

# Gap Analysis and Cost-Benefit Modeling: Northeast Oregon Public Transit's Rides to Wellness Program

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*Prepared by Ducote Consulting, LLC  
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*For: Community Connection of Northeast Oregon and Northeast Oregon Public Transit*



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**Abbreviations**

ACS – American Community Survey

CCNO – Community Connection of Northeast Oregon

CHSA – Community Health Status Assessment

EOCCO – Eastern Oregon Coordinated Care Organization

GRH – Grande Ronde Hospital

MCCoG – Mid-Columbia Council of Governments

NEMT – Non-Emergent Medical Transport

NEON – Northeast Oregon Network

NEOPT – Northeast Oregon Public Transit System

OHP – Oregon Health Plan

R2W – Rides to Wellness

## Chapter 1: Executive Summary and Background

### 1.1 Executive Summary

Rides to Wellness (R2W) is Non-Emergent Medical Transport program available to most residents of Union County, Oregon, limited only by geography. Since its start in July 2014, growth has been tremendous and the concept has proven immensely valuable to patients. Community Connection of Northeast Oregon (CCNO), a non-profit, operates the Rides to Wellness program through its subsidiary organization Northeast Oregon Public Transit (NEOPT). Through creative funding strategies, NEOPT funded Rides to Wellness with a number of one-time opportunities into 2018. The intention of this report is to serve as the analytical foundation of the business case for Rides to Wellness.

Estimating the population of transportation-disadvantaged people in Union County allows an approximation of potential demand, which informs the cost-benefit and effectiveness models. In consultation with a number of data sources, three probable figures were developed to represent that population. Feedback from program users through a public involvement process indicated that Rides to Wellness is held in high admiration by users and care providers.

Extensive peer-reviewed research and studies of Medicaid-based NEMT programs demonstrate the need for interventions like Rides to Wellness in order to overcome transportation barriers as a social determinant of health. A variety of conditions, including Chronic Kidney Disease and cancers, require frequent appointments and treatments and, thus, uniquely benefit from NEMT. Not only does NEMT enable effective medical treatment, but it also empowers those who would otherwise be unable to access health care through a transportation program. Secondary to patient and community health, R2W and NEMT provide direct monetary value to the health care providers by delivering patients to appointments and urgent care.

Medicaid NEMT programs have been extensively studied and proven to be both cost-effective and cost-beneficial for government agencies and health care providers. Primarily, these studies have been undertaken on a large-scale – regionally, statewide, or nationwide. Transportation is identified locally and nationally as a substantial barrier to medical access. Rides to Wellness offers the same cost-benefits created through Medicaid NEMT distributed across the entire transportation-disadvantaged population of Union County.

#### Study highlights:

- Rides to Wellness service is highly valued, effective, and underutilized in Union County.
- Local health care community, providers, and non-profit advocates want to be more involved in making Rides to Wellness successful for the patients, CCNO, and providers.
- 1,100-5,000 people in Union County lack medical access specifically because of transportation-related barriers. Rides to Wellness could provide those individuals 3,000-14,000 annual round trips.
- Even accounting for increased transportation and health care costs, Rides to Wellness could provide benefits ranging from \$2.2-9.8m annually.

## 1.2 History of Rides to Wellness

Rides to Wellness has taken on many different names during its existence. For clarity's sake, the Northeast Oregon Public Transit (NEOPT) Same-Day Medical transit program, which began in July 2014, will be referred to as "Rides to Wellness" throughout the document even if anachronistic. R2W was initially funded through a Community Transformation Grant from the Eastern Oregon Coordinated Care Organization (EOCCO) with a \$67,000 grant intended to fund the program from July 1, 2014 through June 30, 2015. Grant funds ran out in October 2015, and NEOPT approached Oregon Department of Transportation with a review of the program and its funding issues that same month. ODOT awarded NEOPT a \$60,000 Special Transportation Fund Discretionary grant, which became available in January 2016. To maintain the program in the October 2015 – January 2016 gap, NEOPT invested \$20,000 of its own funds. NEOPT also received \$40,000 from EOCCO's Incentive Funding, which is budgeted February 1, 2016 – January 31, 2017. Currently, the R2W program is funded through January 2017 with funding applications pending with a number of different sources, including ODOT STF Discretionary and Federal Transportation Authority Rides to Wellness.

Before R2W program implementation, NEOPT identified a baseline demand based on its Paratransit/Demand Response services of 21 trips per month. Working together with the Mid-Columbia Council of Governments' Medicaid Brokerage, same-day medical service by R2W was delivered at a 238% increase over the baseline three months into the program. By November and December 2014, service reached 70-80 rides per month. In March through June 2015, the program plateaued at 85-115 rides per month. Over the first calendar year, the geographic distribution of rides shifted. Initially, La Grande made up 89% of all same-day medical transit destinations, but a year into the program deliveries to Elgin, Union, and unincorporated Union County doubled.<sup>1</sup>

NEOPT established a partnership with the MCCoG's OHP Brokerage in The Dalles to invoice The Brokerage for eligible R2W rides. In this way, R2W was able to increase capacity without increasing the amount of grant funds needed to sustain the program. When a user calls NEOPT to schedule a NEMT trip, anyone is eligible for a R2W-funded ride. If that patient is eligible for a Brokerage-funded ride through OHP, R2W can provide the ride without a bid if the ride is under 80 miles and invoice the Brokerage. Over 80 miles, R2W can deliver the ride *only* if they also provide the lowest bid. If a patient calls only The Exchange at The Dalles administered by the Brokerage, there are a number of additional restrictions. Brokerage rides must be scheduled 48 hours' in advance and the trip is contracted to the provider with the lowest bid. In some cases, the lowest bid means a volunteer provider and their availability can be more unpredictable than R2W. R2W offers same-day medical transit, provided by professional drivers, and service to those not covered under OHP.

## 1.3 Study Methodology

Funded through an ODOT grant, NEOPT hired Ducote Consulting LLC to study the Rides to Wellness same-day medical transit program in April 2016. The study involved: one focus group of users and one focus group of health care providers and Community Health Workers; interviews with key informants;

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<sup>1</sup> *Special Reports*, NEOPT to Eastern Oregon Coordinated Care Organization, November 2014, March 2015, July 2015, October 2015.

and this written report that includes cost-benefit analysis to build the business case of the Rides to Wellness program. The heavy citations are intended to be an information roadmap guiding any future analysis to existing literature. Feedback from users and clinic personnel informed the Gap Analysis and exposed the strengths and weaknesses of the existing program. The report is written under the assumption that NEOPT intends to scale up the program and attempt to secure long-term, sustainable funding sources. These funding sources may include local clinics and hospitals, and this study is designed to concisely demonstrate the current and potential quantitative and qualitative value of the service.

Chapter 2 is a review of available data and demographics on transportation-disadvantaged populations nationally and in Union County. Chapter 3 is a review of the public involvement effort undertaken as a part of this study with health care providers and R2W users. Chapter 4 is an in-depth look at the impacts of NEMT on patients and providers, and a gap analysis of the most effective and efficient ways to expand or improve the program. Chapter 5 is the cost-benefit analysis and utilizes tools developed by scholars and statisticians to measure the impact of NEMT. Chapter 6 is the gap analysis, recommendations, and conclusions.

