**Chapter 5:**

# Mandated Report on Non-Emergency Medical Transportation

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## Key Points

- Non-emergency medical transportation (NEMT) is a mandatory Medicaid benefit created to help beneficiaries access medically necessary services. NEMT was initially described in regulation as an administrative requirement. Congress clarified that NEMT is a statutorily required benefit in the Consolidated Appropriations Act of 2021 (P.L. 116-260).

- This chapter responds to a U.S. Senate Appropriations Committee request to study the benefits of NEMT for beneficiaries and the benefits of improving coordination of NEMT with other federally assisted transportation services. Our analysis is based on an environmental scan of state policies and stakeholder interviews, beneficiary focus groups, and analysis of administrative data on NEMT use and spending.

- The NEMT benefit includes a broad range of transportation services and is available to all full-benefit beneficiaries. States may manage the benefit directly, contract with a third-party broker, or provide services under Medicaid managed care contracts.

- Federal policy encourages coordination across federally assisted transportation programs. However, in most states, NEMT is not well coordinated with other programs.

- In fiscal year (FY) 2018, there were over 60 million NEMT ride-days (i.e., days in which a beneficiary had at least one NEMT ride). State and federal spending on NEMT was $2.6 billion (excluding managed care payments to providers).

- Less than 5 percent of beneficiaries used NEMT in FY 2018. For beneficiaries who do use NEMT, it plays a vital role in facilitating access to care. Focus group participants said it is essential to maintaining their health, and in some cases, has been lifesaving.

- The most frequent users of NEMT include beneficiaries who are eligible for Medicaid on the basis of disability or age and those with certain conditions, including end-stage renal disease, intellectual or developmental disabilities, and behavioral health conditions.

- NEMT program performance varies across and within states. For example, beneficiaries report concerns such as late pickups, ill-equipped vehicles, and long call center wait times.

- States and other entities that administer NEMT benefits are working to improve program administration, program integrity, and beneficiary experience. For example, they have introduced new technologies and new NEMT provider types such as Uber and Lyft.

- Changes in health care delivery during the COVID-19 pandemic may reduce the need for NEMT services in certain circumstances. However, the extent to which beneficiary need for NEMT is changing remains unclear.

- As states consider how to address policy goals, such as reducing racial disparities and increasing COVID-19 vaccination rates, they may want to consider the role of NEMT in promoting access to care.

# CHAPTER 5: Mandated Report on Non-Emergency Medical Transportation

Federal law requires that state Medicaid programs ensure transportation to and from providers, a benefit known as non-emergency medical transportation (NEMT). The scope of the benefit varies by state, but NEMT generally covers a broad range of transportation services, including trips in taxis, buses, vans, ambulances, public transportation, and personal vehicles belonging to beneficiaries and their families or friends. States differ in how they deliver NEMT services and in how they administer the benefit. Medicaid differs from other payers in its broad coverage of transportation, although the U.S. Department of Veterans Affairs provides such services to certain veterans. Medicare Advantage plans are also increasingly offering transportation to enrollees.

The requirement to provide NEMT, referred to as the assurance of transportation, was established as an enabling service to help beneficiaries access medically necessary services. Unlike other mandatory Medicaid benefits, the NEMT benefit was initially described only in regulation as an administrative requirement. It was not specified in statute until December 2020, when Congress added a requirement for states to provide NEMT to the Social Security Act (the Act) through the Consolidated Appropriations Act of 2021 (P.L. 116-260).

In the years leading up to this action, some federal and state policymakers were reexamining whether the NEMT benefit was necessary for all Medicaid beneficiaries. Some states received approval from the Centers for Medicare & Medicaid Services (CMS) to waive the benefit, through a demonstration authorized under Section 1115 of the Social Security Act (the Act), for the new adult group made eligible under the Patient Protection and Affordable Care Act (ACA, P.L. 111-148, as amended).[1] Moreover, the Trump Administration considered issuing new regulations that would make the NEMT benefit an optional, rather than mandatory, benefit (OIRA 2019a, 2018).

Congress was largely skeptical of or opposed to these efforts, and on several occasions, considered bipartisan legislation to codify existing NEMT regulations into statute before ultimately doing so with the Consolidated Appropriations Act of 2021 (P.L. 116-260).[2] In its fiscal year (FY) 2020 report language, the Senate Appropriations Committee directed MACPAC to do the following:

> Examine, to the extent data are available, the benefits of NEMT from State Medicaid programs on Medicaid beneficiaries, including beneficiaries with chronic diseases including ESRD, substance abuse disorders, pregnant mothers, and patients living in remote, rural areas, and to examine the benefits of improving local coordination of NEMT with public transportation and other federally assisted transportation services (Committee on Appropriations 2019).

In anticipation of the Trump Administration making regulatory changes to NEMT, Congress also directed the U.S. Department of Health and Human Services (HHS) to take no regulatory action on availability of NEMT until completion of the MACPAC study. Congress's subsequent decision to include the NEMT benefit in statute precluded further administrative action to alter the NEMT benefit through regulation alone, and also changed the context for this required study.

In this report, we examine a number of different analytic questions focused on the populations who use NEMT and which services they access with it; state approaches to administering NEMT

and ensuring adequate quality and oversight; and beneficiaries' experiences using NEMT and the extent to which it helps them overcome barriers to access. In addition to our review of the literature, statutory and regulatory requirements, and state policies, the information presented here comes from three activities: semistructured interviews with state and federal officials and other stakeholders, focus groups with Medicaid beneficiaries who use NEMT, and analyses of administrative data.

Consistent with prior research, we find that although the portion of Medicaid beneficiaries who use NEMT is relatively small, NEMT plays a vital role in enabling access to care for beneficiaries who rely on the benefit. This is particularly true for beneficiaries with chronic conditions such as end-stage renal disease (ESRD), intellectual or developmental disabilities (ID/DD), and behavioral health conditions such as opioid use disorder (OUD) and serious mental illness (SMI), but beneficiaries who do not have chronic or complex medical conditions also rely on NEMT services to receive care.

The extent to which NEMT programs meet the needs of beneficiaries appears to vary widely across and within states. States and other entities that administer NEMT benefits, including Medicaid managed care plans and third-party transportation brokers, are engaged in a number of efforts to improve NEMT program administration, program integrity, and beneficiary experience. These involve introducing new provider types including transportation network companies (TNCs) such as Uber and Lyft, sophisticated processes to ensure beneficiaries are matched with appropriate transportation, more substantive or specialized driver training programs, and integration of new technologies such as global positioning system (GPS) tracking.

These changes in NEMT administration are occurring at the same time that the delivery of health care is changing due to the COVID-19 pandemic. States have dramatically expanded availability of telehealth services, possibly

supplanting the need for NEMT services in certain circumstances (Libersky et al. 2020). The extent to which beneficiary need for NEMT is changing, and for which beneficiaries and medical appointments, remains unclear, and will require additional data than are currently available. NEMT use appears to have rebounded after an initial decline in the first half of 2020, albeit unevenly across states and service destinations. In focus groups, beneficiaries reported returning to many of their regular medical appointments and health services after experiencing gaps in care or replacing in-person care with telehealth earlier in the pandemic. Many states are also promoting NEMT as part of a strategy to encourage and enable beneficiaries to be vaccinated against COVID-19 (AHCCCS 2021, HCA 2021, Hinton et al. 2021, MDH 2021, OHA 2021). These experiences suggest that NEMT is likely to continue to play a central role in helping beneficiaries access care, especially medical care that must be provided in person.

This chapter begins with background information on the origin and evolution of NEMT requirements and an overview of MACPAC's study approach. It goes on to discuss the extent to which Medicaid beneficiaries experience transportation barriers, the characteristics of beneficiaries that use NEMT, and the types of services they are accessing when they do so. The chapter then turns to matters of NEMT administration, including state approaches to delivering NEMT and the challenges they face. It then discusses the extent to which state NEMT programs are meeting the needs of beneficiaries, highlighting various performance issues and quality concerns. The chapter concludes with a discussion of the role of NEMT in Medicaid, including in promoting beneficiary health, and looks ahead to how this might change in the future, particularly as the COVID-19 pandemic comes to an end.

# Background

The NEMT benefit provides transportation to and from medical appointments and visits to the pharmacy for Medicaid beneficiaries with no other means of accessing services. MACPAC analysis of data from the Transformed Medicaid Statistical Information System (T-MSIS) revealed that in FY 2018, approximately 3.2 million Medicaid beneficiaries used NEMT. There were over 60 million NEMT ride-days (i.e., days in which a beneficiary had an NEMT ride).[3,4] State and federal spending on NEMT was $2.6 billion, or an average of about $40 per full-year-equivalent (FYE) enrollee.[5] (Spending figures do not reflect payments to providers for services delivered through Medicaid managed care plans.[6]) See Appendix 5A for an explanation of how these numbers were calculated.

Medicaid programs have provided transportation services since early in the program's history. The provision of transportation is rooted in the notion that to achieve Medicaid's objectives, states must not only provide coverage, but also ensure access to medical appointments and covered services (Rosenbaum et al. 2009).[7] The obligation to provide transportation is referenced in federal interpretive guidance as early as the 1966 Handbook of Public Assistance (Supplement D).[8] It was among the administrative requirements established in regulation by the Secretary of HHS in the late 1960s.[9] Although the requirement was not specifically outlined in statute until December 2020, numerous statutory provisions formed the legal basis for HHS policy and regulations requiring states to provide NEMT. These provisions include requirements for statewideness and comparability, efficient program administration, administration in the best interest of beneficiaries, free choice of provider, and others (Rosenbaum 2009).[10]

States must comply with several federal requirements related to NEMT: They must ensure necessary transportation to and from providers, cover transportation and related travel expenses necessary to secure medical examinations or treatment, and describe the methods they use to meet this requirement in their state plan (42 CFR 431.53, 42 CFR 440.170, CMS 2016a). They must also provide children and their families with transportation assistance as part of Medicaid's early and periodic screening, diagnostic, and treatment (EPSDT) benefit, and provide written and oral methods of effectively informing children and their families that transportation assistance is available (42 CFR 441.62).[11]

## NEMT benefit design and administration

The federal government's role in NEMT administration is fairly limited. CMS's primary role is to review state plan amendments and other materials to ensure that they meet the federal regulatory requirements, respond to state queries, and provide technical assistance.[12] CMS and HHS also conduct oversight of state NEMT programs through routine program integrity mechanisms.

Benefit design varies from state to state but typically includes transportation by taxi, van, ambulance, private vehicle, public transportation, and in some cases, TNCs. As with other mandatory benefits, states retain flexibility to define other coverage parameters, including the breadth of coverage (i.e., amount, duration, and scope), and the tools they use to manage utilization.

Medicaid beneficiaries may use NEMT for any medical appointment or service that is coverable by Medicaid, including trips to the pharmacy.[13] For individuals dually enrolled in Medicaid and Medicare and in full-benefit Medicaid, NEMT services are generally also covered by Medicaid, even if Medicare serves as the primary payer for the medical service being accessed (MMCO 2021, Engelhardt 2020).[14]

In general, beneficiaries are eligible for NEMT services as long as transportation is necessary and they do not have another means of transportation. States vary in how they define who has no other means of transportation. For example, beneficiaries with no other means of transportation may not have

a car or driver's license, or may have physical or intellectual limitations or disabilities that limit their ability to provide or arrange their own transportation (CMS 2016a, 2016b).[15] Most states require that beneficiaries attest that they need the ride for covered medical services and have no other way to get to their appointment. Others require a health care provider to document that the beneficiary needs NEMT, although this approach is less common.[16]

States may limit services based on medical necessity or utilization control (42 CFR 440.230(d)). They commonly require prior authorization either for all rides or under certain conditions (e.g., trips over a certain mileage threshold). Some states limit trip mileage or number of trips. States may also impose nominal copayments (MACPAC 2017).

States can also choose how to deliver NEMT. They may manage the benefit directly and pay for rides on a fee-for-service (FFS) basis (i.e., an in-house approach), contract with a transportation broker to manage and deliver benefits (i.e., a brokerage model), or use Medicaid managed care plans to manage and deliver NEMT along with other Medicaid benefits (i.e., a managed care carve-in model). These delivery models are discussed in detail later in the chapter.

States can claim federal Medicaid matching payments for NEMT as either an administrative or medical assistance expense, and must specify their choice in the Medicaid state plan (42 CFR 440.170). States reporting NEMT spending as an administrative expense receive payment at the federal medical assistance percentage (FMAP) for administrative expenses, which is 50 percent.[17] States claiming NEMT as a medical assistance expense receive payment at their regular FMAP, which ranges from 50 percent to 77.76 percent for FY 2021, depending on the state, or the appropriate FMAP for certain populations or circumstances (MACPAC 2020a).[18] If states choose to report NEMT spending as medical assistance, they are subject to additional statutory requirements, including the requirements for comparability, statewideness, and giving Medicaid beneficiaries free choice among

any qualified Medicaid provider willing to provide the service (CMS 2008).

States contracting with a broker to provide NEMT are not subject to the statutory requirements related to claiming NEMT as a medical assistance expense (CMS 2008).[19] However, brokerage arrangements must meet certain requirements, including that the state must use a competitive procurement process to select each broker and perform regular auditing and oversight, and that the contract must ensure drivers are licensed, qualified, and competent (CMS 2006).[20]

## Past efforts to exclude NEMT from benefit packages

State and federal policymakers have sought to limit or exclude NEMT services in some circumstances. They have argued, for example, that other payers do not provide NEMT, and that limiting or excluding NEMT would better align Medicaid benefit packages with those offered by commercial health plans.

