Ride to Care Ambulance Service Capacity Challenges: Interview Findings

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Our mission is to link accessible, responsive transportation alternatives with individual and community needs.

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Executive Summary

Ride to Care is Health Share of Oregon's non-emergency transportation program that provides non-emergency ambulance service as part of the Medicaid transportation benefit through the Oregon Health Plan. The tri-county Portland region and the Ride to Care benefit program have been experiencing challenges with delayed or unavailable ambulances for many years. Challenges in workforce for staffing ambulances, number of vehicles, and rising costs compound the problem (Zavadsky and Luckritz, 2023). This document reports findings from twenty-two confidential semi-structured stakeholder interviews. Ride Connection conducted the interviews in the winter of 2023 to 2024 about ambulance capacity challenges then shared a follow-up survey on proposed strategies to the same group. Analysts asked stakeholders to confirm and expand our understanding of challenges in providing non-emergency medical transportation (NEMT) ambulance rides in the Ride to Care brokerage network. The interviews are part of Ride Connection's information gathering process on how to best increase on-time performance of ambulance service in our role as brokerage network manager.

Most teams we spoke with agreed that Ride to Care ambulance capacity is affected by a limited number of ambulance providers, a limited number of ambulances, and people to staff them. Many confirmed that ambulance delays often relate to communication challenges. Some stakeholder teams felt county-level regulations that require ambulance use instead of stretcher vehicles or limit NEMT providers through exclusive ambulance EMS service area contracts may be contributing factors. At the state level, we heard that EMS rules that affect county ambulance service area plans may need clarification related to NEMT. Stakeholders shared inconsistencies in NEMT rules for coordinated care and fee for service brokerages also adds confusion.

Stakeholders emphasized that Medicaid and other payers have not covered the costs of ambulance services in the past, contributing to the low number of NEMT ambulance providers in the region. Both hospitals and ambulance providers face difficult choices of providing services that may not be compensated by various health insurance payers. The region's hospitals, clinics, and brokerages are competing for a set of limited ambulance providers. When hospitals all discharge people from ER or acute care beds in the same window of time, this puts pressure on the limited network of providers, contributing to delays and vague estimated time of arrival windows. While this is beyond Ride to Care's control, strategies to address ambulance capacity must consider it. Broad Estimated Times of Arrival (ETAs) make getting a patient ready on time difficult.

We also learned that organizations have been making resource adjustments, increasing communication, developing partnerships, establishing programs and changing policies to address this situation. We make recommendations about how to build on these efforts and report on survey results about these strategies.

Acknowledgements

We would not be able to understand the depth and breadth of the ambulance capacity challenge without talking to people who have expertise in it. We extend our deep gratitude and appreciation to everyone who was involved in the interview process for your tireless commitment to those you serve. We truly cannot problem-solve without you. Ride Connection did not receive approval to share all staff and organization names of those who participated in the process. We are therefore retaining that confidentiality.

Introduction: Why We Analyzed Ambulance Capacity

The Ride to Care partnership has been experiencing limited ambulance capacity, meaning delayed trips or unavailable providers, in its provision of Non-Emergency Medical Transportation (NEMT) for at least the last five years. Health Share of Oregon, CareOregon, and Ride Connection wanted to invest in addressing this challenge beyond existing partnership efforts. The Ride to Care partnership is one of sixteen (16) NEMT brokerages in Oregon responsible for serving clients who have Medicaid health insurance coverage (OHA, Oregon Health Plan, CCOs).The Medicaid transportation benefit includes transport in ambulances and stretcher cars. Health Share of Oregon, a coordinated care organization (CCO), delegates to CareOregon to manage and provide the NEMT benefit to its members. CareOregon deviated from the traditional and historical structure of a single brokerage agency responsible for managing the NEMT Medicaid benefit programs. In 2020, CareOregon contracted with three organizations to form a collaborative framework model, prioritizing partnership and operational expertise of each organization to support the Ride to Care benefit program. Ride Connection is contracted for network management and administration of member reimbursement and public transit fare distribution. The two additional partners, ComTrans and Transdev, are contracted with CareOregon to provide dispatch, scheduling (same day and future) of all types of NEMT services and rides. CareOregon retains oversight of the Ride to Care program related to Health Share of Oregon's Medicaid and Oregon Health Plan regulatory obligations. All four partner entities collaborate to share decision making on NEMT benefit services and operations beyond each partner's contracted role.

In 2023, Ride Connection explored three sources of information to understand the ambulance capacity challenge further.

1. A consultant explored quantitative ambulance trip data from 2022 to understand the degree to which ambulance rides are delayed or unavailable.
2. An analyst conducted a literature scan to explore what interventions are already happening in NEMT and EMS to address limited ambulance capacity.
3. Analysts interviewed stakeholders with knowledge of, or are affected by, limited ambulance capacity.

Partners will use the outcomes from these three information sources to make decisions in Ride to Care to address limited ambulance capacity. This report focuses on interview results. The literature scan and the quantitative data informed the strategies in the Service Recommendations section of this report.

Who We Spoke To

Analysts conducted twenty-two interviews with forty-four people who have knowledge about ambulance capacity challenges affecting the Ride to Care benefit program. Analysts interviewed representatives from organizations in four of the five groups, as described below

1. Direct Ride to Care brokerage network stakeholders – This group includes people who directly contribute to requesting, providing, and scheduling ambulance rides for Health Share members in Ride to Care. Examples include staff at four hospitals and two skilled nursing facilities, schedulers and dispatch, four ambulance transportation service providers in the network, and CareOregon employees who oversee the NEMT partnership (“direct” stakeholders).
2. Brokerages – We spoke with representatives from two brokerages, also in contract with CareOregon, who send people to the tri-county area who understand ambulance capacity challenges (“brokerages”).
3. Government Agency staff – The third group included staff at government agencies at the state, county, and city levels, that understand regulations related to ambulances (“government stakeholders”).
4. Workforce - A fourth group involved individuals at schools who train people to become EMTs and Paramedics (“workforce stakeholders”).

We sought representation from a fifth group, advocates. We wanted to hear from people who receive ambulance rides as self-advocates or organizations that advocate for them. We contacted eight organizations and were unable to locate people who could speak specifically to NEMT ambulance rides. For more information, see Appendix 1. In May of 2024 analysts released a working draft version of this report, accompanied by a working draft version of an online report summary story map. Through emails and a survey at the end of the story map, analysts requested input on the proposed strategies resulting from the interview process. The results of the survey are at the end of this final report and in an updated version of the online story map.

How We Summarized Feedback in This Report

This report is organized by the questions we asked the four stakeholder groups that will inform Ride to Care partnership decisions to improve ambulance capacity in the NEMT benefit program. Some sections merge related questions different groups answered. Each section lists a count of the number of stakeholder teams who agreed, disagreed, or provided clarifications on specific information. Each interview team is named with a numerical code, e.g. “1, 2, 3,” to protect confidentiality. Individual quotes do not list a

specific interview code as readers within Ride to Care could feasibly read multiple quotes by the same team to easily identify an organization. Instead, multiple codes are listed together, and sample quotes are shared from one or more of those teams, following the summary.

Definitions

- **Ambulance:** "Ambulance" or "ambulance vehicle" is defined in Oregon's Emergency Medical Services (EMS) as "any privately or publicly owned motor vehicle, aircraft, or watercraft that is regularly provided or offered to be provided for the emergency transportation of persons who are ill or injured or who have disabilities." (333-250-0205, see also 333-260-0010)**.** In NEMT it's described as "transporting a client via ambulance is required when a medical facility or provider states the client's medical condition requires the presence of a health care professional during the emergency or non-emergency transport. This includes neonatal transports... (3) Brokerages shall provide ambulance or stretcher transports with a medical technician when: (a) A client's medical condition requires a stretcher; (b) The length of transport would require a personal care attendant; and (c) The client does not have an attendant who can assist with personal care during the ride." (410-136-3160)
- **Ambulance Service: "…** Means any individual, partnership, corporation, association, governmental agency or other entity that holds a Division-issued ambulance service license to provide emergency and non-emergency care and transportation to sick, injured or disabled persons." (333-260-0010).
- **Ambulance Service Area (ASA):** "…A geographic area which is served by one ambulance service provider, and may include all or a portion of a county, or all or portions of two or more contiguous counties." (333-260-0000)
- **Ambulance Service Area Plan: "…**Is a written document, which outlines the process for establishing a county emergency medical services system. The ASA Plan addresses the need for and coordination of ambulance services by establishing ambulance service areas for the entire county and by meeting the requirements outlined in OAR 333-260." (OHA FAQ).
- **Basic Life Support (BLS), Advanced Life Support (ALS):** Basic and Advanced Life Support are scope of practice levels used by the EMS. "Basic Life Support – the maximum functions that may be assigned to an EMR or EMT in accordance with OAR 847-035-0030; Advanced life support – the maximum functions that may be assigned to an AEMT, EMT-Intermediate or Paramedic in accordance with OAR 847-035-0030" (OAR 333-255-0070).
- **Brokerage:** "…A governmental transportation brokerage (local unit of government), or other entity, enrolled by and contracted with the Authority to arrange rides and pay subcontractors for NEMT services" (410-136-3000)
- **Coordinated Care Organization: "**A coordinated care organization is a network of all types of health care providers (physical health care, addictions and mental health care) who have agreed to work in their local communities to serve people who

receive health care coverage under the Oregon Health Plan (Medicaid)...there are 16 CCOs operating in communities around Oregon." (OHA Health Policy and Analytics, see also 410-141-3500, 410-136-3010**)**

- **Fee for Service:** "(1) The Authority shall provide non-emergent medical transportation (NEMT) for eligible clients who receive their Oregon Health Plan (OHP) covered medical services on a fee-for-service basis or are clients enrolled in coordinated care organizations (CCO). The Authority shall discontinue providing this service to a client enrolled in a CCO after the date the client is enrolled in a CCO. The CCO shall provide and coordinate the service to their enrollees on and after the date of the client's enrollment in the CCO pursuant to section (2) of this rule." (410-136-3000)
- **Non-Emergent Medical Transportation Services (NEMT):** "…Means transportation to or from a source of covered service, that does not involve a sudden, unexpected occurrence which creates a medical crisis requiring emergency medical services as defined in OAR 410-120-0000 and requiring immediate transportation to a site, usually a hospital, where appropriate emergency medical care is available." (410-136-3000)
- **"On time" definition:** "Total number of rides where driver arrived 15 minutes or more past scheduled pick-up time" (NEMT Technical Specifications, OHA). The OHA NEMT Technical Specifications document does not describe requested or promised times or variations of "lateness" by trip type or mode e.g. ambulance.
- **Out of Service Area (Out of Area):** ""Service area" means the geographic area within which the Regional Brokerage agreed under contract with the Authority to provide Rides as a service through the contractor's Call Center." (410-136-3000)
- **Stretcher:** Multiple state regulations mention stretchers, or the medical equipment also called a gurney, for transporting people in a reclined or prone position. Here is one example mentioned under Ground Ambulance Vehicle Equipment Requirements: "q) a wheeled stretcher is A) capable of securely fastening to the ambulance body; B) Having restraining devices for the legs, pelvis, torso and two over the shoulder straps; C) Containing a standard size foam mattress with a fluid resistance cover; and D) Capable of having the head of the stretcher tilted upwards to a 60-degree semi-sitting position" (OAR 333-255-0072 see also ORS 682.075).
- **Stretcher car:** "Stretcher car transportation is transportation provided by a vehicle that can transport a client in a prone or supine position. The client does not require any medical care or observation en route, but cannot be transported in a vehicle where they must sit erect. The client may have medical equipment that must be transported with them." (DMAP Brokerage Operations Manual, 2013). Counties have similar definitions. For example, in Washington County it's defined as "any vehicle that is not licensed as an ambulance but is configured and equipped to carry a patient on a stretcher in a supine, recumbent, or reclining position" (Code of Ordinances Title 8, Chapter 8.32.030 TT).

Data Limitations

One purpose of gathering qualitative data is to further understand how people are experiencing and understanding what contributes to late or unavailable non-emergency ambulance rides. What we learned is that people's understanding, including our own, is incomplete and sometimes misinformed. This is often the case in complex systems where multiple decision makers affect outcomes. We firmly stand behind the integrity of the insights these interviews offer, as they afford a more vivid and nuanced understanding of the challenges faced in NEMT ambulance services. Even amidst potential misunderstandings, the picture painted is clearer and more comprehensive than before. We advise any organization engaging with this data to supplement it with additional sources, ensuring a well-rounded foundation for informed decision-making.

During our interviews we discovered many people, including Ride Connection analysts, would make mistakes in explaining things, which we call 'information drift'. Here are a few examples:

- The interview team sent out an appendix of local policies containing errors such applying 911 emergency medical service ambulance staffing requirements to non-emergency ambulances. Their policies were not the same for both.
- Interview participants would say "stretcher" when they meant "ambulance," or they would say "ambulance" and then talk about stretcher car rides. The two are regulated and licensed differently and not everyone was aware.
- Interview participants sometimes incorrectly described what rides are and are not covered by Medicaid based on confusion related to other insurance payers.
- Interview participants missed connections. For example, one participant described NEMT as existing outside of the scope of county level Ambulance Service Area (ASA) plans, which are centered on Emergency Medical Service, or 911. Yet, ASAs are required to cover "non-emergency transfers and inter-facility transfers... and each county may designate one or more non-emergency ambulance providers for each ASA" (333-260-0000).

Further limitations include: stakeholders define terms differently; the interview team did not provide a definition of "late ambulances" during interviews; the team did not interview everyone in Ride to Care benefit program's transportation network; interviewed representatives of an organization may have different perspectives from fellow staff members; analysts may have misinterpreted people's words in the analysis; participants may have shared information about another brokerage thinking it was a Ride to Care situation; and what analysts thought was a priority may not match interviewed participant's priorities.

Square brackets are used to indicate words missing from a quote based on the interviewer's notes. We've retained errors to be as close to the original quote as possible; they are marked with an asterisk and have a corrected version in square parentheses after the sentence* **[example in bold].**

Regulations that Affect NEMT Ambulance Service

Non-Emergency Medical Transportation is administered by multiple actors that must follow intersecting, at times overlapping or unaligned, regulations at the federal, state, and local levels. This section describes regulatory examples as context for the capacity to provide non-emergency ambulance service in Ride to Care. Local policies on stretcher cars are included because some counties allow their use in NEMT.

Federal Regulations

Medicaid - The NEMT benefit is part of the federal Medicaid health insurance program, see federal code of regulations Title 42, Chapter IV, Subchapter C Medical Assistance Programs. The 2023 Coverage guide from the Centers for Medicare and Medicaid Services (CMS) describes the benefit:

> "*The Medicaid transportation assurance encompasses both emergency transportation and non-emergency medical transportation (NEMT) when necessary to enable the beneficiary to access a covered service. The assurance of transportation is not a requirement for states to pay for a ride, but rather a requirement to make certain that every Medicaid beneficiary who has no other means of transportation has access to transportation needed to receive covered care (CMS, 2023).*"

The Medicaid program is jointly funded by federal and state governments. The federal government matches state funds at a specific rate to cover services (Rudiowitz, 2014). Medicaid determines what is and is not covered, and at what amount, for every service. Each state has its own plan with flexibility about how the state administers its program, including who is eligible for some benefits (CBPP, 2020).

