

Obstacles to Care:

An Analysis of Barriers of Transportation Among Low-
Income Patients of the Sister Maura Brannick, CSC, Health
Center

Erin McCune

University of Notre Dame Class of 2018

Poverty Studies Capstone

1 Abstract

The purpose of this study is to identify the most common barriers causing missed appointments among patients of the Sister Maura Brannick Health Center, a clinic that serves uninsured residents of Saint Joseph County in South Bend, IN. The study also has a particular emphasis on transportation, because barriers to transportation can cause decreased access to proper healthcare, especially among low-income patients. In order to determine the most common barriers, the patient population was offered either a written survey or a phone survey. The surveys included questions about particular challenges the patients face with getting to appointments, and questions assessing the likelihood that they would utilize a bus voucher or free van service system. Through analysis of survey results, it was found that the most common transportation issue among patients was access to a reliable car/driver. Other common responses were unpredictable work hours and lack of childcare. Furthermore, it was identified that the majority of patients, regardless of age or number of missed appointments, would be highly in favor of a van service that could bring them to and from appointments at the clinic. Spatial data was collected from the clinic to determine where patients travel from to get to appointments as well as where patients with the most missed appointments come from.

2 Introduction

In 2017, the Sister Maura Brannick, CSC, Health Center, a free medical clinic in South Bend, IN, identified no-shows for appointments as a serious concern. Over a

six-month period in 2017, 21.5% of patients missed one or more appointments and 6.1% of patients missed three or more appointments. In similar primary care clinics, missed appointments have been shown to be barriers to delivering continuity of care, resulting in the poor utilization of medical resources.¹ The no-show rates at the Sister Maura's clinic point towards a bigger problem in similar clinics around the United States as well.

No-show appointments can have serious costs for clinics and hospitals, as well as to patients themselves. A Texas study examined no-show rates at ten regional hospitals, finding that the average cost per no show was \$196 in 2008.² Furthermore, beyond the expense to hospitals and clinics, patients who frequently miss appointments are unable to receive adequate care. With no-show appointments, patients have missed a broad range of clinical treatments for chronic diseases, as well as basic check ups for preventative care.³ No matter what the treatment type may be, patients who do not come to their appointments miss out on some form of medical care.

In addition to the impact on an individual's health, no-show appointments also impact the entire patient community at a hospital or clinic. A 2013 study determined that a high percentage of missed appointments (79% out of 930 appointments) caused 737 lost opportunities to treat patients.⁴ By this, researchers meant that by having a high level of missed appointments, the overall number of patients treated (and thus are able to be treated) decreases. When no-show patients miss appointments, therefore, they negatively impact their own health by missing out on medical care. They also negatively impact the health care of the other

patients who may have to wait longer for an appointment as a result of inefficiencies caused by the no-shows.

When examining the causes of missed medical appointments, it is important to consider the unique contextual factors affecting each community. The purpose of this study was to examine the causes of no-show appointments at the Sister Maura's clinic. These findings might be able to be applied to similar contexts around the country, but unique contextual influences in each community must be identified as well. The following literature review gives context to the complex problem of missed medical appointments affecting patients of the US healthcare system.

2.1 Literature Review

The literature available on reasons for missed medical appointments as well as transit in medical care is limited. To improve access to healthcare among low-income populations, it is first important to understand the specific barriers that these populations face, which remains understudied. Among the literature that exists on the topic, the main threads discussed include transportation problems, contextual factors such as work hours and limitations, and geographical challenges unique to a specific area such as a patient's physical distance from a clinic or hospital.

A 2008 study examined the reasons reported by low-income Hispanic patients as barriers to healthcare. The most commonly perceived barriers were the lack of and limitations in health insurance coverage, high costs of services, communication issues with patients and providers, legal status/discrimination and transportation concerns.⁵ This study was conducted among patients in a rural

setting, but the findings highlight the issue of substantial barriers to care among low-income patients and additional barriers among minorities who may face discrimination as well.

One major issue that has been identified as a common barrier to healthcare access is transportation.⁶ Transportation barriers can commonly lead to rescheduled or missed appointments, delayed care, and missed or delayed medication use, which could all lead to improper disease management and poorer overall health outcomes. A 2013 study on transportation in medical care concluded that transportation barriers are important to healthcare access, particularly for the under/uninsured. The researchers emphasized that additional research is needed to clarify which aspects of transportation limit healthcare access, and how transportation barrier interventions could improve some of these challenges.⁷

Evidence indicates that among the 3.6 million Americans that do not obtain medical care because of a lack of transportation in a given year, on average they are disproportionately female, poorer, and older, have less education, and are more likely to be part of a minority group.⁸ Transportation is enough of a substantial factor that many medical conditions that these individuals face could be managed if they had transportation access to appropriate care; researchers suggested using transportation data sets to allow for a more direct assessment of this problem. An additional study found that reported barriers to healthcare among an urban poor American population were similar for working and non-working poor, except for transportation problems, more frequently reported by non-working respondents.⁹ These studies highlight the need for further investigation into how certain

populations, especially the poor and minority populations, face unique barriers to healthcare, especially transportation.

Emerging in numerous studies is the notion that access to care involves more than simply the metrics of how far individuals live from the clinic. Healthcare access is incredibly contextual, depending on numerous factors such as gender, age, ethnicity, disability, sexuality and life course stage.¹⁰ This idea of contextual factors dates back a number of years. In his 1970 journal publication, which remains seminal for studies in regional sciences, Hägerstrand argues that individuals have particular limitations unique to themselves. He explains that an individual operates in a specific “time-space prism” in which within a given day, there are limits as to how far one can go (space) and how long that individual can devote to getting there (time). He writes “This means, for example, that if a doctor holds his clinic during the working hours of a patient, the latter cannot see the doctor except by obtaining permission to be absent from work”¹¹ (p. 15). This idea is especially applicable to low-income patients at medical clinics who oftentimes struggle with restrictive work hours and the ability to take time off of work. Individuals face unique challenges with accessing healthcare, and therefore solutions must take these complexities into account.

