

FTA's Mobility for All Program
Rides to Health Platform
Pilot Project

Pilot-end Performance
Evaluation

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Prepared by



Table of Contents

Executive Summary.....	3
Introduction to the Problem and Background.....	4
Project Description and Goals.....	5
Key Partnerships	11
Implementation	11
Performance Measures.....	14
Outcomes.....	15
Moving Forward/Sustainability.....	16
Impacts of COVID-19.....	17
Lessons Learned.....	17

Executive Summary

About the Rides to Health Platform

Rides to Health (RTH) is a technology platform that is designed to improve coordination and communication between all of the stakeholders involved in transportation to medical appointments to alleviate problems that result in less accessible transportation and provide for a better transportation experience. The project seeks to fill a transportation gap specifically for underserved individuals in repeat-need of accessible transportation options to and from dialysis centers.

In working with the Metropolitan Washington Council of Governments (MWCOC) for this grant, IT Curves, a transportation technology provider, has developed the RTH technology platform to address a number of strategies to the Coordinated Human Service Transportation Plan for the National Capital Region, including expanding availability and coordination of transportation options, improving accessibility of transportation options, and making transportation options more affordable and sustainable.

Transportation Challenges and Dialysis

Transportation plays a key role for dialysis patients receiving on-time and periodic treatment. The Transit Cooperative Research Program (TCRP) research report 203 identifies some of the challenges that exist at the intersection of healthcare and mobility. Low-income individuals who require repeat transportation for dialysis treatments often rely on public transportation that is often inflexible.

The problems identified within medical transportation are multiple and vary within communities depending on geography (rural, urban areas), income levels, and available funding. While some of the problems identified are specific to regions, other problems identified, such as coordination of services, communication, and ease of access, exist to varying degrees across communities. It is these problems that the RTH platform seeks to improve, with a focus on dialysis centers and patients.

Pilot Project Implementation and Findings

As part of the pilot's goals, IT Curves successfully developed a technology platform that integrates and synchronizes transportation services to and from dialysis centers. This platform makes coordination possible between all of the stakeholders. It integrates a wide variety of subsidy fares, transportation providers, patient needs, and healthcare providers.

Patients were eager to adopt the platform tools. IT Curves was unable to secure commitment with dialysis facilities, which was a requirement to fully implement the technology platform to receive data and feedback on the platform's ability to improve transportation experience compared to the existing services available. IT Curves' recommends that finding further incentives for commitment from stakeholders such as dialysis facilities as well as transportation providers is key to offset some of the efforts required by these stakeholders to commit their resources towards the pilot project.

Introduction to the Problem and Background

The Transit Cooperative Research Program (TCRP) research report 203 identified Dialysis Transportation as a national problem. The research report titled *Dialysis Transportation: The Intersection of Transportation and Healthcare* identifies a myriad of significant issues in this area with substantial critical health and economic consequences. The researchers interviewed and studied the issues from perspectives of all stakeholders involved in this intersection of Transportation and Healthcare as follows:

- Patients – needs on time and periodic treatment
- Dialysis Centers – need on time arrival and pickup for most efficient use of their resources
- Transit Agencies and Transportation Service Provider (TSPs) – need better scheduling tools and real-time communication with patient and dialysis centers
- Funding Sources – need to increase the efficiency and impact of their subsidy programs on healthcare of their patrons.

Increasing Demand for Dialysis Transportation

The report identified that there is an increasing demand for dialysis transportation. Approximately 30 million Americans, or 15% of U.S. adults, deal with chronic kidney disease, and between 1980 and 2015, in 35 years, ESRD patients increased from approximately 70,000 to 700,000, tenfold in 35 years or average annual growth of 7%.

