TAKE heart

AHRQ's Initiative To Increase Use of Cardiac Rehabilitation

Hybrid Cardiac Rehabilitation (HYCR) Expanding Capacity Implementation Guide

DEPARTMENT OF HEALTH & HUMAN SERVICES • USA

AHRQ
Agency for Healthcare Research and Quality

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SECTION I: Introduction

Overview

Successfully supporting the maximum number of eligible cardiac rehabilitation (CR) patients may require offering CR outside the traditional facility-based program. This Implementation Guide provides actionable guidance for programs interested in offering hybrid cardiac rehabilitation (HYCR) to complement existing facility-based CR (FBCR).[1, 2]

The Implementation Guide contains the following sections:

1. Introduction
2. Assessing Service Needs and Capacity, Feasibility and Financial Viability
3. Engaging Stakeholders and Obtaining Buy-In
4. Infrastructure Considerations
5. Start Up
6. Operating a HYCR program
7. Tracking Outcomes

There are two companion documents to this Implementation Guide:

- The **Hybrid CR Resource Guide** contains publications, tools, and other resources.
- **Understanding and Implementing HYCR** is a slide deck that provides an overview of key implementation issues suitable for sharing with stakeholders in your organization**.**

> Throughout this document, Resource Guide materials are referenced by section number and letter to make location easier. For example, RG 4F references an example in the Resource Guide contained in section 4F.

[1] While the primary audience for this Guide is those who run hospital-based CR programs, it may also be relevant to staff of programs operated by physicians' practices. However, discussions of financial issues and billing may not apply to non-hospital-based programs.

[2] This Implementation Guide and the accompanying Resource Guide emerged from the TAKEheart Hybrid Cardiac Rehabilitation Workgroup which met for six months. It was comprised of fourteen participants involved in starting or operating a hybrid CR program. We gratefully acknowledge the contributions of Workgroup members Caitlin Coppenrath, MS, CEP, Ashley Eckroate, BSEP, TTS, CCRP, Jeanmarie Gallagher, MBA, RCEP, Anne M Gavic-Ott, MPA, RCEP, MAACVPR, Phyllis Hyde, BS, Shelly McCabe, RCEP, CCRP, GAACVPR, Melissa McMahon, MS, ACSM, EP-C, Drew Oehler, MD, Patrick Schilling, RCEP, CCRP, David Shippon, MD, Kate Traynor, RN, MS, MAACVPR, Thomas Vidal, CEP, Jonathan Whiteson, MD, Vicky Yandle, DNP, MSN, RN, CCRP as well as Workgroup co-chair Steven Keteyian, PhD and Karen Lui, RN, MS.

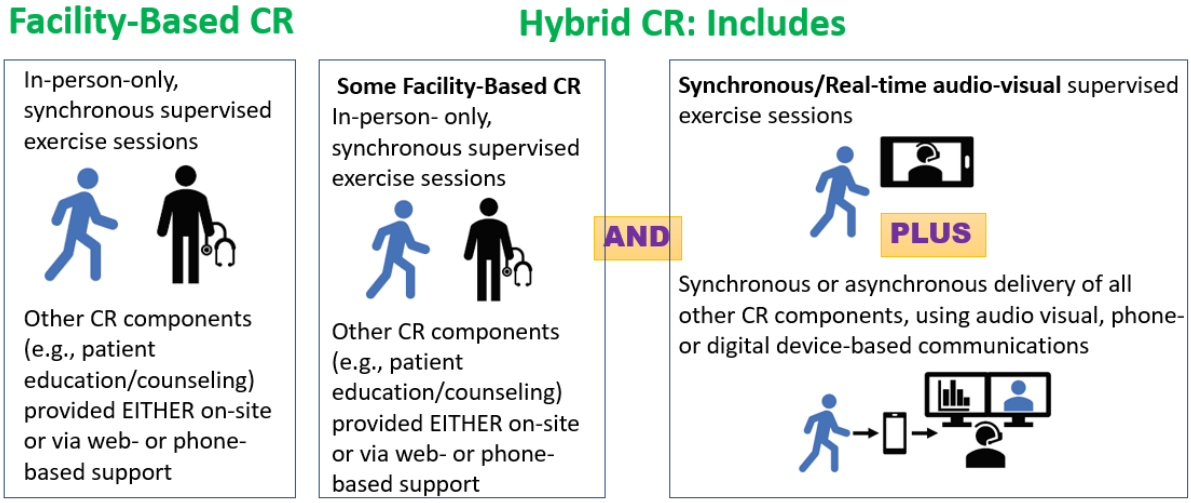
Figure 1: List of Acronyms

Term	Abbreviation
AACVPR	American Association of Cardiovascular and Pulmonary Rehabilitation
AMI	Acute myocardial infarction
CR	Cardiac rehabilitation
EKG	Electrocardiogram
EHR	Electronic health record
FBCR	Facility-based cardiac rehabilitation
HYCR	Hybrid cardiac rehabilitation
ICD	Implantable cardioverter-defibrillator
ITP	Individual Treatment Plan
LVAD	Left Ventricular Assist Device
PCI	Percutaneous coronary intervention
PHE	Public Health Emergency
RG	Resource Guide
SBAR	Situation, Background, Assessment, Recommendation
SWOT	Strengths, Weaknesses, Opportunities, Threats

What is Hybrid CR (HYCR)?

- **Hybrid CR combines FBCR with synchronous/real time audio-visual supervised exercise sessions and the synchronous or asynchronous delivery of all the other CR components.**
  - HYCR typically begins with at least one facility-based session that allows for an initial patient assessment and development of an Individual Treatment Plan (ITP).
  - Qualified CR staff supervise subsequent exercise sessions in real time with one or more patients participating from remote locations via an audio-visual connection.
  - Patients may return to the facility periodically for additional CR if they prefer or if their physician or CR program staff believe in-person supervision is needed.
  - HYCR includes all the components of FBCR including a baseline patient assessment, nutritional counseling, risk factor management, psychosocial interventions, physical activity counseling, and directly supervised exercise training.
- **HCYR is NOT:**
  - A temporary stopgap for when FBCR is not possible
  - An offsite program that lacks required components of CR
  - An unsupervised home exercise program

Figure 2: Differences between FBCR and HYCR



See Keteyian et al. J Cardiov Pulm Rehab Prev. 2021 Aug 24. doi: 10.1097/HCR.0000000000000634 and Million Hearts Cardiac Rehabilitation Think Tank: Accelerating New Care Models for additional discussion.

In sum, HYCR is not the same as remote CR, virtual CR, or home-based CR, and other alternative FBCR programs which may or may not include supervised exercise. **Since supervised exercise sessions are a core element of traditional CR and are required for reimbursement by Medicare, we only use the term Hybrid CR in this Guide**

The Benefits of HYCR

While evidence is still accumulating, published research provides evidence that HYCR is a safe and effective option for delivering CR services. In addition to the many documented benefits of CR -- described at length on the TAKEheart website and in other TAKEheart materials -- **a HYCR option can also:**

- **Remove common barriers to CR participation** that lead to underutilization of CR, especially among women, persons with lower incomes, the frail elderly, and persons from rural areas. Barriers that can be reduced or overcome through HYCR include:
  - work conflicts
  - transportation availability and cost
  - need to care for other family members
  - lack of nearby CR programs
  - anxiety in group settings
  - being homebound
  - concerns about infection exposure
- **Help hospitals**:
  - expand capacity to serve more patients than can be supported by FBCR
  - reduce wait times and more effectively use limited onsite space
  - serve patients who might not otherwise enroll in CR
  - reach more underserved patients
  - improve their reputation

Despite these benefits, HYCR programs may not make sense for every hospital. The following section describes how to assess the potential benefits and feasibility of HYCR for your facility.

