

Applying Transportation Solutions to Address Missed Appointments and Improve Access to Care:

Findings from the *Rides to Wellness Community Scan Project*

September 19, 2017

27th Annual Midwest Stream Forum for Agricultural Worker Health
Grand Rapids, Michigan



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Learning Objectives

By the end of this presentation, participants will be able to:

- Explain the relationship between transportation barriers and missed medical appointments, including associated costs to health centers.
- Identify examples of community-focused transportation efforts that increase access to care and demonstrate financial benefits.
- Use a quality improvement process to create patient-centered solutions to transportation barriers at their own organizations.

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OUR MISSION IS TO BUILD STRONG, EFFECTIVE, AND SUSTAINABLE HEALTH OUTREACH MODELS by partnering with local community-based organizations across the country in order to improve the quality of life of low-income, vulnerable and underserved populations.

WE SERVE Community Health Centers, Primary Care Associations, and Safety-net Health Organization



Transportation Barriers & Missed Appointments

An aerial photograph of a city, likely New York City, showing a complex network of highways, bridges, and surrounding urban areas with dense trees and buildings. The image is used as a background for the text overlay.

**3.6 MILLION AMERICANS
MISS AT A MINIMUM ONE
MEDICAL APPOINTMENT
EACH YEAR DUE TO A LACK
OF TRANSPORTATION**

Source: Wallace R., Hughes-Cromwick, P. & Mull, H. (2005). Access to health care and nonemergency medical transportation: Two missing links. *Transportation Research Record: Journal of the Transportation Research Board*, 1924.

Impact of Transportation Barriers

THE IMPACT OF TRANSPORTATION ON PATIENT HEALTH



Delayed or
missed medical
appointments

Interrupted delivery
of care

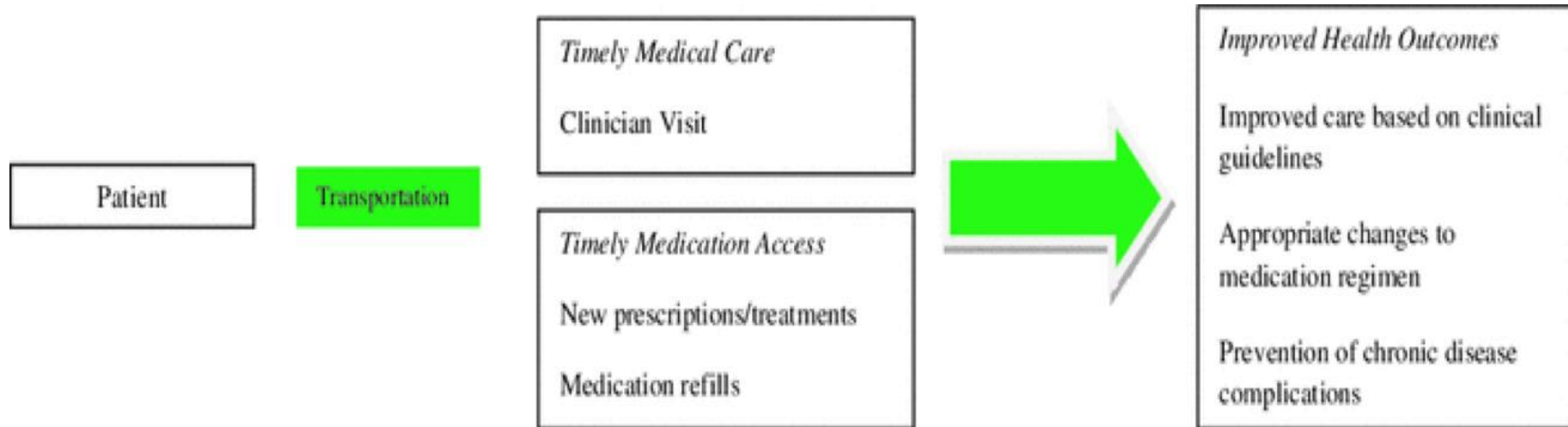
Inability to
comply with
prescribed health
management plans

Difficulty making
and keeping follow-
up appointments

Poor health
outcomes

Increased use
of emergency
department care

Transportation and Health Care Access Model



National Survey Findings

- 188 health centers responded, over 25% identify as rural
- 92% stated transportation is a moderate to serious problem
- Average monthly rate of missed appointments:
 - 11-20% (34%)
 - 21-30% (32%)
- 40% tracked the reasons for missed appointments. Spend time sending reminders.
- 23% tracked the cost of missed medical appointments
 - average cost of \$175 per missed appointment
- Not having access to a car is independently associated with missing appointments. (*Lit review*)



