assessment (CHNA) for North Central Washington (NCW) identified access to care as a priority need for the region. The authors thought a main contributor to this issue was lack of health insurance. The 2016 CHNA identified access to care as a priority need again, however, community partners raised the question of whether transportation is a barrier to accessing care in the region. As a health improvement collaborative and a leader in the region, Community Choice Healthcare Network and its Executive Director, Deb Miller, approached our cohort of students to explore the ways that transportation in the NCW is a barrier to accessing healthcare.

Our group of eight University of Washington Masters in Public Health candidates connected with key stakeholders and community members to explore this issue. We conducted our research December 5- 8, 2016. We conducted key informant interviews with workers from community based organizations, hospitals, clinics, and transportation brokers to explore how access to transportation affects their patients or clients. To investigate how residents have experienced barriers to transportation when accessing healthcare, our teams surveyed adults in four urban hubs: Moses Lake, Wenatchee, Omak, and Chelan.

Most (70%) of the 29 residents who participated in our research completed surveys at local senior centers. A small number of participants (16%) said that they rode the bus. Participants expressed that they did not use public transportation for several reasons, nearly half (45%) said they did not need it, and 20% gave reasons related to transit locations, connections, and schedules, as well as being unfamiliar with the buses.

Results from 13 key informant interviews showed that transportation needs are often not being met for residents of the NCW region. Our findings indicate that residents in remote areas are unlikely to use public transportation to get to medical appointments. Scheduling non-emergency medical transportation (NEMT) services is burdensome for patients and clinicians and not being able to get consistent information about what services are available and who qualifies for services adds to their frustrations. If residents are unable to access convenient

**"So instead of me calling four different people to figure it out- I gave up on 211 because I was getting mixed info."**

transportation, they will sometimes go without medical care or medication. This can result in untreated conditions, worsening symptoms, increased emergency room visits, and future hospitalizations for complications.

Given the fact that we were tasked with surveying community members within a large geographic area, we administered our surveys in urban hubs. Due to the selection of an urban site and small sample size, our survey results do not represent the voice of the isolated residents who are most vulnerable to access to care issues from a lack of transportation. These limitations should be considered when examining our findings. Based on our findings, we recommend streamlining the process for NEMT scheduling and updating WIN 211 with consistent information about transportation options in the region. Coupled with improving communication about the service to healthcare workers, partners, and the public, this would allow them to search available options and schedule more easily. Further exploring transportation barriers and solutions for the most isolated residents through individual surveys by mail or via care coordinators could be helpful. Exploring options for same-day transportation needs for the most rural patients would be worthwhile and could cut down on emergency room visits for the region. Creating a system for tracking medical clinic appointment cancellation reasons and emergency department visit reasons for frequent users would help inform how to better address the transportation needs of the NCW region.

# Background

In rural communities with limited healthcare providers, residents must travel great distances to receive care. It is estimated that 3.6 million Americans miss medical appointments every year due to a lack of transportation.[1] While preparing the 2016 CHNA, a partner in the North Central Accountable Community of Health (NCACH) Coalition for Health Improvement shared that their agency had conducted a phone survey of patients who had missed medical appointments and the identified barrier to care for these patients was transportation. When people miss regular medical visits, their health can worsen. In one study of individuals who frequently used the emergency room, three of their top five reasons for not having attended previous medical appointments were related to transportation.[2] Currently, many North Central Washington residents must travel great distances from rural areas to reach their primary provider, some travel over one hundred miles to reach specialty care services in the urban hub of Wenatchee or even Seattle.[3]

Approximately six percent of residents in the NCW region do not own a vehicle.[4] Vehicles can be unreliable and friends or relatives are not always available for a day-long trip to transport residents to healthcare facilities, so many residents rely on other transportation options. Transportation for residents in NCW varies by county with limited options in more remote areas. Public transit in the urban hubs of Wenatchee and Moses Lake have more routes and a higher frequency of buses than in rural areas, such as Grand Coulee, where bus stops are far apart and buses are infrequent. Transportation options include public transit, such as LINK in Chelan-Douglas county, Grant Transit Authority (GTA) in greater Grant County, and TranGo in Okanogan County. Non-emergency medical transportation (NEMT) services such as People for People, Special Mobility Services, and Paratransit are curbside rideshare options available for Medicare and Medicaid patients who qualify for the service. NEMT services require two days' notice for scheduling a ride. Of the four-county region, Okanogan county had the greatest number of NEMT clients (1006) between July 2015 and June 2016.[3] They also had the most NEMT trips in the region, 16,728 during the same year.[3]

Residents of NCW region reported having poor or fair health at a higher rate than Washington state, 16.83% of NCW residents compared with 13.3% for the state of Washington.[4] NCW residents diagnosed with diabetes represent 7.95%, and those with asthma represent 13% of the population of the region.[4] These conditions require more frequent clinical care. Similar to

the rest of the nation, the leading causes of death for residents of NCW are major cardiovascular diseases and cancer,[4] both of which require frequent medical visits and treatments. The region is home to more people who are disabled than the state average, 13.29% of NCW residents reported having a disability, compared to the state average of 11.98%. The highest rate of disability for NCW was in Okanogan county, with 14.99% reporting having a disability.[4] People with disabilities, especially with co-occurring chronic diseases, require more outreach services for accessing healthcare. Transportation that is accessible for those with mobility issues is essential. Okanogan County has the lowest population density of the region and its residents have the highest rates in the region of asthma and heart disease, as well as motor vehicle accident mortality, and accident mortality, due to falls and other unintentional injuries.[5] Many of these conditions require emergent transportation; anticipating such events with two days' notice is not possible. For urgent, or same-day transportation when loved ones are unavailable to drive them, many isolated residents of the NCW region must use taxi services, rely on paid caregivers, or call an ambulance to transport them to medical care.

## Methods

Deb Miller, Executive Director of Community Choice, asked us to investigate transportation barriers for healthcare consumers in Chelan, Douglas, Grant, and Okanogan counties. Our project used a mixed methods exploratory design[6] and collected data from key informant interviews and surveys. In Chelan County, six key informant interviews took place with representation from transportation services, community organizations, and a health clinic.

