**Harvard School of Public Health**

**Dana-Farber Cancer Institute**

Comprehensive Educational Program in

Cancer Prevention

Program Description and Call for Applications

**Application due date extended to: March 31, 2014**

Applications are invited for the joint Harvard School of Public Health (HSPH)‑Dana Farber Cancer Institute (DFCI) Educational Program in Cancer Prevention. This program draws on the teaching, scientific research, and field activities of the HSPH, the clinical resources of the DFCI, and the shared laboratory and scientific facilities of both institutions to form the basis for a comprehensive education program in cancer prevention and control. The National Cancer Institute funds this five-year program. To be eligible, applicants must be a U.S. Citizen or have a green card.

The overall goal of the program is to create a cadre of public health and clinical professionals who will be:

(a) knowledgeable about the current state of the science of cancer prevention;

(b) expert in a specialized research area in which they will be positioned to

 generate new knowledge and public health practice to advance cancer prevention;

(c) skilled in formulating and writing research proposals;

(d) sufficiently well anchored in professional networks that they can monitor future developments in cancer prevention and translate their knowledge into research ;and

(e) skilled in transdisciplinary approaches to research in cancer prevention and control.

**Structure of the Program**

The program is directed by **Glorian Sorensen, PhD, MPH**, Professor of Social and Behavioral Sciences at HSPH and Director, Center for Community-Based Research at Dana-Farber Cancer Institute, Adult Oncology Division of Population Sciences. The Internal Advisory Committee consists of: **David Christiani, MD, MPH, MS,** Professor and Director of Environmental and Occupational Medicine & Epidemiology at HSPH; **Sue Goldie, MD, MPH**, Professor of Health Policy and Decision Science at HSPH; **Cassandra Okechukwu, ScD, MSN/MPH**, Assistant Professor of Social and Behavioral Sciences, **Nancy Rigotti, MD**, Professor of Medicine, Ambulatory Care & Prevention at HMS and Director of Tobacco Research and Treatment Center at MGH; and **Kasisomayajula Viswanath, MA, PhD**, Associate Professor, Medical Oncology at DFCI, and Associate Professor of Social and Behavioral Sciences at HSPH.

There are 30 participating faculty members across multiple Harvard institutions, providing rich breadth of research opportunities for participating fellows.

**Types and Numbers of Training Positions Available**

The program seeks to strike a balance between social and behavioral scientists, who would become leading investigators developing new strategies for primary and secondary prevention of cancer, and physicians who would become clinical investigators in the field of cancer prevention in public health practitioners.

The program will accommodate one physician pursuing a degree, three post-doctoral researchers, and five pre-doctoral positions. The training focuses on three core components: (1) specialized curriculum, (2) other didactic experiences tailored to fellow’s needs and interests, and (3) research experiences.

# The Pre-doctoral Program

The pre-doctoral program is designed for students who already hold master's degrees and are ready to obtain doctoral training to carry out research in cancer prevention. A prime objective is to train cancer prevention specialists capable of conducting independent research and providing scientific leadership. Pre-doctoral slots can be funded up to three years. At completion of their training, professionals are fully conversant with the broad range of topics in cancer prevention, have deeper training in a specific approaches to cancer prevention (e.g., legal strategies to deter smoking, or policy analysis of resource allocation decisions in cancer prevention), and are prepared to conduct independent research in cancer prevention.

Doctoral candidates complete 20 units of study in their major field of concentration consisting of core requirements and electives. In addition, the School of Public Health requires that students complete 10 units of study in each of two minor fields. Original research is required of all trainees earning doctoral degrees and is supervised by our teaching faculty engaged in ongoing projects.

All doctoral candidates at the Harvard School of Public Health must pass two qualifying examinations: a written examination, administered by their department, and an oral examination that evaluates their understanding of the disciplines relevant to the conduct of their specific thesis proposal. Thesis research is supervised by a committee of three or four faculty. The thesis, which for these fellows focuses on cancer prevention, must be acceptable both to the members of the committee and to the Department. At least one member of their committee must be a member of the Cancer Prevention Education Advisory Committee and provide mentoring in cancer prevention.

###### The Post-doctoral Programs

Prior to entering the program, postdoctoral fellows have had training in one or more of the disciplines contributing to the field of cancer prevention. The Program offers training to two categories of post-doctoral fellows:

* Physician/Scientist, matriculated for a degree (SM/MPH or SD) and research mentoring
* Post-doctoral (e.g., MD, PhD, EdD, ScD), and focused on mentored research

Not only do candidates come from different backgrounds, but their career goals require different training. Accordingly, we provide two to three years of training support for postdoctoral trainees; incoming post-doctoral fellows are assured two years of training; additional years are granted upon review of the Program Leaders. The Program aims for a flexible approach, allowing them to choose between a number of options that differ in majors of specialization - for example; intervention trials at the work-site, or studies of cancer communications - yet share a common focus on cancer prevention consistent with the overall objectives of the program. Although the Program offers considerable flexibility, each trainee develops a set of learning objectives that structures the fellowship. These objectives are developed in consultation with the advisor and add a focus to course work and research placements.