Community-Focused Transportation Solutions



Addressing Transportation Barriers to Care



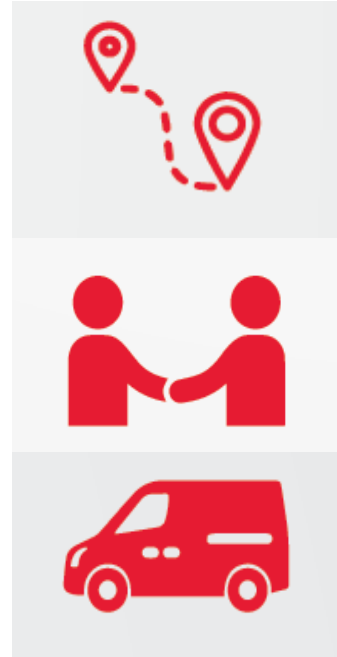
Transportation Services

- Door-to-door transportation
- Fixed-Route shuttle service
- Vouchers
- Reimbursement



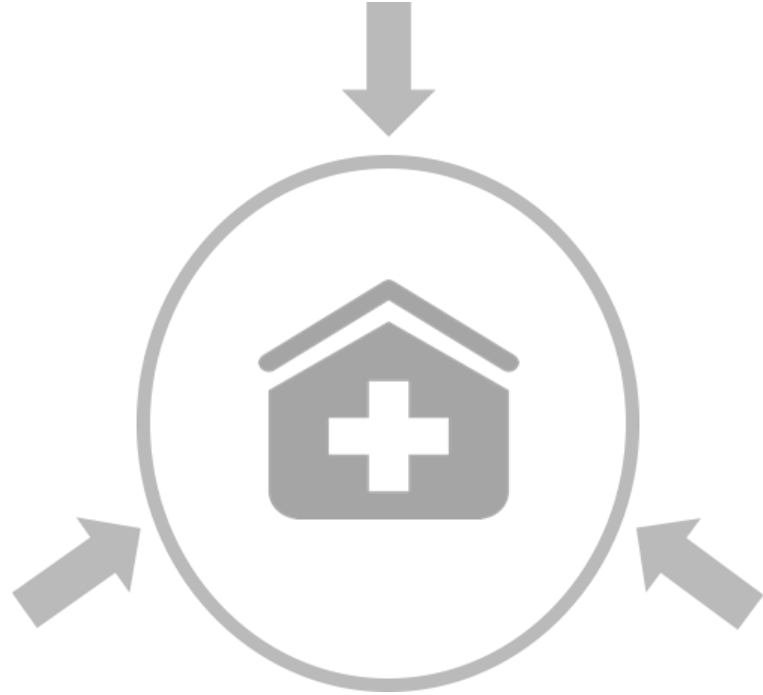
Community-Based Point of Care

- Clinics based at social service sites
- Mobile clinics
- Telehealth services



Health Center Infrastructure

- One-stop-shop
 - Dental care
 - Eye care
 - Pharmacy
- Hours of operation



No “One Size Fits All” Solution



HEALTHY PEOPLE. EQUITABLE COMMUNITIES.

Community Profiles

- Six innovative patient-centered transportation models
- Communities profiled:
 - Buffalo, NY
 - King County, WA
 - Portland, OR
 - South-Central Missouri
 - Southern Illinois
 - Worcester, MA



Buffalo, NY

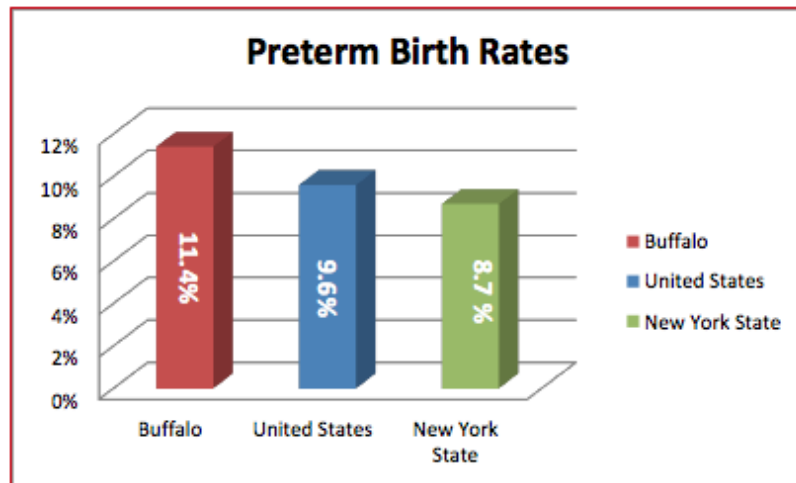
- **Go Buffalo Mom**
- **Issue:** Limited public transportation & the highest rate of preterm births in the state
- **Transportation Initiatives:**
 - Go Buffalo Mom Transportation Coordinators
 - The Ride & Save Program