Transportation Problems experienced by Patients and Healthcare Providers

Low-income individuals who have "repeat-need" transportation to and from dialysis centers must navigate the complex landscape of receiving dialysis treatment while relying on public transportation that is often inflexible. The TCRP report notes that "transportation providers do not show, or come late for patient pickup, creating significant stress on patients in a fragile state." Dialysis centers need on-time arrival and pickup for the most efficient use of their resources. Transportation has a huge impact on these patients, and any shortened or missed treatment results in severe health consequences for the patient, inefficiencies for the healthcare facility, and increased healthcare costs.

Patients are sometimes unaware of the various transportation options and funding available to them, have difficulty changing their schedule. And dialysis facilities are often burdened with managing transportation for their ill patients, coordinating pickup and drop offs, getting ETAs, and adjusting scheduled use of facility resources to accommodate transportation issues.

Problems experienced by Transportation Service Providers

The problem that drivers encounter most frequently is that a rider is often late getting out of dialysis treatment, and drivers have to leave to do other scheduled trips. The transportation provider then has to find available resources to reschedule a return trip for the patient.

In some cases, a patient will change their plans, such as if a family member or caregiver decides to provide transportation. The transportation service provider may not be adequately informed of this change and results in a vehicle resource that could be better used to serve another patient.

Lastly, much of the transportation burden for low-income individuals to and from dialysis centers locally is absorbed by the paratransit services that are burdened by a heavy use that causes scheduling challenges with lengthy wait times.

Project Description and Goals

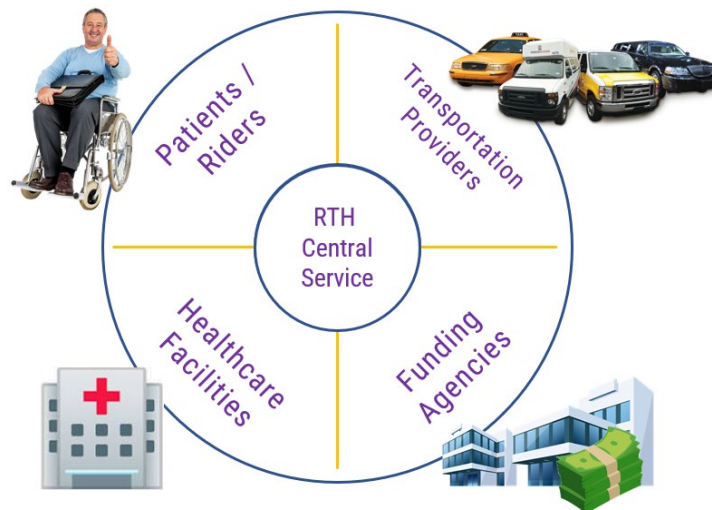
The RTH project consists of two primary parts, first is development of the tech platform, the second is deployment of the pilot locally with local partners to include a limited number of healthcare facilities, transportation providers, riders, and subsidized fare providers. Additionally, the pilot project collected data indicating the success of the platform and service concept.

Project Plan Summary

1. Develop a technology platform to facilitate flexible scheduling between transportation providers, healthcare centers, and dialysis patients
2. Secure commitment from 3-5 dialysis centers to participate in the RTH pilot project
3. Onboard patients, subsidized funding, and transportation providers
4. Collect and yield critical data for demonstrating the impact of the RTH pilot project

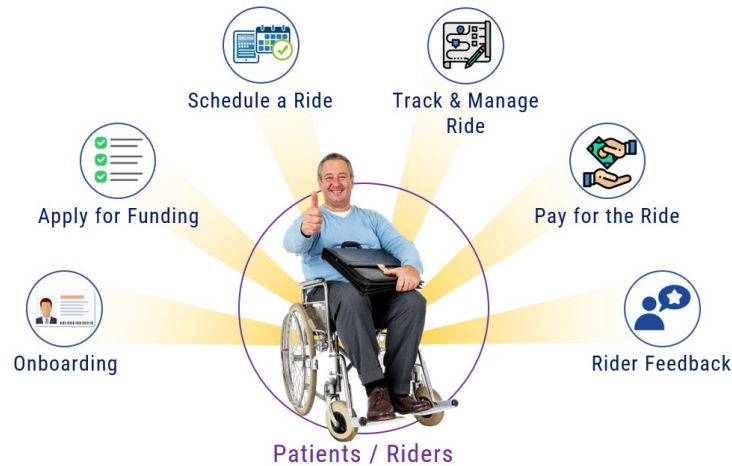
Technology Platform Development

The Rides to Health (RTH) pilot project developed a technology platform which integrates and synchronizes transportation services to and from dialysis centers in the Washington Metro DC area. RTH resolves the disconnect between transportation service providers, patients, healthcare facilities, and funding agencies.