## CHAPTER 2: Demographic Analysis

### 2.1 Limitations on Data

In order to create models and the analysis herein, multiple data sources were consulted. There is no single source of data that illuminates all the layers of the NEMT issue. Union County's *Community Health Status Assessment (CHSA)*, particularly 2015, offered vital local data. However, any data points not included in the *CHSA* or US Census require zooming out to regional, local, or even national datasets. As a whole, lack of access to NEMT for non-Medicaid covered individuals has been understudied and underanalyzed. Scholarship on the subject often wrestles with the lack of adequate data. Despite the data gaps, NEOPT has excellent data regarding its R2W program. All its transit vehicles are equipped with electronic data capture and GPS systems, and the transit backbone runs on a database. This allows for excellent transit-level analysis.

In the last ten years, data and analysis of the cost-effectiveness of Medicaid NEMT has been developed, but study of specific programs like R2W are lacking. Programs like R2W are on the front lines of fighting social determinants of health, but demonstrating cause/effect or cost-effectiveness in health care is a daunting task for rural agencies. On the clinic and hospital-level, there is also a paucity of data related to cost modeling and missed appointment rates. While Grande Ronde Hospital (GRH) provided its missed appointment rates for the last year, staff confirmed that there's no way to precisely extrapolate from those numbers how many patients missed appointments *for transportation reasons*. Health care reform has rapidly escalated innovation and progress in the industry, but many local providers report that achieving regulatory compliance overwhelms their administrative capacity, leaving little or no staff capacity for econometric calculations and precise cost figures.

Although the scarcity and inconsistency of data limits the precision of modeling and forecasting, it provides a range of possible outcomes. The Rides to Wellness (R2W) program expanded rapidly after implementation in 2014.

## 2.2 Estimating Transportation-Disadvantaged Population

### Nationally

Before examining Union County's demographics, it's important to note the wide variations nationally when identifying populations with lack of access to health care because of transportation-disadvantage. Models are based on proxy figures, averages, and increasingly flexible modeling because there is no single measure. Each estimate has its own benefits and disadvantages, and the estimates for transportation-disadvantaged populations nationally range from 528,000 to 3,500,000 and, on the top-end, 15,500,000.<sup>2</sup> Markers for potential R2W users include low-income persons, racial and ethnic minorities, the elderly, Baby Boomers, those without cars, those without driver's licenses, rural residents, and the chronically ill. A review of twenty-five regional and local quantitative studies claimed that anywhere from 10-51% of patients in study areas "report that transportation was a barrier to health care access."<sup>3</sup> The CDC's 2010 *National Health Interview Survey* identified 2.57% of the population as missing or delaying health care because of inadequate transportation.

### Union County

No single demographic measure completely captures the potential market for R2W in Union County. Throughout its existence, R2W has served a wide range of clientele, from Union County Commissioner Jack Howard to elderly, low-income individuals living alone. A similar range of populations of the transportation-disadvantaged can be developed based on available data on the County. Low cost of living also makes Union County, especially in the more isolated rural communities, attractive to retirees. *Niche* named La Grande the #6 Best Town to Retire in Oregon and demographics support that.

*American Community Survey (ACS)* data for the 2010-2014 survey set illustrates some of the relevant demographics to this analysis on a County level. As a whole, Union County is older than the national average with 17.5% of residents 65 and older, compared to 13.4% nationally. The ACS identifies households (not individuals) that have no vehicle, but an accurate figure can be developed by using the further breakdown by size of household. According to the ACS, 669 households (6.6%) in Union County have NO (0) cars available for transportation. 491 of those households are people living alone and 178 households with no cars have two or more occupants. The table on the next page illustrates the breakdown by household size. Using linear interpolation, the 36 households identified as 4 or more people can be distributed at the proportions identified in the County's household size distribution. Examining the figure *by age* demonstrates the vulnerability of many of the County's older residents. 273 households without vehicles are made up of residents sixty-five (65) years or older. Additionally, 1,224 households (12%) in the County have 2 or more persons and only 1 vehicle available, which creates a transportation barrier to access health care.

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<sup>2</sup> Hughes-Cromwick, P., R. Wallace, H. Mull, J. Bologna, C. Kangas, J. Lee, and S. Khasnabis, *Cost Benefit Analysis of Providing Non-Emergency Medical Transportation*. TCRP Web-Only Document 29 (Project B-27): Contractor's Final Report, Transit Cooperative Research Program, Transportation Research Board of the National Academies. 2005.

<sup>3</sup> Syed ST, Gerber BS, Sharp LK, "Traveling Towards Disease: Transportation Barriers to Health Care Access," *Journal of Community Health*. 2013;38(5):976-993.

People in Union County with NO Vehicle Access	
Size of Household	# w/o vehicle
1-person	491
2-person	264
3-person	30
4-person	75
5-person	40
6-person	24
7-or-more	23
TOTAL	947

People in Union County w/Limited Vehicle Access	
Size of household	# w/limited access
2-or-more	1,224

There’s a total of 2,171 people extrapolated from the *American Community Survey* who have no, or limited, access to a vehicle. While no vehicle is a surefire measure of transportation-disadvantage, having limited access (defined as 2 or more people in the household with only 1 vehicle) can also have a significant impact on medical transit. Depending on household members for medical transport impacts a household by forcing the caregiver to lose out on wages. This is uniquely disadvantageous for low-income residents in the County who do not have sick time available and cannot recover lost wages.

Identifying lack of vehicles is only a single, partial measure of possible need, but provides the most statistically reliable proxy for approximating a base-level population that would utilize the R2W service consistently. They are more likely to miss multiple appointments annually, while almost 20% of the County reports missing appointments, or delaying medical care at least once because of lack of transportation. Another measure, lack of a driver’s license, provides useful data – 965 adults in Union County, (4% of total population) do not have a license.<sup>4</sup> However, there is likely overlap between the no-license individuals and the no-vehicle individuals.

This analysis sets an extremely conservative baseline for demand modeling – **at least 1,100 people in Union County have no vehicle available or severely limited transportation access.** This figure assumes 100% of 947 people with no vehicle are transportation-disadvantaged and that at least 7.5% of both the limited vehicle and no license data categories do not overlap with the no vehicle category. These are individuals who would likely utilize R2W services often.

Constituents of Conservative Model			
Category	#/category	Proportion	# in UC
No license	965	7.5%	72
No Vehicle	947	100.0%	947
Limited Vehicle	1,224	7.5%	92
<b>Transportation-Disadvantaged in UC:</b>			<b>1,111</b>

<sup>4</sup> “County by Age,” *Oregon Driver License Statistics Reports*, Oregon DMV, December 31, 2015.



Grande Ronde Hospital’s *Union County Community Health Status Assessment 2015* (CHSA) identified some of the transportation access issues faced by local residents. Quantifying only vehicle and driver’s license data points through the ACS leaves out many of the transportation-related obstacles identified in the CHSA. Factors that “prevent... seeing a doctor if they were sick, injured, or needed healthcare” included 17% for “difficult to get an appointment” and 10% “difficult to find/no transportation.”<sup>5</sup> Demonstrating the variability of data, the County’s CHSA survey identified 3,591 people who cannot access medical care because they have no car. This CHSA figure is 380% higher than the basic ACS figure. Because children go unaccounted for in the CHSA, this analysis assumes children are impacted at the same rate as adults. Thus, if 10% of adults are transportation-disadvantaged based on a particular measure, children are assumed to be disadvantaged at the same rate. This is a conservative assumption because the Women and Children’s Clinic reports that their clientele is uniquely disadvantaged.