The Trump Administration proposed making NEMT an optional benefit in its annual budgets beginning in FY 2019 (HHS 2020, 2019, 2018). In fall 2018, CMS announced plans to issue a proposed rule by May 2019 that would provide states with greater flexibility in NEMT benefits, although it later delayed this plan until 2021 (OIRA 2019b, 2018). However, in December 2019, CMS shifted these plans, and noted its intention to issue a request for information (RFI) seeking input on "whether the Assurance of Transportation in the Medicaid program remains administratively necessary given the delivery of healthcare both in terms of technological advances and the commercial market design" (OIRA 2019a). CMS also indicated that it would "request stakeholder comment regarding the merits of the transportation assurance on selected populations and services." For example, CMS noted that commenters might suggest maintaining the assurance for certain groups, including individuals who are pregnant, medically frail, or eligible for EPSDT (OIRA 2019a). However, the administration

ultimately did not issue the RFI or publicly share any input submitted informally.

States have at times been permitted to exclude NEMT for certain enrollees. For example, several states received Section 1115 demonstration authority to exclude NEMT for certain low-income adults eligible for Medicaid on a basis other than disability.[21, 22] These include:

- Indiana's Healthy Indiana Plan 2.0 demonstration excludes NEMT for the new adult group, except for those determined to be medically frail (CMS 2020a).[23] Even so, all four of the state's Medicaid managed care plans are currently providing transportation to members as a value-added service (Long et al. 2020).

- Originally approved in 2013, and now authorized through 2024, the Iowa Wellness Plan demonstration excludes NEMT for the new adult group, except for those who have been determined medically frail or are eligible for EPSDT services (i.e., beneficiaries age 19 and 20) (CMS 2019a).

- The Georgia Pathways to Coverage demonstration, approved in October 2020 and scheduled for implementation as early as July 2021, will extend coverage to individuals with income up to 95 percent of the federal poverty level (FPL) who are not otherwise eligible for Medicaid. These individuals will not receive NEMT unless eligible for EPSDT services (CMS 2020b).

- The Kentucky Helping to Engage and Achieve Long-Term Health demonstration, originally approved in 2018 and currently authorized through 2023, allows the state to exclude NEMT for transportation to methadone treatment services for all beneficiaries except pregnant women, former foster care youth, and beneficiaries eligible for EPSDT services (CMS 2020c). A previous iteration of the demonstration also allowed the state to exclude NEMT for all services for members

of the new adult group, but this waiver was withdrawn by the state.[24]

- Under its Primary Care Network demonstration, Utah excludes NEMT for parent and caretaker relatives unless they are eligible for EPSDT services (CMS 2019b).

Because the special terms and conditions for these demonstrations specifically waive Section 1902(a)(4) of the Act (insofar as it incorporates 42 CFR 431.53), the statutory change requiring NEMT will not automatically affect states with approved waivers (CMS 2020a, 2020b, 2020c, 2019a, 2019b). However, CMS recently notified Indiana, Georgia, and Utah (along with other states) that certain elements of their demonstrations (i.e., work and community engagement requirements) are being withdrawn, and that other elements of their demonstrations (which include waivers of NEMT) are under review.[25] As such, it is unclear which elements of these waivers will continue, or whether the Biden Administration will approve renewals or grant new waivers of NEMT.

In 2008, the Bush Administration changed federal rules to allow states to exclude NEMT for certain beneficiaries enrolled in benchmark or benchmark-equivalent benefit packages.[26] At least three states received state plan approval for benchmark plans that excluded NEMT. However, this rule was rescinded by the Obama Administration and replaced with a new policy requiring NEMT in benchmark plans (CMS 2010, Rosenbaum et al. 2009).

The effects of policies that exclude NEMT for certain Medicaid enrollees have not been systematically studied.[27] However, that may change as more states conduct evaluations of their Section 1115 demonstrations under new CMS evaluation guidance and practices implemented in 2017.[28]

## Study Approach

The information in this chapter primarily derives from three study components, which are described below.

**Environmental scan of state NEMT policies and semistructured stakeholder interviews.** Together with our contractor, Health Management Associates (HMA), MACPAC conducted an environmental scan of NEMT policies for all 50 states and the District of Columbia.[29] We selected six states for further study: Arizona, Connecticut, Georgia, Indiana, Massachusetts, and Texas.[30] We conducted 21 interviews with 51 individuals, including Medicaid officials, federal officials from CMS and the Federal Transit Administration (FTA), NEMT providers, transportation brokers, health plans, beneficiary advocates, public transportation representatives, and other subject matter experts.

**Beneficiary focus groups.** MACPAC contracted with PerryUndem to hold eight virtual beneficiary focus groups across the six study states to hear from beneficiaries about how they use NEMT, transportation barriers, and their experiences using the benefit. The sessions were held in October and November 2020.[31]

**Analysis of administrative data on NEMT use and spending.** To examine NEMT use and spending, MACPAC analyzed FY 2018 T-MSIS data to provide a national picture of NEMT use. Due to state-level variation in billing policies, we counted the number of days when a beneficiary used the NEMT benefit to quantify utilization (referred to as ride-days). The true number of NEMT door-to-door trips is likely higher than our estimate, which should therefore be interpreted as a floor. For example, beneficiaries might require a round trip to a physician office, or trips to multiple specialists in a day. Some states may report a round trip or multileg trip as one ride, with others reporting the same type of trip as two or more rides.[32] Moreover, although utilization data reflect utilization by all beneficiaries, spending figures exclude managed care payments to providers. For a more complete explanation of our methods and limitations, please refer to Appendix 5A.

## Transportation as an Access Enabler

Medicaid beneficiaries face many barriers to access, including difficulty arranging transportation to medical appointments. Transportation-related barriers may occur because beneficiaries face a variety of obstacles, for example:

- lack of a car or a driver's license;

- inability to drive or use public transportation because of their medical conditions (e.g., impaired vision, a weakened immune system, or mobility issues);

- need for a specialty vehicle, such as a wheelchair van;

- inability to afford the cost of transportation;

- residence in areas where public transportation is either unavailable or difficult to access; or

- difficulty finding rides to appointments (especially if asking friends or family members would cause them to miss work or school or require them to arrange child care).

Without transportation services, focus group participants said they would have no other way to get to their medical appointments. Many reported that they often missed or could not schedule appointments before they began using NEMT. This is consistent with the findings of other studies.[33]

Among the Medicaid population more broadly, 2.5 million beneficiaries (5.2 percent) reported delaying care due to transportation in 2018 (Table 5-1).[34] Of those, 60 percent were adults age 19–64, and 39 percent were children age 0–18.[35] Almost all (98 percent) adults who delayed care had either basic action difficulty or complex activity limitations.[36]

Moreover, about three-quarters had been diagnosed with conditions such as hypertension, diabetes, and weak or failing kidneys.[37] Among children who delayed care due to transportation barriers, just over half had been diagnosed with selected conditions such as asthma, autism, or intellectual disability.[38] Nearly all had a special health care need requiring ongoing care.[39]

The share of Medicaid beneficiaries reporting that they delayed care due to transportation varies by race and ethnicity, as well as income and health status (Table 5-1). Specifically:

- Black, non-Hispanic Medicaid beneficiaries were significantly more likely to report delaying care due to transportation than white, non-Hispanic beneficiaries. Hispanic beneficiaries were significantly less likely to report delaying care due to transportation than white, non-Hispanic beneficiaries.

- Beneficiaries with incomes less than 138 percent FPL were significantly more likely to report delaying care due to transportation than those with higher incomes.

- Adults receiving Supplemental Security Income (SSI) or Social Security Disability Insurance (SSDI) were significantly more likely to report delaying care due to transportation than those not receiving these benefits.

- Adults diagnosed with one or more specific conditions (e.g., hypertension, coronary heart disease, cancer, weak or failing kidneys) were significantly more likely to report delaying care due to transportation than beneficiaries who do not have such conditions.[40]

- Children diagnosed with one or more specific conditions (e.g., asthma, autism, intellectual disability) were significantly more likely to report delaying care due to transportation than other children.[41]

- Children with special health care needs were significantly more likely to report delaying care due to transportation than those without a special health care need.

**TABLE 5-1.** Rates of Reported Transportation Barriers among Medicaid Beneficiaries, 2018

| Beneficiary characteristic | Number of beneficiaries | Beneficiaries who delayed care | Share of beneficiaries who delayed care |
|---|---|---|---|
| **Total** | **47,182,736** | **2,468,600** | **5.2%** |
| **Gender** | | | |
| Male | 21,334,525 | 1,141,444 | 5.4 |
| Female | 25,848,211 | 1,327,156 | 5.1 |
| **Age** | | | |
| 0–18 | 26,586,509 | 956,511 | 3.6 |
| 19–64 | 20,146,091 | 1,491,327 | 7.4 |
| 65 and older | * | * | * |
| **Race and ethnicity** | | | |
| Hispanic | 15,735,267 | 464,435 | 3.0 |
| White, non-Hispanic | 17,749,513 | 862,869 | 4.9 |
| Black, non-Hispanic | 10,082,599 | 917,045 | 9.1 |
| Other non-white, non-Hispanic | 3,615,357 | 224,251 | 6.2 |
| **Income** | | | |
| Has income less than or equal to 138 percent FPL | 27,941,796 | 1,913,654 | 6.8% |
| Has income greater than 138 percent FPL | 19,240,940 | 554,946 | 2.9 |
| **Limitations** | | | |
| **Children** | | | |
| Special needs, impairments, or health conditions[1] | | | |
| Yes | 7,176,289 | 443,391 | 6.2 |
| No | 19,410,220 | 513,120 | 2.6 |
| Ever been told they have selected conditions[2] | | | |
| Yes | 6,969,393 | 495,311 | 7.1 |
| No | 19,617,116 | 461,200 | 2.4 |
| **Adults** | | | |
| Has either basic action difficulty or complex activity limitation[3] | | | |
| Yes | 19,957,553 | 1,484,051 | 7.4 |
| No | * | * | * |
| Currently pregnant[4] | | | |
| Yes | * | * | * |
| No | 8,173,801 | 531,340 | 6.5 |

**TABLE 5-1.** (continued)

| Beneficiary characteristic | Number of beneficiaries | Beneficiaries who delayed care | Share of beneficiaries who delayed care |
|---|---|---|---|
| Ever been told they have selected conditions[5] | | | |
| Yes | 10,389,672 | 371,052 | 3.6 |
| No | 10,206,555 | 1,141,037 | 11.2 |
| **Has SSI or SSDI** | | | |
| **Children** | | | |
| Yes | * | * | * |
| No | 25,712,346 | 893,809 | 3.5 |
| **Adults** | | | |
| Yes | 2,922,442 | 485,526 | 16.6 |
| No | 17,617,164 | 1,026,563 | 5.8 |

**Notes:** FPL is federal poverty level. SSI is Supplemental Security Income. SSDI is Social Security Disability Insurance. The following hierarchy was used to assign individuals with multiple coverage sources to a primary source: Medicare, private, Medicaid or CHIP, other, uninsured. As a result, individuals dually enrolled in Medicaid and Medicare and those who are covered by private insurance and Medicaid or CHIP are not captured in these figures.

* Estimate is unreliable because it is based on a small sample or has a relative standard error greater than or equal to 30 percent.

[1] To be considered to have a special health care need, a child must have at least one diagnosed or parent-reported condition expected to be an ongoing health condition and also must meet at least one of five criteria related to elevated service use or elevated need, including reported unmet need for care. For more information on the methods used to identify children with special health care needs, see the Technical Guide to MACStats, in *MACStats: Medicaid and CHIP Data Book* (MACPAC 2020b).

[2] The list of conditions includes: attention deficit hyperactivity disorder or attention deficit disorder, asthma, autism, cerebral palsy, congenital heart disease, diabetes, down syndrome, intellectual disability, and other developmental delay.

[3] The definition of basic action difficulty includes limitations in movement and sensory, emotional, or mental functioning that are associated with some health problem. Adults are defined as having a complex activity limitation if they have one or more of the following types of limitations: self-care limitation, social limitation, or work limitation.

[4] Information is limited to individuals age 19–44.

[5] The list of conditions includes: hypertension, coronary heart disease, heart attack, stroke, cancer, diabetes, arthritis, asthma, chronic bronchitis in the past 12 months, liver condition in the past 12 months, and weak or failing kidneys in the past 12 months.

**Source:** MACPAC, 2021, analysis of 2018 National Health Interview Survey.

## Characteristics of Beneficiaries Using NEMT

As noted above, Medicaid beneficiaries are generally eligible for NEMT as long as the transportation is necessary and the beneficiary does not have another means of transportation. We examined national administrative data and interviewed stakeholders to try to learn more about the characteristics of beneficiaries who frequently use NEMT. Generally, we found that Medicaid beneficiaries eligible on the basis of disability and age and those who have conditions that require frequent medical appointments use NEMT most often, although no particular condition or service drove use. Information on utilization by eligibility group, geographic location, and diagnoses are presented below.

## Use by eligibility group and geographic location

As noted above, 3.2 million beneficiaries (4.8 percent) used NEMT in FY 2018, averaging 19 ride-days during the year. This concentration of rides among a small percentage of users was present across various eligibility groups and people living in urban and rural areas (Table 5-2).

