
TCRP

PROJECT NO. B-44

Examining the Effects of Separate Non-Emergency Medical
Transportation (NEMT) Brokerages on Transportation
Coordination

Review and Summary of Relevant Literature

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Texas A&M Transportation Institute
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Task 1: Review and Summary of Relevant Literature

by

Suzie Edrington, Associate Research Scientist
Jessica Bullock, Assistant Graduate Student Researcher
Texas A&M Transportation Institute

For more information contact:
Suzie Edrington
Texas A&M Transportation Institute
701 North Post Oak, Suite 430
Houston, Texas 77024-3827
713-613-9207
s-edrington@tamu.edu

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SECTION 1. INTRODUCTION

The objectives of the TCRP B-44 research are to present options for providing Medicaid-funded non-emergency medical transportation (NEMT) services and evaluate the effects of different options for providing NEMT on:

- Access to Medicaid services.
- Human services transportation (particularly coordinated transportation services).
- Public transit services, including ADA complementary paratransit services.

The purpose of Working Paper #1 is to document the findings of Task 1 of the TCRP B-44 project, Review and Summary of the Relevant Literature.

ORGANIZATION

Working Paper #1 has three sections and an appendix. The first section describes the literature review organization and approach. The second section highlights the key findings and crosscutting themes that emerged from the literature review. The third section provides a matrix summarizing documents reviewed and topics covered. The appendix provides a synopsis by document from most recent to oldest publication date. Each review synopsis is organized as follows:

- Full citation.
- Purpose of report.
- Applicable TCRP B-44 topics.
- Highlights of content that are relevant to TCRP B-44.

For ease of reference, a check box as shown below is included for each review synopsis specifying topics covered in the document.

Applicable TCRP B-44 Topics:

- | | |
|---|---|
| <input type="checkbox"/> Legislation/policy impacting NEMT | <input type="checkbox"/> Public transit impacts |
| <input type="checkbox"/> Service delivery models/considerations | <input type="checkbox"/> Client impacts |
| <input type="checkbox"/> History and evolution | <input type="checkbox"/> Measuring impacts |
| <input type="checkbox"/> Rural/urban | <input type="checkbox"/> Coordination impacts |
| <input type="checkbox"/> Data sets/survey | <input type="checkbox"/> State impacts |
| <input type="checkbox"/> State specific information | |
| <input type="checkbox"/> Case studies | |

APPROACH

The literature review documents previously published reports, articles, journals, books, web pages, and presentations from the local, regional, state, and national levels that explore NEMT

options and their resulting impacts. The TTI library provided online literature key word searches for recent year publications. The following questions guided the literature review:

- What federal legislation and policies have impacted NEMT?
- What models are used by states to deliver NEMT service? What are the considerations for choosing a service delivery model?
- What are historical factors that have influenced change in NEMT service? How have NEMT services evolved?
- How do state environmental characteristics, particularly rural/urban differences, influence NEMT service delivery?
- What data sets are available useful in analyzing NEMT service? What survey information has been gathered regarding NEMT service?
- Does the research include state specific information helpful to case study research?
- Does the research include case studies at the state, regional, or local level?
- How does NEMT service delivery and structure impact public transit, the client, coordination with other transportation providers and the state? What are the barriers to transportation coordination with Medicaid NEMT?
- What methodologies are used to measure NEMT impact? What input, output, and outcome measures are used or should be considered in measuring NEMT?
- Who are the stakeholders in NEMT: state Medicaid officers, state Medicaid NEMT managers, NEMT brokers, NEMT providers, Medicaid-eligible transportation customers and customer advocates, state departments of transportation, transit agencies, mobility managers, and lead agencies responsible for regional coordination of public transit and human services transportation providers?

The TCRP B-44 research team will use the literature review as a foundational frame of reference for the entire research. The information will inform Task 2 in conducting a state-by-state review and collecting data, in Task 3 in screening for case studies, in Task 5 in developing case study questions and topics, in Task 7 in identifying useful guidance/decision-making tools, and in Task 8 in developing the materials for the final guidebook and research report.

SECTION 2. KEY POINTS & EMERGING THEMES

Section 2 provides key points and emerging themes from the literature review, first presenting a historical timeline of legislation/policy and drivers of policy change found in the literature. Second, literature concerning coordination policy and the impact of brokers on coordination is discussed. Lastly, an overview of findings from the literature on the impact of NEMT brokers on costs, public transit, and clients is provided.

LEGISLATION/POLICY IMPACTING NEMT

The assurance of transportation for Medicaid recipients has been an integral part of the Medicaid program from its inception. As Medicaid enrollment and medical care costs have grown, there has been continued concern regarding NEMT costs, quality-related issues, and program fraud and abuse. In the 1970s and 1980s, a shift in medical practice to deinstitutionalized/ outpatient care further demonstrated the inability of transportation disadvantaged individuals to access healthcare without assured transportation. Court cases solidified the assurance of transportation. The cost of medical services continued to grow in the 1980s bringing a surge of ambulatory care centers and managed care/health maintenance organizations. With the availability of Medicaid waivers, states began moving more and more to a brokerage model in the delivery of NEMT in the 1990s as one means of controlling costs and managing abuse. The Deficit Reduction Act (DRA) of 2005 provided greater incentive to employ brokers for NEMT delivery by no longer requiring a waiver to operate a brokerage system while allowing states to still receive reimbursement at a possibly higher federal medical assistance percentage (FMAP). The DRA Final Rule on the implementation of the broker program provides important clarification about CMS's view on the roles of States, the brokers, and the transportation providers, as well as the requirements that impact the delivery of NEMT, coordination, and the provision of transportation. As the Affordable Care Act (ACA) of 2010 phases in, the number of Medicaid recipients is expected to significantly increase by expanding the eligibility—potentially increasing NEMT ridership.

Medicaid / NEMT Beginnings

Medicaid came into existence through the Social Security Amendments of 1965 under Title XIX. An understanding of the social issues and the delivery of health care is important to understanding the driver of Medicaid and NEMT policy and legislation.

Older Adult Healthcare Issues

Prior to the passage of Medicaid, health care services for persons that that could not afford health care were provided primarily through state and local government programs, charities and community hospitals ([U.S. Department of Health and Human Services 2000](#)). “The poverty rate of those 65 years and older was 35% in 1960, more than twice that of the non-elderly ([Engelhardt 2004](#)).” In 1965, Congress adopted a combination of approaches to improve access to health care for the elderly. The Social Security Amendments of 1965 created a hospital insurance program to cover nearly all of the elderly (Medicare Part A), a voluntary supplementary medical insurance program (Medicare Part B) and an expansion of the Kerr-Mills program to help elderly individuals with out-of-pocket expenses such as premiums, deductibles,

and co-payments. The Kerr-Mills program—now the Medicaid program—was extended to cover other populations including persons with disabilities, poorest families with children and persons who are blind (U.S. Department of Health and Human Services 2000).

Healthcare Cost Issues

The model for healthcare delivery in the 1960s was a system where: patients relied on autonomous physicians; patients received complex care from independent, non-profit hospitals; and insurers did not intervene in medical decisions reimbursing on a fee-for-service basis (Hoffman 2009). Rapid expansion of nursing homes occurred in the 1960s—functioning “as miniaturized acute-care hospitals (Verderber 2000).” From 1950 to 1967, U.S. medical care expenditures rose an average of 8.4% annually—nearly 35% of all health expenditures went to purchase hospital care in 1967 (Rice 1969). To control costs, private healthcare plans increasingly used “experience rating” to set health premiums—creating further hardship on retirees and persons with health conditions (Hoffman 2009).

Medicaid Relieved Overburdened States

Medicaid provided a relief to overburdened states and provided the ability for eligible individuals to obtain health care. Medicaid is an entitlement program to provide medical assistance for eligible individuals established as a joint effort between federal and state governments. Federal requirements of Title XIX and accompanying regulations require “proper and efficient administration of Medicaid”¹ and necessitate that the program provide “services in a manner that is efficient, economical, and conducive to quality care.”² Provisions of the Social Security Act and regulations that influence Medicaid transportation require that medical assistance be:

- Available in all political subdivisions of the state (U.S. Code Title 42).³
- Provided with reasonable promptness to all eligible individuals.⁴
- Furnished in the same amount, duration, and scope to all individuals in a group.⁵
- Provided in a manner consistent with the best interests of the recipient.⁶
- Available to eligible recipients from qualified providers of their choice.⁷
- Provided in accordance with methods of administration found necessary by the Secretary of Health and Human Services for proper and efficient operation of the state plan.⁸ (Raphael 1997); (Raphael 2001); (Rosenbaum, et al. 2009)

Assurance of Transportation

Although assurance of transportation is not mentioned in the original legislation establishing Medicaid, it can be found as early as 1966 in federal interpretive guidance, specifically the *Handbook of Public Assistance* (Supplement D). The interpretive guidance provides criteria to assure high quality of care and services to include the provision “for necessary transportation of

¹ Section 1902(a)(4).

² Section 1902(1)(30).

³ 42 U.S.C. § 1396a(a)(1).

⁴ 42 U.S.C. § 1396a(a)(8).

⁵ 42 U.S.C. § 1396a(a)(10)(B)(ii); 42 C.F.R. § 440.240(a).

⁶ 42 U.S.C. § 1396a(a)(19).

