

**The Value of Medicaid's
Transportation Benefit:
*Results of a Return on Investment Study***

MTAC Medical Transportation
Access Coalition

About MTAC

MTAC (<https://mtacoalition.org/>) was formed in 2017 by the leading brokers of NEMT to educate federal and state policymakers about the benefits of medical transportation and the need for policies that support continued access to transportation, particularly through the Medicaid program.

MEMBERS	
LogistiCare Solutions, LLC*	Easterseals
MTM, Inc.*	Lyft
Southeastrans, Inc.*	Medicaid Health Plans of America
American Psychiatric Association	National Alliance on Mental Illness
Anthem, Inc.	National Association of Area Agencies on Aging (n4A)
Association for Ambulatory Behavioral Healthcare	National Council for Behavioral Health
Blue Cross Blue Shield Association	National Health Care for the Homeless Council
Community Transportation Association of America	Schizophrenia and Related Disorders Alliance of America
Dialysis Patient Citizens	UnitedHealthcare Community & State

* indicates Founding Member.

What is NEMT?

- **Non-emergency Medical Transportation (NEMT)** is a service provided to people who lack access to transportation to ensure they make it to their medical appointments
- A mandatory Medicaid benefit since the program's inception in 1966

Who Uses NEMT?

- NEMT is most frequently used for trips to access behavioral health services, preventative care, and treatment for chronic conditions
- Adult Medicaid beneficiaries most commonly use NEMT for behavioral health, while expansion adults and children use NEMT more for preventative care
- NEMT is only used by a small percentage of the sickest Medicaid beneficiaries

Why We Chose to Study NEMT's ROI

- Some states have limited NEMT's availability through federal waivers, and more may follow suit
- Few studies exist that demonstrate NEMT cost savings
 - A 2006 cost-benefit analysis of NEMT by the Transit Cooperative Research Program examined 12 medical conditions and found that **investing in transportation leads to a decrease in total costs when both transportation and healthcare are examined**
 - Florida State University's 2007 study concluded that if only 1% of trips funded resulted in reduced ER visits, **the payback to the state would be 1108%**
 - A 2013 study in the Journal of Health Economics and Outcomes Research suggested that greater use of **NEMT might save as much as \$1 billion per year**
- No study has used Medicaid claims data and surveyed actual NEMT users to determine a positive ROI

NEMT In Other Markets

- NEMT is used in other programs besides Medicaid
- It has been offered through the Department of Veterans Affairs as well as private insurers
- Some hospitals and healthcare providers are utilizing ridesharing services such as Uber and Lyft to offer NEMT services

The Hypothesis

- Missed medical appointments lead to non-adherence with clinical guidelines which, in turn, leads to complications and expensive medical services.
- The financial benefit of NEMT is likely to be shown most clearly in the costs avoided from increased expensive medical services and lower adherence treatment volumes.

Project Team

- **Michael Adelberg**, Faegre Baker Daniels Consulting, study director
- **Dr. Patricia Salber, MD**, medical consultant
- **Taylor Pruisner, FSA, MAAA**, Wakely, actuary
- **Michael Cohen, PhD**, Wakely, economist
- **Aaron Dobosenski**, Faegre Baker Daniels, LLP, quantitative analyst
- **Tricia Beckmann**, Faegre Baker Daniels Consulting, project manager
- **Kacey Stotler**, Faegre Baker Daniels Consulting, project support

Diseases and Corresponding Treatments

Six diseases and corresponding treatments were identified for potential inclusion in the study:

- 1. Wound Care for Diabetic Wounds**
- 2. Dialysis for Kidney Disease**
3. Treatment for Bipolar Disorder (*excluded from study**)
4. Treatment for Schizophrenia (*excluded from study*)
5. Adult Day Care for Dementia (*excluded from study*)
- 6. Treatment for Substance Use Disorder (SUD)**

**We did not find credible population sizes or claims for bipolar disorder, schizophrenia, and adult day care for dementia so these diseases were dropped from the analysis.*

Methodology Used to Calculate ROI

For each disease and corresponding treatment, our ROI methodology involved:

1. Determining the present-state treatment volumes of NEMT users and expected future-state treatment volumes if NEMT were not provided;
2. Calculating the difference in total medical costs at the present-state and future-state treatment volume levels;
3. Subtracting the cost of NEMT from change in total medical costs; and
4. Extrapolating the per member per month ROI to the appropriate disease population.