**TABLE 5-2.** NEMT Use by Selected Beneficiary Characteristics, FY 2018

| Characteristic | Total number of ride-days | Total number of NEMT users | NEMT users as a percentage of FYE | Ride-days per FYE | Ride-days per NEMT user |
|---|---|---|---|---|---|
| **Overall** | **61,500,628** | **3,233,313** | **4.8%** | **0.9** | **19.0** |
| **Basis of eligibility** | | | | | |
| Children | **3,426,029** | 473,419 | 1.6 | 0.1 | 7.2 |
| Aged | **14,642,824** | 713,242 | 13.5 | 2.8 | 20.5 |
| Disabled | **31,889,094** | 1,308,047 | 15.3 | 3.7 | 24.4 |
| Pregnant women[1] | **234,774** | 25,732 | 3.0 | 0.3 | 9.1 |
| New adult group[2] | **7,213,327** | 433,446 | 3.0 | 0.5 | 16.6 |
| Other adults[3] | **4,094,580** | 279,428 | 3.1 | 0.5 | 14.7 |
| **Dually eligible status** | | | | | |
| Dually eligible[4] | **29,887,916** | 1,240,528 | 14.9 | 3.6 | 24.1 |
| Medicaid only | **31,612,712** | 1,992,785 | 3.4 | 0.5 | 15.9 |
| **Urban or rural** | | | | | |
| Urban | **51,143,758** | 2,577,265 | 4.7 | 0.9 | 19.8 |
| Rural | **10,252,554** | 649,847 | 5.6 | 0.9 | 15.8 |

**Notes:** NEMT is non-emergency medical transportation. FY is fiscal year. FYE is full-year equivalent. NEMT users are displayed as FYEs. Ride-days are defined as days with an NEMT procedure code (i.e., when any full-benefit Medicaid beneficiary had an NEMT ride). Ambulances are not included in our Transformed Medicaid Statistical Information System (T-MSIS) definition of NEMT. Some rides could not be classified as urban or rural based on the beneficiary's ZIP code, and therefore urban and rural ride-days do not sum to the overall ride-days total. Children and adults under age 65 who qualify for Medicaid on the basis of disability are included in the disabled category. Individuals age 65 and older eligible through an aged, blind, or disabled pathway are included in the aged category.

[1] MACPAC uses the term pregnant women because this is the term used in the statute and regulations. However, the term birthing people is being used increasingly, because it is more inclusive and recognizes that not all individuals who become pregnant and give birth identify as women.

[2] Includes both newly eligible and not newly eligible adults who are eligible under Section 1902(a)(10)(A)(i)(VIII) of the Social Security Act (the Act). Newly eligible adults include those who were not eligible for Medicaid under the rules that a state had in place on December 1, 2009. Not newly eligible adults include those who would have previously been eligible for Medicaid under the rules that a state had in place on December 1, 2009; this includes states that had already expanded to adults with incomes greater than 100 percent of the federal poverty level as of March 23, 2010, and receive the expansion state transitional matching rate.

[3] Includes adults under age 65 who qualify through a pathway other than disability or Section 1902(a)(10)(A)(i)(VIII) of the Act (e.g., parents and caretakers).

[4] Dually eligible individuals are defined as individuals who are dually eligible for Medicaid and Medicare. Includes only individuals eligible for full Medicaid benefits.

**Source:** MACPAC, 2021, analysis of T-MSIS.

**NEMT use by eligibility group.** Of the 3.2 million NEMT users in FY 2018, approximately two-thirds were eligible on the basis of age or disability. Those eligible on the basis of disability used NEMT services most frequently, averaging 3.7 ride-days per FYE in FY 2018, followed by beneficiaries age 65 or older, who averaged 2.8 ride-days. Children and pregnant women used NEMT services the least frequently, averaging 0.1 and 0.3 ride-days per FYE, respectively.[42] Members of the new adult group used NEMT with similar frequency as other adults.

NEMT service use was concentrated among a subset of beneficiaries within each eligibility group. For example, members of the new adult group had an average of 0.5 ride-days per FYE; however, the average number of ride-days rose to 16.6 among those who actually used NEMT.

**NEMT use by dually eligible status.** Beneficiaries dually eligible for Medicare and Medicaid used NEMT with greater frequency than those only enrolled in Medicaid. Of the 3.2 million NEMT users in FY 2018, over one-third were dually eligible.[43] Dually eligible beneficiaries averaged 3.6 ride-days per FYE, compared to 0.5 for beneficiaries for the Medicaid-only population. This gap narrowed among beneficiaries who actually used NEMT in FY 2018: dually eligible beneficiaries averaged 24.1 ride-days, compared to 15.9 for Medicaid-only beneficiaries.

**NEMT use by geographic area.** Beneficiaries living in urban areas used NEMT at a similar rate to those living in rural areas, both averaging approximately 0.9 ride-days per FYE. Among beneficiaries who used NEMT, however, those living in urban areas did so with greater frequency than those living in rural areas, averaging 19.8 ride-days compared to 15.8. This may be due in part to more limited NEMT access in rural areas. For example, stakeholder interviews revealed that the NEMT provider network is usually more robust in urban areas than rural ones, and that it can be challenging to address provider shortages in rural areas (discussed further below).

## Health conditions of NEMT users

Many focus group participants reported using NEMT due to health conditions that require many medical appointments, or because a major injury resulted in physical limitations or disability that requires frequent specialty care and physical therapy. Others need to travel long distances to see a specific doctor or specialist. Others lack alternative sources of transportation.

To describe the health conditions of beneficiaries using NEMT, we examined NEMT use among beneficiaries with specific diagnoses, including some mentioned in the Senate Appropriations Committee request. We were able to do so for beneficiaries with the following recorded diagnoses: chronic kidney disease (both with and without ESRD), OUD, SMI, and ID/DD (Figure 5-1).[44] We also examined NEMT use by transportation destination to get a sense of the types of appointments for which beneficiaries were using NEMT.

**FIGURE 5-1.** NEMT Ride-Days per Enrollee and by Selected Diagnoses, FY 2018
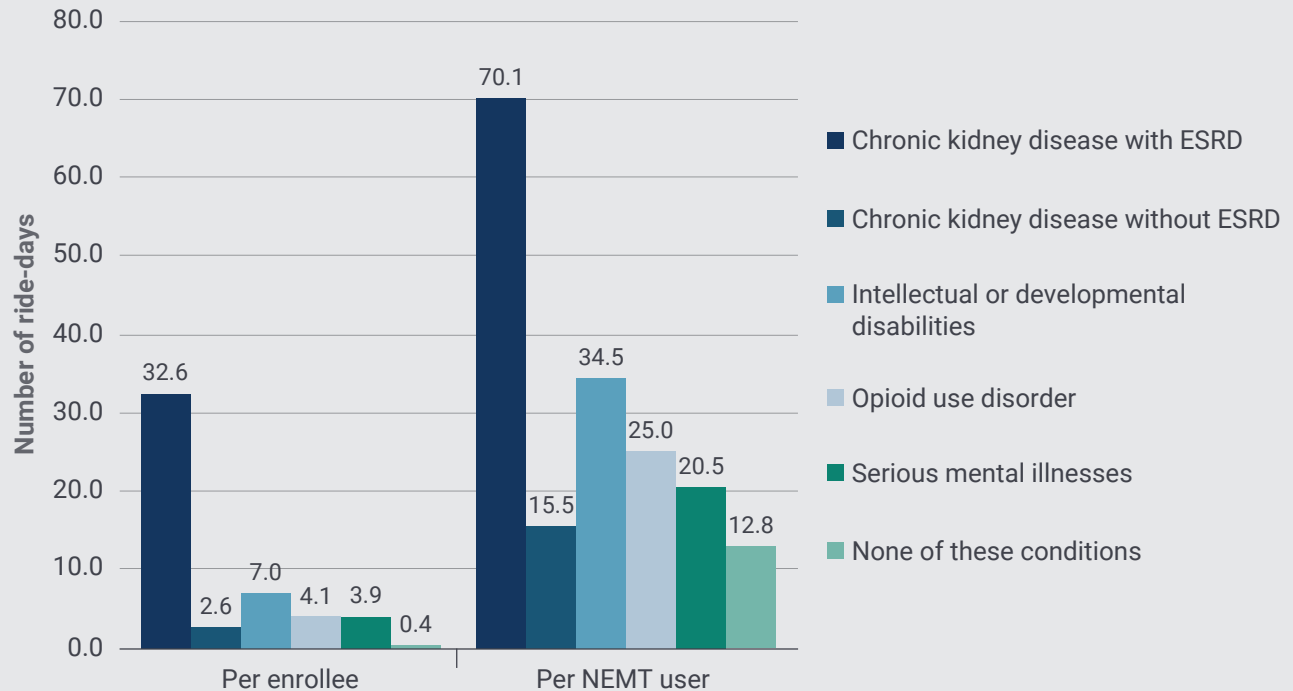


**Notes:** NEMT is non-emergency medical transportation. FY is fiscal year. ESRD is end-stage renal disease. Ride-days are defined as days with an NEMT procedure code (i.e., when any full-benefit Medicaid beneficiary had an NEMT ride). Diagnoses are defined based on a combination of billing codes, such as International Classification of Diseases versions 9 and 10, National Drug Codes, and the Healthcare Common Procedure Coding System (HCPCS). The algorithm for opioid use disorder (OUD) does not include methadone treatment, affecting MACPAC's ability to identify rides to opioid treatment programs among beneficiaries with OUD. As a result, our estimates for NEMT utilization by diagnoses are likely undercounting beneficiaries with OUD.

**Source:** MACPAC, 2021, analysis of Transformed Medicaid Statistical Information System (T-MSIS).

**NEMT use among beneficiaries with specific diagnoses.** Of the diagnostic categories listed above, beneficiaries with chronic kidney disease with ESRD used NEMT with the greatest frequency, averaging 32.6 ride-days in FY 2018, compared to an average of 0.4 days among beneficiaries without any of the selected conditions. Among those who used NEMT, beneficiaries with ESRD averaged 70.1 ride-days, compared to 12.8 days for beneficiaries with none of the selected conditions. The frequency with which beneficiaries with ESRD use NEMT likely reflects their frequent need for dialysis treatment, which may be as often as six days per week. However, the fact that the average number of rides

per user translates to just over 1.3 rides per week indicates that many beneficiaries with ESRD may have access to other sources of transportation, or may be using home dialysis while using NEMT for other appointments.

Beneficiaries with ID/DD, OUD, and SMI also used NEMT more frequently than those without any of the conditions. This is consistent not only with findings from stakeholder interviews, but also other studies. For example, one 2016 study using data from the largest NEMT broker found that the greatest proportion of NEMT trips are for behavioral health services (Musumeci and Rudowitz 2016).

**NEMT use by beneficiaries without chronic conditions or other serious health issues.** Although beneficiaries with certain diagnoses used NEMT with greater frequency than others, NEMT is still an important service for beneficiaries without those or other chronic health conditions. NEMT users with none of the selected diagnoses had an average of 12.8 ride-days in FY 2018, or more than once per month. Some of these individuals likely have other conditions not analyzed as part of this study (e.g., diabetes, cancer, or hypertension). Even so, focus group participants without serious conditions stressed the importance of their NEMT benefits, typically because they lacked another form of transportation to necessary medical appointments.

**NEMT use by race and ethnicity.** T-MSIS data currently cannot be used to study NEMT use by race and ethnicity and we could not identify any studies that examine NEMT's role in access to care for beneficiaries of different races and ethnicities. However, racial and ethnic disparities in the conditions present among frequent NEMT users are well documented, including disparities in disease prevalence, access to care, quality of care, and outcomes (Golestaneh et al. 2020, Stein et al. 2018, Norton et al. 2016, SAMHSA 2015, Cummings et al. 2014, Scott and Havercamp 2014, Hall 2012, McGuire and Miranda 2008). More data and research are needed to understand whether there are racial and ethnic disparities in access to and use of NEMT.

## Beneficiaries who do not use NEMT

The relatively small number of NEMT users within the larger Medicaid population, combined with the relatively small proportion of Medicaid beneficiaries reporting that they delayed care due to transportation, indicates that most Medicaid beneficiaries have access to transportation and do not experience transportation barriers. However, limited use may also reflect low awareness of the benefit, especially among beneficiaries who do not have a health condition that requires frequent medical care.

# Medical Services Accessed Using NEMT

Beneficiaries may use NEMT to travel to almost any medical appointment or service, including the pharmacy. To describe the types of services accessed using NEMT, we examined use by service destination for the six states where at least 95 percent of the NEMT ride-days had known or non-missing destinations.[45] We classified destinations into eight categories: the beneficiary's residence, physician office, diagnostic or therapeutic site, residential facility (defined as a non-skilled nursing facility, domiciliary, or custodial facility), dialysis facility, hospital, nursing facility, or other.[46]

For these states in FY 2018, physician office and diagnosis or therapeutic site were the most common destinations, accounting for 20.3 and 16.9 percent of all ride-days, respectively (Figure 5-2). The beneficiary's residence (i.e., a return trip home) was identified as a destination in 41 percent of ride-days.

**FIGURE 5-2.** Share of NEMT Ride-Days by Service Destination in Selected States, FY 2018
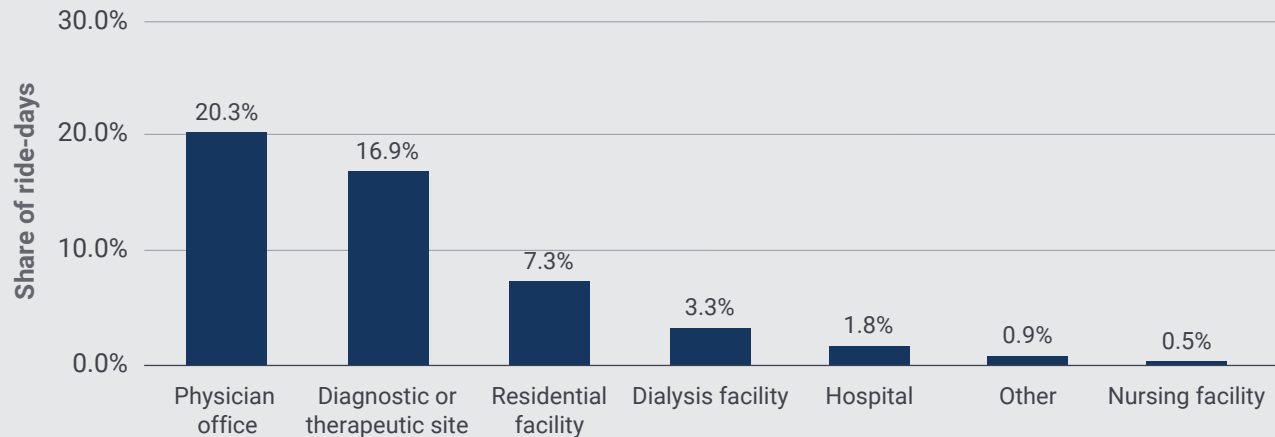


**Notes:** NEMT is non-emergency medical transportation. FY is fiscal year. Ride-days are defined as days with an NEMT procedure code (i.e., when any full-benefit Medicaid beneficiary had an NEMT ride). Destinations were defined using Healthcare Common Procedure Coding System (HCPCS) modifiers. Percentages show the share of ride-days on which each destination type was specified. Multiple destinations may be specified for the same ride-day, and therefore percentages do not sum to one hundred. Only the six states with over 95 percent of identifiable destinations are included in the sample. The destination category of other may include sites of an NEMT transfer, the scene of an accident or other acute event, or an intermediate stop at a physician office on the way to a hospital. NEMT can be used as a trip to the pharmacy, but HCPCS origin and destination codes do not separately identify pharmacy as a destination. As a result, pharmacy trips are likely included in one of these other categories.

