



## **Woodruff Leadership Academy Project: Responsible Integrated Delivery of care at Emory**

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**Introduction:** Emory Healthcare is on a continuous journey towards a true north to improve the lives of patients and families, people, and communities. To achieve this true north, strategic goals for 2020-2025 include but are not limited to: the best patient access and experience, highest quality and safety, and financial strength and affordability. In examining potential for innovation, we examined the opportunities to improve access to care and quality of care. We reviewed the social determinants of health (SDOH) which impact health equity for our patients. Access to transportation is an issue which has arisen as an opportunity for further assessment and intervention. In this project, our aim is to address transportation and to recommend an intervention which aligns with multiple strategic goals. In addressing the issue of transportation for patients at Winship Cancer Institute, we hope to foster health equity, improve quality of patient care, and contribute to financial recovery.

**Importance:** Nationally, it is estimated that 3.6 million patients forgo medical care secondary to transportation issues. Older Americans, minority populations, and those impacted by social determinants of health are more likely to face issues related to transportation. A recent single-center study, published in the high-impact Journal of Clinical Oncology, suggests that 16% of patients have had to “no-show” for an appointment secondary to transportation issues. For patients with cancer who are undergoing treatment, even one missed or delayed appointment may impact their health outcomes. Missed appointments also contribute to financial loss, when infusion/procedure slots go unutilized and/or patients experience delays in care. Interventions that address transportation alone while ignoring other social determinants of health may not be enough to impact the overall quality of care, but the journey of a thousand miles must begin with a single step. In addition to the cutting-edge care that we deliver at Winship, it is essential that Emory Healthcare continues to innovate in ways that will sustain our engagement with our communities and align with our priorities to maintain healthcare access for all patients in our network, while prioritizing operational excellence.

**Background:** A report focused on SDOH disseminated by the American Hospital Association (AHA) in 2017, suggests that 20% of health can be attributed to clinical care, while 40% is determined by social and economic factors, including food insecurity, housing instability and access to transportation. For this project, we utilized data from Vizient, a national database of

patient information, which allows us to more closely examine our Emory communities. Vizient has designed a Vizient Vulnerability Index (VVI), which is a quantitative assessment of vulnerability, using eight domains, including transportation to compare the vulnerability of patients by zip code. This has allowed us to estimate the number of patients cared for at our Emory Healthcare sites who come from zip codes with high vulnerability (defined as one standard deviation above the mean for the US average) overall but also the specific distribution of vulnerability at each of our Emory healthcare sites, in each domain.

At Emory Midtown where a new Winship tower will be serving patients in Spring 2023, 24% of patients currently come from zip codes of high vulnerability with respect to transportation. This is a critical area for us to address if we hope to provide access, patient-centered high-quality care, and optimize our utilization of services by avoiding missed appointments. To gain additional understanding of the scope of this issue in our current landscape, we interviewed front-line staff, including nursing and social work, at the breast cancer clinic at Winship to understand the impact of transportation on our patients. As we transition to our new health information system, EPIC, we are already well positioned to quantify and assess patients' personal factors and social determinants of health and to report on these factors.

The AHA's report on SDOH recommends the following strategies and approaches to address transportation as a barrier for patient care: assess impact of transportation on communities with investment of resources, integrate access to transport into an organization's mission, expand partnerships to address transportation issues and provide direct transportation when partnerships have gaps, create a policy and infrastructure to improve access to transportation and address other SDOH, utilize screening tools aimed to identify and target vulnerable patients and leverage interdisciplinary teams, and finally reduce travel time when possible by bringing services to patients. Current transportation efforts at Winship rely highly on philanthropic efforts and are directed by the social work team. Allocation of this support is dependent on financial resources and pull from the patients. However, the system is inadequate to serve patients who do not qualify for transportation services that would still benefit from transportation, and we are not routinely asking all patients about their barriers.