In order to better determine the unique factors limiting patient’s access to healthcare, a number of strategies have been implemented. For example, two separate 2010 studies found reminder phone calls to be an effective intervention to reduce no-show rates¹², but concluded that an intervention focused on specific patient characteristics could be more effective.¹³

An example of a no-show reduction strategy more focused on individual patient characteristics is Geographic Information System (GIS) research. The focus of GIS research addresses the geographical dimensions of healthcare access, with the ability to understand unique challenges faced in different areas. GIS holds the potential to identify vulnerable populations and to examine geographical access to quality services. While geographical access remains one among numerous complex obstacles to healthcare, elucidating the unique geographical challenges faced by certain patients can be a step towards positive changes.

Each community faces different challenges, which further emphasizes the importance of consulting the patients about their needs. Free clinics have been identified as contributors to the safety net in the US, and they remain vitally important sources of healthcare for the uninsured.¹⁴ This thesis will examine the particular barriers faced by patients at the Sister Maura's clinic. At a clinic such as Sister Maura's, it is important to take all feasible measures to assure that patients are able to make it to and from their appointments. Understanding their challenges is the first step.

2.2 Introduction to Population: Sister Maura's

The Sister Maura's clinic is a free clinic in South Bend, Indiana that serves patients without any form of health insurance. Patients at the Sister Maura's clinic are individuals living at 150% of the poverty line or below and are ineligible for Medicaid or Medicare. The clinic also serves a large number of undocumented immigrants who are ineligible for programs like Medicaid because of their immigrant status. Services at the clinic range from preventative healthcare to acute

injury treatment, chronic disease management, nutritional counseling, and more. The clinic also has a free pharmacy for active patients.

I have been a volunteer at the clinic since 2015, and I have noticed first-hand that multiple patients miss appointments each day. Over a six-month period at the Sister Maura Brannick Clinic from January-June 2017, 21.5% of patients missed one or more appointments, with 6.1% of patients missing three or more appointments, which was identified as a concern by the clinic.

As many of these patients often miss appointments, this research study explores specific transportation barriers that patients at the clinic face, such as access to public transportation and distance from the clinic. This study also identifies obstacles beyond transportation that could account for missed appointments, such as unpredictable work hours and lack of childcare, among many. This could not only benefit patients at the Sister Maura's clinic by identifying areas in which the clinic could assist in transportation, but the clinic can also use information from this study to address current problems in Saint Joseph County. This study could also give information about what further research should be conducted about the impact of these specific barriers on clinical outcomes, and similar clinics in other areas could follow a comparable model to address transportation barriers as well.

3 Methods

3.1 Case Selection and Participation

As a community-based research effort, this case was selected based on an identified need from the partner organization, the Sister Maura's clinic. The case study used a mixed-methods approach to data collection, with a survey that included both forced-choice and open-ended questions. There was no sampling frame, as the survey process invited the entire population of clinic users to participate.

The initial plan for selection of participants for the survey was to include only the top 25% of patients with the most-missed appointments, and a sample of randomly selected members of the general patient population. In piloting survey delivery, however, it was clear that the quick-paced nature of patient check-ins and the unavailability of the principle investigator to identify and individually hand out each survey to selected patients, the Sister Maura's clinic decided that all patients would be offered a survey, regardless of how many appointments each person missed in the past six months. This removed the concern of well-implemented randomization and allowed the study to assess the entire patient population for a census. Therefore, all patients that came into the clinic during the months of the study (June-August, 2017) were offered the opportunity to participate in the survey. For patients that did not come into the clinic during the months of the study, the same survey was offered to those patients by telephone.

For survey implementation, each individual that checked in for an appointment was offered a survey (See Appendix I-IV) and informed that their participation was entirely voluntary and would not affect their use of the clinic. After six weeks of data collection on patients who checked in to the clinic, the remaining patients were called on the phone and asked the same survey questions according to a phone script (See Appendix I-IV). Of the 423 active patients at the time of the study, all patients were either offered the survey at the clinic or contacted over the phone. Of the active patients, 185 participated in the written survey, and 12 individuals declined to participate. Among the 317 patients contacted via telephone, 226 individuals did not answer the phone. Patients were called only once and no message was left to ask for participation. Among participating active patients, 26 were members of the “No Show Concern” (NSC) group, having missed 3 or more appointments in the past six months. Within the NSC patients, 11 participated in the survey. Given the general patient participation rate (44%) and the NSC participation rate (42%), as well as a review of the Sister Maura’s clinic demographics, the respondents appear representative.

3.2 Survey Development and Delivery

The survey instrument (See Appendix I-IV) was developed iteratively, through guidance first from staff and medical professionals at the partner organization, the Sister Maura’s Clinic, and then from the faculty advisor for the study from the Center for Social Concerns. This process was used to help inform important questions to include regarding the obstacles that patients were facing making health care appointments. The first four questions included reasons for no-shows, including

transportation. The fifth question asked how likely patients would be to utilize a bus voucher system to get to and from appointments, and the sixth question asked how likely patients would be to utilize a free van service that would bring them to and from their appointments at the clinic. In questions five and six, patients were asked to list how likely they would be to utilize each system on a scale of one to five, with one being very unlikely and five being very likely to use the service.

The survey instrument was completed and submitted as part of the research protocol in February of 2017. The IRB of Notre Dame approved the study in March of 2017, and the surveys were distributed starting in June 2017. Survey response data was recorded stored on a password-protected computer that remained locked when not in use. Data was deidentified, and no identifying information was kept beyond the duration of the study.

3.3 Analysis Process

Categories for analysis were determined by the Sister Maura's Clinic, with the administration identifying the number of appointments missed that would be of concern. Patients were separated into two groups. One group was labeled the "general patient population," with members missing 0-2 appointments in the six-month period from January-June, 2017. The other group was labeled the "No Show Concern" group, abbreviated NSC. Patients of the NSC group had missed 3 or more appointments in the six-month period. Data was analyzed to compare obstacles cited as well as missed appointments among these two groups.