The moderate figure is pulled from a single data point and survey answer in the CHSA, which measured how many adults were prevented from “seeing a doctor if they were sick, injured, or needed some kind of healthcare” because of difficulty finding/no transportation.<sup>6</sup> The 10% measure comes out to roughly 2,500 adults in the County. The CHSA data point has advantages over the conservative figure because it specifically measures transportation-disadvantage and its impact on medical access. The conservative figure depends on ACS data and analysis that identifies transportation-disadvantage by proxy measures.

The final, most liberal model for transportation-disadvantage and its impact on medical access draws from another question on the CHSA. The question broke down specific transportation-related obstacles to seeking medical care and represents an assortment of possible reasons why someone would miss an appointment or face an obstacle to access. The question (#12) on the 2015 CHSA survey allowed respondents to select more than one option, so the important measure is those who responded “I do not have any transportation issues.” This figure is not published in the CHSA, but the agency that authored the assessment (Hospital Council of Northwest Ohio) reported to Ducote Consulting that 81% of Union adults marked that option. 19% of Union County, or almost 5,000 people, have transportation-related barriers to health care based on this data point:

Specific Transportation-Related Obstacle		
	% responses	# in UC
No car	14%	3,591
No driver's license	10%	2,565
Limited public transport	9%	2,309
Could not afford gas	6%	1,539
Disabled	4%	1,026
Car did not work	2%	513
No public transit	1%	257
<b>TOTAL*</b>		<b>4,873</b>

<sup>5</sup> *Union County Community Health Status Assessment 2015*,

<sup>6</sup> CHSA, 15.

*\*Total is not a sum of the column above it. The % response column allowed for multiple selections for each individual in the survey; the total does not exceed the 19% of respondents who selected a (or multiple) barrier(s).*

This question measures some of the same categories covered in the ACS data, but with much higher numerical values. Generally, the ACS data is more statistically reliable, but often has sampling error issues in rural areas. The Oregon Congressional Delegation penned a letter to US Housing and Urban Development decrying the poor data gathered from rural eastern Oregon and specifically for the City of Haines. For this reason, both measures have their strengths and weaknesses and no single data source is perfect.

**2.2 Estimating NEMT Need in Union County**

Rather than produce a single, precise figure to approximate the transportation-disadvantaged population, and thus NEMT need, in Union County, Ducote Consulting evaluated a range of effective estimates that were all plugged into the cost-benefit and cost-effectiveness model.

Transportation-Disadvantaged Population Estimates		
Conservative	Moderate	Liberal
1,100	2,500	5,000

A conservative estimate, based on *American Community Survey* data indicates approximately at least **1,100 people** in the County are transportation-disadvantaged. This figure is purposefully an extremely conservative measure based on the data for no vehicles, limited vehicle access, and adults with no driver’s licenses.

A moderate estimate, based on the 2015 *CHSA* measure, is the **2,500 adults** identified as not going to the doctor when it’s needed because they have difficulty finding transportation. There is sufficient evidence to demonstrate that 1,600-2,500 people in the County either miss doctors appointments, do not make them, or stay sick until emergency care is needed. This proportion is also supported by a more liberal apportionment of the ACS proxy categories.

In the most liberal estimate, 19% of Union County, or roughly 5,000 people, in the *CHSA* identified various transportation barriers to medical access. In this scenario, the 5,000 people may only have a single instance of a transportation barrier and could not be counted on for consistent use of the service. However, it illustrates the widespread impact of transportation on medical access in Union County. The need is not strictly limited to demographics.

To synthesize all three estimates – at least 1,100 people in the County need medical transportation for nearly every appointment. 2,500 adults in the County likely need medical transportation regularly, although perhaps not a majority of appointments. And almost half the County, or 5,000 people, have a need for NEMT at least once. Cost-benefit and cost-effectiveness models were run using all three scenarios and are available in Chapter 5.

GRH’s survey captured a more precise data point related to medical transportation issues, but is still limited to the adult population. The information uncollected is **how many children cannot access the doctor because their parents lack transportation.**

## CHAPTER 3: Public Involvement

### 3.1 Focus Group #1 – Users/Patients

Ducote Consulting facilitated a focus group at the NEOPT Conference Room on May 17, 2016. NEOPT provided transportation for users to the meeting and \$20 Wal-Mart gift cards, resulting in excellent turnout. There were 13 participants – 11 from La Grande and 2 from Union. All 13 participants filled out a paper questionnaire and then provided input during the focus group portion. The following is an overview of the discussions and survey responses.

When asked what words they thought described Rides to Wellness, they provided:

Thank You	Politeness	Courteous	Helpful
Don’t listen	Secure	On-time	Handy
Godsend	Good drivers	Never get mad	Grateful
Excellent	So glad we have it		

#### Room for improvement:

Most people had to be persuaded to provide critical feedback because the general feeling of the program is overwhelmingly positive. One comment was made about service area in the County – the individual said they knew of an older couple who lives out of Cove on Grays Corner Road. and was denied service to/from there. Another user had a frustrating experience when the driver “didn’t follow directions” and passed up his home in an isolated area.

Improved communication surrounding pick-ups was a common theme. An “ideal wish list” of customer service features included:

- A confirmation call that their ride is scheduled and/or a reminder call the day before.
  - Should include time the driver will arrive and their name.
- A way to contact drivers in the hours before NEOPT call center is opened – potentially a work cell phone for the driver. Likely infeasible because of transit rules and regulations regarding phones for drivers.
  - The majority of participants indicated that they have had to use R2W to secure transport between 2 a.m. and 6 a.m. If they need to be in Boise or Portland by 6 a.m., then they need a way to let the driver know very early if a surgery or appointment is postponed last minute.
  - Patients are charged for the office visit if they don’t cancel more than 24 hours in advance. If the patient can call the doctor’s office in time, they may be able to reschedule without costing them a fee.

There are also some improvements that could be made in the transit process:

- Stops on long trips to eat. Especially important for diabetics.
- Have the driver “escort” the patient from the waiting room/office to/from the transit vehicle. Some users have difficulty ambulating and sometimes need an arm for support. This will also be a liability and feasibility issue.

#### Would you recommend R2W to a friend or neighbor?

Everyone agreed they would recommend the service to friends and neighbors, despite some minor frustrations. They told stories of excellent customer service that engendered them to the service. There were two cases of complaints where users recommended the service and were disappointed with the result for their friend or neighbor. In one case, the driver missed the pick-up location and caused a missed appointment. In another case, some individuals who lived in more rural, isolated areas of County were told that R2W service did not reach them. One user said *“If you’re going to serve the County, serve the County!”*

#### What would you do without R2W?

*“I’d be at the funeral home.” “Cry a lot.” “My grandchildren would keep having to miss work for me.” “It was really hard – it was draining me.” “It’s been such a blessing for us.” “I just wouldn’t go [to the doctor].”*

There was a general feeling that going without R2W would have a significant impact on users’ health. One woman was driving 90 miles a week to take her husband for appointments before Rides to Wellness. She was losing a whole day three times a week. Her husband couldn’t go by himself, and if she was sick he was going to miss it. Other times, she would go to the dialysis center slightly sick and risk getting other patients sick. R2W has taken them 3 times a week for 2 years and they have only missed three times because of transit service errors. Another woman reported that an elderly friend of hers hitched a ride on the back of a motorcycle to go to a doctor’s appointment in the absence of R2W.

