

# Getting Started Resource Guide



## Acronym List

Term	Abbreviation
AR	Automatic Referral
CC	Care Coordination
CPT	Current Procedural Terminology
CR	Cardiac Rehabilitation
CRCP	Cardiac Rehabilitation Change Package
ICD-10	International Classification of Diseases (10 <sup>th</sup> edition)
IHI	Institute for Healthcare Improvement

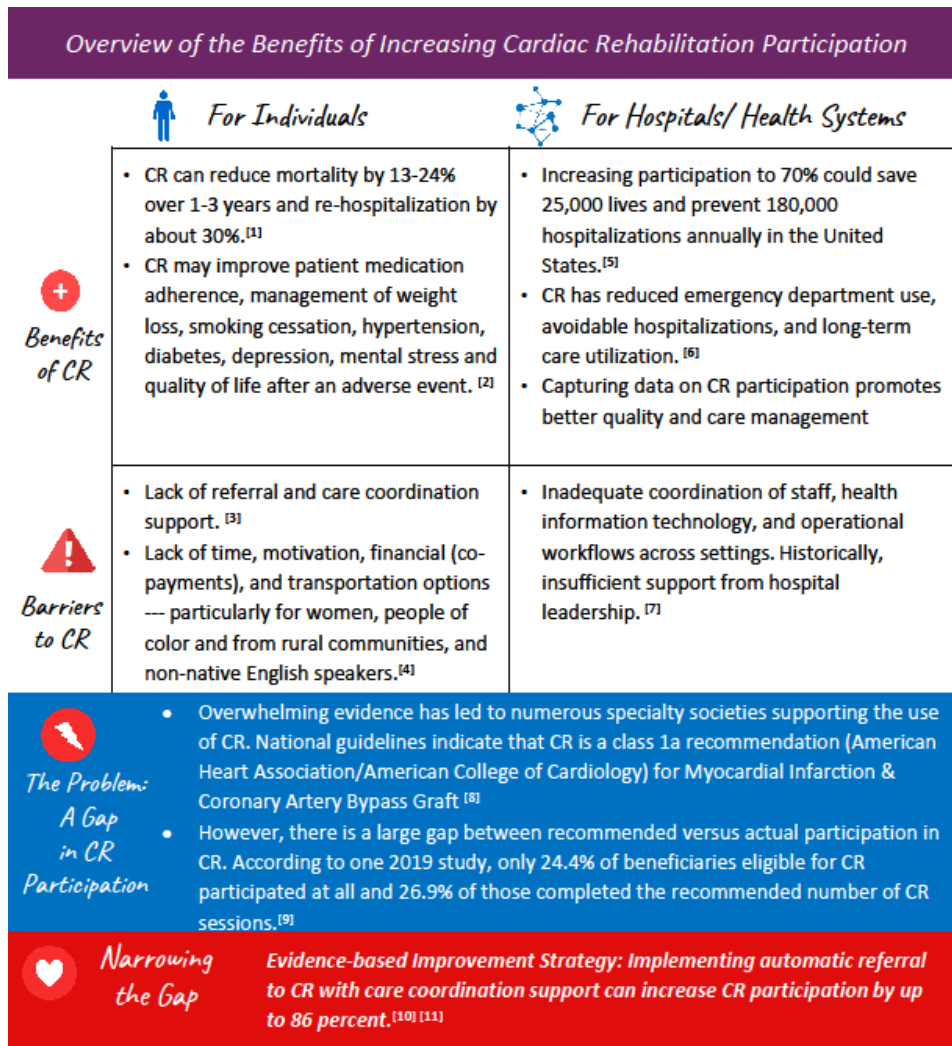
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## Making the Case Infographic

AHRQ's TAKEheart initiative seeks to help hospitals and health systems implement evidence-based strategies to increase cardiac rehabilitation (CR) participation among eligible patients by implementing automatic referral with care coordination. This Fact Sheet reviews the strong evidence base for and benefits to increasing CR.

**Figure 1: Overview of the Benefits of Increasing Cardiac Rehabilitation Participation**



## Action Plan Template

The template below is designed to assist you with the creation of your hospital's TAKEheart Action Plan. Work with your hospital team to develop tangible steps towards implementing automatic referral and enhancing care coordination.

### Instructions:

- **AIM STATEMENT:** Write your aim statement. The aim statement answers the question "What are you trying to accomplish?" It is an explicit statement about the desired outcome of the project.
- **TASK COLUMN:** The Task column allows you to choose a prepopulated task or to enter a task your organization has determined it needs to undertake to successfully implement automatic referral (AR) and effective care coordination (CC). The prepopulated tasks are those that have been identified in the Million Hearts/AACVPR Cardiac Rehabilitation Change Package (CRCP) as important for successful implementation of AR and CC. **To find the prepopulated list of tasks, click on the first task, and click on the arrow that pops up on the bottom right of that task.** (Specific guidance on HOW to accomplish these tasks is covered in the *Training Curriculum for Implementing Automatic Referral* and the *Training Curriculum for Enhancing Care Coordination*.)
- **TASK LEAD COLUMN:** In the Task Lead column, type in the name of the person responsible for the task. The S.M.A.R.T Goal column allows for free text typing.
- **STATUS COLUMN:** The Status column allows you to track task progress by clicking on a prepopulated option or typing your own.
- **FINISH DATE COLUMN:** A calendar drop down will appear when you click on the Finish Date column. This column indicates the actual date the task was accomplished.
- **COMMENT COLUMN:** The Comment column provides a free text box to add notes about the task.

The template provides an initial table with two rows.

- The first row shows an example for each column.
- You can add as many rows as you need to this table by clicking on the last row of the table. A blue (+) sign will appear on the right side. Click on the (+), and an additional row will be added.

**Table 1: Roles & Responsibilities Template**

TEAM MEMBERS					
List here Team Members and Their Roles in Developing and Executing the Action Plan:					
<p><b>Aim Statement:</b>            Example: We aim to increase the number of patients with MI, PCI and CABG who are referred, enrolled, and participate in cardiac rehabilitation by 30%. This is important because we want to improve patient care and outcomes and reduce hospital readmissions. We will accomplish this aim by implementing automatic referral with care coordination by March 31,2022. We intend to see a 30% increase in current participation rates by December 31, 2022.</p>					
Task	Task Lead	S.M.A.R.T. Goal (Specific, Measurable, Achievable, Relevant, Timebound)	Status	Finish Date	Comments (challenges/facilitators)
Develop specifications for the automatic referral in the EMR system.	Luna Patel	Beginning 6/4/2021, the CR QI team will meet with IT representatives each Tuesday and Thursday at noon for a half hour to define the changes necessary for automatic referral and will complete the task by 7/28/2021.	Completed	8/13/2021	Took longer because IT staff had limited ability to attend meetings
Choose a task or add your own.	Enter name.	Click here to enter a goal.	Choose or add one.	Click to enter a date.	Click to enter comments.

## Guide to Mapping the Cardiac Rehabilitation Process:

It is said, "A picture is a thousand words!" Visually representing a process allows you to see gaps, duplications and bottlenecks that might not be apparent by reading a procedure document or imagining it in your head. It also allows you to identify successes, and process steps associated with success that might be applicable to "other steps on the map".

Performing the exercise as a group allows all stakeholders to have input. Those involved in the mapping process should "observe" the process, as much as possible, prior to coming together.

### Suggested Steps

#### 1. Assemble the team:

- a. Include those who work in cardiac rehabilitation.
- b. Include those involved in the cardiac rehabilitation referral process.
- c. Include those who participate in cardiac rehabilitation (patients).
- d. Include those who supervise and manage cardiac rehabilitation.
- e. Include someone with computer skills who translates the drawings into something more readable.