Section 2: Assessing Service Needs and Capacity, Feasibility and Financial Viability

Overview

Determining whether a HYCR option is right for you will require careful assessment of:

- Your current capacity and how well you are meeting patient needs
- The feasibility of your organization providing HYCR services
- Financial implications of providing hybrid CR services

Figure 3 lists questions whose answers will help you determine if HYCR is currently a good fit for your organization.

TIP: Rather than work in isolation, gather key stakeholders together to answer the questions outlined below. This process will be more efficient and will likely add credibility in the eyes of your hospital's decision makers. See **Section 3** below for guidance on identifying and engaging stakeholders to support your efforts.

Figure 3: Key Questions to Guide Decision-making

Question	Points to Consider
1. Does your program have low enrollment rates? If so, why?	Consider both your current patient population AND eligible patients your program could be serving (e.g., patients from other hospitals, heart failure patients, patients treated elsewhere).
	Investigate WHY eligible patients don't enroll or quickly drop out. HYCR may be a solution if transportation, distance, work schedules, or family responsibilities are reducing CR enrollment or completion.
2. Are you in or near a CR desert, where eligible patients have no feasible access to an onsite CR program?	Hundreds of programs nationwide closed during the pandemic so you may want to verify the continued operation of nearby CR programs.
	The Resource Guide includes information on how to Identify CR facilities in your region and a link to a resource that identifies CR deserts across the U.S. (https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7529047/pdf/nihms-1611589.pdf)
3. Do capacity issues lead to delays in enrollment?	Some programs welcome waiting lists because they represent demand and value. However, wait times are not beneficial to patients and increase the risk patients will not enroll and participate in CR.
	Capacity issues for CR programs will likely grow as the population ages and may be exacerbated if CR programs that closed during the pandemic do not reopen.

Question	Points to Consider
4. Do you have strong financial incentives to avoid hospitalizations and readmissions of CR-eligible patients?	High readmission rates for AMI or heart failure can impact Medicare payments or payments from commercial insurers.
	If your hospital or health system is in an accountable care organization, then increased CR participation can reduce patient costs and directly improve financial performance.
5. Will key payers reimburse you for synchronous/real time audio-visual CR sessions?	Carefully track reimbursement by Medicare and other payers, since their payment rules can change.
	Consider educating private payers about the value of paying for CR. Making the case to payers may require efforts at the health system, professional society, or association levels.
6. Can you deliver HYCR safely and effectively?	Safe, high-quality CR is non-negotiable, regardless of setting.

If you answered "no" to most or all of these questions, then HYCR may not be a priority for your facility right now. If most of your answers were "yes," then you may want to actively explore a HYCR option.

If you are still uncertain, the more detailed discussion of the following issues may be helpful.

Assessing Your Current Capacity and Defining Your Catchment Area

Consider the following as you asses the need for-- and your organization's ability to sustain-- a HYCR program:

- Are you meeting the needs of all patients who want to participate in CR?
- Are there patients eligible for CR who are not participating because of the barriers described earlier?
- Will demand increase due to expected changes in the population, particularly for groups whose demographics put them at higher risk of needing CR?

In answering these questions, you will want to appropriately define your **catchment area**, which should include both:

- Areas from which your FBCR program currently attracts patients
- Other areas where there is no FBCR program available for eligible patients

This **expanded catchment area** may include areas served by hospitals without CR programs, along with general or cardiology practices that do not refer to your program because of distance or travel obstacles.

Assessing the Feasibility of HYCR for Your Organization

The addition of any new service inevitably requires temporary reallocations – if not permanent additions of staffing and other resources. These in turn may require workflow changes. It will be important to assess the ability and readiness of your organization to make the operational changes necessary to support HYCR services as described in Figure 4 below.

The consensus of the Hybrid Workgroup members is that HYCR is feasible for most programs whose organizational leadership is willing to offset any revenue shortfalls arising from services not covered by insurers. (Note that assessing the financial viability of expanding services is explored separately immediately below.)

Figure 4: Key Feasibility Questions to Consider

Question	Importance	Additional Insights
Can we offer HYCR safely?	Safety is a major concern for many key stakeholders.	See "Safety" in Figure 8 and the "Planning for the Safe Operation of HYCR" section (below) for additional discussions of safety
Can we get leadership support?	Without leadership support, expansion of services is probably a non-starter.	See the discussion of getting key stakeholder buy-in in Section 3
Will patients be willing to participate in HYCR and be satisfied by it?	HYCR success depends on patients being willing to participate and satisfied with their experience in HYCR.	Most HYCR programs report high patient satisfaction because it simplifies CR participation and reduces the time commitment.
Will we need additional staff?	Staff shortages and costs could make HYCR unfeasible.	Most Workgroup members added HYCR without additional staff.
Do we have time to train staff and develop new materials that might be needed?	While much of the content is the same, learning to use technology to deliver services will take time. While many of your existing materials will be suitable for HYCR, some new materials may also be required.	Many staff take little time to learn technologies needed to lead remote exercise sessions. Viewing the TAKEheart HYCR session video can help orient staff to how sessions can be led.
Will competing priorities make HYCR unfeasible at this time?	Organizations and CR programs may have higher priorities than adding HYCR. However, priorities change over time.	See the discussion of the business case for HYCR in section 4 for reasons to make HYCR a priority.
Will space be available to support onsite sessions for HYCR patients?	Many CR programs have capacity issues and waiting lists.	HYCR patients have few FBCR sessions and an HYCR option can help reduce onsite space constraints.
Can you provide social support for HYCR patients?	Support from other patients and staff is a key to CR success.	Most HYCR programs report appreciation for virtual support during sessions.

TIP!
Starting out with a limited number of patients and using processes and materials already utilized for FBCR may make implementation possible with limited start-up resources and without additional staff.

Assessing Financial Viability and Making a Business Case for HYCR

The first question you may be asked by those you need to approve the addition of a HYCR option is: *"what's the business case for it?"* Organizations differ in mission, structure, leadership, and relations to payers, so there is no single best approach to making the business case for HYCR. Nonetheless, all organizations will need to balance considerations of revenue sources and potential savings against associated costs.

Potential Revenue Sources

Insurer Reimbursement

While hospital revenue for FBCR comes primarily from Medicare and commercial insurers, coverage of HYCR services by these payers is limited. Figure 5 summarizes the current coverage of HYCR from these sources as of December 2022. All payers regularly review coverage policies, including those for HYCR. Medicaid is not listed in Figure 5 since it is a small reimbursement source for most CR programs and in some states does not reimburse for FBCR at all.

Figure 5: Insurer Reimbursement for HYCR

Insurer Reimbursement for HYCR	
Major Payers	**Current Status and Assessment**
Medicare	• **During the public health emergency (PHE)**, traditional Medicare reimburses for HYCR exercise sessions. • **When PHE ends,** reimbursement will end unless CMS changes the rules, which does not seem imminent.
Medicare Advantage (MA)	• **During PHE**: MA plans are required to cover all services reimbursed by traditional Medicare but will need to be consulted about how to bill correctly. • **When PHE ends**: Some MA plans may choose to continue coverage if convinced it is cost effective.
Commercial Insurers	Only a few commercial insurers cover the virtual component of HYCR. Those that do (e.g., Blue Cross Plans in Michigan and South Carolina) were persuaded by participating health systems that showed the value of making CR accessible to more eligible patients via a non-traditional approach as a way to improve health and reduce the likelihood of readmissions.

Remote monitoring codes are promoted by some vendors as an alternative approach to billing for HYCR services, but they are unlikely to benefit most hospital-based CR programs because:

- These codes must be used by physicians rather than hospitals, so they are not a direct source of hospital-based CR program revenue.
- Reimbursement levels for remote monitoring are much lower than reimbursements for CR payments (At present Medicare reimbursements for HYCR and FBCR are the same.).
- Providers are concerned that use of these codes may ultimately result in lowered Medicare reimbursement for traditional CR services.
- Remote monitoring includes no payments for the education, counseling, and support components of CR.