⁷ 42 U.S.C. § 1396a(a)(23).

⁸ 42 U.S.C. § 1396a(a)(4)(A).

a recipient to and from the suppliers of medical and remedial care and services.” The transportation assurance rule was codified under 42 CFR 431.53—Assurance of Transportation; it mandates that each state Medicaid agency specify in its state plan that it will “ensure necessary transportation for clients to and from providers” and “describe the methods that the agency will use to meet this requirement” (Raphael 1997); (Bradley, et al. 1998); (Rosenbaum, et al. 2009). In addition, each state Medicaid agency is directed to assure transportation to children enrolled in Medicaid under 42 CFR 431.62—Early Periodic Screening, Diagnosis, and Treatment (EPSDT)—directing to offer “necessary assistance with transportation” if requested (Santalucia 2013).

Payment as Optional Medical Service/Administrative Service

In 1978, the United States Department of Health, Education, and Welfare (HEW) issued further interpretive guidance in the *Medical Assistance Manual, Part 6—General Program Administration*, further clarifying transportation as an assurance. The interpretive guidance also clarifies that the state has a choice of claiming federal financial participation as an optional medical service, an administrative activity, or both (Rosenbaum, et al. 2009).

If the optional medical service classification is chosen, uniformity of service, consumer freedom of choice of provider, and direct payment of vendors are all required. Under an optional medical service, NEMT expenses are matched by the federal government at the state’s FMAP rate, between 50% and 83%. For most states, the optional medical service provides a higher reimbursement rate than the administrative option. However, additional requirements come with claiming transportation as a medical service: states must assure that service is available throughout the state at a comparable quality, a system is in place to pay the service provider directly, and Medicaid clients are provided freedom of choice in selecting a service provider (Rosenbaum, et al. 2009); (Santalucia 2013).

Under the administrative services option the federal government matches expenses at 50% instead of the higher FMAP. The administrative option has historically allowed more flexibility because the freedom of choice requirement does not apply, application of certain medical assistance payment standards do not apply, and enrolling vendors as providers is not necessary. However, because the transportation assurance is paid at a 50% federal financial participation rate, states may be financially better off paying for transportation as a medical assistance service if their FMAP rates are higher than 50% (Rosenbaum, et al. 2009); (Santalucia 2013).

Waivers

The Secretary of Health and Human Services (previously the HEW) is permitted to grant waivers of several provisions of the law under the Social Security Act:

- §1115 demonstration waivers permit a state to implement broad changes in the traditional Medicaid program if the state can demonstrate that it will further the intent and purposes of Medicaid law. The Secretary of Health and Human Services has broad authority under §1115 to waive state plan requirements and certain other statutory requirements and to implement regulations that permit states to pursue research and demonstration activities that promote the Social Security Act’s objectives.

- §1915(b) waivers, known as “Freedom of Choice Waivers,” allow states that furnish transportation as a medical assistance service the flexibility to establish prepaid medical plans, Medicaid transportation brokerages, or other arrangements that may restrict the choice of providers.
- §1915(c) waivers, called “Home and Community-Based Services Waivers,” allow states flexibility in implementing creative alternatives to institutionalized care, including non-medical transportation, if the services prevent premature institutionalization. (Raphael 2001).

Shift in Medical Service Delivery

The delivery of medical services saw a shift in the 1970s and 1980s to more outpatient services, deinstitutionalization (anti-hospital and anti-nursing-home settings), and a rise in “new care settings” such as outpatient adult day programs and community care centers (Verderber 2000). President Nixon signed the Health Maintenance Organization Act of 1971 to encourage managed health care. The cost of medical services continued to grow. Although Medicaid enrollment declined by an average 0.7% annually from 1976 to 1981, Medicaid expenditures grew nearly 15% annually (Klemm 2000).

In response to escalating cost, the Omnibus Budget Reconciliation Act of 1981 was passed that cut federal Medicaid matching rates for high growth States and reduced eligibility benefits. Many States responded by experimenting with “health maintenance organizations (HMOs) and other capitated programs, home-and-community-based waiver programs and prospective hospital payment” (Klemm 2000). The 1980s brought a surge of ambulatory care centers. “Reimbursement limitations resulting from diagnosis-related groups or population management incentives arising from managed care, [healthcare] providers were motivated to redistribute, decentralize and overhaul the delivery of outpatient care” (Verderber 2000). Coordinated healthcare networks began to dominate the health landscape. Between 1981 and 1984, Medicaid expenditures grew at an average annual rate of 8%. Congress embarked on a series of Medicaid expansions in 1984 including eligibility for infants, children and pregnant women based on income eligibility-levels and expansion of benefits for the elderly and persons with disabilities (Klemm 2000).

It is important to understand the impact on NEMT caused by this shift to a deinstitutionalized and outpatient care model. Individuals who do not have access to transportation have limited or no ability to access healthcare in an outpatient care model.

Court Case Impact on NEMT

Court cases have influenced the delivery of NEMT. The first case to test the assurance of transportation was in 1974. In *Smith v. Vowell* the Texas Department of Public Welfare refused to provide the plaintiff with transportation to a physician. The state had moved the plaintiff to a non-institutionalized community home. The plaintiff, a wheelchair user and Medicaid recipient, petitioned the state several times to provide transportation to the doctor. The plaintiff brought a class action suit under 42 U.S.C. §1983 for violation of federal regulatory requirements. The court ruled that “the transportation rule rested squarely in the power of the Secretary to

determine that transportation was necessary to efficient program administration. The court noted that under federal policy, the choice of means by which to carry out the obligation was a matter of state discretion, but that the assurance of non-emergency medical transportation represented a mandatory duty” (Rosenbaum, et al. 2009).

Other court cases from 1974 to 2001 have furthered the assurance of NEMT transportation including:

- *Blue v. Craig* that acknowledged the importance of the transportation obligation.
- *Fant v. Stambo* that found limiting the number of trips was invalid.
- *Bringham v. Obledo* that found limiting to specific beneficiary groups is a violation.
- *Daniels v. Tennessee Dept. of Health and Environment* that found the delivery of transportation in the state’s plan must be sufficient and must be carried out.
- *Morgan v. Cohen, Boatman v. Hammons, Conti and Rivera v. Ferguson and Dajour v. City of New York* that found states did not have the right to limit transportation assurance (Rosenbaum, et al. 2009).

A notable negative case was *Harris v. James* in 1997. In *Harris v. James* the state of Alabama’s medical transportation plan was challenged for sufficiency in the delivery of transportation. “The United States Court of Appeals for the Eleventh Circuit ruled that federal regulations alone cannot create enforceable rights under §1983 and that while transportation may have been implied under the statute, there was no clear statutory right to transportation” (Rosenbaum, et al. 2009). Although the *Harris* case concluded that transportation assurance federal requirements cannot be enforced unless implicitly recognized by the state, other courts have held that federal requirements for transportation assurance can be enforced through the Constitution’s Supremacy Clause.

Court cases are applicable only to the jurisdiction where the case is brought. If a case is brought to the U.S. Supreme Court or reviewed by circuit federal courts, then the decision may be applicable beyond the original jurisdiction. It is important to recognize that these court cases have changed the way states deliver NEMT, requiring states to provide service by “using mileage reimbursement for relatives, taxi fares and payments to community based transportation providers, particularly in rural areas” (Marsico 2012).

Waivers and the Delivery of NEMT through a Broker Model

Several factors influenced states to pursue and obtain §1115, §1915(b), and §1915(c) waivers, including the desire to reduce NEMT costs, pressure to reduce real or perceived billing fraud and abuse in NEMT, and a shift to managed care. In a push to contain medical costs and to reduce (or cap) federal outlays for health care, states moved to managed care plans; states received approval to move beneficiaries into managed care plans through §1115 waivers. §1915(b) waivers allowed some states flexibility in establishing prepaid medical transport plans, brokers, or other programs to restrict medical provider choice and control costs. In a 1997 survey, 15 states reported that they were implementing §1115 waivers, and 38 states and the District of Columbia reported that they had obtained §1915(b) waivers (Raphael 1997).

Results from a national 2003 Medicaid NEMT survey quantified the number of states that had obtained a waiver and were delivering NEMT through a broker model (Stefl 2003). In 2003, 21 of the 50 states and the District of Columbia, or 41%, were delivering NEMT through a broker. The survey also reported that 49% had selected payments using the FMAP, 27% using administrative assistance, and 24% using a combination. The survey respondents also provided insight on why some states had elected to move to the brokerage model. Specifically, the survey respondents stated a move to a brokerage model provides:

- An increased focus on resources to determine the least expensive appropriate mode of transportation for each trip.
- Capitated arrangements that are believed to contain cost.
- The ability to delegate monitoring of fraud and inappropriate uses of services.
- Help in administering and delivering NEMT, especially for states where most NEMT is preapproved and the administrative cost is high (Stefl 2003).