Tools for Patients/Riders

The RTH platform benefits patients by providing tools that make it easier to manage and track their transportation service. Not just a matter of convenience, this also serves to enhance service efficiency by enhancing communication and coordination between the patients, the transportation providers, and the healthcare facilities.



Centralized Call Center

Patients can call in to a single centralized call center for hassle-free reservation assistance with multiple transportation providers to ensure that the patient is serviced by the best available transportation company. Call center agents (staff) will be able to monitor all reservation changes and current reservation status, make necessary changes, and respond to changing conditions. Agents can monitor all trip reservations regardless of by which method the trip was reserved, such as by the healthcare facility web portal, by the patients’ app, website reservation, or with the call center directly.

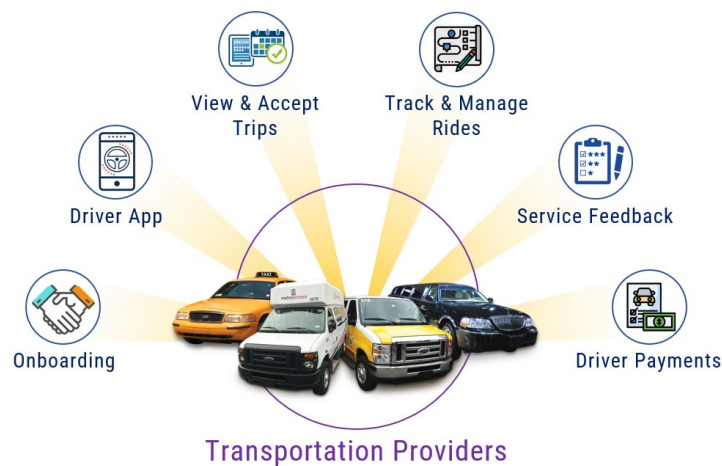
In addition to providing extra convenience for the patients, a centralized call center enhances the efficiency and on-time-performance of the transportation service by streamlining and consolidating the management process among the various available transportation providers and facilities. Reports and metrics on usage patterns and efficiency are available.



Tools for Transportation Providers

Transportation providers are granted direct access to the platform to view and manage their schedule and can use the platform tools in parallel to their existing software tools or can integrate the RTH platform into their existing transportation management software.

- Track real time patient schedule status
- Broker trips to multiple affiliated service providers
- Flexibly dispatch directly to authorized drivers
- Efficient taxicab shared-ride algorithms to determine best route
- Predetermine fare by distance
- Participate in subsidy programs



Tools for Subsidized Fare Integration

RTH is equipped with technology that integrates with a wide magnitude of public subsidy programs, including Medicaid and other HHS programs, such as the Administration for Community Living, easing the burden on patients who rely on public subsidies to obtain and pay for transportation.



Tools for Healthcare Facilities

Healthcare facilities benefit with tools that enable them to better monitor the status of their patient's transportation schedule, vehicle arrivals, as well as perform changes to the schedule that is immediately visible to both the patient and the transportation provider. Facilities also benefit from statistics and reporting tools, including for billing to the funding sources.

From their smartphone and desktop computer, facility staff can conveniently monitor and manage patient transportation.