In Okanogan County, three key informant interviews took place with representation from two community organizations and a skilled nursing facility. In Grant County, one key informant interview took place with representation from a hospital. Outside of these four counties, two key informant interviews took place with representation from two community organizations in bordering counties, Kittitas and Yakima. Interview participants were key stakeholders, selected for their first-hand knowledge[7] about transportation as a contributing barrier to access to care in the region. We chose informant interviews because this method was appropriate for identifying transportation barriers and generating recommendations.[7]

For our survey data collection, we surveyed twenty community members in Grant, four in Chelan, four in Okanogan, one from Mason, and no community members from Douglas County.

Our intended survey participants were residents of the four counties that qualified for Medicare and Medicaid. Key stakeholders suggested that our team collect survey data from the following; the public bus transit station in Wenatchee, senior centers, and foodbanks throughout the four counties.

Based on the project goals, we generated eight key questions that would help inform the CHNA about access to care as it relates to transportation. Our questions also aimed to identify if transportation barriers disproportionately affected any particular groups (i.e., older adults, uninsured, physically limited). Interview questions were open-ended to elicit the most robust responses. We used an identical script throughout our entire interview process. In addition to the interview questions, we developed a brief introduction that explained the project and interview purpose; all interviewers read this preface prior to interview conduction. Community Choice shared contact information for regional stakeholders whom we scheduled interviews with. The interviews took about 30 minutes to an hour to complete and were conducted via phone or in-person. The decision to conduct interviews via phone or in person was based on the location and availability of teams as we were trying to cover a large geographical area in a three-day timeframe.

Survey questions collected information on health insurance status, primary modes of transportation, distance to the participant's health care provider, and secondary transportation options available to the respondent. The survey also included demographic information such as current employment status, age, county of residence, and race/ethnicity to help us identify any populations that were more vulnerable to transportation issues. Some of the themes that we covered were knowledge of available public transportation services, barriers in receiving non-emergency healthcare services, and how community members identify alternate transportation options. We used a combination of multiple choice and short answer questions.

Our team drafted questions using examples included in the Community Transportation Association of America's "Resident Transportation Survey, Snohomish County Special Needs Transportation Coalition" [8] and the Greater Attleboro Taunton Regional Transit Authority's "Medical Transportation Unmet Needs Survey".[9] Surveys took about five to seven minutes to complete. We used convenience sampling to collect survey data in order to capture responses from community members that were most accessible in our given timeframe; this type of

sampling is most useful for pilot testing.[10] Our team of eight conducted all key informant interviews and surveys.

# Analysis

## Key Informant Interviews

Given the great physical distance between stakeholders, we completed some interviews via phone. When possible, we audio recorded interviews to verify handwritten notes, which were then coded into main themes. The teams came together to discuss their findings and created a codebook to determine themes and subthemes of the results. The main themes were further broken into subthemes to better describe the various contributing factors. All interviews followed the same interview script, with slight changes made based on the organization's relationship to the community. For example, for some organizations, the term "client" was more appropriate than "patient"; adjustments were made as needed.

## Surveys

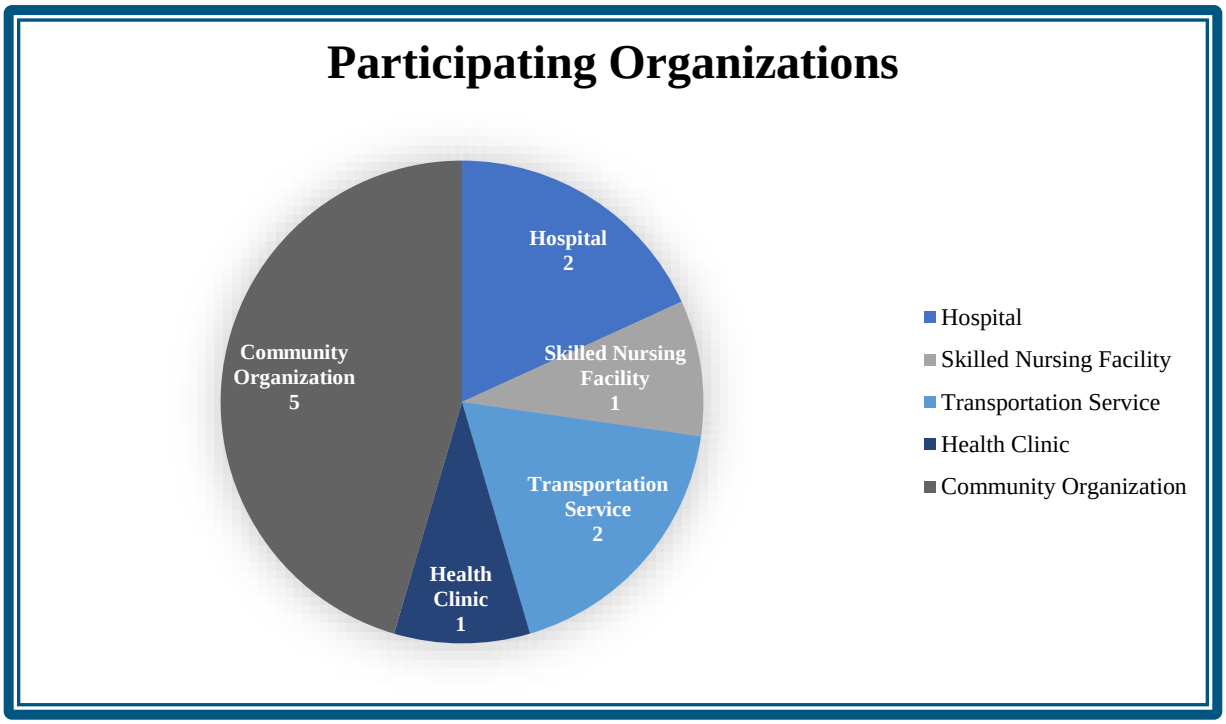
Some surveys were conducted electronically through Survey Gizmo, but most were on paper. Paper surveys were inputted into Survey Gizmo by team members. Along with Survey Gizmo's data analysis tool, we used descriptive statistics to determine the percent of survey takers who had transportation and a codebook to look for themes from qualitative responses such as whether they used public transportation and if not, their reasons for this.