CHIP Program

The Children's Health Insurance Program (CHIP) became law in 1997. CHIP provides health coverage to children in families with incomes too high to qualify for Medicaid, but can't afford private coverage. Like Medicaid, CHIP is administered by the states. States can design the CHIP program in one of three ways: Medicaid expansion, separate benchmark Child Health Insurance Program, or combination of the two approaches. The federal matching rate for state CHIP programs is typically about 15 percentage points higher than the Medicaid matching rate for that state. If the state enrolls children in the Medicaid program, then there is an obligation to provide NEMT services. If the state enrolls children in a state benchmark plan, then the state is not obligated to offer NEMT to CHIP enrollees. At the present time, the following approaches are used: seven states, DC and five territories operate Medicaid-only CHIP programs; 17 states operate as a separate, non-Medicaid or benchmark plan; 26 states operate a combination (Center for Medicaid and CHIP Services 2014).

Deficit Reduction Act of 2005

The DRA included an amendment to the Medicaid statute to “permit states to establish non-emergency transportation brokerage programs to help ensure transportation services” (Rosenbaum, et al. 2009). With the DRA, states are no longer required to obtain a §1915(b) *Freedom of Choice* waiver to use a NEMT brokerage program; this eliminates the administrative burden of the biannual waiver renewal. States can use a NEMT broker and obtain federal contributions at the higher FMAP rate. The amendment allows states to “establish a NEMT brokerage program without regard to statutory requirements for comparability, statewideness, and freedom of choice” (Rosenbaum, et al. 2009). The DRA does provide the following additional regulations for NEMT brokerage programs:

- Must be cost efficient.
- Must use competitive procurement.
- Must perform auditing and oversight.

- Must include oversight procedures in the broker contract; provide licensed, qualified, competent, and courteous transport personnel; and comply with prohibitions on referral requirements.

The DRA also included an amendment to the Medicaid statute to “permit states greater flexibility in defining covered benefits for certain Medicaid eligible populations, including the use of “benchmark” benefit plans. Benchmark plans include:

- The Federal Employees Health Benefits Program (FEHBP) Blue Cross/Blue Shield preferred provider organization (PPO).
- A state’s employee coverage plan.
- The health maintenance organization (HMO) with the largest number of non-Medicaid enrollees in a state.
- Any other plan approved by the Secretary of the U.S. Department of Health and Human Services (HHS)” (Rosenbaum, et al. 2009).

DRA and Transportation Assurance

Rules and Regulations published December 3, 2008 interpreted the benchmark flexibility to eliminate the transportation assurance stating that:

“[O]ffering benchmark or benchmark-equivalent benefit packages without regard to the assurance of transportation is consistent with the benchmark options that Congress specified...Since section 1937 of the Act gives States the flexibility to provide benefits that are similar to commercial packages, it would appear inconsistent with that flexibility to require the States to provide NEMT that the selected benchmark package do not offer.”⁹

However, a revised Final Rule issued April 30, 2010 and effective July 1, 2010 expressly required states to assure necessary transportation to and from providers for all beneficiaries enrolled in benchmark or benchmark-equivalent Medicaid plans. “If a benchmark or benchmark-equivalent plan does not include transportation to and from medically necessary covered Medicaid services, the State must nevertheless assure that emergency and non-emergency transportation is covered for beneficiaries enrolled in the benchmark or benchmark-equivalent plan.”¹⁰

DRA Final Rule - Broker Implementation

Final Rules and Regulations were issued December 19, 2008 and effective January 20, 2009 to implement §6083 of the DRA that provides states with the flexibility to establish a certain type of NEMT brokerage program and to receive the FMAP matching rate. The Final Rules and Regulations provide response to public comments and provisions of the final regulations. These broker rules provide important clarification about: CMS’s view on the State, the broker and the transportation provider role; and the rule requirements that impact the delivery of NEMT, coordination and the provision of transportation.

⁹ 73 Fed. Reg. 73694 (December 3, 2008) adding §1937 to Social Security Act.

¹⁰ 75 Fed. Reg. 23104 (April 30, 2010) §440.390 Assurance of transportation.

- **State choice.** “We wish to clarify that this final rule applies only to transportation brokerages when a State chooses to adopt this new flexibility provided by section 6083 of the DRA...States continue to have the flexibility to provide NEMT as an administrative expense or as an optional medical service... States that wish to establish a NEMT brokerage program without being required to comply with the prohibitions against self-referral, or general Medicaid requirements such as freedom of choice, comparability and state-wideness may continue to do so through the 1915(b) waiver process.”¹¹ “States with existing NEMT brokerage models that do not meet all of the requirements of the DRA and this final rule have other options available, such as obtaining 1915(b) waiver authority or providing NEMT as an administrative expense.”¹²
- **Self-referral prohibition and conflict of interest.** The DRA prohibits the broker from providing transportation because “these relationships constitute a conflict of interest because of the potential for fraud and abuse...brokers could possibly over-utilize higher cost services provided by their own transport companies or possibly bill for services that did not occur...Understanding that there are circumstances where there may be an insufficient number of available providers, we adopted exceptions...in order to meet access requirements ...[and to serve] rural areas that may be underserved.”¹²
- **Coordination of transportation.** “For programs such as Medicaid, the policies of the CCAM [Interagency Coordinating Council on Access and Mobility] are appropriate as long as they do not conflict with the policies and rules of the Medicaid program...Medicaid program’s responsibility is limited to ensuring cost-effective transportation for beneficiaries to and from Medicaid providers...Federal Medicaid funding must be matched by non-federal funding...”¹³ “It should be noted that Medicaid funds may only be used for Medicaid services provided to eligible beneficiaries...States must comply with all applicable Medicaid policies and rules regardless of whether the Medicaid rules interfere with their ability to coordinate their transportation efforts.”¹⁴
- **Public transit rates.** “In the case of publicly-provided transportation on fixed routes, while there are other third-party payers that often cover and reimburse these trips for their clients, we have been informed that such third-parties or agencies generally pay the same amount as the public is charged for these rides. Therefore, we are prohibited from paying more than the public is charged for public transportation on a fixed-route trip.”¹⁴ “In the case of publicly-provided paratransit services and rides ...we believe that it is appropriate and consistent with current practice for Medicaid to pay more than the rate charged to disabled individuals for a comparable ride...Therefore, in this final rule we have modified the regulations text to require the governmental broker to document that Medicaid is paying for public fixed-route transportation at a rate that is

¹¹ 73 Fed. Reg. 77522 (December 19, 2008)

¹² 73 Fed. Reg. 77525 (December 19, 2008)

¹³ 73 Fed. Reg. 77523 (December 19, 2008)

¹⁴ 73 Fed. Reg. 77524 (December 19, 2008)

no more than the rate charged to the general public, and no more than the rate charged to other State human service agencies for public paratransit services.”¹⁵

- **Shared cost prohibition.** “...if the government broker wishes to be excepted from the self-referral prohibition, the government broker’s contract with the State Medicaid agency must specify that the government broker will not charge the Medicaid agency for any personnel or other costs that are shared with, or allocated from, parent or related governmental entities. We expect the governmental broker to maintain an accounting system as though it were a distinct unit, such that all funds allocated to the Medicaid brokerage program and all costs charged to the brokerage program will be completely separated from any other program. Costs that are shared with or allocated from other governmental entities will not be paid by Medicaid.”¹⁶
- **Bus passes and mileage reimbursements.** “States have the option to direct the broker to include bus passes and mileage reimbursement, or to allow the broker to determine which payment methodologies it will use to reimburse for transportation services... Since public transportation is generally the least costly method of transporting beneficiaries, we would expect that the broker would first determine if the physical condition of the beneficiary allows them to use public fixed route transportation before scheduling a more costly paratransit service... The cost of a bus pass must be compared to, and may not exceed, the aggregate cost of the individual trips that will be taken by the beneficiary to access Medicaid providers during that month and on the same bus.”¹⁷
- **Broker oversight and operations standards.** “We expect States to set specific operations standards and at a minimum include: quality standards for vehicle safety; staff competency; timeliness; access standards; licensing requirements; and grievance procedures. We also expect States to design and implement oversight procedures as required... We have revised the text to require the broker to also have oversight procedures to ensure that transportation is timely that the State regularly audit the timeliness of transportation provided through the brokerage program.”¹⁶
- **County or regional brokers.** “We believe that under this type of model [each county or region operates a separate brokerage program] we are obligated to review and approved each separate brokerage program.”¹⁸ “Because NEMT needs may differ from region to region it may be necessary to offer certain services in one area of the State but not in another... the statute provides States with the greatest flexibility to customized their brokerage programs.”¹⁷

To summarize, the Final DRA Rule reflects that Medicaid and CMS view the State as the decision maker on program design and mix. The CMS focus for NEMT is on best price at highest quality for the Medicaid recipient to access Medicaid services, and on preventing conflict

¹⁵ 73 Fed. Reg. 77528 (December 19, 2008)

¹⁶ 73 Fed. Reg. 77528 (December 19, 2008)

¹⁷ 73 Fed. Reg. 77526 (December 19, 2008)

¹⁸ 73 Fed. Reg. 77527 (December 19, 2008)

of interest, abuse and fraud through separation of functions. The Final Rule recognizes that public fixed route transportation should be considered as a first choice, that bus passes are acceptable if the least cost, and that an allowance for Medicaid to pay for paratransit at a higher rate than the farebox rate charged to the general public may be appropriate. The Final Rule recognizes coordination as a worthwhile goal but not at the expense of Medicaid policies and rules for NEMT and does not allow shared costs to be charged to Medicaid. Expectations are provided for operations standards and broker oversight with timeliness of transportation a focus to ensure medical appointments are met. The Final Rule recognizes that service needs may differ across the state that may require customization of programs by region.