Track Patients' Arrivals and Departures

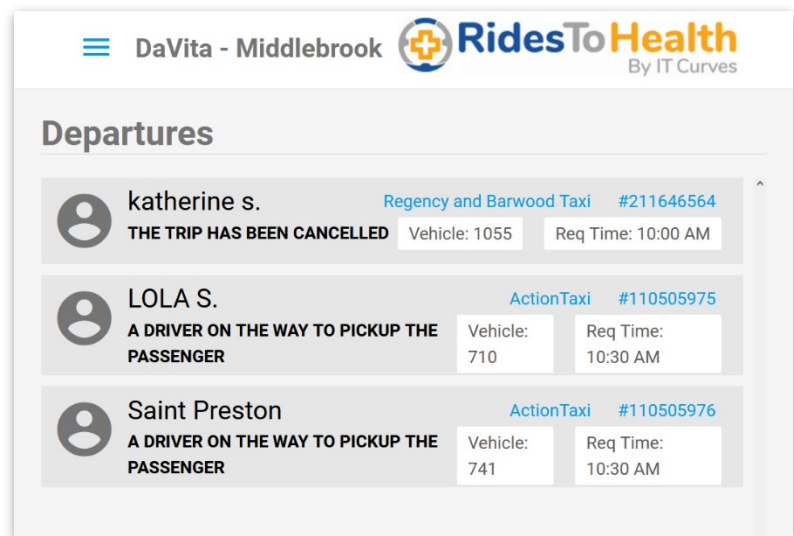
- Real-time vehicle arrival ETA
- Automatic status notifications
- Vehicle and driver information
- One-click call to driver

Modify & Create Trip Reservations

- Adjust pickup times as needed.

Submit feedback to RTH

- Share feedback about RTH and transportation experience so that RTH can better serve their patients.



Secure Commitment from Dialysis Centers

Coordination with dialysis centers is key to be able to fully deploy the services and collect data. The interfacing of healthcare facilities such as dialysis centers with the RTH is one of several key methods of improving the transportation experience.

These facilities play an important role in the RTH pilot because their staff are both the recipient of benefits to the RTH system as well as provide input into RTH platform that eases the burden on the other stakeholders. This input from facility staff has the potential to improve the transportation experience for not only riders, by assisting with ride transportation, but also improves the experience for the transportation provider and service broker, who can make adjustments to their service schedules. These adjustments are enabled by the coordination with healthcare staff and then have a cascading positive effect throughout the transportation schedule.

Cooperation with dialysis facilities also play an important role for the RTH platform by being one of the methods of raising awareness of the RTH platform among riders. This is one of the best methods for outreach to increase patient participation in the RTH pilot.

- Benefits facility staff can expect with RTH:

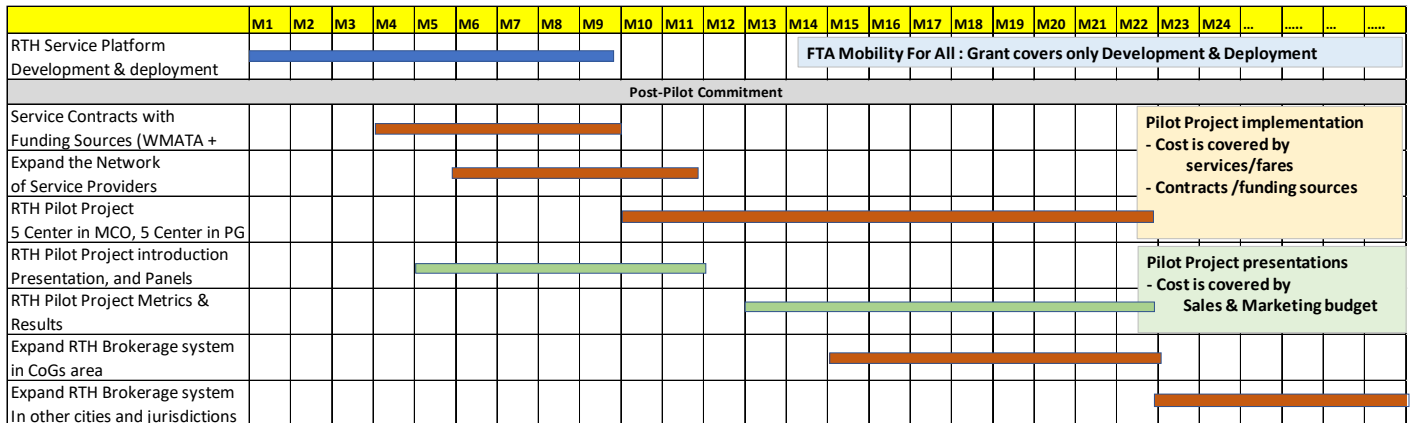
- Enhanced awareness of the scheduled arrival and departure time of each patient
- compare scheduled arrival and departure time with scheduled treatment for any scheduling conflict or discrepancy
- Real-time tracking of arrival of patients
 - Staff are prepared to receive the patient as they arrive.
 - If patient is arriving early:
 - Be prepared to receive patient at actual arrival time
 - Prepare to begin treatment early
 - If patient is arriving late:
 - extend treatment time for other patients
 - Reschedule with patient
- Real-time tracking of patients' departure time
 - see if a driver is arriving early
 - prepare patient for departure to not miss their ride
 - notify TSP when the patient will be ready
 - if driver is arriving late
 - extend treatment for patient, if desired
 - better prepared to assist or attend patient until vehicle arrival
- Reschedule transportation for the patient via the app or centralized service
- Increase in reliability of on-time arrival and departure
 - less burden on staff
 - more efficient use of facility resources
- Happier and healthier patients