Following the initial analysis, it became clear that the NSC group had a sufficiently broad geography that patients likely faced quite different transportation barriers. Consequently, a spatial analysis was added, with assistance from faculty at the Center for Digital Scholarship and guidance from the faculty advisor. Heat maps with the highest concentrations of missed appointments provided a map to analyze trends and correlations against the general patient population and the NSC group. This data informed suggestions for future studies that would inform approaches to decreasing no-show rates.

4 Findings

Findings from the survey data and spatial analysis crossed categories in transportation as well as issues with finding childcare or getting time off of work. The primary areas of interest were the most commonly cited problems among the groups. The most commonly cited problem among the NSC group was an unreliable driver, followed by bus problems, while the most commonly cited problem besides transportation among the general patient population was nervousness to come into the clinic, followed by restrictive/unpredictable work hours.

Upon examination of the survey data, a few trends became apparent. The first was that a large percentage of patients cited transportation problems as an issue with getting to and from the clinic. Among the patients who responded to the survey, 29% of the general patient population cited transportation problems, and 45% of the No-Show Concern (NSC) group cited transportation problems. The results are summarized in Table 1 below, which shows that patients from the NSC

group were more likely to report a transportation problem than individuals from the general patient population.

Table 1: Patients Citing Transportation Problems

	General Patient Population	NSC group
Number citing transportation problems	54	5
Total	186 responses	11 responses
Percentage citing transportation problems	29%	45%

From the open-ended questions, cited problems with making appointments went beyond transportation issues. Responses showed that patients in the general population were likely to cite one or more issues as contributing to difficulty with making their clinic appointments. The most commonly cited issues were 1) nervousness with coming into the clinic; 2) restrictive work hours; 3) issues finding childcare; and 4) physical limitations, respectively. These responses were most common both among the general patient population as well as among the NSC group. These results are summarized in Table 2 below.

Table 2: Patients Citing Non-Transportation Problems

Reason	Work Hours	Childcare	Physical Limitations	Nervous
Responses	16	13	7	18

Among the responses of patients among the NSC group, one of the eleven cited one of the challenges (work hours, childcare, nervousness, or physical limitations) as an issue. For details regarding transportation issues to and from the clinic, an unreliable driver was the most common response, cited by four out of eleven (36%) of NSC patients. Bus problems was second most common response, with two out of eleven (18%) of NSC patients citing this as an issue. These results are summarized in Table 3 below.

Table 3: NSC Patients Citing Problems

	Work hours	Childcare	Physical Limitations	Nervous	Bus problems	Unreliable driver
Number of NSC patients citing problem (out of 11 total responses)	1	1	1	1	2	4

Descriptive statistics for the ages of the general patient population (0-2 missed appointments) as well as among the NSC group (3+ missed appointments) are provided to better characterize the patient population (Tables 4 and 5). The largest age group among the general patient population was the 36-45 year old age group, while the largest age group among all NSC patients was 46-55 years old. Interestingly, the 46-55 year old age group makes up over a third of the NSC group (34.2%).

Table 4: Patient Age Groups by Missed Appointments

Age	0-2 Missed	3+ missed (NSC)
18-25	24	1
26-35	62	3
36-45	98	4
46-55	91	11
56-65	70	7
Over 65	18	0
Total	363	26

Table 5: Age Group Percentages Among NSC Patients

Age	% of NSC Group
18-25	5.30%
26-35	13.10%
36-45	23.70%
46-55	34.20%
56-65	23.70%
Over 65	0%

The final two questions of the survey asked patients if they would be likely to utilize a bus voucher system and/or a free van service to get to and from their appointments. The bus voucher system had mixed results, as patients most commonly reported that they would be highly likely to use the system or highly unlikely to use it. The most common response for both the general patient population and the NSC group was a 5 (highly likely to use the voucher) followed by a 1 (highly unlikely to use the voucher). The results can be seen in Table 6 below. Chart 1 summarizes this data for the entire patient population, illustrating that the most common response among all patients was that they would be highly likely to use the system (response 5).

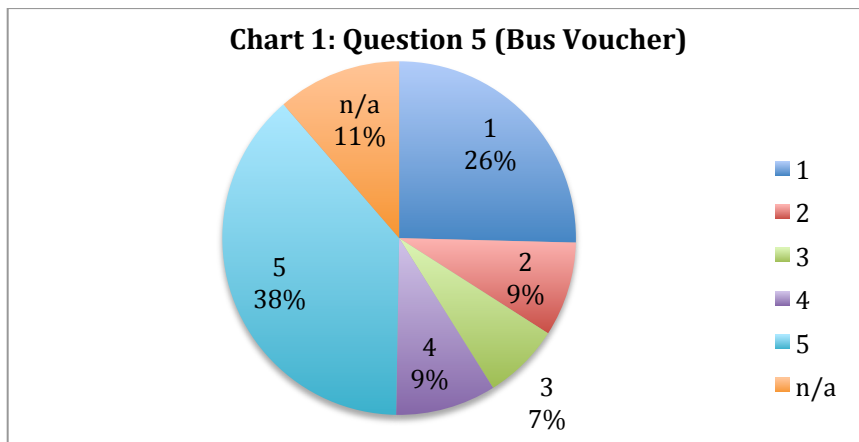
Table 6: Bus Voucher Responses

Question 5 Response	0-2 Missed	3+ missed (NSC)
1 (highly unlikely to use)	45	2
2	15	2
3	13	0
4	16	0
5 (highly likely to use)	67	3
Total Responders	156	7

Table 7: Responses Among NSC Group – Bus Voucher

Question 5 Response	NSC %
1 (highly unlikely to use)	18%
2	18%
3	0%
4	0%
5 (highly likely to use)	36%
N/A	28%

Table 7 above shows that the highest percentage of NSC patients reported that they would be highly likely (5) to use the bus voucher system, but the second and third top responses were that they would be unlikely to use it.



As seen in Chart 1, among the entire patient population, the most common response was a 5, indicating that individuals would be highly likely to use a bus voucher system (38%).

