Women are much less likely than men to complete cardiac rehabilitation with only $\approx 15\%$ to $20\%$ of eligible women participating in comparison with $22\%$ to $30\%$ of eligible men.

There are many reasons for this divide. Women are less likely to receive a referral for cardiac rehabilitation than men ($39.6\%$ versus $49.4\%$) even though the American Heart Association's guidelines for treating women with cardiovascular disease recommend rehabilitation.

"Women are less likely to get referred," said Sherry L. Grace, a professor in the School of Kinesiology and Health Science at York University and the University Health Network in Toronto. "We also know that if they are referred they are less likely to go. There are structural and system barriers that we still need to address and overcome."

The onset of heart disease is often later in women than in men, and many women may be widowed, not able to drive, or otherwise lack the support they need to get to rehabilitation sessions, Grace explained. They may find exercising tiring or painful. They also may have caregiver responsibilities that hold them back from participating.

"They put their family responsibilities in front of their health," she said.

To help boost women's participation, some studies have found that tailoring cardiac rehabilitation programs to women's needs may have some benefits.

WOMEN ONLY?

One approach that has shown some promise is women-only rehabilitation programs. Theresa M. Beckie, PhD, MN, BSN, MN, a professor in the College of Nursing at the University of South Florida in Tampa, and her colleagues conducted a single-site randomized trial that enrolled 225 women and compared a tailored women-only cardiac rehabilitation program with a traditional coeducational rehabilitation program. They found increased attendance in prescribed exercise classes ($90\%$ versus $77\%$) and educational sessions ($87\%$ versus $56\%$) among women in the single-sex program in comparison with the coeducational program. The women in the tailored women-only program also reported improved mental health, social functioning, and more positive feelings about their health and vitality.

Both programs produced comparable improvements in functional capacity, Beckie said, which is to be expected because both programs use the same exercises. In addition to the women-only exercise, women in the tailored group received motivational interviewing geared for women.

"We found (motivational interviewing) to be really effective for those women who were ambivalent," Beckie said. "We lose people who are scared and overwhelmed so they do nothing.”

However, the women-only groups seemed to help those individuals. For example, one woman with severe...
heart disease who was not ready to quit smoking still came to exercise and educational sessions. The woman said, “I’m not ready to quit, but I value the friendships I’ve developed here, and I know I need to change.”

Another randomized trial that enrolled 169 women and compared women-only rehabilitation with co-educational rehabilitation or home-based rehabilitation did not find an adherence advantage in the women-only group. It did, however, find reduced symptoms of anxiety and depression in the women-only group. The home-based option showed higher attendance than the women-only program.

Grace noted that her trial did not reach its target sample size. Additionally, the sex of participants was the only difference between her coeducational and women-only programs.

“They [Beckie et al] really tailored information to women’s needs,” Grace said. “They had a wholly different program and had so much more success with adherence.”

Despite her program’s success, Beckie said it is no longer in service and has not been replicated elsewhere. She explained that it is expensive and logistically challenging to run a women-only rehabilitation program. The University Health Network still offers a women-only program, but Grace noted there is only one time slot per week for the women-only program, which leads to higher dropout rates. Still, there are some psychosocial advantages.

“You see a lot more camaraderie with the women,” Grace said. “They often go out together for coffee afterward. They are supportive of each other.”

Grace suggested more study is needed.

“The jury is still out,” said Grace. “We need to have more trials of women-only rehabilitation.”

### AWARENESS AND FLEXIBILITY

In the meantime, to boost women’s participation in rehabilitation, more education for both providers and women about the value of rehabilitation may help, as may efforts that make rehabilitation programs easier for women to access. Grace suggests that cardiac rehabilitation programs work with acute care clinicians to boost referrals and educate women about the value of rehabilitation.

For example, Women Heart, a nonprofit organization that advocates for women with heart disease, recommends:

- Offering more flexible hours and days for cardiac rehabilitation.
- Expanding the cardiac diagnoses that qualify for reimbursement of rehabilitation.
- Allow physician assistants, nurse practitioners, and clinical nurse specialists to supervise rehabilitation.
- Support for alternative cardiac rehabilitation models.
- Coverage for different models of cardiac rehabilitation.

Grace suggested that home rehabilitation may be an option for women reporting barriers to home-based care.

It is available and works just as well,” she said. Currently, however, Medicare and other US insurers may not reimburse for home-based care, but Beckie said that new payment models that incentivize cardiac rehabilitation referrals and more home-based care will likely boost referrals and access for women. Home-based programs have already become well established in Australia and Canada, Beckie said. She is currently working on developing a home-based women’s rehabilitation program that would leverage mobile technology and wearable health trackers. As the technology for such programs advances, it will be important to find ways to preserve the camaraderie and networking that center-based programs offer women, especially for older women who may not have strong social support systems.

“We have to make sure we don’t lose that aspect,” Beckie said.

Having a variety of options for women should be a priority, because what works for 1 woman may not work for another. For example, in her study, Grace found that some women preferred center-based programs, because they said they might not be motivated to stick with a home-based program. Others preferred the flexibility of a home-based program because they did not have transportation or would need child care.

“Women have strong opinions about which model they want to go to,” Grace said.

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Women May Benefit From Cardiac Rehabilitation Programs Tailored to Their Specific Needs
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