Use of Brokers after Passage of DRA

After the DRA was passed in 2005, the use of brokers increased. By 2009, 75% (or 38 of the 51 states and territories) used a broker model with about half of the states that moved to a broker model claiming that the passing of the DRA was an influencing factor ([Rosenbaum, et al. 2009](#)). There has been continued growth in the broker model use—in 2012, 78% (or 40 of the 51) used a broker model ([North Carolina Department of Health and Human Services 2012](#)).

Patient Protection and Affordable Care Act of 2010

In March 2010, President Obama signed into law the Patient Protection and Affordable Care Act (ACA). When fully phased in, the ACA will: “mandate that Americans purchase health insurance; significantly broaden the eligibility requirements for Medicaid; and, provide subsidies for the purchase of health insurance” ([Santalucia 2013](#)). The ACA provisions that impact NEMT are provisions that are intended to reduce fraud, increase the number of Medicaid eligible, and result in higher FMAP rates for the newly eligible. The ACA provisions include additional compliance and reporting requirements for NEMT as a means to reduce fraud. The ACA expands Medicaid eligibility to nearly everyone under age 65 and up to 133% of the federal poverty line ([Santalucia 2013](#)).

Under the ACA, all states will initially receive an FMAP of 100% for the newly eligible Medicaid population. The 100% match will be in effect for three years and will then fall to 95% in 2017 and 90% in 2020. An increase in the additional compliance and reporting requirements and the expected increase in Medicaid-eligible recipients will likely place a burden on the current NEMT infrastructure. The higher FMAP rates for the newly eligible population could further influence how states choose to claim NEMT reimbursement ([Santalucia 2013](#)).

The ACA maintains the CHIP eligibility standards in place as of enactment through 2019. The law extends CHIP funding until October 1, 2015, when the CHIP federal matching rate will be increased by 23 percentage points, bringing the average federal matching rate for CHIP to 93%” ([Center for Medicaid and CHIP Services 2014](#)).

The ACA permits states “to expand Medicaid to nearly all individuals with incomes up to 138% of the federal poverty level” ([MJS & Company 2014](#)). Some states have proposed through §1115 waiver to use Medicaid funds to purchase Qualified Health Plans (QHPs) in the Exchanges/Marketplaces for newly eligible. CMS issued final regulations providing guidance for expansion through premium assistance stating that “states must have ‘mechanisms in place to

wrap-around commercial [insurance] coverage to the extent that benefits are less than those in Medicaid' ...These wrap-around benefits include NEMT" (MJS & Company 2014). However, some states are "proposing to waive the NEMT assurance requirement in premium assistance plans...In Iowa, CMS has agreed to temporarily 'relieve the state from the responsibility to assure non-emergency transportation to and from providers' for its Medicaid expansion population. This waiver authority sunsets after one year during which the state is required to collect data in order to evaluate the impact of lack of access on care" (MJS & Company 2014).

Research Results Digest 109 (RRD109), *Impact of the Affordable Care Act on Non-Emergency Medical Transportation (NEMT): Assessment for Transit Agencies*, estimates taking into account Medicaid expansion non-participating or potential non-participating states that the potential number of new enrollees is about 6.16 million. Based on experience from waiver demonstration states, the newly eligible population is not as transit dependent and thus it is projected that about 185,000 to 616,000 individual with require NEMT (Garrity and McGehee 2014).

COORDINATION INITIATIVES

Coordination across the large number of transportation services in communities may allow states to maximize federal funding to support integrated transportation service delivery. Research has found that coordination can be a sound business practice creating wide-ranging benefits, including increased funding, improved productivity, and economies of scale. Coordination can increase efficiencies through sharing vehicles, consolidating services, maximizing technology, and sharing information. The NEMT model that a state chooses to implement does affect the ability to coordinate across transportation services.

The use of brokerage models for NEMT can work in favor of coordination of services or against coordination. For example, if brokers contract with public transit providers and health and human service agencies, then trips can be grouped with other trip types that are not Medicaid related, and the coordination of transportation services is likely. Brokerage models can also work against coordination when transportation is scheduled in silos where only Medicaid trips are scheduled on the vehicle instead of carrying multiple trip types. The segmented service results in an increased number of vehicles, operating expenses, maintenance, fuel, and labor to serve the same number of trips in a community.

Human Service Transportation Coordination Executive Order 13330

In 1986, about the same time that the influx of brokers occurred in the delivery of NEMT, the Department of Transportation (DOT) and Health and Human Services (HHS) formed the Coordinating Council on Human Services Transportation (Coordinating Council). In 2004, the Human Service Transportation Coordination Executive Order 13330 was signed. Executive Order 13330 established the Interagency Transportation Coordinating Council on Access and Mobility (CCAM), chaired by the Secretary of Transportation, with participation from 10 federal agencies. The order requires relevant federal agencies to coordinate to enhance transportation access, minimize duplication of services, and facilitate the most appropriate, cost-effective human service transportation (expanding the 1986 Coordinating Council on Human Services

Transportation goals) (Burnier, et al. 2013). The CCAM spurred the launch of two initiatives in 2004: United We Ride and Mobility Services for All Americans.

The initiatives are designed to bring the transportation and human service communities together and apply technological and institutional solutions to overcome challenges faced by transportation-disadvantaged persons, transportation service providers, and human service administrators (Sundeen 2005).

Coordination Legislation and Policy Reports

SAFETEA-LU and TEA-21

The Safe Accountable Flexible Efficient Transportation Equity Act-Legacy for Users (SAFETEA-LU) of 2005 amended human services transportation coordination provisions, “sharpening the focus on transportation for persons with disabilities, older adults and individuals with lower incomes,” and established locally developed public transit-human services transportation coordination plans for all DOT programs (Sundeen 2005). Federal law also has promoted coordinating funding for non-DOT programs to be used as matching funds for specific transportation programs. The previous funding and authorization, Transportation Equity Act for the 21st Century (TEA-21), also encouraged coordination through the metropolitan planning process (Sundeen 2005).

GPRA Modernization Act

The Government Performance and Results Act (GPRA) was updated in 2010 as the GPRA Modernization Act. It was expected that the act could play an important role in efforts that impact coordination by “clarifying desired outcomes; addressing program performance and facilitating future actions to reduce duplication, overlap and fragmentation” (United States Government Accountability Office 2012).

Government Accountability Office Reports

The Government Accountability Office (GAO) has issued several reports—1977, 1999, 2004, 2012, and 2013—that recommended federal action to improve coordination of specialized human service transportation programs. The most recent GAO reports, 2012 and 2013, found that:

- As a result of the GAO recommendation to develop a strategic plan, the DOT and Coordinating Council’s member agencies issued a strategic plan for 2011-2013. The strategic plan established agency roles and responsibilities and identified a shared strategy to reinforce cooperation. Officials have indicated they will continue to take steps to implement recommendations (United States Government Accountability Office 2013).
- No action has been taken on the GAO recommendation to report on the “progress of Coordinating Council recommendations” and to “develop a plan to address any outstanding recommendations, including the development of a cost-sharing policy and the actions taken by member agencies to increase federal program grantee participation in locally developed, coordinated planned processes” (United States Government Accountability Office 2013).

Studies on the Impact of Coordination

Numerous studies have been conducted on the impacts of transportation coordination and NEMT. Some of the key studies are highlighted below.

- The sheer size of the Medicaid program infrastructure and operation affects transportation across the United States. Medicaid is often the largest funder of transportation in many regions, with Medicaid NEMT expenditures representing almost 20% of the entire federal transit budget ([Rosenbaum, et al. 2009](#)). In rural areas, NEMT funds are often greater than public transit funds ([Hosen and Fetting, TCRP Synthesis 65 2006](#)).
- TCRP Report 91, published in 2003, states that the potential aggregated economic benefits of coordinating human service transportation was estimated at about \$700 million in the U.S. annually ([Burkhardt, Koffman and Murray 2003](#)).
- The GAO 2013 report revealed four of the five states in the study reported state legislation and/or state policies pose challenges for coordination. All five states said the federal government could provide improved state and local guidance on transportation coordination—especially as it relates to sharing costs across programs ([United States Government Accountability Office 2013](#)).
- TCRP Report 101 states transportation coordination strategies typically help “address cost effectiveness by pooling vehicles and combining administrative operations.” This report points to cost allocation as a coordination obstacle that can be resolved by working through cost-sharing arrangements ([Burkhardt, Nelson, et al. 2004](#)).
- A North Carolina study indicated that the 30-year investment in dollars, training, resources, and coordination with human service entities is jeopardized with a broker model that does not coordinate services ([NC Department of Health and Human Services Division of Medical Assistance 2012](#)).
- A Kentucky study stated having a successful model for coordination is especially beneficial in transporting from rural areas to medical specialty centers (O’Connell 2002). An Oregon study noted rural communities face a greater challenge due to distances between communities, a small number of providers, and customer lack of knowledge ([Owens 2013](#)).
- TCRP Report 144, *Sharing the Cost of Human Services Transportation*, states “many communities still have instances of duplication and overlapping services, service gaps, and lack of cost effectiveness” and that “coordination among a variety of agencies offers an opportunity to achieve more and better outcomes for the same levels of investment.” Furthermore, “Accurate cost reporting provides the foundation necessary to ensure an equitable and accurate distribution of costs among all participating agencies” ([Burkhardt, Garrity, et al. 2011](#)).

