

TAKEheart - Troubleshooting Your Automatic Referral System Implementation Guide - Module 7

Purpose and Overview

This implementation guide is designed to help you think through the steps you can take to troubleshoot a successful automatic referral (AR) order set for your hospital/health system.

Please review the Module 5 materials on building an AR order set if your hospital is starting from scratch.

Remember, successful implementation of an AR order set depends on the ability to:

- systematically identify all eligible patients,
- create patient exclusion criteria,
- gather relevant stakeholders to design the EMR specifications,
- secure IT support for programming and testing of the EMR specifications, and
- generate buy-in to promote adoption.

This guide is built on the expectation that you have completed the foundational activities associated with Modules 1 - 5. By the time you reach this point, the hope is you have:

- secured leadership and departmental support for an automatic cardiac rehab referral,
- created a multidisciplinary team with a project champion,
- developed an aim statement and action plan for the project,
- mapped referral workflow processes,
- determined the data necessary to support an automatic referral, and
- created an AR order-set and started to design and/or have started the testing process.

Patients take many paths to reach outpatient cardiac rehabilitation (CR), and as a result, there are many referral patterns. TAKEheart focuses on creating an **AR order set from the inpatient/procedural environment to outpatient CR**. This guide maps out the process for troubleshooting your AR order set utilizing sequential steps the team can follow. The steps include:

- completing the testing of the AR order set in the EMR that you started in Module 5,
- communicating, educating, and supporting Go-Live of the AR order set in your hospital,
- developing your data and feedback monitoring plan to ensure the AR order set is working, and
- how to troubleshoot unforeseen scenarios.

WHO needs to be involved?

Prior modules have discussed the need for and the value of a diverse team. A **common error is to relinquish the design and implementation of the AR order set to the IT department.** As you work on the design and implementation of the AR order set, you need to actively engage the following stakeholders:

- **Executive Cardiac and IT Leadership** must signal the importance of the initiative, their support, and visible involvement.
- **QI Leader** develops the data monitoring and feedback plan, advises on testing plan, and monitors the telephone hotline and email during Go-Live.
- **Data analytics coordinator** manages the collection and interpretation of the measure data to support AR and supports analysis of the data to inform testing correction needs and update the data monitoring and feedback plan.
- **IT staff** should be prepared to quickly update the EMR as the AR order set testing presents bugs. They also provide support during the Go-Live phase.
- **Cardiac Care Providers and Clinicians** will need to undergo training before the pilot testing and their feedback on the testing process should be collected through surveys.
- **CR Champion** develops the Go-Live plan, serve as the liaison between the team and leadership, owns creation of one-page overview document/elevator speech and communication of it, and leads the huddles until the AR order set is successfully implemented.
- **CR clinicians** may be chosen to provide start-up assistance such as helping providers with entering AR orders, ensuring the CR department is receiving the AR orders, and collecting verbal feedback while on the floors helping.
- Collect timely feedback from **CR patients** to determine if the AR order set (paper/email) went to the patient and if the patient received a CR education visit.

It is strongly advised to read through this guide in its entirety before getting started.

Step One: Complete testing of the EMR-based AR order set started in Module 5

Successful AR order set implementation requires multiple and iterative phases of testing. If you are well along in the process, you may start laying groundwork for the testing phase now. Below is a list of suggested activities to build into your timeline as you prepare to roll out your AR order set.



Defining your testing process is outlined in Module 5.

What is bench testing?

- The purpose of bench testing is to verify that your AR order set is working correctly in a secure environment that doesn't risk patient care.
- Refer to *Table 3: Sample Test Cases* in the *Module 5 Automatic Referral Implementation Guide* for examples of various test case scenarios important to test for CR patients.
- Do not proceed to pilot testing until you are certain that you have accounted for all test cases that apply to your CR program and have made the necessary changes needed within the AR order set based on this bench testing.

What is pilot testing?