#### 2. Schedule a time:

- a. Find a date and time all the people who touch the cardiac rehabilitation process can meet for an hour several times over the course of a couple of weeks without being disturbed.

#### 3. Gather materials:

- a. Decide what you will use: paper, flip charts, whiteboards, markers, pens, "sticky notes".

#### 4. Set the ground rules:

- a. Let everyone know that this is an interactive meeting that will involve lots of voices. Make sure the room is respectful, allows for open conversation, but stay focused on the task - you're on a timeline.

#### 5. Begin by asking questions:

- a. Ask staff to identify processes and workflows that are working well.
- b. Remember you are documenting what ACTUALLY happens - not what SHOULD happen ideally.
- c. Use open-ended and probing questions.
- d. Think about questions like: When does the cardiac rehabilitation process start? What is the first step? What happens next? Is that what ACTUALLY happens? What does happen? Who takes care of this? Who is ultimately accountable? Where does this go? What do they do with that referral? (*For additional questions, see list of suggested questions below.*)

- e. Identify how many people/teams/departments the referral must pass through to reach the patient. Remember, the greater the number of steps increases the chance for errors and the time to reach the patient.
- f. Look for duplicative efforts.
- g. Look for bottlenecks—places where the process flow stops or slows, i.e., waiting for insurance verification or physician or insurance approval.
- h. Are there successful processes that can be replicated elsewhere?

**6. Create it:**

- a. Shapes - 4 key shapes to use when mapping.



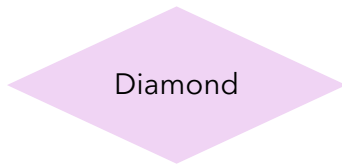
Oval

Represents the start and the end of your process.



Rectangle

Represents an activity/task in the process.



Diamond

Represents your decision point: this is the fork in the process and therefore will always have two arrows (YES/NO)



The arrows represent direction and connection.

- b. Methods:

- i. Draw on whiteboard
- ii. Draw on flip chart
- iii. Draw on paper taped to wall
- iv. Use different colored "sticky notes" to represent shapes on the flow chart.



**7. Make it readable:**

- a. Someone with computer skills can take the team drawings and covert them to a readable flow chart.

**8. Disseminate the completed flow chart:**

- a. Send around to people in various departments involved in the cardiac rehabilitation process and ask them to review and validate the process the team created.

**9. Identify changes:**

- a. Once the process has been reviewed, schedule another time to meet to discuss what changes are needed for automatic referral with care coordination. Try to find ways to streamline the new process.

## Suggested Questions for Mapping Workflow Processes

### Referrals

- Who is referred to cardiac rehabilitation and why?
- Which patients are currently referred for cardiac rehabilitation, i.e., what diagnoses?
- Are some diagnoses missing?
- Is the process different for surgical vs. non-surgical patients?
- Who decides which patients are referred?
- What is the patient referral process?

### Patients

- How are appropriate patients for CR identified?
- What is the current trigger for a CR referral? For example, patient diagnosis, physician initiated, etc.?
- What happens to patients admitted to general medical floor rather than a cardiology floor?
- When and where is referral made?

### Enrollment

- What is the CR enrollment process?
- Who communicates with the patient?
- How is type of health insurance factored in?
- How is the CR program selected?
- Who follows up with the patient to see if they are enrolled?
- Do we know how many CR sessions a patient attends or if they complete CR?
- If so, who collects that information and when?

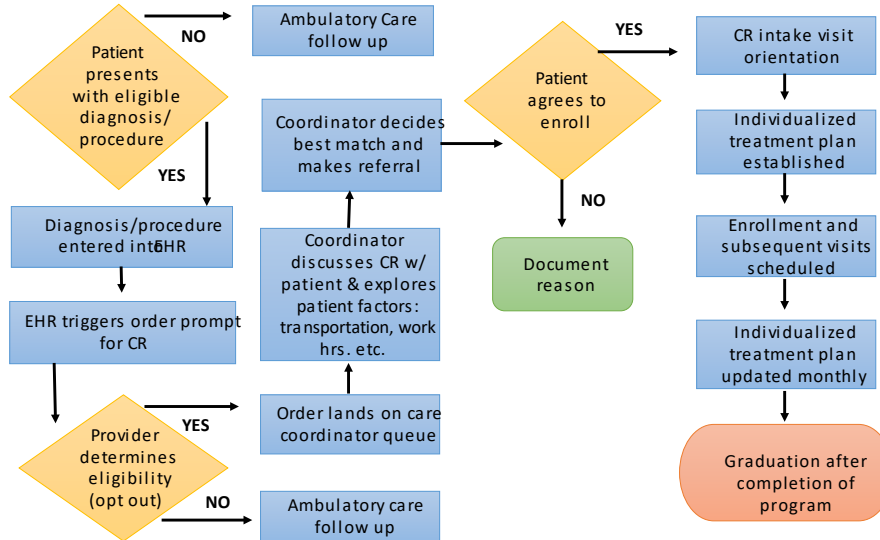
### Data

- Where do your data reside?
- What does it take to capture the data you need?
- Are new data capture processes needed?
- Who oversees different aspects of data collection?



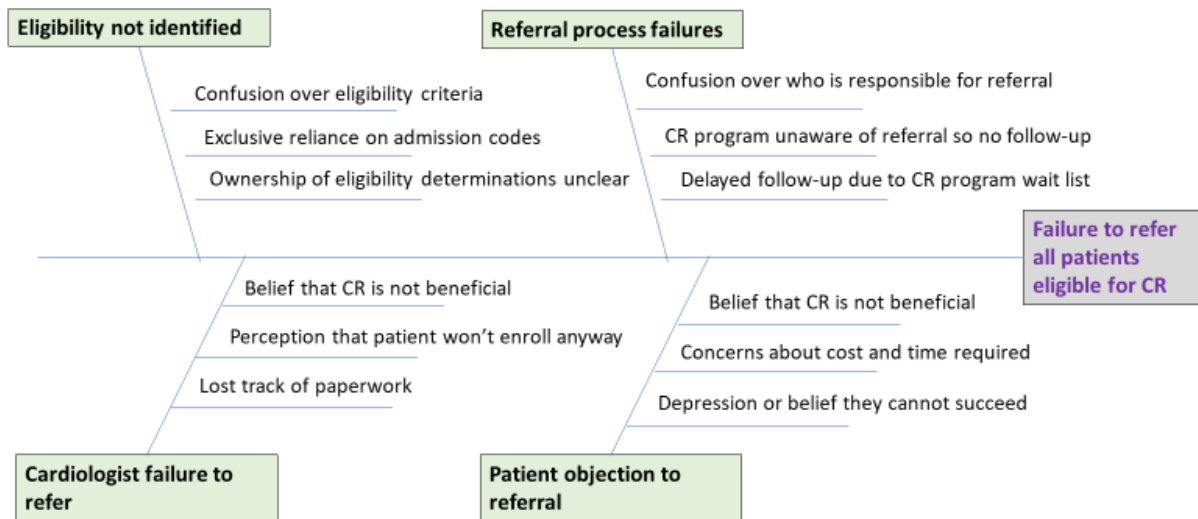
## Sample Cardiac Rehabilitation Process Map

**Figure 2: Current Workflow Mapping Example**



## Sample Fishbone Diagram

**Figure 3: Sample Fishbone Diagram**



Fishbone diagrams are a useful way to identify major causes of process failures as well as specific failures that fall into these general categories. The example fishbone diagram captures common reasons why eligible patients fail to be referred into CR.