- A 2003 study reports “one unintended consequence of the increase in local authority has been a prevalence of duplication in providing transportation service for transportation-disadvantaged populations served by social service organizations,” as “many social service agencies operate their own van service for their own clientele.” As a result, “If viewed regionally, paratransit services for the transportation disadvantaged are duplicative and inefficient” (Schlossberg 2003).
- TCRP Report 101 also reports on the impact to rural community coordination. Rural communities receive transportation funding from a variety of sources. Rural transportation providers serve as coordinators of services, pooling resources and funding to provide transportation across a variety of programs. Coordinating transportation can lower administrative costs, avoid duplication of services, increase productivity, improve cost effectiveness, and enhance mobility in rural communities. Without coordination NEMT services may become disjointed, resulting in a “proliferation of small organizations that provide transportation ... each owning a few vehicles that can be used only for their agency’s own designated clients and purposes” (Burkhardt, Nelson, Murray, & Koffman, 2004).
- A more recent study compared potential impacts of coordination on rural transit system performance by sampling two rural transit agency trips across all services and rescheduling under three tiers of coordination. The study revealed coordination led to system efficiency; a reduction in total revenue hours was found, ranging from 7% to 13% when transportation was coordinated across services (Burnier, et al. 2013).
- TCRP Synthesis 65 identifies key factors that can foster or inhibit coordination:
 - Operational coordination is local.
 - Building trust is important.
 - The service delivery model makes a difference.
 - Rural areas coordinate better out of necessity.
 - Use of a fixed route is cost effective and fosters mobility.
 - Ensuring that the agreement makes business sense for all parties is necessary.
 - Understanding transit concerns is significant.
 - State legislation mandates can foster or inhibit coordination.
 - Leveling the playing field for service provider requirements is key.
 - State agency cooperation is essential (Hosen and Fetting 2006).
- The 2005 report of the National Conference of State Legislatures discusses two coordination goals: to improve customer service and to gain economic reward. The report recognizes degrees of coordination, from comprehensive review to focus on a single population, and provides recommendations to maximize coordination based on the range. Barriers to coordination identified include standard differences, legal prevention of sharing resources or trips, reluctance to mix populations, and lack of resources to ensure effective coordination. Recommendations include measuring the effects and outcomes of state coordination activities and strategies, given the relative lack of such information currently (Sundeen 2005).

BROKER INITIATIVES

Studies conducted have emphasized the impact of the brokerage model on NEMT cost, public transit and the customer. Some of the key studies are highlighted below.

Brokerage Model Impacts on Cost

The following are some of the key studies that emphasize the broker model impact on NEMT cost:

- Brokers can impact the overall cost of transportation in the region by coordinating multiple trip types to maximize transportation infrastructure, acting as a gatekeeper, deterring fraud and abuse, and tapping into transportation and technology expertise. The ability to reduce costs while maintaining quality of service is dependent on the broker model structure and may inadvertently increase the cost and reduce the quality of transportation overall in the region ([The Hilltop Institute 2008](#)).
- A 2008 study conducted a survey of 10 states and the District of Columbia and found that cost efficiencies of an NEMT broker program could be attributed to two main factors: (1) the broker's role as a gatekeeper to provide the most cost-efficient transportation for eligible individuals; and (2) the broker system's deterring of fraud and abuse. Also, the study found there was no compelling evidence that a *statewide* broker model would achieve cost efficiencies or quality improvements solely as a result of transitioning from a local jurisdictional to a uniform statewide NEMT program ([The Hilltop Institute 2008](#)).
- A North Carolina study of 21 states and the District of Columbia also indicated an advantage of a broker system in terms of managing costs involves its ability to tap into expertise and access to software and technology ([NC Department of Health and Human Services Division of Medical Assistance 2012](#)).
- Kansas found, in addition to efficiencies that may be gained by deterring fraud and abuse, the structure and language of the broker contract and the payment method highly influence costs. The capitated payment method provides the state with a known cost and puts the risk of fluctuating costs on the broker. Kansas attributed a 6% savings, compared to historical expenditures, to utilization of the broker-capitated per-member, per-month (PMPM) rate payment method ([Weaver 2012](#)).
- The disadvantage of the capitated method is that it could create an incentive for the broker to deny services to recipients and could provide an incentive to structure service contracts without high performance standards, paying vendors less. Reduced payments may lead to vendor unwillingness to provide NEMT and cause service disruptions. The capitated payment model also tends to exclude smaller brokers because of the risk factor. Understanding how capitated rate contracts impact providers and service quality is important. Without service standards being outlined

in the broker-capitated rate negotiation, the contractor may undercut costs and structure contracts such that service standards are sub-par. To ensure transportation quality, credentialing of providers raises the bar and sets a level playing field for an interested and qualified Medicaid transportation provider. Standard for providers in regards to vehicles, insurance, pre-employment screening, training, and billing verification ensures that clients are receiving a high level of service by safe drivers working for qualified companies who are likely to meet high levels of scrutiny and maintain high performance standards ([Taxicab, Limousine & Paratransit Association 2009](#)).

- Nevada attributed the statewide broker system results of an annual cost reduction to increased bus pass utilization. In 2010, about 50% of services were bus passes ([The Lewin Group 2010](#)).
- Some states have very specific and more far-reaching standards, and the requirements are set forth in state regulations. In the majority of states, standards are locally determined. Survey results indicate that although standards are in place for NEMT providers, standards are most often not as inclusive and standardized as the ones that are in place for public transit providers ([Hosen and Fetting 2006](#)).
- Stephen Borders’ research provides insight into the reasons why rural NEMT services are more resource intensive. Borders’ research examined the distance and travel time of Medicaid recipients (age 0 to 20) in urban and rural areas of Texas (Borders, 2006). Borders conducted a survey and found that a substantial number reported traveling very long distances, averaging 30.8 miles for Medicaid NEMT users. According to Borders, more and more practicing physicians are opting out of the Medicaid program, leading to longer MTP travel, especially in rural areas: “Some respondents indicated traveling up to 700 miles and several hours one way for their medical care” ([Borders 2006](#)).

Broker Impact on Public Transit Costs and Service

The following are some of the key studies that emphasize the broker model impact on public transit costs and service:

- RRD109 states that the newly eligible population is thought to be less transit dependent. Other potential public transit impacts identified include:
 - The ACA changes could positively impact revenues for public transit if state and local officials turn to public and community transportation organizations to deliver services.
 - The ACA could have negative impact if rate setting policies result in public transit providers performing services at less than fully allocated rates.
 - The ACA move to coordinated managed care solutions may result in NEMT “carved in” becoming the responsibility of the MCO; or be “carved out” and be provided using existing delivery networks.

- The emphasis on cost containment may prompt states to engage or adopt capitated rate structures that may not be indicative of the fully allocated cost to NEMT delivery.
 - The move away from local service delivery models to regional or statewide models may expand the use of transportation brokerage management models—that may impact public transit systems that are typically limited to local service areas.
 - The capitated rate structure, when managed by a private, for-profit brokerage operator could create the unintended consequence of providing the broker with profit incentives to ensure that all dually-eligible individuals (individuals eligible for both general public transit and NEMT) utilize public transit services while paying only the published fare (including ADA paratransit and general public demand response transit) (Garrity and McGehee 2014).
- Capitated brokerage by its nature is dependent on receiving the lowest cost per trip possible. The broker attempts to contract with as many providers in the area as possible, often encouraging small providers to initiate service. This makes coordination with public transportation sometimes difficult to achieve because public transit must compete for service on price rather than quality (TCRP Synthesis 65 2006). States administering Medicaid transportation can include cost measures that address the impact of pushing minimum reimbursement strategies on coordinated community-based mobility solutions, with negotiated rates reflecting community standards (Marsico 2012).
 - Another implication for public transit providers is that NEMT revenues may be used as a local match to reduce federal funding for public transit. Reduction in NEMT revenue for public transit providers can result in a decrease in federal funding for public transit, and subsequently transportation services for persons with disabilities and persons who are seniors, thus reducing the overall amount of transportation in the community (Sundeen 2005).
 - An unpublished study of the potential impact of NEMT brokerage on rural and small urban transit agencies in Texas found that 21 of the 39 (or 54%) rural transit districts and 9 of the 26 (or 35%) of the state-funded small urban transit districts provided NEMT either directly or indirectly as a sub-contractor in 2012. The NEMT trips carried by rural and small urban transit agencies totaled nearly 1 million, and revenues totaled \$27.5 million. Because NEMT revenues may be used as a local match, the reduction in NEMT revenues for public transit (especially in rural areas) may have a significant negative impact on transit quantity and quality of service due to a reduction in local match funds available (Edrington 2012).
 - A win-win opportunity emerged in New Jersey. The New Jersey statewide Medicaid broker negotiated contracts with community transit providers at a flat rate that covers marginal costs where the transit provider focuses on serving subscription Medicaid riders in grouped trips. The rates have enabled the transit providers to increase their productivity per hour and general revenues with minimal additional cost. Recognition that the Americans with Disabilities Act (ADA) paratransit fares charged do not account for the full operating marginal cost of providing Medicaid trips and the fare box recovery

on most systems is considerably less than 50% of the operating cost is needed. This example illustrates that Medicaid brokerages and community transit agencies can work together to reduce costs by taking advantage of public transit efficiencies (Fittante 2012).