- The purpose of pilot testing is to verify that the AR order set is performing as expected in a small environment.
- Pilot testing requires the selection of an appropriate unit for testing use cases and some live patients:
 - select a unit that has bought into the idea of an AR order set,
 - pick a unit with patients most likely to have the relevant ICD-10 codes and relevant providers, e.g., cardiologists or hospitalists, to get the volume of orders necessary to test the order set and run a short pre-in-service about what to expect and a quick post-in-service with a short survey to collect feedback for making any updates to the AR order set and/or Go-Live process.
- At the conclusion of pilot testing, huddle with your implementation team to debrief what worked, anything that didn't work, and any updates to the plan and timeline for Go-Live. Remember to get provider feedback as well as any members that "touch" the referral in the CR workflow process. If there are problems, repeat pilot testing before moving to hospital implementation
- The extra time spent testing scenario cases, live patients, and fixing the AR order set in the EMR ensures a smoother and well-received Go-Live process and will likely save time in the long run.

Working to get your AR order set right through the pilot testing phase will prevent needless re-work later.

Step Two: Communicate, educate, and support Go-Live of the AR order set in your hospital

Once you have confirmed that your AR order set works as intended in your EMR, it's time to prepare for the Go-Live phase in which you roll-out the AR order set live within your EMR. Before Go-Live, spend time conducting planning sessions that cover your communication plan, your education plan, and who will provide support in which units and in what manner.

Communicating and Educating the Go-Live Plan

Create a one-pager describing the purpose, value and use of AR

- Develop one-page overview document of the AR order set in the EMR that will serve to educate all involved staff. Ensure that your AR order set message is concise and impactful with more graphics than text. Use plain language to get to the point of what you're trying to communicate about the order set and what they'll expect at Go-Live. See Table 1 One-Page Overview Document template below and Appendix 1 for a sample one-page overview document using the template.

- One-page overview document tips:
 - using the one-page overview document for all your communication/education will ensure standardization of the message therefore ensuring all parties receive accurate information,
 - ensure all members of the team review the document for accuracy,
 - enlist your hospital's marketing and communication department to review/edit/format, and
 - create an elevator pitch directly from the one-page document which is a one-minute speech that colleagues can share when they run into relevant staff who will participate in the Go-Live launch of the AR order set. Use elements within this one-page document for team members to share with colleagues, informally, as they run into them on the unit, at meetings, in the hallway, etc., It's the team's job to communicate the plan to all involved. See key resource 3 on page 14 for a one-minute elevator speech template.

- Communicate one-page overview document and elevator pitch:
 - email one-page overview to all relevant departments and stakeholders,
 - get a slot at unit and department meetings to discuss the initiative in five minutes or less, allowing time for questions, and requesting posting of the one-page overview in staff breakrooms, etc., and
 - have all team members memorize the elevator pitch to use when running into staff who need to be made aware of the project. "Hi Lisa, how are you doing? Did you know that we're rolling-out...?"

Table 1: One-Page Overview Document template.

Title of QI Initiative	Create an informative title so stakeholders will understand the project.
Objectives of QI Initiative	What results must your hospital accomplish by the date in your aim statement? Create 2-3 bullet points
Goals of QI Initiative	How will progress toward objectives be measured quantitatively? Create 2-3 bullet points with a measure for automatic referral and a measure for care coordination . Use your aim statement to complete .

Strategy	
Employee Action	What will each staff type do? Create a bullet point for each staff type.
Training Modality	Determine modality based on difficulty of employee action . If a simple action , compile handout or 2-minute video guide. If more complicated , create longer, detailed video and/or webinar. Regardless of modality, have clinicians attest to education.
Scheduled AR Order Set Go-Live Date	The date that the new practice is set be turned on in the EMR.
Key Contacts for this QI Initiative	Give details as to who will do what and give contact information . Providers and staff learning a new practice should have clear guidance as to who to communicate with for what problem. If the contact isn't available to assist the provider, s/he will get frustrated and give-up and/or become irritated by the new practice.

Staff Training

Staff training and re-training is an essential need for all professionals, including those who work in, or support, your CR program. Implementing AR will affect both WHAT staff need to do as well as HOW MUCH work and time may be required to do it. In some cases, changes you make to your workflow processes may affect WHICH staff are responsible for specific tasks as well as WHEN some tasks need to be performed.

While your training may need to address many process changes, make sure you're addressing at least the four issues identified here. For each issue, **have a clear plan for WHO needs to receive this training, WHEN you will provide the training, HOW you will provide the training, and WHAT the training should contain.**

- Training for CR staff coordinating the care of patients who have been referred on how to use the data systems you've created. Your AR system should identify and refer more patients eligible for CR. Staff will need to know how to obtain information about each patient who has been referred, including the name of patient's clinician, whether the patient has been contacted, and what their initial response is. Ideally, staff will obtain this information while the patient is still in the hospital since follow up is much easier. You may want to have this training led by a peer that understands these processes since they'll be better able to communicate and encourage your other staff.

