

# Industry-Informed Perspectives on the Benefits of Rideshare-Based Medical Transportation

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The recent article “Rideshare Transportation to Health Care: Evidence From a Medicaid Implementation” examined the association between utilization of rideshare-based nonemergency medical transportation (R-NEMT) among Medicaid beneficiaries and self-reported metrics of ride quality and late or failed passenger pickups.<sup>1</sup> The authors reported findings that higher values of rideshare trips as a proportion of total trips were not associated with perceptions of ride quality but were associated with reports of more frequent late and failed pickups.

The finding suggesting a negative relationship between R-NEMT utilization and health care access is not reflective of Lyft’s experience providing Medicaid beneficiaries with access to transportation over the past 5 years. Indeed, around the country we have consistently observed meaningful positive outcomes as a result of R-NEMT. Previous studies have found that R-NEMT utilization is associated with fewer missed primary care appointments, shorter average wait times, and a higher rate of on-time pickup compared with other modes of NEMT.<sup>2,3</sup>

Lyft appreciates the authors’ addition to the emerging literature on R-NEMT. However, the study by Eisenberg et al suffers from a number of limitations that raise concerns about both external and internal validity.

Critically, large national rideshare companies were not included in the study design, heavily limiting the generalizability of the study findings. Based on internal and market-level data, Lyft maintains that neither Lyft nor any other major or national ridesharing company was operating in the study setting during the study period. Lyft and similar companies are large national providers of NEMT services in Medicaid, and their omission causes any generalization of study findings to rideshare as a class to be inappropriate and misleading.

Further, the rideshare entity involved in this study is a particularly poor proxy for national rideshare companies like Lyft. Although the authors do not name the state that was the object of study, the only Northwestern state employing a statewide broker model between 2016 and 2018 was the state of Idaho. During this time Idaho was under contract with a broker employing a *rideshare-like model*, which operates differently from national rideshare companies. Lyft has a nationwide rideshare presence and an existing network of drivers

that can launch seamlessly in new NEMT markets. However, in Idaho, the broker was a new entrant to the local market, and a new supply of drivers had to be recruited to meet existing demand. This *de novo* ramp-up period, which would not be required by a scaled, national rideshare company like Lyft, could have contributed to the access issues reported in the study.

In addition to the issue of low generalizability, the study has key methodological limitations that raise concerns about internal validity. One major limitation is the lack of trip-level outcome data. In this study, the authors examine not the association between an R-NEMT trip and outcomes, but rather the association between the proportion of R-NEMT trips and outcomes, with both defined at the level of a Medicaid beneficiary. This design that aggregates data to the individual level puts the study at risk of ecological fallacy. In other words, there is no way to know if a given outcome came from an R-NEMT trip or from a trip that involved another mode of NEMT. This is of particular concern for the failed pickups outcome, where even 1 failure may be enough for an individual to agree with the statement, “The driver often failed to pick me up for a medical appointment.” By aggregating data to the individual level, the study obscures the true relationship between R-NEMT utilization and outcomes and could even mask a trip-level association that is in the opposite direction of the individual-level association.

Additional issues further complicate the interpretability of the findings. The study contrasts use of R-NEMT with use of nonrideshare NEMT, but users of these 2 modes may not be comparable. For instance, nonrideshare NEMT includes transportation provided by a variety of vehicle types, such as ambulatory vehicles and wheelchair-accessible vehicles (WAVs). The assignment of a beneficiary to a WAV is unlikely to be random and is likely informed by varying rider needs. Although the authors attempted to adjust for these potential differences, sample sizes for some covariates were too small for substantive subanalyses.

The defined levels within the variables of interest also pose problems. For the independent variable, the levels are defined as no R-NEMT trips, some R-NEMT trips (< 50%), and many R-NEMT trips (≥ 50%). However, this scheme would group together someone

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who received 1 of 2 rides using R-NEMT with someone who received 299 of 300 rides using R-NEMT, although these scenarios reflect 2 very different realities. Although the authors attempt to adjust for the number of total trips, this variable cannot be treated as a confounder, and including it in the model specification does not address fundamental issues with study design.