Once you have done some process mapping, creating Fishbone diagrams that capture the underlying reasons specific problems are occurring is a useful next step. Be sure to include your team and patients in this process to ensure that you fully understand underlying causes of process failures and can address them as you redesign your processes.

## Data Assessment Tool

### Purpose:

This tool will help you conduct an assessment of:

- What data your organization collects, as well as its quality and completeness
- What data-based reports you can generate to assess your progress; and
- How you are currently using data to support specific, critical activities.

### Instructions:

Please work with your other staff at your hospital to answer the questions that follow. These questions are intended to help you begin taking tangible steps towards implementing automatic referral and enhancing care coordination.

### Assessing Your Access to Key Data:

Data are necessary to support your ability to implement automatic referral with effective care coordination. Automatic referral requires that you know which patients are eligible for cardiac rehabilitation. Effective care coordination and monitoring of progress requires that you can access information about referrals, enrollment, CR program completion rates, and whether sex, race, ethnicity, or other factors are affecting CR participation and completion.

The following pages include two tables:

- Table 2 explains the importance of various types of data contained in your hospital or health system's EMR that will help you implement automatic referral and enhance care coordination.
- Table 3 is a worksheet for you to complete to assess the data you have and to address issues you identify that you need to start working on to prepare for future implementation activities.

You may find you are in great shape or that you have some work to do. Knowing where you stand will help you get to where you want to be.

**Table 2: Useful Data Elements for Tracking Automatic Referral and Care Coordination**

Patient-Specific Data Elements	Why These Data Matter
CPT codes	CPT codes are used to identify medical procedures that, in combination with other procedures or diagnoses, may make a patient eligible for cardiac rehabilitation (CR).
ICD-10 diagnosis & procedure codes	ICD-10 codes are used to identify diagnoses and procedures that, separately or combined, may make a patient eligible for CR.
Date of Birth	Age may be used, in combination with other demographic information, to help inform educational approaches and identify potential barriers to CR participation.
Patient Sex	Sex may be used, in combination with other patient demographic information, to help inform educational approaches and identify potential barriers to CR participation.
Race, ethnicity & primary language	Patient race and ethnicity may be used, in combination with other demographic information, to help inform educational approaches, highlight cultural preferences and/or differences, which may present potential barriers to CR participation.
Aggregated Patient Population Measures	Why This Matters
Number of patients eligible for CR	Understanding the number of eligible patients in the population served provides a starting point for improvement.
Demographic profile of patients	Knowing the percentages of patients based on medical condition, age, gender, race, location, and other demographics can help identify disparities or gaps in your efforts to support all patients eligible for CR.
Zip code of eligible patients for CR	Location of eligible patients helps to identify the service area and provides information about the potential need to identify other CR programs to accommodate patient convenience.
Number of eligible patients who participated in CR	Dividing the number of participants by the number eligible patients provides the participation rate and may be used to identify gaps in referral patterns.
CR referral source	Examining the source of referrals and the number of referrals from each source may be useful in identifying providers who should be targeted to increase awareness about the benefits of CR.
Number of patients referred to CR	Dividing the number of patients who enroll by the number referred may uncover gaps in care coordination.
Number of patients enrolled in CR	Dividing the number of patients who enroll by the number referred can be helpful in identifying gaps in care coordination.
Number of patients attending CR	Dividing the number of patients attending by the number of patients enrolled provides the attendance rate, which may provide useful programmatic information about CR operations.
Number of patients who complete prescribed number of CR sessions	Dividing the number of patients who complete CR sessions by the number who enroll may provide useful programmatic information.

**Table 3: Data Assessment Worksheet**

**Instructions:** First check whether each type of data is ready for use, has some minor issues that you may want to address, or has major issues with completeness, timeliness, or accuracy that you definitely need to work on. Use the remaining columns to identify what needs to be done, who will do it, and when you think the issues can be resolved. If you are not sure what next steps can be taken, who will do them or how long they will take, then it is fine to just say you do not know and make finding out the answer a next step that you work on.

Patient Data Element	How would you assess the status of this data?					
	Ready for Use	Minor Issues to address	Major challenges with this data	What needs to be done to address any issues with this data?	Who will do it?	When will it be done?
Patient CPT codes						
Patient ICD-10 diagnosis codes						
Patient ICD-10 procedure codes						
Patient age						
Patient gender/sex						
Patient race, ethnicity & primary language						
Patient address/zip code						
<b>Aggregated Data Elements</b>						
Number of patients eligible for CR over the last year						
Demographic profile of eligible patient pop.						
Number of eligible patients who participated in CR over the last year						
CR referral sources						
Number of patients referred to CR						
Number of patients enrolled in CR						
Number of patients attending CR						
Number of CR sessions patients complete						

Not all teams rely exclusively on data available from their own hospital or system's EMR to support their efforts to implement automatic referral and enhanced care coordination. Use Table 4 to assess any additional steps you may be considering with respect to accessing data from other sources.

**Table 4: Data from Other Sources**

How would you assess the importance of the following data sources in achieving your goals?

	Not a priority	A long term priority	A short term priority	If a priority, what steps are you planning to obtain access to the data from this source?
Other EMRs used by referring hospitals or practices <b>within your health system</b> that are different from the one you can directly access.				
Other EMRs used by referring hospitals or practices <b>outside</b> your health system that you hope to obtain access to support your improvement efforts.				
Identifying and tracking referrals from external sources informally without accessing the EMRs from those sources.				

**What to Put in Reports:**

To succeed in your implementation efforts, you will want to obtain reports on a regular basis to support care coordination activities, monitor your progress, and ensure that the automatic referral processes that you implement are working correctly. Some may already obtain very comprehensive reports, while others may not have current access to reports. What describes your current ability to access reports you will need to support implementation?

**Table 5: Reporting Assessment**

Check the box that best describes your ability to obtain or produce reports.

<input type="checkbox"/>	We currently receive no relevant reports and have little or no ability to create timely reports on our own.
<input type="checkbox"/>	We don't receive any relevant reports, but we can query our EMR or create ad hoc reports related to patient eligibility, referrals, or enrollment in CR.
<input type="checkbox"/>	We do obtain some reports on a regular basis, but they aren't as complete, accurate, or timely as we'd like them to be.
<input type="checkbox"/>	We regularly receive or produce comprehensive reports related to patient eligibility, referrals, or enrollment in CR.

To ensure your reports can help you effectively coordinate patient care you will need to be able to generate reports to monitor the status of individual patients. To assess the impact of your automatic referrals and care coordination processes, you will also need to obtain aggregated information about all of your eligible CR patients. Use Table 6 to assess the specific information you believe your reports will need to include in order to effectively support patients eligible for CR.

**Table 6: Assessment of Data to Collect for Reports**

Check the box that best describes your ability and need to obtain information about eligible patients and your efforts to maximize their referrals to, enrollment in, and completion of CR.

We regularly receive this information	We don't regularly receive this information but obtaining it is a priority	This information is not a priority for us	Level of Information
			<b>Patient-Level Information</b>
			Names and contact information of all patients eligible for CR within a defined time period
			Whether each eligible patient has been referred to your or another CR program
			Whether each eligible patient enrolled in a CR program
			Time between referral and enrollment for each eligible patient
			Number and timing of CR sessions enrolled patients have participated in
			Sex, race and ethnicity of each patient
			Notes on contacts with patient such as reasons for non-enrollment or participation
			<b>Aggregated Information</b>
			Number of eligible patients within a defined period (e.g. month, quarter, year)
			Number and percent of eligible patients referred to a CR program
			Number and percent of eligible and referred patients enrolled in a CR program
			Average and range of time between referral and enrollment
			Average and range of time between enrollment and initial participation
			Percent of enrolled patients completing 12, 24 or 36 CR sessions (or other completion metric)
			Referral, enrollment, and completion rates based on patient sex, race, and ethnicity
			Additional data you consider important for report (please identify)

We regularly receive this information	We don't regularly receive this information but obtaining it is a priority	This information is not a priority for us	Level of Information
			Additional data you consider important for report (please identify)

Use the box below to describe what next steps you need to take in order to obtain reports that will include all the information you think will help you to succeed in your improvement efforts. If you can, identify when the process will start, when it should be complete, and who will be responsible for ensuring the required actions are completed.