- Training for staff responsible for tracking the overall success of the automated referral system in capturing and referring all eligible patients. Someone -probably from program leadership -- will likely need to be taught how to obtain or generate aggregate reports on key metrics (see STEP 3 below) and how to use the information in these reports to track overall progress and success. While a single person may typically do this in your program, you should make sure at least two people are trained and capable of accessing and using these reports, so you have a backup.
- Training for staff responsible for interacting with the clinicians and practices whose patients have been automatically referred. CR program staff need to be equipped to discuss the AR process with clinicians who are unfamiliar with the process and be ready to answer questions or respond to objections. You may want to provide these staff with a script to guide their conversations about automatic referrals, a set of frequently asked questions, a one-pager description of AR, and written guidance on what to do if the clinician has questions or concerns that the staff person is unable to answer.
- Training for other stakeholders. As you plan for AR rollout, try to identify who the stakeholders are outside your CR program staff who may be affected by AR implementation. This could include clinicians caring for eligible patients, their practice managers or nurses, social workers in the hospital, care ambassadors, or others. If this list is small and you work closely with them already, you may be able to handle training informally. This could be as simple as a short conversation about what AR will do and why it's being done. However, if more people are involved and AR may affect how they interact with the patients or your CR program, you may want to provide them with the one-pager or other resources and arrange to talk with the set of affected people to explain AR and any relevant process changes. If you've included representatives of these stakeholder groups in your planning team, you should work with them to develop these training materials and to provide any necessary training.
- Ensure each member of your team knows their role to both prepare for and manage the Go-Live plan.
- Staffing tips:
 - ensure no member of the team will be on vacation during the training period, engaged with another project, etc.,
 - if able, have back-up staff for all roles, just in case, and
 - have team members come in earlier than their usual start time on Go-Live day to be ready for the start time.

Training Tips:

- Look on the initial training as an opportunity to review workflow processes with the staff that are affected by them. **If you are both listening and explaining, you may get good ideas for further adjustments that can make our AR system work even more effectively.**
- Document your training activities and content. **Staff turnover is inevitable and at some point, you'll need to train new staff to perform AR-related activities that current staff**

are doing. If you take the time to document and store all your training materials and activities, you'll be better prepared to orient new employees when the need arises.

- **Don't forget the WHO and the WHEN.** Particularly if you've changed when some activities occur or who is responsible for them, you'll need to call attention to these changes to avoid confusion and frustration.
- **Don't neglect TIMING and STORAGE.** Adults benefit most from training they receive shortly before they need to begin using it. If you train staff and then have delays in the role out of your AR system, they may forget key information before they can begin using it. If that happens (which it may), you may want to do a short refresher training when rollout begins. But you'll also want to store the training materials or information in a location where staff can find it when they need to. There is no one best way to store information for staff. During the training you can ask them: how can we store the information we've just discussed so you'll be able to retrieve it in the future? The act of discussing where the information will be stored will help staff remember its location. Periodically in staff meetings you can also ask staff where to find the training information (or even offer a small prize for the person that can find it first). These activities both reinforce the importance of the AR processes you've been training them to use and help current and new staff to retrieve information they need to keep your AR system working effectively.

Go-Live launch

- Send reminder emails hospital-wide, 1-week and 24 hours before Go-Live.
- Confirm staff and process for providing support:
 - Two onsite **elbow staff** per unit to assist with entering AR order set. One will be IT and the other will be a CR staff person. Elbow means they assist at the elbow of the staff trying to enter the AR order set.
 - Ensure representation on all shifts.
 - Ensure live coverage for hotline telephone number for first 24-48 hours.
 - Ensure the email box for questions is monitored to ensure a timely response.
 - Set-up a team group email for sharing key updates during the Go-Live.
 - Plan AR Implementation Team mid-day huddles (in-person <calendar ahead of time to prevent double-booking> or via group email text) until AR order set is implemented. If in-person, post unit signage to alert clinicians that the team is off for brief {1 5-minute) huddle.
 - If allowable, buy and distribute snacks for Go-Live units as well as delivered meals for launch team to avoid staff leaving their posts.

