Women with a BRCA1 or BRCA2 mutation have a 6- to 8-fold increased risk of developing breast cancer as compared to the general Dutch population. BRCA1/2 mutation carriers weighing their options for cancer risk reduction strategies make very different choices about how to manage their cancer risks, depending on their age, family history, reproductive history, concurrent diagnoses, and personal preferences. Currently, the risk reducing strategies for carriers are prophylactic surgery and screening for early detection. Other preventive approaches are chemoprevention and risk avoidance behaviour (i.e. hormonal and lifestyle factors) but due to lack of knowledge these approaches are currently not part of the genetic counseling process.

The studies described in this thesis suggest that diagnostic radiation, lack of physical activity, and increased body weight increase the risk of breast cancer in BRCA1/2 mutation carriers. Because BRCA1/2 mutation carriers are frequently screened by mammography from a relatively young age onwards, the potential hazardous effect of mammographic screening at young ages is a major concern and should be balanced against its potential benefit. As physical activity and body weight are among the few modifiable risk factors for breast cancer, they may provide a target to add to breast cancer prevention in this high risk population.

**ABOUT THE AUTHOR**
Anouk Pijpe was born in Woerden, the Netherlands, on December 23, 1978. She lived in Bodegraven, Saint-Nom-la-Bretèche (France), Sint-Genesius-Rode (Belgium), and Bilthoven, where she graduated from the Werkplaats Kindergemeenschap Kees Boeke School in 1997. In the same year, she started Nutrition and Health at the Wageningen University. After she obtained her MSc in January 2002, she fulfilled a position as a research assistant at the Departments of Epidemiology and Pathology at the Netherlands Cancer Institute (NKI-AVL). From 2003 onwards she held a research position at the Department of Epidemiology at the University of Maastricht. In November 2004 she returned to the NKI-AVL and started a PhD project within the framework of the HEBOON-study at the Department of Epidemiology which resulted in this thesis.