Go Buffalo Mom

“People really underestimate the fear of the unknown. If you haven’t taken these transportation options yourself, it can be intimidating and having a personal touch is key. That role of the navigator is so important to get people over the hump to try these alternatives.”

– Go Buffalo Mom Representative



Source: Data on preterm births from Go Buffalo Mom Business Plan and from the March of Dimes 2016 Premature Birth Report Card.

South-Central Missouri

- **HealthTran Program**
- **Issue:** Declining investment in public transportation & a shortage of primary care physicians in rural areas
- **Transportation Initiatives:**
 - HealthTran Coordinators for patients
 - HealthTran Membership for health care and social service providers



HealthTran

“The patient has to be the main priority. Not the doctor’s office, not the transit provider. Patients simply are not able to navigate the systems we have in place. We’ve put a person in the middle. We’ve given the patient their own advocate.”

– HealthTran Representative

**Missouri: Per Capita Investment in
Public Transportation**



Source: Graph from "HealthTran then and Now" by Missouri Rural Health Association.

Southern Illinois

- **Rural Medical Transportation Network (RMTN)**
- **Issue:** Lack of non-emergency medical transportation (NEMT) & overuse of emergency medical services (EMS)
- **Transportation Initiatives:**
 - Partnerships with local EMS providers
 - EMS workforce development trainings with National Association of EMS Educators
 - EMS Patient Navigator Program



Rural Medical Transportation Network

“You’d be surprised how infrequently those domains [health care providers, EMS, public transit] actually interact. We want them working together because they have to be involved to really address transportation issues. If you get them in a room and they start talking, it’s amazing how much they realize they can impact each other.”

– RMTN Representative



Source: Image from <http://rmtn.siu.edu>

Transportation Quality Improvement

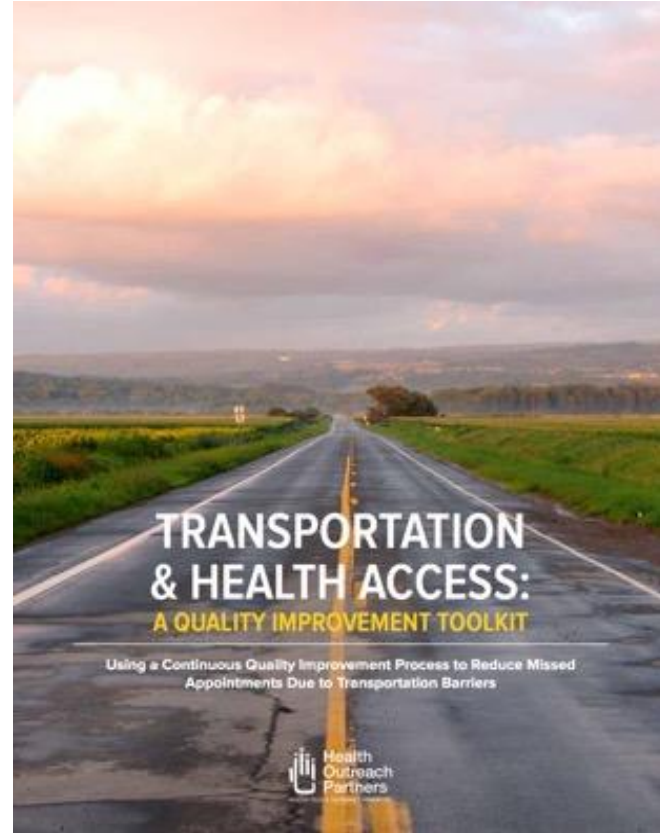


HEALTHY PEOPLE. EQUITABLE COMMUNITIES.