The table below is an overview of the most common errors in EHR implementation contributing to practice disruption from Qualis Health's *EHR Implementation with Minimal Practice Disruption in Primary Care Settings: The Experience of the Washington & Idaho Regional Extension Center.*

Table 1: The Most Common Errors in EHR Implementation Contributing to Practice Disruption

Type of Error	Detailed Description
Leadership Issues	<ul style="list-style-type: none"> • Lack of unconditional leadership support with the skills, knowledge and engagement to manage the project. • Poor decision-making structure, or the wrong people in leadership to drive the health IT project. • Lack of good bi-directional communication between leadership and staff. • Failure to understand of the principles of change management.
Workflow Issues	<ul style="list-style-type: none"> • Failure to understand the overwhelming importance of workflow in determining productivity, and inadequate workflow mapping prior to go-live. • Failure to set up an "easiest way" to see patients and document visits prior to go live. • Failure to assign specific roles for data gathering and data entry. • Failure to do a full walk-through to identify gaps, bottlenecks and optimal location of devices to support workflows.
Provider Issues	<ul style="list-style-type: none"> • Absence of a strong clinical champion. • Failure to have full provider support for the project or provider participation in the selection process including which devices to use. • Failure of providers to understand their role in utilizing the EHR leading to counterproductive physician behavior such as not attending user training and lack of cooperation or participation in workflow redesign efforts.
Training Issues	<ul style="list-style-type: none"> • Underestimation of the amount of training required. • Failure to time the training to when users can optimally absorb it. Too much training takes place before users have a context to understand it. • Failure to assure that providers actually complete training. • Failure to have a full dress rehearsal before go-live. • Failure to provide sufficient real-time support during go-live when the risks are greatest, the learning potential is highest and when staff need training the most.
Data Interface Issues	<ul style="list-style-type: none"> • Failure to build, test and implement all essential interfaces for lab and imaging prior to go-live. • Failure to migrate the right information from legacy systems and paper records into the EHR.
User Interface Issues	<ul style="list-style-type: none"> • Failure to properly configure essential EHR features required for patient care, and to assure they are properly turned on and tested. • Failure to create and test tools such as charting templates and preference lists needed to see patients, place orders and document visits. • Failure to organize charting tools so care team can easily find them. • Failure to limit the amount of customization prior to go-live. • Failure to plan for prioritizing fixes and customization for system optimization after go-live.

Step Three: Developing a data and feedback monitoring plan

Module 4 focused on data and gave you the knowledge and tools to create and pull measures on a regular basis to determine the number of referrals created when and by whom. Recall that the QI Leader role is tasked with developing the data monitoring/feedback plan and advises on the testing plan. Lessons learned from the testing phase and the Go-Live phase may flag areas of the CR process and AR order set that should be monitored for break-down. For instance, did a specific unit have a problem entering the AR order set during Go-Live? You

may want to build-in daily/weekly evaluation of that unit's data on AR order set completion with a feedback loop to ensure they don't fall behind and stop using it.

The three steps to develop your data and feedback monitoring plan include work in the following areas:

- **availability and transparency of referral-related data,**
- **reviewing the data: how often and by whom, and**
- **work transformation and continuous feedback.**

Step 1: Determine your hospital's availability and transparency of referral-related data

Table 2: AR Indicators/Measures.

Indicator Name	Description	Numerator/Denominator
Referral Initiation	Proportion of clients referred from initiating service	$\frac{\# \text{ Of clients referred from initiating service}}{\# \text{ Of clients seen at initiating service}}$
Referral Completion	Proportion of referred clients that complete referral at receiving service	$\frac{\# \text{ Of referred clients seen at referring service}}{\# \text{ Of clients referred from initiating service}}$

United States Agency for International Development . *The Referral Systems Assessment and Monitoring (RSAM) Toolkit*. April 2013. Available at: [https:// www.measureevaluation.org/resources/publications/ms-13-60.html](https://www.measureevaluation.org/resources/publications/ms-13-60.html)

- What data will you collect to ensure you're tracking key processes of the full completion of the AR order set from the patient being ordered CR all the way through the patient arriving and completing the first CR appointment?
- Is the data able to be programmed into the EMR easily and accurately to build one of the measures in Table 2 OR will you have to use manual chart review to extract your data to compile a measure?