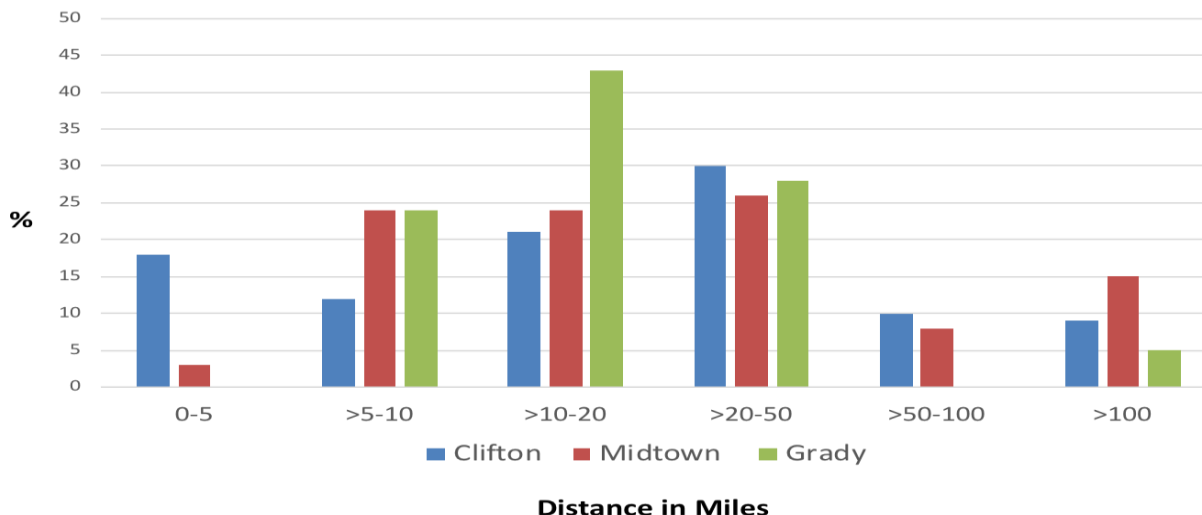
#### **Survey Data:**

We surveyed patients with breast cancer primarily at Emory-affiliated clinics to assess the impact of transportation on their care. We surveyed 272 patients with a diagnosis of breast cancer who presented to clinic for follow-up (217 at Winship at Clifton, 34 at EUHM, 21 at Grady) to ascertain their distance traveled, their mode of transportation and any potential impact of transportation on their care. Patients are distributed widely in the distance they travel, from less than 5 to greater than 100 miles.

Patients have a variety of modes of transportation, with options that include driving themselves, family or friends, rideshare, health aide, and/or public transportation. At Clifton, 42% of patients rely on family and/or friends for transportation; while at Midtown, this rate is

62% and Grady 33%. At Midtown, the rate of relying on family or friends is higher than patients driving themselves to appointments.

**Graph 1: Distance in Miles by Location**



Seventeen percent of patients noted that they sometimes, often or always had difficulty with transportation, which is consistent with other data from other urban centers. Eleven percent of patients noted that they have missed an appointment for provider, imaging, and/or infusion appointment within the last 12 months related to a transportation issue. These data support the finding that transportation is an issue across sites.

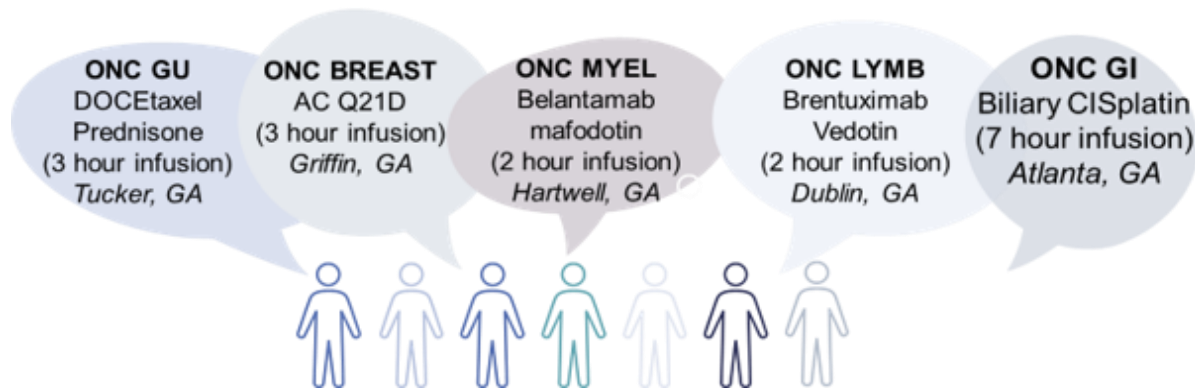
**ROI Data:** As we look to improve health equity, we know that financial sustainability is crucial to the ongoing success of this initiative. While we understand that ~16% of patients are impacted by transportation or transportation like barriers to care, we wanted to review no-show rates at a single Emory infusion center location. After reviewing data within the Winship Building C infusion scheduling department from November 2021-January 2022 it can be noted that the overall no show rate among scheduled patients averaged around 10.2% of no shows or same day cancellations. A subset of that 10% represents patients with transportation barriers.

