Lean In, the book by Facebook’s chief operating officer, Sheryl Sandberg, has sparked a debate on the issue of women in the workplace that has spread like wildfire throughout the country. In the book, she highlights the large discrepancy between the number of men and women in positions of power and leadership. She suggests that in addition to external barriers, internal barriers, such as lack of self-confidence and anticipation of future family obligations, are hindering women from being successful. Through this book, she is petitioning for women to close the gender gap by leaning in to their careers, sitting at the main table, and being part of the discussion to promote change. Although her experiences and thoughts are predominantly in business, the discussion is applicable to every field, including our own. Her book should prompt introspection to understand why even in the 21st century there is such an under-representation of women in cardiology, particularly within leadership positions, and what can be done to change this.

According to the American College of Cardiology (ACC) Survey: Addressing the Cardiology Workforce Crisis, which was published in 2009, women comprise a small fraction of all cardiologists (Figure 1). Only ~12% of general cardiologists and <10% of interventionalists and electrophysiologists are women, even though women make up 50% of most medical school classes. What is more surprising is that the ACC membership profile data as of June 2012, >5 years later, suggests that only 10% of Full Physician Members from the United States are women. The data are more promising for fellows-in-training because women currently make up 22% of all ACC fellows-in-training members from the United States and 27% internationally (ACC membership profile data, unpublished data, 2013). However, this proportion is still strikingly low, especially considering that 30% of pediatric cardiologists are women and 49% of trainees in pediatric cardiology were women in 1998.

In addition, among cardiologists, women are less likely to excel academically and earn less than their male counterparts as highlighted by a recent report by the Association of American Medical Colleges on the current status of women in academic medicine and a recent Medscape Cardiologist Compensation Report that published cardiologists’ salaries by sex. The Association of American Medical Colleges survey reported that there is an attrition of women at higher ranks in the academic leadership ladder creating a large discrepancy between the number of female and male full professors (Table). The Medscape survey pointed out that the discrepancy in salaries between men and women (Table) is partially explained by the under-representation of women in higher paying procedural subspecialties. The question arises, is this because of internal barriers and lack of ambition, or is it because of realities and perceptions within the field that make it more difficult for women to balance work and home life?

In an interview with Katie Couric regarding her book, Sandberg advised that “women should go for the big job and deal with family later” (twitter.com/katiecouric, March 11, 2013), with the intent of early career acceleration. I believe this statement articulates an unspoken reality about success that many do not think about or want to admit. Within my own network in cardiology, I find deferral of personal and family priorities to be the rule rather than the exception. For example, among the 26 fellows in my training program, 7 are women. Of the female fellows, 3 are living apart from their husbands to pursue their career ambitions, 3 are still looking for their life partner, and only 1 is married, living with her husband, and has a child. In contrast, of the 19 men in the program, 13 are married, all live with their spouses, and 9 have children. This anecdotal experience provides an excellent example of how many women in this field are working toward the big job and, in a sense, dealing with family later. Are men given similar advice to defer family obligations? Some women wait to have children because of the demanding/competitive nature of the field and then come up against nature’s deadline when trying to have children. It is true that balancing career and personal responsibilities is a difficult issue that affects both men and women, but in my opinion, it disproportionately impacts women. The ACC Professional Life Survey conducted to learn how career decisions of men and women in cardiology influenced their professional and personal lives, which was published in 1998, supports these observations from my training. The survey found that more men than women were married (90% versus 71%), more men than women had children (88% versus 63%), and females were slightly older at the time of their first child (32 versus 29 years old) in 1998.

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When applying for fellowship, women are often encouraged to give the standard answer if ever asked about family planning: “Right now my primary focus is my career,” to obtain a coveted fellowship spot in this highly competitive field. I met a female cardiologist in private practice who was back at work 2 weeks after delivering her baby mainly because she felt the pressure to carry her own weight in the practice. Are women bending too far backward trying to fit the traditional mold of a male cardiologist rather than blazing a path more appropriate for the new generation of female cardiologists who are also balancing family responsibilities? Furthermore, even if a more balanced career pathway was created, is it possible to climb the ranks of the academic or partnership ladder if one’s attention is divided?

I truly believe that to achieve success in any field, it is imperative that one puts in the requisite time and effort. How much time is unclear, but author Malcolm Gladwell suggests it takes 10000 hours to achieve greatness in any craft. However, those 10000 hours come with an opportunity cost; opportunity cost is the value of the forgone alternative when pursuing an action. The opportunity cost for successful women in the workplace can sometimes be forgoing or delaying the start of a family. Interventional and electrophysiology fellowships prolong training and increase the opportunity cost, which often deters women from entering these specialties. Many female faculty members at our institution cite this reason for not pursuing a procedural specialty despite their passion or interest, consistent with Sandberg’s theory that women often “lean-out” from their careers prematurely in anticipation of family obligations. Additional factors deterring women from procedural specialties include radiation exposure and associated pregnancy risk. Although this is a concern, it requires additional research to fully understand the risk.