# Results

## Key Informant Interviews

### *Demographics of Stakeholders*

We conducted 13 key informant interviews, from 11 different organizations and a total of 16 people (some interviews involved more than one representative). Interviews took place over a period of five days and included: two hospitals, one skilled nursing facility, two transportation services, five community organizations, and one health clinic. Organizations that participated serve Chelan, Douglas, Grant, and Okanogan Counties.




*Barriers to Patients/Clients*

We identified seven primary barriers through interview analysis, two of which were common to all respondents. All participating organizations identified cost as a contributing factor to transportation obstacles for patients/clients. *Cost* encompassed the affordability of public transportation and the financial burden of car ownership, including gas, repairs, and car insurance. Similarly, all stakeholders recognized the limitations of public, fixed-route transportation as a barrier. These *limitations* included the inconvenient location of bus stops and routes, the lack of door-to-door assistance, and inadequate business hours of services. *Scheduling* transportation was the next most commonly cited barrier, 10 out of 11 organizations agreed that this is a challenge for patients. Participants specifically identified the necessity of arranging transportation in advance as a barrier. Additionally, four interviewees stated that patients/clients are unaware of the bus schedule and do not know how to access this information.

**"If you don't have Medicaid, you don't have [transportation] options."**

| BARRIERS FOR PATIENTS/CLIENTS | | |
|---|---|---|
| **THEME** | **SUBTHEME** | **FREQ. (N=13)** |
| **Cost** | Car ownership (i.e. gas, repairs, car insurance) is too expensive | 7 |
| | Bus transportation is too expensive for low-income patients/clients | 4 |
| **Public Transit Limitations** | Bus stop location is inconvenient or inaccessible | 9 |
| | Bus route is insufficient to patient/client's needs | 9 |
| | No door-to-door assistance | 5 |
| | Days/hours of service are limited | 8 |
| | Public transit is incapable of taking patients being discharged from hospitals with certain health conditions (dialysis patients, patients with dementia) | 2 |
| **Scheduling** | Patients/clients are unaware of bus schedule | 4 |
| | Transportation must be schedule too far in advance | 11 |
| **Process** | Process for determining eligibility is difficult and time-consuming | 8 |
| | Patient may need to go thru multiple systems (ex: Link Transit and Medicaid) to determine eligibility | 1 |
| | Fluctuation of Medicaid eligibility and inconsistent medical providers | 3 |
| **Lack of necessary insurance** | Some transportation options are only available for Medicaid patients or Medicare patients, not uninsured | 9 |
| | Insurance eligibility requirements do not reflect actual needs | 3 |
| **Cultural Norms** | There is a stigma associated with taking the bus; use of public transportation signifies a loss of independence | 1 |
| | Taking the bus does not fit with cultural norms | 3 |
| **Communication/ Language** | Patients/clients do not speak or read English | 6 |
| | Some patients/clients are hard-of-hearing | 1 |

Stakeholders confirmed that successfully arranging transportation often requires an in-depth eligibility confirmation followed by arduous scheduling. This step, which requires approval letters from providers and faxing of necessary documentation, was coded into an overarching theme of *process*, which was cited as a barrier in eight interviews. A patient/client's ability to obtain transportation is further complicated when they lack insurance. One interviewee stated, "If you don't have Medicaid, you don't have [transportation] options". *Insurance* was cited as a barrier in nine interviews. The last two barriers are related to *communication* and

*cultural norms*. Communication includes language barriers, which was mentioned in six interviews. This theme also encompasses patients who have difficulty hearing and those who struggle with phone communication when attempting to arrange transportation. Two interviewees mentioned illiteracy as another communication barrier to accessing public transportation. Three organizations identified cultural norms as a barrier, stating bus usage is not common practice in their communities.

*Barriers to Stakeholders*

> **"Mon-Fri 8-5 we can make it work. When it's one o'clock in the morning that's a different story."**

Despite an awareness of the problem, stakeholders faced several challenges in reducing transportation barriers in the communities they serve. Aside from the transportation services, none of the organizations we interviewed had a designated staff member working solely on transportation accessibility. Five interviewees agreed that their time is being disproportionately spent on troubleshooting transportation obstacles, taking time from their other responsibilities. System fragmentation (including both healthcare organizations and transportation providers) was mentioned in most interviews, with nine citing lack of integration as factor. For example, there are various electronic medical records (EMRs) between clinics and hospitals. In cases where the EMR is consistent, providers still do not have access to the patient's entire record with current notes. Without this, clinics or hospitals might know of a solid method of transportation for the patient, but others will be unable to identify this in the record, even if it is noted in the EMR.

Like patients/clients, stakeholders frequently identified financial limitations as a barrier to arranging adequate transportation. The financial barriers are twofold, involving grant funding and cost to the organization. First, two organizations identified funding hurdles as an obstacle to service improvement, one specified that previously written grant proposals do not consider the changing needs of the community; the other stated obtaining the grant funds is a challenge. Second, three interviewees agreed that though they recognize there is a deficit in available transportation

> **"The community's needs are already changing, but once you put it in the grant, what you are doing is locked in. When you find a new need, there is no funding [and there] won't be for another two years."**

resources, the need is not great enough to justify the substantial cost of expanding or adopting new services. Three respondents expressed a temptation to provide transportation and/or money to patients/clients who are stranded, but acknowledged the risk of liability in doing so.