Implement RTH Platform over an Eight Month Pilot Period

After the development of the platform is complete, the project plan was to deploy the technology platform to a few local transportation providers; secure service contracts with dialysis facilities, funding agencies, and additional transportation providers; and onboard a limited number of riders to test the concept and gauge the impact on the transportation experience.

While the grant funding for Rides to Health covers the development and deployment of the technology platform, the implementation of the regional pilot, marketing outreach, and expansion regionally as well as nationally among patients is dependent on the commitment of service with the other stakeholders.

The figure below illustrates the project development and pilot implementation timelines.



Each stakeholder was reached out to with information about the RTH pilot encouraging their participating in the platform. Stakeholders that agreed to participate have a designated point of contact at their organization, receive material on how to interact with the RTH platform, contact with the RTH project manager, and access granted to the RTH tech platform.

Throughout the project, the stakeholders were supported by the RTH project team, with regular communication and feedback from the stakeholders.

Collect and Yield Critical Pilot Data

Through the implementation of the developed software, during the eight-month regional pilot period, the project plan involved collecting data that demonstrates performance of the RTH technology platform.

IT Curves collected digital data and statistics from within the RTH tech platform for the on-time performance and number of trips performed and riders served.

IT Curves submits surveys to riders encouraging them to provide feedback on their rides. This can be done through the app, email, and also verbally when riders call into the centralized call center.

Key Partnerships

IT Curves

IT Curves, a private entity tasked with the development and deployment of the RTH service platform. IT Curves is a leading developer in innovative transportation solutions and is based in the local region that this pilot project is taking place. IT Curves shares leadership with Regency Taxi, a successful Section 5310 Enhanced Mobility subrecipient that is currently in compliance with FTA requirements. IT Curves has experience developing transportation technology as demonstrated by the ARMON (Abilities Ride Mobility On-demand Network) mobility platform in partnership with the Washington Metropolitan Transportation Authority's (WMATA) MetroAccess paratransit services. ARMON has been in use since September 2017 and has grown significantly.

Metropolitan Washington Council of Governments (MWCOG)

The Metropolitan Washington Council of Governments (MWCOG) successfully administers FTA's Section 5310 Enhanced Mobility program for the Washington, DC UZA. As the designated recipient for FTA funds in the UZA, MWCOG is current on FTA Certifications and Assurances. MWCOG houses its own financial team and has dedicated staff for project management. MWCOG maintains a relationship with contracted legal counsel that assists with contract development, legal advice, etc.