State Regulations

Oregon Health Plan- In Oregon, Medicaid benefits, including NEMT, are part of the Oregon Health Plan (OHP), which is managed by the Oregon Health Authority. OHP/Medicaid covers both emergency and non-emergency ambulance rides; this report focuses on non-emergency ride service. Managed care organizations, called Coordinated Care Organizations (CCOs), are private plans that Medicaid participants can enroll in to receive their benefits based on what region of the state they live in (OHA, Healthy Policy and Analytics, Coordinated Care). CCOs are focused on prevention and are responsible for tracking health outcomes for their clients. Those not enrolled in a CCO plan, for example if they move regions or lose coverage and then re-enrolled, are served directly by the Oregon Health Authority in a fee-for-service plan. Example state regulations and administrative rules that are related to Medicaid include ORS 413.042, ORS 414.065, ORS Chapter 414, and 410-141-3500.

NEMT Brokerages – Medical rides for members of CCO plans are managed by a transportation brokerage. Rules that apply to these rides are in OAR 410-141-3920-410-141-3965. If the non-emergency ride is for someone who is in a fee for service plan, which is directly in contract with the Oregon Health Authority instead of a CCO, the service follows a different set of similar, related rules: OAR 410-136-3000 - 410-136-3360. There are also rules about how the transportation benefit is applied, for example brokerages can arrange and pay for an eligible client who has had a change in condition, resulting in a new service setting that has a higher or lower level of care (see OAR 410-136-3140). They do not cover trips between the same type of facility (e.g. hospital to hospital, foster care to foster care) or trips for diagnostics when the patient returns to the same admitting hospital within the first 24 hours of admission (see OAR 410-136-3140). See CareOregon's 2024 NEMT Brokerage Manual.

Finances - CCOs have one budget that grows at a fixed rate they use to provide all forms of covered services (OHA, Office of Health Analytics, OHP Rate Development). The budget they receive from OHA to cover all services is called a capitated rate. The capitation rates are a predetermined monthly payment to CCOs based on OHP client eligibility status and enrollment (OHA, Office of Health Analytics, OHP Rate Development). Federal and state regulations govern the process and methods of calculating capitation rates, which are developed annually. Note that ambulance providers set their own rates in the Ride to Care program's transportation network, regardless of what Medicaid covers for a service. In fee for service brokerages, providers can only receive the set amount determined by Medicaid. In the Ride to Care benefit program, it can be above that amount. For more on brokerage reimbursements to subcontractors see recently updated OAR 410-136-3220 here. For OHP billing information about emergency ambulances, which isn't covered in this report, see OAR 410-136-3370 and 410-136-3371.

Emergency Medical Services – Medicaid will only cover ambulance trips from licensed providers (see Medicaid FAQs). Ambulance service provision, even if it's for non-emergency rides, requires licensed ambulances. Licensing is regulated by the Public Health Division of the Oregon Health Authority, and the Emergency Medical Services (EMS) through ORS 682.017, 682.068, and 682.991. Applicable rules for understanding how non-emergency ambulance (NEA) services are affected by EMS rules include OAR Chapter 333 Division 200 Emergency Medical Services and Systems, Division 250 Ambulance Service Licensing, Division 255 Ambulance Vehicle Licensing, and Division 260 for County Ambulance Service Plans, e.g. 333-250-0200 333-255-0060 and 333-260-0000. There are additional regulations not described here related to insurance, financial requirements, medical care specifications, scope of practice (OAR 847-05-

0030), training, and ongoing professional development of emergency medical service providers among other areas.

County and City Regulations

Counties and cities can add more regulatory requirements on ambulance service provision beyond the state policy floor, see ORS 682.031, 682.062, 682.063 and OAR 333-260-0000. Counties are required to have Ambulance Service Area Plans and address non-emergency ambulance transportation within them (See (5) "Ambulance Service Provider" in the Definitions of 333-260-0010) (333-260-0000). The Ride to Care benefit program's service area includes people residing in Clackamas, Multnomah, and Washington counties. Ambulance service providers in the Ride to Care program's transportation network must follow relevant state brokerage rules through Health Share, the CCO, and because they are licensed ambulance providers, they must also follow relevant state EMS and county Ambulance-related rules. See Appendix 2 for a sample table of different county level policies we sent to interview participants.

Clackamas County – The Clackamas County Public Health Division provides regulatory oversight for Emergency Medical Services. See Chapter 10.01 of their Title 10 on Franchises for information about their Ambulance Service Plan. The plan includes three Ambulance Service Areas. Their contracted EMS provider declined to provide NEMT. The County currently does not grant exclusive market rights for non-emergency ambulance service (see 10.01.050 Section B) which means multiple providers can compete for that market. The County's plan allows stretcher car use. See further details in their 2019-2022 Strategic Plan. They also have the Mobile Integrated Health Community Paramedic Program.

Multnomah County – The Multnomah County Health Department provides regulatory oversight for Emergency Medical Services. See their Ordinances 1238, of Multnomah County Code (MCC) Chapter 21 and their EMS Administrative Rules. The most recently updated version went into effect on January 1, 2022. The establishes one Emergency Ambulance Service Area. Their contracted EMS provider declined to provide NEMT. The County's Ambulance Service Plan (page 7) describes that multiple providers can provide non-emergency services beyond one contracted private ambulance company that responds to 911 calls. Stretcher cars are not regulated or licensed by the County beyond what calls they are prohibited from performing; there is limited allowance for their use (See). The County designed their limitations about when a stretcher car is permitted or not based on ORS 442.015's definition of a "health care facility". Multnomah County requires that an ambulance be used whenever someone is being transported on a gurney between health care facilities. In an FAQ explainer from 2021, the County explains:

An ambulance is required *“B. When a patient on a stretcher requires an interfacility transfer or pre-arranged non-emergency transfer from one health facility to another health care facility, C. Any time a patient requires medical observation, assessment, care or monitoring during transportation, such as when the transportation provider must administer oxygen, monitor an IV, or other medical devices” (page 1,* FAQ*).*

"For example, a stretcher car can be used to transport a patient from a hospital to their assisted living facility or private residence so long as the patient does not require medical observation, assessment, care or monitoring during transport. A stretcher car may also be used to transport a patient from their home (e.g. private residence, assisted living facility) to an outpatient dialysis center or to other medical appointments so long as the patient does not require medical observation, assessment, care or monitoring during transport... If the patient is transported on a stretcher for any reason, and going to and from a health care facility (as defined in our rules), then they must be transported in an ambulance (page 2, FAQ*)."*

While state NEMT rules pertaining to OHP/Medicaid allow stretcher cars for transporting members between health facilities if an ambulance is not medically necessary, in Multnomah County they are restricted. Ride to Care providers must follow all local rules beyond state and federal ones.

Washington County – The Washington County Department of Health and Human Services provides regulatory oversight for Emergency Medical Services. See Washington County Code 8.32: Emergency Medical & Transportation Services Ordinance, Administrative Rules, Ambulance Service Area Plan and the EMS Strategic Plan 2022-2024 for more information. The County has one Ambulance Service Area and one contracted EMS provider serving it. The county does not currently restrict market rights for non-emergency providers, meaning that they can compete for the market (see page 30 of the Ambulance Service Area Plan). NEMT providers must be licensed, including those who are non-emergency ambulance providers (see 8.32.060). Stretcher cars are prohibited for any reason in the county, as 8.32.420 of their Code of Ordinances details.

“No applicant or licensee, applicant or licensee's employee holding a license issued under Section 8.32.070 or any other person doing business as defined herein shall... H. Provide regular supine or recumbent transport by any vehicle other than an ambulance. This prohibition shall include stretcher cars which are defined as motor vehicles for hire constructed and

equipped or regularly provided for nonemergency transportation of persons in a supine or recumbent position for reasons related to health conditions in which there is no one in attendance with the person except the driver."

Neighboring County Regulation Intersections – Ambulance providers are required to be licensed in specific counties beyond the state licensing process if they plan to operate there. The regulations and licensing apply to where the transport originates. For example, if a Health Share member were to need a ride in a reclined position, without medical intervention, starting in Clackamas County where stretchers are allowed, if the destination is in Washington County, the provider can still use a stretcher car because the transport originates in a county where stretcher cars are allowed. Some counties have an exclusive contract with the emergency medical service provider that gives them exclusive rights to non-emergency medical transportation trips and other providers cannot compete in that county. For example, Marion county states on page 7 section B of their ASA plan "The Board has assigned exclusive franchises for both emergency and non-emergency ambulance transport to an Ambulance Service Provider in each ASA. ASA providers shall have the right of first refusal for nonemergency transfers and inter-facility transfers" (Oregon ASA Plan, Marion County).

City of Portland –The City of Portland's Bureau of Transportation licenses stretchers and wheelchair vehicles for hire transport - just like a taxi. The city does not regulate ambulances. However, some ambulance providers also have stretcher vehicles in their fleet and therefore must pay attention to separate stretcher regulations which we do not detail in full here, see Portland City Code Title 16 Vehicles and Traffic, Chapter 16.40 Private For-Hire Transportation Regulations, NEMT services begins at 16.40.700.

Findings Organized by Question

Section 1: How people request non-emergency ambulance service

What we asked: What are the steps involved with creating and completing an ambulance trip for a Medicaid client in the Ride to Care NEMT brokerage?

Who we asked: Question 1 for Ride to Care direct stakeholders, 12 interview teams

Why we asked this: We wanted to know a) is there an area of this challenge where there's high agreement and understanding despite the complexity, and b) why might people order a ride outside the brokerage?

Background on this question: From a literature scan on barriers to addressing ambulance delays in the EMS and NEMT ecosystems, the challenge seemed complex and difficult to navigate at every stage. We had heard anecdotes that organizations were going outside the brokerage and that there were multiple ways to request an ambulance ride. We learned from a consultant who analyzed 2022 Ride to Care ambulance trip data that the number of ALS ambulance trips in our network seemed low in their experience, relative to the size of the population we are serving (Cambridge, 2023).

Eleven out of the twelve stakeholders in the direct Ride to Care program's network who answered this question shared the protocol they follow using the standard method of calling the Ride to Care program to book an ambulance trip (1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12). One interview of a transportation provider noted that they have established a different process from what others follow where they take calls directly from Ride to Care and then complete their own scheduling with facilities, rather than Ride to Care providing the scheduling. This was an arrangement developed during the height of the Covid19 emergency based on requests from hospitals and that specific provider. This ambulance provider hand enters data into trip scheduling software after the ride has been completed.

More than half of the interview teams responding to this question, or seven of twelve, explained situations when people go outside the Ride to Care benefit program's network to order a ride as described below (1, 2, 3, 5, 6, 9, 10).

- **405-T –** Several interviewed groups described the 405-T process with consistency (1, 2, 5, 6, 7). The 405T process is a direct billing of the transportation service using a form to be reimbursed by OHA. It is rarely used in the Ride to Care program. The 405-T is used on transport that may be processed by the CCO and health plans rather than administered by the Ride to Care Program. It is regularly used for open card, fee for service brokerages. The 405-T is used by the CCO and health plans in (1) extremely complex medical cases that require out of state medical reviews to transfer someone to a specialty

hospital and (2) in cases involving organ transplants. This is because Oregon lost its specialty hospitals that can handle these cases; the nearest locations are in Stanford and Seattle.

- **Direct Call to Transportation Providers** – Several interviewed groups described when people call transportation providers directly to order a ride (2, 3, 4, 9). If dispatch at Ride to Care indicates there isn't an available provider, or a provider's ETA is later than a facility can make work, particularly with time sensitive discharges, a facility will call a transportation provider directly to arrange an ambulance transport instead of Ride to Care. *"Rarely, sometimes a hospital agrees to let a contracted [staged] ambulance be used for an NEMT ride outside the brokerage. Hospitals will sometimes say 'we will pay for this ambulance ride' and then later refuse to pay for it; when it's done outside the brokerage we can't get reimbursed even if it's a patient with Medicaid benefits."*

Two interviewed groups indicated that this happens as a mistake rather than an intentional way to get a ride outside the Ride to Care program's network (2,9). Two other groups shared that this is a more common occurrence with another brokerage in the region and happens less frequently in the Ride to Care program (3, 6). One of the groups interviewed (6) indicated that this is rare in the Ride to Care program; the others did not specify how often this happens (4, 5, 10, 11).

This question had high agreement, indicating consistent shared understanding among all twelve teams. Participants noted multiple different details from their specific roles and perspectives in the program network that we briefly summarize here. For example, ambulance transportation providers talked about precursors to being able to provide rides to in the Ride to Care program. Examples included being in good standing with the brokerage with up-to-date credentials; facilities discussed identifying what a patient's trip needs are in relation to their medical condition such as specific equipment; and dispatch describing working with facilities to determine the level of service needed e.g. stretcher, BLS, ALS or Critical Care Transport (CCT); schedulers discussing Medicaid eligibility, destination, and patient needs.

Section 2: Ambulance capacity limiting factors in Ride to Care

What we asked: What is accurate, inaccurate, missing from core areas limiting ambulance capacity in the brokerage? The core areas include challenges with technology supporting communication about rides within the brokerage (e.g. manual entry Software), limited workforce (paramedics, EMTs), limited number of ambulance companies and vehicles in the brokerage, policy inconsistencies/confusion on ambulance staffing/NEMT licensing, and policy confusion on when ambulances are needed for various client conditions. OR What is similar/different in your NEMT brokerage?

Who we asked: Twenty (20) interview teams answered this question. Question 2 for Ride to Care stakeholders, Question 1 for government agency staff.

Why we asked this: We wanted to identify existing barriers and understand how people perceive the problem.

Background on this question: We identified draft barriers and created a draft visual concept diagram (see image 1 below) from a literature scan. We chose a core set of barriers and wanted stakeholders to help us clarify and build the map out that's relevant to our local Ride to Care context.

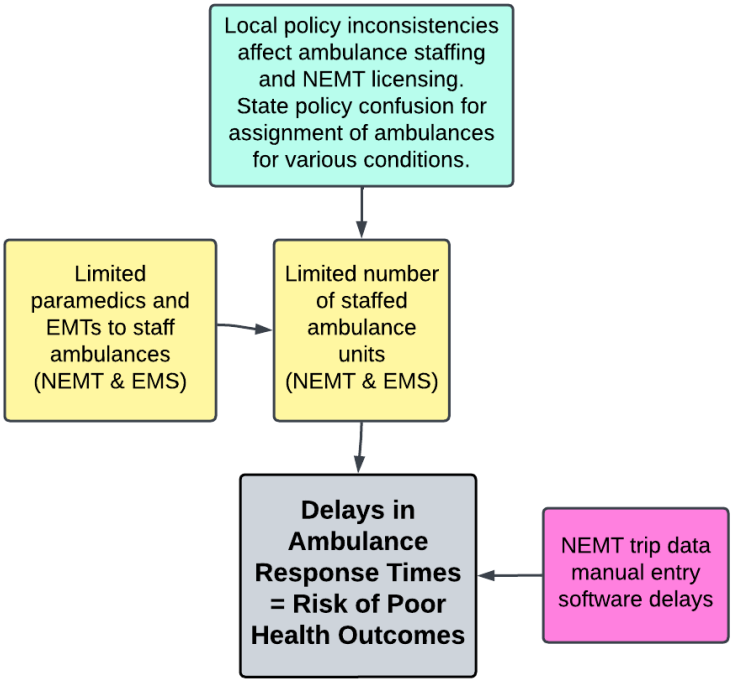

Image 1. Draft diagram of ambulance capacity barriers based on a literature scan we shared in interviews.

Agreement With Core Elements of the Diagram

Twenty interviewed teams reviewed a diagram of major contributors to non-emergency ambulance capacity limits affecting the Ride to Care benefit program. Analysts created the diagram based on a literature scan. The majority, fifteen out of twenty, of interviewed groups felt the existing diagram of challenges had accuracies with gaps or clarifications needed (1, 2, 3, 4, 5, 6, 7, 8, 12, 13, 15, 16, 17, 19, 20). Suggestions for clarifications or gaps to the existing diagram are described in the next sub-section in order of most mentioned to least.