**Source:** MACPAC, 2021, analysis of Transformed Medicaid Statistical Information System (T-MSIS).

Focus group participants shared more specific information about why they use NEMT and the services they access through NEMT. Examples include the following:

- A Georgia woman with quadriplegia uses NEMT to go to a spinal care center three days a week.

- A Massachusetts man with substance use disorder (SUD) uses NEMT to go to a methadone clinic seven days a week.

- A Connecticut woman relies on NEMT to participate in a sleep study that requires transportation outside of usual business or public transportation hours.

- An Arizona mother of a child with autism uses NEMT regularly to take her daughter to

see developmental specialists. Her daughter also participates in a respite and living skills program that arranges transportation funded by Medicaid.

## NEMT Delivery Models

States typically deliver NEMT using one or more of the following delivery models:

- In-house management—states manage NEMT directly and pay for rides on a FFS basis.

- Broker model—states contract with a third-party transportation broker to manage all or some aspects of NEMT, paying on a capitated or FFS (e.g., trip cost plus administrative fee) basis.[47]

- Medicaid managed care—NEMT is frequently covered under managed care contracts. Managed care plans deliver NEMT along with other Medicaid benefits. Plans may administer the benefit directly or contract with a broker.[48]

Of the 61.5 million ride-days in FY 2018, approximately one-third (23 million) were paid for on an FFS basis, and the remaining two-thirds were paid for under capitated arrangements (i.e., a capitated third-party broker arrangement or managed care plan).[49]

States may use different models for different populations or geographic areas. For example, in Indiana, managed care enrollees receive NEMT through their regular managed care plan; the state contracts with a broker to deliver NEMT to the remaining Medicaid beneficiaries in FFS.

Based on our environmental scan, 35 states use a broker for certain populations or geographic areas and 26 use managed care for some populations and areas. At least a dozen states, including Arizona and Texas, manage the NEMT benefit directly for some beneficiaries, but just five states do so for all beneficiaries. Use of managed care for NEMT is growing; in 2015, just four states used this approach (either alone or in combination with another approach) (Ganuza and Davis 2017).

Interviewees described several advantages and drawbacks of each model:

- In-house management—managing NEMT directly allows states more control over policies and operations, and may enable greater coordination with other state and local transportation programs. However, it generally presents a greater administrative burden for the state and may be more vulnerable to program integrity concerns than other models. This approach also offers less flexibility to innovate, for example, implementing pay-for-performance incentives.

- Broker model—using a broker provides more budget predictability and typically decreases state administrative burden, particularly under a capitated arrangement.[50] According to interviewees, brokers typically have more expertise and capacity than state agency staff to monitor fraud or misuse, communicate regularly with beneficiaries, and explore and implement innovations such as driver performance incentives or new technologies.[51] On the other hand, some interviewees said that brokers may have a financial disincentive to authorize trips or override limits on rides under a capitated contract, even when beneficial for beneficiary health.

- Managed care carve-in model—carving NEMT into managed care is typically less administratively burdensome and provides more budget predictability than an in-house approach. It also allows integration of NEMT with other services managed by the plan, potentially enhancing care coordination. Plans have an incentive to ensure enrollees get preventive and other necessary care to avoid more expensive care later. As a result, they may override state limits or provide transportation for additional services (i.e., as value-added services) when trips are determined to add value and promote beneficiary health. They may also be more likely to solicit and respond to beneficiary input. However, some interviewees noted that managed care carve-in models can result in administrative inefficiencies and fragmentation, because different managed care plans in a state may individually subcontract with multiple brokers.

State officials reported that choices about which delivery model to adopt or whether to change approaches are influenced by a variety of factors, including the state's available financial and staff resources, its broader Medicaid delivery system, and other state-specific factors. For example:

- In Arizona, NEMT has been carved into the managed care contracts since the state adopted managed care in the early 1980s.

- Connecticut reported switching from an FFS approach to a capitated broker arrangement to provide more flexibility for the broker to implement pay-for-performance initiatives.

- Georgia adopted a broker model in part to reduce state administrative burden.

- Indiana reported moving from an in-house model to a statewide broker model for its Medicaid FFS population in 2018, in part to ensure proper oversight and reduce fraud, waste, and abuse.

- Massachusetts plans to reduce the number of regional NEMT brokers from six to no more than three in 2021. State officials observed that many beneficiaries travel to Boston for medical visits, passing through regions managed by different brokers on the way. They determined that it would be more efficient to reduce the number of brokers and increase the geographic area for each broker.

- Texas will transition from a regional broker model to a managed care carve-in model in 2021 to integrate the delivery of NEMT into the managed care delivery system used for other services.

There was no consensus among interviewees as to which NEMT delivery model is best or most likely to lead to improved beneficiary satisfaction, efficiency, or value. Some interviewees noted that the quality of a state's NEMT program depends on factors other than the model, including the strength of the broker or managed care contracts, the quality of oversight, and the extent to which the entity responsible for managing the NEMT program solicits and incorporates stakeholder feedback (see below).

# NEMT Services and Providers

States are required to use the most appropriate form of transportation for the beneficiary, and this can include trips in taxis, buses, vans, and personal vehicles belonging to beneficiaries and their

families or friends (42 CFR 431.53, 42 CFR 440.170, CMS 2016b). In recent years, states have also begun to use TNCs such as Uber and Lyft. Public transportation is also used for NEMT, although its role varies considerably across, and even within, states when public transportation is not available in all areas. Air travel is used for NEMT only in limited circumstances (e.g., for people living in areas not accessible by road or for people in need of specialty treatments that are not available in their geographic area).

## Use by mode of transportation

To examine NEMT use by mode of transportation, we classified rides into six different categories: airplanes, personal vehicles, vans, taxis, public transportation, and other or unknown.[52] TNC rides are not distinguished in T-MSIS and, according to states we interviewed, are likely coded as taxi rides.[53]

In FY 2018, the most prevalent forms of transportation were van, a category that includes shared vans and specialized vans such as wheelchair or stretcher vans (46 percent of all ride-days), and taxi (36.7 percent).[54] The least prevalent form of transportation was air travel (0.2 percent). Public transportation was also used infrequently (5 percent), perhaps reflecting its limited reach beyond urban areas (Figure 5-3). However, because public transportation is provided through a variety of different transportation modalities, it is possible that some public transportation ride-days are misclassified, and thus are being undercounted. For example, in rural areas, public transportation is often provided in vans, as opposed to trains or buses.

Focus group participants reported that they are usually assigned to shared or individual cars (including taxis) or vans, although few had been assigned to share rides since the onset of the COVID-19 pandemic. Few had used TNCs or public transportation.

**FIGURE 5-3.** Share of NEMT Ride-Days by Mode of Transportation, FY 2018
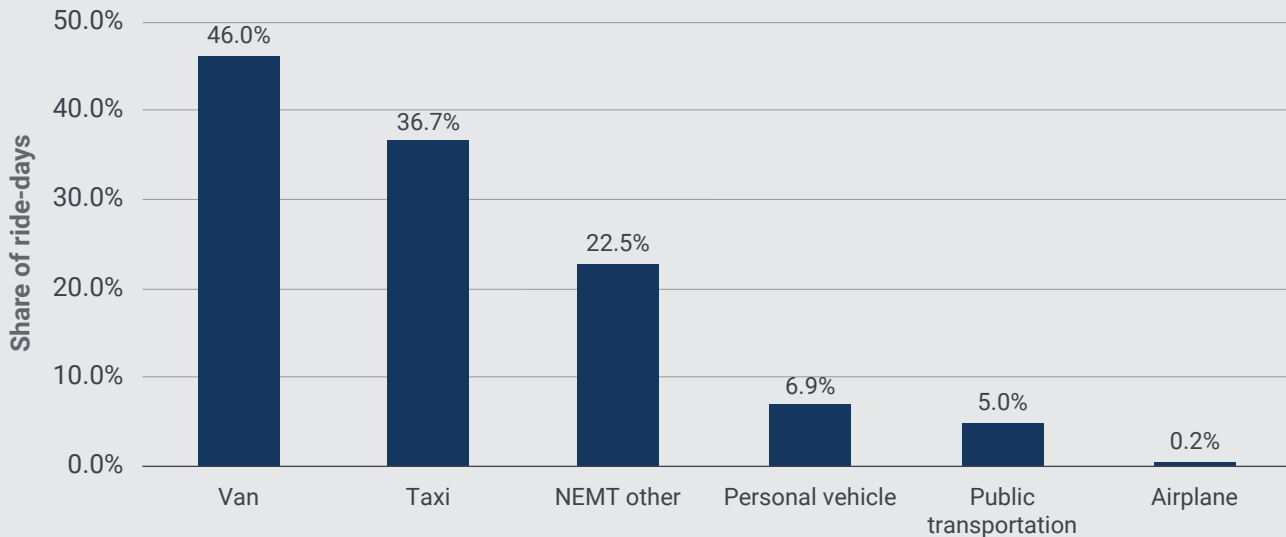


**Notes:** NEMT is non-emergency medical transportation. FY is fiscal year. Ride-days are defined as days with an NEMT procedure code (i.e., when any full-benefit Medicaid beneficiary had an NEMT ride). NEMT other includes a variety of procedure codes where the type of transportation is undefined; this can include a per diem or mileage reimbursement of undefined vehicle type, patient attendant or case worker escort, or wait times. Results are presented as the share of total ride-days for which each type of transportation was used. Multiple types of transportation may be used on the same ride-day and therefore percentages do not sum to one hundred. According to states we interviewed, transportation network company rides (such as Uber or Lyft rides) are likely billed as taxis. Because public transportation is provided through a variety of different transportation modalities, it is possible that some public transportation ride-days are misclassified, and are being undercounted as a result. For example, in rural areas, public transportation is at times provided in vans, unlike the trains, buses, or other public transit vehicles typically used in urban areas. Ambulances can also be used for NEMT; however, we excluded ambulances from our analysis of administrative data due to challenges in differentiating an emergency versus a non-emergency ride.

**Source:** MACPAC, 2021, analysis of Transformed Medicaid Statistical Information System (T-MSIS).

## Factors related to mode of transportation

The modes of transportation used for NEMT are influenced by various factors including geographic location and beneficiary need.

**Geographic location.** Geographic characteristics affect the availability and use of different modes of transportation. In urban areas, beneficiaries tend to rely more heavily on public transportation. For instance, buses are the most common form of transportation used in Connecticut, where nearly 90 percent of the population lives in urban areas. Those living in urban areas can often request other

medically appropriate types of transportation (e.g., vans, TNC rides) with little advance notice, and in some cases, can access transportation on demand. Regions with limited public transit options tend to rely more heavily upon taxis or mileage reimbursement for personal vehicles. For example, in Arizona, a state with large remote and rural areas, taxis are the most common mode of transportation.[55] Beneficiaries living in rural areas may have to request transportation with more advance notice than their counterparts in urban areas.

State policies also affect the mode of transit. For example, Indiana offers mileage reimbursement as an option. However, according to Indiana Medicaid

officials, mileage reimbursement accounts for as little as 2 percent of NEMT, perhaps because of burdensome application requirements.[56]

**Beneficiary need.** States and brokers also seek to match the transportation modality to the beneficiary's needs or preferences. One broker noted that the company generally matches a beneficiary with the lowest-cost transportation option available that can meet their needs, but offers some flexibility. For example, although public transportation may be the default when available, the broker might assign pregnant beneficiaries or beneficiaries with mental health needs to some form of door-to-door transportation. Another broker reported gathering notes for each member (e.g., if the member cannot ride with male drivers, if the member needs to ride in the front seat because of a physical limitation) and checking these when reviewing transportation requests so they can be factored into driver assignments.

Some interviewees reported tailoring models to ensure beneficiaries with specific needs are well matched with transportation. For example, Massachusetts implemented a model designed to deploy a subset of transportation providers that are specifically trained in and familiar with transporting members who are receiving life-sustaining services such as dialysis or cancer treatment.

Despite such efforts, inappropriate or ill-equipped vehicles are a common reason for beneficiary complaints (see below). Moreover, focus group participants reported challenges with shared rides, which, although more efficient and cost-effective than individual rides, may not be appropriate in all cases. For example, a participant from Indiana shared that she once had to travel an extra 100 miles to pick up another rider, resulting in an unnecessarily long round trip: she was picked up at 10:45 AM and dropped off at 6:30 PM. Another participant, who had physical limitations, discussed multiple times where she had to ride in the back of a sedan with three other people, making these rides cramped and uncomfortable.

## Transportation network companies

In recent years, states have been allowing use of TNCs in Medicaid, a trend that is expected to continue. Nearly all stakeholders interviewed welcomed the addition of TNCs in NEMT, however, there are a number of considerations for states and the federal government as TNCs become a larger part of NEMT networks.

**State approaches to using TNCs.** The extent to which TNCs are involved in NEMT varies by state. Some states allow only limited use, such as a backup option in case of a driver no-show. For example, Georgia allows TNCs only when no transportation provider is available to transport the beneficiary, or if requested by the beneficiary and approved by the broker. Other states, including Arizona, have policies that allow broad use of TNCs as first-choice NEMT providers (i.e., beneficiaries can request or be assigned to a TNC ride at their initial ride request and not only as a backup option). As of February 2021, at least 14 states and the District of Columbia have incorporated TNC providers into NEMT as first-choice providers. Others are planning to start using TNCs over the next year (Cooper 2021).