### **3.2 Focus Group #2 – Health Care Providers and Workers**

Grande Ronde Hospital representatives made up the primary constituency of the second focus group. As a result, the facilitators moved the conversation from the more general themes originally planned for to specific investigation of the best ways to collaborate on R2W between NEOPT and GRH. The organization and hierarchy of GRH became a central theme of the conversations – primarily, how to efficiently inject information into their existing structure to avoid clinics missing out on updates or new information. Given that GRH operates a number of specialty and satellite clinics, it can be difficult to standardize training on R2W throughout the organization. Compared to private clinics in the area and the assisted-living facilities, GRH presents a unique challenge based on its size and scope.

The critical engagement points for NEOPT at GRH facilities will be Clinic Coordinators, who manage the front office personnel, and the front office personnel themselves. Given the high turnover rate in the front office, continual engagement and education is key for effective use. To make that regular education efficient, the following suggestions were offered:

- NEOPT should create a flow chart “cheat sheet” that documents eligibility, R2W’s mileage range, applicability of Paratransit, and Fixed Route options.
- NEOPT should create a short YouTube video that could be viewed by front office personnel as a part of their training.
- NEOPT could create materials that would be inserted into New Employee Handbooks at GRH as a resource. Will need to coordinate with GRH.
- NEOPT could create resources for the GRH intra-net accessible by employees.

There are two meetings that would make additional engagement points for NEOPT education: Clinic-level staff meetings and the Clinic Coordinator meeting. In the GRH environment, transportation can be coordinated by a number of different personnel. Front office staff handles the day-to-day scheduling and provides information to patients. A Clinic Coordinator might follow up with no-shows to determine if transportation was an issue. A Case Manager or Nurse Manager at a clinic might be highly involved with high-risk situations or urgent needs.

Community Health Workers also play a critical role, but there are still a limited number available across eastern Oregon. However, CHWs will play a much bigger role in the years to come as Northeast Oregon Network (NEON) and Oregon State University continue trainings and certifications. Often CHWs are funded wholly or partially through external sources to the clinic and they can bill out some of their work.

Stories and customer satisfaction-type surveys are critical to demonstrate the program’s impact – in addition to quantitative data.

Close coordination with local agencies like Center for Human Development (CHD), NEON, private practices, and GRH are vital to collaborate on health awareness initiatives and health care drives. For example, a children’s health day or oral health initiative.

### **3.3 Key Informant Interviews**

Eight interviews were conducted with a number of local clinic administrators, clinic case managers, Community Health Workers, and non-profit health care organization representatives. The interviews played a vital role in creating the gap analysis in Chapter 6. Informants generally expressed an appreciation for the program and were committed to finding ways to improve the program. Themes for program improvement included: better data collaboration and collection between agencies; information sharing between NEOPT, clinics, and GRH, including the possibility of a standing advisory group; broader and more concise marketing of the program throughout the County; and detailed explanations of the over-lap and interplay between OHP, The Exchange, Paratransit, and R2W.

In one case, a clinic facility in La Grande was not aware the R2W program was still functioning and the interview itself became an informative meeting for the clinic staff. Using the information gap as an opportunity to observe the learning process for clinic staff and users firsthand, Ducote Consulting had a number of follow-up meetings with the clinic staff and NEOPT to troubleshoot the learning process. Observations for improvements include: additional and updated educational materials for users and clinic staff; more concise marketing of the service; a standing group to inform clinic staff about program updates and status; and improved coordination between health care providers and NEOPT’s R2W.

Leveraging multiple organizations' resources through such a group will increase program effectiveness without overloading a single organization.

While notes of these interviews are not detailed in this section, the information provided by key informants was vital to the construction of this document. They provided crucial information on: local data sources, local health care resources, clinic procedure and methods for scheduling, patients' needs, the role of Community Health Workers, and clinic-level data.

## Chapter 4: Case Studies and NEMT Impact

### 4.1 User/Patient-Centered Service

Jenny Liu and August Benzow's 2014 study for Portland State University of Ride Connection's dialysis program identified one of the main benefits of alternatives to Brokerage-provided NEMT rides.

*Brokers are incentivized to reduce costs and increase operating efficiencies because the rate they are receiving is fixed; therefore, the return on their investment is greater if they can provide the service at the lowest cost possible.<sup>7</sup>*

Local feedback from providers and users confirms this locally. Through the focus group, users claimed that R2W provided a superior service compared to the MCCoG Brokerage-provided NEMT rides. They faced more frustration, cancelations, and complaints with the Brokerage-provided rides. Alternatively, they found R2W to be very customer service oriented. Even with the high level of service provided by R2W, they have maintained the cost profile of a non-profit. In key informant interactions, some providers found the Brokerage less reliable than R2W.

### 4.2 Impacts to Patients

For agencies, providers, and patients, arranging and organizing NEMT can be confusing and difficult. The R2W program impacts patients and health care outcomes in a number of significant ways. Because transportation poses a substantial barrier to health care access, removing that barrier and creating an effective clearinghouse at NEOPT increases health care effectiveness and efficiency. Missed treatments can mean starting the course of treatment over again, creating unnecessary expenses and reducing quality of life. Seventy-five percent (75%) of health care costs are made up caring for chronic illness and disease, and the majority of R2W users have one or more chronic condition(s).<sup>8</sup>

Quality chronic disease management requires access to care, and transportation is a primary barrier identified in academic literature, and quantitative and qualitative surveys of local residents. Rural Oregon and Union County have high rates of poverty, which compounds with the geographic distance

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<sup>7</sup> Jenny Liu and August Benzow, "Inclusive Planning to Evaluate Improved Non-Emergency Medical Transportation Services for Patients With End Stage Renal Disease," Transportation Research and Education Center, Portland State University, December 2014; Stefl, G., & Newsom, M., *Medicaid non-emergency transportation: National survey 2002- 2003* (Washington, D.C.: National Consortium on the Coordination of Human Services Transportation, 2003), 1.

<sup>8</sup> *Medicaid Expansion and Premium Assistance: The Importance of Non-Emergency Medical Transportation (NEMT) To Coordinated Care for Chronically Ill Patients*, MJS & Company in collaboration with the Community Transportation Association of America, March 2014.

between many bedroom communities in the County and effective medical care in Union or La Grande (or Walla Walla, Portland, or Boise in more extreme cases). Because of social determinants of health, low-income individuals have poorer health, higher prevalence of mental and behavioral disorders, and shorter life expectancy.<sup>9</sup> They are less likely to engage in preventative care or keep specialist appointments, which compounds into comorbid and chronic conditions with higher likelihoods of hospitalization. Regular monitoring and care prevents conditions like asthma and diabetes from progressing to life-threatening levels. People who rated their health as poor, in one study, were nearly twice as likely as others to indicate transportation was an obstacle to medical care.<sup>10</sup>

The following are statistics and profiles of specific conditions and circumstances where NEMT can substantially and uniquely impact individuals' health status:

### Emergency Room Utilization

Individuals with transportation barriers to primary care are more likely to use the emergency room.<sup>11</sup> Analysis of California discharge data demonstrated that "access to care was inversely associated with the hospitalization rates for the five chronic medical conditions [asthma, hypertension, congestive heart failure, chronic obstructive pulmonary disease, and diabetes]." In fact, "communities where people perceive poor access to medical care have higher rates of hospitalization for chronic diseases."<sup>12</sup> This demonstrates the importance of marketing and advertising for R2W, not only to increase access but change general perceptions of poor access.

