

Implementing a Quality Improvement Framework to Reduce Missed Care Opportunities in Screening Mammography

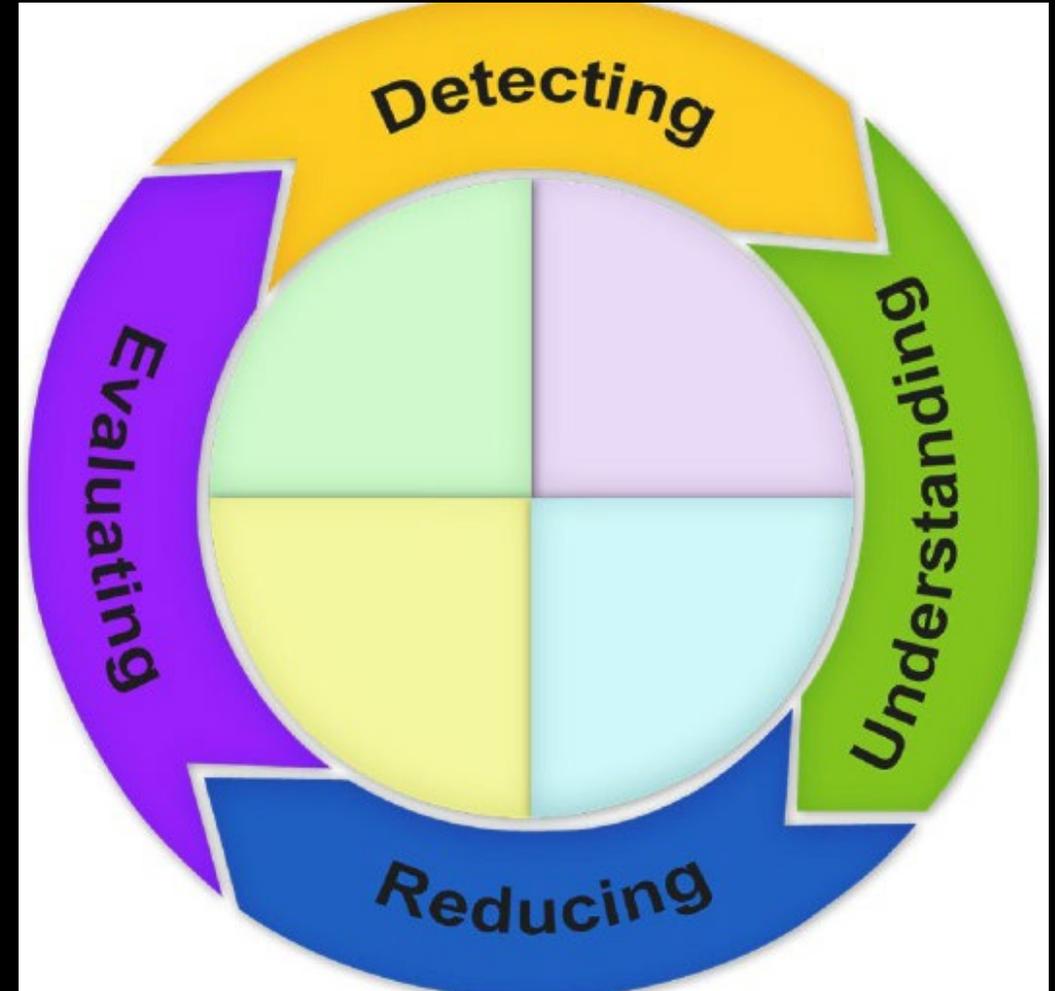
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Background

- Missed care opportunities (MCO) in screening mammography (SM) are influenced by social determinants of health (Henderson, 2020).
- An analysis across our system's SM sites identified that locations with the highest MCO rates were community-based sites serving racial and ethnic minority patient populations.
- We share our experience in the implementation of a multiprong intervention front aimed at reducing the effect of social determinants of health at these sites.

Methods

- Our initiative was guided by a modified health disparities research framework following four steps:
 - **Detecting**
 - **Understanding**
 - **Reducing**
 - **Evaluating**



Overview

- **Detecting:** identifying the possible breakdown areas contributing to MCO by creating a process map with multiple stakeholders; and further organizing identified factors in a driver diagram.
- **Understanding:** Surveying our patient population to gain in-depth knowledge about the context of these factors and creating a pareto chart to see their individual contribution.
- **Reducing:** Employing an Impact/Effort Matrix we identified key interventions.
- **Evaluating:** Including tracking the data from our interventions and identifying challenges in the implementation of our equity efforts.