A few people emphasized issues that others brought up in passing (1,5,7). They may understand a specific aspect of the system that they prioritize, and it may not be understood or prioritized in the same way as others, as described below.

- **Secure transport policy –** *"There are not consistent policies for NEMT ambulances related to secure transport."*
- **Hospitals not understanding what ambulance rides are covered or not –** *"Hospitals ask R2C to take [a patient] from hospital to an appointment, interfacility, that's not a covered service. If they are changing the level of care, if a small hospital and then moving to a big hospital, that's covered. Bed balancing is not covered; 2 people in 1... that's not covered. Leaving hospital, going to appointment, then coming back to hospital – that's not covered. And we are asked weekly to do trips that are not covered. No matter how many times we talk about it...."* (see 410-136-3140**)**
- **Hospitals asking for ambulances when they aren't needed –** *"If a wheelchair is needed but an ambulance is faster then they bump it up. Rarely see a bump down of level of service. Our crew says 'I can't provide this level of service'...We see a fair number of bump ups, have added stretcher transports in specific counties. Lack of consistent language - stretcher is seen as BLS or stretcher car, and then care management team don't have full info [that stretcher cars are not allowed in some counties]. We are guiding those conversations based on state and county regulations. That's confusing for care managers at hospitals."*
- **Dispatch staff understanding ride parameters –** *"If people are not trained in understanding the geography in terms of time, distance, and traffic patterns, dispatch may mis-assign trip times."*

Clarifications of Diagram Elements

Clarifications and gaps brought up by more than one stakeholder team are described here.

Policy or regulations (Green box) – Eleven of twenty of participant teams agreed that various policies can be confusing in relation to ambulance services in the non-emergency medical space or add barriers in either effort or costs due to the level of complexity (1, 2, 4, 6, 7, 8, 9, 13, 17, 19, 20). Specific policy types are expanded on here.

County regulations – The inconsistencies at county-level ambulance service area plans, related administrative rules, or regulations affecting non-emergency ambulance capacity were the most frequently commented on by ten of twenty interview teams, or half (4, 5, 6, 8, 9, 13, 14, 16, 19, 20).

The two main areas of county regulations that participants requested more alignment on are 1) where stretcher cars can and cannot be used for people who do not need medical intervention and have to be transported lying down, and 2) revisiting counties that have exclusive contracts where 911 providers also are responsible for NEMT calls yet must prioritize their 911 obligation. Closed ASAs that do not allow NEMT providers from outside the ASA to operate there affect transport time, particularly for out-of-area clients. Staff of two agencies provided further explanation as follows (19, 20).

> *"The other thing that can be confusing is that OHA pushes the authority down to each county on ambulance service. It depends on how each county chooses to regulate ambulance service, whether assign to each fire agency and they have control of their own area, or one large ambulance service area, it varies by county. If they decide to fold NEMT into that or even interfacility transfers through a single provider contract [exclusivity], or if it's an open market, it depends on each county."*

> *"The state's ability to affect local county policies is limited, [they] can set a baseline regulation as to what the public's minimum expectation for an ambulance provider are. The [state] NEMT rules - those are about minimum standards for brokerages and billing."*

State regulations – The second most commented regulation area, with four of twenty stakeholders was about state level inconsistencies between fee for service brokerages (FFS) and coordinated care organization (CCO) brokerages (4, 7, 17, 20). *"Just like each county can set its own regulations for ambulance service beyond the state floor, each of the sixteen brokerages can set their policies about how they conduct NEMT including ambulance rides."* Participants agreed with local policy inconsistencies and state policy confusion. *"A box could be added to the diagram that what happens from brokerage to brokerage might affect things."*

City regulations – City level licensing requirements came up in three of the twenty interviews (2, 3, 4) centered around costs and extra burdens for providers even though the City of Portland does not regulate ambulances. A concern is that additional city-level licensing requirements for non-emergency transportation still affects ambulance rides. Some ambulance providers also provide stretcher cars and wheelchair rides and therefore have multiple licensing costs.

> *"Every year PBOT charges a fee per medical personnel and per ambulance* **[stretcher]** or wheelchair. We may spend everywhere from $20k to $30k a month on these costs. If a small business with 5-6 wheelchairs with $1200 a year another cost. If we drop off in City of Portland, then we have to have a license with the City. Cost of licensing is a barrier, not just inconsistencies."*

Workforce Capacity and Limited Ambulance Vehicles (yellow boxes) – Ten of twenty, or half, of interviewed teams agreed that workforce or limited ambulance vehicle barriers are challenges affecting Ride to Care ambulance service (2, 3, 5, 8, 9, 10, 11, 12, 15, 16). While workforce and ambulance vehicles could be considered resource limits affecting capacity, they were specific enough that we wanted input on them beyond the scenario of rising costs which is affecting everyone (Zavasky, M., 2023). Example variations in how stakeholders describe this are listed here by interviewed teams including one who shared this in response to a different question (6, 7, 8, 16, 19).

> *"The biggest barrier is the demand is greater than the supply... the obvious areas are #'s of paramedics, EMTs in the community, and that limits the number of staffed ambulances."*
>
> "*In 2020 our data revealed a 10-hour delay in ambulance rides, and we were at 96% capacity, so we could not wait".*
>
> *"People like to focus on the workforce crisis, that's a difficult thing to swallow, it's a workforce environment crisis. We have a robust number of EMTs and paramedics, they don't want to work in the environment for the pay they are being asked to work for. It's about a health care system crisis, especially when get into the levels of NEMT transports. It's like any other health care position, the job is difficult, physically demanding, the start-up costs are high to get an EMT vehicle and licensed in particular areas, those are probably areas that could be worked on."*

Five interview teams had mixed perspectives or uncertainty on either ambulances or staffing (3, 7, 9, 16, 19). For example: *"In the tri-county region there might be enough ambulances, the limiting factor is the staff. If we have enough staff, would it cover all NEMT? Not sure about that."* One government stakeholder agreed that workforce staffing is limited and disagreed that this is related to policy in the way the diagram was indicating. Several participants noted staffing needs in facilities other than ambulance providers which were not covered in the diagram.

Manual Notes Field in Transportation Trip Software (Pink box) – Nine, or almost half, of interviewed teams brought up communication issues that is part of ride scheduling, which uses software that relies on manual notes fields (1, 2, 3, 4, 5, 6, 12, 13, 19).

> *"...That manual entry is challenging. Part of that is the breakdown with new trip number is created each time a patient needs a transport due to delayed ETA, there's a new trip number and so one patient has multiple trip numbers, which confused our software and then [the Ride to Care program's] software to try and manage that."*

Gaps in the Diagram

Stakeholders shared where the diagram missed barriers that affect ambulance capacity.

Financial Limitations: Regulation-related service costs – This missing piece of the diagram was commented on the most after clarifications on regulations. Eleven of twenty interviewed teams brought up a gap in the diagram around funding of non-emergency ambulance rides, or how inadequate reimbursement for these services affects capacity (1, 2, 4, 5, 7, 8, 10, 13, 14, 16, 20). The most mentioned was the low level of reimbursement for fee for service NEMT e.g. Medicaid. As described above, participants also named the costs of City level fees for wheelchairs and medical personnel. Next were health insurance payer-related inconsistencies about ambulance

service coverage. This is a regional issue, not as relevant to the Ride to Care program, where the level of ambulance service and the type of ride affects reimbursement. For example, Medicaid covers a BLS for hospice transport, but Medicare does not. Concern about payments emerged in people's responses to the first question about why people contact ambulance providers directly in the first question. Here is an example from a hospital stakeholder.

> *"Sometimes if it's same day, we are requesting a 2 pm pickup and then at 2:30 the bedside nurse finds out the trip isn't even assigned, now we have to get this patient out at a particular time. That's happened a lot. It's true for the same day trips. We don't always know the luxury of when the patient is going to leave the next day. The 5pm hour in particular. There's no ride there, our staff are gone, the resource center leaves a great note with contact info. So, we call to see where the ride is and learn it hasn't even been assigned yet. If that happens then we find alternate transportation and (hospital name) pays for it. (Hospital name) cannot get reimbursed for that from Medicaid. Unless vendor can do the 405T process, which is supposed to be done before the ride (in Fee for Service). Another brokerage will now reimburse us if they cannot accommodate the ride when we needed it, but not Ride to Care."*

Bunched Discharges - Six groups or a quarter of the interviewed teams, brought up that a gap in the diagram is the challenge of bunched discharges (3, 7, 8, 10, 16, 19). This is where a concentrated number of hospital discharges within a narrow time frame temporarily affect ambulance capacity, as described below.

> *"What is missing from this diagram is controlled capacity (e.g. balancing demand with supply) - People want the trips for the same time of day... You might need 10 ambulances at 3pm M-F but only 1 at 1pm, that costs to run the business to staff for those busy hours. I have units every day waiting for calls to do business - and there's none at other times, I still have to pay that staff (ambulance transportation provider).***"**

> *"It's hard to discharge for pickup when they bunch up, the patient gets discharged at 11am, then pull it all together may take many hours before the patient is actually ready to go. Why not start that process the day before? Round 11 and then if good to go, then tick the box on discharge plan, scheduling ride (agency staff member)".*

Connected to the challenge bunched discharges, three of the twenty interviewed groups brought up that a gap in the diagram is limited acute care bed resources (8,10,16). This also reveals one nexus point between the EMS and NEMT ambulance capacity.

> *"The next critically ill patient who needs an acute care bed cannot be admitted until someone else is discharged, releasing that bed, they are affected, and this isn't in the current diagram (hospital stakeholder)."*

"Your (NEMT) work is extremely important - if you are not emptying the emergency rooms, then it creates a real issue for wall time where emergency calls then can't fill those beds. It's gotten worse over time (agency staff)."

This connects to what we heard about who is most impacted by ambulance delays shared in the next section.

Disagreement or No Input About the Diagram

Eight of twenty, or less than half of interviewed teams, had members that disagreed with, or could not speak to, one or more of the barriers in the diagram (3, 7, 9, 10, 11, 12, 14, 18). One government agency stakeholder team disagreed that staffing is related to policies as the box in the diagram indicates. One ambulance transportation provider felt that state policy isn't confusing. In one interview, brokerage representatives from another part of the state shared that they did not experience an ambulance capacity challenge because of the reliance on stretcher car vehicles instead of ambulances. Two interview groups included participants that did not agree on one or more components of ambulance capacity depicted in the diagram. Here are examples below.

"I am not sure the policy elements create limited staffing; we think a lot of this is bunched ride requests between 2 and 4pm, if we spread them out, we might have enough rigs."

"I don't believe that in the R2C network the lack of capacity is there currently. The larger system yes, but not in R2C, not as much.... Don't know how many staff members are needed. For Ride to Care, at most if we had 3 full running ambulances every day, they wouldn't stay active all day. Medicare is the biggest provider, the largest population for ambulance transportation. A lot of it is that they are elderly and cannot go by other means...A year ago staffed up when thought we had limited capacity, wasn't until [names strategy that would identify them], we can see that it's related to a change of process. It's not about more rigs or staffing, it's about the process shift with visible data and communication and then behavior."

In three interviews (10, 11 and 12), participants could not answer this question as they did not receive enough information from the Ride to Care program partners regarding why ambulance rides are delayed, rescheduled, or cannot be provided.

Most government agency stakeholders applied the diagram to a parallel ambulance capacity challenge in the EMS side and gave further input on that. EMS topics that relate to the nexus of NEMT and EMS are included here.

We revised the draft diagram of barriers to ambulance capacity shown at the beginning of this section based on the clarifications and gaps that stakeholders most frequently named. See the next page.

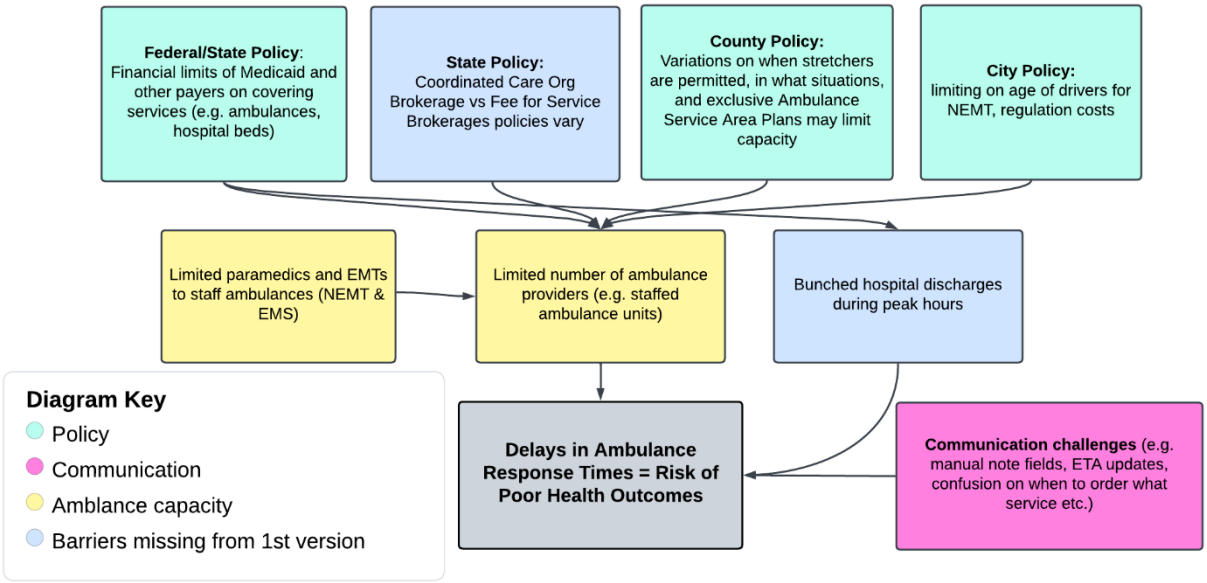

Image 2. Revised diagram of major barriers to on time and available ambulances in Ride to Care based on a literature scan and stakeholder interviews. Green policy and pink software boxes are clarified; blue boxes indicate new areas added that were gaps.

Section 3: Barriers to on-time ambulances & workforce retention

Who and what we asked:

- Twelve (12) Ride to Care & two (2) Brokerage Stakeholders answered: What are the top three barriers to on-time ambulance rides in Ride to Care, or your brokerage (respectively)?
- Two (2) Workforce Stakeholders answered: What, in your experience, are the top three barriers to training and retention of EMTs and Paramedics in the NEMT field?

Why we asked this: We wanted to know how people view on-time ambulance rides and barriers to them in NEMT. Was this the same issue, a different one, or related to, ambulance capacity?

Background on this question: In Ride to Care we have looked at requested and promised times for ambulance service, relative to all rides. Ambulance rides seem to encounter more delays for various reasons than other modes.

Barriers to On Time Ambulance Rides

We asked fourteen stakeholder teams about barriers to on-time ambulance rides and two workforce education organization representatives about barriers to workforce retention. Four groups we interviewed did not feel they could speak to this fully (10, 11, 12, 14). In one brokerage's case it's because the area relies on stretcher cars instead of

ambulances. In one interview, participants did not feel that the Ride to Care benefit program's network has a problem with ambulance rides being late, although felt that the entire region needs more resources (10). In another interview, participants did not feel they could answer this question (12).

A handful of interview participants (1, 3, 4, 7) brought forward reasons for ambulance delays that were not repeated by others. These include conflicting values and needs on how to triage higher acuity patients when calls come in at the same time, lack of understanding of payment systems and hospital rules, a confusing regulatory space, traffic, and a lack of skilled nursing facility capacity where people have specific equipment needs like chair stairs and those aren't adequately met by the facility which leads to delays.