**Table 7: Next Steps**



## Assessing How You Use Your Data and Reports:

Data and reports only have value if they are used to help achieve defined goals. Accurate and timely data is the foundation of a successful automatic referral process. And data and reports are also essential to support care coordination and to ensure that your investment in implementing automatic referral and care coordination are achieving desired results.

**Table 8: AR, CC, and Monitoring Assessment**

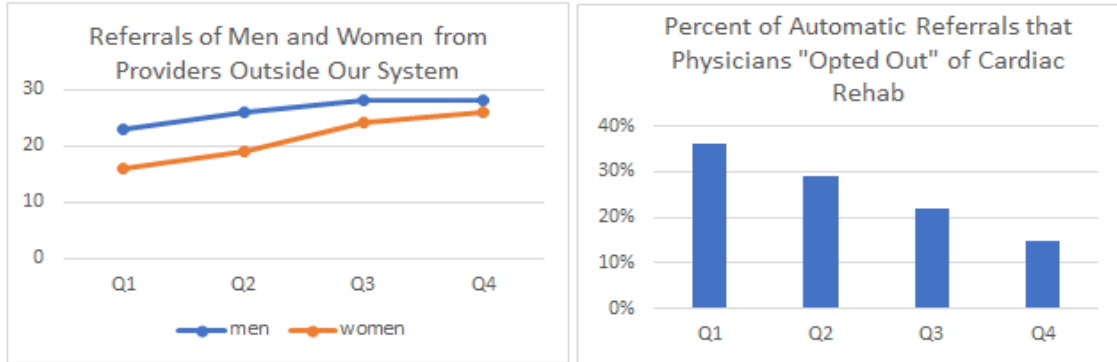
Select the option within each category below that best describes how you are currently using data to support automatic referrals, care coordination, and monitoring.

Automated referrals	
<input type="checkbox"/>	Data currently supports an automated referral process that is in place and working.
<input type="checkbox"/>	Data are used for an automated referral process that is under development or in need of major improvements.
<input type="checkbox"/>	We're planning to use data to implement an automated referral process.
Care coordination	
<input type="checkbox"/>	We have care coordination workflow processes that use data and reports to effectively support our CR patients.
<input type="checkbox"/>	We have care coordination workflow processes, but inadequate data or other factors make our current coordination less effective than it should be.
<input type="checkbox"/>	We don't currently have a structured care coordination system, but we do have the data and reports that effective care coordination will require.
<input type="checkbox"/>	We don't currently have a care coordination system and need to improve the data and reports necessary for care coordination to be successful.
Monitoring	
<input type="checkbox"/>	Reports that track CR program referrals, enrollment, and completion need to be developed.
<input type="checkbox"/>	Reports that track CR program referrals, enrollment, and completion are available but rarely monitored.
<input type="checkbox"/>	Reports that track CR program referrals, enrollment, and completion are regularly reviewed by our CR program leadership.
<input type="checkbox"/>	Reports that track CR program referrals, enrollment, and completion are regularly reviewed by our CR program <b>and hospital</b> leadership.

- Follow up on each of the next steps you have identified above (Table 7).
- Check in with your IT team lead to be sure your IT department will be ready to support the implementation of automatic referral.

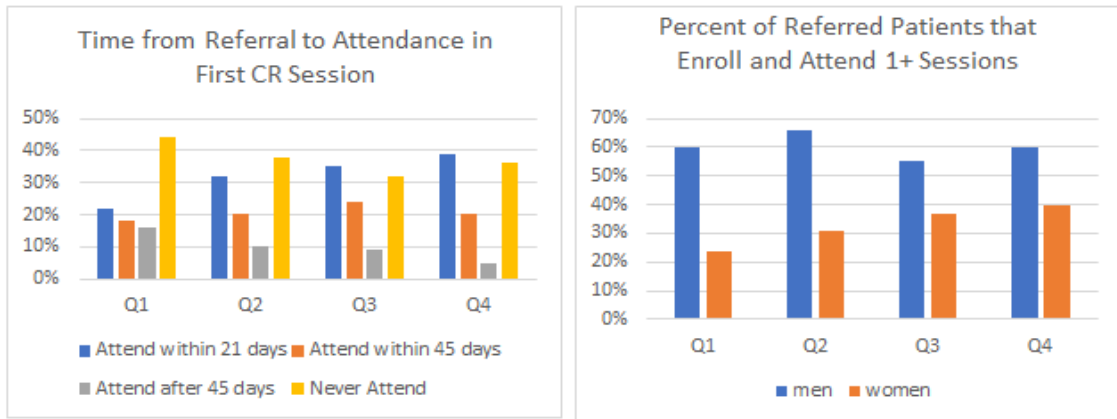
## Sample Data Monitoring Dashboard

**Figure 4: Example Dashboard**



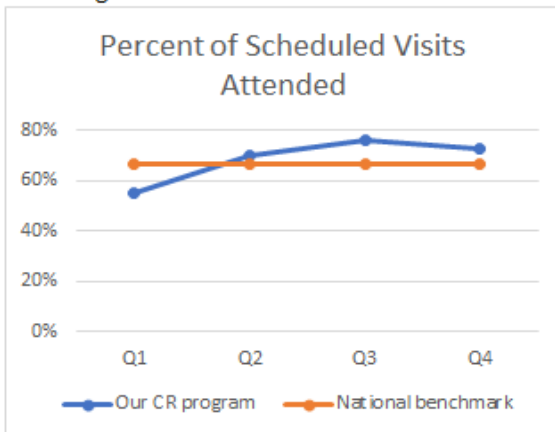
Met goal of 50 external referrals and reduced gap between men and women referred to our program.

Reduced percent of opt-outs from 36% to 15% through improvements to AR system and better communication with cardiologists.



Increased percent of patients attending first CR session in 21 days and decreased percent never attending

Decreased gap in CR participation between men and women from 36% to 24% but further reductions are still needed.



Efforts to improve CR patient attendance have raised the level and increased it above the national benchmark level.