Implementation

The implementation of the pilot had two distinct phases, the Technology Platform Development phase, and the Deployment of the Regional Pilot phase.

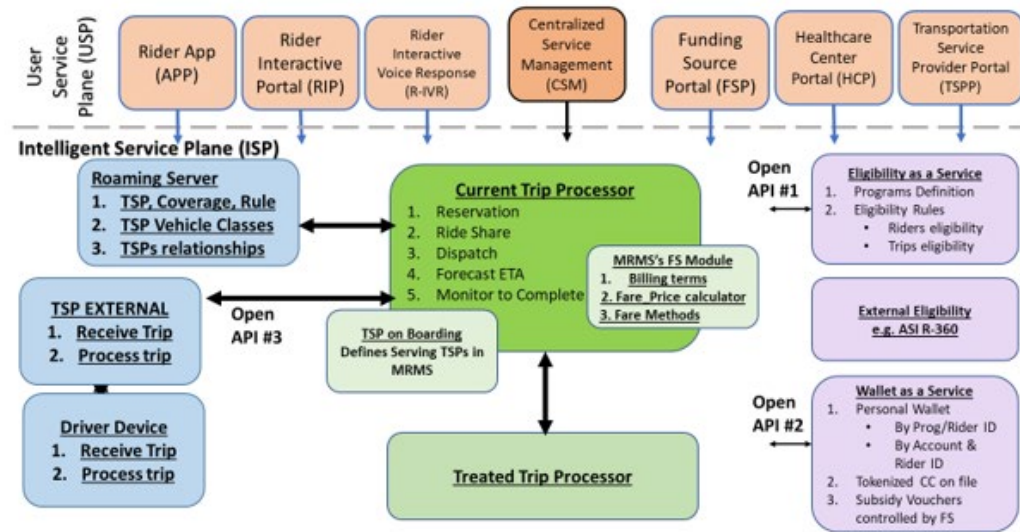
Technology Platform Development

System Design

At the start of the pilot project, IT Curves expanded on its understanding of transportation needs and requirements, listening to local stakeholders in the DC region, including local government, patients, transportation providers, and dialysis healthcare facilities. Meetings were held with these stakeholders and information was gathered on what their experience has been and the features and capabilities are important to them for improving their experience with transportation.

The image below is a system diagram from the RTH technical design document.

1.1 User Services Plane (USP) vs Intelligent Services Plane (ISP)



System Development

IT Curves then underwent the development process, expanding on their technology, adding additional capabilities to meet the goals of the RTH pilot project. These changes make it possible to coordinate with a wide variety of subsidy fares, transportation providers, patient needs, and healthcare providers.

Some key features developed for the RTH Platform include:

- Broker capability – onboard multiple transportation providers and have a “broker” be able to assign and transfer ride requests to any number of providers.
- Healthcare Facility Portal – This portal grants the staff at a healthcare facility the ability to view, monitor, and manage all of the rides arriving to and departing from only that facility. The staff at these facilities can track the trips regardless of which transportation service provider is performing the ride.
- Subsidy Integration – A new submodule was developed to be able to enter available subsidy programs, their eligibility requirements, eligible riders, limitations of service, and service requirements. When a rider books through Rides to Health, it checks for programs the rider is eligible for. The subsidy program selected is then matched with an eligible transportation provider.
- Rider’s tools – Tracking of rider eligibility for subsidy programs, an application for eligibility, and a tracking tool.
- Digital Wallet – As part of the riders’ profiles and integration with subsidized fare options, a digital wallet was created that can not only be used for attaching credit card and other digital payments, but also used to track any subsidized fare balance that riders may have with various government or non-profits. Administrators at funding agencies can deposit funds into the riders’ accounts or set automatic weekly fund limitations.

Deployment of Regional Pilot

The second phase of the project – deploying the regional pilot – involved implementing the technology platform developed in the first phase to riders and the other stakeholders so that they may interact with the platform and begin receiving and managing transportation services through it. To deploy the regional pilot, IT Curves outreached to the stakeholders to gain interest and commitment in the pilot. After securing commitment from a variety of stakeholders, the next step was to market and outreach to patients attending dialysis facilities.