Other Potential Funding Sources

Research grants, community grants, and philanthropic support can provide short-term funding for HYCR at modest levels. Donors might include recent CR alumni or service organizations impressed by the potential for HYCR to reach underserved patient groups.

Savings:

There are no published studies documenting cost savings associated with HYCR.
Potential savings may include:

- Reduced facility and overhead costs associated with fewer FBCR patients.
- Reduced cost of hospitalizations for cardiac conditions
- Fewer payer penalties for excess cardiac hospitalizations. (These savings are most likely to apply to programs that operate their own insurance plans or that are part of an Affordable Care Organization (ACO).
- Eliminating CR program staff positions by contracting with a vendor that supplies their own staff to support HYCR. Note, however, that:
    - Vendor charges may offset these possible benefits.
    - There is risk of net losses to the hospital when the vendor – rather than the hospital—bills payers and captures the revenue.
    - Staff cuts may place the FBCR program at risk.

Costs

As noted in Figure 6, with the exception of costs associated with lost revenue (first row), the remaining potential costs associated with offering HYCR services are minimal.

Figure 6: HYCR Potential Costs

Potential Costs	
Cost Type	**Explanation/Discussion**
Lost revenue due to inability to bill insurers for HYCR	The largest potential cost is lost revenues from patients who would have been covered if seen on-site, but whose HYCR services are not covered. However, only some HYCR patients represent lost revenues since some proportion of HYCR patients would not have enrolled in FBCR had that been their only option.
Technology platform for HYCR exercise sessions	Technology is an essential ingredient for providing HYCR services. Most hospitals already have technology platforms for other purposes that can support secure audio-visual CR exercise sessions.
Technologies for patients	Some hospitals provide patients with inexpensive exercise and monitoring equipment (e.g., resistance bands, inexpensive heart rate monitors, scales, or blood pressure cuffs). However, most patients already have their own exercise and/or monitoring equipment, and others exercise by walking or performing chair exercises.
Education or counseling resources	Costs associated with providing these services are comparable to costs for providing these services to FBCR patients. Many programs already make their resources available online.

Potential Costs	
Cost Type	**Explanation/Discussion**
Staff	Depending on your staffing level, additional staff may be needed, especially if these additional services bring in more patients. HYCR can support up to six patients with a single instructor, which may be fewer patients than can be served onsite. Among the HYCR programs represented in the HYCR Workgroup, none required additional staff.
EHR modifications	Some IT modifications may be required to support remote data collection more efficiently, though these changes are not typically essential for HYCR services to begin. These costs may be billed directly to the program or regarded as additional indirect costs.

Putting it Together: Assessing Financial Viability and "Making the Business Case"

If your hospital is assessing the financial viability of expanding services to support a HYCR option, you may be asked to estimate expected revenues and savings and compare those with any new costs. As may be evident from the discussion above, at present (until the public health emergency ends) revenues may offset the minimal costs associated with providing HYCR services. This may be one reason why HYCR services expanded as they did during the pandemic.

However, even in the absence of coverage for HYCR services – when even the relatively low costs of adding HYCR services are not fully offset by expected revenues or savings – there may still be a "business case" to be made for the continuation of these services based on indirect yet demonstrable benefits.

More specifically, be prepared to make the case that the following types of largely non-financial benefits will offset any net financial losses. HYCR services can:

- **Advance the organization's mission**, particularly for hospitals or health systems with a commitment to addressing disparities and caring for underserved populations. (e.g., some hospitals incorporate health or specific populations as priorities in their organization's Community Health Needs Assessment).
- **Enhance the organization's status or reputation** by being seen as an early adopter of an innovative service.
- **Increase patient satisfaction**, which can have reputational and financial benefits from the potential for increased market share.
- **Increase provider satisfaction,** which may eventually translate into additional revenue, for example, if cardiologists view HYCR as contributing to better outcomes for their patients, they may increase elective procedures performed at the hospital.
- **Demonstrate your fundamental commitment to prioritizing patient-centered care!**

If these benefits are well documented, HYCR services can be presented as an investment that will pay off in ways that clearly have value to the C-suite, despite being difficult to quantify.

SECTION 3: Engaging Stakeholders and Obtaining Buy-In

Overview

While one person or group may ultimately be responsible for approving the creation of a HYCR option, a team of stakeholders may be needed to get this approval -- as well as successfully launch and operate the services once approved.
In this section we provide:

- Concrete guidance for:
  - Identifying stakeholders
  - Addressing common stakeholder questions
  - Addressing the specific concerns of CR program staff
- Tips and strategies for achieving and sustaining buy-in
  - **Six key questions** that can guide your efforts to secure stakeholder buy-in

It is very likely that you will begin the process of engaging stakeholders during – or perhaps even before – the assessment phase described in Section 2, since you will need stakeholder input for the activities described there. You are also likely to need continue to engage additional stakeholders as you move ahead with additional decision-making, planning, and launch.

Recognizing Stakeholder Concerns

Figure 7 identifies the types of stakeholders whose support you are likely to need and the types of questions they may raise.

Figure 7: Stakeholders and Their Questions

Stakeholder	Why the Stakeholder Matters	Questions Stakeholders Ask
Administration	Administration may be at the system-level, the hospital-level, or both. Patient-demand, revenue and costs, and the inquiries and questions of all other stakeholders may impact administration's willingness to support HYCR,	Is HYCR: • Really needed • Covered by insurers • Safe • Able to provide a good experience for patients • Backed by a positive business case
CR Program Staff	Staff retention, familiarity, and morale are essential for the success of the new service and to ensure care quality and patient support are maximized,	Will HYCR reduce or add burden for staff? Will it allow or require new skills? How is HYCR provided to ensure patient safety?
Billing	If the financial, billing and reimbursement professionals at your institution do not believe HYCR can be reimbursed or is financially viable, approval from administration may be less likely,	What codes can be used for HYCR? How can we ensure payers cover claims submitted for HYCR? Are there commercial insurance providers in the state one can meet with to discuss coverage for HYCR?

Stakeholder	Why the Stakeholder Matters	Questions Stakeholders Ask
Legal/Compliance	If compliance officers are concerned that patient confidentiality may be compromised during group audiovisual CR sessions or by sharing information online, their objections may influence administration approval	How can we insure HIPAA and regulatory compliance? To what extent, if any, does patient confidentiality during group facility-based CR sessions differ from group virtual CR sessions?
Information Technology	HYCR may require the use of a secure online platform and alignment with EHR to facilitate scheduling and documentation	• How can the cost and security of the online platform be ensured? • What IT programming will be required upfront and thereafter during provision of virtual CR to support scheduling and patient data capture? • Will an outside vendor be used?
Patients	Patients must agree to participate in HYCR and perceive it as both safe and effective	What operational onboarding steps can be established to address any patient inquiries about safety and ensure the experience is comparable to facility-based CR? What will their out-of-pocket costs be? Will they still need to travel for some FBCR sessions? What technology will they need and how simple is it to use?
Referring Physicians and Other Key Physician Stakeholders (e.g., program medical director)	If physicians view HYCR as unsafe, ineffective, or unnecessary because it is "just home exercise" then they may be unlikely to encourage patients to participate.	What information needs to be gathered and shared to demonstrate the safety and equivalent effectiveness of HYCR? Are other physicians already supporting HYCR and referring patients to it?
Payers/financial supporters	Payers may want evidence of value for HYCR and may perceive it as an uncovered experimental treatment; coverage decisions may depend on making the case for HYCR and effective outreach. Other potential funding sources may be needed to cover needs for patients without insurance coverage.	Does HYCR comply with their coverage policies for telehealth? What evidence needs to be gathered and shared to demonstrate the safety and equivalent effectiveness of HYCR? Will paying for HYCR save them money or represent value-added care to their beneficiaries?