A similar trend was seen among responses for Question 6, which asked how likely patients would be to utilize a free van service that brought them to and from their clinic appointments. As seen in Table 8 below, the majority of patients in both the general populations well as within the NSC group indicated that they would be highly likely to utilize the van service, if offered. Chart 2 summarizes this data for the entire patient population, illustrating that the most common response among all patients was that they would be highly likely to use the system as well.

Table 8: Van Service Responses

Question 6 Response	0-2 Missed	3+ Missed (NSC)
1 (highly unlikely to use service)	33	0
2	11	0
3	17	1
4	10	1
5 (highly likely to use service)	88	7
Total Responses	159	9

Table 9: Responses Among NSC Group – Van Service

Question Response	% NSC
1	0%
2	0%
3	9%
4	9%
5	63%
N/A	18%

Table 9 above illustrates that the large majority of the NSC group indicated that they would be highly likely to utilize a van service, if offered. The most common response was a 5, indicating that 63% of NSC patients would be “highly likely” to utilize the van service.

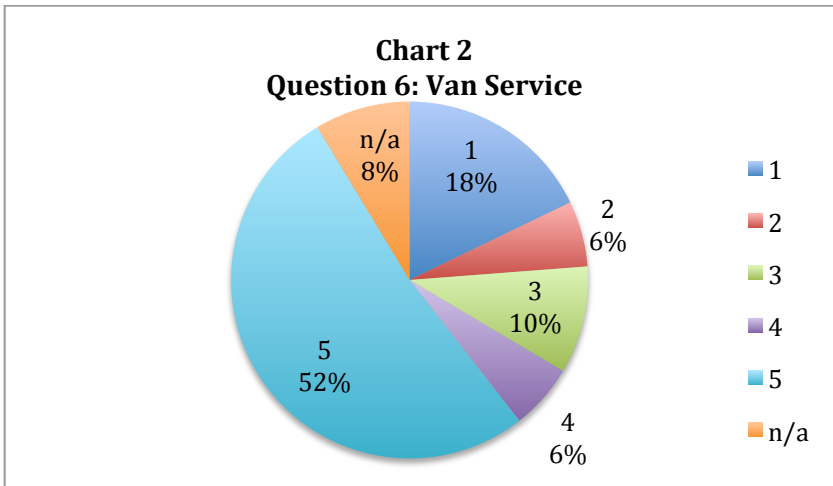
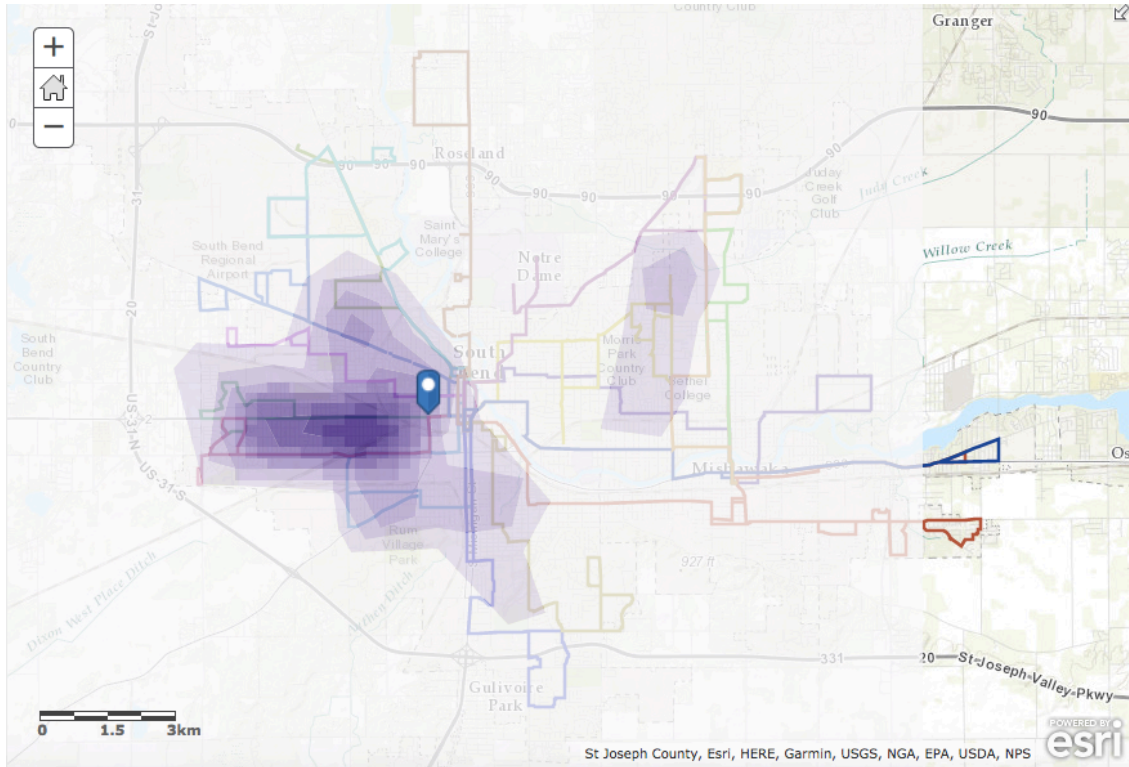


Chart 2 shows that among the patient population, the most common response was a 5, indicating that 52% of patients would be highly likely to use a van service system if offered.