What follows are areas where at least three different interviewed groups named the issue as one of their top reasons for ambulance delays**.**

Limited Ambulance Capacity – Eight of fourteen interviews brought up limited ambulance capacity in the region, and most thought it was also true of the Ride to Care benefit program (1, 2, 3, 4, 6, 7, 8, 13). Limited ambulance capacity here means that the Ride to Care program network has a limited number of ambulance providers, a limited number of specialized equipment such as true bariatric ambulances, a limited number of ambulance vehicles, and not enough vehicle drivers in the Ride to Care program network. A simple way that one team described this is *"there are a lot more patients than providers and not enough staff to do all the calls."*

Within this category three interview teams brought up delays related to the use of true-bariatric vehicles whether it's getting staff to ready the patient for the ride or a need for more bariatric units (7, 8, 9).

One ambulance provider named that they don't do out of area calls. People echoed this when they brought up that transportation companies have policies against out-of-area transport, or rides that are over a certain number of miles. Another aspect of this challenge are county regulatory restrictions that require ambulances, instead of stretcher cars, for people who are being transported that cannot sit up, even if no further medical intervention is needed beyond the use of a gurney instead of a seated position. One interview team didn't agree that the Ride to Care benefit program's network specifically needed more ambulances or staff for them (7). However, the same team confirmed that the challenge to the region involves multiple organizations competing for a limited number of providers, specialized vehicles, and staff/drivers for those vehicles.

Bunched Discharges/ Peak Hours – Five of fourteen interview teams brought up a prime time, or set of peak hours, where all hospitals in the region discharge patients as a reason for late ambulances (6, 7, 8, 9, 10). During this window it's necessary to call ahead to avoid that rush. Four teams brought up specific times as the busiest (6, 7, 8, 9). These included 1pm, 11am to 2pm, 2pm to 4pm, and 11am to 5pm. This may also be contributing to what one team described as artificial capacity, or the need for

"controlled capacity". An example quote from a hospital stakeholder follows: *"If there is the (ambulance) availability, all hospital systems and clinics are fighting for the afternoon discharges, 11-2 is prime time".*

Patient Readiness / Broad Estimated Time of Arrival – In five of fourteen interview teams participants named a combination of patient readiness and/or broad provider estimated time of arrival (ETAs) as a cause of late ambulances (5, 6, 7, 8, 10). One ambulance transportation provider named "wait and returns" are common requests by hospitals that effectively hold the ambulance and its staff longer than a ride for drop-off. In the follow-up learning sessions this emerged as being related to the hospital's lack of staffing and equipment needed to transfer patients to and from a gurney once they are off the vehicle. Stakeholders brought up patients not being ready when an ambulance provider arrives. Coordination of patient readiness at pick up and drop off as well as limited ambulance transport ETAs means problems on both ends, as these two quotes demonstrate from the hospital and transportation provider perspectives, respectively.

> *"Limited availability of some transportation providers means very large ETAs. It's hard as a nurse if you give us a large window of 5 hours then we can't get the patient ready." (Hospital stakeholder)*

> *"Hospitals say we have a ready now discharge based on their experience from years prior, then we get there in 15 minutes and then they aren't ready for another hour." (Ambulance transportation provider stakeholder)*

Inadequate Communication – In five of fourteen interviews, participants named inadequate communication as a source of ambulance delays (1, 3, 4, 9, 11). Communication overlaps here with misunderstanding of payer coverage and related elements of ambulance service. An example quote follows.

> *"Now with more brokerages, and hospitals calling in trips as well, multiple dispatchers try to book these, [they] tend to step on each other's shoes".*

Inadequate communication examples also include:

- ordering an ambulance when it's not the medically appropriate level of care,
- transportation providers not seeing or potentially not receiving specific equipment requests in the notes section that then results in delays,
- dispatch not providing updates about delays to facilities so the organization can make other plans,
- hospitals holding ambulances and staff to support patient transfer without communicating ahead of time which results in delays,
- case managers needing to make their requests ahead of time, or,
- ordering an ambulance when it's not needed based on confusing payer rules.

Workforce Capacity/Staffing – In four of fifteen interviews, people described a lack of sufficient staffing for hospitals, clinics, and/or skilled nursing facilities (SNF) or a

description of barriers EMT/Paramedic workforce retention which we cover below (4, 7, 8, 13, 21, 22).

People described the staffing challenge at facilities along with broad ETAs and peak discharge time periods as contributing to ambulance delays. An example quote follows.

> *"If we don't have a ride by 5pm then a SNF cannot accept a patient. If a SNF had extended hours to receive trips would that be a benefit to this? The SNFs don't have RN's and that is who does the assessments, their best staffing is between 8am and 5pm, we would have to address their RN shortage before we can address this".*

Barriers to EMT/ Paramedic Workforce Retention

Training – Two stakeholders cited multiple issues that affect the training of EMTs and/or Paramedics. Both agreed students getting sufficient clinical hours can be a limitation.

The reasons shared by one participant are listed here. 1) Some younger potential applicants are affected by exposure to misinformation where they fear, and refuse, to be vaccinated. 2) Inflexibility or doing things the way they have always done them in EMS and fire departments, is one barrier to collaboration in training approaches. 3) Potential innovations with unintended consequences. A recent change from the state Higher Education Coordination Commission to increase EMT's in rural areas had negative consequences for existing schools that train EMTs. The policy waived a requirement of needing to attend an accredited educational institution for EMT training, where companies could instead 'grow your own EMT' though concentrated training programs that were approved by the Oregon Health Authority (see OAR-333-265-0025).

> *"Typically, it's 6 months of training to meet criteria for state requirement for an [EMT] license. Now with workarounds they can send to Idaho for one week, then bootcamp, and then come back as an EMT for Oregon. It's hard to tell students to come to our program when they can go to (company) and get a job. We wanted to make sure people are using skills in alignment with the position, and that takes collaboration. If you look at a job as an overall outcome/goal, when our partners want to do workarounds that are faster and save money then it creates challenges."*

This same issue then related to a barrier of a potential for misalignment between skills and jobs based on training.

> *"Now there's a lot of conflict in hospital teams. You may have a medical assistant in a team with an EMT with the same pay that's not involving the same level of training and people won't have matching skillsets."*

Retention – Both participants agreed that workforce environment conditions were one of the most significant reasons affecting whether EMTs and Paramedics stay in a

position in NEMT, echoing what we heard from Ride to Care program stakeholders. Factors include low pay, a desire to use a skill set once they are trained in it, bad hours, burnout, exposure to trauma, and low company investment when organizations expect to pay a low wage and, for example, have EMTs for a short time period. One workforce training representative echoed other stakeholders in noting that low Medicaid, or other payer, reimbursement contributes to low pay and reduced benefits that companies pay EMTs.

> *"EMTs, they want to go into fire and paramedic, they are only there to work for a short term as an EMT so then transfer to fire or paramedic, it's expected that they will be there short-term, so there's not much [company] investment to retain them. [Companies] hire with low wages because know they won't stay, which then contributes to the turnover. And burnout is so high. They need to get paid more."*

> *"Not using the whole skill set, pay and potential working hours are dissatisfiers. They are trained as an EMT, and then put into a situation [in NEMT] where they don't use whole scope of practice, that's a disadvantage for the career pathway. They learn to provide ventilation and drugs, and it becomes really limited to stretcher and wheelchair, and then they don't use a lot of these skills. They went to school and paid $3k and if they are not getting a lot of practice, that's job dissatisfaction. And the hours in general. Mid hours through the night..."*

One of the ambulance transportation providers in the follow-up learning sessions indicated that the people they hire sign up to be an EMT to ensure multiple years of low-cost clinical hours on a pathway for medical fields such as a nurse or physician. These individuals are not interested in the paramedic pathway. This indicates that there are likely multiple reasons people work in these professions.

Section 4: Who is most impacted?

Who and what we asked:

Twelve (12) Ride to Care & two (2) Brokerage Stakeholders answered: Which Medicaid clients, in your experience, are most negatively impacted by this challenge?

Why we asked this: We wanted to understand, among an already economically disadvantaged group, who is most negatively affected by delays or unavailable ambulances.

Here we list the factors that contribute to people being most negatively affected by delayed or unavailable ambulances, in order of most frequently discussed.

People with specialized needs or who need special-skill medical services

Seven stakeholder interview teams described examples where the higher the medical need the more care there is to accommodate it (1, 2, 4, 6, 7, 8, 10). People gave examples of physical limitations such as quadriplegia, people just out of surgery, a broken back or hip, people who may need assistance with Oxygen, people who are on a life-saving treatment like dialysis or cancer, babies in the neonatal intensive care unit (NICU), and people who cannot physically sit up for more than thirty minutes because they lack core strength even if they do not need other medical intervention during transport. People who use chair stairs or are at a bariatric weight and size status are also part of this grouping (people who weigh 500lbs or more require extra staffing according to four stakeholder teams) (7, 8, 10, 11, 12).

> *"Impact on bariatric clients. It's a one off, but it's a small percentage of the population. It may be occurring a higher % of time. If we only do one bariatric patient a month, and that patient always has to wait, because at the mercy of the vendor to pick up and that one bariatric rig is also used for 911 calls, it will delay a discharge. Recently a patient was going to Salem, we ended up having to keep them an extra 3 days, we could not get to this patient with a ride. That patient was medically ready to go 3 days ago, every day after that (the Hospital) has to pay for that."*

People with time sensitive appointments – Seven stakeholder interview teams described people going to a Skilled Nursing Facility which has limited intake hours and limited staff, people discharging to go to hospice, and other examples where there is a tight turnaround to make an appointment (3, 5, 6, 7, 8, 9, 10).

Rural or Out of Area – Four interviewed teams described people who live a long distance from a facility or treatment as being negatively affected (1, 4, 6, 8). Examples include ambulance transportation providers that won't go past a certain mileage, or when the trip's duration is more than a four-hour drive one way. *"Anyone who lives outside the core tri-county area can get multiple days added to their hospital stay or delay of that long because of long distances." "Cascade effect – if you have to get a life-saving treatment, would bump you up into an emergency if you don't get it."*

Anyone needing an acute care bed – Three teams brought up that anyone who cannot be admitted because someone else cannot be discharged is negatively affected (3, 6, 10).

Social Isolation – Three stakeholder teams brought up social isolation as being separate (e.g. in the city), or sometimes overlapping with, long distances (4, 5, 6). *"The ones who don't have a family or social network, the most socially isolated."*

Additionally, two interview teams named people with multiple payers and those who need care management advocacy as impacted (1, 8).

"Equally challenging are those people who have multiple different payers such as 3rd party liability coverage, dual eligible (Medicare primary and Medicaid secondary), or Veteran benefits. In 2020 had to coordinate and support full benefit dual eligible (dual special needs, or Medicare primary needs folks) that include many many Medicare Advantage plans, fee for service - someone has to contact all the payers to determine what their individual rules allow in terms of transport. There's no efficient way to do that and it affects members. The payers all put it back on the NEMT brokerages to sort out who pays."

Section 5: What is being done to address barriers

What we asked:

- We asked twelve Ride to Care (12), two non-R2C Brokerage representatives (2), six Government Agency (6), and two Workforce Stakeholders (2): What, to your knowledge, is already being done or is planned, to address these challenges either in your organization or by partners?
- Two Workforce stakeholders were also asked: Please share any partnerships you have established to increase the number of EMT (Emergency Medical Technician), and/or paramedics trained in the region.

Who we asked: Question 5 for Ride to Care and non R2C Brokerage stakeholders, question # for Brokerages, Question 2 for government and Question 3 for workforce stakeholders. Twenty interviewed teams.

Why we asked this: We wanted to know what efforts are already underway to address ambulance capacity barriers and/or ambulance delays in NEMT.

Background on this question: We asked a similar question to government agency staff and another one specific to only workforce training efforts. Ride to Care partners will continue to improve on-time ambulance service, and we want to complement what is already happening.

Fifteen of twenty teams answered this question specific to non-emergency ambulances (1-14, 16) while others answered this question for emergency-ambulance capacity barriers (15, 17-20). We asked workforce program representatives two different, related questions about addressing limited workforce capacity. Because the questions resulted in similar categories of activities, we've shared them in grouped form here.

One team shared that they didn't feel like a lot was being done about this state-wide beyond the work they were focused on (1). Three stakeholder teams didn't feel like they could speak to efforts that address ambulance capacity specifically (11, 12, 18). One team brought up that there isn't much that can be done for out-of-area ambulance trips (6).

"Not a lot we can do about long distance transport, this goes back to supply and demand. If someone is going for a 4 hour ride out and back, that's an entire crew gone for the day; that's a lot to ask of these companies, and the people they cannot take while they're gone."

1. **Resource Adjustments to Address Ambulance Capacity Barriers** – Eight of twenty teams we interviewed named re-directing, or obtaining new resources, to address ambulance capacity and/or delayed ambulances (1, 2, 3, 5, 7, 8, 9, 10). Two main categories within this theme are listed here.

1.1 Hourly/Dedicated Ambulances and/or Wheelchair Vans to Address Limited Ambulance Capacity

Seven of twenty teams named that dedicated hourly vehicles hired by a brokerage like the Ride to Care program or hospitals hiring staged (hourly) ambulances from transportation providers has been a primary strategy to address capacity limits (1, 3, 7, 8, 9, 10, 14). Most stakeholders brought up that this method ensures some level of managing capacity. Below are quotes from the hospital and ambulance transportation provider perspectives.

"Our staging of ambulances and a WC van has been so important because we can prioritize these vulnerable individuals, we have control to prioritize."

"The approaches are how each hospital group inoculated themselves against lack of capacity. It's easier for them to have an ambulance sitting there for disposal, and necessary because they couldn't get an answer when someone is discharged. By taking the middle agency broker out, no review of what is happening. The ambulance cannot do any other rides except for the hospital.... Now that some made changes like hourly vehicles.... these dedicated units across the region for regular transportation in NEMT, now dedicated to hospitals in case something happens... It creates an artificial shortage.... Ambulance companies were worried about getting paid, history here of not getting paid. A dedicated contract with an ambulance unit means control over payment. The system is better now."

Two teams recognized that the ambulances hired for dedicated use by a hospital or brokerage are coming from a small pool of NEA providers and a finite number of ambulances (7, 14). Removing those ambulance units from general use means there's less capacity in the region even if delays or missed rides may decrease for a specific brokerage or hospital system.

1.2 Expanding Existing Operations

People from five interview teams named various types of specialized equipment or programs they are seeking to increase (2, 5, 7, 8, 10). This includes more NEA ALS units, Bariatric ambulances, ventilators, intubation, dedicating staff to create a type of

hospital-based transportation communication center like ProvRide, or looking for more NEA ambulance vendors to bring to the region.

2. Increased Communication, Collaboration, and Planning

Seven stakeholder teams described increasing communication or collaborative efforts to address ambulance capacity, trip delays, or workforce retention (3, 4, 5, 6, 9, 10, 22). The way stakeholder teams discussed these strategies indicates many teams anticipating that ambulance delays are common. Several transportation providers and facilities described creating and sharing guidelines about which type of service to order based on medical need, although it's unclear how much those align with each other as one participant indicated every hospital system has its own ways of doing things.

2.1 "Time attuning" / Time Alignment Planning

Two organizations (3, 14) described dispatchers communicating with each other, or with facilities (e.g. hospitals), to adjust how they are booking trips and planning ahead to make sure there's more time. Similarly, four teams (6, 9, 10, 14) described planning to align discharge timing to ensure transport goes smoothly. Example quotes are below.