### Dialysis/Renal Conditions

NEMT and its impact on End Stage Renal Disease, Diabetes, and Dialysis treatment has been widely studied. In March 2014, Ride Connection in Portland, Oregon, implemented a pilot program to get dialysis patients to their treatments.<sup>13</sup> Dialysis and diabetes patients provide a clear-cut example of the benefits of non-Medicaid NEMT services. With a large number of appointments per year – dialysis alone can be 100 to 150 each year – NEMT options are vital to keep diabetic patients healthy.

Geographic distance and transportation options can greatly impact a dialysis patient's quality of life and life expectancy. Missing one or more dialysis appointment in a month increases risk of hospitalization

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<sup>9</sup> Julie Wagner, "Chronic Disease Management: Improving Outcomes, Reducing Costs," *Advocates' Forum 2012*, University of Chicago, School of Social Service Administration, 2012.

<sup>10</sup> Rask, KJ., Williams, MV., Parker, RM, "Obstacles predicting lack of regular provider and delays in seeking care for patients at an urban public hospital," *Journal of the American Medical Association* (1994) 271(24) 1931- 1933.

<sup>11</sup> Cheung PT, Wiler JL, Lowe RA, Ginde AA, "National study of barriers to timely primary care and emergency department utilization among Medicaid beneficiaries," *Ann Emerg Med.* (July 2012) 60(1):4-10.e2.

<sup>12</sup> Bindman AB, et al., "Preventable hospitalizations and access to health care," *Journal of the American Medical Association* (July 1995) 26;274(4):305-11.

<sup>13</sup> Liu, Jenny, and August Benzow, *Inclusive planning to evaluate improved non-emergency medical transportation services for patients with End Stage Renal Disease*. NITC-SS-734. Portland, OR: Transportation Research and Education Center (TREC), 2014.

(relative risk = 1.30) and mortality (RR = 1.13).<sup>14</sup> Even medication noncompliance for those with Type 2 Diabetes can increase risk of mortality by 12 per 1,000 patient years.<sup>15</sup>

Transportation for dialysis patients is a consistent barrier discussed in literature. A 2010 survey of hemodialysis patients found that patients were unaware of the dangers of driving yourself after treatment, despite motor vehicle accidents being a leading cause of death for the elderly population. Vats and Duffy (2010) explain that “individuals with end-stage renal disease often experience a significant decline in their ability to drive safely due to musculoskeletal, neurologic, and cognitive impairments which may not improve with dialysis.”<sup>16</sup> Despite the obvious benefits of providing NEMT for dialysis patients, 84% of patients have Medicare coverage, which *does not* provide NEMT, and only 11-14% of those patients are dual-covered with Medicare/Medicaid.<sup>17</sup> Dialysis patients often require multiple appointments each week and 25% of patients drive themselves.<sup>18</sup>

### Mental Health

Underutilization of mental health resources, in large part because of lack of transportation, is an emerging issue. In Wisconsin, NEMT for mental health is the fourth largest constituency for service and can potentially make up a large proportion of total trips.<sup>19</sup> Those with mental illness are more likely to be admitted to an emergency department if they cannot access more regular mental health care.<sup>20</sup> Medication non-compliance is a major factor leading to violence in the mentally ill population, and programs like Rides to Wellness can close the gap of pharmaceutical access.<sup>21</sup>

### Women/Children

GRH’s Women and Children Clinic’s staff estimates that 30% of their appointments are canceled or missed and 1-in-3 cancelations are because of transportation-related obstacles – 10% of all appointments. These are conservative estimates compared to quantitative analysis included in other

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<sup>14</sup> MJS & Company, March 2014.

<sup>15</sup> Currie, et al., “The Impact of Treatment Noncompliance on Mortality in People With Type 2 Diabetes,” *Diabetes Care* (June 2012) 35(6): 1279-1284.

<sup>16</sup> Hermender S. Vats, MD and Douglas P. Guffy, MD, “Assessment of Self-Perceived Risk and Driving Safety in Chronic Dialysis Patients,” *Dialysis and Transplantation* 39.2 (February 2010), 1-7.

<sup>17</sup> U.S. Renal Data System, USRDS 2013 Annual Data Report: Atlas of Chronic Kidney Disease and End-Stage Renal Disease in the United States, National Institutes of Health, National Institute of Diabetes and Digestive and Kidney Diseases. 2013.

<sup>18</sup> CE Latham, “Obstacles to achieving adequate dialysis dose: Compliance, education, transportation, and reimbursement,” *American Journal of Kidney Diseases*, Volume 32, Issue 6, Supplement 4, (December 1998), pages S93-S95.

<sup>19</sup> *Non-Emergency Medical Transportation*, Wisconsin Department of Health Services, Report 15-4 (May 2015), page 26.

<sup>20</sup> Stone A, Rogers D, Kruckenberg S, Lieser A., “Impact of the Mental Healthcare Delivery System on California Emergency Departments,” *Western Journal of Emergency Medicine* (2012) 13(1):51-56.

<sup>21</sup> Swartz, Swanson, et al., “Violence and Severe Mental Illness: The Effects of Substance Abuse and Nonadherence to Medication,” *American Journal of Psychiatry* 155, no. 2 (February 1998), 226-231.



studies. In other regions, studies have identified 26-51% of missed appointments result from transportation issues.<sup>22</sup>

Same-day service would be of tremendous value to the clinic because young families can make up to 20 visits/year to the doctor and a newborn can generate 7 visits alone just for basic checkups (not including acute issues). While not rigorously vetted, these estimates are vital to understanding residents of Union County's needs because access for children is missing from most detailed quantitative surveys. Early detection is key in childhood and missed appointments at a PCP can result in an ER visit.

One specific need of clinic patients is for R2W to have a stock of car seats and car seat buckling training. It will demand an additional layer of complexity to determine how many car seats, and for what age ranges, are required, but will greatly improve medical access for children.

### Pharmaceuticals

According to the Mayo Clinic and Olmstead Medical Center, almost 70% of Americans take at least one prescription drug and more than 50% take more two or more. The most commonly prescribed drugs are opioids (13%), antidepressants (13%), and antibiotics (17%).<sup>23</sup> Many of these prescriptions require monthly or quarterly pickup of refills.

Successfully treating conditions requires access to prescribed medications. Following discharge from hospitals, patients' transportation barriers can result in failure to fill medications for 35% of people in one study. And 65% of patients felt that transportation assistance would have made accessing their medications easier.<sup>24</sup> A survey of epilepsy patients demonstrated that 45% could not drive and claimed they would miss fewer doses of medication if transportation was provided.<sup>25</sup>

### Oncology

Union County, and Eastern Oregon as a whole, has no access to radiation therapy for cancer treatments closer than Walla Walla, Washington, Fruitland, Idaho, and Boise, Idaho. In October 2014, *The Observer* newspaper profiled a local breast cancer patient – Beth Upshaw – who told the story of a carpool that was organized to transport her to treatments in Walla Walla. "I didn't know that I needed it," she said. "I was just going to drive every day and go do my thing. I didn't know how important it was for me to have them."<sup>26</sup>

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<sup>22</sup> Silver D, Blustein J, Weitzman BC, Transportation to clinic: findings from a pilot clinic-based survey of low-income suburbanites, *Journal of Immigrant & Minority Health* (April 2012) 14(2):350-5; Yang S, Zarr RL, Kass-Hout TA, Kourosh A, Kelly NR, "Transportation barriers to accessing health care for urban children," *J Health Care Poor Underserved* (2006 Nov) 17(4):928-43.