Finally, stakeholders experience frustration at the "nightmare that is scheduling [transportation]." Six interviewees stated that the extensive paperwork and advance notice necessary is a barrier. Five organizations expressed that there are no options at night and on Sundays, which poses an additional challenge in their attempts to aid patients/clients.

| BARRIERS FOR STAKEHOLDERS | | |
|---|---|---|
| **THEME** | **SUBTHEME** | **FREQ. N=13** |
| **Staffing** | Some door-to-door transportation services do not have back-up drivers | 1 |
| | Employees spending disproportionate about of time on addressing transportation needs | 5 |
| **Cost** | Transportation needs are not great enough to justify an expansion or adoption of additional service | 3 |
| | Can't afford to regularly give taxi vouchers | 6 |
| **Funding** | Grant funding limits the ability of an organization to meet the changing needs of the community | 1 |
| | No grant writer available to request funding for transportation | 1 |
| **Fragmentation of Systems** | Fragmentation/lack of communication between healthcare systems | 2 |
| | Fragmentation/lack of communication of transportation services | 7 |
| **Liability** | Providers and staff risk liability issues if providing rides and/or money for stranded patients/clients | 2 |
| **Scheduling** | Few services are available after business hours or on Sundays | 5 |
| | Transportation must be arranged in advance and requires extensive communication/paperwork | 6 |
| | Lack of coordination between insurance, and transportation provider makes determining eligibility difficult | 1 |

*Other Results*

Some of our interviews brought up significant issues that did not fit into specific categories. We felt it was important to address them in this report. Stakeholders reported that patients/clients sometimes have urgent needs for transportation without the means to transport

themselves. For situations like these, they are unable to wait two days for a ride from NEMT. Three stakeholders reported that patients/clients often have no other option than to call 911 for non-emergency illnesses or injuries (like falls) because they had no way to get to the walk-in clinic or their provider's office for a same day appointment. Since the ambulance will only transport them to the emergency department, this resulted in increased and unnecessary emergency room visits.

Patients/clients are creative about finding means of transportation that fit their needs in the moment, sometimes to the detriment of their health. Three stakeholders reported that patients/clients use the services of paid caregivers as a means of transportation. It is unclear how often this is out of necessity or due to convenience. Since caregivers are provided for limited hours each month, this affects the number of hours left for caregivers to provide in-home care. One interviewee mentioned that a patient had their caregiver drive them two hours from home for a daily cancer treatment, stay during the treatment, and then drive them home. This left them with no caregiver to help them at home with their illness.

**"We all pitch in. Between all the nurses on staff we can usually come up with a dollar or two if someone needs it [for the bus]"**

Lack of transportation can affect continuity of care for patients/clients. Three stakeholders mentioned that transportation brokers notified patients that they needed to transfer care to a provider closer to home to receive transportation services. Patients often either refused the request and went without regular medical care when they had no other means of transportation, or they transferred care in the middle of treatment. This caused complications in their health because their new provider was unfamiliar with their health history. Three stakeholders mentioned that patients/clients will often go without regular care, necessary treatment, or medications if they are unable to get convenient transportation from caregivers, family, or NEMT.

We would also like to acknowledge that though our interviews focused heavily on transportation insufficiencies, the NCW communities have invaluable assets as well. All respondents expressed a great dedication to the population they serve. We heard of a taxi service that charged patrons a low, flat-fee and "would shovel walks for their elderly customers, because they're a local company and this is a small community." Another interviewee stated, "If we're releasing a patient to the bus, we'll go out together, wrapped in blankets, and wait with them

until it arrives." Multiple organizations referenced different volunteer taxi services run by local community members. Finally, interviewees frequently expressed gratitude for the transportation services that already exist. Suggestions for improvement should be recognized as a desire to bolster, support, and integrate the services that already exist and not displeasure with current services.

## Surveys

Our team administered twenty-nine surveys total. Most of the responses were from members of Moses Lake Senior Center and Chelan Senior Centers (N=22, 70%). A few surveys were conducted at Wal-Mart (N=3, 10%) as well as a public bus station (N=4, 14%).

***Survey Participant Demographics***

| | Count | Percent |
|---|---|---|
| **Gender** | | |
| Female | 16 | 55.2% |
| Male | 13 | 44.8% |
| **Race** | | |
| White, non-Hispanic | 23 | 85.2% |
| Black or African American | 1 | 3.7% |
| Asian | 1 | 3.7% |
| Hispanic or Latino | 2 | 7.4% |
| Other | 1 | 3.7% |
| **Employment status** | | |
| Employed, 40 or more hours/week | 3 | 11.1% |
| Employed, less than 40 hours/week | 1 | 3.7% |
| Seasonally employed | 1 | 3.7% |
| Disabled, not able to work | 2 | 7.4% |
| Retired | 20 | 74.1% |
| **Insurance** | | |
| Employer provided | 1 | 3.4% |
| Apple Care (Medicaid) | 4 | 13.8% |
| Medicare | 23 | 79.3% |
| Private | 4 | 13.8% |
| None | 1 | 3.4% |
| Other | 8 | 27.6% |

Survey participants were 55% female and 45% male. In terms of race, participants were predominately White and non-Hispanic (85%), followed by Latino (7%) and 4% of participants identified as African American, Asian or Latino. Most people were retired (74%), employed full time (11%) or disabled (7%). One respondent was seasonally employed (4%) and one was employed, working less than 40 hours a week (4%). Approximately 30% of survey participants had a disability or health condition that prevents them from driving. Most of the respondents had Medicare (79%), followed by Apple Health /Medicaid (14%) and private insurance (14%).

Most survey participants used a personal vehicle as a primary means of transportation (76%), while 28% relied on friends and relatives, 28% walked, 16% used public transportation, 12% used vanpools/carpools and 4% biked.

When asked why they did not use public transportation, 45% of people said they didn't need it, 20% responded that they were unfamiliar with the bus system and 25% filled out the "other" category, writing in that that they rely on People for People, a personal vehicle, or were in process of applying to ride the transit. A small number (10%) said there were no services where they were or wanted to go or because there were poor connections or transfers (5%) or limited hours of operation (5%).

In terms of distance people traveled to see their doctor, 92% traveled under 20 miles. Some people noted that they had to drive farther to see a specialist, 4% of respondents indicated they traveled 41-60 miles and another 4% traveled over 60 miles to see their doctor and/or specialist.