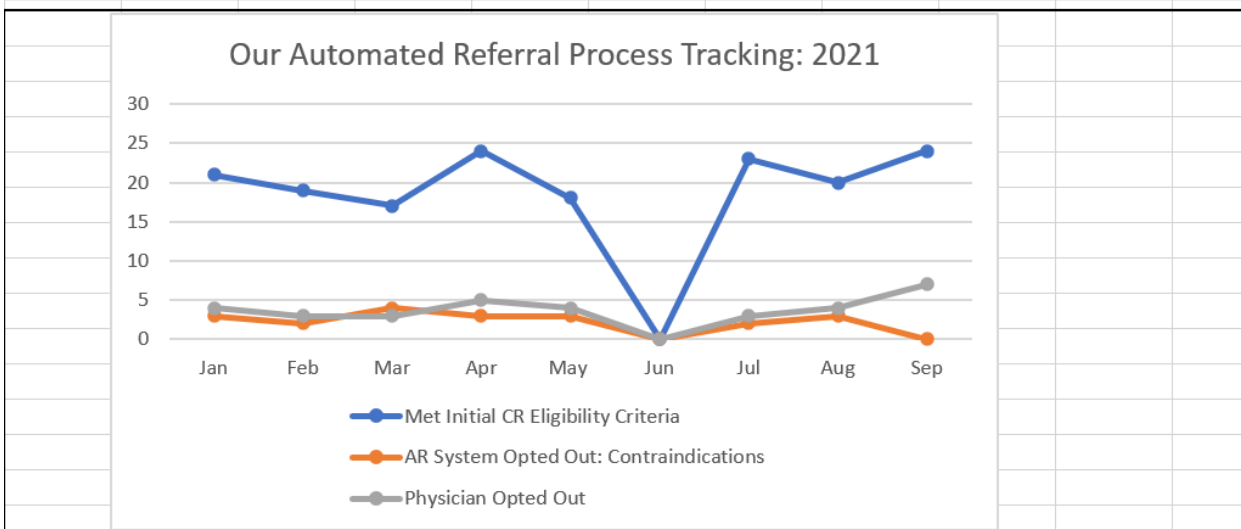
## Sample Reports

### Automatic Referral

**Figure 5: Automatic Referral Report: October 2021**

This sample report tracks five key measures selected by CR program leadership in consultation with hospital leadership supporting the TAKEheart initiative. Automatic Referral with the option for physicians to opt-out patients was implemented in Fall, 2020. Data tracking began in Jan. 2021 and goes through Sep. 2021.

Each table is followed by an explanation of why we are tracking this and comments on

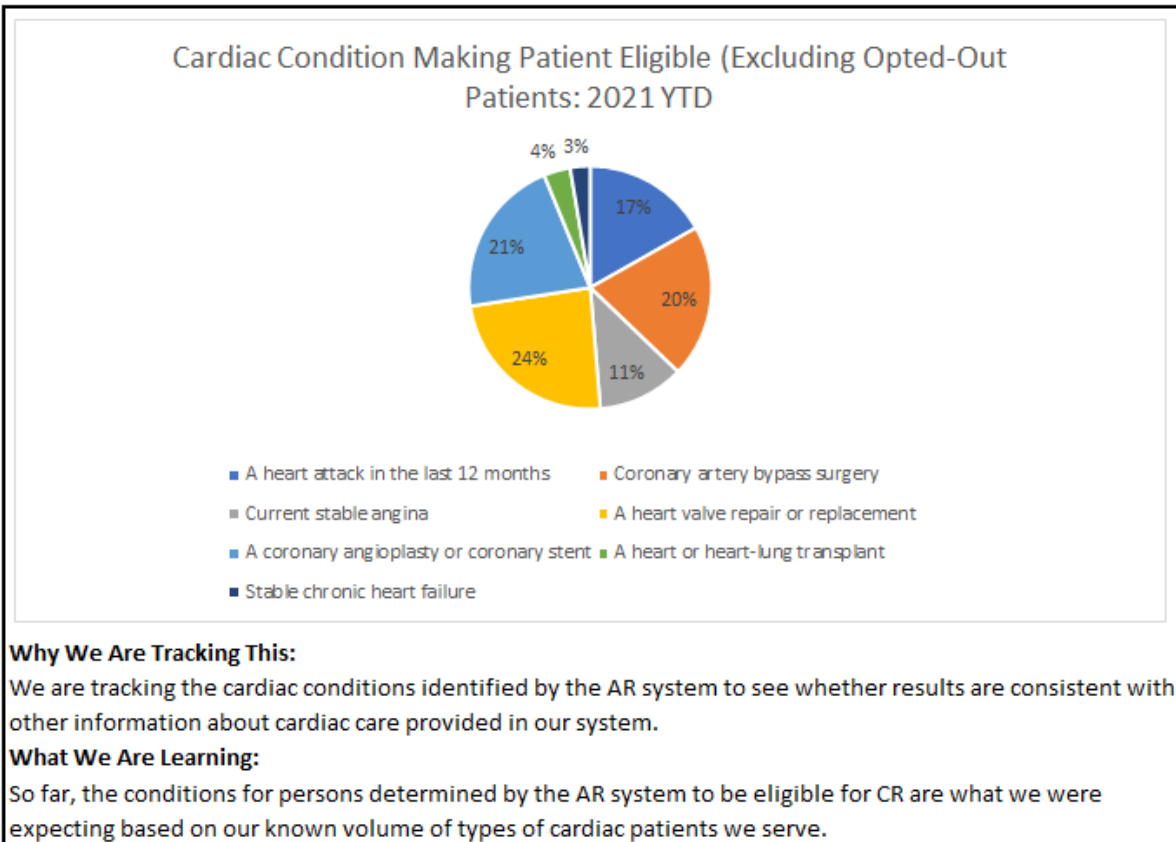
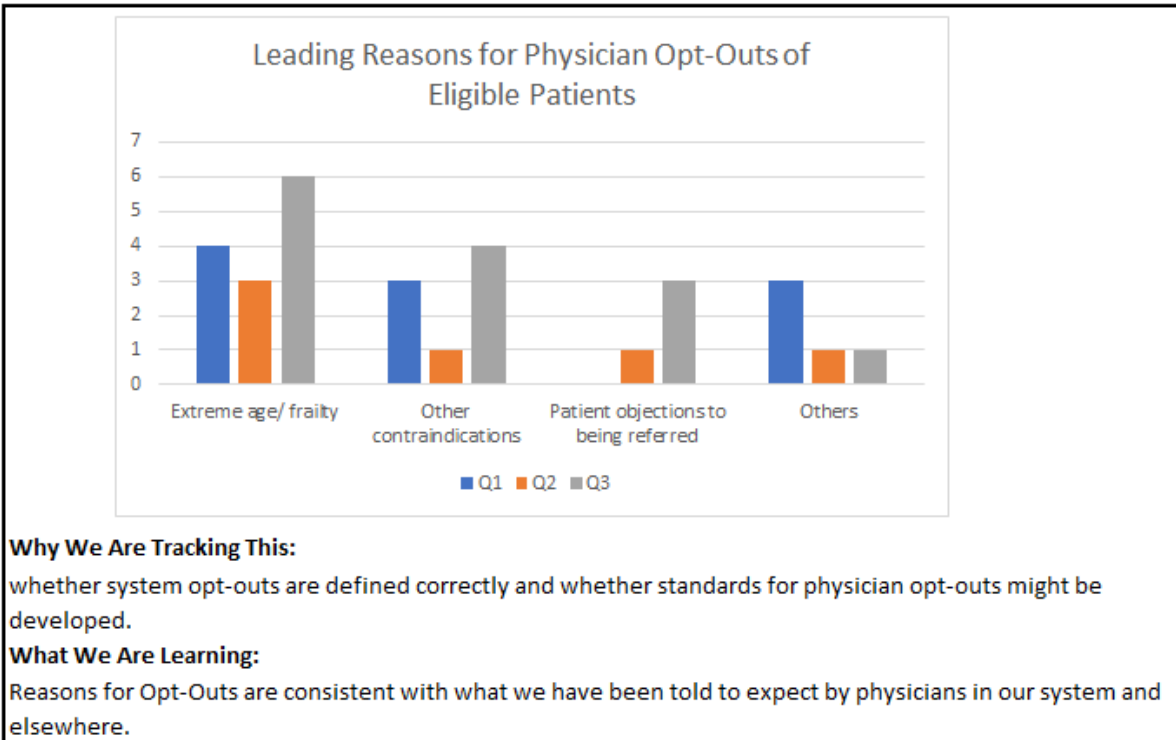