Broker Impact on The Client

The trend of states moving to a broker model has also been influenced by studies that have argued the shift to transportation brokerage services has improved access to care among Medicaid beneficiaries and has decreased expenses. However, access changes may reflect the broker contract structures and nuances. The following are some of the key studies that emphasize the broker model impact on the client:

- A 2002 Kentucky study reported a brokerage model resulted in patronage levels increasing, while unit costs declined substantially (O'Connell 2002).
- A 2009 study examined the effect of capitated transportation brokerage services on access to care and expenditures in Georgia and Kentucky. Shifting to the NEMT capitated brokerage system had significant effects on access to care. NEMT expenditures for adults with diabetes fell; however, the likelihood of using medical services increased. For children with asthma, NEMT expenditures increased, as did access to medical services. The study found a 13% decrease in total health care expenditures for children with asthma and a 4% decrease for adults with diabetes (Kim, Norton and Stearns 2009).
- A Kansas study reported a shift to a broker model had resulted in a widespread “woodwork effect,” meaning a utilization increase due to increased recipient awareness of NEMT availability as a result of broker outreach (Weaver 2012).
- In Oklahoma, utilization of NEMT has steadily increased since the state moved to a broker model (The Lewin Group 2010).
- In a Maryland survey, counties expressed concern that a statewide program would negatively impact Medicaid enrollees. Specifically, counties felt the familiarity and coordination that occurs currently at the local level works in the best interest of clients to access trips for more than medical services (The Hilltop Institute 2008).
- A 2012 study revealed numerous complaints about clients not being picked up for their trips under the broker model had been consistently reported in states like Wisconsin, Michigan, and Florida (NC Department of Health and Human Services Division of Medical Assistance 2012).
- A 2008 Iowa study found 93% of Medicaid clients had not missed medical services due to lack of transportation. Of the three categories of clients—adults with disabilities, persons 65 and older, and remaining adult Medicaid members—clients with disabilities missed more medical services than other Medicaid clients. The study revealed clients who lived in urban areas with access to fixed-route services missed the most medical visits but reported that “fixed-route transportation is almost always available.” The study also found that lack of education and understanding of transportation resources among clients was an issue with social services and case workers (Hanley, et al. 2008).

MEDICAL TRANSPORTATION IMPACT ON HEALTH OUTCOMES

Studies reviewed also provide insight on the importance of assurance of transportation for Medicaid beneficiaries and states. Access to medical care reflects the availability of providers in the community and the ability to cover medical care costs. The following are some of the key studies that emphasize medical transportation impact on health outcomes:

- A 2005 study, *Access to Health Care and Non-Emergency Medical Transportation*, identified a list of conditions alleviated with proper access to care. Identified conditions most prevalent in urban areas among the transportation disadvantaged are diabetes (82.8%), heart disease (79.2%), and hypertension (80.5%). The most prevalent conditions for transportation disadvantaged children include asthma and colds for longer than two weeks (32% of children experience multiple conditions). The study found missing preventative medical trips leads to missing screening programs, pediatric checkups, and prenatal care, as well as under-immunization ([Wallace 2005](#)).
- A 2008 Florida study revealed the benefits that result from providing transportation for preventive medical care is substantial based on the state's ability to avoid funding assisted-living costs. The payback to the state is \$11.08 for each dollar the state invests in medical transportation trips ([Cronin 2008](#)).
- A 2006 Texas study found Medicaid recipients that accessed NEMT services reported significantly higher utilization of early periodic screening diagnostic and treatment checkups versus those who did not access NEMT services ([Borders 2006](#)).
- TCRP Web-Only Document 29 determines the cost-benefit of providing NEMT when both transportation and healthcare are considered together. The document reports providing NEMT actually results in cost savings for the conditions of prenatal care, asthma, heart disease, and diabetes. Six conditions are reported as highly cost effective (improved quality of life and life expectancy with costs less than \$50,000 per quality adjusted life-year [QALY]): influenza vaccinations, dental care, chronic obstructive pulmonary disease, hypertension, depression/mental health, and end-stage renal disease. Two conditions—breast cancer screening and colorectal cancer screening—are classified as moderately cost effective (costs closer to \$50,000 per QALY). The net healthcare benefits of increased access to medical care for the transportation disadvantaged exceed the additional costs of transportation for all of the conditions ([Hughes-Cromwick, et al. 2005](#)).

SUMMARY OF KEY POINTS AND EMERGING THEMES

Researchers summarize key points and emerging themes in the literature. The following provide highlights of key points and themes that have particular relevance to the TCRP B-44 research

goal to present options for providing Medicaid-funded NEMT services and evaluate the effects of different options for providing NEMT on:

- Access to Medicaid services.
- Human services transportation (particularly coordinated transportation services).
- Public transit services, including ADA complementary paratransit services.

Key Points

The following highlights key points from the literature:

- **Transportation Assurance.** Transportation as an assurance of Medicaid was included from the program's inception.
- **Transportation Key to Outpatient Healthcare.** The shift in the 1970s and 1980s to a deinstitutionalized/outpatient care model has had important impacts on NEMT services and costs. Individuals without access to transportation have limited or no ability to access healthcare in an outpatient care model.
- **Legislative Initiatives.** Legislative initiatives have encouraged the use of brokers as a means to control costs, eliminate conflict of interest, monitor fraud and abuse, and reduce state administrative burden.
- **Deficit Reduction Act (DRA).**
 - The DRA in 2005 included an amendment to the Medicaid statute to “permit states to establish non-emergency transportation brokerage programs.” The majority of states have adopted a broker model for providing NEMT service.
 - The Final Rule effective 2009 for the DRA broker program reflects the following:
 - Medicaid and CMS view the State as the decision maker on program design/ mix.
 - CMS focus for NEMT is on best price at highest quality for the Medicaid recipient to access Medicaid services, and on preventing conflict of interest, abuse and fraud through separation of functions.
 - Public fixed route transportation should be considered as a first choice, bus passes are acceptable if the least cost, and allowing Medicaid to pay for paratransit at a higher rate than the rate charged to the disabled passenger may be appropriate.
 - CMS views coordination as a worthwhile goal but not at the expense of Medicaid policies and rules for NEMT and does not allow shared costs to be charged to Medicaid. A focus is on ensuring medical appointments are met.
 - CMS recognizes service needs may differ across the state and may require customization of programs by region.

- **Affordable Care Act (ACA).** NEMT usage is expected to significantly increase with the change in the ACA thresholds for Medicaid.
- **Coordination.**
 - Coordination is a recognized benefit and means to enhance access, minimize duplication of transportation service, and facilitate the most appropriate, cost-effective transportation service.
 - Broker models can promote coordination of services with public transit providers and health and human service agencies or work against coordination.
 - Accurate cost reporting and cost-sharing agreements are the founding elements of coordination necessary to ensure an equitable and accurate distribution of costs among all participating agencies. The GAO recommends federal guidance on cost sharing for better coordination.
- **Broker Impacts.**
 - Brokers that act as gatekeepers, deter fraud and abuse, and have expertise in and access to software and technology can realize cost efficiencies. A capitated payment may create an incentive for denial of service and lowered performance standards, and may exclude smaller brokers.
 - Broker models excluding public transit providers and health and human service transportation operators may inadvertently decrease the amount of transportation available to the region because of the reduction in Medicaid revenue available for federal transportation matching funds from the Federal Transit Administration (FTA)- and Health and Human Service (HHS)-sponsored funding programs.
- **NEMT Healthcare Impacts.** NEMT net healthcare benefits to the client have been shown to exceed the additional costs of transportation, which supports the argument that transportation should be an assurance of the Medicaid program.

Themes and Identified Research Needs

The following highlight key themes and identified research needs from the literature:

- The literature points to the need to evaluate the impact of Medicaid NEMT service delivery models on a community-wide basis, to include impacts on public transit and health and human service transportation.
- The literature review reinforces that much of the previous research conducted on NEMT focused on the Medicaid program and agency in an effort to deter fraud and abuse, eliminate conflict of interest and reduce the per-trip cost.
- The transportation and NEMT industry lacks adequate research on the impact of separating transportation services from coordinated transportation systems and the overall cost of service duplication, loss of local revenue for transportation providers, trip shifting,

and transportation challenges for Medicaid beneficiaries to access transportation beyond medical services.

- A gap in research exists in identifying how NEMT service delivery options influence the quantity, quality and sustainability of transportation available to the community as a whole.
- Research is needed to understand how NEMT model options impact not only access to medical services for Medicaid beneficiaries, but also the access to other important quality-of-life services/activities such as access to fresh food, recreation, social activities, day-care, education, and jobs—access beyond medical services that can be significant to an individual’s overall physical and mental health.

SECTION 3. LITERATURE BY TOPIC

A total of 40 documents are included in the review and summary of relevant literature. The Appendix provides a synopsis for each document reviewed. Table 1 provides a matrix of the literature review and topics covered.