Calculating Medical Costs

- Used 2014 and 2015 Medicaid claims data from the Truven Health MarketScan[®] Database
- Examined the following claims:
 - Medical
 - Pharmacy
 - Long-term Care

Calculating Medical Costs

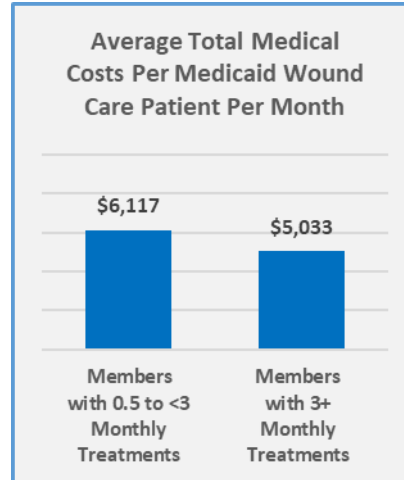
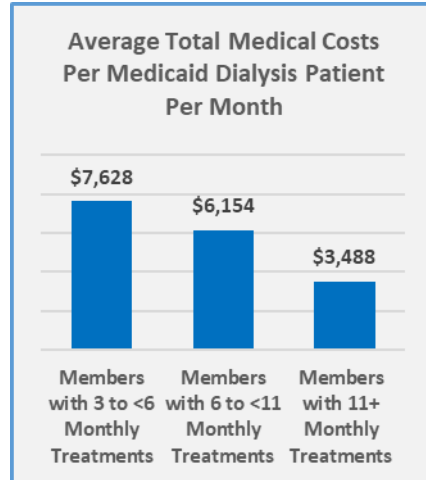
- Initial and adherence claims codes were identified for each disease and corresponding treatment
- Members were identified using an initial claim within the two-year claims window, and members with initial claims after August, 2015, were excluded
- Member months and adherence claims occurring after the initial claim were counted and recorded
- A monthly adherence rate was calculated by taking the number of days containing an adherence claim post-initial claim divided by the number of months post-initial claim
- Members with 1-2 adherence claims per month were segmented together, 2-3, 3-4, 4-5, etc.

Calculating Medical Costs

- All medical costs post-initial claim for each segment were summed together as were the total number of member months for each segment
- Total medical costs were then divided by the total number of member months for the segment to determine the average total medical costs per member per month for the segment
- Segments were then combined based on clinical treatment protocols and medical cost changes, and very low volume treatment segments were excluded

Calculating Medical Costs

- For each condition average total medical costs go down as monthly adherence rates go up.
- For SUD, the change is relatively small and the lowest cost category is the middle adherence rate category.



Determining Treatment Volumes with and without NEMT

- With state and client consent, we surveyed current Medicaid beneficiaries who use NEMT to attend their medical appointments.
- All survey data were collected voluntarily and de-identified.
- Respondents: Beneficiaries served by LogistiCare (the nation's largest NEMT broker) in New Jersey, Louisiana, and Michigan

Survey Questions

The survey collected the following information (paraphrased below):

1. Treatment purpose (primary disease/condition);
2. Mode of NEMT used (e.g., mileage reimbursement, van, stretcher-accessible vehicle, etc.);
3. Access to public or private transportation;
4. Volume of treatments per month and volume of NEMT used;
5. Volume of monthly treatments expected without NEMT;
6. How his or her health has been affected by NEMT; and
7. What would happen if NEMT were not provided?

Survey Details

- **460** surveys were collected from dialysis patients
- **311** surveys were collected from substance use disorder patients
- **206** surveys were collected from diabetic wound care patients

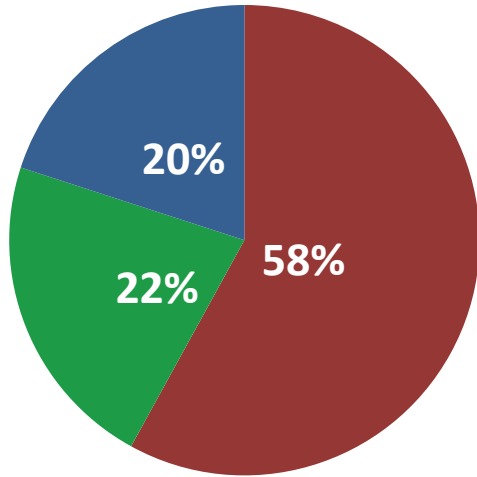
Survey Details

- We then calculated the self-reported average treatment volumes with and without NEMT per disease/treatment

