BIOGRAPHICAL SKETCH

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NAME: Rebbeck, Timothy R.

eRA COMMONS USER NAME (credential, e.g., agency login): Rebbeck

POSITION TITLE: Professor of Cancer Epidemiology, Harvard TH Chan School of Public Health

Professor of Medical Oncology, Dana Farber Cancer Institute

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Northwestern University, Evanston, IL	B.A.	06/1984	Biology
The Johns Hopkins University, Baltimore, MD	Sc.M.	06/86	Epidemiology
The University of Michigan, Ann Arbor, MI	Ph.D.	01/91	Human Genetics
University of Michigan, Ann Arbor, MI	A.M.	01/91	Statistics

A. Personal Statement

I am a Professor of Epidemiology at the Harvard TH Chan School of Public Health and the Dana Farber Cancer Institute. My research focuses on the genetic and molecular epidemiology of cancer. I have directed multiple molecular epidemiologic studies and international consortia including the PROSE (Prevention and Observation of Surgical Endpoints) and the BRIDGE (*BRCA1/2* International Diversity in Geography and Ethnicity) consortia. These studies identify and characterize genes that are candidates for involvement in *BRCA1/2*-associated breast and ovarian cancer etiology, and describe the relationship of allelic variation cancer occurrence and cancer outcomes. This research also focuses on the use of genetic information in identifying optimal cancer prevention strategies, including the use of preventive surgery in high-risk women. I co-led an ovarian cancer SPORE project for nearly a decade.

B. Positions and Honors

RESEARCH/PROFESSIONAL EXPERIENCE

1994-1999	Assistant Professor of Epidemiology University of Pennsylvania, Philadelphia
1999-2004	Associate Professor of Epidemiology University of Pennsylvania, Philadelphia
2004-2015	Professor of Epidemiology, University of Pennsylvania, Philadelphia
2006-2015	Director, Center for Genetics and Complex Traits, University of Pennsylvania, Philadelphia
2007-2015	Associate Director for Population Science, Abramson Cancer Center, Philadelphia
2015-present	Professor of Cancer Epidemiology, Harvard TH Chan School of Public Health, Boston, MA
2015-present	Professor of Medical Oncology, Dana Farber Cancer Institute, Boston, MA

HONORS

1993-1996	Preventive Oncology Academic Award
1998	CapCure Prostate Cancer Research Award
2008	Potamkin Award for Breast Cancer Research
2011-2016	Fulbright Specialist Award
2017	ASPO Distinguished Achievement Award

C. Contribution to Science

Dr. Rebbeck has led a number of international consortia including the following:

- "Prevention and Observation of Surgical Endpoints" (PROSE) is a multicenter international prospective cohort study of the clinical efficacy of cancer prevention strategies, which has led to the current clinical management and prevention recommendations for women with these mutations.
- "*BRCA1/2* International Diversity by Geography and Ethnicity (BRIDGE) is an international consortium

In addition, Dr. Rebbeck is actively involved in research of the CIMBA consortium, the worldwide consortium studying carriers of *BRCA1* and *BRCA2* mutations.

Cancer Prevention

Dr. Rebbeck has contributed to the clinical management of risk in *BRCA1/2* mutation carriers by publication of research that demonstrates that risk-reducing salpingo oophorectomy (RRSO) and risk-reducing mastectomy (RRM) lead to lower breast and ovarian cancer risk (Rebbeck et al. *NEJM* 2002, Domchek et al. *JAMA* 2010) as well as reduction in mortality (Domchek et al. *Lancet Oncology* 2006). This series of papers has changed the clinical practice of cancer prevention in BRCA1/2 mutation carriers, such that women are currently recommended to undergo RRSO as the primary means of ovarian cancer prevention. Dr. Rebbeck's work also demonstrated that this surgery also reduces breast cancer risk, and that post-RRSO hormone replacement therapy may be used for a short period without adding undue cancer risk in this population. Dr. Rebbeck has also shown that RRM is associated with breast cancer risk reduction, but that this surgical approach should be undertaken cautiously, as other means of breast cancer risk reduction are available.

Domchek SM, Friebel TM, Singer CF, … Rebbeck TR. Association of risk-reducing surgery in BRCA1 or BRCA2 mutation carriers with cancer risk and mortality. *JAMA.* 2010;304(9):967-975.

Rebbeck TR, Lynch HT, Neuhausen SL, et al. Prophylactic oophorectomy in carriers of BRCA1 or BRCA2 mutations. *N Engl J Med.* 2002;346(21):1616-1622.

Domchek SM, Friebel TM, Neuhausen SL, … Rebbeck TR. Mortality after bilateral salpingo-oophorectomy in BRCA1 and BRCA2 mutation carriers: a prospective cohort study. *Lancet Oncol.* 2006;7(3):223-229.