> *"The person who needed to go to surgery - we tried to get them transported the night before, there was no holding area, so the hospital didn't have a place for a person to stay for 6-8 hours; we are trying to do this way earlier if needed."*

> *"For hospice we try and coordinate with care management as an intermediary and have conversations about what is the best chain of events to maximize opportunities to get people home or minimize barriers....For example for timely discharge to a skilled nursing facility (hospital name) we track estimated date of discharge, patients with estimated times or written orders of discharge of 10am or 12pm, our goal is to get a specific number of patients out before noon, not necessarily for transportation it is for throughput and capacity. The longer we wait in the day, the more difficult it is to get them out of the hospital. We need to be shifting our time and care day to earlier and maybe alleviate some of these barriers between 11am and 17:00 when everyone wants a ride. If we can optimize the 9 to 11 am time frame, how many folks can we get home?"*

> *"The biggest thing is to educate the case managers to get requests ahead of time. If we get in the first ones in line, then we have the better chance of a pick-up time. if we wait until later then get whatever is left."*

2.2 Internal Process Review Planning

Four interviewed teams described using data to inform planning through an internal process review (4, 5, 7, 9). Three of the four ambulance transportation providers named

internal reviews of dry runs, using Quality Assurance, Quality Improvement or other metrics to evaluate performance and to determine if they are slotting enough time.

> *"We are working at on-time performance and how to reprioritize calls e.g. with a hospital discharge on a trip and then a hospice call comes in with a 2-hour deadline. We see if can switch those around, if we can prioritize, while working with hospital groups."*
> *"In the clinic we ask questions about their specific needs and determine if there is an easier way to do this that doesn't require limitations. If at a SNF we look at, can we do a portable x-ray and a video visit instead of a physical trip to the doctor for an orthopedic patient."*

2.3 Company Communication on Job Transparency

One workforce stakeholder described a communication mechanism for retaining EMTs. The participant explained that when companies post transparent job ads with hours, pay, shifts, and clearly name the position (e.g. BLS or ALS) this helps address some of the workforce retention barriers.

> *"When you look at jobs being advertised - these aren't transparent, they need to not hide the hours/shifts. They advertise, and then they get hired and now doing NEMT overnight. (Names ambulance transportation provider) - a great NEMT service...they do a whole ground transport to meet the interfacility demand, they advertise for EMTs and Paramedics, it's advertised for shifts, pay, and interfacility transports, they've built a model on how to do this."*

2.4 Government Agency Communication & Collaboration

Two government agency staff teams named multiple efforts (17, 19). In NEMT, staff described joint collaboration with Managed Care Plans and NEMT brokerages, building relationships with partners on equity goals, community outreach and engagement with the OHA Ombuds program, establishing a state-wide transportation advisory committee (TAC), and streamlining internal processes. In EMS, staff described Emergency Department and EMS leadership team creating an open dialogue and communication pathways and working through patient offload times, challenges of full hospital throughput, and working together to address efficiencies. One team also described potentially partnering with an NEMT ambulance provider to work with more hospital partners to help reduce the bunched discharge challenges.

3. Proposed Policy, Rules, Regulation Change or Advocacy

Ten of twenty-two stakeholder teams described policy changes that would address limited ambulance capacity or affect workforce development, or advocacy for these changes (1, 7, 8, 10, 15, 16, 18, 21, 22). *"We worked with (ambulance company) to try and help push from a hospital system to get a change to the 911 two paramedic rule in Multnomah County because that affects NEMT."*

Both workforce stakeholders brought up different examples of state regulation changes that were intended to increase the number of EMTs or Paramedics. Three examples emerged. First, a state policy change that allowed short-term, concentrated training programs led by organizations that apply for approval from the Oregon Heath Authority. The programs could waive the requirement of having to attend an accredited academic institution to become an EMT (see 2018 change to 333-265-0010). Second, an emergency measure that companies could train Emergency Medical Responders (EMRs) in specific skills if a licensed supervisor was present, then the EMR could act in a wider capacity (analysts could not find the policy text although it may be related to 847-035-0032). And third, a transitional license removing the requirement of having an associate's degree at the time of completing Paramedicine training. The last policy change would allow a Paramedic to go through the training and act in that capacity if they get their associate degree in a specific number of years following their training (see **333-265-0027** and OHA FAQ). One transportation provider also expressed concern about policies that may phase out, *"OHA approved a change to regulations for a qualified driver in place of an EMT during the pandemic ruling, not sure when that ends what we'll do. For the NEMT space, the driver isn't needed to intervene in a BLS".*

Two stakeholder teams acknowledged that even if some policy shifts happen, this won't address all the challenges (1, 19). *"Hospitals are doing things like advocating for strict performance NEMT requirements, however simple rule changes won't address the complexity."*

Government agency staff gave examples of policy changes (16, 18, 19). For example, changes to policies on use of stretchers instead of ambulances, changes to county-level BLS standards to reduce the barrier of the non-emergency medical ambulances being on the road, proposed regulation change related to age of NEMT driver on the table, working with community partners to seek out alignment of local regulations to free up ambulance capacity if had more non-emergency vehicles that could operate in any county (e.g. gave example of a county where insurance levels are higher).

4. Programs

4.1 Workforce Training Programs

Seven stakeholder teams are investing in workforce training programs for EMRs, EMTs and Paramedics, or working with partners who do (3, 4, 5, 8, 9, 15, 20). Transportation companies described training programs while hospitals described requesting leadership provide clinical hours for medics who are in training. People also brought up hiring new roles such as ambulance coordinator positions and hospital discharge coordinators:

> *"We are investing in our own at multiple levels; we have teamed up with local colleges and a college in the east coast... We would love to do more with high schools but insurance requires people to be 21."*

"We've asked leadership to assist in training more medics than we already do."

Government staff echoed these statements in describing partnerships or company efforts to increase the number of EMTs and Paramedics in the region. Examples included: *"(Transportation company) doing bridge course for military medics, offering scholarships to pay through existing EMT schools, on the job training, build a bridge course to EMT. Fire departments doing a big hiring phase."* One agency revised rules and added a transitional paramedic license in response to community feedback that the originally required associate's degree could be a barrier.

The two representatives from different schools that train EMTs and/or Paramedics we spoke with named partnerships with High Schools and multiple organizations that either send, or recommend students, to their schools. One stakeholder described additional efforts that ambulance companies have been undertaking, sometimes in collaboration with schools like this one, to increase EMT and Paramedic numbers.

Both workforce stakeholders also described changes to their education institution's, or partner's, programs, including grants for tailored workforce training. The rationale for one education institution was to make the EMT certification pathway faster and to reduce barriers to becoming a Paramedic. Another example related to more opportunities for clinical hours.

"The # 1 hurdle is to get them through all their requirements to get them into the job force. Clinical aspects are inhibiting the amount of student access and acceptability into the program, acceptance term to term will wax and wane. 50 students one term then 14 the next based on clinical. ...Clinical partners not providing shifts for state or federal medical training. EMS crying for help, but then this inhibits us from taking our students for training.... We have made clinical partnerships outside the I5 corridor, have some money to cover transportation, but then have to go to a rural area for training."

A third example are state-level workforce training grants to facilitate education for specific demographics or areas of the state, for example Future Ready Oregon through the Higher Education Coordinating Commission.

4.2 Pilot Programs and/or New Procedures

Government staff echoed the NEMT stakeholder efforts in creating pilot programs or testing new procedures (15, 17, 18). Examples for NEMT included working with public ground medical transportation providers to get supplemental dollars for reimbursing advanced and basic life support from Medicaid. They are considering how to extend this to private ambulance providers. The same team described increasing NEMT performance quality assurance reporting, evaluation, monitoring, oversight and accountability ss well as language access. Agency staff implemented increases and changes to methodology for Medicaid reimbursement to members. In the EMS side, a

team is exploring how to increase regional service accessibility. Agencies also described changes to EMS performance-based contracts and piloting an EMS triage dispatch program.

Section 6: Government Data for Medical Transportation Policy

What we asked: What quality metrics does your agency track as part of updating existing medical transportation policy or developing new policy?

Who we asked: Question 3 for Government agency stakeholders, six interview teams.

Why we asked this: We wanted to know what type of NEMT metrics agencies, particularly those who create EMS related rules that may apply to ambulance organizations who are completing NEMT rides, are tracking.

Background on this question: It is difficult to understand what is happening in NEMT without data about what affects Ride to Care. We wanted to understand if there was further information we could access to increase our awareness.

We asked government agency stakeholder teams (15-20) to identify non-emergency medical transportation metrics to improve our understanding of potential measures that affect the Ride to Care benefit program. One team works at an agency that does not have policy or procedural requirements for ambulances so they could not speak on this question. One team provided a list of NEMT metrics that is publicly available (see NEMT Reporting Template Technical Specifications). The current NEMT metrics are not ambulance specific. The participants explained that Coordinated Care Organizations gather and report data back to the state.

> *"We are trying to step up and match the reporting requirements for the Fee for Service program. We value the complaints and concerns coming in. We stood up a Technical Advisory Committee (TAC) staffed with people who use NEMT and representatives from drivers and brokerages."*

The TAC described in that quote is informing current process and procedure changes at the state level on NEMT generally. It is unknown if the committee will discuss NEMT ambulance rides.

Five of the six agency teams provided information on EMS specific measures such as hospital diversions, clinical protocols, equipment standards for ambulances, qualifications for drivers, and many others connected to providing 911 response calls. These are not detailed here as they did not overlap with Ride to Care's NEMT.

> *"Quality from the ground level begins with licensing: what it takes to be a paramedic, the vehicle, etc. It starts with ambulance licensing rules, what schools, what classes people have to take, what qualifies as an ambulance. Beyond that we track a number of metrics, e.g. number of calls with lights*

and sirens, weight-based medications for pediatrics, use of beta agonists for asthma, initial triage of trauma patients, the list is lengthy."

Four of the five agency teams described relying on complaints for information related to non-emergency medical ambulance trips (16,18,19, 20). Four of five groups stated that they neither have access to, nor require reporting on, non-emergency medical ambulance trips.

Section 7: Policy Interpretation Supports

What we asked: What type of supports, such as policy explainers, for level of transport and type of medical care needed, are provided from your agency to CCO or fee for service brokerages, transportation providers, or care facilities who are expected to follow multiple regulations that conflict or may be implemented differently based on interpretation?

Who we asked: Question 4 for government agency staff stakeholders. Six teams.

Why we asked this: This was to help us locate existing information on policies that we may not have known existed.

Background on this question: In our own exploration of regulations, we found reading different regulations that referred to other regulations confusing.

We asked the government agency teams about how they communicate regulation requirements to support organizations in following multiple policies. All government stakeholders make themselves available by phone and email. They all described fielding calls and directly engaging with people who reach out for clarifications or requests. All agency groups direct people to their website where rules and regulations are listed. A member of one team noted, *"this is an area where we could improve, we are open to feedback about where we can do better. It's impossible for a government to overcommunicate."*

Beyond all teams being available by phone and website, the teams varied in their other methods of support for helping people understand and follow multiple regulations. One team described the regulation code and website information being written in plain language, one team brought up hiring interpreters, another team named that documents are broken into sections so that someone can find the NEMT portion easily, and a team described that during licensing season they send out a packet to providers with an overview letter about documentation steps for licensing.

Several teams explained that they can produce specific documents when requested. An agency may have to look information up to respond to a request; for example, the number of licensed ambulance providers, CMS codes based on zip codes, or fee schedules related to specific ambulance billing questions. One state team described producing FAQ documents, provides technical assistance, produces memos of changes or updates, updates rider guides for non-emergency medical transportation, and shares additional information that varies based on need. Another team described working on a

pull method, where if they get questions on multiple regulations, they may connect those with other programs in the state. More than one team brought up having limited staff.

Section 8: Willingness to Participate in a Coalition

What we asked: On a scale of 1 to 5 with 1 being least willing to 5 being most willing, how willing would you be to participate in a coalition to support statewide changes such as workforce training programs or local policy changes?

Who we asked: Question 7 for Ride to Care Stakeholders (12), Q5 for Brokerages (2), Q4 for group Workforce (2). Sixteen interview teams. We did not ask this question to government staff. We were unsuccessful in our attempts to reach self-advocates or advocacy organizations that could speak specifically about non-emergency ambulance rides.

Why we asked this: Some interventions to improve ambulance capacity may involve changes beyond Ride Connection, or Ride to Care partner's influence. This means a coalition may be useful to make longer term changes. We wanted a temperature check on how interested people might be in that.

Background on this question: In an earlier literature review we identified policies as being potential barriers to ambulance capacity in the region, and possibly the state.

Many challenges that contribute to ambulance capacity limitations are beyond the direct sphere of control of organizations participating in the Ride to Care benefit program, including Ride Connection. We asked sixteen teams a question to gauge interest in a potential coalition to seek changes that might happen state-wide through state programs or policy changes. Note that in the same team of people different individuals may have different levels of interest.

Participants in ten out of sixteen groups gave a number 4 or 5 (1, 3, 4, 5, 6, 7, 8, 9, 10, 13). This indicates they may be willing to participate in a coalition to support statewide changes such as workforce training programs or policy changes. Participants in four out of sixteen gave a 3 indicating they felt neutral about participating in coalition efforts (2, 13, 21, 22). Four out of sixteen gave a response of a 1 or 2 indicating they were not interested or did not have capacity to participate in coalition efforts (10, 11, 12, 14).

If Ride Connection were to be part of coalition building efforts in the future, we would need to specify which area of effort to ensure the work aligns with the stakeholder's interest and capacity.

Perspectives & Recommendations

There were several themes that emerged across multiple questions that provide a bigger picture about the NEMT ambulance capacity challenge the Ride to Care benefit program and its network faces, described here.

No Single Organization Holds All NEMT Information

One stakeholder accurately described Non-Emergency Medical Transportation as a specialized sector between two major disparate commercial (e.g. for profit) and public (e.g. not for profit / publicly funded) sectors. Various transportation policies affect the adequacy of non-emergency medical transportation which then affect people's health outcomes. Beyond these two sectors, non-emergency ambulance provision has less transparency because it is adding in the impact of policy focused on an emergency response system applied to non-emergency scenarios.

While some interviews reinforced each other to reveal shared understanding, many also indicated that there was a lack of shared understanding. We consider these findings as incomplete because more information continued to emerge through follow-up emails, the learning sessions reviewing the findings, and exploration of the Ride to Care program's ambulance transportation data.

This report presented findings based on the number of stakeholders who named a topic in relation to interview questions. There are topics that emerged in conversation that are not fully described here that may be significant in understanding the system. For example, multiple stakeholders suggested that hospital and ER discharge challenges are related to delayed wheelchair rides, not just non-emergency ambulances. Ride to Care program data analysts will revisit wheelchair data. A few teams brought up that patient behavior affects rides, for example patients finding another ride and using it instead of an ambulance, resulting in what is called a "no show". These are behaviors beyond Ride to Care program partner's sphere of control. One team of stakeholders brought up a hidden expectation embedded in NEMT that is shaped from Emergency Medical Services. The expectation is that it should be feasible to rapidly bring transportation for a hospital discharge within twenty or thirty minutes. Factors that make prompt response less feasible may be rejected by stakeholders. Because of new information emerging, the authors of this report consider this exploration ongoing.

People Care Deeply About the People They Serve

"Thank you for looking into this" was a sentiment we heard from multiple interviewed stakeholder teams. The people we interviewed are committed and they care deeply about the ambulance capacity challenge. Many we spoke with have worked in the EMS and/or NEMT field for 20 or 30 years. Many shared concerns about Medicaid clients who may face multiple challenges beyond transportation and health care access.

In answering various questions, many participants also shared real-life incidents where Medicaid clients experienced a spectrum of impacts and the people, we spoke with either helped them find a solution or were upset that one was not feasible. From people waiting long hours to be taken to the appropriate facility, multiple people who were forced to delay care, to calling 911 when an NEMT ambulance wasn't available. On the most severe end we heard more than one example of when a patient died after being discharged from hospice waiting for a non-emergency ambulance to take them home.