The two post-doctoral fellowship options include the following:

(1) *Physician/Scientist, matriculated for a degree (SM, MPH or SD) and research mentoring*: This option provides training for oncologists and other specialists with a strong background in cancer, seeking additional research training in cancer prevention and public health. These fellows may be accepted into a one- year program, with the goal of further preparing them for a research career in cancer prevention. Alternatively, physicians may elect to enroll into the Doctor of Science Program (SD). The components of the doctoral program are the same as described above for pre-doctoral candidates. These degrees generally require three to four years of training. After three years of initial support from this educational program, trainees are shifted to other research support funds. Mentoring provided through the Program helps to prepare fellows for writing grants that may support this continued research.

Physician trainees in any of these degree programs are also expected to engage in mentored research experiences. For those completing a one-year masters program, these research experiences may follow the completion of coursework, or may occur during the summer months. For physician fellows earning a doctoral degree, the mentored research is incorporated into their doctoral studies, as described above for the pre-doctoral fellows.

The education program provides a formal training mechanism for oncologists seeking to advance their cancer prevention research skills.

(2) *Postdoctoral Research Fellows focused on mentored research*: Applicants with doctoral degrees in the social and behavioral sciences (e.g. sociology, psychology, economics), epidemiology, biostatistics, nutrition, nursing, genetics, education, health and social behavior, or related fields or with M.D. degrees, may be accepted for a two- to three- year postdoctoral research fellowship which does not result in a degree. These trainees engage in mentored research, leading to participation on one or more ongoing projects in order to gain specialized training in cancer prevention and control. The Program Leaders recommend a primary mentor for each fellow; the mentor’s role is to supervise the research and monitor progress. In consultation with primary mentors, fellows identify one or more secondary mentors, with the aim of gaining diverse perspectives of cancer prevention across disciplines. Fellows will work under the direction of their mentors in collaborative research projects in their area of specialization.

Although they do not take course work leading to a formal degree, these fellows attend and contribute to the Program’s monthly seminar series, and participate in the required courses and workshops in the Specialized Curriculum, described below. In addition, all post-doctoral fellows participate in advanced courses as needed, from the wide range offered in the HSPH and extended Harvard curricula.

## Specialized Curriculum

An important goal of this training program is to prepare trainees to conduct state-of-the-art, multi-disciplinary research in cancer prevention and control. The Specialized Curriculum for the Harvard Cancer Prevention Education Program prepares trainees in this interdisciplinary focus through three components: (1) a core curriculum of two courses required of all fellows (see below); (2) tailored coursework for pre- and post-doctoral fellows, thus customizing the program to the individual trainees based on their specific interests and career goals; and (3) a monthly seminar and workshops. Flexibility in the training program is important because the field of cancer prevention is developing rapidly. Future leaders in this field will come from many different backgrounds and will need to work together in the design and implementation of prevention programs. To prepare for this challenging and diverse work environment, training offers a wide range of opportunity to learn about cancer, risks, assessment, intervention, prevention, and evaluation. From the broad spectrum that forms their basic course work, degree candidates will then have the opportunity for more focused research. The area chosen for specialization may complement existing skills and knowledge (e.g. a post-doctoral fellow may take courses in biostatistics or epidemiology) or it may represent a primary focus for pre-doctoral trainees. Because national priority areas for the prevention of cancer will continue to change over time, trainees must be conversant with principles of each component of cancer prevention and be prepared to shift their focus. Our vision in crafting the program reflects the need to have a broad overview of the field of cancer prevention, a shared body of core knowledge for all trainees, and the tools to identify priority opportunities for prevention and control of cancer.

# Core Curriculum

The Core Curriculum includes two courses required of all fellows:

(1) *Cancer Prevention (EPI224 or approved Independent Study equivalent)*: A specially-developed core course offers an introduction to the breadth of cancer prevention. Every trainee is required to take *Cancer Prevention*, the core-course specifically developed to provide the overview of the entire field of cancer prevention and control. This course was initially designed to parallel the NCI curriculum in cancer prevention. Topics include; genetics and cancer biology, cancer prevention and control methodology, prevention and control of organ specific tumors, exposure assessment, smoking cessation, diet assessment and modification, chemoprevention, biomarkers both to assess risk and determine outcome, cancer surveillance, health promotion, behavior modeling, screening, and community interventions. The syllabus for this course has evolved over the ten years that it has been offered.