Addressing Stakeholder Concerns

Figure 8 provides potential responses to stakeholder concerns.

Figure 8: Responses to Common Stakeholder Concerns

Concerns	Potential Responses
Need for HYCR	Published evidence indicates that many eligible patients do not participate in FBCR
	Emerging evidence indicates that HYCR is attracting additional patients
	Patient stories of satisfaction with HYCR
	Length of waiting lists and data showing patients decline traditional FBCR due to logistical challenges (e.g., transportation, hours of operation)
	Evidence of capacity issues in your facility (if relevant)
Safety of HYCR	Explain that all CR patients are already encouraged to exercise at home and that HYCR sessions simply gives "shape and structure" to that recommendation and synchronized audiovisual CR sessions provide staff supervision, similar to what is provided in FBCR
	Emerging evidence shows HYCR is similarly safe as FBCR for participants
	Note that FBCR sessions are initially front-loaded to further ensure patients can safely participate at home or in the community
	As needed based on program policies, physician approval can be obtained prior to allowing certain patients into HYCR
Efficacy and Equivalence of HYCR	Published research showing equivalent outcomes for HYCR
	Stories of patients that are enthusiastic about HYCR and its value
	Stories of CR programs that are enthusiastic about HYCR and its value
	Published research showing expanded participation in HYCR by underrepresented groups
Technology and Feasibility	Widespread use of telehealth platforms during pandemic has made virtual technologies more accessible to most organizations and patients
	Successful approaches to HYCR can mirror most facility-based activities and processes, which minimizes the costs and complexities of starting such a program
	Initial facility-based sessions enable discussions with patients to ensure their comfort with required technologies
	Video of remote session illustrates and advances the feasibility of conducting the audiovisual sessions with multiple participants; a cost-effective approach
	HYCR enables and encourages the transitioning of patients back into FBCR, if technologies prove too challenging or the patient prefers an in-person experience (see sample transfer form in **RG 4I** *Transfer to Cardiac Rehabilitation- Home Program Checklist Example*)

Concerns	Potential Responses
Cost	Most hospitals have already established, HIPPA compliant online platforms usable for HYCR
	The at-home or community-based exercise sessions that are part of a HYCR program do not incur the facility costs associated with FBCR sessions
	Most of the institutions that offer at-home or community-based exercise sessions that are part of a HYCR program are able to do so without additional staff
	While exercise equipment (and monitoring equipment, if used) can be expensive, HYCR can be successfully implemented without costly technologies or the use of outside vendors
Reimbursement & Revenue	During PHE, Medicare reimburses for the synchronized audio-visual CR sessions of a HYCR program
	Some other insurers have also approved reimbursement for the synchronized audio-visual CR sessions of a HYCR program
	Other funding sources can be secured to support the establishment and maintenance of a HYCR program
	HYCR generates revenue from the center-based sessions for patients who otherwise would not have attended any CR sessions at all
	HYCR offers additional benefits related to market share, patient satisfaction, rehospitalization avoidance, and strengthened relationships with physician practices
Compliance	Most hospitals have secure online platforms to support the synchronized audio-visual CR sessions of a HYCR program
	Supervision of patients ensures Medicare requirements are met
	HYCR patients share some information in remote sessions just as when they participate in FBCR

Addressing Concerns of CR Program Staff

The support of CR program staff will be critical to the success of your HYCR program. Program staff can play an essential role in advocating for HYCR to physicians and other stakeholders whose support is also needed, and eventually with patients!

For these reasons, it is recommended that you:

- Seek and address staff questions and concerns early -- decision-making phase -- and again during start up!
- Involve staff in problem-solving wherever possible.
- Remember that burden, stress, and fatigue are genuine concerns.
- Stay positive and frame issues in terms of "doing all we can to support our patients."

Figure 9 lists common staff concerns and possible responses.

Figure 9: Staff Concerns and Responses

Staff Burden	
Concern	**Responses**
Remote sessions can't be as large as facility-based sessions	Just like in FBCR, some programs providing an HYCR option schedule four to six patients into group, supervised audiovisual synchronized sessions
	Since sessions are remote, less time is needed for session setup, cleaning, and the general conversation that often occurs before and after a CR session
Facility-based program is at capacity already	Expanding patients access is key to the long-term health of CR, and consistent with providing all eligible patients with an AHA/ACC class I guideline therapy
	HYCR provides an alternate option to shorten wait lists
Extra work is required to learn platform and HYCR processes	Align HYCR processes with facility-based duties as much as possible; doing so makes learning the tasks and leading the virtual exercise sessions easier.
	Most organizations already have well-supported remote platforms and training for the employees and providers that use them.
	Telehealth and remote technologies are key parts of current and future care; learning them has professional value.
I prefer working with patients onsite	When possible, assign remote sessions to the staff that enjoy them; these staff often become advocates of HYCR to other CR staff.
	Some staff have been surprised by how much they enjoy the virtual CR sessions and interacting with patients virtually.

Tout the Benefits!

After addressing their concerns, remind staff of the benefits of HYCR – both for their patients and for themselves. These include:

- The ability to support patients who are unable or unwilling to participate in FBCR
- Appreciative patients who enjoy the ability to do CR without the travel, cost, and lost time needed to participate onsite
- Opportunity for 1:1 time with patients, when the virtual sessions are small
- The chance to gain new skills and experience with telehealth
- The ability to see patients in their home settings, have them show their foods and home exercises processes, meet pets and other family members, and celebrate the variety and creativity of the methods patients use to exercise at home

Tips for Sustaining Buy-In

These strategies may help to sustain internal support for your HYCR program:

- Regularly check in with stakeholders to reinforce their approval to start your HYCR program and answer any questions they may have.
- Capture and regularly share data regarding participation and graduation rates, patient and staff satisfaction, and other key outcomes for persons in your HYCR program.
- Encourage physicians to observe HYCR sessions to demonstrate their equivalence to center-based only CR and the extent of patient engagement during the sessions.
- Compile and regularly share patient stories to reinforce the value of HYCR to them.
- Circulate and provide articles or article summaries that describe the impact of HYCR to key stakeholders.
- Work with key insurers to get their approval to reimburse for HYCR sessions.
- Contribute data into registries and participate in efforts to capture and share key outcomes with payer groups to encourage them to expand coverage for the synchronized audio-visual CR component of a HYCR program.

SUMMARY

Six key questions to guide your efforts to secure stakeholder buy-in

1. **Who are the important stakeholder groups with whom you need to engage**?
   - Failing to engage with each of these groups may slow your efforts to win support for a HYCR program.
2. **Within each stakeholder group, who are the key people with whom you need to engage**?
   - If all the key people in a group are similar, you may be able to engage with them as a group. But if you suspect they may have different concerns or aren't sure how some of the key people will react, talking to them individually may be more strategic.
3. **What matters to each stakeholder and how can you address their priorities or concerns?**
   - If you prepare for these conversations with data, publications, and stories to address their needs, you'll be more successful.
4. **Who should talk to the key people?**
   - Secure a physician or clinical champion or organizational leader to facilitate some of your discussions with others. Doing so may be more successful than attempting to engage with every stakeholder yourself.
5. **How/when should the key people be approached?**
   - Avoid times when stakeholders are overwhelmed and engage others during those times (and places) when conversations can be more relaxed. Many people want time to think and are more likely to say "no" if they are pressed for an immediate decision. Obtain time to discuss HYCR in scheduled meetings to add legitimacy to the discussions and ensure you have a captive audience.
6. **How should engagement with key stakeholders be sustained?**
   - Following up with key stakeholders regularly to share progress and successes will help build long-term support for HYCR that is more likely to be sustained through times of financial difficulty.