Step 2: Determine who will review the data and how often

- Now that you've sourced your data and configured it into a measure to be extracted either by the EMR or hand-counted by staff completing manual chart reviews, you need to determine how often to get the data for this measure or measures and with whom to share it.
 - Shortly after Go-Live, collect your measures more frequently, weekly, or even daily, to catch any major errors occurring in the process. As the process becomes stable and performing as intended, you can collect measures monthly or quarterly. If measure results show a breakdown in the process, revert to more frequent monitoring as you investigate and intervene to correct the process.

- o Who will you share the measure results with? Make a list of all relevant AR stakeholders to determine how, where and when you'll share measure results.
 - The data monitoring team led by the QI lead will determine which stakeholders need access to measure results and builds the report to accompany measure results.
 - Create measure dashboards that allow for drill-down features to unit and provider level but ensure only senior level line chiefs have access at the provider level. Some may want full transparency of all provider results, but that is dictated at the senior level leadership of each service line.
 - Schedule time at monthly provider meetings to share provider results by unit to the chief medical officer and line chief. Deliver the relevant report and dashboard to them one-week before the meeting so they may plan for the discussion and intervention, allowing for the time to review and determine if improvement is needed or a congratulate for a job well-done.
- o Quality improvement is a continuous process dictated by measure results and accompanying improvement or lack of improvement. Let the measure results guide you towards what areas to focus on for data tracking.
 - Monitor AR process for behavior changes and examine user-level data.
 - Gather information from staff, identifying steps in process that show resistance to change, and providing helpful user-level feedback.
 - Identify reasons for provider opt-outs/workarounds.
 - Work with IT to make any necessary adjustments.

Step 3: Develop and operationalize your continuous feedback loop and work transformation plan

- There needs to be a continual QI approach with staff to demonstrate how the AR order set and process has decreased provider workload.
- Providers need to see their data on a regular basis to see the increase in CR referrals and that it's benefitting the patient.
- Leadership stakeholders may better buy-into the AR order set if a financial and/or quality of care case can be built.
 - o Institutional loss of patients referred to CR is revenue leakage.
 - o Patient approval of and satisfaction with CR is high.
 - o CR is a crucial component of providing value-based care.
 - o There is a risk of poor patient outcomes if these cardiac patients could have used CR to become healthier therefore, potentially, preventing increased ED use/readmissions which lead to poor quality of care metrics, and possible reductions in revenue.
- Measured results don't always motivate providers to change practice on their own.

- o Sometimes data-sharing amongst providers allows for a friendly competitive spirit to motivate practice change.
- o Sometimes clinicians need a powerful patient story to motivate practice change. Build the case for AR with a story that emphasizes why AR is important.
- o Some providers are satisfied with monetary reimbursement based on achieving certain measure scores while others will need coaching from QI or IT staff on how to respond to AR and how to improve referral rates.
- o Some providers may need a refresher course on the value of CR and its role in providing comprehensive CV care.
- Manage the process to move any paper AR referrals to automated EMR AR and keep communicating and assessing the process, if change is slow, until the changes are completed.
- Give all stakeholders (leadership, providers, clinicians, CR staff) the opportunity to reflect on the findings, explain/react to observed trends, and make future recommendations for system improvement based on evidence.
 - o Solicit periodic staff surveys about the AR process (i.e., what's working/not working).
 - o Solicit feedback at key provider meetings such as rounds, service line, etc.
- Operationalize the process to account for staff who leave and the onboarding of new staff.
- Adjust policies and procedures as needed to account for changes in processes.

Remember, the key to maintaining process change is continuous quality improvement.

Step 4: How to troubleshoot unforeseen scenarios

Problems may arise even after following all the steps and planning a well-thought out Go-Live for implementing your AR order set. Table 3 lists out the most common potential problems with interventions that may happen with your AR order set process.

Table 3: Potential problems and interventions with your AR order set process.