These observations and realities have been reported and discussed on multiple occasions during the past decades. The American Heart Association (AHA) and the ACC have worked hard to recruit women into cardiology and encourage success when in cardiology through mentorship, networking, and development of leadership skills. Both organizations have developed Women in Cardiology committees/sections that are dedicated to these goals. The AHA has a successful scholarship program for current trainees held at the annual AHA scientific meeting and a mentorship award recognizing those who have been exceptional mentors to women in the field. The ACC has multiple programs to help recruit women into cardiology, such as their online mentorship programs, visiting female professor programs, and networking opportunities at scientific meetings. However, it is unclear what impact these programs have had on recruitment thus far. It is important to assess the effectiveness of any new program through regular monitoring and modify the approach as necessary. I was not aware of many of these programs when I was a resident considering cardiology, so there may be opportunities for improving dissemination. It would be helpful to assess regional variability in the use of the programs, figure out ways to increase awareness of these projects, and get feedback from those who have used them. Also, it would be helpful to develop surveys to assess when in a trainee’s career he/she makes career decisions and when a mentor would have the largest impact (premed, medical school, or residency) and to assess what deters female internal medicine residents from going into cardiology because this transition is when the proportion of women drops significantly (Figure 2). These initiatives may help focus the efforts for future recruitment.

Several other strategies may be helpful for recruiting women in the cardiology workforce. For example, it may be useful to develop an online module discussing the risks of radiation exposure during pregnancy, summarizing the current data on the topic, and discussing methods to minimize the risk and effectiveness of these methods. Such an educational activity could draw source material from the ACC/AHA executive summary on radiation safety published in 1998. It may be helpful to have this module available on the AHA and ACC websites and be incorporated into cardiology orientation curriculums to help mitigate fear regarding radiation during pregnancy. This may help encourage more women to pursue procedural specialties.

I think networking events are helpful, but it is especially helpful to have more personal contact with mentors. Providing opportunities for female fellows-in-training to discuss career and family struggles with visiting female professors through lunch or dinner events can be insightful, and organizing events within the department with other female

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**Table. Cardiologist Compensation and Academic Appointments by Sex**

<table>
<thead>
<tr>
<th>Category</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cardiologist Compensation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average annual salary</td>
<td>$310,000</td>
<td>$362,000</td>
</tr>
<tr>
<td><strong>Academic appointments</strong>†‡</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Instructor</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Assistant professor</td>
<td>18%</td>
<td>24%</td>
</tr>
<tr>
<td>Associate professor</td>
<td>7%</td>
<td>14%</td>
</tr>
<tr>
<td>Full professor</td>
<td>5%</td>
<td>19%</td>
</tr>
</tbody>
</table>

*Data extracted from the 2013 Medscape Cardiologist Compensation Report.‡ Academic appointments (all specialties) are reported as percentages of full-time faculty at US full accredited medical schools.

faculty can proactively address concerns and build a mentorship community. In addition, women faculty should reach out to trainees at all levels of training because women often relate better to women and are more likely to have female mentors.

Last, I think cardiology divisions should consider having longer tenure tracks for women who have young children and need time to focus on their families. Flexibility here may allow women to have it all but just not all at the same time. However, the onus is not only on the cardiovascular community. It is also important for women to understand the internal and external barriers that prevent them from setting the highest expectation for themselves and work on overcoming them. Many women in cardiology have set a precedence demonstrating that both (career and family) can be balanced and balanced well. Meeting these women is inspiring and motivating. Based on their experiences, it seems that balancing both responsibilities requires collaboration from life partners, delegation of nonessential work, efficient time management, and setting appropriate expectations.

I personally love what I do and want other women who enjoy the field of cardiology not to be deterred. Prior surveys of cardiologists have shown high job satisfaction in the field, almost 90% among men and women. Despite my zeal, I have personal apprehension about the future when I have children and how it may affect my career trajectory. As I discuss this topic with other women in the field, I find this concern is common among women early in their career. Because of biological differences, women will always face greater conflict when trying to balance family and career. We need to embrace the differences between men and women in the cardiology workplace, work to better understand them, recruit more women into cardiology, and create avenues that allow women to flourish and lead in our specialty.

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References

Figure 2. Percentage of women in different stages of training and cardiology practice. Data extracted from the following sources: ACC membership profile data (unpublished data, 2013) and ACC 2009 Survey Results and Recommendations: Addressing the Cardiology Workforce Crisis.2

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