Section 4: Infrastructure Considerations

Overview

Infrastructure considerations described in this section fall into three general categories:

- Whether you will want an outside vendor to create or support your HYCR program
- What two-way audio-visual platform you will use
- What materials or technologies you will provide to patients

Using a Vendor

Using the right vendor will not guarantee your HYCR program will succeed. But using an inappropriate vendor may ensure it will fail.

A growing number of vendors can be hired to provide some or all components of HYCR, including both clinical and technical support. Vendors may offer technologies to lead sessions and monitor patients, collect data, provide education and counseling resources and processes, help in obtaining favorable coverage decisions, offer staff to operate the HYCR program and support patients, and provide billing support.

While Workgroup members have developed HYCR options without vendor support, If you are considering use of a vendor, remember:

- All prospective vendors should be evaluated very closely to ensure the vendor's goals, approach to CR, and standards of care and patient support are aligned with those of your program and your institution.
- Vendor use should complement and reinforce your facility-based program instead of potentially competing with or undermining it.
- No vendor solution will make underlying challenges linked to reimbursement or financial viability of HYCR go away.

Insurance for Vendor-Provided Services: Approach with Caution

Some vendors of CR-related services or technologies market their ability to influence coverage decisions. In such cases, be sure to ask vendors to describe (and document if possible):

- exactly what reimbursement they can obtain for CR
- from which insurers
- how long they expect this to take
- successes they have had obtaining coverage from the key insurers for your CR program

Some CR programs describe overstated promises by vendors, followed by minimal reimbursement using remote billing codes that reverted to physician practices, rather than to the hospital-based CR program.

Most Important of All: Make an informed choice!

- Talk with staff from established HYCR programs that do and do not use a vendor!
- Seek answers to the set of questions in Figure 10 that was developed by Workgroups members (including some who use vendors for their own programs and others who do not).

Figure 10: Questions for Potential Vendors

Questions for Potential Vendors
1. What is the academic training/degree status of the person who is supervising the exercise session or communicating directly with the patient when providing oversight care?
2. How is exercise intensity prescribed for the non-center-based exercise sessions and how is intensity monitored?
3. To appropriately bill Medicare and other insurers for CR at home, the service must be provided via a synchronized, two-way audio-visual connection. Does your product provide this?
4. For hybrid CR, what criteria do you use to determine how many sessions will be conducted in the center-based setting and how many will be conducted via the synchronized, two-way audio-visual connection?
5. How are each of the six core components of CR addressed/delivered via your product (see Balady et al, Circulation 2007;115:2675-82)
6. Operationally and specifically, how is the educational component (risk factor reduction, medical compliance, etc.) delivered via your product?
7. Besides a clinical exercise physiologist or nurse, are other professionals (dietician, behavioralist, physical therapist) involved in the delivery of your service? How are they integrated into product operations and delivery?
8. To identify your product as CR and bill it as such, Medicare specifies that a physician must be remotely available, to respond to urgent clinical issues during the conduct of a supervised, synchronized two-way audio-visual session. How is this remote physician access accomplished with your product?
9. Will your service use our program's staff, your company's staff, or a blend of the two?
10. How does your organization measure its success? What are your operational and financial objectives and metrics?
11. How does your product/platform handle documentation of patient exercise data, data storage and retrieval, and HIPPA compliance?
12. How will the vendor support your need to communicate with physicians about their patients that are participating in your HYCR program?
13. Is your product compatible with current commercially available EKG telemetry monitoring systems and electronic health records?
14. Are there other CR centers similar to ours that use your services and that we could talk to about their experience working with you?
15. What business model do you propose that has our hospital paying you an additional expense for your product? Is it billed as CR, as viewed by Medicare (two-way audio-video supervision of real-time exercise, with remote access to physician support if needed) or is it billed as remote patient monitoring or as some other model using codes other than 93797 or 93798?

Patient Materials and Technologies

Most HYCR programs leverage existing resources from their facility-based programs as much as possible for their HYCR patients. Because exercising at home is already encouraged for FBCR patients, programs may already have guidance resources and monitoring tools for CR that patients can use at home (see example adapted for HYCR in **RG 2A** *Ann & Robert H Luri Children's Hospital of Chicago Information Sheet: Cardiac Rehab at Home*).

Figure 11 lists resources used by Workgroup members to support their HYCR patients, many of which are included in the Resource Guide.

Monitoring technologies varied. Programs conducting research sometimes perform more monitoring, while others limit monitoring to weight, symptoms, heart rate and (sometimes) blood pressure.

Figure 11: Potential Resources Used to Support HYCR Patients

Information and Forms
Monitoring consent form (see example in **RG 4F** *Cardiac Rehab Session Monitoring- Patient Agreement*)
Home safety checklist
HYCR information sheet (see example in **RG 4G** *Aultman AmwellNow Telehealth Visits-Cardiopulmonary Rehabilitation Policies and Procedures*)
Orientation packet (see example in **RG 1E** *Aultman Virtual Rehab Packet Sample*)
Exercise resources
Resistance bands
Weights
Monitoring Technologies
Blood pressure cuff (if needed)
Step counter
Heart rate monitor
Scale

Selecting the Audio-Visual Platform and Materials

CR sessions conducted outside of your CR facility require use of a platform to support the remote, synchronous, supervised audiovisual connection that sits at the core of HYCR.

> Throughout this document, Resource Guide materials are referenced by section number and letter to make location easier. For example, RG 4F references an example in the Resource Guide contained in section 4F.

Default Option: As a result of the pandemic, most hospitals and health care organizations now have an approved platform that meets internal requirements for security, user experience, and stability. These platforms

- may be used for group meetings or they may be embedded in the EHR.
- are supported by the organization's IT department.
- are likely to be familiar to the CR staff, and often to patients.

If this is the case in your organization, using your existing platform will likely be your default selection.
Other Options: If your program or hospital lacks such a platform or you have multiple options to choose from, or if you are considering using a platform provided by a vendor, review the Workgroup recommendations contained in Figure 12 to make an informed choice.

Figure 12: HYCR Platform Requirements

Platform Requirements
Ability to be used with a computer or smartphone/smart device
Audio and Video. That's it. Any additional functionality would probably be less reliable and would require more equipment than necessary.
Be able to schedule reoccurring appointments (audio / video calls)
Host being able to mute / unmute participants
Simple video login/access steps (minimal steps to access video call as possible)
Be able to share videos with patients so they can view content and hear audio through the platform
Use a platform that is easy and familiar to the patients.
Ensure that patients can manage the technology easily.
At minimum, there needs to be bi-directional communication and bi-directional video capabilities.
HIPAA compliance
Web cam/microphone

Section 5: Starting-Up

Overview

This section of the Implementation Guide addresses the following topics:

- Patient Recruitment
- Patient Onboarding
- Ensuring that HYCR is the Best Option for Participating Patients
- Checking in with Staff

Patient Recruitment

The guidance provided below is intended to help you meet the following recruitment goals:

- Ensure that you have enough participants to efficiently sustain operations
- Attract eligible patients who would have been less likely to attend your facility-based program
- Avoid including patients who are not well-suited to participate in remote, synchronous, supervised exercise sessions.

Figure 13: When to Recruit Patients into HYCR

Recruitment Approach along the Patient Care Pathway	Considerations
First discussions of CR eligibility	During your initial discussions with eligible patients about CR is a good time to introduce them to FBCR and HYCR. Introduce it as an alternative that is as good for some patients as FBCR.
Subsequent discussions of CR participation	Follow-up discussions with patients allow staff or physicians to reinforce the benefits of CR and explain the potential role of HYCR. They also help patients understand their choices and show respect for the patient and your desire to help them succeed (see sample HYCR flyer in **RG IC** *Wellstar Virtual CR for Staff and Patients- Sample Flyer* and recruitment call script in **RG 2C** *Phase 2 Patient Calls Script*).
After FBCR has begun	This approach is recommended for patients who begin to miss FBCR sessions or express concerns about continuing FBCR. Offering these patients the option of HYCR, or the opportunity to observe a remote virtual exercise session may help them continue in HYCR and graduate from your program.
Introducing HYCR only after onsite CR has been declined	This approach is not recommended because it frames HYCR as a less desirable fallback strategy. Once patients decide to decline CR, they may be less likely to change their mind than if they were aware of HYCR when making their initial decision.