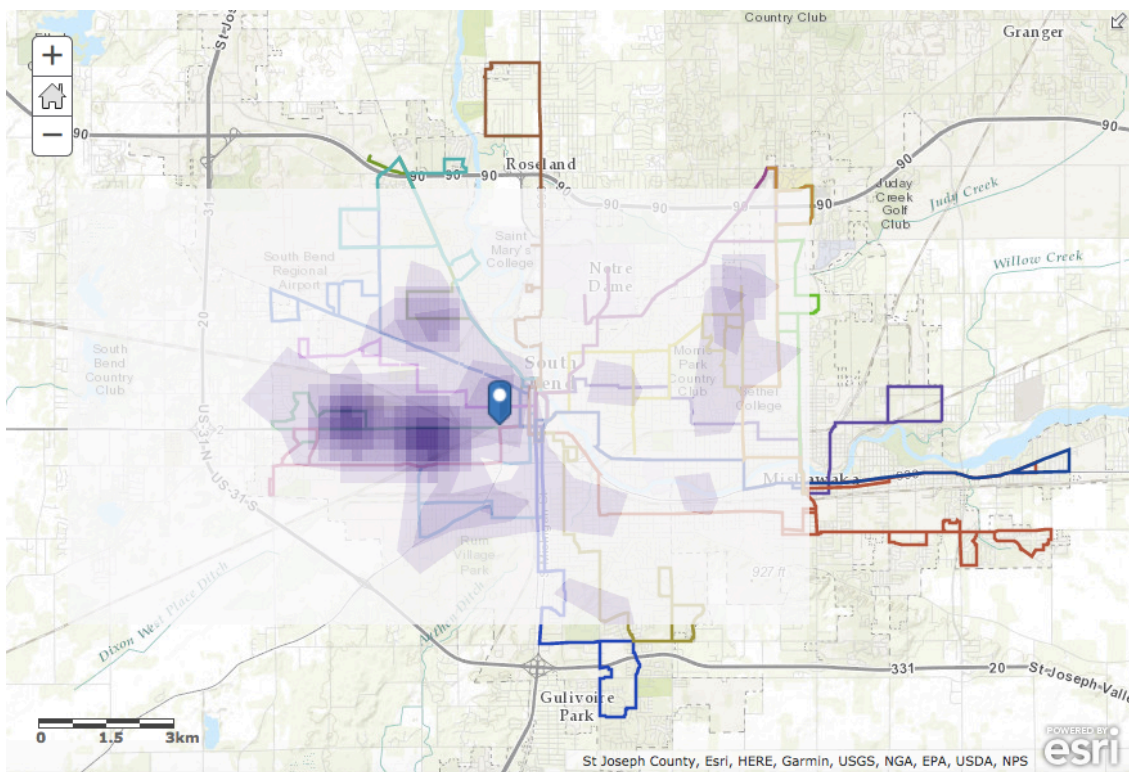
4.1 Spatial data - Density Maps

The maps below depict 1) the population densities for the entire patient population (Map 1); 2) patients who have missed any number of appointments in the six month period studied (Map 2); and 3) patients among the NSC group who have missed 3 or more appointments in the six month period (Map 3). In addition, Map 4 shows the available bus routes in the area. The location of the Sister Maura Brannick Health Center is depicted by the blue tag in each map.

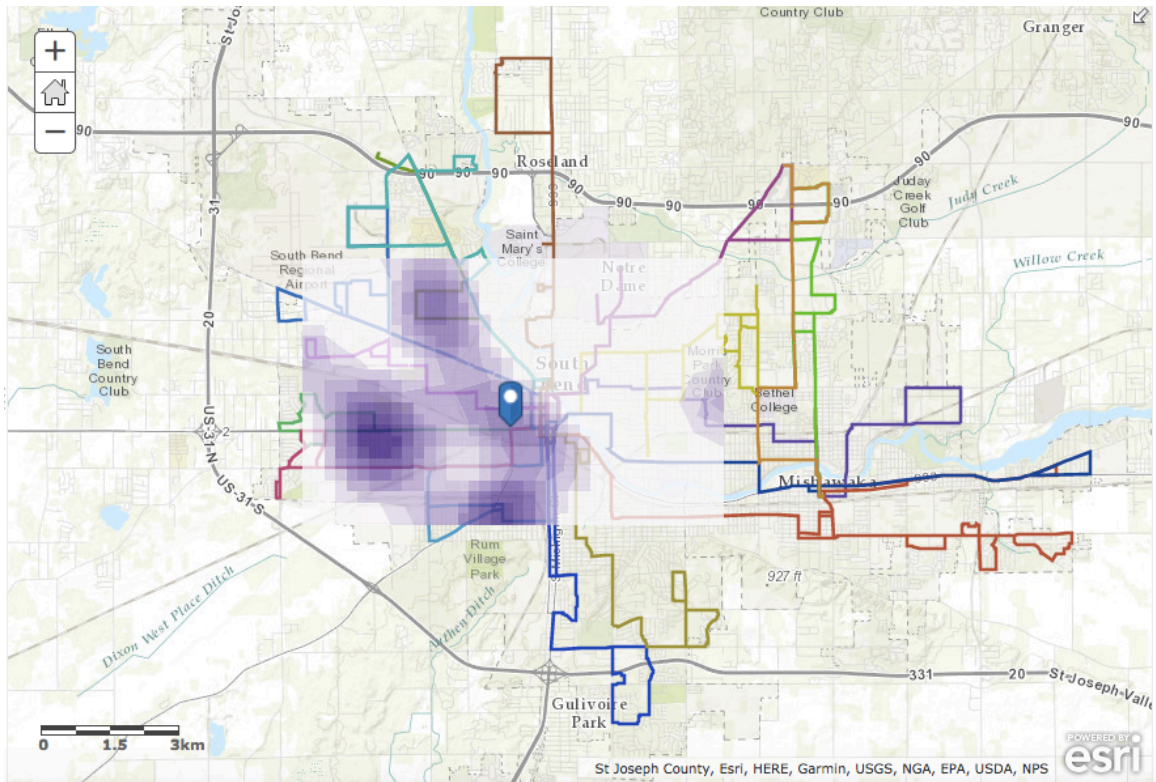
Map 1: Population Density – Entire Patient Population