**Table 1: Appointment Status by Infusion Therapy**

Infusion schedule block	Appointment status	Infusion Details
INF 2 Hour	No Show	LABS+ONC MYEL OP Daratumumab
INF 2 Hour	No Show	ONC GI Nivolumab Q28D
INF 6 Hour	No Show	ONC GI FOLFOX6 + bevacizumab
INF 2 Hour	No Show	ONC HEME Eculizumab (Maintenance)
INF 5 Hour	No Show	ONC LYMPH Obinutuzumab Chloram
INF 3 Hour	No Show	ONC BREAST AC Q21D Cycle 2+

This no show rate represents infusion chairs that are filled on the schedule but could go unutilized due to an appointment driven care model. Inability to fill a chair leads to unrealized revenue and impacts patient access for those who need more timely treatment. Utilizing infusion chair budgeted data based on annual treatment days of 252 the average infusion nets around \$1,200 in contribution margin. Taking these data into consideration and looking to improve time to treatment for patients, it is important to decrease barriers related to no shows. We understand each patient is unique in the cost and complexity of their treatment.

### Improve ability to treat patients and improve chair utilization



By identifying patients through a risk stratification process and providing a transportation option, this not only improves their continuum of care but allows improved chair utilization and increased revenue. While there are unique costs associated with transportation vendors such as patient acuity, distance traveled, and weekend surge pricing; the average cost per patient is projected to be approximately \$300. By providing a transportation solution, Emory should be able to fund this initiative based on the increase in realized infusion net income and chair use.

**Table: 2: Transportation Expense by Patient**

	Total #	Transportation	Infusion	Net
	Miles	Expense	Margin	Income
Patient 1	18	\$115	\$1,250	\$1,135
Patient 2	53	\$296.75	\$1,250	\$953
Patient 3	103	\$484.25	\$1,250	\$766
Patient 4	145	\$641.75	\$1,250	\$608
Patient 5	5	\$90	\$1,250	\$1,160
<b>Total</b>				<b>\$4,622</b>

This initiative is driven by health equity but supported through a sustained internal rate of return that allows more patients in our community to be treated and to be cared for in a timelier manner.

**Recommendations:**

While this project has the potential for significant impact, there are real-world limitations which would lead to challenges in implementation. In the following table, we have attempted to explain what we see as roadblocks to our proposal. For each limitation, we have tried to leverage our strengths to provide a sustainable solution.

Limitations specific to our system	Recommendations which utilize our strengths
<b>Real world data</b>	
The magnitude of need for providing transportation services within the Emory ecosystem is not well defined as most data are extrapolated from large national tools ( Vizient) or from modestly sized surveys and does not factor in various confounding factors.	We should deliberately and intentionally advertise and utilize the population health features of EPIC, such that all inputs (call-center, medical assistants, health care providers) are centered into the same tools.
<b>Not our strength</b>	
We acknowledge that running a transportation service would require capital expense and expertise, which is not our primary strength.	Fortunately. various ride hailing services like Uber and Lyft, and certain specific services like MedTransGo exist who are willing partners in this project. We should leverage their infrastructure and consider a partnership which is mutually beneficial.
<b>Operational logistics</b>	
We would require an operational plan to screen, prioritize and coordinate these services to streamline the process both for patients and providers	We recommend creating a central transportation hub which will oversee and coordinate these services. Our long term aspiration is to see this serving as a model for a central SDOH hub
<b>Operational expense</b>	
Creating a whole new service line is associated with operational expense related to but not limited to office space, equipment, and employee hours	We suggest leveraging models of reimbursement set by CMS for non emergency medical transportation and partnering with private insurers to help offset some of these operational expenses. Further, our review suggests that with the capture of lost revenue from missed appointments, we could be net positive from a financial standpoint.
<b>Liability</b>	
There is a concern that being responsible for providing transport would lead to added liability for EHC related to events in/around transportation.	After discussing with various leaders, looking at partnership models and other healthcare organizations providing similar services, we feel that these concerns can be overcome by a combination of sharing responsibility with partners and appropriate patient contracts.

**Conclusions:** It is critical that health equity be a priority for our health system to maintain market competitiveness and prepare us for a future in value-based care. As our system continues to grow regionally and nationally, the need for improved access will increase. We propose leveraging this health equity solution as a pilot within our Winship Building C infusion center as a test of change. Through appropriate measures of success, we look to demonstrate improved health equity and patient satisfaction, shorten time to treatment while improving financial sustainability, and improving our overall market strength by aligning this initiative with future goals of optimizing outcomes for our healthcare community.

- 1** **Improved Health Equity Among EHC Patients**  
Decreasing barriers to care while creating a sustainable model for treatment
- 2** **Improved Patient Satisfaction**  
Patients are less worried about missing their appointments and the effect on their care
- 3** **Financial Sustainability**  
Intentional strategy to improve infusion chair utilization and capture infusion visit related charges
- 4** **System Benefit with Market Strength**  
Leveraging transportation benefits to improve strength in healthcare market and improve the ability to expand the reach of our services across Georgia
- 5** **Prepare for the Future**  
Planning and implementing initiatives around health equity are going to be important as we look to optimize outcomes for our healthcare community