In summary, significant methodological limitations and the very model of transportation studied raise concerns about the internal and external validity of study findings. Findings from research performed by academics and Lyft's health care partners suggest that rideshare can have a major positive impact on health care access and utilization. More high-quality research is needed to assess the impacts of R-NEMT on health care access for Medicaid beneficiaries, particularly given recent increases in R-NEMT utilization, as well as technological and operational improvements in the sector. ■

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# Reply to “Industry-Informed Perspectives on the Benefits of Rideshare-Based Medical Transportation”

Yochai Eisenberg, PhD; Randall Owen, PhD; and Caitlin Crabb, PhD

**W**e appreciate the opportunity to address Lyft's concerns with our study on rideshare-based nonemergency medical transportation (R-NEMT). Our study found that a higher proportion of rideshare trips was not associated with ride quality but was associated with reporting late and failed pickups—potentially affecting health care access.<sup>1</sup> Lyft's letter criticizes our methodology and internal/external validity, which we will address here. It is important to note that although we studied a program with similarities to Lyft, Lyft was not involved. Overall, readers should recognize that our study was conducted within the scope of evaluation research using the best data and measures available, while noting its limitations. Moreover, our article appears to have achieved one of its primary goals: to contribute to a dearth of published literature on R-NEMT and promote discussion on the topic.

Lyft indicates that its experience and previous studies have found a positive relationship with R-NEMT and health care access. Indeed, our article highlights extant findings but also cites the mixed results in peer-reviewed literature and a limited number of studies reporting outcomes. One study cited by Lyft found fewer missed primary care appointments among R-NEMT compared with usual care.<sup>2</sup> However, when scaled up to a larger study, R-NEMT was not associated with fewer missed appointments.<sup>3</sup> The other source cited in Lyft's letter was a short blog post, which lacks crucial information, including methods and measures, to assess the validity of the findings.<sup>4</sup>

Lyft's letter implies that our findings lack external validity because the program was not administered by a large national rideshare company and is therefore not representative. An alternative view is that these evaluation findings add a valuable perspective: Not all R-NEMT is provided by large

national companies, so we should not dismiss research on R-NEMT implementation within smaller rideshare companies.

Another concern was the absence of trip-level outcome data, a valuable component of specific trip analysis; however, data required for such an analysis were unavailable. Rather, we focused on perceptions of ride quality and access as part of a statewide NEMT evaluation. Our study employed a survey using common measures of perceptions in transportation and health care literature.<sup>5</sup> Importantly, we described in our paper<sup>1</sup> how such perceptions may be associated with an individual's willingness to use NEMT. We argue that it is not only the individual-trip experiences that affect perceptions but also the cumulative experiences of the NEMT service. This is not a case of ecological fallacy but a difference in research aims.

Lyft's letter suggests that it was inappropriate to compare consumers who use R-NEMT and traditional NEMT because some may have different needs. Yet, our study accounts for many of those needs by including factors such as age, mobility, and developmental disabilities. We also note that 29% of the people who use manual wheelchairs or powerchairs did have at least 1 rideshare trip, suggesting that excluding them from the analysis (as indicated by Lyft) is not appropriate. Additionally, Lyft suggests that the R-NEMT categories we used in our analysis were too coarse and that our attempt to control for potential confounding using "total trips" was insufficient. We disagree: "Total trips" is a valuable confounder that controls for frequency of rides. Additionally, we ran models (not shown here) with a continuous variable instead of the R-NEMT categories and found similar results.

High-quality R-NEMT research is needed. We call on rideshare companies and state Medicaid agencies contracting

with them to facilitate experimentation through independent research evaluations. Specifically, there is a need for longitudinal research that employs randomized controlled trial or quasi-experimental design. Nonetheless, there is value in nonexperimental cross-sectional designs, especially to inform this burgeoning area of R-NEMT evaluation. ■

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