VIEWPOINT
What is Automatic Referral to Cardiac Rehabilitation Anyway? Panacea or Pitfall?

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Introduction
Substantial health risks exist following coronary events and procedures,(1) and cardiac rehabilitation (CR) plays a large role in reducing these risks(2)(3) in a cost-effective manner.(4) However, most research demonstrates low utilization of CR, and differential referral patterns based on patient characteristics which are unrelated to their eligibility.(5)(6)(7) While the determinants of CR participation are multifactorial, including patient, provider and health system factors, the CR literature often promotes automatic referral to address these gaps.(8)(9) This type of referral is proposed to both increase utilization, and promote equity in access to CR. However, automatic referral has not been defined nor rigorously evaluated in the literature.

Based on collaborative work to date, we would like to propose a working definition of automatic referral: the systematic, non-manual enrollment of all eligible cardiac patients (based on clinical practice guidelines(10)(11)) from acute care1 to cardiac rehabilitation closest to home. This may include a signature from the referring physician and transfer of pertinent medical data in order to book an intake appointment, depending upon funding mechanisms and individual CR program specifications.

Based on key informant interviews with over 30 providers, clinician-scientists, policy makers, and CR staff from the regional to international level,(12) several different models of “automatic referral” have been implemented in the field. The first model which most closely meets the definitional criteria utilizes hospital electronic patient records to prompt the standard order for a CR referral for all eligible cardiac patients. The use of information technology ensures that all eligible patients are systematically referred. The model generally incorporates ‘negative referral’ because a healthcare provider must sign off to impede referral. We have compelling preliminary data showing that this innovative model increases utilization and promotes equitable access.(13)(14)

However, there are notable drawbacks. For instance, CR staff may become overloaded with referrals to process manually. Despite this labor, many patients neglect to attend their intake appointment. Moreover, the significant increase in referrals may lengthen the wait list for CR, such that patients do not access services in a timely fashion. In one instance, the process was revised so that automatically referred patients were mailed CR information and asked to call to book an intake appointment if they were interested in attending (which departs from the definition of automatic referral because the process to book an intake appointment is then manualized). The significant increase in referrals holds important financial ramifications for these CR programs. Finally, because most healthcare facilities cannot electronically ‘talk’ to one another, referral to sites closest to home was also a manual process1.

A second model could be described as manual, but systematic, automatic referral. Here a nurse (or other allied health professional) serves as a liaison and approaches all eligible cardiac patients prior to discharge to inform them about CR and to provide them with an intake appointment (see also(15)(16)). The drawbacks of this model include the human resource investment, and the timing of patient enrollment. So, if your healthcare facility has the resources to fund a CR program, and to compensate a liaison nurse, next I would be concerned about the patient’s ability to absorb the information regarding the CR program when experiencing anxiety acutely post-coronary event. With shorter hospital stays, patients are often grappling with their diagnosis or procedure, recovering physically, and learning about medications, so that discussion of CR may not be best received during hospitalization. Some key informants noted that when called post-discharge, patients did not remember being approached about CR. This model does allow for two-way communication between the liaison and patient regarding CR referral, and personal encouragement to attend.

Another variation on the manual automatic referral model can be found where CR programs accept faxed referrals from other acute care sites. Here, an allied health professional faxes referral forms complete with physician signatures to the off-site CR program. The advantage of this model are that it enables referral to sites closest to home, and promotes regional coordination. Some CR programs have become adept at marketing, and ensuring acute care sites in the region have an ample supply of their referral forms. The drawback within this model is the non-manual function which may not capture all eligible patients. This model also raises the ethical issue of sharing of confidential patient information between sites.

While automatic referral is often described as a panacea, some potential pitfalls have been noted. In particular, automatic referral supersedes personal physician-to-patient endorsement of CR. This physician encouragement has been shown to be integral to patient willingness to attend CR.(5)(17) A...
second drawback relates to capacity issues. Automatic referral does ensure ample referrals, but servicing these patients requires necessary funding. Most CR programs have finite financial resources and may not be able to meet the demand for service from all eligible CR patients (particularly if we are currently serving less than 20% of those eligible(18)). Finally, automatic referral requires ‘buy-in’ of all cardiologists, cardiovascular surgeons, and family physicians in the region. While this is a worthy goal, it can be quite difficult to achieve.

In conclusion, as a field we have made preliminary progress in systematizing CR referral processes, but are now faced with some issues to address. The lessons from the Ontario CR Pilot Project(18) show us that it is possible to significantly increase capacity and to regionalize CR services. CR is a cost-effective(4)(19) intervention with proven efficacy on multiple outcomes, therefore it is imperative that we advocate for CR-friendly policy and funding to ensure equitable access. With advances in e-health surely we can rise to these challenges.

Reference List

2. Jolliffe JA, Rees K, Taylor RS, Thompson DE. CR Pilot Project(18) show us that it is possible to significantly increase capacity and to regionalize CR services. CR is a cost-effective intervention with proven efficacy on multiple outcomes, therefore it is imperative that we advocate for CR-friendly policy and funding to ensure equitable access. With advances in e-health surely we can rise to these challenges.

Acknowledgements:

Key informant interviews were funded as part of a larger grant by the Canadian Health Services Research Foundation. Pilot work on automatic referral was funded by a CIHR IGH post-doctoral fellowship to the first author. We would like to thank anonymous key informants and collaborators for relating their experiences implementing automatic referral models.

1 I have not addressed CR for primary care here for two reasons. First, the best evidence regarding the cost-effectiveness and efficacy of CR relates to secondary prevention. Second, the scope of automatic referral from primary care would be much larger and require discussion of disparate issues.
2 In addition to the retrospective work, a prospective controlled study is currently underway.
3 Although manual referral to sites closest to home is labor-intensive, our retrospective chart review of a random subsample of 500 cardiac patients automatically referred to CR verified that these patients attended 22 different CR sites.