The deployment of the regional pilot required securing commitment from the stakeholders below to secure and recover costs associated with the marketing and outreach, and management of the services provided to riders and the use of the RTH platform.

During the pilot review period, IT Curves did not succeed in securing commitment from sufficient stakeholders to implement a wide rollout of the RTH regional pilot. Local dialysis facilities – an important stakeholder for deploying the regional pilot – although acknowledging the benefits of such a platform as RTH, didn't have the available staff resources to commit to the project.

Transportation Services Providers (TSP) and Brokers

After the development was complete, IT Curves deployed the RTH platform with a few local taxi operators. The platform is used not only to serve dialysis patients but also other a variety of other transportation needs. The deployment of the platform into these transportation service providers enabled the RTH project to test and verify the concepts of receiving, brokering, and dispatching trips among a variety of transportation providers but with a common rider pool and subsidy programs. IT Curves deployed the RTH platform and its improvements with Regency Taxi, Barwood Taxi, and Action Taxi.

IT Curves, utilizing Regency Taxi as a broker, successfully demonstrated the broker capabilities of the RTH platform by assigning and dispatching trips between the three TSP. Regency Taxi's call center and dispatch staff demonstrated the ability to receive calls to their call center into the RTH platform and then manage and dispatch the rides between all three of the TSPs.

Dialysis Facilities

IT Curves developed project informational material for dialysis facilities and approached a DaVita dialysis facility in the area where the transportation companies onboarded are doing a high volume of trips. We found strong interest with the facility manager. The facility manager as well as the assistant manager expressed their frustrations with current transportation experiences and a strong desire to implement RTH at their facility as part of the pilot project. The facility manager submitted the pilot information and proposal to upper DaVita management but informed IT Curves that due to more urgent priorities such as staffing problems, this prevented them from having the resources to consider committing to implementing RTH pilot at their facility at that time.

Funding Source Providers

The Rides to Health platform was designed to allow integration with funding sources and agencies through a variety of means. One is configuration of the subsidy programs terms within the RTH platform.

A second is to allow the funding agencies access to the RTH platform to view and download data pertinent to their subsidized programs. A third method devised is to allow direct and automatic communication and transfer of data between the agencies' tech platforms, databases with the RTH platform and database.

The first method, configuration of the subsidy programs within the RTH platform, was performed and Medicaid and Montgomery County Call-n-Ride subsidized programs were added to the system. The second and third method were enabled technologically, but no funding agency has yet been granted access to the RTH system or database.

Patients / Riders

As IT Curves did not secure commitment with some of the key stakeholders needed to roll out the regional pilot phase of the project plan, there was no outreach performed to patients to begin onboarding onto the platform.

However, as IT Curves was able to implement the RTH technology platform with three transportation service providers providing taxi service for patients traveling to and from dialysis facilities, these patients served as data points for the performance measures involving on-time performance.

Performance Measures

Through the implementation of the developed software, during the eight-month regional pilot period, the project plan involved collecting data that demonstrates performance of the RTH technology platform.

One set of data is to include the statistics on ride performance

- Number of pickups from dialysis centers and from patient homes
 - target 1,500 pickups for each
- Improvement in on-time performance to dialysis facilities, and reduction in wait time for transportation home following dialysis treatment
 - > 50% trips arrival within +/- 5 mins of requested time
 - > 75% trips arrival within +/- 10 mins of requested time
 - > 95% trips arrival within +/- 15 mins of requested time
- Of dialysis patients who experienced dissatisfaction with timeliness of transportation services, 80% report an increase in satisfaction when using the Rides to Health service.
- Of dialysis patients who experienced difficulty accessing transportation, 80% report that transportation is easier to access when using the Rides to Health service.
- Dialysis centers report an 80% reduction of late patient arrivals when using the Rides to Health service, resulting in an improvement in treatment consistency (and therefore health outcomes).
- Total number of trips served
- Total number of patients who received service

The other data to be collected for the pilot includes narratives on the overall project status.