PROBLEMS	INTERVENTIONS
<p>My automatic referral isn't working like I thought it would in EMR.</p>	<ul style="list-style-type: none"> • Have you accurately captured your workflow processes in Module 3? • If you're confident workflow processes are accurate, has the order set been correctly programed into EMR? • Each of you may build the AR order set a bit differently but the following are some areas to check:

	<ul style="list-style-type: none"> o Accuracy of ICD-10 codes o When using a BPA or best practice advisory, if a grouping of ICD-10 codes appears in EMR, CR is suggested to be ordered. This can be a pop-up which can lead to pop-up fatigue and provider may blow past without ordering. o If using a default order set or discharge smart set, are providers able to work around these orders? Are providers able to skip or opt-out of these orders? o Some systems may use a reflex or cascading order that is suggested by the EMR based on other comparable medical orders (e.g., an EKG was ordered triggering a suggestion of CR). <ul style="list-style-type: none"> • There are usually multiple ways to build an order set in an EMR, so your IT and team needs to determine the best order set type for your hospital providers.
<p>How do I know if the referrals are increasing or decreasing?</p>	<ul style="list-style-type: none"> • Have you collected baseline data on referrals? Baseline numbers and referral reports should be created before you implement a new AR order set. • Have you developed a data monitoring and feedback plan? • How often are you checking the data/sharing data with stakeholders? • Have you created AR order set reminders (e.g., newsletters, discussion at rounds, at the elbow reminder cards, etc.?)
<p>My automatic referral is working, but my referral numbers are not increasing.</p>	<ul style="list-style-type: none"> • Go back to your baseline workflow analysis. Is your new AR build aligning with how providers are using the system? • Do you need to rethink your design and work with your EMR Team on changing to build? Is this build the best option for AR in my organization? • Is there any additional technology available I have not considered?

<p>Providers seemed to have developed a work-around/opt-outs and we're not getting referrals.</p>	<ul style="list-style-type: none"> • Does your AR order set match the provider workflow? • Have you tested the process with test patients both in the EMR and with patient education about the referral? • Have you communicated with providers your desired goal and discussed the obstacles they are facing in the AR process? • Do providers need education that CR is beneficial?
<p>The wrong patients are getting referred.</p>	<ul style="list-style-type: none"> • ICD-10 codes used to build order set? <ul style="list-style-type: none"> ○ Check your ICD-10 diagnosis, procedure, and CPT codes to determine if what was programmed into the order set is what was intended. ○ Have you fully specified the ICD-10 codes? ○ Have you built-in exclusions accurately? ○ Do providers agree with codes? • If using a default or alert order set, is it showing-up for the provider? <ul style="list-style-type: none"> ○ Are providers ignoring the order? Use your survey to determine why.
<p>Everything seems to be working but goes bad when patient refuses.</p>	<ul style="list-style-type: none"> • Is the provider writing timely CR orders so that the patient can receive education about CR before discharge? • Have you built an EMR alert to send to providers when an eligible patient refuses CR for any reason?

Appendix

Appendix 1: Example of one-pager document

Title of QI Initiative: Example: *Improving Cardiac Rehabilitation through Automatic Referral and Care Coordination.*

Objectives of QI Initiative: Example:

- Increase volume of patient referrals.
- Incorporate care coordination into automatic referral process.

Goals of QI Initiative: Example:

- Build patient volume by 25%
- By X date 45% of patient referrals will be seen by a care coordinator to inform the patient of AR being ordered.

Strategy:

Employee Action: Example:

- Providers will enter a cardiac rehabilitation order for each patient flagged during discharge order completion.
- Cardiac rehabilitation staff will monitor orders to determine which patients to visit to explain the program to and hand them a referral letter.

Training Modality: Example:

- One-page guide as to how to order cardiac referral in EMR. This will be pushed-out to relevant staff via email with an attestation required at the end of the document.

Scheduled AR Order Set Go-Live Date: Example:

- January 17th through January 21st, 2022

Key Contacts for this QI Initiative: Example:

- Project Champion: Florence Nightingale; fnightingale@hospital.com
- Elbow staff:
 - Monday : 7:00am-12:00am
 - Tuesday : 7:00am-12:00am
- Hotline number for the first 48 hours (staffed 2h hours for first 48 hours): 1-888-888-8888
- Email for the week for questions: cardiacrehab@hospital.com You will receive an answer within 2 hours .

Key Resources

1. Journal of the American medical Informatics Association. "Testing electronic health records in the 'production' environment: an essential step in the journey to a safe and effective health care system." Available at: [https:// www.ncbi.nlm.nih.gov/pmc/ art icles/ PM C52011 79/](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5201179/)

This article proposes how to safely incorporate testing in production into current EHR testing practices, with suggestions regarding the incremental release of upgrades, test patients, tester accounts, downstream personnel, and reporting.