There are few federal guidelines governing the use of TNCs, and states have taken different approaches. Many states require TNCs to enroll as Medicaid providers and meet similar requirements as other NEMT providers. Other states, including Arizona and Texas, have exempted TNC providers from such requirements to encourage them to join the market, citing the need to expand the NEMT provider network and the fact that TNCs have their own requirements for drivers. In these states, TNCs and their drivers are exempt from requirements such as background checks, training, credentialing, incident reporting, and insurance. This raises concerns about safety and quality for some beneficiary advocates. Although most focus group participants liked the idea of being able to use TNCs for NEMT, many had experienced problems and thought drivers should be subject to more training requirements and more strict background checks.

Several interviewees noted that guidance from CMS on minimum standards would be helpful.

**Considerations in using TNCs.** Because TNCs are a relatively new NEMT provider type, their effects have not been studied in a systematic way. Nevertheless, a number of studies of TNCs in pilot programs documented improvements in health outcomes and patient experience; decreases in unfulfilled trips, missed appointments, and emergency room utilization; and in some cases, cost savings (DMAS 2021, FierceHealthcare 2020, Hackensack Meridian Health 2020, Powers et al. 2018). Interviewees and focus group participants also pointed to some advantages and opportunities, largely consistent with the results of available studies. These include:

- Augmenting provider networks and alleviating other challenges. TNCs can provide on-demand transportation during surge or peak periods, are often willing to take on longer trips than traditional NEMT providers, have more flexibility to respond to urgent same-day or next-day requests and requests that come in at certain times of the day (e.g., a late-night hospital discharge), and can be used as rescue providers when traditional NEMT providers are unavailable, late, or do not arrive for pickups.

- Enhancing consumer satisfaction. Interviewees anticipate that improvements in flexibility, reliability, and timeliness may lead to higher beneficiary satisfaction. Moreover, they noted that TNCs may better reflect beneficiary preferences, and help normalize the use of NEMT by removing the stigma associated with some traditional NEMT vehicles. Focus group participants also supported the introduction of TNCs; they expressed the desire to use TNCs more regularly.

- Producing cost savings. There is little systematic data on the costs of TNCs relative to other modes, but one broker reported that TNCs have a lower cost per mile than other fleets in the network. And although TNC rides had a lower cost per trip than traditional

providers for rides under 10 miles in a pilot program in Virginia, there were little to no cost savings overall (DMAS 2021). Officials in Massachusetts are not expecting to see cost savings from the state's upcoming TNC pilot program.[57]

Despite these advantages, interviewees generally agreed that TNCs are not appropriate for all Medicaid populations. They stressed that states, brokers, and managed care organizations (MCOs) must define rules around which beneficiaries can appropriately be assigned to TNCs, noting several considerations:

- TNC drivers and vehicles are not trained or equipped to meet the needs of Medicaid beneficiaries, especially those with high physical or behavioral health needs. Even ambulatory, independent beneficiaries may require additional assistance or awareness beyond what a TNC driver would typically provide.[58, 59]

- Depending on their functional and cognitive abilities, beneficiaries may not be able to identify drivers, walk to pickup locations, or instruct drivers in the event of a wrong address.

- Because different TNC drivers are assigned to each ride, TNCs provide little continuity of care for beneficiaries who are using NEMT services daily or multiple times a week. This is an issue of particular concern for beneficiaries whose condition could change or deteriorate rapidly.[60]

## Provider network challenges

Interviewees agreed that one of the greatest challenges in administering NEMT is maintaining an adequate provider network. This is a bigger challenge in rural areas, which have fewer providers and longer distances to travel, but it is also present in large cities and urban areas, in part due to a declining supply of taxis. Common problems include late pickups or beneficiaries not being able to access a ride at all due to overscheduling,

lack of availability, and other performance issues (discussed further below).

Several interviewees also noted that the supply of wheelchair vans and other vehicles appropriate for high-need beneficiaries (e.g., stretcher vans or vehicles suitable for bariatric patients) is sometimes limited. Interviewees attributed strain on provider networks to a variety of factors, including high vehicle insurance costs, low Medicaid payment rates, and increased competition for drivers from companies like UPS and Amazon. The COVID-19 pandemic also caused a temporary decline in the supply of NEMT providers.[61]

Interviewees representing brokers and MCOs described several strategies to address NEMT provider network issues, including:

- promoting mileage reimbursement for beneficiaries and volunteer drivers (i.e., family and friends) especially in rural areas;

- leveraging public transportation and county transit programs where possible;[62]

- using broker-owned vehicles when there is a surge in demand;[63]

- negotiating with NEMT companies for service expansions into shortage areas; and

- incorporating TNCs into the provider network.

## Coordination with Federally Funded Transportation Services

As of October 2019, there are 130 federal programs funding human services transportation for people who have difficulties providing their own transportation due to age, disability, or income (FTA 2019). These are collectively referred to as federally assisted transportation services; of these, Medicaid NEMT is the largest federal financing source (FTA 2019, Edrington et al. 2018). There are also other state and local funding sources for these services with rules and restrictions that differ from Medicaid (FTA 2020, Edrington et al. 2018).[64]

Federal policy encourages coordination across federally assisted transportation services. The FTA, the U.S. Government Accountability Office (GAO), and others have noted that coordination of transportation services can help reduce costs (e.g., by clustering passengers to reduce the number of trips and sharing equipment, personnel, and other resources) and improve services (e.g., by reducing wait times). However, delivery of transportation services has historically been fragmented among human services programs, which can result in overlap and duplication (FTA 2020, Edrington et al. 2018, GAO 2014).

States vary in the extent to which they coordinate NEMT with other programs, although Medicaid officials in three of the six study states reported coordination as a policy priority. In Massachusetts, the state's Human Service Transportation (HST) office manages transportation for six state agencies, including MassHealth.[65] Coordination by the HST office has reduced costs by allowing shared rides among individuals served by different agencies. It also creates some administrative efficiencies, because the HST office performs provider background checks and helps agencies implement universal provider standards.

Interviewees representing the federal Coordinating Council on Access and Mobility (CCAM), a federal interagency partnership tasked with improving coordination and reducing duplication across federal programs that fund transportation services, cited Pennsylvania and Vermont as examples of state Medicaid NEMT programs that promote coordination across programs.[66, 67]

Other interviewees, however, reported limited or no coordination across federally assisted transportation programs and cited a range of barriers and challenges that are consistent with findings from past studies by other federal agencies. For example:

- Beneficiary needs differ across federally assisted programs, making it challenging to arrange shared rides. For example, although ambulatory Medicaid beneficiaries may be able to use a range of transportation options, those with greater physical or behavioral health needs may need special vehicles or drivers with specific training.

- Other federally assisted programs often have greater constraints, such as limited geographic footprints, limited operating hours, longer wait times, and greater lead time required to schedule a ride.

- The requirement that Medicaid can pay for transportation only for Medicaid beneficiaries traveling to medically necessary services can make it difficult and administratively burdensome to calculate the Medicaid-eligible portion of any shared ride. Some interviewees reported that Medicaid entities are often reluctant to have Medicaid beneficiaries share rides with beneficiaries of other programs because of these challenges. As a result, brokers, MCOs, and Medicaid agencies may be incentivized to pay more for a single-passenger on-demand trip instead of authorizing cheaper public transit or other shared-ride options.[68]

- Some interviewees noted that the administrators of different federally assisted transportation programs are often not engaged in coordination efforts.

It is important to note that even in cases where NEMT programs are not actively coordinating with other federal human services transportation programs, NEMT and community transportation services are often provided by the same local transportation agencies, and are thus intertwined. This is particularly the case in rural and small communities. For example, for some rural transit providers, revenue from Medicaid NEMT rides may comprise as much as 59 percent of revenue (Adelberg et al. 2020).

# NEMT Program Quality

Interviewees varied in their views on the extent to which NEMT policies meet the needs of beneficiaries and on program performance generally. Most state officials described their NEMT programs as functioning well or improving, but acknowledged problems that have led to beneficiary complaints. Advocates interviewed as part of this study noted that some states have strong programs while others have serious issues, including unsafe conditions for beneficiaries, missed appointments, and distrust of the program.

Focus group participants also reported variation in quality and satisfaction. For example, one participant who had moved from Arizona to a rural area of Indiana noted that in Arizona, she was able to use Lyft or taxis and that the transportation services were reliable and comfortable. However, since moving, she has had to use van services that are unreliable. Participants also described vast differences in quality between different transportation companies. For example, one participant had previously been assigned to a consistently reliable provider, but was then transferred to a new provider that missed multiple appointments in the first month, causing concern for the beneficiary about maintaining his SUD treatment.

## Performance issues

Interviewees reported that late pickups and driver no-shows are the primary reasons for complaints from beneficiaries, providers, and care managers. Most focus group participants had experienced such issues on at least one occasion. For example, several participants reported missing appointments as a result of drivers arriving late. One Indiana woman said she had missed multiple dialysis appointments. Additionally, some participants reported waiting as long as three hours to be picked up for their return trip.

Though less common than late pickups or drop-offs, several focus group participants had also

experienced driver no-shows or late cancellations. For example, a participant from Arizona reported missing over 10 appointments in a one-year period as a result of driver no-shows. A participant from Connecticut described her father, who uses a wheelchair, being left at a doctor's appointment without a ride home. Participants also shared experiences of brokers failing to assign a driver to a scheduled ride because systems allow drivers to accept or refuse rides they view as undesirable (e.g., too short or too long).

Other common complaints include vehicles that are not appropriately equipped, safe, or accessible; behavior of other passengers in the vehicle; language barriers; customer service issues such as rude or unprofessional dispatchers or drivers; drivers who are untrained or insensitive in dealing with beneficiaries with behavioral health conditions or ID/DD; and lack of responsiveness by call centers. Participants also described examples of dangerous driver behavior including talking on their phones or texting while driving, making comments that made them feel unsafe, speeding or driving unsafely, or not wearing masks in accordance with COVID-19-related guidelines.

Interviewees discussed several factors that cause delays and other performance issues. Long distances in rural areas and in large states commonly impede on-time performance. In major metropolitan areas, traffic and construction-related detours present barriers to timely pickups. Other factors include strained NEMT provider networks, bad weather in winter months, insufficient information about correct entrances and exits in large medical complexes, or the wrong vehicle being dispatched due to incorrect or insufficient information about the beneficiary's medical needs.

## Policies that create difficulties for beneficiaries

Interviewees and focus group participants cited several policies around scheduling and ride protocols put in place by states, brokers, or MCOs

that present issues for beneficiaries with specific needs or are otherwise burdensome. For example:

- Participants from several different states commented that rules require that they book rides two to three days in advance. These rules have been troublesome in certain situations; for example, when beneficiaries were told to come into the doctor right away, an appointment was changed, they got off a waitlist, or they were leaving the hospital. Participants said that their broker or health plan sometimes made exceptions to these rules, but not consistently.

- For parents, rules about not being able to bring children along for rides are problematic. In most cases, parents are not permitted to bring children along for their own appointments. Moreover, while a parent is typically permitted to ride with their child to medical appointments for that child, they are usually not allowed to bring their other children.[69] Although exceptions may be made on a case-by-case basis, these rules may create access barriers for families without child care. For example, focus group participants described asking drivers to make exceptions; others said these rules sometimes make it impossible to go to their appointments.

- Participants also felt that certain policies were too stringent, for example, rules requiring that they be outside within five minutes of the driver's arrival (or drivers may leave) even if the driver arrives early. A few participants cited physical limitations that make it difficult to get to the street within five minutes.

- Participants in some states were subject to rules requiring them to submit a specific number of complaints about a driver or NEMT provider before they would be assigned to a different one. Some participants felt this was unfair, and possibly dangerous.

Focus group participants, along with stakeholders representing beneficiary advocacy organizations,

felt that beneficiaries have little recourse when they experience problems. Interviewees noted that complaints frequently go unanswered or unresolved even when submitted through formal channels. Focus group participants felt that drivers and brokers lack accountability. For example, several had submitted complaints about drivers, late pickups, or other issues, but were never offered a resolution and never received a response. Others had little confidence that their complaints would be addressed, and therefore had never submitted complaints or feedback.

## Strategies to improve performance and meet beneficiary needs

Interviewees representing states, health plans, and brokers shared strategies used to identify performance issues and improve member safety and experience, including building in extra time when scheduling rides, using technology to track driver locations, providing additional training to drivers, and removing drivers with repeated performance issues. For example, brokers in Connecticut and Georgia conducted trainings for drivers on the proper techniques for wheelchair tiedowns following a series of safety incidents.

Other interviewees noted the importance of strong contracts and oversight mechanisms. Advocates expressed that contracts should have consumer protections and oversight provisions that allow the state to take action if needed. State contracts with transportation brokers and MCOs administering NEMT often contain requirements regarding reporting, call center wait times, on-time performance, vehicle standards, driver training and criteria, and penalties for non-compliance. However, advocates and other interviewees pointed out that state agency staff often lack capacity to exercise strong and effective oversight over brokers; in other cases, they are reluctant to do so because there are few brokers in the market.[70]

Some states use performance incentives. For example, Connecticut's statewide broker can earn

up to 5 percent of the contract price if it meets quality metrics related to call center performance, on-time pickups, complaint rates, and satisfaction survey results. Some brokers are also using performance-based incentives with transportation providers and drivers. For example, an interviewee representing a multistate broker noted that in many states, the broker assesses liquidated damages on providers who have performance problems, which they use to create a bonus pool to reward high-performing providers.

Advocates noted that states with formal and sustained consumer engagement mechanisms (such as advisory councils or committees), and that are diligent in integrating consumer feedback into policies and procedures, tend to have better-performing NEMT programs. For example, advocates in Georgia reported that productive conversations with the state Medicaid agency led to stronger enforcement of a policy that requires drivers to ensure the beneficiary enters their home or medical facility before departing.