Ride to Care benefit program's transportation network organization participants also spoke about one another with mutual respect. More than one stakeholder spoke with admiration or appreciation about at least one other organization in the network, if not more than one. People named specific organizations as a key partner in supporting positive change on the ambulance challenges in the last few years. They also spoke about how other brokerages were worse off, less resourced, and did not have the same level of support that the Ride to Care program has. The Ride to Care program's network members we spoke with seem to communicate and seek to solve problems. When communications or relationships fray, they seek to make repairs and maintain the relationship.

Single Brokerage or Hospital Strategies Have Regional Impacts

At least one strategy to improve on-time ambulance rides and reduce unavailable ambulances in the Ride to Care benefit program may also make the regional ambulance capacity worse. Ride to Care program partners, ambulance transportation providers, and hospitals described hiring direct service ambulances for either the Ride to Care program or a hospital system. Stakeholders who support this strategy felt that when brokerages or facilities hire an ambulance for direct use, this is the most efficient, and more within that specific group's control, as an immediate solution.

> *"There is an opportunity for all the brokerages to get dedicated ambulance rigs, right now they are all competing with each other for the same ambulances." (Transportation provider).*

However, there was also a concession that when ambulances from a limited fleet are reserved for one hospital system or brokerage, they are no longer available for any other rides in the region, reducing regional system NEA capacity.

NEMT and EMS Interconnection

If there were one change that might improve system functioning, it would be for more participants to talk with each other and share data to inform decisions. The Non-Emergency Medical Transportation ecosystem is linked to the Emergency Medical Service ambulance ecosystem in multiple ways. Despite these connections, the two systems do not share data about areas of overlap such as hospital and ER discharge.NEMT and EMS participants do not attend each other's meetings and are likely having parallel conversations about areas of overlap. Both transportation systems are linked to existing challenges in the larger healthcare system.

1. **Emergency ambulance providers may overlap in their role of providing non-emergency rides.** Some ambulance transportation providers in counties that neighbor the tri-county region (Clark in Washington and Oregon counties: Columbia, Tillamook, Yamhill, Marion, Wasco and Hood River) are both contracted 911 responders and NEMT providers. By law, EMS providers are required to prioritize their emergency transportation obligations. This means if they must transport an OHP/Medicaid client to the tri-county region, it is possible those clients will wait in line until there is space in the organization's schedule to conduct a non-emergency ride. Further, some ambulance providers licensed in one county may not be able to operate in another county, particularly when county ambulance service areas use exclusive, closed, contracts and do not coordinate with neighboring counties. We do not have a measure of how many rides are delayed due to this circumstance.

2. **NEMT ambulance providers must follow 911 EMS licensing regulations at the state and local levels as well as state and local NEMT policies.** In the tri-county region, to be licensed to operate ambulances for non-emergency calls, a provider must follow 911 emergency licensing regulations at all government levels. We do not know how many ambulance providers would be willing to enter the market if they did not have to meet the 911 threshold.

3. **There may be misalignments of NEMT client medical need with EMS ambulance regulations** – Two counties have limited or prohibited use of stretcher vehicles, forcing facilities and providers to request ambulance rides for patients who need transport in a reclined position when additional medical intervention during transport is not necessary. *"A lot of rides could go by a stretcher [car] because it is not an emergency. It's a ride for no core strength or whatever... But they are required to follow the same guidelines as if it were scheduled as an [emergency] ambulance ride. They don't need two staffers/paramedics, they don't need the BLS or ALS services which would need the staffing. Some folks just need to go to a care facility, they can't sit up for that long and could go by a stretcher [car], but we can't take them that way - we have to schedule it as an ambulance." (Brokerage stakeholder)*

4. **Exclusive Ambulance Service Area contracts and competing 911 and NEMT roles may unintentionally lower regional ambulance capacity –** Each county is required for EMS regulations, to designate ambulance service areas and which provider(s) are responsible for each. Each county offers the EMS provider(s) the right of first refusal to respond to NEMT calls. This is intended to prevent transportation providers from taking one another's clients. Some counties use an exclusive contract that prevents other operators from servicing NEMT calls, putting the entire burden for NEMT on EMS providers. This challenge may need further state attention and engagement from transportation providers to address how this reduces NEMT ambulance capacity in the region.

"For Marion County and Clark County, for (hospital name) in particular, if we need an ambulance from Salem or Clark County, we have to use the one company, and they don't have the bandwidth, they are in an exclusive operating area. Others cannot operate in there without their permission, they do all the EMS and NEMT calls. It impacts some of our Ride to Care people. If they call 911 and are taken to a Salem hospital and we have to bring up to (names tri-county area hospitals) and we might get stuck for 15 hours waiting for them. It would affect NEMT because they just need a transfer, and not 911 anymore." (Hospital stakeholder)

"From what I understand it's difficult to engage with ambulance providers to deliver NEMT across the board. The issues we hear about are if you are out on an NEMT ambulance trip and get a 911 call in a small area, you may not be able to respond to the 911 call in a timely way. It puts the ambulance provider in a bind because of contract with County to provide 911 ambulance services." (Brokerage stakeholder)

5. **NEMT providers are critical to supporting acute care bed availability.** Non-emergency medical transportation is responsible for transporting people out of emergency rooms and hospitals. This is regardless of if they were admitted for an emergency or a non-emergency medical reason. If the limited acute care beds are not emptied in a timely way, then people cannot be admitted in a timely way. This affects both EMS/911 and NEMT capacity.

6. **EMS and NEMT compete for staff.** We heard in several interviews the impression that the hospitals and clinics in the healthcare system are competing with the medical transportation system for workers as both systems encounter workforce shortages. In a separate literature scan, we learned that hospital systems are experiencing a nurse shortage, among other professions (Helligso, J. 2023, O'Connell-Domenech, A., 2023) A few stakeholders brought up Skilled Nursing Facilities and hospitals also being short staffed.

Sustaining Profits Can Be a Barrier to Care

Health care service costs are connected to low Medicaid reimbursement and the insufficient funding generally of public services as the recent pandemic brought to light (Weber et al, 2020; Orr et al, 2023). This is documented in the EMS literature. For example, a 2023 survey of Medicaid reimburse rates from the American Ambulance Association revealed that the average Medicaid base-rate reimbursement for an emergency advanced life support (ALS-E) response is $232.72 (9.9% of the average cost of service and 43.7% below the Medicare Fee Schedule). State Medicaid programs vary in their reimbursement levels with Delaware at the lowest for an ALS base-rate reimbursement and North Dakota at the highest (NAEMT, 2023).

It was apparent across hospitals, ambulance transportation providers, workforce, and agency staff responses that ambulance providers and hospitals needing to cover the costs of operations and services in a context of inadequate funding is related to some rides not being adequately serviced. While an understaffed workforce and ambulance vehicles could be considered resource limits affecting capacity, they were specific enough that we wanted input on them beyond the scenario of rising costs which is affecting everyone (Zavadsky, M., 2023). For example, providers are affected by taking an ambulance out of the area for trips longer than an hour because they are unable to service other calls during that time. We can see this reflected in some company policies that limit mileage or out of area trips.

While particularly challenging in the Fee for Service space where Medicaid dollars are the only source of funds, we heard multiple times that the history of low reimbursement led to fewer NEMT providers in the Ride to Care benefit program (there are currently four), and in the region, over time. The government policies that relate to licensing or fees seemed to intersect with competition among providers for staff in terms of the costs and availability of service provision as the quotes below describe.

> *"You're fielding decades of issues with reimbursement and mistrust among non-emergency ambulance providers. NEMT ambulance transportation vendors have not been paid the cost of doing service for a long time, a lot have pulled out of the business. We license about 100 non-emergency ambulances in the county, they are not all on the road today, and not in a contract with Ride to Care. They can operate in (the county) and choose through market forces who they do business with." (Agency stakeholder)*

> *"There's an [ambulance] billing challenge because we don't have a universal health care, a one payer system, it affects the transportation providers' ability to get funded to supply some of those resources. They are strapped in fee for service - they don't get paid for outcomes." (Workforce Training stakeholder)*

> *"The reimbursement part - why should people operate at a loss to provide a service? (names companies) all face similar challenges and backed off of this work. It's because it's really hard. From a provider standpoint - they are in a for profit model, there's also union forces, people need a living wage, and the reimbursements have not kept up for the cost of doing business." (Agency stakeholder)*

We also see financial pressure from hospitals to ensure timely discharges from ER and hospital acute care beds, this time from the hospital perspective. The next speaker explains that in some cases, the pressure to ensure a patient is discharged is so high that a hospital, at times, will pay for transportation outside of the transportation brokerage network, rather than having it covered by Medicaid. This is to ensure that the acute care bed is free for the next waiting patient and to support the person who needs

to be discharged. A recent article explained that in 2022 Oregon has 1.66 hospital beds for every 1,000 people, which ranks 49th in the nation (Templeton, A., 2024) and Health Forum, LLC, 2022). It may also be less costly to pay for transportation than it is to keep providing hospital services, particularly an extended bed stay to a patient when it's no longer medically necessary.

> *"They cannot bill Medicaid or other payers for a non-medically necessary stay that is happening due to lack of transportation. [The hospital] ... we don't delay patient discharges... if a patient has a timely discharge like a hospice intake, or needs to be some place at a specific time, if we need to schedule Ride to Care, if we schedule at 10 am and by 12pm it's not assigned, then we will reach out to another vendor/ transportation provider to get that ride taken care of. And then [the hospital] pays for it. We are forced to; we need to get patients out. When a patient doesn't have a medical necessity to stay in the hospital, that movement is important. A hospital acquired illness - that puts people in harm's way... It's a revolving door and it needs to be to provide everyone the best possible care.... those [waiting] patients cannot get admitted if [discharged] patients cannot leave. That's why we [the hospital] pay for transport. Medicaid, or any payer, stops paying for staying at the hospital [when it's not medically necessary]. It's your responsibility to get them out - the least amount of [a] bed day costs $2000 without any ancillary services. It can be up to $9k as a bed day; anything the patient needs additionally; it's not being covered. We can try and fight that denial, but medical necessity is what determines payment not them not getting a ride. [Transportation access] does not determine [hospital services] payment." (Hospital stakeholder)*

In the Ride to Care benefit program, transportation providers set their own rates, which are not dependent on Medicaid reimbursement alone. However, ambulance providers in the Ride to Care program are still servicing other brokerages and facilities as part of their business model to cover costs. Therefore, the Medicaid reimbursement rates affect them through the other contracts.

More NEMT-Specific Data is Needed to Inform Decisions

Ride to Care's program and related stakeholders would benefit from more data sharing about situations that affect ambulance capacity. Only one government agency we spoke with collects or has access to NEMT data. The Ride to Care program uses its transportation brokerage data internally for NEMT service planning. Coordinated Care Organizations also have access to data that their brokerages give them. An example of missing data is when health care facilities call transportation providers outside of the Ride to Care program and do not bill OHP/Medicaid for the trip. These are trips that should have been part of a brokerage tracking system and are not. Ride to Care program's tracking of cancelled trips can make determining when the reason was a provider delay, versus other reasons.

It is also unclear if the required use of ambulances in two counties of the Ride to Care program's service area, instead of NEMT stretcher car trip use, has a more positive impact on health outcomes relative to similar trips to neighboring counties where stretcher car trips are allowed. A stretcher car can only be used when someone needs to travel laying down and does not need medical monitoring according to state EMS policies. From speaking with interview participants, it's not clear how frequently a stretcher car's use involved a patient who would have benefited from medical observation or intervention because these trips are not monitored. The Ride to Care program would benefit from data on other county, and brokerages', use of stretcher cars. Which results in better health outcomes: receiving a timely ride to medical care appointments in a stretcher car without monitoring during the ride, or receiving monitoring during a ride in an ambulance that is delayed? Without shared data, the Ride to Care program cannot answer this question.

Another area of research that is beyond the Ride to Care program's role, is to better understand hospital needs for what researchers call "load balancing" (Ionnaides, et al 2022). This is when an overcrowded hospital uses ambulances for interhospital transfers. NEMT laws only allow ambulance use in Medicaid for a change in care levels, not for moving patients around. State agencies could prepare a meta review of the effects of ambulance use for load balancing to understand more about this strategy.

Ride to Care Ambulance Service Recommendations

The level of complexity in NEMT ambulance capacity defies use of a single solution in the short or long term. Multiple stakeholders brought up varied levels of NEMT ambulance service complexity that compound each other. Even if more financial resources are available, the complexity in navigating regulations, timing of hospital discharges, general healthcare workforce shortages, a challenging workforce environment, unaligned health insurance payer policies, and people's varied interpretation of medical information across facilities would remain.

This analysis is focused on addressing challenges in the Ride to Care benefit program transportation network. However, the Ride to Care program exists within a larger set of intersecting systems, where any strategy the program implements will be incomplete, and likely inadequate, at fully addressing all delays and unavailable ambulances. We present two sets of strategies, organized by time estimate, in the following tables based on what we heard emphasized from interviews, what emerged from a literature scan on interventions to address delays in the EMS and NEMT sectors, and a feasibility study using 2022 Ride to Care ambulance trip data conducted by Cambridge Consulting.

At the end of April 2024, Ride Connection sent a working draft of the findings, and an online summary through a story map, to everyone we interviewed and asked them to weigh in on a survey to help us prioritize these strategies. Thirteen of the 44 people we interviewed responded to the survey (29% response rate). The thirteen respondents included representation from all four ambulance providers in Ride to Care, three

hospital system staff members, one educational facility representative, one public agency staff member, one neighboring brokerage representative, and from Ride to Care program decision making partners other than Ride Connection (we requested that Ride Connection staff and leadership *not* fill out the survey). Survey results are listed here along with the strategies to indicate how a sample of participants view

The strategies proposed are not an exhaustive list. We are focused on resource expansion to address capacity needs and policy changes instead of behavior strategies. For example, “NEMT providers and EMS providers attend each other’s meetings” or “facilities and transportation providers use one source of regulatory guidance instead of each facility having their own version” would be helpful and challenging given organizational culture barriers. We also did not include strategies that organizations outside of the Ride to Care benefit program’s network of transportation providers could do. For example, it would be beneficial for all hospitals in the region to coordinate managing discharge times so that they are not bunched together. Funding staff time for such extensive cross-hospital coordination requires more financial resources, which is part of a larger health care system challenge.

The first table includes interventions Ride to Care partners could implement through Ride Connection as the brokerage network manager. These are organized to build on existing efforts. The first five are focused on increasing the number of ambulances available to conduct rides during peak hours. The last two expand on existing communication methods between facilities, providers, and dispatch.

We asked stakeholders in the follow-up survey to choose a top four if the Ride to Care partnership could only work on a few. The two strategies that ranked the highest were hiring more dedicated service ambulances during peak hours and investing resources for better technological strategies that improve real-time communication on estimate times of arrival and trip planning, see table 1. Nearly all the other strategies came in with the same number of votes except one. Starting a new non-profit ambulance organization was ranked by a handful of people as being in their top three, including two Ride to Care partners, while all other participants put it at the bottom (see table 1).

In the follow-up survey we also asked people to rank the strategies as though we could do all of them and needed to prioritize which ones to start on. Table 2 displays the strategies in order of where the averaged rankings are. The three most immediate efforts include technological communication strategies, dedicated ambulance service contracts during peak hours, and expanding live chat threads with more hospitals for improved communication and trip planning. Ride to Care partners have been working on these strategies already in 2023 and will continue to expand on these efforts.

Table 1. Possible short-term (within 3 years) strategies Ride to Care (R2C) could implement or expand on existing operations. The third column includes survey responses to the question "Imagine we could **only do four** of the proposed short-term strategies. Please choose which four you think would best address the multiple limits on ambulance capacity described in interviews with stakeholders."