- Of the 40 documents, the greatest number found on a specific topic was 22 documents that covered data sets/ survey information and state specific information.
- Researchers looked for documents that discussed the impacts of NEMT. Much has been written over the years on the impact of coordination with 17 documents providing coordination impact discussions. The number of documents discussing/quantifying client impacts are 10, public transit 6 and state impacts 4. Researchers looked for methodology of measuring impacts and found 5 documents providing methodology.
- Many were found that provided background legislation/policies that impact NEMT for a total of 17 in this review and also the history and evolution of NEMT, total of 17.
- Service delivery models are accounted for in 17 of the documents, rural/urban considerations are found in 9 of the documents and case studies in 8 documents reviewed.

Table 1 provides a list of literature reviewed (sorted from newest to oldest) and quantifies the number of topic areas covered.

Table 1. Literature Review Topic Matrix
(Sorted from most recent to oldest)

Literature/Topics	Legislation/policy impacting NEMT	Service delivery models/considerations	History and evolution	Rural/urban	Data sets/survey	State specific information	Case studies	Public transit impacts	Client impacts	Measuring impacts	Coordination impacts	State impacts
Total	17	17	17	9	21	22	8	6	10	5	17	4
RRD109: Impact of the Affordable Care Act on Non-Emergency Medical Transportation (NEMT): Assessment for Transit Agencies (Garrity and McGehee, 2014)	X	X	X			X	X	X				
Medicaid Expansion and Premium Assistance: The Importance of Non-Emergency Medical Transportation (NEMT) to Coordinated Care for Chronically Ill Patients (MJS & Company 2014)	X	X							X			
RRD 383: Potential Impacts of Federal Health Care Reform on Public Transit (Santalucia 2013)	X	X		X	X	X	X	X				
Transportation-Human Services Coordination Study (Owens 2013)	X		X	X		X		X			X	
Uncover the Impacts of Coordinating Human Service	X									X	X	

Literature/Topics	Legislation/policy impacting NEMT	Service delivery models/considerations	History and evolution	Rural/urban	Data sets/survey	State specific information	Case studies	Public transit impacts	Client impacts	Measuring impacts	Coordination impacts	State impacts
Transportation—One Study, Two Locations, and Three What-If Coordination Scenarios (Burnier, et al. 2013)												
Transportation Disadvantaged Populations: Coordination Efforts are Underway, but Challenges Continue (United States Government Accountability Office 2013)	X		X				X	X			X	
NEMT Coordinators in Minnesota: A Survey of How Minnesota Counties Use Coordinators to Deliver Non-Emergency Medical Transportation (Douman 2013)		X			X	X					X	
Non-Emergency Medical Transportation Services Management Report (North Carolina Department of Health and Human Services 2012)		X			X	X					X	
Transportation Disadvantaged Populations: Federal Coordination Efforts Could Be Further Strengthened (United States Government Accountability Office 2012)	X				X						X	
From the States: Medicaid Outlook. (Husch 2012)						X						X
Medical Transportation and the Role of Community and Public Transit (Marsico 2012)									X		X	
The Transition to Brokered Statewide NEMT in Kansas (Weaver 2012)		X	X	X		X						
Coordinated Transportation Plan for Elderly and People with Disabilities (Nelson\Nygaard Consulting Associates, Inc. 2012)				X		X					X	
Devolution's Policy Impact on Non-emergency Medical Transportation in State Children's Health Insurance Programs (Borders, et al. 2012)			X		X				X	X		
TCRP Report 144: Sharing the Costs of Human Services Transportation (Burkhardt, Garrity, et al. 2011)					X					X	X	
Missouri HealthNet NEMT Review (The Lewin Group 2010)		X				X			X			
Medicaid's Medical Transportation Assurance: Origins, Evolution, Current Trends, and Implications for Health Reform (Rosenbaum, et al. 2009)	X		X		X	X						
Transportation Brokerage Services and Medicaid Beneficiaries' Access to Care (Kim 2009)			X		X	X			X			
National Health Insurance—A Brief History of Reform Efforts in the U.S. (Hoffman 2009)	X		X									

Literature/Topics	Legislation/policy impacting NEMT	Service delivery models/considerations	History and evolution	Rural/urban	Data sets/survey	State specific information	Case studies	Public transit impacts	Client impacts	Measuring impacts	Coordination impacts	State impacts
Non-Emergency Medical Transportation (NEMT) Study Report (The Hilltop Institute 2008)		X			X	X	X				X	
Florida Transportation Disadvantaged Programs: Return on Investment Study (Cronin 2008)				X					X	X		X
The 2008 Report to the Secretary: Rural Health and Human Services Issues (National Advisory Committee on Rural Health and Human Services 2008)	X			X	X							
Iowa Medicaid Non-Emergency medical Transportation System Review and Options for Improvements (Hanley, et al. 2008)		X			X	X			X			
TCRP Web-Only Document 29: Cost Benefit Analysis of Providing Non-Emergency Medical Transportation (Altarum Institute 2006)				X	X				X	X		
TCRP Synthesis 65: Transit Agency Participation in Medicaid Transportation Programs (Hosen and Fetting 2006)		X			X	X	X				X	
Coordinated Human Service Transportation - State Legislative Approaches (Sundeen 2005)					X	X					X	
Access to Health Care and Nonemergency Medical Transportation: Two Missing Links (Wallace 2005)					X				X			
Medicaid Non-Emergency Transportation: Three Case Studies (American Public Human Services Association 2003)	X					X	X					
Developing Coordination Policies for Paratransit and the Transportation Disadvantaged (Schlossberg 2003)			X			X	X				X	
Medicaid Non-Emergency Transportation: National Survey 2002-2003 (Stefl 2003)	X	X	X		X	X						
Efficiency Through Accountability: Some Lessons from Kentucky's Improved Medicaid Transit Service (O'Connell 2002)					X				X		X	
Medicaid Transportation: Assuring Access to Health Care (Raphael 2001)	X	X	X			X						
Ambulance Services: Changes Needed to Improve Medicare Payment Policies and Coverage Decisions (Dummit 2001)				X								
Healthcare Architecture in an Era of Radical Transformation (Verderber 2000)			X									
Medicaid Spending: A Brief History (Klemm 2000)	X		X									

Literature/Topics	Legislation/policy impacting NEMT	Service delivery models/considerations	History and evolution	Rural/urban	Data sets/survey	State specific information	Case studies	Public transit impacts	Client impacts	Measuring impacts	Coordination impacts	State impacts
Designing and Operating Cost-Effective Medicaid Non-Emergency Transportation Programs (Bradley, et al. 1998)	X	X		X	X			X			X	X
Managing Medicaid Transportation: A Manual Examining Innovative Service Delivery Models Under State Medicaid Managed Care Plans (Raphael 1997)	X	X	X		X	X					X	
Controlling Medicaid Non-Emergency Transportation Costs (Apt, et al. 1997)	X		X		X		X					
RRD 10: Integrating Americans with Disabilities Act Paratransit Services and Health and Human Services Transportation (Simon 1997)			X					X			X	
Wasting Medicaid: Why New York Spends Excessively on Medicaid Transportation and How to Save Money Without Hurting Patients						X						X
Innovative State Medicaid Transportation Programs (Burkhardt 1995)		X	X		X	X						

BIBLIOGRAPHY

- Altarum Institute. *TCRP Web-Only Document 29: Cost Benefit Analysis of Providing Non-Emergency Medical Transportation*. Washington D.C.: Transit Cooperative Research Program, 2006.
- American Public Human Services Association. "Medicaid Non-Emergency Transportation: Three Case Studies." 2003.
<http://www.ctaa.org/webmodules/webarticles/articlefiles/BusPassandBrokerageCaseStudyReport-APHSA.pdf> (accessed August 2013).
- Apt, Betty, J. Townsel, W. Walker, and J. Andrews. *Controlling Medicaid Non-Emergency Transportation Costs*. Health and Human Services Office of Inspector General, 1997.
- Borders, Stephen, C. Blakely, L. Ponder, and D. Raphael. "Devolution's Policy Impact on Non-emergency Medical Transportation in State Children's Health Insurance Programs." *Social Work in Public Health* 26, no. 2 (2012): 137-157.
- Bradley, Deborah, et al. *Designing and Operating Cost-Effective Medicaid Non-Emergency Transportation Programs*. Washington, D.C.: American Public Welfare Association, 1998.
- Burkhardt, Jon, E. Hayes. *Innovative State Medicaid Transportation Programs*. Ecosometrics, Incorporated, Joint DHHS/ DOT Coordinating Council on Human Services Transportation, 1995.
- Burkhardt, Jon, C. Nelson, G. Murray, and D. Koffman. *Toolkit for Rural Community Coordinated Transportation Services*. Washington, D.C.: Transportation Research Board, 2004.
- Burkhardt, Jon, D. Koffman, and G. Murray. *TCRP 91: Economic Benefits of Coordinating Human Service Transportation and Transit Services*. Washington D.C.: Transportation Research Board of the National Academies, 2003.
- Burkhardt, Jon, et al. *TCRP Report 144: Sharing the Costs of Human Services Transportation*. Washington D.C.: Transportation Research Board, 2011.
- Burnier, Carolina, A. Jacobi, G. Torng, and J. Gross. *Uncover the Impacts of Coordinating Human Service Transportation—One Study, Two Locations, and Three What-If Coordination Scenarios*. Research, Washington D.C.: Transportation Research Record, 2013.
- Center for Medicaid and CHIP Services. *Medicaid.gov*. 2014.
<http://www.medicaid.gov/Medicaid-CHIP-Program-Information/By-Topics/Childrens-Health-Insurance-Program-CHIP/Childrens-Health-Insurance-Program-CHIP.html> (accessed March 1, 2014).
- Cronin, J., J. Hagerich, J. Horton, J. Hotaling. *Florida Transportation Disadvantaged Programs: Return on Investment Study*. Tallahassee: Florida State University College of Business, 2008.
- Douman, F., Garry, T. *NEMT Coordinators in Minnesota: A Survey of How Minnesota Counties Use Coordinators to Deliver Non-Emergency Medical Transportation*. University of Minnesota, Minneapolis: Hubert H. Humphrey School of Public Affairs, 2013.
- Dummit, Laura D. *Ambulance Services: Changes Needed to Improve Medicare Payment Policies and Coverage Decisions*. Washington D.C.: United States General Accounting Office, 2001.