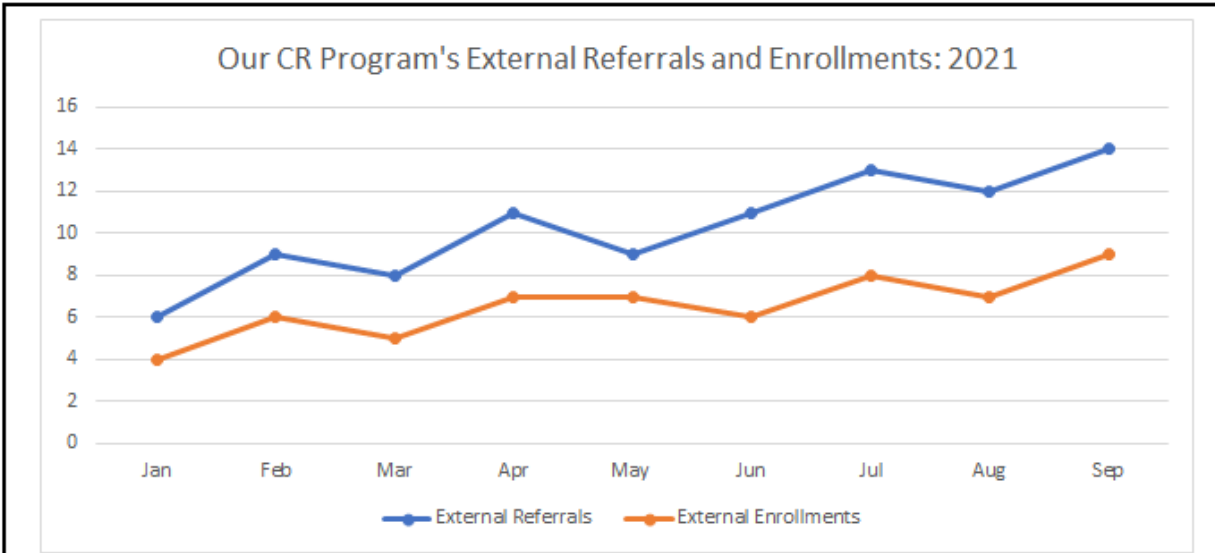
**Why We Are Tracking This:**

We are tracking the number of automated referrals the system is making each month as well as how many eligible patients are being opted-out by either checks built into the system or by physicians. Monitoring this is helping us refine the system and ensure we are gaining physician buy-in.

**What We Are Learning:**

In late May the AR system was inadvertently turned off. The data review alerted us to the problem and it was fixed in late June. We do not understand why the system failed to exclude persons with agreed-on contraindications in Sept. We are working with IT to resolve this issue and have explained the glitch to physicians who were affected by it.



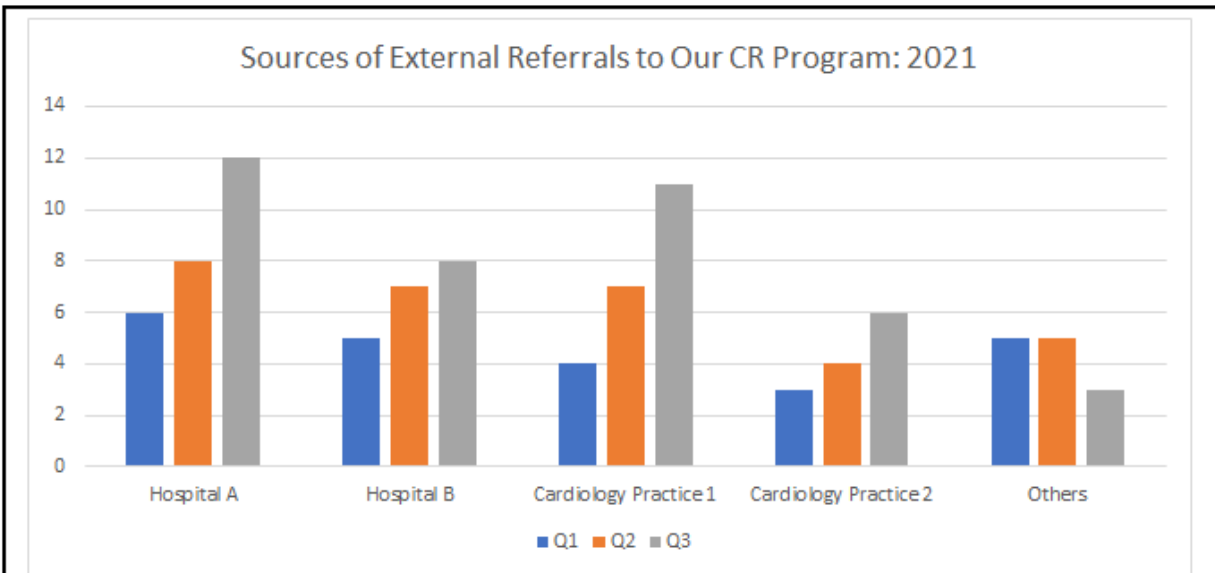


**Why We Are Tracking This:**

While most CR referrals come from within our system, we do not want to neglect the external hospitals and practices that also refer patients to us.

**What We Are Learning:**

Our outreach to these practices has led to a gradual increase in referrals that we continue to work to increase.



**Why We Are Tracking This:**

We want to maintain strong relationships with our leading referral sources so tracking the referrals from top sources is important.

**What We Are Learning:**

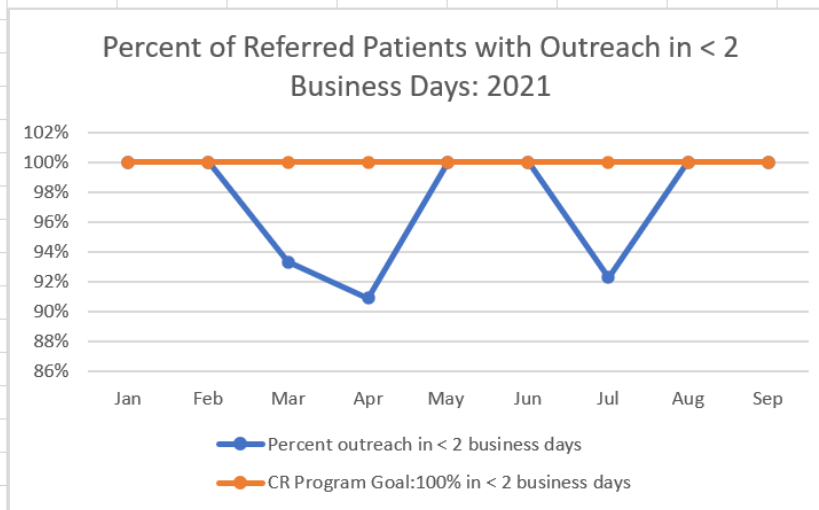
Our top four external referral sources have all increased number of referrals. We are expanding our outreach to smaller sources of referrals to see if their referrals to us can increase.

## Care Coordination

**Figure 6: Care Coordination Report: October 2021**

This sample report tracks four key measures selected by CR program leadership in consultation with hospital leadership supporting the improvement initiative. Efforts to improve care coordination and reduce disparities in participation and success were begun in Fall, 2020. Benchmark data was collected in the last three months of 2020 and data collection

Each table is followed by an explanation of why we are tracking this and comments on results so far.