How to Recruit Patients into HYCR

Prepare the Advocates: Program staff and physicians will play the lead roles in recruiting patients for HYCR. Their success in convincing patients to consider HYCR will wholly depend on their comfort level -- and ideally enthusiasm — for the hybrid option.

Provide them with the following talking points:

- Almost always, **patients in HYCR will begin their CR experience with in-facility visits** that include EKG and blood pressure (and, if indicated, blood glucose) monitoring, along with direct staff supervision of exercise.
- **HYCR is a safe option** for participating patients.
- **HYCR is effective**. Current evidence indicates HYCR patients achieve the same results as those who participate in FBCR.
- **HYCR is simply a better fit or option for some patients**. Transportation, physical exposure to others, preference to exercise alone, family or work responsibilities, or just personal preference may make HYCR a preferred choice for some eligible patients.
- **Your program is flexible and can easily transition patients into or out of HYCR** to best support their personal and clinical needs.
- **Seeing is believing**. Both staff and patients can **observe an HYCR exercise session** to assess their appropriateness for particular patients. A video of an HYCR exercise session is included in the TAKEheart materials.
- **Two options exist.** Every patient knows there are two options for CR: facility-based only and a hybrid form that blends facility-based and remote virtually supervised sessions.

Ensuring HYCR is the Best Option for Participating Patients

HYCR is not a good match for every patient eligible for CR. Workgroup members identified five categories that should be considered when determining if HYCR is the best fit for a specific patient:

- Medical considerations
- Financial/insurance
- Communication issues
- Technology
- Appropriate community-based or remote location

While some HYCR programs have developed very detailed lists of screening criteria for patients, we recommend a more flexible, individualized approach that is guided by the following values and considerations:

- **The importance of avoiding unfounded assumptions**
  - For decades, we have asked patients in CR to exercise on their own at home (on those days that they do not attend CR) and for decades patients have safely done what we've asked. This history provides an underlying foundation for both the utility and safety of HYCR. And because of this, initial discussions of CR participation should first mention both your facility-based only and HYCR options to all patients, rather than making any assumptions

about whether specific patients could or should participate in HYCR. Those issues can be addressed later.

- **The value of joint decision-making in delivering patient-centered care**.
  - The decision to participate in HYCR should be made jointly with the patient, rather than independently by a physician or member of your CR staff. This patient-centered approach empowers the patient, which hopefully leads to improved compliance and treatment success.
- **The importance of opportunities to weigh all pros and cons in ensuring individualized care.**
  - Initial facility-based CR sessions provide the opportunity to better assess the appropriateness of HYCR and to discuss its pros and cons with potential participants. For example, some patients with a low ejection fraction (e.g., 20%) may be stable, well treated with an ICD and medications, and totally safe to participate in HYCR, while other patients free of heart failure may require facility-based supervision and monitoring due to blood pressure, EKG, or physical limitations. Staff observation, and consultation with a physician, is a preferred approach to ensuring only appropriate patients participate in HYCR, and the virtually supervised exercise sessions it involves. Developing and applying rigid screening criteria does not represent a patient-centered approach and may not always be accurate.

- **The importance of preventing unintended increases in care disparities**
  - Programs should carefully reflect on whether their screening processes for HYCR (and CR over-all) are unintentionally expanding the gaps between well-served and underserved CR groups. Internet access, use of remote devices, ability to speak and understand English, access to a private space for sessions, and other factors may encourage HYCR for some, while at the same time limiting CR participation even more for patients in underrepresented groups. Many of these obstacles can be overcome, but only if programs are sensitive to these challenges and directly address them via effective counter strategies.

In sum, unless strict enrollment criteria are required (e.g., to meet physician mandates or research criteria set by an Institutional Review Board) *the best way to ensure the appropriateness of HYCR participants is engaged discussion that involves the patient, their physician, and staff.*

To assist you in making determinations of appropriateness of HYCR for your patients, we have listed some of the considerations that you may want to take into account in Figure 14.

Figure 14: HYCR Participation Considerations

Considerations	Rationale
Medical	Patients with LVAD, a reduced EF that is untreated (i.e., no ICD), at higher risk for a fall, < 4 weeks post operative, have an untreated arrythmia, or are frail may not be well suited for HYCR. Patients with these conditions should remain in FBCR and be evaluated by CR staff and their cases discussed with a physician before they transition to HYCR (see example considerations and inclusion approach in **RG 1B** *Hybrid Cardiopulmonary Rehab Protocols*).

Considerations	Rationale
Financial/insurance	Some patients may not have insurance that will cover HYCR. Other patients may incur substantial travel and parking costs to attend FBCR. Patients should understand and consider these costs to make an informed decision.
Communication	Patients that are not native English speakers or those with cognitive or untreated hearing impairments may struggle in HYCR. Some programs are using bilingual instructors and technologies exist to support patients with hearing impairments, but these communication issues should be assessed and carefully discussed. Allowing patients to observe a remote HYCR session may aid informed decision making.
Technology	Whether patients are comfortable using remote platform technologies or can be assisted by someone that is comfortable with them, should be considered. Avoid making assumptions about which patients can or cannot participate remotely based on age, ethnicity, location, or other factors.
Location	Existing HYCR programs currently support patients participating on smart phones from a range of locations (e.g., fitness center, work, home). While a private and quiet space may be ideal, ruling out participants without such a location may not be necessary if the identified location is one wherethe patient is comfortable and the CR staff considers safe (see patient onboarding guidance sheet that includes location considerations and other onboarding advice in **RG 2B** *Initial 1-to-1 Introductory Session: Sample Outline*).

Onboarding Patients into HYCR

Starting patients in a HYCR program should be as similar as possible to the onboarding processes you use for facility-based only CR patients (see sample onboarding overview in **RG 1A** *Virtual Cardiac Rehab New Patient Assessment & Orientation Process* and an agreement form for HYCR that closely parallels similar agreements for FBCR patients in **RG 4H** *Wellstar Cardiac Rehab Staff and Patient Participation-Sample Agreement*). This approach both simplifies the operation of your HYCR program and prepares patients for whichever form of CR they ultimately participate in. In some cases, this may not be clear at the outset so treating all patients consistently is recommended.

Effective start-up strategies include:

- The Workgroup strongly recommends that all patients enrolling in to HYCR first receive at least one, and preferably three or more center-based CR sessions, before beginning their at-home or community-based synchronized audiovisual sessions (see diagram of patient placement in HYCR and ITP development in **RG 1D** *CR Delivery Pathways Overview*). The actual number of in-facility sessions should be based on patient preference and clinical needs. For example, some patients with diabetes may need more visits front-loaded, to demonstrate to staff that their blood glucose responses to exercise are safe. Conversely, the patient who experienced same-day discharge after an out-patient PCI that is now symptom-free, quite functional and ready to resume his or her home exercise habits, may need just one center-based visit before moving to

synchronized audiovisual visits. Finally, any patient that has transitioned to audiovisual visits can return to center-based at any time, either to update their individualized treatment plan or have exercise blood pressure or EKG checked to address any new clinical concern.