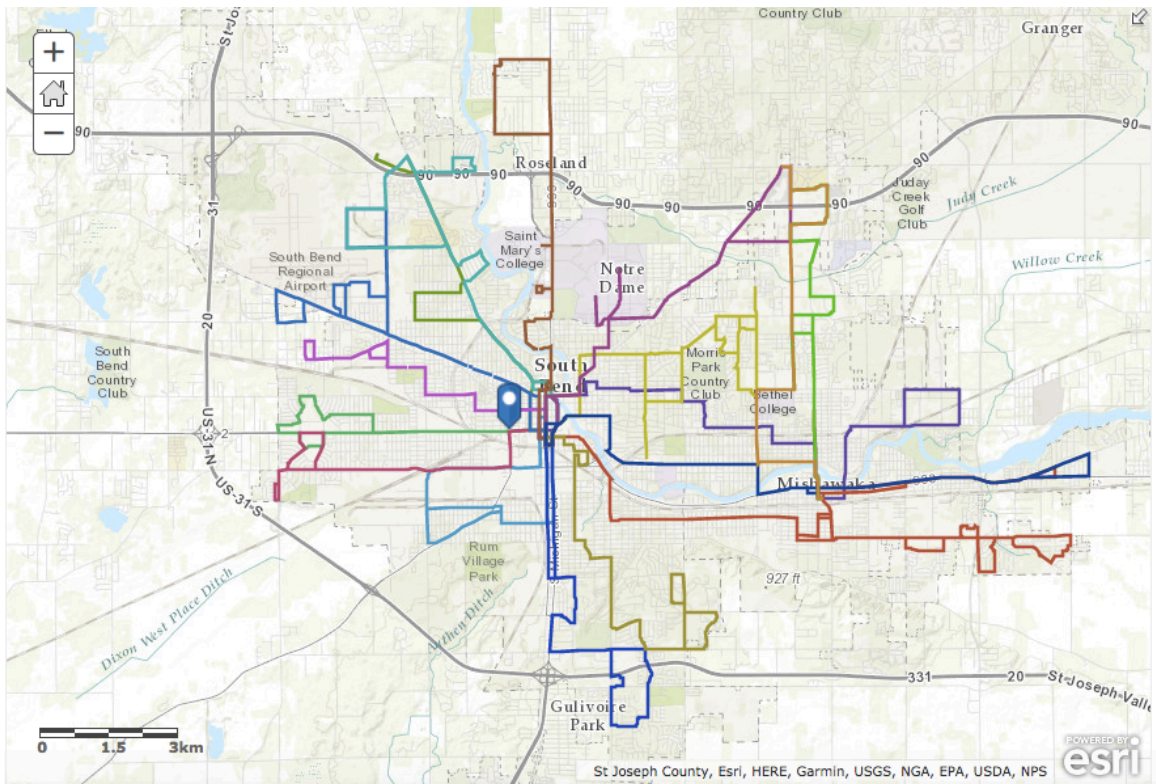
Map 2: Population Density – Patients with one or more missed appointments



Map 3: Population Density – NSC group

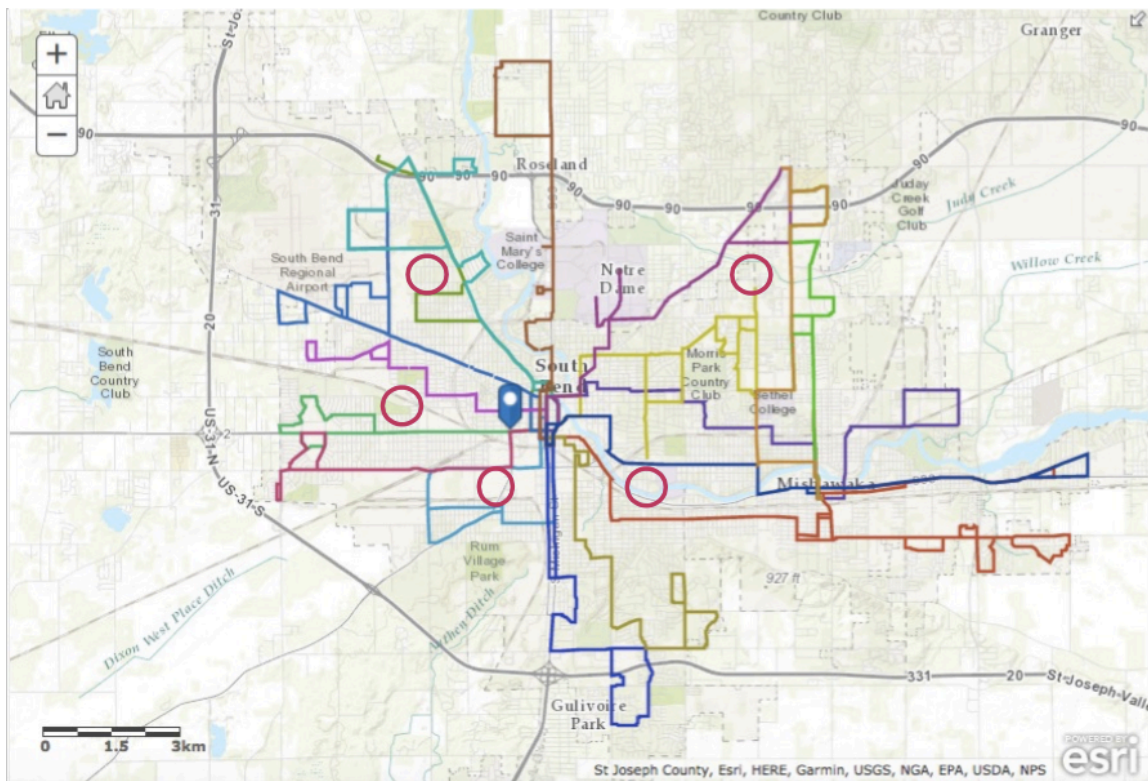


Map 4: Bus Routes



From looking at spatial data, it is possible to focus a system such as a free van service to pick up patients for their medical appointments, particularly concentrating in areas with the most missed appointments, as seen in the heat maps (Maps 2 and 3). It would be worthwhile to examine if highly missed appointments among patients align with difficult connections of busses to the clinic. This could help properly station the van service stops in order to best assist patients with transport to the clinic. In analysis of the responses to Question 6 in the survey, it was notable that most patients reported to be highly likely to use a van service, if offered. This data, along with the spatial data on missed appointments, lends support to the prospect of developing such a system.

Map 5: Proposed Van Service Locations



A free van service with stops in the areas circled in red above (Map 5) would focus on addressing an aspect of the transportation problem at the Sister Maura's

clinic. These areas have the highest density of patients, and patients have indicated their interest in this service. These circled areas are focused to ensure that there would be stops close to or within the areas listed as having the highest density of patients that miss appointments (see Maps 2 and 3).