2. Million Hearts. "Cardiac Rehabilitation Communications Toolkit ." Available at:
<https://millionhearts.hhs.gov/partners-progress/partners/cardiac-rehab-toolkit.html>

This communications toolkit will equip your health system or practice with resources and messages to spread awareness about the value of cardiac rehabilitation and solutions for increasing participation.

3. HSAG HQIC. "One-Minute Elevator Speech Template." Available at:
<https://www.hsag.com/globalassets/hqic/hqicminelevatorspeechtemplate.pdf>

A template for developing an elevator speech which is a short, concise, and persuasive synopsis of your proposed project.

4. The HCI Group. "EHR Go-Live: The Definitive Go-Live EHR Implementation Guide." Available at:
https://www.himss.eu/sites/himss.eu/files/education/whitepapers/HCI%20Go-Live%20eBook_edit.pdf

A white paper that details out step by step how to prepare for an EHR implementation, many of which are applicable to AR order set implementation.

5. Qualis Health. "EHR Implementation with Minimal Practice Disruption in Primary Care Settings: The Experience of the Washington & Idaho Regional Extension Center." Available at:
<https://www.healthit.gov/sites/default/files/ehr-implementation-wirec.pdf>

A white paper that describes the implementation errors that result in financial loss, practice disruption and patient safety issues and how they pertain to leadership, workflow, provider engagement, training, data interfaces and the user interface.

6. Online Journal of Nursing Informatics Contributors. "Your Data Looks Good on a Dashboard." Available at: <https://www.himss.org/resources/your-data-looks-good-dashboard>

This article is an overview of dashboards and a how-to on constructing simple dashboards.

7. Netherlands Heart Journal. "Patients who do not complete cardiac rehabilitation have an increased risk of cardiovascular events during long-term follow-up." Available at:
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7431499/>

This article details that Cardiac rehabilitation (CR) has favorable effects on cardiovascular mortality and morbidity. Therefore, it might be reasonable to expect that incomplete CR participation will result in suboptimal patient outcomes.

8. Health Data Storytelling. "From Numbers to Narrative." Available at:
<https://healthdatastorytelling.com/numbers-to-narrative-guide/>

A practical guide to bringing health data to life through storytelling.

9. American College of Cardiology. "Cardiac Rehab Information for Physicians Webinar Series." Available at: <https://www.acc.org/membership/sections-and-councils/prevention-of-cardiovascular-disease-section/section-updates/2018/10/30/15/57/cardiac-rehab-information-for-physicians-webinar-series>

A series of five webinars designed to provide physicians, particularly those who are Medical Directors of Cardiac Rehabilitation Programs, with the didactic knowledge they need to optimize care for patients within cardiac rehab programs. Dual CME/MOC credit is available.

10. Lake Regional Health System. " Cardiopulmonary Rehabilitation - Presentation for Board of Trustees" slide deck. Available at :

<https://www.aacvpr.org/Portals/0/MillionHeartsChangePackage/4.11.2018%20File/SC-4-CRCP-LRHS-Board%20Presentation.pptx>

Cardiac Rehabilitation Change Package (CRCP) offering.

11. Lake Regional Health System. " Cardiopulmonary Rehabilitation Update to Department Managers" slide deck. Available at :

<https://www.aacvpr.org/Portals/0/MillionHeartsChangePackage/4.11.2018%20File/SC-6-CRCP-LRHS-CR%20for%20Dept%20Managers.pptx>

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14. University of Michigan's Center for Value-Based Insurance Design. "Million Heart's Value-Based Insurance Design Opportunities for Cardiovascular Disease Prevention and Management" webinar. Available at : <https://vbidcenter.org/million-hearts-webinar/>

Million Heart's webinar in which Dr. A. Mark Fendrick spoke to attendees alongside Dr. Michael Rakotz, Dr. Randal Thomas, and Dr. S. George Kipa about value-based insurance design and how it may be used to increase use of high impact and evidence-based cardiovascular disease preventive and management services.

15. American Association of Cardiovascular and Pulmonary Rehabilitation. "Getting to 70% Cardiac Rehabilitation Participation : Action Steps for Hospitals" slide deck. Available at:

<https://www.aacvpr.org/Portals/0/Milli on%20Hearts%20Change%20Package/4.24.2018%20Files/SC-3-CRCP-MH-Actions%20for%20Hospitals.pptx>

Overview slide deck for using to illustrate what cardiac rehabilitation is and why it's important.