Most people (56%) reported not missing a doctor's appointment in the last year, noting that was not an issue for them. The second most common response was that the participant experienced more than one barrier to getting to an appointment; three explained that they could not find any transportation, their transportation fell through, and two said they did not have any doctor's appointments in the last year, or they had a conflict with another appointment or work.

## Discussion

Our exploration of transportation barriers using key informant interviews proved to be insightful. The information gathered from the 13 interviews suggested the following top two transportation barriers in the region; 1) cost and 2) limited public fixed-route transportation.

The theme of cost as a barrier included affordability of public transportation and the financial burden of car ownership. These findings support what a partner agency shared following an internal phone survey of patients who missed scheduled appointments and found that lack of transportation was the identified barrier. Average incomes are lower in these communities, while the cost of living is proportionally higher compared to urban communities– as costs for everyday needs such as food, fuel and utilities gradually consume a larger percentage of income. Gas price increases, for example, disproportionally impact rural residents who travel greater distances and tend to operate older, less fuel-efficient vehicles.[11] Frequently missing

routine appointments can lead to unexpected and more expensive medical care trips later.[1] Of individuals who had frequent emergency room visits, three of their top five reasons for not attending previous routine medical appointments are related to, or could be influenced by, transportation: not having transportation, having to wait too long at the medical office, and not being able to get to the clinic while it was open.[2]

Limitations of public fixed bus routes identified as a barrier included inconvenient location of bus stops and routes, the lack of door-to-door assistance, and inadequate hours of operation. This finding supported the comments from partners that the public transportation systems in these rural communities are mostly limited to the urban hubs of each county. In rural Washington where transportation is scarce, it is common for bus stops to be far apart and have infrequent schedules. For example, these rare bus stops could be influenced by the fact Okanogan is the largest county by geographical area in Washington and only has eight people per square mile.[12] Infrequent service increases the likelihood that the individual will miss an appointment altogether, as opposed to just being late.[1,13] When the bus runs intermittently, it can be difficult to coordinate medical appointments with transit availability. Even when regularly scheduled public transit exists, it may not go to the necessary area. For example, some people live far up unpaved roads, or clinics they need to get to are not near public transit stops. These public services generally lack door-to-door assistance. Especially for older adults and those with physical limitations, walking a few blocks to/from a bus stop (or their doorway) can be impossible.[1] Larger towns such as Wenatchee have more options available for public transportation most commonly through LINK Transit.[14] Wenatchee, the region's major population center, is also the main hub for healthcare needs. Yet, a drive from Tonasket to Wenatchee for care would take over two hours. Further discussion with stakeholders would ideally look closer at the challenges those residing outside of the region's major health hub face getting to and from medical appointments.

The information collected from the 29 surveys suggested that most respondents were covered through Medicare, had access to a personal vehicle for transportation, lived within a reasonable distance to their physicians, and have not missed medical appointments. The population size of the four counties is 245,546.[15] Since our sampling size only captured 29 community members, most of whom were interviewed at senior centers, we suggest further surveying to accurately access transportation needs in NCW. We know from research that

transportation issues are one of the most commonly cited barriers to health care and health programs by rural residents, and yet this obstacle is not widely discussed among healthcare administration.[13] A literature review of over 25 studies found that 10-51% of patients identified transportation barriers as affecting their ability to access health care.[16] Our pilot study results aligned with this study by Syed, et al. Of the 44% of respondents who reported missing a doctor's appointment in the last year, 10% of them cited transportation as a barrier. When rural residents are unable to drive themselves, they most frequently receive rides from relatives (70%), followed by friends or neighbors (19%), and lastly 10% cited some other source.[13] Those using family-provided rides were the most successful at attending their appointments on time.[13] Individuals accompanied by family to appointments have cited a number of additional benefits associated with this arrangement. Some older adults enjoy the company and others appreciate that their family member acts as a second pair of ears, for example, remembering important medication changes after the appointment.[17] It is possible that when NCW residents do not have friends or family available to drive them to appointments that they prefer paid caregivers to accompany them (rather than using NEMT services) to aid in their emotional comfort and improve their comprehension during the visit.

# Limitations

## Key Informant Interview

It is important to recognize several limitations throughout the data collection process when reviewing results and recommendations. While the organizations that we surveyed are committed to providing excellent service and reducing transportation barriers, the needs and perspectives justifiably vary between them. As such, interviewees often focused on different priorities, based on the mission of their organization. To streamline the analysis process, we did not take these differences into account when creating our interview script and it is possible our questions did not fully touch on the specific obstacles faced by our respondents. Additionally, very few of the organizations we interviewed had a designated employee whose sole focus is working through transportation barriers for patients/clients. Therefore, we attempted to interview individuals who were most knowledgeable about transportation within their organization, though this was not always possible given the short timeframe of the project. Finally, we included

several Community Choice employees in our interviews. It should be acknowledged that these individuals work for the organization that commissioned this report, which had the potential to influence responses.

### Survey

The unknown environment in which we conducted our surveys presented some challenges. We were unsure of the locations and time we would be able to conduct the survey, and at the same time we hoped to reach a wide audience. We were asked not to conduct research near the public transit stations because we did not have the required permit to conduct surveys there. Administering surveys in public places did not target the populations we intended to survey: those who cannot even make it out of their homes. The people who depend on rural public transit services are often those who have no other options. Older Americans, people with disabilities, the working poor, veterans, Native Americans and others need effective mobility to avoid the impact of isolation that may negatively affect their health, independence, employment, education and overall quality of life.[11] Most of our participants were seniors, which meant they also had Medicare, and were more likely to qualify for NEMT services if they were unable to drive themselves.

**"For a lot of patients, their quality of life would improve hugely if they could just get out of the house."**

It is important to keep in consideration the limitations that such a small sample size yields. Twenty-nine people are not representative of the four counties we were assessing and we collected no surveys in Douglas County. Moreover, those who are experiencing the greatest barriers to transportation are the ones who are not able to make it to Wal-Mart or the local senior center. The populations who are experiencing the greatest barriers to transportation are the ones who are stuck in their homes, isolated. We were unable to reach the Colville Tribe community due to time constraints and no identified key informants. Some other communities that we were unable to reach were: migrant farm workers (who we were advised are not present in winter), and the residents of NCW who are experiencing homelessness. These communities are especially vulnerable to barriers to healthcare.