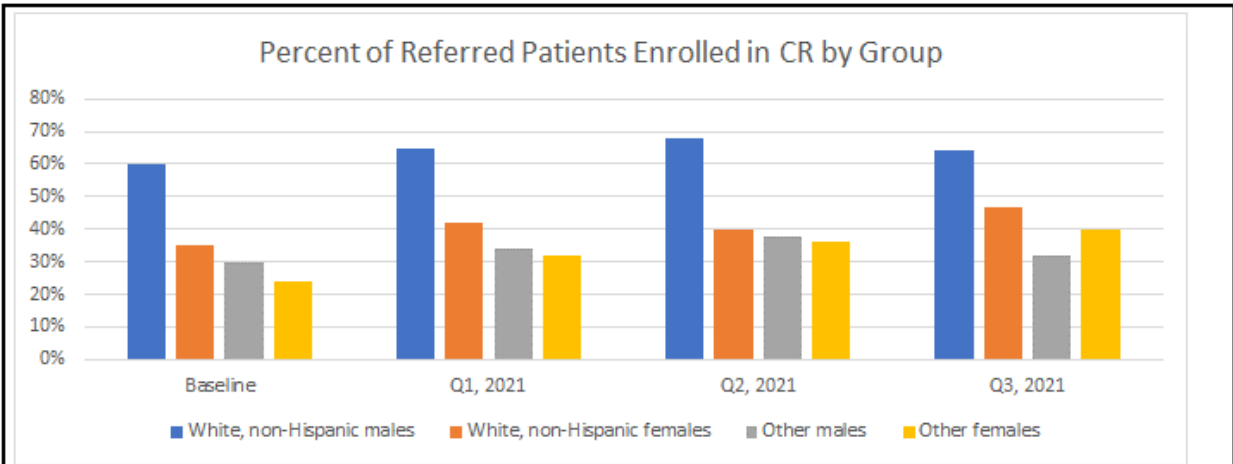


**Why We Are Tracking This:**

Feedback from program staff and cardiologists indicated that we were not always attempting to contact patients immediately after they were referred. Staff set an ambitious goal of attempting to contact every referred patient in less than two business days

**What We Are Learning:**

In the nine months since this 100% goal was set, it has been met six times. In the three months we did not meet this goal, we failed to outreach to one patient in under 2 business days. In each case, staff discussed the reason for this and have adjusted processes to prevent the underlying process failure from occurring again. Cardiologists have reported satisfaction with our improved outreach.

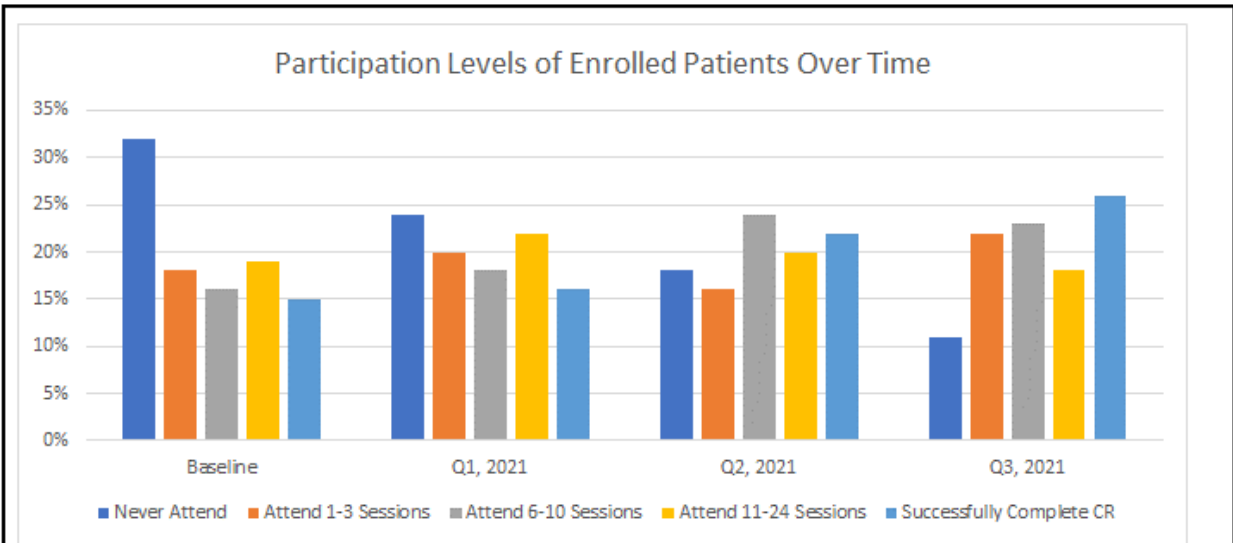


**Why We Are Tracking This:**

Although women and persons of color are less likely to enroll in or complete CR, we believed we could reduce the CR enrollment gaps between white, non-Hispanic males and other groups.

**What We Are Learning:**

Since we made process and outreach changes to increase CR enrollment among eligible patients we have seen an overall improvement. While we are increasing the percent of white women and women of color that enroll in CR, we have not raised the enrollment rates of males of color. We are continuing to explore methods that will improve how well we are supporting this group.



**Why We Are Tracking This:**

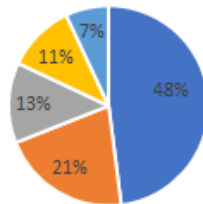
When we compared our program's completion rates to national benchmarks for comparable programs we realized we were below national averages. CR leadership and staff felt that we need to focus our efforts on improving program completion rates.

**What We Are Learning:**

Since we started to focus on this challenge we have substantially reduced the percent of patients that enroll but never attend and increased the percent of patients that graduate from our program. We are now slightly above the national benchmark but are continuing to work to improve graduation rates even more.

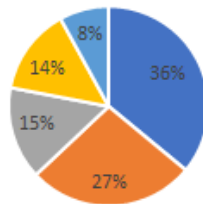


Percent of Male Respondents to Patient Experience Survey Question: My CR program provided me with the support I needed to succeed



■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Percent of Female Respondents to Patient Experience Survey Question: My CR program provided me with the support I needed to succeed



■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

**Why We Are Tracking This:**

Social support and encouragement are important factors that help CR patients graduate and continue to maintain healthy lifestyles following graduation. Because improving the patient experience is a system-wide goal, we are tracking and working to improve how supported men and women CR patients feel in our program.

**What We Are Learning:**

While a majority of both men and women CR patient survey respondents agreed that the CR program supported them, more men strongly agreed with this than women. We are working to understand the reasons for this and to see how we can support women as well as we support men.



## Other Useful Resources:

1. Centers for Disease Control and Prevention. U.S. Department of Health and Human Services. Cardiac Rehabilitation Change Package. 2018. Available at: <https://millionhearts.hhs.gov/tools-protocols/action-guides/cardiac-change-package/index.html>

*The Cardiac Rehabilitation Change Package includes change concepts, change ideas, tools and resources to help hospitals put strategies in place to improve cardiac care for their eligible patients.*

2. Centers for Disease Control and Prevention: Million Hearts. Cardiac Rehabilitation: Saving Lives, Restoring Health, Preventing Disease" 2018. Available at: [https://millionhearts.hhs.gov/files/Cardiac\\_Rehab\\_Infographic-508.pdf](https://millionhearts.hhs.gov/files/Cardiac_Rehab_Infographic-508.pdf)

*The CDC's Million Hearts "Saving Lives, Restoring Health, Preventing Disease" infographic provides an overview of the individual and systemic benefits of cardiac rehabilitation, the common barriers to referral and enrollment, and some potential interventions for reducing this gap.*