- Project status (broad highlights)
- Partner Activity this Quarter (source and contribution)
- Issues, challenges this quarter
- Plans for next quarter (broad highlight; include what needs to happen to meet any milestone completion dates that were not met this quarter)

Outcomes

Development of the Rides to Health Tech Platform

IT Curves successfully completed development of an enhanced technology platform that enables coordination and synchronization between all of the stakeholders involved in transportation for dialysis treatment. The platform meets the goals set forth to perform this coordination. All of the technology improvements planned for meeting the goals of the pilot were implemented in full.

The technology was tested among the three transportation providers and found that it was successful in providing the ability for the stakeholders to better coordinate the services.

IT Curves is eager to begin the next phase of the pilot, rolling out the platform regionally among the various stakeholders, so that the tech platform can be further tested in its concept.

Deployment of the Platform to Pilot in the Local Region

IT Curves has begun implementing the regional pilot. Three transportation providers received the RTH platform and are currently using it to perform services to patients and transport patients to dialysis facilities.

IT Curves is working on securing the necessary commitments among the other stakeholders (dialysis facilities, subsidy providers) to begin the wider regional deployment that is necessary to gather the data necessary to measure the improvements in transportation experience.

Deploying the technology amongst the three TSPs without the full rollout of the RTH regional pilot has provided the project with baseline on-time performance data that will become useful for measuring improvements in the transportation experience after the RTH regional pilot is fully implemented.

The following chart is our cumulative performance measure results for on-time performance.

	Performance Measure	Target	Actual Jan 2022 to Sept 2022
1	Number of pickups from dialysis centers	1,500	7242
2	Number of pickups from patient homes	1,500	5418
3	Improvement in on-time performance (in 5-minute increments)	>50% trips arrival within +/- 5 mins of requested time	36.7% arrival within 5 mins
>75% trips arrival within +/- 10 mins of requested time		55.6% arrival within 10 mins	
>95% trips arrival within +/- 15 mins of requested time		67.2% arrival within 15 mins	
4	Reduction in wait time for transportation home following dialysis treatment (in 5min increments)	>50% trips arrival within +/- 5 mins of requested time	30.9% arrival within 5 mins
>75% trips arrival within +/- 10 mins of requested time		41.4% arrival within 10 mins	
>95% trips arrival within +/- 15 mins of requested time		48.2% arrival within 15 mins	
5	Number of patients serviced with the Rides to Health platform.		646

Moving Forward/Sustainability

Moving forward, IT Curves will continue to reach out to local stakeholders to form the partnerships needed for further deploying the RTH platform as a regional pilot.

IT Curves has been awarded a second grant to support implementation of the regional pilot. While announced, it has not yet commenced. IT Curves is seeking stakeholder commitment so that they may implement the funds available in the second grant to achieve this goal and perform a full roll out of the RTH platform in the local region. IT Curves is confident that this second grant will provide the additional motivation and resources for stakeholders to commit to implementing the Rides to Health region pilot.

Impacts of COVID-19

IT Curves did not experience significant impact due to COVID-19 in its technology development process. However, for the post-development regional pilot period, we found difficulties in engaging stakeholders, which may be partially due to the changes that COVID-19 has had on resources these stakeholders can commit towards non-mandatory projects.

Lessons Learned

During this project and the pre-pilot trial, IT Curves met with several local area stakeholders and received very positive response on the potential usage and impact of the Rides to Health platform on the transportation experience of dialysis patients. Furthermore, many healthcare providers encouraged us to expand the project usage to other healthcare transportation patients, such as for transportation to cancer treatments.

IT Curves also learned a great deal more about the complexities of coordination between the stakeholders in dialysis transportation. The other primary lesson learned from the project has been the importance of providing sufficient incentive for these stakeholders to gain commitment towards participating in these programs.