(2) *Responsible Conduct of Research (HPM548)*: This ethics course is a HSPH requirement for all trainees funded by NIH grants. The course reviews a series of ethical issues that arise in the conduct of research. Topics include financial and non-financial conflict of interest; responsible authorship and publication; peer review; ownership of data and biological samples; grant writing; budgeting and adequate allocation of resources; mentor-mentee relationship and their responsibilities; data acquisition, selection and management; sharing of research results; intellectual property; safe laboratory practice, mistakes and negligence; research misconduct and responding to suspected research/professional misconduct.

# Seminar Series and Workshops

All fellows are required to participate in a monthly seminar series on cancer prevention.

In addition, post-doctoral fellows are required to participate in the DF/HCC Risk Reduction Program workshops. These workshops are offered two to three times per year, and address cutting-edge topics for cancer prevention research. These workshops also provide important opportunities for building interdisciplinary collaborations with researchers across Harvard institutions.

#### Other Didactic Experiences

Fellows are also encouraged to attend the Cancer Prevention Dialogues sponsored by the Center for Cancer Prevention at HSPH. These dialogues are monthly and are usually on the web at [www.hsph.harvard.edu/preventiondialogues/](http://www.hsph.harvard.edu/preventiondialogues/) These workshops and seminars are frequently co-sponsored in order to promote coordination across population sciences groups. These workshops and seminars provide opportunities for broad, multidisciplinary discussions of cancer prevention topics that cut across disciplinary areas.

**Research Experiences**

The Harvard Cancer Prevention Education and Career Development Program aims to prepare independent scientists who can function in complex team settings and highly interdisciplinary team research settings. To complement their classroom training in research and methodology, the Program requires that every post-doc participate in ongoing cancer prevention research. The level of involvement differs for pre- and post-doctoral fellows, as described above.

Each fellow works with a primary mentor who has a faculty appointment at Harvard School of Public Health. Additionally, fellows identify one or more secondary mentors, who may be HSPH faculty members or researchers in cancer prevention and control outside HSPH. The mentors work with the fellows to develop individualized training plans that are tailored to the learning objectives and career goals of the individual fellow. It is expected that post-doctoral fellows will participate as members of one or more research teams, with specified research responsibilities. Pre-doctoral fellows place their primary focus on completion of the doctoral degrees; original research is required of all trainees earning doctoral degrees and is supervised by our teaching faculty engaged in ongoing projects.

Priority is given to placing post-doctoral fellows in research settings that: (1) provide a good match with their career interests; (2) provide opportunities to develop research skills in priority areas defined by the fellow and his/her mentors; (3) offer reasonable opportunities for publication of research findings; and (4) assure that fellows are able to develop and present real or “mock” research grant applications. Timing for the development and submission of grant applications is likely to vary. Some fellows will enter the program with a clear vision for the research directions and be ready to prepare a K-award application by the end of their first year, while others will work closely with their mentors to identify research topics that will be developed during their second year into a K-award application or for presentation as a mock grant application. We believe this flexibility and responsiveness to individual fellows’ needs provide strength to the program.

Identification of research opportunities is facilitated by the DF/HCC Population Sciences Programs and in collaboration with the Harvard Center for Cancer Prevention. Moreover, the faculty of the HSPH and the DF/HCC have extensive networks throughout the Northeast which will facilitate placement of students in a wide variety of research and programmatic activities. In consultation with the Program Leaders and their primary and secondary mentors, trainees will locate research placements most appropriate to their career interests. Research opportunities available to fellows represent the spectrum of intervention efforts ranging from identification and quantification of risk factors to interventions targeted to providers, groups, or populations. Research projects are available on a range of specific risk factors: smoking, alcohol, diet, genetics, and other aspects of cancer biology (e.g. viral and radiation).

**Application Procedures**

Application for the program is available on the website (<http://www.hsph.harvard.edu/cancer-prevention-fellowship/application/>) or from Whitney Waddell (Staff Assistant), Department of Social and Behavioral Sciences, Harvard School of Public Health, 677 Huntington Avenue, Boston, MA 02115-6096, 617‑432‑3758, Fax: (617) 432-3123 or e-mail: wwaddell@hsph.harvard.edu

**Degree candidates must submit separate applications to the Harvard School of Public Health**. Applications for the School of Public Health can be obtained from the Admissions Office, 677 Huntington Ave, Boston, MA 02115-6069, 617-432-1030 website: <http://www.hsph.harvard.edu/admissions/>

Applications from women and minorities are especially encouraged.