Focus group participants, along with several interviewees, said that NEMT should be more widely promoted and that states and health plans should strengthen their outreach to eligible beneficiaries. They reported that NEMT is rarely well publicized, and that awareness of the benefit is low. For example, most focus group participants learned about NEMT from case workers or social workers, health care providers such as nurses and therapists, and other patients they met at their treatments. Some also found out about the service through friends and family. Only a small number learned of the benefit through their health plan or the state Medicaid program. Enhanced efforts to connect Medicaid beneficiaries with NEMT services may help improve access to care and outcomes.

Stakeholders interviewed for this study suggested a number of opportunities for federal government action that could help improve NEMT quality and performance. For example, CMS or Congress could do the following:

- more visibly and proactively promote sharing of best practices and strategies to address common issues in NEMT administration (beyond what CMS already does on an ad hoc basis);[71]

- issue additional guidance or implement requirements on how states should publicize the availability of NEMT and encourage use of NEMT services, and work with states to develop strategies to identify beneficiaries who have transportation barriers but are not using NEMT;

- issue guidance on use of TNCs in NEMT, including minimum standards and requirements that states could augment;

- issue guidance on how states can promote the use of NEMT to increase access to COVID-19 vaccines (Brown 2021, Beckman 2021);[72] and

- create incentives to address provider shortages in rural areas.

# Expanding Use of Technology

New technologies, such as GPS tracking and electronic scheduling software, are increasingly being used in NEMT by states, brokers, MCOs, providers, drivers, and beneficiaries. They are viewed as important tools for strengthening program integrity and improving on-time performance and customer satisfaction. For example:

- GPS data, usually collected through a smartphone or tablet in the vehicle, can document the date, time, and location for each pickup and drop-off to ensure that trips took place as authorized. They can also be used to track on-time performance.

- Advanced GPS technology (e.g., real-time location monitoring) can allow brokers to divert drivers who are going to arrive late and assign new ones before an appointment is missed. When coupled with a beneficiary-facing application, GPS capability can also provide

real-time information to riders about estimated pickup times.

- Mobile or web applications for scheduling and customer service can allow beneficiaries to schedule NEMT trips with one call or click, and in some cases, request a particular provider. They can also help reduce call volumes and wait times.

- Tablets (or similar technologies) can allow drivers to input trip information and beneficiaries to digitally sign at completion of the trip (an additional program integrity tool).

These technologies are being used to some extent in all six study states. Adoption of GPS appears to be the greatest priority, although interviewees reported uneven GPS capability across NEMT providers within the same state or provider network. Brokers reported ongoing efforts to increase GPS capability among providers with varying levels of engagement. Some states require brokers to ensure that providers have GPS capability; others do not, in part due to opposition from providers.[73] One interviewee representing a multistate broker noted that it is easier to require providers to adopt these technologies when it is required by the state.

Interviewees discussed some barriers to increased adoption of new technologies. These include added costs to drivers, internet and data bandwidth challenges that affect real-time location monitoring, and varying access to and literacy regarding smartphone use among drivers and beneficiaries.

# Program Integrity

Federal oversight authorities have identified NEMT as high risk for fraud, waste, and abuse, noting concerns related to enrolling providers, program inefficiencies, and verifying eligibility (GAO 2016b). Additionally, studies by the HHS Office of the Inspector General have found inadequate oversight and improper payments for trips that did not meet federal and state requirements (OIG 2021, 2020).

Medicaid officials in most study states and other interviewees suggested that although there are occasional instances of fraud or misuse by beneficiaries and providers, they are not widespread and are appropriately addressed through routine channels. Consistent with findings of other studies, some interviewees noted that program integrity in NEMT has been stronger in recent years (Trent and Frizzera 2019). This may be due to the shift in administration from Medicaid agencies to brokers and managed care, which typically have greater oversight capacity and closer connections with the provider network. Interviewees also cited the growing role of new technologies in ensuring program integrity.

Federal policymakers continue to be concerned about fraud, waste, and abuse in NEMT. Under the Consolidated Appropriations Act of 2021 (the same law that added the requirement for states to provide NEMT to the Social Security Act), Congress enacted additional program integrity requirements related to NEMT including:

- Within two years of enactment, GAO must conduct and submit to Congress a report on program integrity measures.

- Within 18 months of enactment, the Secretary of HHS shall convene a series of stakeholder meetings to obtain input and facilitate discussion and shared learning for improving program integrity.

- Within two years of enactment, the Secretary of HHS must assess existing guidance and update such guidance as necessary.

- States must include in their state plans mechanisms to ensure that providers, including TNCs and individual drivers, meet minimum standards.[74]

- Within one year of enactment, CMS must analyze T-MSIS data and submit to Congress a report identifying recommendations relating to coverage of NEMT.[75]

# The Role of NEMT in Medicaid

State and federal officials, representatives of NEMT brokers, providers, and health plans, as well as beneficiary advocates, agreed that NEMT is an important tool in promoting access to care, managing health conditions, and ultimately improving health outcomes.

## Role in beneficiary health

Nearly all focus group participants commented on NEMT's critical importance for managing their mental and physical health or the health of someone in their care, noting that their health would deteriorate without it. Many of the participants, particularly those with serious conditions like ESRD, feel that their continued and regular access to health services is saving their lives, calling the transportation services the difference between "life or death." These sentiments are consistent with those identified in other studies. For example, in one survey, when asked an open-ended question about the effects of losing their NEMT benefits, 10 percent of respondents said they would die, or would probably die (Adelberg et al. 2018).

For those with behavioral health conditions, NEMT is viewed as helpful in ensuring access to regular mental health or SUD services. Other participants talked about the emotional toll of being confined to their homes because of their physical health conditions, and noted NEMT enables them to travel to day health programs, physical and occupational therapy, and other appointments that provide opportunities for human interaction and enrich their lives.

Additionally, participants pointed out that NEMT services reduce their dependence on friends and family members. Many had to request rides from others before learning about NEMT. One participant said that she is unable to drive, and without access to NEMT, her mother would have to quit her job in order to take her to dialysis six days a week.

## Value of NEMT

Researchers, advocates, and others in the policy community have long argued that NEMT is valuable both in terms of improved health outcomes and in cost savings to states and the federal government. They argue that NEMT helps improve access to preventive care and regular medical treatments that can help beneficiaries manage their health conditions, thus increasing use of comparatively low-cost care and avoiding more costly emergency care. Most stakeholders interviewed for this study, including many state officials, commented that based on their own observations or internal data, NEMT also yields savings for states and the federal government in the long run.

Several studies have examined the effect of NEMT on health outcomes and cost savings. For example, a 2001 study conducted by the University of Florida estimated that if at least 1 percent of NEMT trips resulted in avoidance of an emergency room visit, the state would save $11.08 for each dollar it invested in the program (Cronin et al. 2008). Additionally, a 2018 study of actual NEMT users found that when used as part of a care management strategy for people with certain chronic diseases (i.e., dialysis for kidney diseases and wound care for diabetic wounds), NEMT produces substantial return on investment (Adelberg et al. 2018).

The fact that Medicaid managed care plans and other payers voluntarily provide additional transportation services further reinforces the notion that NEMT adds value. Managed care plans frequently include transportation services they are not otherwise required to cover, such as trips to the grocery store or gym, or authorize trips beyond state benefit limits. Medicare Advantage plans, Medicare accountable care organizations, and even some commercial payers are also increasingly offering these services. For example, as of 2020, over one-third (35 percent) of Medicare Advantage plans and 85 percent of Medicare special needs plans offered supplemental transportation benefits, compared to 19 percent in 2018 (Kornfield et al. 2021).[76]

## Implications of the COVID-19 pandemic

The COVID-19 pandemic reduced NEMT use and may affect its role over the long term. Increased access to telehealth services helped address gaps in care for beneficiaries who could not, or chose not to, access regular medical services during the pandemic, and may permanently reduce the need for NEMT services. However, the extent to which this occurs will depend on the design of Medicaid telehealth policies postpandemic and acceptance of telehealth by beneficiaries and providers.

**Effects on NEMT volume.** Following the onset of the COVID-19 pandemic, NEMT declined sharply, as demand decreased due to stay-at-home orders, medical facility closures, risks of contagion via public transportation and shared rides, cancellation or postponement of non-emergency appointments, and increased use of telehealth. Some NEMT brokers experienced declines in trip volume of as much as 60 percent in the first half of 2020 (MTAC 2021b). Many focus group participants reported missing regular appointments, particularly those involving adult day health or physical therapy and rehabilitation services. Others found it difficult to secure an NEMT ride, either because providers were not available or because the beneficiary had COVID-19 and was prohibited from riding.

NEMT use began rebounding in the second half of 2020, although the extent of these increases has varied by state and service. Similarly, many focus group participants reported having resumed their normal appointment schedules as of October or November 2020. Others had resumed appointments but with reduced frequency, either because their providers or facilities were closed or only taking limited appointments, or because they were still afraid of exposure to the virus. Some projections indicate that in 2021, NEMT volume may actually exceed prepandemic levels for certain services, including trips for adult day health services and behavioral health appointments (MTAC 2021b).

**Increased access to telehealth.** States rapidly expanded the availability of telehealth services during the pandemic.[77] Increased availability of telehealth could supplant the need for NEMT for some beneficiaries. However, the extent to which this is occurring is unclear. Many policies expanding telehealth services are tied to the public health emergency (Libersky et al. 2020). Several states have moved to continue or make permanent expanded telehealth policies, which could affect demand for NEMT.

Telehealth may not be appropriate for all beneficiaries and may not be welcomed in all circumstances. Although some focus group participants had used telehealth services at the beginning of the pandemic and found them helpful, most had returned to in-person services by the time the focus groups were conducted in October and November 2020. Most said they prefer in-person visits over telehealth with some expressing discomfort with the idea of receiving health services remotely.[78] Other interviewees generally predicted that beneficiaries will continue to seek in-person treatment for the types of medical appointments that NEMT is most commonly used for, including dialysis and SUD treatment.

Focus group participants also reported technical barriers to telehealth such as not having reliable access to telehealth services or sufficient internet bandwidth and, as a result, were continuing to access in-person care.

## Looking Ahead

Now that NEMT has been added to the Act as a mandatory benefit, states and other NEMT stakeholders have greater certainty that the benefit will continue. States and other entities that administer NEMT will likely continue to focus on improving NEMT program administration, promoting program integrity, and addressing beneficiary concerns by shoring up provider networks, adopting new technologies, and strengthening stakeholder engagement mechanisms. Despite the expanded

availability of telehealth services, additional research is needed to determine which beneficiaries can use telehealth in place of NEMT, and the extent to which they do so. Additional research is also needed to better understand how to address any racial and ethnic disparities in NEMT access and use.

NEMT remains a vital benefit for beneficiaries and is likely to continue to play an important role in ensuring access to care. Moreover, as states consider how to address high-priority Medicaid goals such as reducing racial disparities and increasing access to COVID-19 vaccines, they may wish to leverage NEMT by more widely promoting and connecting beneficiaries with these services.

## Endnotes

[1]  Under Section 1115 of the Act, the Secretary of the U.S. Department of Health and Human Services can waive almost any Medicaid state plan requirement under Section 1902 of the Act to the extent necessary to carry out a demonstration or experimental project furthering the goals of the program. States use these waivers for a wide variety of purposes. Indiana and Iowa received approval to exclude NEMT from the benefits offered to low-income adults eligible for Medicaid on a basis other than disability (except medically frail individuals and pregnant women).

[2]  For example, two bills codifying NEMT as a mandatory benefit passed the U.S. House of Representatives in the 116th Congress, including one with bipartisan cosponsorship and support: the Protecting Patients Transportation to Care Act (H.R. 3935) and the Health and Economic Recovery Omnibus Emergency Solutions Act (HEROES Act, H.R. 6800).

[3]  Multiple NEMT trips can occur on the same ride-day. For example, a beneficiary's trips to and from a medical appointment would count as one ride-day.

[4]  States can use ambulances as a form of NEMT. However, we excluded ambulances from our analysis of administrative data due to challenges in differentiating an emergency versus a non-emergency ride.

[5]  Spending per FYE does not necessarily align with the per member per month (PMPM) rates that states pay to brokers

or health plans to deliver NEMT. For example, the Medical Transportation Access Coalition noted that PMPM rates range from $4 to $10 (MTAC 2021a).

6   We do not report spending on NEMT delivered through managed care plans because payments for NEMT services are not separately reported from other services.

7   Section 1901 of the Act specifies that states shall "furnish (1) medical assistance on behalf of families with dependent children and of aged, blind, or disabled individuals, whose income and resources are insufficient to meet the costs of necessary medical services, and (2) rehabilitation and other services to help such families and individuals attain or retain capability for independence or self-care."

8   Supplement D lists the provision of transportation to and from medical services as a criterion for assuring high-quality care and services in Medicaid (Rosenbaum et al. 2009).

9   This assurance of transportation in Medicaid has been upheld in federal courts. *Smith v. Vowell* 379 F. Supp. 139 (W.D. Tex. 1974) was the first case to test whether the transportation assurance requirement could be enforced (Rosenbaum et al. 2009).

10   The administrative efficiency statute has been cited as a particularly important legal basis for the assurance of transportation (Rosenbaum et al. 2009). It requires that Medicaid state plans provide methods of administration that are "found by the Secretary of HHS to be necessary for proper and efficient administration of the plan" (§1902(a)(4) of the Act). Successive administrations interpreted this as the basis for both the requirement that states provide NEMT and the federal government's obligation to assist in covering the cost of doing so (Rosenbaum et al. 2009).

11   The EPSDT benefit and its associated requirements have been interpreted as establishing an obligation to provide transportation, independent of the general Medicaid assurance of transportation.

12   Other divisions of CMS also weigh in on NEMT policy. For example, the State Demonstrations Group makes decisions about state requests to remove or alter the NEMT benefit through Section 1115 demonstration authority, and is currently developing monitoring and evaluation requirements for such demonstrations.

