Breast cancer remains the most common cancer among women, and efforts to prevent it through identifying modifiable risk factors could have a significant impact on its burden worldwide. Family history of breast cancer is a well-established risk factor, especially if one or more of the familial cancers occur at a younger-than-average age. The presence of a family history can increase the risk for breast cancer 2-to 8-fold. The recognition of familial clustering of breast cancer in some families has led to the identification of several cancer-predisposing genes, including BRCA1 and BRCA2, that when mutated can increase the lifetime risk of breast cancer up to 80% in mutation carriers. Genetic testing for these and other breast cancer–susceptibility genes has become commercially available and is routinely coordinated by trained cancer genetic counselors who provide education and counseling to help individuals make well-informed decisions about testing and risk reduction management strategies.

Genetic counseling is defined as the process of helping people understand and adapt to the medical, psychologic, and familial implications of genetic contributions to disease. The primary reasons cited by women who are considering genetic testing for inherited breast cancer are to learn about their own risk and the risks of other family members, and to learn ways to prevent the cancer. Specific goals of the counseling process are to (1) provide accurate information on the genetic, biologic, and environmental factors related to an individual's risk of cancer; (2) provide a sufficient understanding of the genetic basis of cancer to assist in decisions regarding genetic testing; (3) provide a realistic assessment of personal risk for the genetic syndrome and the disease; (4) formulate appropriate options and recommendations for prevention and screening; and (5) offer psychosocial support appropriate to a family's culture to facilitate adjustment to an altered-risk perception and to promote adherence to the recommended actions. Genetic counseling can also educate patients who are not appropriate for genetic testing but who still may have an increased risk for cancer. In the case of hereditary breast cancer, discussion of prevention in the counseling session has focused on increased surveillance and prophylactic surgeries.

In the 20 years since the discovery of BRCA1, it has become clear that breast cancer genetic counseling and testing can lead to prevention and a decrease in mortality from breast and ovarian cancers. However, hereditary factors account for only 5% to 10% of all breast cancers and, even among individuals with a strong family history, a deleterious mutation is found in only 15% to 20% of those tested. Most women who undergo genetic testing for hereditary breast cancer, therefore, receive uninformative test results and uncertain guidance regarding risk reduction.

In addition to family history, decades of epidemiologic research have identified several well-established risk factors for breast cancer. Many of these risk factors are reproductive events that cannot readily be modified. However, several of the risk factors, including postmenopausal obesity, lack of physical activity, alcoholic beverage consumption, and combination hormone replacement therapy, are modifiable. Experts estimate that 15% of overall breast cancer risk is attributable to weight gain in adulthood. Moderate physical activity is estimated to decrease breast cancer risk by 15% to 25%. The relative risk for breast cancer among women who consume alcohol is 1.5, and this risk increases with increasing amounts. The use of combined estrogen/progesterone hormone replacement therapy has been shown to increase the risk of breast cancer by 25%.
In the Women’s Health Initiative, those who had the best adherence to the American Cancer Society guidelines for weight control, diet, alcohol consumption, and physical activity showed a 22% lower risk of breast cancer than women with the lowest adherence, and experts have suggested that the adoption of healthy behaviors and chemoprevention could prevent more than half of all breast cancers. For this reason, the NCCN Clinical Practice Guidelines in Oncology for Breast Cancer Risk Reduction recommend counseling about the importance of weight control, exercise, moderation in alcohol consumption, and avoidance of combined hormone replacement therapy (to view the most recent version of these guidelines, visit NCCN.org).

The role of the cancer genetic counselor has been evolving from a primarily nondirective teaching role to one that includes advice on coping with cancer risk and tools to gain control over risk. Thus, genetic counseling has the potential to influence health behaviors and reduce breast cancer risk. However, genetic counseling education does not typically include formal training in models of behavior change, and current standard practice is not, in most cancer genetic counseling sessions, to include a discussion about the opportunity to modify health behaviors as a means to reduce breast cancer risk. Are we missing a valuable opportunity, or a “teachable moment,” to include recommendations for the adoption or continuation of regular preventive health behaviors during the counseling process? Individuals pursuing breast cancer risk counseling, who are already motivated to consider health behavior change, may be an ideal population for intervention. Another advantage of targeting this population is that they often pursue breast cancer risk counseling at a young age, when prevention efforts can have long-term benefits. The counselors’ guidance in promoting good health behavior not only could benefit the individual being tested, but also has the potential to influence others in the family who share the risk of breast cancer. The cancer risk counseling community has reached an opportune time to consider exploring the impact of health behavior counseling on breast cancer-related health outcomes and to identify methods for optimal delivery of this information.