Modification of Cancer Risks

Cancer risks among women who have inherited a *BRCA1/2* mutation are the result of the complex interactions of many factors, including genes at other loci and exposures. Dr. Rebbeck has evaluated the role of other genes, including those that encode proteins that interact with *BRCA1* and/or *BRCA2* (Rebbeck et al. *Cancer Research* 2009, 2011). Additional modifier genes under study include those associated with telomere function. He has also evaluated the most definitive summary evidence for non-genetic modifiers of cancer risk in this population (Friebel et al., *JNCI*, 2014). Finally, in conjunction with the CIMBA consortium, he has shown that there is a strong relationship of the type, function, or location of *BRCA1* or *BRCA2* mutation with cancer risks (Rebbeck et al. *JAMA* 2015). This information can be used to refine cancer risk estimates in women with *BRCA1/2* mutations and inform improved decision-making of preventive strategies.

Rebbeck TR, Mitra N, Domchek SM, et al. Modification of BRCA1-Associated Breast and Ovarian Cancer Risk by BRCA1-Interacting Genes. *Cancer Res.* 2011;71(17):5792-5805.

Rebbeck TR, Mitra N, Domchek SM, et al. Modification of ovarian cancer risk by BRCA1/2-interacting genes in a multicenter cohort of BRCA1/2 mutation carriers. *Cancer Res.* 2009;69(14):5801-5810.

Rebbeck TR, Mitra N, Wan F, et al. Association of type and location of BRCA1 and BRCA2 mutations with risk of breast and ovarian cancer. *JAMA.* 2015;313(13):1347-1361.

Friebel TM, Domchek SM, Rebbeck TR. Modifiers of cancer risk in BRCA1 and BRCA2 mutation carriers: systematic review and meta-analysis. *J Natl Cancer Inst.* 2014;106(6):dju091.

Risks in Underrepresented Populations
The worldwide CIMBA consortium includes over 45,000 *BRCA1/2* mutation carriers. However, less than 4% of these are non-White. Dr. Rebbeck has established the international BRIDGE study to specifically address cancer risk and prevention in under-represented populations.

Complete list of Published Work in MyBibliography: http://www.ncbi.nlm.nih.gov/sites/myncbi/1dq2n9pC-oxA6/bibliography/47758039/public/?sort=date&direction=ascending

D. Research Support

Ongoing Research Support

P60-MD006900 (Rebbeck) 7/1/2015 - 02/28/18
NIH
This Center of Excellence (COE) is being submitted to address significant gaps in our knowledge about disparities prostate cancer (PCa) outcomes, and to develop interventions that can be applied to reduce these disparities between African (AA) and European (EA) Americans in Philadelphia. The mission of the proposed center is to (1) undertake research that will identify biological, behavioral, social, environmental, geospatial, physical environmental and health care factors that influence PCa outcomes, and (2) integrate, evaluate, and disseminate this information to at-risk populations in Philadelphia communities.

U01-CA184743 (Rebbeck) 09/07/15 – 8/31/20
NIH

Genetics of Prostate Cancer in Africa
Specific Aim 1: Detect Novel African alleles in prostate cancer susceptibility regions identified by genome-wide association studies Hypothesis 1.1. Novel African variants exist at prostate cancer susceptibility loci that have not been previously described in European or Asian populations.

R01-CA201430 (Murphy) 12/1/15-11/30/17
NIH

P53 Variants in Cancer Risk and Therapy
Identify the genetic events with environmental exposures and endogenous physiology, conducting biomarker analyses specific to each aim. Assisting with the statistical analysis required in Aim 2.

P30 CA006516 (Benz) 12/1/2016-11/30/2017
NIH/NCI
Cancer Center Support Grant
The primary goal of the Center is to promote collaborative interactions that will lead to new approaches to cancer prevention, diagnosis and treatment. The primary goal of the Center is to promote collaborative interactions that will lead to new approaches to cancer prevention, diagnosis and treatment.

UL1 TR001102 (Nadler) 09/26/2013 – 04/30/2018
National Institutes of Health / NCATS
Harvard Clinical and Translational Science Center
The mission of the CTSC is to provide enriched resources to educate and develop the next generation of researchers trained in the complexities of translating research discoveries into clinical trials and ultimately into practice. It also aims at designing new and improved clinical research informatics tools for analyzing research data and managing clinical trials; supporting outreach to underserved populations, local community and advocacy organizations, and health care providers; and assembling interdisciplinary teams and forging new partnerships with private and public health care organizations.
Role: Community Engagement Program Leader

Completed Research Support

R01-CA158243 (Mao) 07/01/11 – 04/30/16

NIH
Estrogen Deprivation and Aromatase Inhibitor Associated Arthralgia
This application entitled, "Estrogen deprivation and Aromatase Inhibitor associated Arthralgia," seeks to apply pharmacogenetic epidemiology, appropriate biomarkers, and validated patient-reported outcomes to define the role of estrogen deprivation in arthralgia (joint pain) occurrence, severity, and functional interference among postmenopausal women receiving aromatase inhibitors (AIs) as adjuvant therapy for early stage breast cancer.

U54-CA155850 (Schmitz) 06/24/11 – 05/31/16
NIH
Penn TREC Survivor Center
The primary goal of the Penn TREC Survivor Center is to leverage the considerable strengths of Penn scientists and clinicians to accelerate capacity to address obesity related challenges in cancer survivors, as well as disseminating those findings to improve outcomes for survivors.

P30-AI045008 (Hoxie) 07/01/14 – 06/30/15
NIH
Center for AIDS Research
CFAR provides administrative and shared research support to synergistically enhance and coordinate high quality AIDS research projects.