QI Toolkit

Purpose: An easy-to-use, practical guide for health centers to find patient-centered solutions by:

- Assessing the scope of the problem
- Implementing the Plan-Do-Check-Act (PDCA) cycle



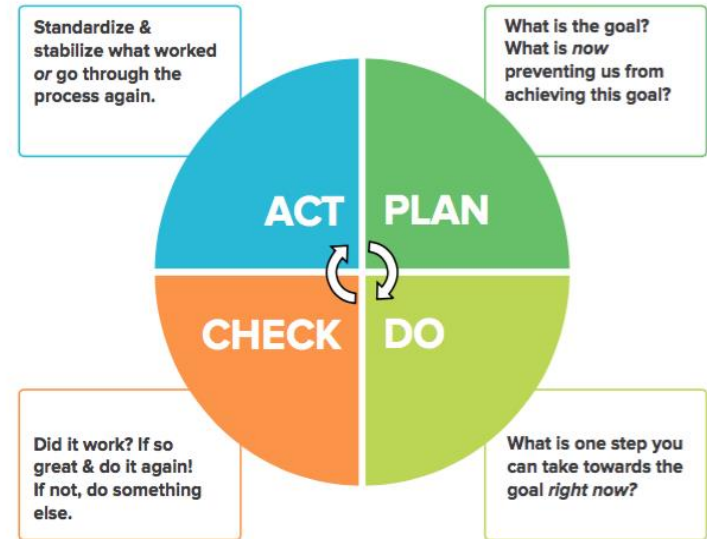
QI Process

1. Needs Assessment

- Guiding Questions
- Community Landscape Scan
- Gathering Patient Input
- Health Center Readiness
- Calculating Cost

2. PDCA Cycle

- Four-Step Process
- Implementation Steps



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Key Terminology

Continuous Quality Improvement (CQI):

CQI is a management approach used in health care to help assess the efficiency and effectiveness of a particular process or set of processes. A strategy is tested and data is reviewed to determine whether the desired outcome was achieved.

Missed Appointments:

A patient does not show up for the designated time of their medical appointment, and does not call to cancel in a timely manner.

Modes of Transportation:

The ways in which people get to and from their medical appointment: personal vehicles; rides from a family member or friend; public transportation; taxicab or ride share services; non-emergency medical transportation (NEMT); and biking or walking.

Return on Investment (ROI):

A metric used to gauge the overall benefit resulting from an expenditure.

Needs Assessment Phase

- Guiding Questions
- Community Landscape Scan
- Gathering Patient Input
- Health Center Readiness
- Calculating Costs



Organizational Readiness Assessment



TOOL #2: Organizational Readiness Assessment

1. Structure and Buy-in: Ensure your health center has the organizational capacity and support to initiate a Continuous Quality Improvement (CQI) process.

Yes

No

Comments

Is there organizational buy-in for addressing transportation barriers?

Is there willingness to integrate the PDCA cycle on transportation into the health center's quality improvement process?

Do we have the organizational capacity to initiate a PDCA process?

ACTION STEP: If you answered "No" to one or more of these questions, present the information gathered in the needs assessment phase to key staff, particularly senior leadership, to gain organizational buy-in and support.

2. Data Collection and Analysis: Ensure your health center can collect and analyze information about transportation and missed appointments.

Yes

No

Comments

Do we currently monitor missed appointments?

If YES, do we have the capacity to separate data to determine which patient populations are more at risk of missing appointments?

Do we track how patients get to appointments?

Do we track missed appointments due to transportation barriers?

ACTION STEPS: If your health center does not currently track this information, a patient needs assessment can help determine the scope of the problem of missed appointments, specifically those due to transportation barriers. Additionally, consider including transportation-related questions in the patient intake process, and train staff on how to collect this information.

Organizational Readiness Assessment (Continued)