Detecting - Driver Diagram

Problem:
Patient
cancel/no-
show/MCO to
mammogram
appointments

Don't want to
come

Patient does not perceive mammograms to be important

Did not know
appt time

Forgot appointment date/time

Did not receive reminder due to inaccurate phone # in EMR

Cost

Patient doesn't have insurance

Patient doesn't have transportation

Transportation

Available transportation takes too long

Available transportation is unreliable (late, sporadic)

Available transportation doesn't give enough time for appt

Availability

Can't get time off work to come

Can't leave child/dependents at home to come

Change Ideas

Educational
Outreach

Improve appt
reminder
process

Education
about
MassHealth

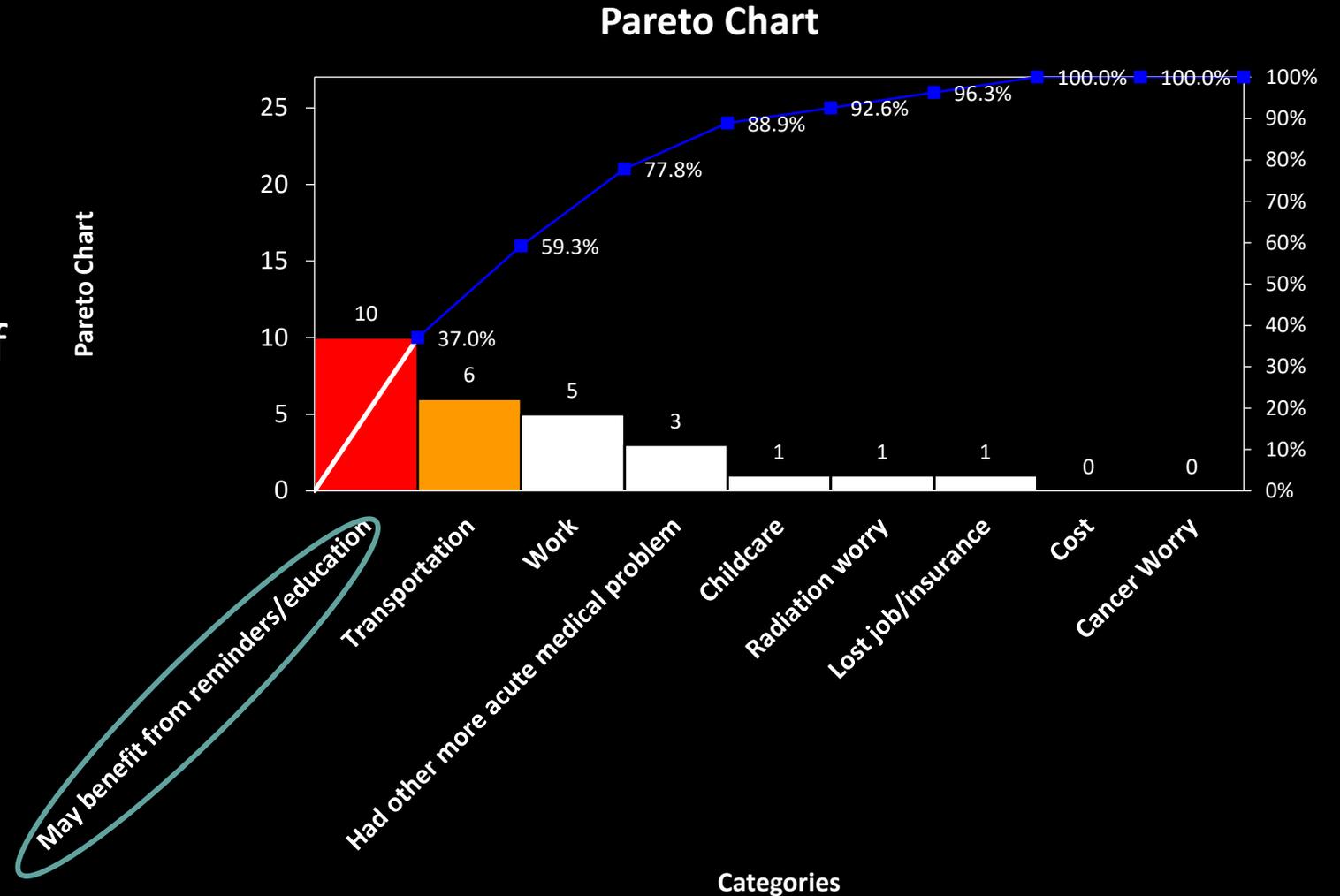
1. Rideshare
program
2. Parking
voucher

Add appt
times after
3:30 and
weekends

Understanding - Diagnostic Data

“What is the main reason you missed your mammogram?”