5 Discussion

The results of the survey indicate that a large percentage of patients at the Sister Maura Brannick Health Center face obstacles with attending their appointments. Nearly a third of the general patient population cited transportation problems. Among the NSC group, nearly one half of patients cited transportation problems. The most commonly cited problem was an unreliable driver, especially among the NSC group.

Overall, the survey results point towards certain obstacles to care with which the clinic and the city could make a tangible difference. Whether that be through offering a childcare program, regulating work hour restrictions for minimum wage workers in the city so patients can leave work for appointments, or offering a free van service, there is great potential for improvement. The first step toward developing solutions is identifying problems, which was the main goal of this study. With the information about what patients cite as substantial obstacles with getting to and from their appointments, more specific and coordinated efforts can be made to resolve these problems.

5.1 Limitations of the Data

There are a number of potential challenges to the reliability of the data from this research. These include the size of the NSC group data, the collection methods, and needed refinement to the survey instrument. Given the original size of the NSC group, even with a response rate of 42%, the respondents' opinions may not be fully representative. Furthermore, collection of the data was difficult at times, as sometimes patients seemed confused by what the question was asking or would answer only one of the survey questions and turn it in. There is also a chance that patients would report being highly likely to use a van service just because it was presented to them. This may not ensure that they would actually use and comply with the rules of such a service if it was offered.

Limitations on the original design of the survey instrument include the need to add and refine a number of questions to ensure that the results are clear. For example, the responses in Question 5 indicate that patients were most likely to report being highly likely to use a bus voucher system or highly unlikely to use it. These results are likely due to the fact that only a certain percentage of patients use the bus, and those that rely on a car or think the bus system is inefficient would be quite unlikely to use a voucher. The bus voucher might be a helpful solution for individuals who rely on the bus and struggle with the financial cost of transportation. As such, the addition of a question related to whether or not the patient uses the bus and if financial burdens were limiting patients from using a bus would help inform the utility of a bus voucher system to solve the no-show problem,

as patients may have cited that they would be likely to use the system simply for a free ride.

6 Future Directions

From looking at spatial data, it is possible to focus a system such as a free van service to pick up patients for their medical appointments, particularly concentrating in areas with the most missed appointments, as seen in the heat map (Map 5). Based on the survey data and spatial analysis, there is sufficient evidence to pilot a van service with stops in the areas circled in red. These areas have the highest density of patients, and patients have indicated their interest in this service. Furthermore, bus routes are poorly distributed in the areas with the highest patient populations in the West. Patients living far from bus stops or nearest to a route that ends far from the clinic could easily see the system as inefficient or not worth the time investment. A van service will fill gaps where there are little bus options so that more patients could get to and from the clinic.

In order to assess the potential of a free van service, a trial van service program could be conducted, examining no-show rates before and after the implementation of such a program to determine its success. Pickup locations can be placed in the areas with the highest numbers of missed appointments, as determined by the spatial data. If no-show rates are significantly reduced by such a program, it would lend strong support to long-term implementation of a free van service. Evaluation of such a program as this one would provide insight into how

incorporating patient preferences into services influences no-show rates and healthcare outcomes.

This study provides a foundation from which future studies and trial programs can build from. For future studies, I would primarily suggest assessing the different types of appointments that patients are missing most (general check-ups versus specialist appointments). I would also suggest assessing the options for childcare programs in the area, to see if a voucher system for a type of nanny or day-care service is possible for patients to use in order to counter that obstacle.

The data from this study will be presented to the Sister Maura Brannick Health Center in order for the clinic to perform further analysis if the administration desires, or to use the spatial data to improve their systems in any way necessary.

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8 Appendix

The following (Appendix I-IV) are the written form and the phone interview form of the survey, in both English and Spanish.

Appendix I

Understanding Challenges with Getting to and from Appointments

All responses will be kept completely anonymous. By taking part in this survey, I indicate my voluntary consent.

1. How do you normally get to and from your appointments at the clinic? Please circle one below.
Bus Car Bike Walking
Other (please specify): _____
2. Do you encounter any problems with getting to and from your appointments? (Mark all that apply.)
 - I don't have a car
 - The clinic is too far away
 - My driver is unreliable
 - The bus takes too long
 - The bus costs too much
 - The bus route does not take me to the clinic
 - The bus route does not pick me up close enough to home
 - It is hard for me to walk/take the bus because of physical limitations
3. Besides potential transportation problems, are there any other things that get in the way of you making your appointments? (Such as changing or unpredictable work schedule, lack of childcare, limited clinic hours, etc.)
4. Do you ever feel nervous/scared to come into the clinic? Yes No
If yes, why?
5. If Sister Maura's gave you a voucher to ride the bus for free to your appointment, on a scale of 1-5, 1 being very unlikely and 5 being very likely, how likely would you be to use one?
1 2 3 4 5
6. If Sister Maura's offered a reliable van service to come pick you up and bring you to your appointment then take you back home, on a scale of 1-5, how likely would you be to use the service?
1 2 3 4 5

Thank you for your participation with this survey.

Appendix II

Comprender Los Retos Que hay Para Poder Llegar y Regresar de Las Citas

Todas las respuestas se mantendrán anónimas. Al participar en esta encuesta, indico mi consentimiento voluntario.

1. ¿Normalmente cual es el método de transporte para asistir a sus citas? Por favor circule uno abajo.

Autobús Coche Bicicleta Caminando

Otros (especificar): _____

2. ¿Le es difícil para asistir a sus citas? (marque todas lo que corresponda)

- No tengo coche
- La clínica está demasiado lejos
- Mi conductor no es confiable
- El autobús tarda demasiado
- El autobús cuesta demasiado
- La ruta del autobús no me lleva a la clínica
- La ruta del autobús no me recoge lo suficientemente cerca de casa
- Es difícil para mí caminar / tomar el autobús debido a limitaciones físicas

3. Además de posibles problemas de transporte, ¿hay otras cosas que le impiden llegar a la clínica? (Tales como horario de trabajo cambiante o impredecible, no tener quien le cuide sus niños, horarios limitados de la clínica, etc.)