3. American Association of Cardiovascular and Pulmonary Rehabilitation. Vital Conversations with Medical Teams & Hospital Administrators About Cardiac Rehabilitation Services Delivering Value Based Care. 2018. Available at: [https://www.aacvpr.org/Portals/0/Million Hearts Change Package/4.24.2018 Files/SC-2-5-CRCP-Crucial Conversations with Med Providers and Hosp Admins.pptx](https://www.aacvpr.org/Portals/0/Million%20Hearts%20Change%20Package/4.24.2018%20Files/SC-2-5-CRCP-Crucial%20Conversations%20with%20Med%20Providers%20and%20Hosp%20Admins.pptx)

*This PowerPoint presentation suggests approaches for presenting the benefits of cardiac rehabilitation to service line medical teams and hospital administration to promote system changes; and discusses referral, enrollment, and adherence strategies to improve the value proposition of CR services.*

4. P.A. Ades, S.J. Keteyian, J.S. Wright, et al. Increasing cardiac rehabilitation participation from 20% to 70%: a road map from the million hearts cardiac rehabilitation collaborative. Mayo Clin Proc, 92 (2) (2017), pp. 234-242. Available at: <http://dx.doi.org/10.1016/j.mayocp.2016.10.014>

*This article highlights two interventions – electronic medical record-based prompts and care coordination – that can increase enrollment in and adherence to cardiac rehabilitation.*

5. S L. Grace, K L. Russell, R D Reid, et al Effect of Cardiac Rehabilitation Referral Strategies on Utilization Rates: A Prospective, Controlled Study. Arch Intern Med. 2011; 171(3):235-241. Available at: <https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/416448>

*This article presents findings that automatic referral combined with a liaison is more effective at increasing CR referral rates as compared with either intervention on its own.*

6. R J. Thomas, G Balady, G Banka, et al. 2018 ACC/AHA Clinical Performance and Quality Measures for Cardiac Rehabilitation. J Am Coll Cardiol. 2018 Apr, 71 (16) 1814-1837. Available at:  
[http://www.onlinejacc.org/content/71/16/1814#targetText=The%20American%20College%20of%20Cardiology%20\(ACC\)%2FAmerican%20Heart%20Association,scientific%20evidence%20into%20clinical%20practice.&targetText=The%20ACC%2FAHA%20Task%20Force,quality%20measures%20from%20performance%20measures](http://www.onlinejacc.org/content/71/16/1814#targetText=The%20American%20College%20of%20Cardiology%20(ACC)%2FAmerican%20Heart%20Association,scientific%20evidence%20into%20clinical%20practice.&targetText=The%20ACC%2FAHA%20Task%20Force,quality%20measures%20from%20performance%20measures)

*This report by the American College of Cardiology summarizes performance and quality measures for cardiac rehabilitation. Its goal is to provide practitioners and institutions with tools to measure quality of care and identify opportunities for improvement.*

7. Institute for Healthcare Improvement (IHI). "Quality Improvement Essentials Toolkit." 2020. Available at: <http://www.ihl.org/resources/Pages/Tools/Quality-Improvement-Essentials-Toolkit.aspx>

*IHI's QI Essentials Toolkit includes the tools and templates to launch a successful quality improvement project and manage performance improvement. These tools include a short description, instructions, an example, and a blank template.*

8. Institute for Healthcare Improvement (IHI). "Aim Statement Worksheet." 2020. Available at: <http://www.ihl.org/resources/Pages/Tools/Aim-Statement-Worksheet.aspx>

*IHI's Aim Statement Worksheet provides guidance around writing an effective aim statement, which delineates clear and specific plans for upcoming improvement work.*

9. Institute for Healthcare Improvement (IHI). "Project Planning Form." 2020. Available at: <http://www.ihl.org/resources/Pages/Tools/ProjectPlanningForm.aspx>

*The Project Planning Form is a useful tool to help teams think systematically about their improvement project, including a listing of the changes that the team is testing, the person responsible for each test of change, and the timeframe for each test. The form allows a team to see at a glance the overall scope of the project.*

10. McNeil, Patrick. "Clinical Champions." Liverpool Hospital. Available at: <https://www.health.nsw.gov.au/wohp/Documents/mc3-clinical-champions-mcneil.pdf>

*This PowerPoint, created by Liverpool Hospital, suggests the roles, responsibilities, and recruitment of clinical champions.*

11. Centers for Disease Control and Prevention. "Million Hearts: Getting to 70% Cardiac Rehabilitation Participation: Action Steps for Hospitals." Available at: <https://www.aacvpr.org/Portals/0/Million%20Hearts%20Change%20Package/4.24.2018%20Files/SC-3-CRCP-MH-Actions%20for%20Hospitals.pptx>

*This PowerPoint, created by CDC's Million Hearts, outlines both clinical and community-based steps for hospitals to optimize their cardiac rehabilitation programs.*

12. Centers for Disease Control and Prevention. "Million Hearts: Tools and Protocols." Available at: <https://millionhearts.hhs.gov/tools-protocols/index.html>

*This webpage, developed by the CDC's Million Hearts, provides tools, protocols, and action guides to improve patients' cardiovascular health.*

13. Health Information Technology, Evaluation, and Quality Center. "Guide to Improving Care Processes and Outcomes in Health Centers: An Approach to Quality Improvement." 2016. Available at: <https://hiteqcenter.org/Resources/HITEQ-Resources/guide-to-improving-care-processes-and-outcomes-in-health-centers>

*This quality improvement approach can be used to augment current QI approaches used in your health center, or can serve as a placeholder QI methodology when there isn't already a robust QI process in place.*

14. TMIT Consulting, LLC. "Clinical Decision Support Quality Improvement Worksheet." 2016. Available at: [http://hiteqcenter.org/Portals/0/pdf/HITEQ%20HIT%20QI%20Guide%20CDS%20QI%20Worksheet\\_Essential.docx](http://hiteqcenter.org/Portals/0/pdf/HITEQ%20HIT%20QI%20Guide%20CDS%20QI%20Worksheet_Essential.docx)

*This tool can help users document and analyze current approaches to specific quality improvement targets and plan enhancements.*

15. American Society for Quality. "Quality Tools." Available at: <https://asq.org/quality-resources/quality-tools>

*This webpage contains various tools, including flowcharts and "fishbone" diagrams, to support quality management and improvement.*

16. Information on AACVPR Data Registry. 2021. Available at [https://www.aacvpr.org/Portals/0/CR-Registry\\_FAQs.pdf](https://www.aacvpr.org/Portals/0/CR-Registry_FAQs.pdf)

*AACVPR presents common guidance on why it is beneficial to participate in the AACVPR Outpatient Cardiac Rehabilitation Registry, including how to subscribe to the program, the cost of participating in the Registry, how data is accurate and secure, and what reports will be available.*

17. Centers for Disease Control and Prevention. Million Hearts: How to Use the Cardiac Rehabilitation Change Package. 2021. Available at: <https://millionhearts.hhs.gov/tools-protocols/action-guides/cardiac-change-package/how-to-use.html>

*The Million Hearts team at the Centers for Disease Control and Prevention presents guidance on how to utilize the change package to prioritize change and measure quality improvement efforts.*

18. Aragam KG, Dai D, Neely ML, Bhatt DL, Roe MT, Rumsfeld JS, Gurm HS. Gaps in referral to cardiac rehabilitation of patients undergoing percutaneous coronary intervention in the United States. *J Am Coll Cardiol.* 2015 May 19;65(19):2079-88. doi: 10.1016/j.jacc.2015.02.063. PMID: 25975470. Available at: <https://pubmed.ncbi.nlm.nih.gov/25975470/>

*This report by the American College of Cardiology summarizes gaps in referral to cardiac rehabilitation for patients undergoing percutaneous coronary intervention.*