Resource Adjustments	Considerations	Top Four
1. **Service Contract:** Ride Connection hire additional dedicated service ambulances during peak hours from existing provider(s) within Ride to Care	**Pros:** Immediate R2C capacity **Cons:** Reduced regional capacity	10 votes; 76.92%
2. **Service Contract:** Ride Connection contract with existing ambulance provider(s) to do calls other providers have limited capacity for: out of service area, same day, bariatric, etc. Establish fee structure to support this.	**Pros:** Immediate R2C capacity **Cons**: Reduced regional capacity	7 votes; 53.85%
3. **Fleet Expansion:** Ride Connection purchase to rent or lease BLS and bariatric ambulances to existing providers for use during peak hours	**Pros:** Immediate R2C capacity **Cons:** Unclear if providers would use the vehicles	7 votes; 53.85%
New Efforts		
4. **New Organization:** Ride Connection launch a non-profit ambulance organization to supplement existing ambulance capacity	**Pros:** Increases R2C capacity **Cons:** Potential financial challenges to sustain; competition with existing providers	4 votes; 30.77%
5. **New Initiative:** Ride to Care develops a collaborative community paramedicine program to reduce ambulance ride demand for calls that do not require a clinical visit	**Pros:** Increases R2C capacity for non-clinic calls **Cons:** Scope creep, does not address clinic calls	7 votes; 53.85
Communication and Planning		
6. **Technological Strategies**: Ride to Care partners expand existing portal, or other solutions for real time communication about ambulance ETAs and planning ahead to alleviate last minute, bunched discharges	**Pros:** Addresses delays from inadequate communication, can help manage existing capacity **Cons:** Manages, does not increase physical capacity	11 votes; 84.62%
7. **Live Chat:** Ride to Care partners create hospital-specific chat threads for live monitoring of ETAs and updates e.g. Providence, Legacy, Kaiser, Adventist, OHSU, etc.	**Pros:** Addresses delays from inadequate communication **Cons:** Manages, does not increase physical capacity	7 votes; 53.85%

Table 2. **Short term strategies survey respondents ranked by immediacy.** This table includes results to this question: “Next, imagine we could do all of them. Please rank them in order of which ones you think **we should do sooner** (this year) to ones that we could get to later (next two years) to best address this set of challenges brought up in interviews... “(list of challenges clipped for summary).

	Strategies	Average Score
1	**Technological Strategies:** Ride to Care partners expand existing portal, or other solutions for real time communication about ambulance ETAs and planning ahead to alleviate last minute, bunched discharges	5.15
2	**Service Contract:** Ride Connection hire additional dedicated service ambulances during peak hours from existing provider(s) within Ride to Care	5
3	**Live Chat:** Ride to Care partners create hospital-specific chat threads for live monitoring of ETAs and updates e.g. Providence, Legacy, Kaiser, Adventist, OHSU, etc.	4.69
4	**Service Contract:** Ride Connection contract with existing ambulance provider(s) to do calls other providers have limited capacity for: out of service area, same day, bariatric, etc. Establish fee structure to support this.	4
5	**Fleet Expansion:** Ride Connection purchase to rent or lease BLS and bariatric ambulances to existing providers for use during peak hours	3.46
6	**New Initiative:** Ride to Care develops a collaborative community paramedicine program to reduce ambulance ride demand for calls that do not require a clinical visit	3.38
7	**New Organization:** Ride Connection launch a non-profit ambulance organization to supplement existing ambulance capacity	2.31

None of the short-term strategies address state or local policy barriers, they do not increase the number of staff available to operate ambulances, and they do not increase Medicaid reimbursement levels. Some strategies, such as hiring dedicated ambulance service, may make regional capacity worse because those ambulances will no longer be available for other brokerages. Some strategies that made it to the list based on the literature scan may be beyond the scope of Ride Connection and partner’s existing health care transportation efforts, such as a community paramedicine program.

The third table includes additional interventions that would require a coalition of partners to pursue. Four of these focus on state policy changes. Two involve conducting additional research to inform policy decisions. Two involve collaborations that would affect policy work and workforce capacity in the region.

One area of research and possible policy change that has several strategies connected to it is to better understand the degree to which brokerages are relying on stretcher cars in Oregon instead of ambulances. This proposed exploration would be beyond the Ride to Care program. State regulations require NEMT transportation providers to use ambulances to transport people if the patient needs medical monitoring or medical intervention during transport and the patient must travel lying down (see 410-136-3160 and 410-141-3945). This seems to allow stretcher car use if the patient does not need a medical attendant. At the county level, some Ambulance Service Area plans and related policies also allow for stretcher car use if a medical attendant is not required even if someone needs to be transported in a gurney. Although no medical intervention is necessary, a county may require an ambulance instead of a stretcher car (see Definitions section).

There is no enforcement, beyond complaints, to prevent stretcher car use in NEMT. In our conversations with two brokerage representatives outside the tri-county region, the impression is that the requirement to use an ambulance instead of a stretcher car is a challenge for transportation providers. EMS operators who have exclusive contracts to provide both emergency and non-emergency transport must prioritize 911 calls. In an exclusive contract, other NEMT providers are either prohibited or need permission from the 911 provider, which may result in delays before the EMS provider can complete NEMT ambulance trips. Ride to Care does not have data on delayed or missed health care when people cannot get an ambulance. Ride to Care does not have access to data to understand how challenges in NEMT affect EMS or vice versa.

The last long-term intervention in table 3 is focused on a collaborative grant, or other initiative, for workforce development to increase the number of EMTs and Paramedics in the region. This would be training that doesn’t require people to work for a specific company for a set number of years. We learned in our discussions with hospitals and workforce training staff that one of the biggest barriers to training EMTs and Paramedics is ensuring they can get clinical hours. We would need network partners to support clinical training time to realize this strategy.

Table 3 Possible long-term (more than 3 years) strategies. The third column includes response to the question "Imagine **we could only do four** of the proposed long-term strategies. Please choose which four you think would **best address** policy, funding and workforce related barriers below" (list of challenges clipped for summary).

Policy Advocacy Through a Coalition	Considerations	Top Four
1. **State Funding:** Request change in Oregon's OHP/Medicaid formula to increase reimbursement for NEMT ambulance trips	**Pros:** Could address challenges with reimbursement **Cons**: Formula changes involve cuts to other benefits; uncertain feasibility	10 votes; 76.92%
2. **State Funding:** Consider state-wide identifying Emergency Medical System as an essential service that receives funding mechanisms beyond the current ones at the state and/or local levels	**Pros:** Could address ambulance capacity from nexus with EMS **Cons:** Indirect to NEMT, may not impact ambulance capacity	7 votes; 53.85 **%**
3. **State Advocacy:** Request OHA EMS review, assess, and possibly change guidance to counties on ambulance area service plans in EMS system so that NEMT ambulance providers are not encountering barriers from 911 providers with exclusive contracts	**Pros:** Would address delays or unavailable ambulances from 911 priorities **Cons:** Unclear how this would affect EMS providers	7 votes; 53.85**%**
4. **State Advocacy:** Ask for consistency among CCO and Fee for Service brokerages in how ambulance services are covered	**Pros:** Clarifications and efficiencies for providers **Cons:** Might reduce CCO tailored efforts for communities	9 votes; 69.23%
Research		
5. **Request OHA research** impact of stretcher car use in NEMT on health outcomes among OHP clients to inform understanding	**Pros:** Information for decisions **Cons:** Funding and staff limits	4 votes; 30.77%
6. **Research feasibility** of separating NEMT ambulance licensing within statute	**Pros:** Licensing ambulances for a provider in NEMT, instead of 911 EMS provider **Cons:** Resource & time investment	5 votes; 38.46**%**
Collaboration Through Coalition Building		
7. **Advocate for a state and county agency collaborative** to clarify when stretcher cars, without an	**Pros:** Expand capacity by reserving ambulances for medical necessity	4 votes; 30.77%

attendant providing medical intervention, is appropriate in NEMT	**Cons**: Need data about NEMT stretcher car use & health outcomes	
8. **Seek workforce development grant** or other initiative to increase paramedic and EMT work force capacity for tri-county region	**Pros:** Increase ambulance workforce **Cons:** No guarantees for NEMT; does not address hospital or clinic workforce shortage	7 votes; 53.85**%**

In the follow-up survey, thirteen participants weighed in on which four of the proposed long-term strategies they thought would best address challenges described in this report, see the third column in table 3. The top choice was advocating for the state to change its OHP/Medicaid formula rate in how ambulance service is reimbursed. The second choice was advocating for OHA to increase consistency among CCO and Fee for Service brokerages on how ambulance service is covered. Three different options were tied for third place: funding the EMS system as an essential service, advocating for OHA EMS to evaluate guidance it gives to counties about ambulance service plans related to NEMT ambulance providers encountering barriers with exclusive contracts, and a coalition of partners from Ride to Care working on a workforce development or other initiative to increase paramedic and EMT workforce capacity. The fourth choice was to explore the feasibility of separating NEMT ambulance licensing from EMS requirements in statute.

Twelve people indicated in the follow up survey that they would be willing to work on coalition efforts for policy-related advocacy, depending on the issue. When asked to rank the strategies for the ones people would be most willing to work on in a coalition, the results were similar as how they prioritized them in table 3. The two areas are Medicaid/OHP ambulance reimbursement funding and better alignment between CCO and FFS rules for ambulance service. The next two are workforce development and better funding for the EMS system. The grouping of strategies related to investigating how stretcher car use may be related to better, or worse, health outcomes as compared to ambulance service participants were third, see tables 3 and 4.

Ride to Care partners will use this input as part of decision making going forward. Notably, while participants ranked exploring separating NEMT ambulance licensing from EMS ambulances in statute as having more impact on ambulance capacity than examining stretcher car challenges, they ranked it last among what they were willing to work on. In the follow up question, the bundle of strategies examining stretcher car challenges ranked higher than separating emergency ambulance licensing from non-emergency ambulance licensing.

Table 4. **Long term strategies ranked in order of respondent's willingness to contribute to moving them forward in a coalition**. The survey question was: "Please rank the long-term strategies in order of which ones **YOU would be willing** to contribute to in a coalition effort. This might mean informing, researching, or directly advocating. If you couldn't be involved because of your job, rank them as though you could and then let us know in the comments that you couldn't be involved."

	Strategies	Rank by Personal Investment
1	**State Advocacy:** Ask for consistency among CCO and Fee for Service brokerages in how ambulance services are covered	5.77
2	**State Funding:** Request change in Oregon's OHP/Medicaid formula to increase reimbursement for NEMT ambulance trips	5.62
3	**Seek workforce development** grant or other initiative to increase paramedic and EMT work force capacity for tri-county region	4.85
4	**State Funding:** Consider state-wide identifying Emergency Medical System as an essential service that receives funding mechanisms beyond the current ones at the state and/or local levels	4.46
5	**Request OHA research** impact of stretcher car use on health outcomes among OHP clients to inform advocacy around use of stretcher cars in NEMT	3.92
6	**State Advocacy:** Request OHA EMS review, assess, and possibly change guidance to counties on ambulance area service plans in EMS system so that NEMT ambulance providers are not encountering barriers from 911 providers with exclusive contracts	3.85
7	**Advocate for a state and county agency collaborative** to clarify when stretcher cars, without an attendant providing medical intervention, is appropriate in NEMT	3.85
8	**Research feasibility** of separating NEMT ambulance licensing within statute	3.69

We have not listed all possible behavior change strategies that could improve ambulance capacity in the region, and in the Ride to Care program, over the long term

in these tables. For example, addressing misinformation that is increasing vaccine hesitancy is one factor that could increase the number of people applying to become EMTs or Paramedics.

NEMT ambulance capacity challenges may be one symptom of a much larger medical care crisis that continues to evolve in part, due to challenging work environment conditions, lack of workforce staffing based on those conditions, and inadequate funding of social safety nets, among other challenges. The EMS system is facing a parallel lack of funding for emergency ambulance service (Zavadsky, M., 2023). Recent local news headlines depict health care systems closing services because they cannot cover the cost of services or lack adequate staffing, or both, which is a national trend (American Hospital Association, 2022). Recent reports look at how to address the current lack of adequate nurse staffing in Oregon which is likely connected to the challenges hospitals have with discharging patients as well as a relatively small number of acute care beds in the state (Helligso, J. 2023, State Health Facts Health Forum, 2022).

Social determinants of health are the multiple nonmedical factors, such as transportation access, that affect our health. Researchers estimate that access to medical care accounts for just 10-20 percent of the modifiable contributors to population health outcomes (Hood et al, 2016). We heard from stakeholders that those experiencing lack in more than one social determinant of health are the most harmed from unavailable, or delayed, ambulance rides. While Ride to Care partners can take action to address ambulance capacity challenges one intervention over many years, it may be necessary to collectively pivot to advocate for extensive changes to health care funding and related economic and government policies, which is beyond the scope of this report.

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Appendices

Appendix 1: Interview Methods

In late summer, early fall of 2023, Ride Connection staff developed a list of stakeholders to interview as part of gathering information on Ride to Care ambulance capacity. This was to supplement a separate analysis of Ride to Care ambulance data from 2022 conducted by the Cambridge Consulting Firm. Ride Connection staff chose to conduct interviews because they often help identify the why and how of a complex challenge, even if they cannot identify the frequency with which something is occurring. While we are not interviewing all members of each organization, and understanding of the system and the ambulance challenges vary across each stakeholder, we felt this would give us more understanding than quantitative data about ambulance rides alone. The list of stakeholder groups is described in the main body of the report.

Interviews:

We conducted a series of structured confidential interviews with stakeholders. Interviewers sent participants the list of questions ahead of time with the scheduling confirmation email. Interviewers used a presentation with the overview and questions as prompts in the interview. Interviewers went over confidentiality, the process of taking notes on the conversation, the purpose of the interviews, and how findings would be reported with people before each interview. Interviewers also incorporated reminders of choice, encouraged participants to pause if emotions came up about challenging ambulance scenarios, and reinforced the option to not answer as part of a trauma-informed approach (see SAMHSAs Six Principles of a Trauma-Informed Approach). Interviewers conducted all interviews via electronic video call using Microsoft TEAMS. During the interview, one interviewer asked questions reading from a slide deck shared on the screen and the second interviewer took notes. Both interviewers asked relevant follow-up questions. Each interview lasted between thirty minutes and an hour. Groups one and two received similar sets of questions focused on identifying barriers, gaps or challenges in how ambulance rides are provided within the Ride to Care brokerage or in brokerages that send people to the tri-county region's hospitals. We asked what people were already doing to address these challenges.

Groups three, four and five received a unique set of questions to better understand stakeholder expertise on specific content areas. Government stakeholders were asked about regulations, workforce stakeholders were asked about workforce programs, and self-advocates were asked about their experience with delayed or missed ambulance rides.

Maintaining Confidentiality:

The analyst team did not obtain permission to list the names of individual staff who participated in the interviews. The analyst team will ask permission to list organizations in a final version of the findings report. The team assigned a numeric code to each

interview to mask the identity and maintain confidentiality for reporting out findings. The spreadsheet of responses, contact information, and numeric codes was stored in an electronic folder that only the interview team had access to. The team one code to each interview group, regardless of if there was one person or eight people in the interview. Analysts did not separate participant responses in the replies. The analysts did not list individual quotes in the findings with an identifying code to prevent readers from linking quotes together to identify a potential organization. The number, for example “1”, indicates the order in which interviews were conducted e.g. 1- 12. During analysis, the analyst team used letters to represent an organization’s role in the system so analysts could easily identify the interview group source. The analysts changed all internal identifying codes to single numbers for reporting findings when the synthesis was complete.

Analysis:

The analyst team used content analysis to identify repeating patterns and/or differences in responses to each question by systematically reviewing each response in relation to the question asked. We grouped responses by their similarities or differences for each question. We counted how frequently stakeholders brought up a specific response to indicate some level of agreement, clarification, or disagreement among participants. For example, how many stakeholders agreed that manual entry is a potential contributor to delayed ambulances? We counted each stakeholder who confirmed this was a challenge and reported them together in summary form.