# Recommendations

## Suggestions for Improvement – Key Informant Interviews

Throughout our interviews, we inquired about participants' suggestions for improving transportation services, accessibility, and use in their region. We heard each of the following suggestions from at least four people, making them the most frequently requested. First, stakeholders emphasized the needs for a 24/7 or on-call transportation service that would ideally provide door-to-door assistance. Second, interviewees stated a regularly updated spreadsheet of available resources could be helpful. To make this tool effective, participants suggested it include detailed information about each transportation service including: eligibility requirements, cost (if any), hours, scheduling process, and contact information. The contact information listed would ideally be a direct line. A similar, if not identical, spreadsheet should be made available to patients who can arrange their own transportation. Finally, the integration of services was frequently identified as an area for improvement. Given that over half of stakeholders identified cost and/or funding as a barrier, increasing communication between services, working together, or partnering for funding opportunities could be a potential strategy. Many stakeholders that we interviewed described spending hours trying to arrange transportation for their patients/clients, interfering with the time they had available for case management or patient care. The creation and distribution of an asset map may be a helpful first-step in the integration process. A map showing the boundaries of all transportation services (both public transit and NEMT) overlaid with the locations of all medical clinics, hospitals, and specialty care centers would be especially helpful for planning transportation.

**"There's so much overlap of what people do, it'd be nice to know exactly who to call."**

Other suggestions for improvement were identified less frequently, but may still be valuable for organizations to adopt. Many organizations (six) stated they have difficulty arranging transportation for non-English speakers. Specific suggestions include translating available print resources into other languages (Spanish, Russian, and Ukrainian), and employing bilingual staff, especially bus drivers and customer service representatives. Another interviewee suggested that including pictures would

be helpful for residents who are illiterate. Several organizations acknowledged that transportation barriers affect different aspects of a person's life, many of which negatively impact their health. One example is a patient's inability to pick up prescriptions without adequate transportation. Two organizations proposed pharmacies deliver prescriptions to save patients the trip. It was mentioned that some pharmacies already do this. Another suggestion specific to prescriptions was for mail orders, which requires providers write for 90-day prescriptions (rather than the usual 30). We recommend further key informant interviews with providers who serve migrant workers, non-English speakers, and Native American patients.

### Suggestions for Tracking – Key Informant Interviews

It is important to measure progress when addressing transportation barriers. Most interviewees expressed that tracking transportation barriers and measuring improvements would be difficult, but we did receive several suggestions. Two organizations suggested that healthcare systems track the reasons given by patients for missing appointments. By recording how often a lack of transportation prevents a patient from receiving scheduled medical care, clinics could measure the efficacy of improvement strategies. However, some interviewees told us that their electronic medical records systems are not set up to track this data, which could be cost-prohibitive. For hospitals, it may be helpful to document a patient's method of transportation at discharge, specifically noting if transportation is not readily available. Finally, comparing documented transportation barriers with the patient's insurance status, could aid stakeholders as they determine who is most vulnerable to this issue.

| SUGGESTION | FREQ. N=13 |
|---|---|
| 24/7 or on-call transportation service | 4 |
| Spreadsheet of resources | 4 |
| Door-to-door service | 4 |
| Integration of resources | 4 |
| Increase of funding | 3 |
| Scheduling/Eligibility process simplification | 2 |
| Pharmacy delivery | 2 |
| Increase taxi voucher availability | 1 |
| Improve resources for non-English-speakers | 1 |

### Suggestions for Improvement – Community Surveys

To continue this work, we recommend using this survey as a pilot study to assess the transportation needs in the region and continuing to administer the surveys in public places as well as in private homes to get a non-biased sample. A census in the four counties that reaches

those with the greatest transportation needs such as those who are not capable of leaving their home would provide the most useful data in developing transportation solutions for the area.

## Other Recommendations

*For Further Exploration from Community Members*

- Consider methods to survey community members in their homes. We found that individuals most affected by transportation barriers are unlikely to be able to make it to urban hubs. Surveying by zip code through clinic records, if this is possible with HIPPA restrictions, could be an option. Some insurance companies mail annual surveys addressing questions like this, perhaps surveys could come from the health plans through the mail to these isolated community members. Community Choice care coordinators or home health aides could administer this survey during their home visits.

- Approach the migrant farm worker community in summer to gain their perspective.

- Approach the Colville tribe to explore the transportation barriers their community faces with IHS and how to address them, and for those who need to travel out of the area to Wenatchee for specialty care or non-IHS clinics.

*For Further Exploration from Stakeholders:*

- Explore whether WIN 211 can collect information about barriers to transportation and reasons for canceling scheduled service when people call NEMT.

- Track Home Health care coordinators' frequent emergency department ED reports to get their insight into how many are due to transportation barriers.

- Further explore the issue of NEMT services requiring clients to transfer care closer to home. This creates continuity of care issues, potentially worsening health conditions.

- Further explore NEMT services and clinics that "fire" patients/clients after 3 missed appointments. This further limits options for transportation and providers for residents in isolated areas.

- Track amount of paid caregiver hours spent driving and waiting for medical visits/procedures and compare with how many of their hours are spent on these to in-home care. Perhaps there is a more efficient/cost-effective way of approaching transportation for these patients.

- Assist clinics in tracking how many of their missed appointments are related to barriers to transportation. The clinics we spoke with had EMRs that did not allow for this type of tracking. Work with internal IT or the software developer to include this question for future software updates.

- Track ED visits to see how barriers to transportation may have led to the patient coming to the ED. For example: whether the reason for the visit was an emergent need or a lack of same-day transportation, or whether the visit is due to a worsening condition from lack of follow up care/regular visits/transferring care.

- Track ED and hospital discharge transportation barriers – patients who must wait for a bus, or have no way to return home - it may be useful to highlight that tracking hospital discharges without available transportation could also be useful data to bolster grants for transportation.