Dialysis			Treatment for SUD			Wound Care		
Survey Count	Average Treatments per Month with NEMT (SD)	Average Expected Treatments per Month without NEMT (SD)	Survey Count	Average Treatments per Month with NEMT (SD)	Average Expected Treatments per Month without NEMT (SD)	Survey Count	Average Treatments per Month with NEMT (SD)	Average Expected Treatments per Month without NEMT (SD)
460	12.0 (1.5)	4.1 (5.3)	311	16.4 (6.1)	4.3 (7.2)	206	5.5 (3.7)	1.3 (2.7)

- The 95% confidence interval for each average is less than +/- 1

Survey Results



Amount of treatments that survey respondents would be able to attend without NEMT:

- NONE
- ALL
- LESS THAN ALL, MORE THAN NONE

- Those **with access to public or private transportation** were twice as likely to report that they'd make their expected treatments per month than those without these options.
- In response to the *open-ended* question "what would happen if you did not have the transportation ride services you currently receive," **103 respondents (10%) reported that they would die or probably die and 22 respondents reported they would be very sick.**

ROI Results: Dialysis for Kidney Disease

Disease/ Treatment	Average Treat. per Month with NEMT	Average Monthly Medical Cost with NEMT	Average Treat. per Month without NEMT	Average Monthly Medical Cost without NEMT	Average Monthly Medical Cost Increase without NEMT	Average Cost per NEMT Round Trip	Average NEMT Round Trips PMPM	Total Cost of NEMT PMPM	Avg. ROI of NEMT PMPM	ROI Per 10,000 Members Per Month
Dialysis for Kidney Disease	12.0	\$3,488	4.1	\$7,628	\$4,140	\$60.24	11.9	\$717.25	\$3,423	\$34,229,448

- **Medicaid costs avoided** per survey respondent per month is $\$4,140 - \$717.25 = \mathbf{\$3,423}$
- Assuming that the survey represents at least 10,000 like Medicaid members, **the ROI of NEMT for treating kidney disease with dialysis per 10,000 members per month is \$34,229,448.**

ROI Results: Diabetic Wound Care

Disease/ Treatment	Average Treat. per Month with NEMT	Average Monthly Medical Cost with NEMT	Average Treat. per Month without NEMT	Average Monthly Medical Cost without NEMT	Average Monthly Medical Cost Increase without NEMT	Average Cost per NEMT Round Trip	Average NEMT Round Trips PMPM	Total Cost of NEMT PMPM	Avg. ROI of NEMT PMPM	ROI Per 10,000 Members Per Month
Wound Care for Diabetes	5.5	\$5,033	1.3	\$6,117	\$1,084	\$53.25	5.5	\$291.96	\$792	\$7,920,635

- **Medicaid costs avoided** per survey respondent per month is $\$1,084 - \$291.96 = \mathbf{\$792}$
- Assuming that the survey represents at least 10,000 like Medicaid members, **the ROI of NEMT for attending diabetic wound care treatments per 10,000 members per month is \$7,920,635.**

ROI Results: Treatment for SUD

Disease/ Treatment	Average Treat. per Month with NEMT	Average Monthly Medical Cost with NEMT	Average Treat. per Month without NEMT	Average Monthly Medical Cost without NEMT	Average Monthly Medical Cost Increase without NEMT	Average Cost per NEMT Round Trip	Average NEMT Round Trips PMPM	Total Cost of NEMT PMPM	Avg. ROI of NEMT PMPM	ROI Per 10,000 Members Per Month
Treatment for Substance Use	16.4	\$888	4.3	\$1,010	\$123	\$20.47	16.3	\$333.71	(\$211)	(\$2,109,779)

- The parameters of this study failed to demonstrate positive ROI for SUD.
- A few considerations:
 - Different study parameters (e.g., longer claims analysis period, relapse rates, quantification of social costs) might have led to positive ROI
 - Claims costs did not steadily decrease with more SUD treatment, making it hard to assign value of greater adherence to necessary medical appointments

Conclusions

- **Total ROI** for all three conditions per 30,000 members (10,000 in each condition) **per month** is **\$40,040,304**.
- Extrapolated nationally, these figures would increase proportionately.
(The precise number of Medicaid beneficiaries using NEMT with these conditions is not readily available)
- **NEMT pays for itself** as part of a care management strategy for people with certain chronic diseases.
 - ROI studies for other disease populations are worth studying, as well as a SUD-specific study that could measure both medical and non-medical costs avoided for treatment adherence.

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