- In addition to standard onboarding processes you use, you may want to discuss HYCR- specific issues with them, including:
  - Whether they have access to reliable internet access on a computer or smart device (smartphone or tablet)
  - Whether they have experience and are comfortable using an online platform (e.g., Webex)
  - Whether they have a location that is safe and comfortable to participate in HYCR sessions
  - Whether they have someone near them that can assist them with the technologies or if they have an urgent health issue
- Allow HYCR patients to join-in and observe an online exercise session with patients in HYCR. Seeing a session can raise questions you can answer and allow the patient to make an informed choice about participation
- If your program incorporates technologies/applications for exercising remotely, participating in sessions, or reporting data, provide/upload these when the patient is facility-based or have them call-in in advance of their first session to review and practice the audiovisual connection. This step may help the first remote session go more smoothly. Having a smooth and enjoyable initial remote session will help with retention of HYCR patients.
- Some programs have tip sheets or start-up documents for patients. Examples are included in the Resources Guide.

Planning for the Safe Operation of HYCR

Exercising safely at home or in the community is of paramount importance!

Safety Plans

Before you launch your services, develop a safety plan to support patients undergoing supervised exercise while offsite. Key features of the plan would likely include:

- Requiring that the first several CR sessions for each patient be provided in your facility
- Requiring the patient to be in the same state as your facility
- Confirming and writing the patient's physical address in the exercise log
- Obtaining pertinent information surrounding the patient's location prior to the start of each session
- Providing patients with a clear explanation of the processes that will be put in place to ensure their safety at home, and then have them repeat the processes back to you
- Requiring that each patient have an emergency plan in place and describe it to you
- Encouraging patients to contact your office with any concerns prior to the start of any sessions
- Instructing patients to ALWAYS call 911 if they have a medical emergency
- Having a process for letting the covering physician know when a virtual session is starting, in the extremely rare instance that their assistance might be needed

In most cases, programs currently offering HYCR are comfortable with patients participating in exercise sessions without another person present. However, for a frailer patient or a patient that might struggle with any technologies, you may wish to request that another person be present to assist as needed.

Monitoring

The need, extent, and type of monitoring conducted by a CR program depends on patient safety needs, the preferences of referring physicians, and the experience of CR staff, as well as possible input from your organization's risk management department. Aligning the monitoring approaches in HYCR with those used in FBCR will simplify this process for patients and staff. EKG monitoring is the one type of monitoring that is not feasible outside the facility, but there are ongoing discussions in the CR community regarding the need for this for all CR patients.

Checking in With Staff

The initial launch of your HYCR program and recruitment of patients is an important time to check back in with CR staff. Even those who were enthusiastic about offering a hybrid option may experience anxiety during the early launch phase. Figure 15 discusses the most common sources of staff anxiety and how they can be addressed.

Figure 15: Responses to Staff Anxiety Concerns

Staff Anxiety	
Concern	**Responses**
I don't know how to lead a remote session	Keep the format and processes as similar to your facility-based sessions as you can.
	A video that illustrates a synchronized, two-way audiovisual group CR session is available for concerned staff to view.
	Staff receive guidance from peers already leading the virtual CR sessions.
Patients may not be safe	Present data suggests no greater safety issues when comparing FBCR to HYCR.
	Emergency and contact numbers and protocols are in place for each patient.
	HYCR typically dictates that the patient's first few CR sessions be conducted in the CR facility. This allows staff to assess safety risks prior to starting their two-way audiovisual virtual sessions.
	Patient education on how to recognize important warning signs and symptoms and how to respond to them. Additionally, use of AACVPR risk stratification measures help address the absence of EKG telemetry while exercising remotely (Note. EKG telemetry is being used less and less in FBCR today as well).
	Patients are already encouraged to exercise independently at home.

Staff Anxiety	
Concern	**Responses**
Patients may not be able to use technologies to participate	Patient ability to use technologies is assessed facility-based before beginning virtual component of HYCR.
	Due to the covid pandemic, most patients today are increasingly familiar with using standard virtual platforms on their smart devices.
	Those patients that struggle with technology can recruit a friend or family member to assist them
HIPAA compliance and patient sharing of confidential information	Most of these concerns also exist during facility-based sessions and are handled appropriately there.
	The paperwork that patients complete prior to starting CR often identifies that "open" nature of group exercise classes (regardless of location). Your organization's legal or risk management team reviews and approves these prior to use.

TIP: Connecting staff new to HYCR to peers who have had positive experiences leading two-way virtual CR sessions is highly effective because reassurances from peers are often more credible than those from supervisors.

Section 6: Operating A HYCR Program

Overview

Offering remote/virtual, supervised, audio-visual exercise sessions to CR patients is THE key element that distinguishes HYCR from FBCR and from other home exercise programs that provide unsupervised exercise.

This section provides practical guidance on how to:

- Conduct remote, supervised audio-visual exercise sessions
- Provide educational and counseling support for HYCR patients
- Capture patient data during sessions
- Lead and monitor patient exercise remotely

This section also offers recommendations for offering the non-exercise-based components of CR, including nutritional counseling and psychosocial support.

Conducting Remote, Supervised, Audiovisual Exercise Sessions

A video is worth 1000 words!

- The TAKEheart project created an 18-minute video that illustrates an actual HYCR exercise session led at Henry Ford Health's CR program. Anyone interested in offering HYCR services should view this video to gain a better understanding of HOW to conduct a remote, supervised audio-visual exercise session.
  - **This video is just one example for how an HYCR exercise session can be led.** It is not a prescription for how all such sessions should be led. Workgroup members described different approaches they are using to lead HYCR sessions. All made their HYCR exercise sessions as closely aligned as possible to their facility-based sessions.

Key takeaways from this video include:

- **Remote sessions can be led by one instructor with multiple patients**.
  - This session included three patients, but the same approach has been used successfully for 6 patients at a time. The perception that HYCR is less efficient because exercise sessions can only be done with one or two patients at a time is a common but inaccurate objection to HYCR.
- **Remote sessions can look and feel very similar to exercise sessions conducted daily in CR facilities**.
  - Patients talk with each other and the instructor. Exercise and nutrition advice is intermingled with check-ins on patient progress. Data is collected and patient questions are answered (see guidance sheets for staff leading remote sessions in **RG 3A** *Running a Cardiac Rehab Virtual Session* and **3D** *Leading the Online Group Exercise Session*).
- **Instructors can develop rapport with patients and foster relationships between patients in a virtual setting.**

  - The instructor clearly knows her patients and they are comfortable with her and comfortable asking questions about diet, nutrition, and other topics important to successful CR. There's no reluctance to share basic data during the HYCR exercise session—just as is typically the case during facility-based exercise sessions.
- **The use of different exercise options by participating patients does not prevent the instructor from providing group guidance.**
  - The instructor is also able to track key patient data to ensure the exercise is safe and appropriately rigorous.

Education and Counseling Support for Hybrid CR Patients

HYCR provides all seven core components of CR delivered in facility-based programs. Unlike the exercise-based components of CR, the other components do not need to be provided synchronously. The educational and counseling components can be provided asynchronously using resources provided online or in printed form, or during online sessions led by qualified instructors**. Regardless of which approach you choose, you can ensure consistency by using the same approach as the one you use with FBCR patients.**

Below we review the approaches used by the Hybrid Workgroup members for delivering the educational and counseling components of CR.

Content:

- Most members use the same education and counseling resources with their HYCR patients as they use with patients in their facilities. Some programs use publicly available resources from trusted sources such as the American Heart Association, Million Hearts or proprietary resources provided by their vendors. Others have developed their own materials. Some sample resources are included or referenced in the Resource Guide.
- Some members have added HYCR specific resources that provide guidance regarding the mechanics of using the platform for remote/virtual exercise sessions or how to operate any exercise or monitoring equipment they are provided.
- No programs used totally different resources for their HYCR patients.