<sup>23</sup> Zhong, Wenjun et al., "Age and Sex Patterns of Drug Prescribing in a Defined American Population," *Mayo Clinic Proceedings* Volume 88, Issue 7 (June 2013), 697 – 707.

<sup>24</sup> Kripalani S, Henderson LE, Jacobson TA, Vaccarino V, "Medication use among inner-city patients after hospital discharge: patient-reported barriers and solutions," *Mayo Clinic Procedure* (May 2008) 83(5):529-35.

<sup>25</sup> Welty TE, Willis SL, Welty EA, "Effect of limited transportation on medication adherence in patients with epilepsy," *Journal American Pharmacists Association* (Nov-Dec 2010) 50(6):698-703.

<sup>26</sup> Kelly Ducote, "Learning to let go," *The Observer*, October 10, 2014.

In Texas, a survey of 593 cancer patients identified 38% of whites, 55% of African Americans, and 60% of Hispanics, missed a cancer treatment appointment because of poor access to a vehicle.<sup>27</sup> Cancer patients who live in neighborhoods with a higher level of households with no vehicles are less likely to receive first line chemotherapy.<sup>28</sup>

### Respite Care

Providing medical transit service can also function as short-term respite care for caregivers. The planned nature of a doctor's appointment and ride scheduling means the caregiver can plan time independently. Respite care can have a number of positive impacts on the patient and/or caregiver including: improved productivity, and emotional and physical health for caregivers, improved family function, improved satisfaction of life, and enhanced capacity to handle stress. Respite care in one study group for elderly patients with chronic disabilities resulted in fewer hospitalizations for acute care.<sup>29</sup> It may even reduce the likelihood of divorce, abuse, and neglect.<sup>30</sup>

### **4.3 Impacts to Providers**

Before R2W, clinic staff spent an inordinate time on transportation with poor results. Since the start-up phase of R2W, providers have spent much less time acting as a concierge for their patients. Increasing throughput efficiency, decreasing missed/canceled appointments, and increasing health care professional time efficiency resulted in increased capacity for area health clinics. Quantitative evidence is lacking on the local clinic level, but reports from clinic staff support the claim. One issue faced by Union County is a lack of primary care physicians (PCPs). The lack of practices taking new patients and missed appointments only further clogs the system. Decreasing wait times and increasing throughput efficiency could alleviate staff overload while increasing patients' level of care.

Secondary to patient and community health, R2W and NEMT provide direct monetary value to the health care providers. Missed appointments represent not only forgone revenue, but an increased cost (relative to a kept appointment) in re-scheduling and achieving patient treatment compliance. Greater access to health care means better quality of life and health status for patients, more frequent use of preventative services, and lower hospitalization rates.<sup>31</sup>

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<sup>27</sup> Guidry JJ, Aday LA, Zhang D, Winn RJ, "Transportation as a barrier to cancer treatment," *Cancer Practice* 5.6 (1997), 361–366.

<sup>28</sup> Salloum RG, Smith TJ, Jensen GA, Lafata JE, "Factors associated with adherence to chemotherapy guidelines in patients with non-small cell lung cancer," *Lung Cancer* (February 2012) 75(2):255-60.

<sup>29</sup> Chang, J.I., Karuza, J., Katz, P.R, et al, "Patient outcomes in hospital-based respite: a study of potential risks and benefits," *Journal of the American Board of Family Practice*, 5 (1992).

<sup>30</sup> Wade, C., Kirk, R., Edgar, M., & Baker, L., *Outcome Evaluation: Phase II Results*, Chapel Hill, NC: ARCH National Resource Center for Respite and Crisis Care (2003).

<sup>31</sup> Bindman, AB, Grumbach, K, Osmond, D. et al., "Preventable hospitalizations and access to care," *Journal of the American Medical Association* (1995) 274 (4), 305-311

## CHAPTER 5: Cost-Benefit Analysis

The fundamental goal of Rides to Wellness is to transport health care users from their homes to their medical destination and back again – whether for dialysis, an oncology appointment, a yearly PCP check-up, a prescription fill, or any other eligible use. By improving access with transit resources, Rides to Wellness provides a value to health care providers and health care users. The value to health care providers compounds as missed appointments decrease, need for emergency medicine decreases, time spent by health care clinic staff coordinating patient transportation decreases, and patient health quality increases. While cost-benefit and cost-effectiveness analyses are common for transit systems as a whole, this type of analysis of a NEMT program like R2W is unparalleled.<sup>32</sup> However, scholarship has attempted to close this gap by developing tools and illustrating state and nationwide impact calculus.

Modeling the cost-effectiveness of transit options necessarily means comparing the cost of providing transit with the cost of patients seeking alternative treatments or foregoing it. Studies in Wisconsin (HDR|HLB Decision Economics 2003) and South Dakota (HDR|HLB Decision Economics 2011) demonstrated that those who cannot adequately access medical treatment for transportation reasons will either require home health care or will forgo treatment.<sup>33</sup> Forgoing preventative care or regular care for a chronic condition increases risk of hospitalization and cost-ineffective emergency care. In both the Wisconsin and North Dakota studies, tremendous cost-benefits of NEMT were demonstrated. Even thirteen years ago in Wisconsin, before the wave of aging Baby Boomers, HDR|HLB determined there was an annual rate of approximately 1.39 million missed medical trips because of lack of access to transit services or NEMT. As an alternative to NEMT, to demonstrate cost-benefits, HDR|HLB calculated the cost of home health care visits as a substitute for NEMT. The 1.39m missed trips would result in approximately 552,000 home healthcare visits – the remainder forgoing treatment altogether, which can lead to costly hospitalization or death.

### 5.1 Frequency of Missed Appointments

Gathering precise local data on the number of missed doctors' appointments is difficult because of HIPPA restrictions. In order to gather and publish such information, clinics and hospitals require in-depth data analysis and potentially HIPPA-exceptions. Even precise information on the number of missed appointments specifically because of transportation-related barriers would not illustrate the full demand for R2W because it does not include people who never made an appointment or simply cannot access health care.

Various key informants illustrated the dire circumstances and extreme measures taken by patients, that sometimes risk their safety, to access medical care. One elderly woman rode on the back of her

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<sup>32</sup> Jeremy Mattson, "Transportation, Distance, and Health Care Utilization for Older Adults in Rural and Small Urban Areas," Small Urban & Rural Transit Center Upper Great Plains Transportation Institute, North Dakota State University (December 2010); Ranjit Godvarthy, Jeremy Mattson, and Elvis Ndembe, "Cost-Benefit Analysis of Rural and Small Urban Transit," National Center for Transit Research & NDSU (July 2014).

<sup>33</sup> HDR Decision Economics, *Costs and Benefits of Public Transit in South Dakota*, 2011. Pierre, SD: South Dakota Department of Transportation. HLB Decision Economics Inc. 2003; "The Socio-Economic Benefits of Transit in Wisconsin." Final Report No. 0092-03-07, Wisconsin Department of Transportation Research, Development & Technology Transfer.

neighbor’s motorcycle over 15 miles into La Grande because it was her only option. In another instance, a sick mother and her multiple children were going to walk over a mile with a stroller in the heat and a clinic staff person went to pick them up. Staff estimates from key informant interviews demonstrated some variability of missed appointment rates between types of clinics. Some clinics, like those that serve primarily low-income or women and children, have higher rates of missed appointments. The Grande Ronde Hospital Women and Children’s Clinic staff estimated that 30% of appointments are missed and one-third of those, or 10% of all appointments, are missed because of lack of transportation (often same-day needs). Clinic staff reported expending personal resources, and sometimes contradicting standing policy, to provide safe transportation for patients.