- Our population of interest was surveyed in order to identify the main drivers behind MCOs.
- Restructuring the results of the survey in this pareto chart identified that patients may benefit from reminders or education as the leading contributor.



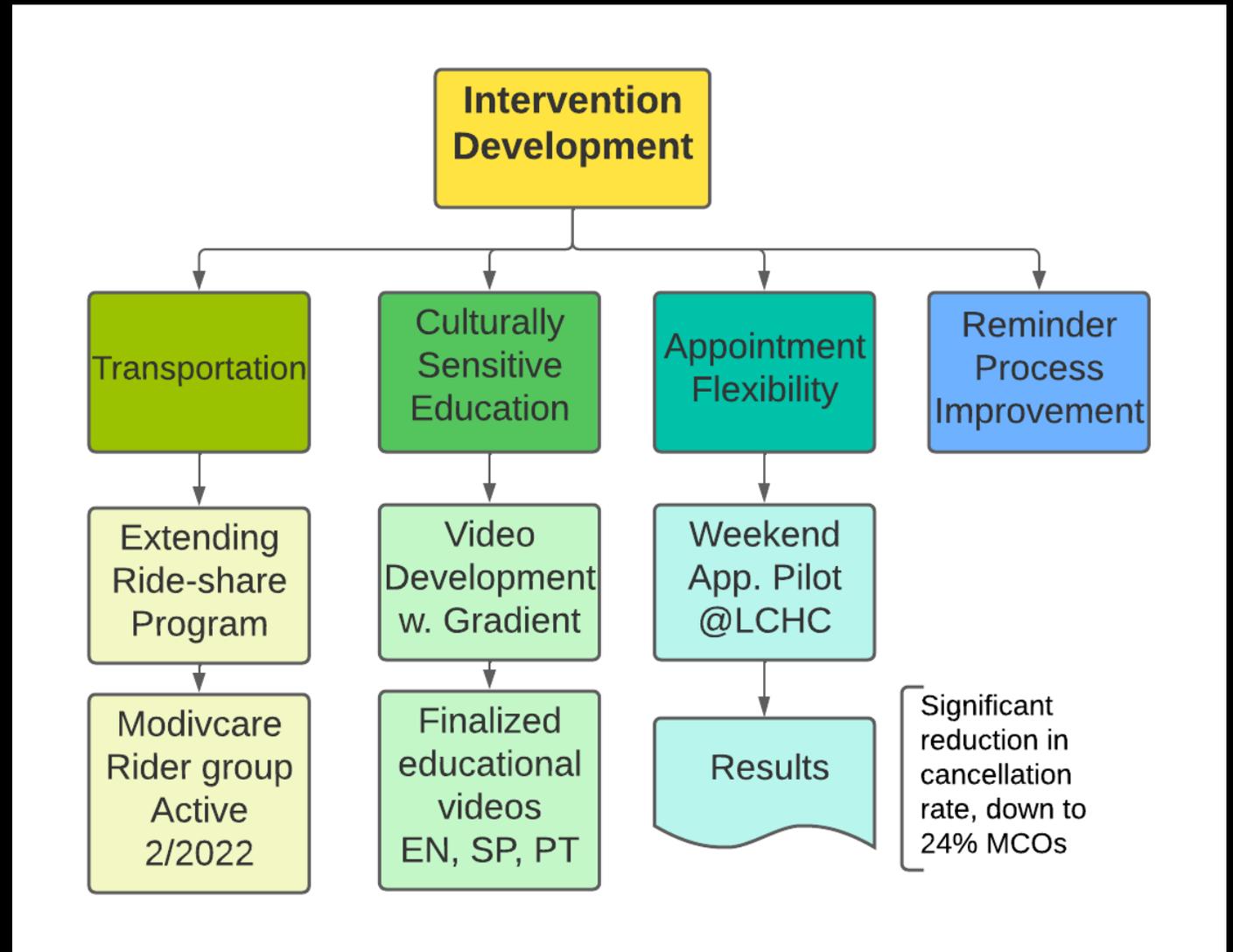
Prioritized List of Changes

Impact	High	<ul style="list-style-type: none">- Improve appt reminder process- Perform quick educational outreach at time of appt reminder	<ul style="list-style-type: none">- Ride sharing program- Extend mammogram hours to include evenings and weekends
	Low	<p>Provide resources to sign up for Mass health</p>	<ul style="list-style-type: none">- Provide childcare service during visit- Provide free parking for patients
		Easy	Difficult