- Edrington, Suzie. *White Paper: Potential NEMT Brokerage Impact to Public Transit Providers in Texas*. Austin: Texas A&M Transportation Institute, 2012 (*Unpublished*).
- Engelhardt, Gary, Gruber, J. *Social Security and the Evolution of Elderly Poverty*. Syracuse: Berkeley Symposium on Poverty, the Distribution of Income, and Public Policy, 2004.
- Fittante, Steve. "Medicaid Brokerage: The Opportunities and Challenges for Community Transit." *Urgent Issues: Medicaid Transportation*. 2012.
- Garrity, Richard, and Kathy McGehee. *RRD109: Impact of the Affordable Care Act on Non-Emergency Medical Transportation: Assessment for Transit Agencies*. Washington D.C.: Transportation Research Board, 2014.
- Hanley, Paul, N. Sikka, G. Ferguson, B. Kober, and J. Sun. *Iowa Medicaid Non-Emergency medical Transportation System Review and Options for Improvements*. University of Iowa, Iowa City: Public Policy Center, 2008.
- Hoffman, Catherine. *National Health Insurance—A Brief History of Reform Efforts in the U.S.* Menlo Park: The Kaider Family Foundation, 2009.
- Hosen, K., and E. Fetting. *TCRP Synthesis 65: Transit Agency Participation in Medicaid Transportation Programs*. Washington, D.C.: Transportation Research Board, 2006.
- Hughes-Cromwick, P. and R. Wallace, H. Mull, J. Bologna, C. Kangas, J. Lee, and S. Khasnabis. *Cost Benefit Analysis of Providing Non-Emergency Medical Transportation*. Washington, D.C.: Transportation Research Board, 2005.
- Husch, Ben. "From the States: Medicaid Outlook." *Urgent Issues: Medicaid Transportation*. National Association of State Budget Officers, 2012.
- Kaiser Family Foundation. "Medicaid: A Timeline of Key Developments." *Kaiser Family Foundation*. 2010. <http://kaiserfamilyfoundation.files.wordpress.com/2008/04/5-02-13-medicaid-timeline.pdf> (accessed February 17, 2014).
- Kim, J., E.C. Norton, and S.C. Stearns. *Transportation Brokerage Services and Medicaid Beneficiaries' Access to Care*. University of South Carolina, Health Services Research, 2009, 145-61.
- Klemm, John D. "Medicaid Spending: A Brief History." *Health Care Financing Review* 22, no. 1 (2000): 105-112.
- Kuhmerker, Kathy, Pohl, M., Park, C., Choudhry, K. *Medicaid Transportation in New York: Background and Options*. New York: Medicaid Institute at United Hospital Fund, 2010.
- Marsico, Dale "Medical Transportation and the Role of Community and Public Transit." *Urgent Issues: Medicaid Transportation*. Community Transportation Association of America, 2012.
- Marsico, Dale. "CTAA: Medicaid Non-Emergency Transportation Webinar." *Community Transportation Association of America*. 2010. <http://web1.ctaa.org/webmodules/webarticles/anmviewer.asp?a=1703> (accessed February 20, 2014).
- MJS & Company. *Medicaid Expansion and Premium Assistance: The Importance of Non-Emergency Medical Transportation (NEMT) to Coordinated Care for Chronically Ill Patients*. Washington, D.C.: Simon & Company, LLC, 2014.
- National Advisory Committee on Rural Health and Human Services. *The 2008 Report to the Secretary: Rural Health and Human Services Issues*. Washington D.C.: Office of Rural Health Policy, 2008.
- NC Department of Health and Human Services Division of Medical Assistance. *Non-Emergency Medical Transportation Services Management Report: Report to the Joint Legislative*

- Oversight Committees on Health and Human Services and Transportation*. State of North Carolina, 2012.
- Nelson\Nygaard Consulting Associates, Inc. *Coordinated Transportation Plan for Elderly and People with Disabilities*. Portland: TriMet, 2012.
- North Carolina Department of Health and Human Services. *Non-Emergency Medical Transportation Services Management Report*. Report to Oversight Committee on Health and Human Services and Committee on Transportation, State of North Carolina, 2012.
- O'Connell, Lenahan, Grossardt, T., Siria, B., Marchand, S., McDorman, M. "Efficiency Through Accountability: Some Lessons from Kentucky's Improved Medicaid Transit Service." *Journal of Transportation Statistics Vol. 5* (Research and Innovative Technology Administration Bureau of Transportation Statistics), 2002.
- Owens, J., N. Marshall, D. Mayfield, C. Landsman, C. Larson. *Transportation-Human Services Coordination Study*. Portland: Association of Oregon Counties; Oregon Department of Transportation, Public Transit Division and Oregon Department of Human Services, 2013.
- Raphael, David. *Managing Medicaid Transportation: A Manual Examining Innovative Service Delivery Models Under State Medicaid Managed Care Plans*. Center for Health Care Strategies by the Community Transportation Association of America, 1997.
- Raphael, David. *Medicaid Transportation: Assuring Access to Health Care*. Washington D.C.: Community Transportation Association of America, 2001.
- Rice, Dorothy, Cooper, D. *National Health Expenditures, 1950-1967*. Office of Research and Statistics, Washington, D.C.: Division of Health Insurance Studies, 1969.
- Rosenbaum, Sara, N. Lopez, M. Morris, and M. Simon. *Medicaid's Medical Transportation Assurance: Origins, Evolution, Current Trends, and Implications for Health Reform*. Policy Brief, Community Transportation Association of America and George Washington University, Washington, D.C.: School of Public Health and Health Services, 2009.
- Santalucia, A., B. Whitaker, E Oettinger, R. Weiner. *RRD 383: Potential Impacts of Federal Health Care Reform on Public Transit*. Washington D.C.: National Cooperative Highway Research Program, 2013.
- Scheer, Susan. "Wasting Medicaid: Why New York Spends Excessively on Medicaid Transportation and How to Save Money Without Hurting Patients." Public Advocate, New York, 1996.
- Schlossberg, Marc. "Developing Coordination Policies for Paratransit and the Transportation Disadvantaged." *Journal of the Transportation Research Board* (Transportation Research Record) 1841 (2003): 73-80.
- Simon, Rosalyn M. *RRD 10: Integrating Americans with Disabilities Act Paratransit Services and Health and Human Services Transportation*. Washington D.C.: Transit Cooperative Research Program, 1997.
- Stefl, G., M. Newsom. *Medicaid Non-Emergency Transportation: National Survey 2002-2003*. Washington D.C.: National Consortium on the Coordination of Human Services Transportation, 2003.
- Sundeen, M. J. Reed, M. Savage. *Coordinated Human Service Transportation - State Legislative Approaches*. Denver: National Conference of State Legislatures, 2005.
- Taxicab, Limousine & Paratransit Association. *NEMT: How to Maximize Safety and Cost Effectiveness Through Better Use of Private for Hire Vehicle Operators*. TPLA, 2009.

- The Hilltop Institute. *Non-Emergency Medical Transportation (NEMT) Study Report*. University of Maryland, Baltimore: The Hilltop Institute, 2008.
- The Lewin Group. *Missouri HealthNet NEMT Review*. Missouri Department of Social Services, 2010.
- U.S. Department of Health and Human Services. *A Profile of Medicaid: 2000 Chartbook*. Health Care Financial Administration, Almanac of Policy Issues, 2000.
- United States Government Accountability Office. "Transportation Disadvantaged Populations: Coordination Efforts are Underway, but Challenges Continue." Report to the Special Committee on Aging, U.S. Senate, Washington D.C., 2013.
- United States Government Accountability Office. "Transportation Disadvantaged Populations: Federal Coordination Efforts Could Be Further Strengthened." Report to the Committee on Banking, Housing, and Urban Affairs, U.S. Senate, Washington D.C., 2012.
- Verderber, Stephen, Fine, D. *Healthcare Architecture in an Era of Radical Transformation*. New Haven: Yale University, 2000.
- Wallace, Richard, Hughes-Cromwick, P., Mull, H., Khasnabis, S. "Access to Health Care and Nonemergency Medical Transportation: Two Missing Links." *Journal of the Transportation Research Board*, 2005: 76-84.
- Weaver, Patricia. "The Transition to Brokered Statewide NEMT in Kansas." Indian Wells: CalACT Spring Conference, 2012.