*Potential Solutions to Explore*

- Provide 24/7 or same-day transportation service that is accessible for mobility issues, ideally door to door.

- Establish WIN 211 as the go-to authority for up-to-date, easily accessible, consistent transportation information and scheduling. Most stakeholders we spoke to had not heard of 211, or had given up on contacting them due to receiving inconsistent information.

- Streamline setup paperwork and faxing for NEMT services so that clinics and patients can easily schedule and set up new riders for service.

- Improve phone system for scheduling NEMT services so that there is voicemail and accommodate patients with hearing impairments.

- With guidance from the NEMT services, and patient care coordinators, create a simplified checklist for patients to use to know exactly what information they will need to provide NEMT to schedule (Date, time, Provider's name, reason for visit, etc.). This could be on a laminated card or magnet so it is not easily lost.

- Explore the U.S. Department of Transportation's Rides to Wellness Initiative to improve health outcomes and decrease barriers to care and costs: https://www.transit.dot.gov/ccam/about/initiatives

- Explore barriers to pharmacy delivery or mail order options for prescriptions.

- Explore partnerships between community agencies/partners for funding.

- Increase availability/funding of taxi vouchers, especially for homeless patients who must sleep where there is shelter space and might not be able to get to an appointment the next morning if it is too far.

- Consider a mobile clinic to reach vulnerable community members: migrant workers, residents who are homeless, and those in isolated communities.

  Here is a link to a recent article about a mobile medical van program created in Seattle: http://humaninterests.seattle.gov/2016/07/06/new-mobile-medical-van-to-assist-homeless-in-seattle/

- Explore partnerships with local school districts to provide transportation to medical/dental clinics to students and their families.

- Explore the possibility of school-based health centers so that children in grades K-12 can get care at school, where transportation is already provided.

- Explore volunteer community driver options (such as church congregation support, if accessible for those in need) and other transportation options such as Über or Lyft (if available/affordable in areas). Up Hail is an app that can help riders compare cost for various services like these.

  Here is a link to find out more about Up Hail:
  https://uphail.com/

  The U.S. Department of Transportations' Coordinating Council on Access and Mobility has a resource library with information about transportation strategies. Here is a link to their site:
  https://www.transit.dot.gov/ccam/resources

Residents of rural communities have complicated and unique transportation needs. Residents who lack reliable transportation sometimes go without medical care, further complicating chronic diseases. In NCW urban hubs, public transportation is readily accessible, but in the rural reaches of the county, fewer options are available, especially for those with disabilities, live past drivable roads, or those who need same-day care. Care coordinators and other medical providers in NCW sometimes spend hours trying to arrange for transportation for their patients. The health care transportation needs of the residents of NCW can be met by

connecting people in need with existing resources, improving resources that are incomplete or don't function well, and creating new resources where funding and opportunity exist.

## Acknowledgements

We would like to acknowledge the community stakeholders, partners and residents of North Central Washington who took the time to speak with us and give their valuable insight into this issue. We also appreciate Community Choice and Deb Miller for asking us to be a part of this project. Having the opportunity to visit North Central Washington and work with the residents and agencies of the region has truly been a pleasure for us.

# Appendices

## Appendix A: Key Informant Interview

Thank you for agreeing to meet with me. As I previously mentioned, I am a University of Washington MPH candidate working with Deb Miller of Community Choice to explore transportation barriers for healthcare consumers in the surrounding counties. We are interviewing several local stakeholders about this issue and our findings will inform the Community Health Needs Assessment 2016, and ultimately we hope to improve transportation services in this area.

I anticipate this interview will take no more than an hour, and if you don't mind, I will be taking notes throughout. I also plan to audio record today to ensure we capture everything that comes up throughout our discussion. The actual recording will not be shared with anybody outside of my classmates, but we may use your thoughts/ideas/suggestions in our report. Are you comfortable with that?

Do you have any questions or concerns before we get started? Great, I'll start the recording now…

1) For the record, can you tell me what your job title is and how long you have worked with this organization?

**Thank you! Now, regarding transportation,**

2) What transportation options are available in your community/for the population you serve?
   a) What are some transportation aspects/resources/services that are working well in the community?
      i) What makes them successful?
   b) What are some transportation aspects/resources/services that may not be working as well/could be improved?
      i) What makes them unsuccessful?
   c) What suggestions do you have for making these services/resources more efficient?
   d) Do these resources differ for Medicaid/Medicare patients and non-insured?
   e) Aside from what you have listed, what other accommodations have been made to aid these individuals? *(i.e. can the patient be seen even if over 15 minutes late? Are certain appointment time slots saved for patients coming from far away on public transportation?)*

3) In what ways, does access to transportation affect your patients?
   a) What, specifically, have patients identified as a barrier? *(ex: no bus routes available? Takes too much time? Must arrange ahead of time? Family is too busy?)*
   b) What differences have you noticed for Medicaid/Medicare patients and patients who are un- or underinsured?
   c) Is there any group that is disproportionately affected? *(i.e. uninsured, older adults, those with limited physical capabilities?)*

4) WIN 211 has reported to Community Choice that transportation services in the region are underutilized compared to other areas. Does this statement align with your perceptions? What makes you agree or disagree?
    a) What ideas do you have about why resources might be underutilized?

5) What would be helpful for your organization as you continue to assist patients with transportation barriers?
    a) Examples:
        i) A monthly Transportation Resources pamphlet, with updated services, phone numbers, eligibility requirements, contact information
        ii) A designated staff person to help patients arrange transportation

6) What ideas about improving transportation do you have that would better serve the unique situation in this community/population you serve?
    a) Are there resources/infrastructure that already exists that could provide additional transportation services? (idle school buses/drivers, church vans/buses?)
    b) Do you have any suggestions for how to track this issue?
    c) Do you have any information/data you could share to help inform this problem?

7) Who in your organization is most knowledgeable about transportation barriers and available resources? *(specifically, what is this person's job title and is transportation their main focus)*

8) What else would you like us to know about this issue?