4. ¿Se ha sentido nervioso/preocupado cuando viene a la clínica? Sí No
¿Si la repuesta es sí, por que?

5. Si la Clínica de Sister Maura diera un cupón gratis para tomar el autobús para asistir a su cita, en una escala de 1-5, 1 siendo poco probable y 5 muy probable, ¿qué tan probable lo usaría?

1 2 3 4 5

6. Si la Clínica le ofreciera servicio de coche para llevarlo a su cita, luego regresarlo a casa, en una escala de 1 a 5, ¿qué tan probable usted usaría el servicio?

1 2 3 4 5

Gracias por su participación en esta encuesta.

Appendix III

Phone Script – English

Hello, this is Erin from the Sister Maura Brannick Health Center, may I please speak with _____?

I am a student at the University of Notre Dame and I am conducting a study regarding problems with getting to appointments at the clinic, and I was wondering if I might be able to ask you a few short questions today? This should only take about 2 minutes and I can ensure that your responses will be kept completely anonymous. Your participation is voluntary and will not have any effect on your use of the services of the clinic.

If no: Okay, that is no problem at all. Thank you for your time, and have a nice day!
**if patients decline to participate in the survey, their name will be recorded and they will not be called again.*

If yes:
Great, thank you for your participation.

*The first question is: **Do you normally get to and from your appointments at the clinic using the bus, a car, a bike, or walking?***

-If other: please specify

How long does it usually take you to get to the clinic?

*The next question is: **Do you encounter any transportation problems with getting to and from your appointments? Such as the time or cost of the bus, access to a reliable car or driver, the bus route doesn't take you close enough, etc.***

Do you have any other problems with making your appointments?

pause and let subject respond. If no immediate response, give examples such as: **schedule changes at work, problems finding childcare, the clinic's hours, etc.*

-If yes: please specify

Do you ever feel nervous/scared to come in to the clinic?

-If yes, please explain

If Sister Maura's gave you a voucher to ride the bus for free to your appointment, on a scale of 1-5, 1 being very unlikely and 5 being very likely, how likely would you be to use one?

*Okay, and the last question: **If Sister Maura's offered a reliable van service to come pick you up and bring you to your appointment then take you back home, on a scale of 1-5, how likely would you be to use the service?***

Great, thank you for your responses and your participation with this survey. We look forward to seeing you at the clinic soon. Have a great day!

Appendix IV

Phone Script – Spanish

Hola, soy Erin de la Clínica de Sister Maura, ¿puedo hablar con _____?

Soy una estudiante en la Universidad de Notre Dame y estoy llevando a cabo un estudio para llegar a sus citas en la clínica y le quería preguntar si podría hacerle algunas preguntas cortas hoy. Esto sólo debe durar 2 minutos y puedo asegurar que sus respuestas serían anónimas. Su participación es voluntaria y no tendrá ningún efecto en el uso de los servicios de la clínica.

Si no:

Bueno, eso no es ningún problema. ¡Gracias por su tiempo, y tenga un buen día!

** Si los pacientes se niegan a participar en la encuesta, su nombre será registrado y no se volverá a llamar.*

En caso afirmativo:

Bueno, gracias por su participación.

La primera pregunta es: ¿Normalmente como llega a sus citas a la clínica usando el autobús, un carro, una bicicleta o caminar?

-En otro caso, por favor especifica

¿Cuánto tiempo te lleva por lo general a llegar a la clínica?

La siguiente pregunta es: ¿Encuentra problemas con ir y volver de tus citas? Tales como el tiempo o el costo del autobús, el acceso a un coche o conductor confiable, la ruta del autobús no lo toma lo suficientemente cerca, etc

-En caso afirmativo, especifique

¿Tiene algún otro problema para hacer sus citas?

** Hacer una pausa y dejar que el sujeto responda. Si no hay respuesta inmediata, dé ejemplos como: programar los cambios en el trabajo, problemas para encontrar el cuidado de los niños, las horas de la clínica, etc.*

¿Alguna vez te sientes nervioso / asustado de venir a la clínica?

-En caso afirmativo, especifique

Si la Clínica de Sister Maura le daría un cupón gratis para el autobús a su cita, en una escala de 1-5, siendo 1 muy improbable y 5 muy probable, ¿qué tan probable lo usaría?

Bien, y la última pregunta: Si la Clínica ofreciera un servicio de coche para llevarle a su cita, luego regresar a casa, en una escala de 1 a 5, ¿qué tan probable sería usar el servicio?

Bueno, gracias por sus respuestas y su participación en esta encuesta.

¡Que tengas un buen día!

The following are tables with more detailed information about patient ages and missed appointments and responses for questions 5 and 6.

Appendix V

Age vs. Missed Appts in Past 6 Months

Age	0 Missed	1 missed	2 missed	3 missed	4+missed
18-25	22	1	1	0	1
26-35	51	9	2	0	3
36-45	78	14	6	0	4
46-55	79	10	2	2	9
56-65	59	9	2	2	5
Over 65	17	1	0	0	0

Age versus missed appointments as a percentage of the total patient population

Age	0-2 Missed	NSC
18-25	6.17%	0.26%
26-35	15.90%	0.77%
36-45	25.20%	1.03%
46-55	23.40%	2.83%
56-65	18.00%	1.80%
Over 65	5%	0%

Question 5 (Bus Voucher) Responses vs. Missed Appt's in past 6 months

Question 5 Response	0 Missed	1 Missed	2 Missed	3 Missed	4+ Missed
1	39	4	2	0	2
2	12	2	1	1	1
3	11	1	1	0	0
4	15	1	0	0	0
5	50	13	4	0	3

Question 6 (Van Service) Responses vs. Missed Appt's in past 6 months

Question 6 Response	0 Missed	1 Missed	2 Missed	3 Missed	4+ Missed
1	32	0	1	0	0
2	9	1	1	0	0
3	15	2	0	0	1
4	7	3	0	0	1
5	66	15	7	1	6