Ease of Implementation

Reducing – Implementation

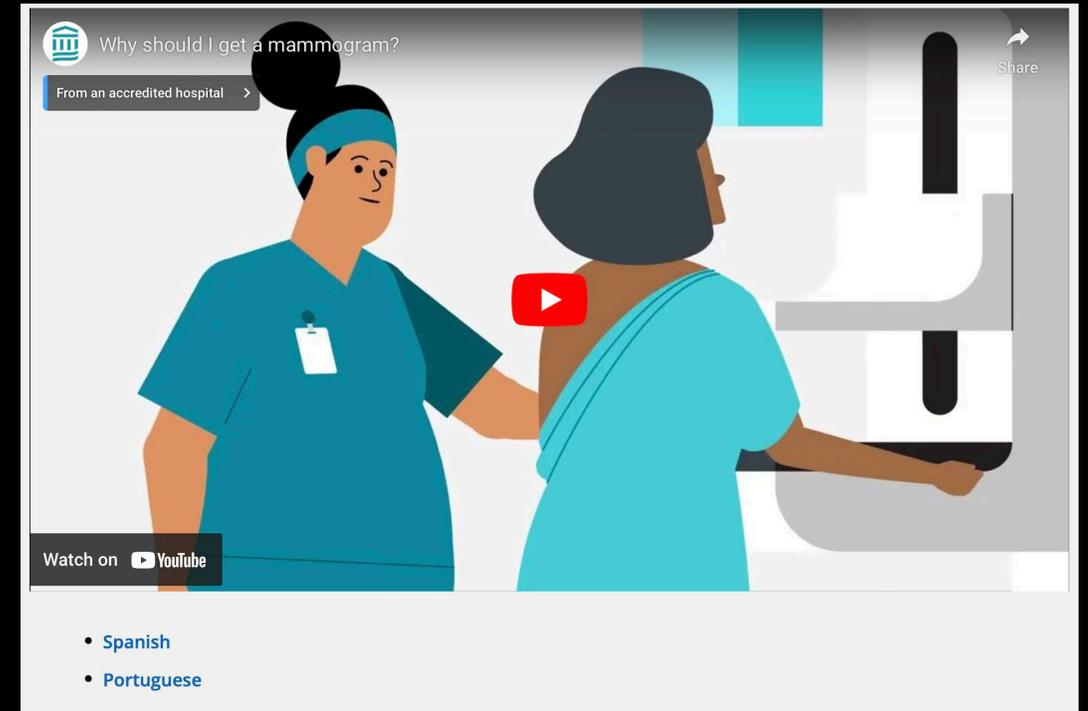
- Our approach includes multiple intervention arms.
- The design of these stem from areas identified in earlier stages.
- The result is a multiprong effort addressing different barriers to SM.



Reducing – Results

- Key high priority and actionable intervention fronts identified included:

- 1. Culturally Sensitive Education: we developed educational multilingual (EN, SP, PT) videos and posters addressing SM concerns and providing information of what to expect of the process.
- 2. Reminder Process Improvement: Contact information was updated in our EMR but no significant statistical difference detected ($p > 0.05$), we developed the infrastructure to set up a text messaging reminder process that will include our educational video.
- 3. Increased Scheduling Flexibility: Weekend appointments were started as a pilot at one of our imaging sites. Showing a significant decrease in MCOs (6% during 4 weekends vs. 43% during weekdays).
- 4. Transportation: A ride-share program will be implemented to decrease the impact of transportation issues for high-risk patients.



Evaluating

- Including tracking the data from our interventions and identifying challenges in the implementation of our equity efforts.
- Using this data to enhance operations and make real time adjustments.



- We have found a modified health disparities research framework as a helpful guide on the design and implementation process of these efforts.
- Furthermore, using an iterative process including PDSA cycles has strongly informed the implementation of these interventions and increased our focus on mitigating the effect of health disparities in our patient population.
- Extending this approach to other QI initiatives holds great potential to aid in assuring health equity as a priority.

1. Hood CM, Gennuso KP, Swain GR, Catlin BB. County Health Rankings: Relationships between Determinant Factors and Health Outcomes. *American Journal of Preventive Medicine* 2016;50:129–35. <https://doi.org/10.1016/j.amepre.2015.08.024>.

2. Cykert S, Eng E, Manning MA, Robertson LB, Heron DE, Jones NS, et al. A Multi-faceted Intervention Aimed at Black-White Disparities in the Treatment of Early Stage Cancers: The ACCURE Pragmatic Quality Improvement trial. *J Natl Med Assoc* 2020;112:468–77. <https://doi.org/10.1016/j.jnma.2019.03.001>.