TOOL #2: Organizational Readiness Assessment			
3. Existing Efforts and/or Strategies: Ensure your health center has identified and implemented strategies to address transportation barriers.	Yes	No	Comments
Do we have current strategies in place to mitigate missed appointments?			
Do we have current strategies in place to remove transportation barriers for patients?			
If YES, are these strategies effective?			
ACTION STEPS: For current strategies, consider evaluating the effectiveness of existing efforts before embarking on a new PDCA cycle of quality improvement. If you answered "No" to one or more of these questions, analyze the information gathered during the needs assessment phase to identify the reasons for not addressing transportation barriers. Consider initiating the PDCA cycle.			
4. Tracking Costs of Missed Appointments: Ensure your health center has a good understanding of the financial impact of missed appointments.	Yes	No	Comments
Does your health center track the financial impact of missed appointments?			
If yes, do you have a designated staff member in charge of tracking this information?			
If no, is there someone who could be assigned this role and function within the health center?			
ACTION STEPS: Establishing the average cost of a scheduled appointment and the financial impact of missed appointments can help provide justification for a PDCA cycle to mitigate missed appointments due to transportation barriers. Determining who is responsible, or can be assigned the role of estimating costs is an important step.			
5. Other	Comments		
<ul style="list-style-type: none"> What additional information does your health center need to have in order to initiate a CQI process on missed appointments due to transportation barriers? 			29

Calculating Costs: Cost Methodology for Health Centers



To determine the average cost of an unused appointment, the following simple methodology can be used.

Step 1: Determine the total annual cost to operate the health center site .

Step 2: Determine the maximum number of scheduled appointments annually .

Step 3: Divide the total annual cost by the maximum number of scheduled appointments.

Example:

Cost of Health Center	Number of Scheduled Appointments	Average Cost of Scheduled Appointments
\$5,000,000	38,000	\$131.58

After determining the average cost of scheduled appointments, you can determine the annual cost of missed appointments.

Step 4: Determine the annual number of missed appointments that are not filled by other patients.

Example: It is determined that 20% of all scheduled appointments are missed and not filled by other patients. The calculation is $38,000 \times 0.20 = 7,600$. Thus, there were 7,600 missed appointments that were not refilled.

Step 5: Calculate the annual cost to the health center of these missed appointments.

Example: The calculation is $7,600 \times \$131.58 = \$1,000,008$.

Step 6: Calculate the number of missed appointments due to transportation issues.

Example: If you determine that 40% of all missed appointments are due to transportation barriers, then the calculation is $7,600 \times 0.40 = 3,040$. Thus, there were 3,040 missed appointments.

Step 7: Calculate the cost of missed appointments due to transportation issues.

Example: The calculation is $3,040 \times \$131.58 = \$400,003.20$

Step 8: Establish a goal for reducing missed appointments due to transportation barriers.

Example: Set a goal of reducing missed appointments due to transportation barriers by half (1,520) with identified strategies. Calculate the potential savings: $1,520 \times \$131.58 = \$200,001.60$. Your health center will recoup \$200,001.60 in costs if you are successfully able to reduce missed appointments.

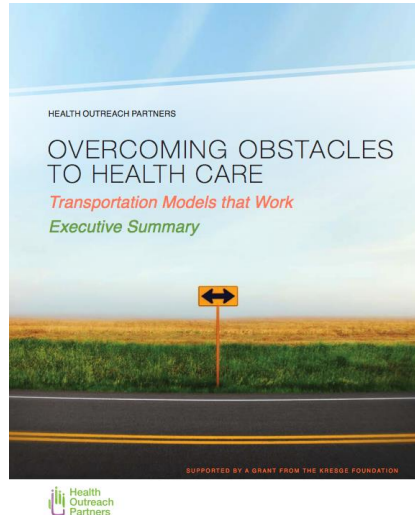
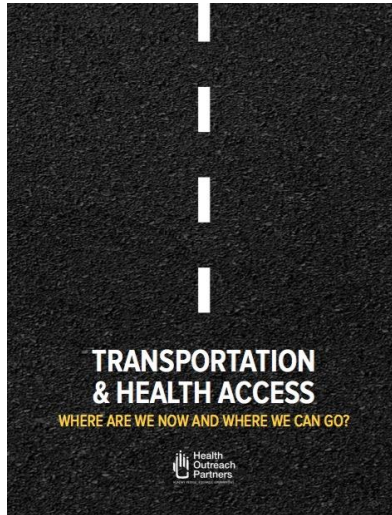
Step 9: Estimating costs includes calculating the Return on Investment (ROI) for different strategies.

Example: Your strategy to reduce missed appointment due to transportation barriers is to offer a shuttle service for patients who live more than 20 miles from the health center, at a cost of \$100,000 annually. Subtract the \$100,000 from the total amount you recouped to determine your ROI. In this example: $\$200,001.60 - \$100,000 = \$100,001.60$.

Even with the costs associated with providing a shuttle service, your health center would still recoup significant costs if it is able to reduce missed appointment due to transportation barriers by half.

Resources

www.outreach-partners.org





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