**Thank you for your time! We truly appreciate your insight.**

## Appendix B: Survey

**North Central Community Transportation Assessment**

Thank you for volunteering to complete this survey. This survey is completely confidential – do not write your name. It should take 5 minutes of your time. Your responses will help Community Choice better understand any challenges to receiving health care due to transportation issues.

What is your gender?

( ) Female
( ) Male
( ) Other - Write In: _____

What is your age?

_____

What kind of health insurance do you have?

( ) Employer provided insurance
( ) Apple Care (Medicaid)
( ) Medicare
( ) Private insurance
( ) None
( ) Other - Write In: _____

What county do you live in?

_____

What race or ethnicity do you identify as? (Check all that apply)

[ ] White, non-Hispanic
[ ] Black or African American
[ ] American Indian/Alaskan Native
[ ] Asian
[ ] Native Hawaiian or other Pacific Islander
[ ] Hispanic or Latino
[ ] Other - Write In

What is your current employment status?

( ) Employed, working 40 or more hours a week
( ) Employed, working under 40 hours a week
( ) Seasonally employed
( ) Unemployed, not looking for work
( ) Unemployed, looking for work
( ) Disabled, not able to work
( ) Retired

Do you have a disability or health condition that prevents you from driving?

( ) Yes
( ) No

What are your primary means of transportation? (select all that apply)

[ ] Personal vehicle
[ ] Friends, relatives, or neighbors
[ ] Public transportation
[ ] Taxi, Uber, Lyft, or other private car services
[ ] Vanpool/carpool/shuttle (please specify service provider):
_____
[ ] Bike
[ ] Walking
[ ] Other - Write In: _____

If you do not use the bus or other forms of public transportation, why not? (select all that apply)

[ ] No services where I am or where I want to go
[ ] Poor connections or transfers
[ ] I'm unfamiliar with the bus system
[ ] It takes too long
[ ] Limited hours of operation
[ ] I don't feel safe on the bus
[ ] I can't afford the bus
[ ] I don't need it
[ ] Other - Write In: _____

How far do you travel to see your doctor?

( ) Under 20 miles
( ) 20-40 miles
( ) 41-60 miles
( ) Over 60 miles
( ) I do not have a doctor
( ) I don't know

If you've missed a doctor appointment in the past year, what was the primary reason?

( ) I could not find any transportation
( ) My planned transportation fell through
( ) Conflict with work or other responsibility
( ) Could not afford the appointment
( ) The appointment was no longer necessary
( ) I forgot about my appointment
( ) I have not missed an appointment
( ) I have not scheduled a doctor appointment in the last year
( ) Other - Write In: _____

If your primary mode of transportation was not available, what community resources you could use to get to an appointment?

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What are the main challenges you face when trying to get health care including seeing the doctor, going to the hospital or filling a prescription?

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**Thank you for your participation!**

## Appendix C: Survey Data Tables

**What is your gender?**

| Value | Percent | Count |
|---|---|---|
| Female | 55.2% | 16 |
| Male | 44.8% | 13 |
| | Total | 29 |

**What race or ethnicity do you identify as?**

| Value | Percent | Count |
|---|---|---|
| White, non-Hispanic | 85.2% | 23 |
| Black or African American | 3.7% | 1 |
| Asian | 3.7% | 1 |
| Hispanic or Latino | 7.4% | 2 |
| Other - Write In | 3.7% | 1 |

**What county do you live in?**

| Value | Percent | Count |
|---|---|---|
| Grant | 69.00% | 20 |
| Okanogan | 13.70% | 4 |
| Chelan | 13.70% | 4 |
| Mason | 3.60% | 1 |

**What kind of health insurance do you have?**

| Value | Percent | Count |
|---|---|---|
| Employer provided insurance | 3.4% | 1 |
| Apple Care (Medicaid) | 13.8% | 4 |
| Medicare | 79.3% | 23 |
| Private insurance | 13.8% | 4 |
| None | 3.4% | 1 |
| Other - Write In | 27.6% | 8 |

**How far do you travel to see your doctor?**

| Value | Percent | Count |
|---|---|---|
| Under 20 miles | 92.0% | 23 |
| 41-60 miles | 4.0% | 1 |
| Over 60 miles | 4.0% | 1 |
| | Total | 25 |

**If you do not use the bus or other forms of public transportation, why not? (Select all that apply)**

| Value | Percent | Count |
|---|---|---|
| No services where I am or where I want to go | 10.0% | 2 |
| Poor connections or transfers | 5.0% | 1 |
| I'm unfamiliar with the bus system | 20.0% | 4 |
| Limited hours of operation | 5.0% | 1 |
| I don't need it | 45.0% | 9 |
| Other - Write In | 25.0% | 5 |

**What is your current employment status?**

| Value | Percent | Count |
|---|---|---|
| Employed, working 40 or more hours a week | 11.1% | 3 |
| Employed, working under 40 hours a week | 3.7% | 1 |
| Seasonally employed | 3.7% | 1 |
| Disabled, not able to work | 7.4% | 2 |
| Retired | 74.1% | 20 |
| | Total | 27 |

**Do you have a disability or health condition that prevents you from driving?**

| Value | Percent | Count |
|---|---|---|
| Yes | 29.6% | 8 |
| No | 70.4% | 19 |
| | Total | 27 |

**What are your primary means of transportation? (Select all that apply)**

| Value | Percent | Count |
|---|---|---|
| Personal vehicle | 76.0% | 19 |
| Friends, relatives, or neighbors | 28.0% | 7 |
| Public transportation | 16.0% | 4 |
| Vanpool/carpool/shuttle | 12.0% | 3 |
| Bike | 4.0% | 1 |
| Walking | 28.0% | 7 |
| Other - Write In | 8.0% | 2 |

**If you do not use the bus or other forms of public transportation, why not? (Select all that apply)**

| Value | Percent | Count |
|---|---|---|
| No services where I am or where I want to go | 10.0% | 2 |
| Poor connections or transfers | 5.0% | 1 |
| I'm unfamiliar with the bus system | 20.0% | 4 |
| Limited hours of operation | 5.0% | 1 |
| I don't need it | 45.0% | 9 |
| Other - Write In | 25.0% | 5 |

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