13   In general, beneficiaries may use NEMT only for medical appointments. However, some managed care plans allow beneficiaries to use transportation services for additional purposes, such as transportation to the grocery store (Kornfeld et al. 2021, LogistiCare 2020, CMS 2019c). One focus group participant, who is enrolled in a Medicare Advantage plan specifically for dually eligible beneficiaries, reported that she can use the plan's transportation service for a variety of purposes in addition to medical appointments.

14   Some dually eligible individuals (i.e., partial dually eligible individuals) do not receive NEMT benefits, although they may receive transportation benefits through a Medicare Advantage plan.

15   For example, Georgia requires its brokers to determine if beneficiaries have other means of transportation. A broker may deny transportation requests if it determines that a beneficiary has a vehicle and is capable of driving. But it cannot deny requests solely based on the beneficiary owning a vehicle or there being a vehicle in the beneficiary's household (GDCH 2021). Arizona specifies that NEMT is covered for beneficiaries if they are not able to provide, secure, or pay for their own transportation, and free transportation is not available (AHCCCS 2019).

16   States and other entities administering NEMT (i.e., third-party brokers and managed care plans) have different requirements and processes for how beneficiaries attest to their need for NEMT and request rides.

17   Few states report NEMT spending as administrative spending. In FY 2018, 16 states reported administrative NEMT spending on the CMS-64; of those, all but 5 also reported medical assistance spending.

18   States are currently receiving enhanced FMAPs during the COVID-19 public health emergency (PHE). Specifically, the Families First Coronavirus Response Act of 2020 (P.L. 116-127) provides a temporary 6.2 percentage point FMAP increase for each calendar quarter occurring during the period beginning on the first day of the PHE period, as defined in Section 1135(g)(1)(B) of the Act, ending on the last day of the calendar quarter in which the emergency period ends. There are also multiple other exceptions to the regular FMAP (MACPAC 2021a).

[19] The Deficit Reduction Act of 2005 (DRA, P.L. 109-171) created a state plan option to use a broker model for NEMT, allowing states to do so without a Section 1915(b) waiver. This action made it easier for states to adopt this approach and many states did so. Today, the majority of states use a third-party broker model for at least a portion of their NEMT program.

[20] These requirements were included in guidance implementing the DRA state plan option to use a broker model. States using Section 1915(b) waiver authority to use a broker model may not be subject to all of these requirements; for example, they may use a sole-source contracting process to choose their broker.

[21] CMS has also approved Section 1115 demonstrations excluding NEMT when the state is providing limited benefits to people who are not otherwise eligible for Medicaid (e.g., certain family planning demonstrations) (Simon and Fishman 2018).

[22] CMS has not approved Section 1115 demonstrations excluding mandatory benefits other than NEMT, with the exception of Section 1115 demonstrations that provide limited benefits to people who are not otherwise eligible for Medicaid (e.g., certain family planning demonstrations).

[23] States have different definitions of medical frailty; these must include at minimum the presence of serious and complex medical conditions, physical, intellectual, or developmental disabilities that impair ability to perform activities of daily living, chronic substance use disorder (SUD), disabling mental disorders including SMI, or a disability determination based on Social Security Administration criteria. States also have different methods of designating beneficiaries as medically frail. For example, most states allow beneficiaries to initiate the process by self-reporting that they are potentially medically frail, and some allow providers or managed care plans to designate patients as medically frail. In most states, a medically frail designation can be made at any time during the eligibility period (Musumeci et al. 2019).

[24] The decision to terminate this waiver, along with other elements of the demonstration including work and community engagement requirements as a condition of eligibility, was made following a June 2018 ruling in *Stewart v. Azar* (313 F. Supp. 3d 237 (D.D.C. 2018)) vacating the demonstration's approval, and later, a decision by newly elected Governor Andy Beshear soon after taking office in December 2019 (MACPAC 2020c).

[25] Specifically, CMS sent letters to states with Section 1115 demonstration approval for work and community engagement requirements that the authority for those requirements would be withdrawn. CMS also indicated that other elements of the demonstrations are being reviewed (CMS 2021a, 2021b, 2021c). Indiana, Georgia, and Utah demonstrations include both work and community engagement requirements and waivers of NEMT requirements. In comparison, Iowa and Kentucky demonstrations contain waivers of NEMT requirements but do not include work and community engagement requirements, and CMS did not send similar letters to Iowa or Kentucky.

[26] As an alternative to traditional Medicaid benefits, states were given authority under the DRA to enroll state-specified groups (excluding individuals with special medical needs and certain others) in benchmark and benchmark-equivalent benefit packages. States that elect to do so can provide coverage that is equal to one of the following: the Blue Cross and Blue Shield standard provider plan under the Federal Employees Health Benefits Program; a plan offered to state employees; the largest commercial health maintenance organization in the state; or other coverage approved by the Secretary of HHS. The Bush Administration interpreted this flexibility to include state authority to eliminate the transportation assurance for affected populations because transportation was not covered for state employees (MACPAC 2021b).

[27] Of the six states with active Section 1115 demonstrations that exclude NEMT, evaluation results are currently available for only Indiana and Iowa. A federal evaluation of the Healthy Indiana Plan was unable to assess the effects of the NEMT waiver on beneficiaries, because managed care plans continued to provide transportation as a value-added service. Older state-led evaluations in Indiana and Iowa were conducted using beneficiary surveys. Results for both states were mixed, but indicated largely comparable access to transportation between beneficiaries with and without NEMT benefits, although those with lower incomes may be more likely to face transportation-related barriers to access regardless of NEMT eligibility (Bentler et al. 2016,

GAO 2016a, Lewin Group 2016). Additionally, the results suggest that unmet needs for transportation may result in delayed or skipped care. It is important to note certain limitations to these evaluations. For example, Indiana's evaluation focused only on missed appointments among beneficiaries who had scheduled an appointment, and was unable to assess unmet need among beneficiaries who did not schedule an appointment. Iowa's evaluation compared experiences between two groups that are not necessarily comparable: beneficiaries enrolled in the Medicaid state plan and beneficiaries included in the demonstration who were part of the new adult group.

[28] Since 2017, CMS has been working to improve the quality and timeliness of Section 1115 demonstration evaluations. The agency has released guidance outlining expectations for the content and research methods in evaluation design and reports, and a variety of other technical assistance resources (CMS 2021d). It also began including requirements for evaluation content and timing in the special terms and conditions of each demonstration (MACPAC 2020d). If their NEMT waivers are permitted to continue, these five states (Indiana, Iowa, Georgia, Kentucky, and Utah) will need to conduct evaluations of their demonstrations under the new guidance; however, it is not yet clear what specific hypotheses they will be asked to examine or what measures they will use in evaluating their NEMT policies.

[29] HMA conducted a scan of NEMT policies for all 50 states and the District of Columbia and collected state-level data about the percentage of rural population, managed care penetration rate, and Medicaid expansion status for each state. We also gathered information on the NEMT administrative model used, use of TNC providers, cost-sharing requirements, benefit limits and exclusions, geographic variation, coordination of NEMT with other transportation programs, program integrity and quality strategies, substantial programmatic changes, and notable innovations.

[30] We selected these six states for further study based on a set of criteria including variation in NEMT models, variation in Medicaid expansion status, geographic diversity, delivery system innovations or changes, and notable quality requirements.

[31] Focus group participants varied in terms of gender, age, geographic area, and race and ethnicity. They have or are caring for someone who has one or more of the

following conditions: ESRD, cancer, high blood pressure, back problems, hip and knee problems, neuropathy, cirrhosis of the liver, vision issues, asthma and other breathing issues, autoimmune disorders, heart disease, post-traumatic stress disorder, bipolar disorder, anxiety, depression, and SUD. Some participants also use wheelchairs, including two participants with quadriplegia and paraplegia due to spinal injuries. A handful of participants are dually enrolled in Medicare and Medicaid. More detail on focus group participants is included in PerryUndem's as-yet unpublished report, Understanding the Value of the Medicaid Non-Emergency Medical Transportation Benefit (PerryUndem 2021).

[32] Some states allow patient attendants or case worker escorts to also be billed under the NEMT benefit. Moreover, states are allowed to bill for certain ancillary services under the NEMT benefit such as meal deliveries, lodging, and parking reimbursement. We excluded these services from utilization estimates, but included them in spending estimates for consistency with how NEMT spending is reported within the Medicaid Budget Expenditure System.

[33] For example, a Medical Transportation Access Coalition survey of NEMT users found that over half (58 percent) reported that they would make none of their treatments without NEMT. Twenty percent reported that they would make fewer of their treatments without NEMT (Adelberg et al. 2018).

[34] Based on a MACPAC analysis of 2018 National Health Interview Survey data. Other surveys and studies have found a much higher share of Medicare and Medicaid beneficiaries reporting transportation barriers. For example, a 2020 survey of 9,000 Medicare and Medicaid beneficiaries found that nearly one-third had missed appointments or run out of medication due to a lack of transportation (Evidation 2021).

[35] We do not provide estimates for adults age 65 and over due to small sample size. The following hierarchy was used to assign individuals with multiple coverage sources to a primary source: Medicare, private, Medicaid or State Children's Health Insurance Program (CHIP), other, uninsured.

[36] The definition of basic action difficulty includes limitations in movement and sensory, emotional, or mental functioning that are associated with some health problem. Adults are defined as having a complex activity limitation if they have one or more of the following types of limitations: self-care limitation, social limitation, or work limitation.

[37] Conditions include: hypertension, coronary heart disease, heart attack, stroke, cancer, diabetes, arthritis, asthma, chronic bronchitis in the past 12 months, liver condition in the past 12 months, and weak or failing kidneys in the past 12 months.

[38] The list of conditions includes: attention deficit hyperactivity disorder or attention deficit disorder, asthma, autism, cerebral palsy, congenital heart disease, diabetes, Down syndrome, intellectual disability, and other developmental delay.

[39] To be considered as having a special health care need, a child must have at least one diagnosed or parent-reported condition expected to be ongoing and also must meet at least one of five criteria related to elevated service use or elevated need, including reported unmet need for care. For more information on the methods used to identify children with special health care needs, see the Technical Guide to MACStats, in *MACStats: Medicaid and CHIP Data Book* (MACPAC 2020b).

[40] See endnote 37.

[41] See endnote 38.

[42] MACPAC uses the term pregnant women because this is the term used in the statute and regulations. However, other terms are being used increasingly because they are more inclusive and recognize that not all individuals who become pregnant and give birth identify as women.

[43] Figures for dually eligible individuals include only full-benefit Medicaid beneficiaries who are also eligible for Medicare.

[44] MACPAC used diagnosis and procedure codes in the CMS chronic conditions warehouse algorithms to define these conditions. The algorithm for OUD does not include methadone treatment, perhaps because Medicare did not start paying for methadone treatment in opioid treatment programs until 2020. Therefore, we may not be fully capturing such rides.

[45] Due to data limitations, we are unable to provide nationwide data on use by service destination.

[46] Although NEMT can be used for pharmacy trips, HCPCS origin and destination codes do not separately identify pharmacy as a destination. Pharmacy trips are likely included in another category (e.g., physician office). The

"other" category includes destinations such as transfer sites (e.g., airport or helicopter pad) between modes of ambulance transport, scene of accident or other acute event, and intermediate stop at physician's office en route to the hospital.

[47] Capitated broker arrangements are often referred to as transportation prepaid ambulatory health plans.

[48] Both managed care organizations (MCOs) interviewed by MACPAC for this study indicated that they always use a broker for NEMT, citing broker expertise and the challenges involved with having to build their own NEMT provider networks.

[49] Of the $2.6 billion in federal and state Medicaid funds spent on NEMT in FY 2018, two-thirds ($1.7 billion) were for NEMT paid for directly by the state or through an FFS broker arrangement; one-third ($0.9 billion) were payments made to prepaid ambulatory health plans (i.e., third-party transportation brokers). It is important to note that spending figures do not reflect managed care payments to NEMT providers, and as a result, FFS spending makes up a higher share of total reported spending than it does of reported ride-days (which include all ride-days regardless of payment or delivery model).

[50] The general consensus among interviewees was that a broker model reduces state administrative burden, but interviewees in Connecticut reported that there was no substantial reduction in administrative burden following their shift to a broker model because of the amount of oversight required.

[51] For example, Indiana Medicaid officials reported a large increase in NEMT use among their FFS Medicaid population following the shift from an in-house system to a broker, which they credit to better and more frequent member education and increased awareness of the benefit as well as an easier process for requesting rides.

[52] States can use ambulances as a form of non-emergency transportation. However, due to challenges in differentiating an emergency versus a non-emergency ambulance ride, ambulances are excluded from MACPAC's NEMT T-MSIS algorithm. The category of other includes a variety of procedure codes where the type of transportation is undefined; these can include per diem or mileage

reimbursements of undefined vehicle types, patient attendant or case worker escorts, or wait times.

[53] Use of TNCs in Medicaid is growing; the share of rides using TNCs is likely higher in 2021 than it was in FY 2018.

[54] Stretcher vans are sometimes referred to as ambulettes.

[55] State geography also plays a role in the types of transportation offered to beneficiaries. For instance, the Cape Cod Regional Transit Authority contracts with the public steamship authority to ensure that individuals can be transported from the area's islands to the mainland of Massachusetts. Similarly, Arizona offers allowances for non-ambulance air NEMT in the Grand Canyon. Texas, a large state with vast rural areas, also permits the use of commercial air transportation.

[56] This is the case for Indiana's FFS Medicaid population. NEMT for Indiana's managed care population is managed by MCOs, which may have different processes for mileage reimbursement.

[57] Massachusetts's 2020 broker procurement creates a ride hail pilot (beginning in FY 2021) that will allow certain MassHealth beneficiaries to opt-in to on-demand ride hail services using TNCs. The pilot is focused on increasing capacity to meet last-minute urgent transportation needs, but state officials do not expect to see meaningful cost savings from the pilot.