**5.2 Cost-Effectiveness Scenarios**

Through the Transportation Research Board’s Transit Cooperative Research Program, a tool was created by Hughes-Cromwick, et al. (2005) to model and estimate cost-effectiveness of NEMT.<sup>34</sup> The robust tool was created using national databases, including *National Health Interview Survey* and the *Medical Panel Expenditure Survey*. The tool allows the input of regional and transit system-level data points as variables and its conclusions reflect both local ACS data and R2W program data. Using data collected from R2W’s tracking system, regional demographic trends, and the robust Hughes-Cromwick et al. (2005) cost-benefit analysis tool, a range of cost-benefit scenarios can be developed.

The scenarios are not a precise prediction, but demonstrate a range of possibilities. The cost figures are in 2005 dollars (\$), but are consistently used in medical literature into 2015 and 2016 because there are no better models for this facet of health economics. Cost-effectiveness figures are not adjusted for inflation. The conservative scenario illustrates a highly plausible cost-effectiveness figure. Developing a more accurate tool than the Hughes-Cromwick et al. cost-effectiveness tool would be impossible given the time and resource constraints of this study. That does not discount the credibility of the tool and the plethora of scholarly sources that utilize it for their own purposes. The Hughes-Cromwick et al. tool is widely considered the gold standard for cost-effectiveness and cost-benefit measures in nearly every study of NEMT cost-benefit.<sup>35</sup>

Using R2W budget information and data, the following information was developed representing actual costs for R2W:

Cost Per R2W Revenue Service			
	Hour	Mile	Ride
Human resources only	\$47.45	\$2.27	\$10.56
Material resources only	\$21.93	\$1.05	\$4.88
All expenses considered	\$69.38	\$3.32	\$15.44

Cost by Equipment Class		
Equipment Class	Hrs/Ride	Cost/Ride
None (Ambulatory)	0.25	\$17.09
Wheelchair/Scooter	0.29	\$20.10
Stretcher	1.00	\$116.83

<sup>34</sup> Hughes-Cromwick, et al., (2005).

<sup>35</sup> Ranjit Godavarthy, Jeremy Mattson, and Elvis Ndembe, *Cost-Benefit Analysis of Rural and Small Urban Transit*, prepared for USDOT NTCR (July 2014).

To estimate the cost-effectiveness of a NEMT service designed for the transportation-disadvantaged residents of Union County, the number of annual medical trips needed to meet a standard of “well-managed care” and the costs of those trips, in addition to additional medical expenses, was subtracted from the adjusted cost differences shown in the figures above. After adding transportation costs of providing NEMT, they illustrated cost savings for treating chronic conditions and providing access to preventative care.

Because of HIPPA restrictions and limitations on clinic and hospital data, there is no precise figure for missed visits *because of transportation-related barriers* on a local level. The only way to approximate the rate of missed visits is through the proxy of NEMT-disadvantaged populations developed in the demographics chapter and general feedback from the clinics and hospitals. The population figures developed in the conservative, moderate, and liberal estimates are then distributed across national averages of types of care needed. “QALY” is a term frequently used in medical economics literature and refers to a measure of Quality-Adjusted Life Years. One (1) QALY is valued at \$50,000.

Cost Difference between Poorly Managed Care and Well-Managed Care <sup>36</sup>				
Chronic Conditions of the NEMT Disadvantaged	Cost of poorly managed care	Cost of well-managed care	Adjusted Cost Difference	QALY Adjustment
Asthma	\$1,675	\$243	\$809	1.096
COPD	\$1,077	\$135	\$377	1.053
Diabetes	\$9,034	\$7,407	\$1,443	1
Congestive Heart Failure	\$6,713	\$1,033	\$3,465	1.169
Hypertension	\$6,770	\$5,869	\$383	1.053
Mental Health	\$6,510	\$7,739	-\$442	1.177

R2W Cost-Benefit and Effectiveness Modeling – Approximate Annual Figures						
Model	# ppl in need	# R2W round trips	Cost of transport	Cost of HC	Total benefits	Net Cost-Effectiveness
Conservative	1,100	3,134	\$69,028	\$270,856	\$2,506,440	<b>\$2,235,584</b>
Moderate	2,500	7,130	\$157,042	\$616,212	\$5,702,297	<b>\$5,086,085</b>
Liberal	5,000	14,245	\$313,762	\$1,231,162	\$11,392,909	<b>\$9,847,985</b>

Following the theme of highly variable data, the Hughes-Cromwick, et al. model output illustrates the cost-effectiveness of the range of the Conservative, Moderate, and Liberal demographic scenarios. The Liberal scenario is a tremendous figure that is meant to demonstrate the top-end of the possible impacts. The Conservative and Moderate scenarios are meant to provide realistic approximations of likely outcomes. Given the rapid growth of the R2W pilot program and temporary service, a long-term program with a widespread information campaign would likely result in substantial use. Initial growth,

<sup>36</sup> Hughes-Cromwick, et al., (2005).

with minimal marketing and coordination, resulted in astronomical growth for R2W. Because of R2W's low cost as a service provided by a non-profit agency, the total cost-effectiveness is extreme.

One metric uncalculated in these estimates is the diversion of emergency room visits to primary, urgent, or specialized care. This does not mean R2W would provide emergency care (like an ambulance), rather they provide access to regular health care that decreases the likelihood of an emergency room visit. Cost-effectiveness ratios for the R2W service is 7.37 based on the models, but a Florida State University study demonstrated that if 1% of NEMT trips resulted in avoidance of the emergency room, the payback to the State would be 1108%, or \$11.08 per dollar spent.<sup>37</sup> In the Conservative scenario, 1% of trips would be 31.3 annual trips to the ER mitigated or diverted, which means \$40,000 in cost-effectiveness terms. That benefit alone is over 55% of the approximated annual cost of \$70,000.

Another important measure from the range of models is the incurred costs for health care. These figures represent the revenue health care providers could charge out based on appointments that would otherwise be missed or unfilled.

The Conservative scenario represents an excellent baseline for demand. In the future, R2W expects rapid demand growth for medical transit as the Baby Boomer generation ages and health care demand spikes. As life expectancy increases, individuals are also dealing with increasing rates of comorbid and chronic ailments. In rural Union County, transportation access is one of the greatest obstacles to accessing medical care.

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<sup>37</sup> Dr. J. Joseph Cronin, Jr., et al., "Florida Transportation Disadvantaged Programs Return On Investment Study," *The Marketing Institute / Florida State University College of Business* (March 2008).

## CHAPTER 6: Gaps and Recommendations

### 6.1 Program Gap Analysis

As a whole, Rides to Wellness is a revolutionary, unique program that provides excellent medical transit service throughout the County. The NEOPT call center, ride coordinators, and drivers received overwhelmingly positive feedback from users and health care providers. Areas of the program needing additional focus and resources include: data collection and analysis; young family outreach and accommodation; information distribution and marketing; and regular collaboration with health care providers' clinic-level staff

Implementing the recommendations include herein to "close the gaps" must be prioritized by NEOPT based on available funding and program priorities.