Location:

- Most HYCR programs represented in the Workgroup use primarily virtual channels that can be accessed by patients at their convenience.
- Half the Workgroup provides education and counseling primarily or exclusively during onsite visits (see a remote CR check-in and check-out process that integrates these dimensions in **RG 3B** Online CR: *Check In Process* and **3C** *Online CR: Check Out Process*).
- No Workgroup participants relied exclusively on asynchronous online resources (see physical activity counseling script as an example of phone-based approach in **RG 2D** *Physical Activity Counseling for HYCR Participating Patients- Sample Outline*).

Timing:

- Education and counseling are provided by most Workgroup members during both onsite visits and virtual/remote exercise sessions.
- Most also make resources and support available on demand from websites online.
- Half the group also indicated providing education and counseling support when patient needs were identified—either by the patients who ask questions or express concerns during exercise sessions or through emails or by instructors observing them during sessions. As with FBCR patients, HYCR patients can view non-exercise components of CR as less important. So HYCR programs use the same strategies to emphasize their value as are used in their facilities.

Method:

- Workgroup members reported conducting most of their education and counseling in both group and individualized education and counseling sessions.
- Typically, education and counseling advice is provided during the virtual/remote exercise sessions to take advantage of the "captive audience." This approach still allows for questions and dialogue between participants and the instructor.

Capturing Patient Data During HYCR Exercise Sessions

Data Elements

Try to align the data you capture during HYCR sessions with data you capture during facility-based sessions. We suggest capturing the following data elements which align with AACVPR program certification requirements:

- pre- and post-blood pressure
- pre-, during-, and post-heart rate
- weight (at least for heart failure patients)
- levels of exercise intensity

Data Capture

Some, but not all, programs provide measurement equipment to their patients.

- Some programs provide all patients with some measurement devices to ensure consistency and accuracy (and in some cases to allow for remote, automatic data sharing).
- Other programs provide measurement equipment only to patients who lack measurement equipment of their own.
- Additional options for measurement would include data captured by the equipment the patient is using or data from step counters, smart phones, or watches.

It will be important for you to record the types of exercise and measurement equipment the patient is using because this may affect how reported results should be interpreted.

Lack of measurement equipment is not considered a safety issue since most patients in facility-based programs are already encouraged to exercise at home at the same levels and for the same durations – and without a measurement requirement – as will be expected of HYCR patients.

Leading and Monitoring Patient Exercise Remotely/Virtually

Exercise Options and Ingredients for Success

There was strong consensus in the Workgroup that most patients will have ways for exercising during HYCR exercise sessions. Options for exercise endorsed by Workgroup members include:

- Resistance bands (see **RG 3E** *Wellstone Kennestone Cardiac Rehab Book of Band Exercises* for extensive collection of resistance band exercises)
- Stationary bicycles
- Treadmills
- Chairs for chair exercises
- Walking with a step counter or smart phone

Ingredients for success in home exercise noted by Workgroup members included:

- Creating an ITP and doing 30, 60, and 90-day updates can be done during facility-based session visit (If they need to be done remotely, this can be done during a separate phone or video call before or following an HYCR exercise session.)
- Encouraging patients to use the same exercise methods during their supervised sessions as they use when exercising independently (see a complete home exercise guide at **RG 3F** *Wellstar Cardiac Rehabilitation Home Exercise Guide.*
- Encouraging instructors to use their opportunities for observing patients in their home environment to offer advice that can make sessions and unsupervised exercise at home safer and more productive

How to Avoid Potential Challenges

As noted in Figure 16, most challenges associated with the exercise portion of HYCR programs can be avoided.

Figure 16: Challenges and Solutions for Leading Remote Exercise Sessions

Challenges	Solutions
Internet connectivity	Verify connectivity in advance of the first HYCR session.
	Encourage patients to exercise in areas in their homes where connectivity is strongest.
Technology issues	Discuss comfort with technology with patient and possibly a family member before starting HYCR.
	Have a second person supporting initial or larger HYCR sessions to help with technology issues while the primary instructor leads the session.
	Simulate participation in a HYCR session while the patient is still at the facility.

Challenges	Solutions
	Develop and distribute printed resources that describe solutions to common technology issues.
Patient emergencies	Have an emergency plan in place for the extremely rare event that emergency response is needed (see **RG 4A-4E** and **4J**) for example emergency protocols).
	If an emergency occurs and there is only one instructor, end the session immediately to focus on the emergency.

SECTION 7: Tracking Outcomes for HYCR

Why Track Outcomes?

Both internal and external audiences will want data showing that outcomes for HYCR and FBCR are comparable:

- Your administration will want evidence that HYCR patients had a positive experience with HYCR and experienced improvements in targeted outcomes.
- These data can be used to convince insurers to reimburse for HYCR or to assure insurers already paying for hybrid services that coverage is cost effective.

More specifically, tracking outcomes will enable you to answer the following key questions:

- Basic questions:
  - How has the addition of HYCR impacted wait times in your program?
  - How has the addition of HYCR impacted patient enrollment and completion of CR at your hospital?
  - What percent of your eligible patients are opting for HYCR?
- Intermediate questions:
  - What are the demographic profiles of your HYCR patients and how do they compare to those in your facility-based program?
  - Have overall CR program and HYCR program patient satisfaction scores remained high or improved?
  - How have performance measures for your overall program changed following the introduction of HYCR?
- Challenging questions (answering these will require more time and larger patient volumes):
  - How do risk adjusted performance measure scores for your FBCR and HYCR compare?
  - How do the risk adjusted rates for longer term outcomes such as cardiac-related hospitalizations compare for your facility-based and HYCR programs?

Which HYCR Outcomes Should be Tracked?

Track the same outcomes for your HYCR patients as you do for your facility-based patients. Commonly tracked performance measures are those required for program certification by AACVPR:

- Optimal Blood Pressure Control at Completion of CR
- Improvement in Depression at Completion of CR
- Improvement in Functional Capacity of at Completion of CR
- Tobacco Use Intervention for CR
- Enrollment in Cardiac Rehabilitation (beginning 2023)
- Adherence to Cardiac Rehabilitation (beginning 2023)

Additional measures identified as useful by Workgroup members included:

- SF-12: A commonly used quality of life measure
- Dartmouth COOP: A measure of seven domains of health status
- Rate Your Plate: An eating pattern assessment tool

To use these measures to compare outcomes of your facility-based and HYCR patients, you will also need to capture information on which of your patients participated in HYCR and which did not. You can do this using billing codes or by adding a field to designate this within your EHR.[3] This will allow you to capture HYCR participation even if some sessions are not billable.

In addition to documenting which patients are receiving HYCR, it also may be important to stratify outcomes by patient characteristics to allow for a better understanding of HYCR effects. If your HYCR program succeeds in getting patients to participate in CR that otherwise would not have, then simply comparing outcomes for facility-based and HYCR patients may not be appropriate. Patient sex, age, race, ethnicity, and insurance coverage are probably already captured by your organization (though race and ethnicity information is not always accurate). This information plus the performance measures related to enrollment and adherence will allow you to make more rigorous comparisons in outcomes between patients in FBCR, HYCR, or those that do not participate in either.[4]

Use the same processes for tracking HYCR outcomes as you use for your facility-based patients.

Sometimes the patient's final session can be held onsite, and data can be collected at that time. Alternatively, data can be captured immediately before or after the final virtual exercise session, or during a separate, follow-up call.

[3] Some AACVPR performance measures are linked to "billable sessions." AACVPR is being asked to clarify that HYCR sessions should be regarded as billable if they meet all standard for billable facility-based sessions even if they are not approved for billing by the patient's insurer.

[4] Programs part of an Accountable Care Organization or those seeking to avoid the financial impacts of avoidable cardiac hospitalizations may also want to track these longer-term outcomes. Because this process is complex, we advise you to work with your data or analytic group to obtain this information.

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