[58] Interviewees disagreed about the extent to which Medicaid beneficiaries can be well served by TNCs. Beneficiary advocates commented that a relatively narrow group are well served. A broker representative noted that although up to 80 percent of NEMT rides are for people considered ambulatory, at least half of those rides required additional awareness, training, or assistance beyond what a TNC driver would typically provide. However, a TNC representative estimated that up to 70 percent of NEMT rides are appropriate for TNC services.

[59] Some states, including Georgia, restrict the types of beneficiaries who can be assigned to TNCs; however, states do not have a uniform approach to dealing with this issue.

[60] TNCs have made efforts to better meet the needs of the Medicaid program. For example, Lyft provides automated voice calls to notify riders of their trip details; an application

programming interface (API) solution that integrates Lyft's ride management tools, communication platforms, and reporting capabilities into brokers' existing systems; and custom pickup and drop-off locations for large hospital campuses or medical buildings.

[61] Some NEMT brokers and providers were able to adapt; for example, in Connecticut, large livery providers outfitted cars with Plexiglas and provided personal protective equipment (PPE) to drivers, and they were contracted to provide safe transportation including rides for COVID-19-positive individuals. The state broker for NEMT, Veyo, reported using NEMT providers to deliver meals and PPE to Medicaid beneficiaries, which also helped to maintain their network.

[62] County transit programs include those established under FTA's Formula Grants for Rural Areas program (referred to as the Section 5311 program).

[63] MotivCare is allowed to use its own vehicles in rural northern Maine to ensure coverage. However, brokers noted that there are limits on this approach due to restrictions on self-referrals (§ 1902(a)(70)(B)(iv) of the Social Security Act).

[64] Spending data are not available for most other programs funding human services transportation (DOT 2019, GAO 2014).

[65] The other five state agencies are the Department of Developmental Services, Department of Public Health's Early Intervention Program, Massachusetts Rehabilitation Commission, Massachusetts Commission for the Blind, and Department of Mental Health.

[66] Executive Order 13330 established CCAM in 2004. Section 3006(c) of the Fixing America's Surface Transportation Act (P.L. 114-94), enacted in 2015, specifically requires CCAM to improve federal coordination of transportation services for people with disabilities, older adults, and individuals of low income. Federal transportation reauthorization bills since then have also required coordination.

[67] In most of Pennsylvania, the Medicaid NEMT program operates, at least partially, through an in-house or county-based model. In Vermont, the Department of Vermont Health Access contracts with the Vermont Public Transportation Association (VPTA) that serves as the statewide NEMT broker. VPTA then subcontracts with local public transit operators who are able to coordinate NEMT with other public transit in the area.

[68] According to FTA officials, CCAM is currently developing a cost allocation tool that will allow the user (e.g., the NEMT provider or transit agency) to identify and bill Medicaid for the specific costs of a Medicaid eligible beneficiary taking a specific trip or trip segment, even if the Medicaid beneficiary shared the ride with an individual from another program.

[69] This issue is most common in shared NEMT rides, such as shared vans, when every seat in the vehicle is filled by a beneficiary attending an appointment (i.e., there are no additional seats for children or siblings). There is more flexibility to allow children and siblings in rides that are not shared, such as taxi or TNC rides.

[70] These interviewees noted that brokers often refuse to share complete data on complaints or on-time performance with states, making oversight difficult.

[71] For example, CMS sometimes connects states interested in adopting certain NEMT policies or approaches with other states who have already done so.

[72] For example, advocates requested that CMS extend the 100 percent FMAP provided by Section 9811 of the American Rescue Plan Act (P.L. 117-2) for administration of vaccines to NEMT (Brown 2021). As of April 2021, CMS has not issued guidance on the parameters for the 100 percent FMAP.

[73] For example, New Jersey and South Carolina require real-time GPS tracking. Massachusetts will require GPS capability in its next procurement. On the other hand, Connecticut's state legislature opposed the state Medicaid agency and its broker's efforts to require providers to use a GPS-enabled application.

[74] This requirement is effective on the date of enactment with an exception for states that need legislative approval to make changes to their state plan. These states will not be considered out of compliance until the first day of the first calendar quarter beginning after the close of the first regular session of the state legislature that begins after the date of enactment.

[75] The law also notes that states that take up the state plan option to use a third-party broker to administer NEMT may consult with stakeholders. It is important to note, however, that states were not previously prohibited from consulting with stakeholders.

[76] Medicare special needs plans are Medicare Advantage plans designed specifically to serve enrollees who have chronic conditions, are dually eligible for Medicare and Medicaid, or are institutionalized.

[77] Specifically, most states have expanded coverage of telehealth, including the types of providers eligible to deliver such services and modalities (i.e., allowing telephone and text-based platforms, which had generally not been previously permitted) (Libersky et al. 2020).

[78] Available research suggests high rates of patient and provider satisfaction with telehealth, although few studies have focused specifically on Medicaid enrollees or on specific populations or settings (MACPAC 2018). Additionally, there are some anecdotal reports of beneficiary satisfaction with telehealth services during the COVID-19 pandemic (Salek 2021).

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# APPENDIX 5A: Methodology and Data Limitations for T-MSIS Analysis

This technical guide is intended to help readers interpret the exhibits within this document as well as understand the data source and methods used.

## Measuring NEMT utilization

Utilization estimates are based on data from the Transformed Medicaid Statistical Information System (T-MSIS) for fiscal year (FY) 2018 for services in the other services (OT) File. The OT file captures services that cannot be categorized as inpatient, prescription drugs, or long-term services and supports delivered in inpatient settings and can therefore be considered a good proxy for all outpatient services. Our utilization estimates are calculated for all full-benefit enrollees. They are calculated using both fee-for-service NEMT claims and encounters for NEMT services administered by a managed care plan.

Full-benefit enrollment was determined using characteristics from the beneficiaries' most recent month available for enrollment. For each full-benefit enrollee, we determined the number of days in which each of the following Healthcare Common Procedural Coding System (HCPCS) codes related to non-emergency transportation were used (Table 5A-1).

We have presented estimates as ride-days instead of rides because multiple procedure codes are often used for the same trip, depending on the ride's characteristic. For example, both a parking reimbursement code and a transport taxi code might be used for the same trip, because a driver would be reimbursed while the patient is attending a physician visit. Moreover, in some states, multileg trips (e.g., a round trip) are coded as multiple rides, while in others, they may be coded as one ride. To avoid potential duplications of rides and adjust for variation in state billing practices, we counted the number of days where a ride appears to have occurred, as opposed to counting individual rides.

Certain services, such as meals, lodging, and parking fees, can be considered NEMT services. These non-transportation ancillary services have not been included in estimates of NEMT use, but are included in estimates of NEMT spending.

**TABLE 5A-1.** NEMT Procedure Codes

| Code | Code description | Code type | MACPAC description |
|------|------------------|-----------|--------------------|
| A0080 | Volunteer vehicle mileage | HCPCS | Individual |
| A0090 | Individual vehicle mileage | HCPCS | Individual |
| A0100 | Non-emergency transport taxi | HCPCS | Taxi |
| A0110 | Public or mass transportation | HCPCS | Public transportation |
| A0120 | Non-emergency transport mini-bus | HCPCS | Van |
| A0130 | Non-emergency transport wheelchair van | HCPCS | Van |
| A0140 | Non-emergency transport air | HCPCS | Airplane |
| A0160 | Case worker NEMT | HCPCS | NEMT other |
| A0170 | Transport parking fees or tolls | HCPCS | Non-transport ancillary services |
| A0180 | NEMT: lodging recipient | HCPCS | Non-transport ancillary services |

**TABLE 5A-1.** (continued)

| Code | Code description | Code type | MACPAC description |
|------|-----------------|-----------|-------------------|
| A0190 | NEMT: meals recipient | HCPCS | Non-transport ancillary services |
| A0200 | NEMT: lodging escort | HCPCS | Non-transport ancillary services |
| A0210 | NEMT: meals escort | HCPCS | Non-transport ancillary services |
| S0209 | Wheelchair van mileage | HCPCS | Van |
| S0215 | Non-emergency transportation mileage | HCPCS | Van |
| T2001 | Non-emergency transportation: patient attendant or escort | HCPCS | NEMT other |
| T2002 | Non-emergency transportation: per diem | HCPCS | NEMT other |
| T2003 | Non-emergency transportation: encounter or trip | HCPCS | NEMT other |
| T2004 | Non-emergency transportation: commercial carrier pass | HCPCS | NEMT other |
| T2005 | Non-emergency transportation: stretcher van | HCPCS | Van |
| T2007 | Non-emergency transport wait time | HCPCS | NEMT other |
| Z2713 | Non-emergency transportation | Arkansas | NEMT other |
| W7274 | Transportation (non-emergency trip): 0–20 miles | Pennsylvania | NEMT other |
| W7275 | Transportation (non-emergency trip): 20–40 miles | Pennsylvania | NEMT other |
| W7276 | Transportation (non-emergency trip): 40–60 miles | Pennsylvania | NEMT other |
| M0372 | Transportation: level of care 1 (medication management) | Texas | NEMT other |
| M0419 | Transportation: community support | Texas | NEMT other |
| M0373 | Transportation: consumer directed services (CDS), level of care 1 | Texas | NEMT other |
| M0374 | Transportation: level of care 8 | Texas | NEMT other |
| M0418 | Transportation: CDS, level of care 8 | Texas | NEMT other |
| M0420 | Transportation: CDS, community support | Texas | NEMT other |

**Notes:** NEMT is non-emergency medical transportation. HCPCS is Healthcare Common Procedure Code System. In our construction of our NEMT algorithm we found three states (Arkansas, Pennsylvania, and Texas) with a large number of claims and encounters with state-specific NEMT codes.

**Source:** MACPAC, 2021, analysis of Transformed Medicaid Statistical Information System (T-MSIS).

We also quantified NEMT destinations using HCPCS procedure code modifiers that some states use to determine the NEMT ride's destination (Table 5A-2). The results presented in this document count the number of days in which the NEMT procedure code has a modifier that enables categorization of a ride's destination. For this specific analysis we limited the sample to the six states where more than 95 percent of NEMT claims were filled in with a known non-missing procedure code modifier.

**TABLE 5A-2.** NEMT Destination Procedure Code Modifiers

| HCPCS modifier | HCPCS description | MACPAC description |
|---|---|---|
| D | Diagnostic or therapeutic site | Diagnostic or therapeutic site |
| E | Residential, domiciliary, custodial facility, other than a skilled nursing facility | Residential facility |
| G | Hospital-based end-stage renal disease facility | Dialysis facility |
| H | Hospital | Hospital |
| J | Dialysis facility | Dialysis facility |
| N | Nursing facility | Nursing facility |
| P | Physician office | Physician office |
| R | Residence | Residence |
| I | Site of transfer | Other |
| S | Scene of accident or acute event | Other |
| X | Intermediate stop at physician office on way to hospital | Other |

**Notes:** NEMT is non-emergency medical transportation. HCPCS is Healthcare Common Procedure Code System.

**Source:** MACPAC, 2021, analysis of Transformed Medicaid Statistical Information System (T-MSIS) data.

## Limitations

It is important to note that the NEMT project is MACPAC's first attempt to leverage T-MSIS to review service-level utilization, and among the first attempts among T-MSIS users to review service-level utilization. Limitations in our analysis of T-MSIS data include the following:

**Methods of accounting for variation in billing practices may result in undercount.** As noted above, MACPAC uses ride-days to quantify utilization. This method allows us to adjust for state-level variation in how NEMT rides are reported, but it may result in an underestimate of the total number of NEMT rides.

**States may differ in how they define NEMT within their medical claims.** MACPAC's method of identifying NEMT rides is unable to capture rides that are not billed under typical NEMT procedure codes (Table 5A-1). This limitation may also result in an undercount of NEMT ride-days.

**Limitations in identifying non-emergency ambulance rides.** Even though ambulances may be used for NEMT rides, we do not include ambulance rides in our definition of NEMT because of challenges differentiating between emergency and non-emergency ambulance claims and encounters. This limitation likely results in an undercount of NEMT ride-days.

**Undercounts of ride-days for individuals accessing methadone treatment.** CMS's chronic conditions warehouse algorithm for opioid use disorder (OUD) does not include methadone treatment, affecting MACPAC's ability to identify rides to opioid treatment programs among beneficiaries with OUD. As a result, our estimates for NEMT utilization by diagnoses are likely undercounting beneficiaries with OUD (Figure 5-1).

**Limitations in identifying NEMT service destinations.** Most states do not require NEMT providers to provide a destination for an NEMT claim within T-MSIS (Figure 5-2). Only the six states with over 95 percent of identifiable destinations are

included in the sample for this report. We do not have enough information to determine whether the distribution of NEMT service destinations is similar in other states or on a national level.

**Inability to report managed care payments to NEMT providers.** We do not report spending on NEMT delivered through managed care plans because these plans deliver many other Medicaid benefits. For example, a capitation payment for comprehensive managed care includes reasonable, appropriate, and attainable costs within the managed care plan's benefit package as specified in its contract with the state. Because of these limitations, we do not include a breakdown of NEMT spending by eligibility group, dually eligible status, urban versus rural, diagnosis, mode of transportation, or transportation destination, because such a breakdown would leave out a large segment of beneficiaries who receive their NEMT benefit through a managed care plan. This approach is consistent with other MACPAC work—MACPAC historically has not reported managed care payments to providers for services.

**State-level data.** Because this is one of the first efforts to estimate NEMT utilization using medical claims, there are few external benchmarks that can be used to assess results. For this reason, we decided not to report state-level estimates and are instead reporting national estimates.

**Age of data.** FY 2018 data, the most recent available data when MACPAC's work began, does not allow us to capture changes in NEMT utilization during the COVID-19 pandemic, or changes resulting from more states expanding Medicaid under the Patient Protection and Affordable Care Act (P.L. 111-148, as amended) in 2019 and 2020. As of March 2021, FY 2019 T-MSIS data are still preliminary.