#### Sustainable, Long-Term Program Funding

Long-term, sustainable funding for R2W will require developing additional funding streams. One-time grant funding will only sustain the program needs for 2-5 more years and the intention of NEOPT is to creating a lasting resource. In the short-term, NEOPT can lengthen the life of R2W by beginning to diversify funding streams now. Possible funding streams include:

- Selling R2W service to clinics and hospitals.
- Developing more complex partnerships with local retirement homes.
- Identifying methods to bill private insurers for R2W services (ex. Blue Cross Blue Shield).

#### Young Family Outreach

Because of liability issues associated with Federal transit funding, NEOPT is limited in how it can respond to, and accommodate, young children in their vehicles. In order to transport children effectively, NEOPT may need its own stock of car seats, drivers trained to use them, and different liability insurance. The Women and Children's Clinic in La Grande reports this population is vastly underserved with transportation resources and young families can be expected to attend 10 or more visits a year and a single newborn will create at least 7 basic appointments the first year. Young families are often scheduled together for health care appointments and a single R2W trip could enable health care access for 2-5 individuals. Early childhood health care is key to catching conditions that can follow an individual for a lifetime.

#### Program Education and Marketing

The complicated nature of overlapping eligibility, funding sources, and transit options can create barriers to use of R2W – for both patients and health care providers. Clinics, especially the front office staff, need additional educational materials on R2W, how to use it, and the limitations. Heavy turnover rates in clinic front office makes education an important, recurring issue for NEOPT to engage. Options vetted by local health care professional to educate and inform staff include:

- Creation of a flow chart “cheat sheet” that document eligibility, R2W’s mileage range, applicability of Paratransit, and Fixed Route options. They should also have a concise overview of the patient information needed to schedule a ride.
- Creation a short YouTube video that could be viewed by front office personnel as a part of their training.
- Creation of materials that would be inserted into New Employee Handbooks at GRH as a resource. Will need to coordinate with GRH.
- NEOPT could create resources for the GRH intra-net accessible by employees. Will need to coordinate with GRH.

Once patients use the program, they are empowered to continue using and scheduling, but that first use is a vital engagement point to expand the service. Data demonstrates that the need for NEMT service is much higher than what is currently provided, and an intense, sustained marketing campaign will help spread the word about Rides to Wellness.

Community Health Workers are a crucial component to future program success. NEOPT could develop a curriculum or educational materials to be integrated into CHW training in in Northeast Oregon. They could also pursue some funding sources that could pay for a CHW part or full-time to coordinate with R2W.

There is also a need for a standing body of health care providers and NEOPT staff to collaborate on R2W’s features and bugs. Improving the service moving forward and effectively meeting community needs means having buy-in from health care providers on a more small-scale level than currently provided through EOCCO.

### Call Center and Scheduling

Some R2W users would like alternative methods to schedule rides, ideally an online form or mobile application (cell phone app). When users are non-verbal, or temporarily cannot speak due to their condition or injury, calling the transit office and giving information verbally can be an obstacle to using the service.

Many users require service to appointments hundreds of miles away at 6 a.m., which means drivers will arrive at their homes between 2-4 a.m. However, the transit office is not open that early and users have no way to let R2W know if their appointment is canceled last minute. There are no cell phones available to the drivers and their electronic terminals only transmit one-way (transit office to vehicle).

### Actual Rides

R2W has exceptional rankings on their customer service during physical transportation to/from locations, but there are some existing gaps. Some users, especially diabetics, require stops on long car trips to eat. While snacking in transit may be an option for some users, not all will be able to stomach eating while the vehicle is in motion.



Clinic staff and users have indicated that having some level of “escort” from the vehicle into the waiting room would be immensely helpful. Some users are confused when they arrive in the waiting room because of their mental faculties and others are not able to safely ambulate into the waiting room unassisted. Implementing an assistance system faces liability and feasibility barriers and will slow down the transit process.

### Data

NEOPT has done an exceptional job collecting and analyzing data given their lack of expert and technical resources. They have no specialized data analysts, but they have collected an enormous amount of data regarding the program. As the program expands, it will be worth it to bring in some experts to further analyze past data and set up the program with robust analytical methodology moving forward.

This study’s literature review, key informant interviews, and interactions with experts and professionals revealed lack of data and analysis on the national and localized level. Finding any sort of figure defining the cost of a missed appointment to health care providers, locally and nationally, is nearly impossible at this point in time. However, as the Affordable Care Act reforms shift health care reimbursement criteria from fee-based to value-based, this type of analysis and data will be more available and more important to prove program viability and establish effective reimbursement rates for services.

Big Idea: Design a pilot study where patients get access to an adapted high-service Rides to Wellness Program. Health care providers isolate a population of heavy Emergency Room users and the study can evaluate health outcomes over a period of time compared to a control group. Another benefit of the study would to quantify time and monetary costs associated with health care providers making transportation arrangements for patients. If NEOPT can quantify the cost, they can work it into the cost models provided to MCCoG for reimbursement.

### **6.2 Recommendations for NEOPT/R2W**

Any growth strategies beyond the status quo will further tax limited time and monetary resources available at NEOPT. Recommendations should be implemented as funding becomes available and prioritized by the most benefit for the least cost. This document should provide a roadmap for the CCNO leadership to make those decisions. The program’s unique nature will make it attractive to funding agencies if it continues to evolve and trail-blaze.

- In the immediate, pursue growth that leverages other agency resources to accomplish goals collaboratively. For example: coordinate with CHD or Greater Oregon Behavioral Health Organization (GOBHI), et al. to organize a children’s health day and transport children and parents to clinics; or create sitting stakeholder collaborative group.
- In the short-term, use this study to pursue funding to evolve and grow program based on program priorities.
- In the long-term, CCNO should pursue revenue streams from clinics and health care providers. Creating robust communication infrastructure, educational materials, and improving data analysis and collection will make a more compelling case for investment.

Use new funding to build the most "marketable" program possible in order to secure long-term funding and program sustainability. Possibilities include, but are not limited to:

- Expanding service to Baker and Wallowa counties.
- Expanding data collection, precision, and analytical tools (programmers, data scientists, etc).
- Expanding data collection with new equipment, additional sensors, etc.
- Creating a partnership with the St. Alphonsus focused on their Baker City location.
- Increasing call center staff and implement ride confirmation system (either automated calling, person calls, or mailed fliers, or combination).
- Creating and purchasing uniforms for R2W drivers.
- Dedicating one staff member to administrate, organize, and educate about medical transit and R2W at least 20 hours/week, separate from Frank Thomas' responsibilities.
- Creating an online scheduling system – ranging in complexity from a simple Google Form to a mobile application.
- Establishing sitting sub-committee(s) to meet in regular intervals to discuss R2W, marketing of the program, and implementation at the clinic-level, which would be composed of health care providers and hospital administration staff.
- Developing information resources, in coordination with GRH, that could be uploaded to GRH's employee intranet services.
- Establishing communication/information dissemination system utilizing Community Health Workers and other local health care providers.
  - Identify one champion/advocate at each clinic that is the point person for transit. At GRH facilities, this will likely be CHWs or Clinic Managers.
- Purchasing car seats, training drivers to buckle correctly (parents can't hold kids and buckle them all), and purchasing a federal transit funding-free vehicle to mitigate liability barriers. This makes family visits more practical.
- Implementing a marketing and information blitz, including but not limited to: mixed media advertising, YouTube video(s), population-specific targeted mailed fliers, in-person visits from NEOPT staff with clinic front-office staff.