First step: a team member reviewed each raw interview response for each question and created a set of themes or categories related to the replies in a word document. The question was written at the top of the page and each unique reply was an outlined number or letter below the question. Each interview reply was added to this initial set of themes. The team members expanded the list when new themes emerged in replies and counted the number of repeated themes. At least one sample quote from an interview was used to explain the theme. Initially one relevant quote from each interview participant for each theme was transferred. Text that did not relate to the questions was not included in the analysis.

Second step: The first or second team member reviewed the initial set of patterns for consistency and inconsistencies. In this second round, the team member periodically revisited the raw data to ensure the themes were properly categorized by question as some participants provided response to the same question in multiple places of the conversation. The lead analyst then created an initial summary of question responses.

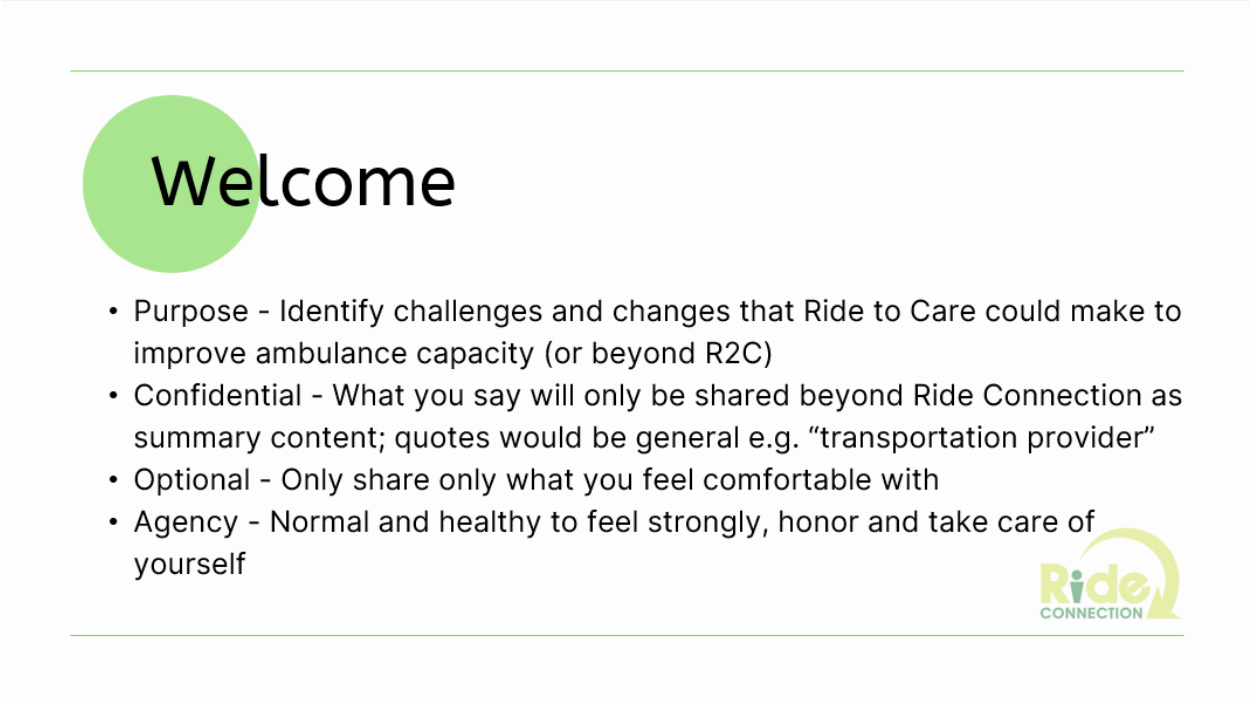
Third step identify meta-themes: There were themes of information that emerged repeatedly across questions. When people brought up the same ideas in answering questions not specifically asking about that idea, this is where we found meta themes. For example, more than one participant brought up the challenge of county-to-county

regulation variation affecting various aspects of ambulance service. These were colored purple so that we could revisit them to write a meta summary.

Inter-coding reliability: Both analysts completed step 2 and 3 on the questions separately. They each reviewed step 1 content, looking for inconsistencies, creating new categories if needed and then identifying any meta themes. They then discussed their findings together to create the final analysis.

Appendix 2: Interview questions and attachments

Slide Overview for Interviews



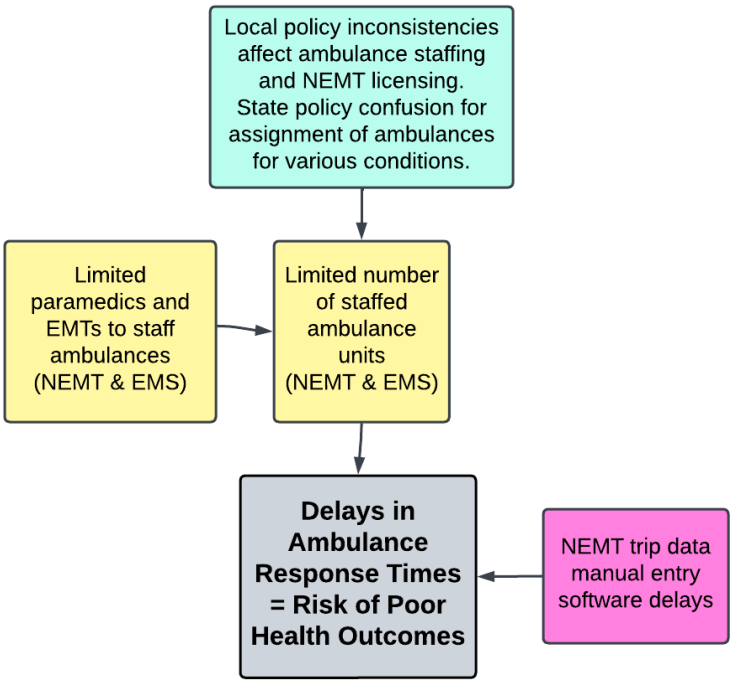
Group 1: Ride to Care Direct Stakeholders

ATTACHMENT 1: INTERVIEW QUESTIONS

Thank you for being willing to speak with Ride Connection about ambulance capacity challenges affecting Ride to Care's non-emergency medical transportation network in the tri-county region. Below are the questions we'll go over together in our interview. The next page has a draft list of related policies which may or may not be relevant to our discussion.

Interview questions:

1. Can you share with us the steps involved with creating and completing an ambulance trip for a Medicaid client in the Ride to Care NEMT brokerage?
2. We have preliminarily identified a few core areas that affect limited ambulance capacity in the tri-county Ride to Care NEMT network beyond rising costs - what is accurate, inaccurate, or missing from this diagram?



3. What, in your experience, are the top three barriers to on-time ambulance rides in Ride to Care?
4. Which Medicaid clients, in your experience, are most negatively impacted by this challenge?
5. What, to your knowledge, is already being done to address these three barriers either in your organization or by partners?
6. Is there anyone else you feel like we need to speak with to get a clear understanding of barriers to ambulance capacity?
7. On a scale of 1 to 5 with 1 being least willing to 5 being most willing, how willing would you be to participate in a coalition to support statewide changes such as workforce training programs or local policy changes?

See attachment two on the next page.

ATTACHMENT 2: Table of sample differences in local policies related to staffing and licensing of ambulances for NEMT within EMS regulations as interpreted by Ride Connection policy analyst. State and federal policies not shown. REVISED based on stakeholder feedback on errors.

	Clackamas	Multnomah	Washington	Marion – closed ASA	Yamhill
EMS ambulance staffing (w/source) ASA = Ambulance Service Area Section of local policy named in summary. min. = minimum BLS = Basic Life Support EMR = Emergency Response System	**Title 10** Franchises: • Levels of Care 10-1D – All providers for each ASA provide ALS service • 10-16 Section E: ALS ambulances 1 paramedic, 1 EMT min. • BLS: not specified • 3 ASAs	**MCC AR 21.400 EMS 105 and ASA Plan:** • ALS: 2 paramedics • BLS: 1 driver (EMR), 1 EMT • 1 ASA	**Ord. No. 887, § 3A (Ex. 1), 2-15-2022:** • ALS: 1 EMT and 1 paramedic min. Contract with AMR: 2 paramedics for 911 calls • BLS: 2 EMTs • 1 ASA	**2023 ASA Plan:** • ALS: Advanced EMT, EMT-I or paramedic (min), equipment for scope of practice, prefer ALS by paramedics • Intermediate life support: 1 EMT; 1 EMT-I or Advanced EMT • BLS: 2 staffers - 1 EMT and licensed driver; EMT must stay with patient, equipment for scope of practice • 10 ASAs	**Ordinance 751 and ASA Plan:** • ALS: 1 EMT-B and paramedic (min.) • BLS: 1 driver, 1 EMT • 4 ASAs
NEMT Ambulance license **(ALS and/or BLS)**	**Title 10 section J:** All vehicles must be permitted by state and county; **stretcher van or ambulette not named as excluded**	**AR MCC 21.400. EMS 120:** License by vehicle as an ambulance, stretcher must be in an ambulance (e.g. not ambulette or van) **City of Portland:** Does not regulate ambulances. Does require wheelchair and	**AR 200-100P:** License for NEMT ALS and Interfacility NEMT ALS, per unit; Stretcher (e.g. ambulette or van) **not recognized**; only ambulance. BLS not specified	**2023 ASA:** Not specified beyond state requirements Section 7: "No person shall provide emergency or non-emergency ambulance services in Marion County unless such person is assigned an ASA in accordance."	**Ord 751** Section 5: "This Ordinance shall not apply to Ambulances or vehicles transporting patients from outside the county to a health care facility within the county, or which are passing through without a destination in

		stretcher car licensing.			the county." Not further specified.
NEMT Ambulance staffing	**Title 10.01.050:** 1 paramedic, 1 EMT Does not specify BLS (Title 10.01.050 section E: all ambulances used to provide emergency or non-emergency svcs)	**ASA:** Licensed NEMT staffed with EMT or Paramedic at level of service provided **AR MCC 21.400. EMS.105**: • BLS - minimum 1 qualified driver and 1 EMT • ALS NEMT is 1 paramedic, 1 EMT	**AR 400-220:** BLS - 2 EMTs **AR 400-210:** ALS - 1 paramedic, 1 EMT-B	Not specified beyond emergency	Not specified beyond emergency

Group 2: Brokerage Stakeholder Questions (received Attachment 2)

Interview questions:

1. Can you share with us the steps involved with creating and completing an ambulance trip for a Medicaid client in the Ride to Care NEMT brokerage?
2. We have preliminarily identified a few core areas that affect limited ambulance capacity in the tri-county Ride to Care NEMT network beyond rising costs - what is accurate, inaccurate, or missing from this diagram? (refers to same diagram as group 1)
3. What, in your experience, are the top three barriers to on-time ambulance rides in Ride to Care?
4. Which Medicaid clients, in your experience, are most negatively impacted by this challenge?
5. What, to your knowledge, is already being done to address these three barriers either in your organization or by partners?
6. Is there anyone else you feel like we need to speak with to get a clear understanding of barriers to ambulance capacity?
7. On a scale of 1 to 5 with 1 being least willing to 5 being most willing, how willing would you be to participate in a coalition to support statewide changes such as workforce training programs or local policy changes?

Group 3: Government Staff Stakeholder Questions (received Attachment 2)

Interview questions:

1. We have preliminarily identified a few core areas that affect limited ambulance capacity in the tri-county Ride to Care non-emergency medical transportation brokerage network beyond rising costs - what is accurate, inaccurate, or missing from this diagram? (refers to same diagram as in group 1)
2. What, to your knowledge, is already being done or is planned, to address these challenges either in your organization or by partners?
3. What quality metrics does your agency track as part of updating existing medical transportation policy or developing new policy?
4. What type of supports, such as policy explainers, for level of transport and type of medical care needed, are provided from your agency to CCO or fee for service brokerages, transportation providers, or care facilities who are expected to follow multiple regulations that conflict or may be implemented differently based on interpretation?
5. What are the main committees, departments, or staff that coordinate **emergency medical system** transportation regulations with **non-emergency** medical transportation regulations at the state or local levels e.g. the State EMS Committee, the EMS advisory committee of the Oregon Medical Board, etc.?

Group 4: Workforce Stakeholder Questions

Interview questions:

1. Please share any partnerships you have established to increase the number of EMT (Emergency Medical Technician), and/or paramedics trained in the region.
2. What, in your experience, are the top three barriers to training and retention of EMTs and Paramedics in the NEMT field?
3. What, to your knowledge, is already being done to address these barriers either in your organization or by partners?
4. On a scale of 1 to 5 with 1 being least willing to 5 being most willing, how willing would you be to participate in a coalition to support statewide changes such as workforce training programs or local policy changes? (do not ask if already asked in other set of questions)

Group 5: Advocate Stakeholder Questions – Did not identify stakeholders who could speak to this experience

Interview questions:

1. What in your experience are the main reasons given for late or missing non-emergency medical transportation ambulance rides?
2. Which Medicaid clients are most negatively affected by delayed or unavailable ambulances in non-emergency medical transportation?
3. What do people do when they cannot get a non-emergency medical transportation related ambulance ride?
4. On a scale of 1 to 5 with 1 being least willing to 5 being most willing, how willing would you be to participate in a coalition to support statewide changes such as workforce training programs or local policy changes?

Appendix 3: Recommended Groups to Speak With

Who and What we asked:

- Ride to Care (12) and Brokerage (2) Stakeholders: Is there anyone else you feel like we need to speak with to get a clear understanding of barriers to ambulance capacity?
- Government Agency staff (6): What are the main committees, departments, or staff that coordinate emergency medical system transportation regulations with non-emergency medical transportation regulations at the state or local levels e.g. the State EMS Committee, the EMS advisory committee of the Oregon Medical Board, etc.?

Why we asked this: This was to help us identify anyone we had missed and to understand who we might share findings with.
Background on this question: We intentionally sought out people with specific knowledge for the interviews.

Twelve teams shared suggestions of who else they thought would help us understand the ambulance capacity challenge better. We also asked advocacy organizations with self-advocates who can speak to non-emergency medical ambulance rides this question. The most frequent response were recommendations that we speak with outpatient clinics, ambulatory clinics, or services that may call for ambulances: Hospitals, ED transport center and case management (4), specific staff at ProvRide (5, 6), Dialysis clinics (9), Gracious Hospice, Bristol Hospice (11), Adult foster care, Vibra Healthcare clinics, Rehicki House, Hopewell House (23); SNF leadership, post-acute care association or longer term care association (6, 8, 9)

Three groups recommended we speak with government staff at county and city offices (1-3). Two groups did not have suggestions (13,14). Two groups recommended we

speak with people who are most negatively impacted by rides (1,2). One group recommended we speak with transportation providers (1). One group recommended we speak with the county medical directors (9).

All six government agency teams responded to a question about which committees coordinate NEMT and EMS transportation policy. Government teams mentioned multiple committees, some that are government agency run and others that are not. Organizations they named include the Office of EMS, OHA EMS & Trauma, National Highway Safety Administration, Oregon State EMS Committee (several mentions), Oregon State EMS Advisory committee (several mentions), Oregon State Ambulance Association (several mentions), National Association of EMS educators, and county medical directors. One team shared how policy changes at one state agency. “It's a 75% directional request - agencies are interested in being involved or have suggestions that we can put in our rule. For example, if some kind of regulation affects ambulance services that can affect that industry, 75% of the burden is on that industry to reach out to the relevant committee and let them know, then when those rules sets are opened up for change that's when that would happen. There are limited proactive conversations.”