



# Global Aspects of the Cancer Epidemiology Education in Special Populations (CEESP) Program

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## Abstract

This manuscript provides a brief overview of the global aspects of the Cancer Epidemiology Education in Special Populations (CEESP) Program. The overview illustrates program history, aims, progress, evaluation, and dissemination. This manuscript sets the stage for the CEESP manuscripts included in this supplement that illustrate in the program infrastructure, mentoring, the student experiences, and unique features of students for achieving success. In this manuscript, we briefly outline some of the dissemination examples that resulted from utilizing the CEESP infrastructure, as outlined in some of the articles reporting on global research training sites from Egypt, Morocco, Oman, and Tanzania.

**Keywords** Global cancer education · Epidemiology · Special populations · Research training

This supplement includes three manuscripts related to the Cancer Epidemiology Education in Special Populations (CEESP) Program. In this summary article, we provide an overview about the focus, history and progress, mentoring, evaluation, and dissemination of the CEESP Program to set the stage for the manuscripts to follow.

CEESP started 15 years ago with funding from the National Cancer Institute's R25 mechanism (Grant R25 CA112383) with the aim of developing capacity of cancer epidemiologists and public health researchers focused on cancer research in special populations. The program educates and provides research training for public health graduate students from all fields and concentrations of public health. The program is open to students from all 66 accredited schools and 121 accredited programs of public health in the USA.

Typical of most programs supported by the NCI R25 mechanism, CEESP is able to fund students for a mentored 15-week summer research experience. Program activities involve much more than the summer period, however. As outlined below,

CEESP's year-long roster of activities involves key faculty, students, and field-site faculty mentors. Over the past 15 years of the program, the focus has been extended from educating the research training MPH students only, to including doctoral students. Also, the annual number of slots was increased after the first 10 years of the program from 10 to 15 students with recruiting from a national pool of students instead of the local home institution of the program. The CEESP Program also expanded the field sites for research training of students from international sites in Africa and the Middle East in the first 10 years to developing strong infrastructure in Europe, Asia, and Latin America. The program also increased the number of unique domestic special populations from those in Michigan and Nebraska, in the first 10 years of the program, to other special populations in New York, Pennsylvania, Oklahoma, Montana, Texas, Florida, and California. Expanding the available global and domestic research training sites and increasing the number of institutional core faculty and field-site mentors made the program more appealing to a wide range of students with variety of interests, backgrounds, and future career aspirations. For example, the success rate of acceptance in the program dropped from 60% in the first year to 19.5%, in the last cycle of applications due to the significant increase in number of applicants from 41 states for the fixed number of 15 slots. In addition to the substantial effort that is provided in guiding student applicants in developing research proposals, there is also a significant effort allocated for mentoring before, after, and following the summer research training of the CEESP students. The manuscripts in this supplement, focusing

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on developing the CEESP infrastructure and mentoring, include more details about the richness of the resources that were created over the past 20 years and how it provides different learning experiences for the CEESP students. The mentoring manuscript included in this supplement also illustrates the variety of mentorship opportunities and quality of mentorship provided for the CEESP students. The supplement also includes manuscripts on how students navigated the different research training infrastructures and utilized the rich resources for learning, research productivity, publications, and translating the global experience to underserved populations in the USA.

Evaluation has been a core component and an integral part of the CEESP Program since its inception in 2006 [1]. In addition to the regular evaluation of students by the on-campus and field-site mentors, students also provide detailed critical evaluation of the mentors, field sites, and their learning experiences.

To further achieve the goal of capacity building and career development of students and alumni, the CEESP Program implemented a 2-day career development workshop at the end of each summer experience, in the past 5 years. While more than 60% of the program alumni enrolled in PhD programs in cancer epidemiology, earned postdoctoral or faculty positions in cancer epidemiology, or work in cancer-related jobs in special populations, other students were interested in non-traditional government, foundation, or industry-related cancer research. These modules of the workshop address opportunities and planning techniques for jobs in academia, industry, government (local, state, and federal), non-governmental organizations (NGOs), and foundations. The contributors to this module include internal core faculty and external experts.

As highlighted in different articles of the supplement, there has been enormous effort, adjustment, and support provided to maintain the research and clinical infrastructure developed by the CEESP Program in different global and domestic sites. It is important to note that the infrastructure has been shared by other domestic US institutions for developing research and training programs [2], providing training opportunities for trainees from foreign countries in the USA [3–5], and helping global partners to improve their databases, quality of cancer registries, and diagnostic procedures [6–11], motivate CEESP alumni to translate global findings for domestic research [12], and continue mentoring the future generation of cancer epidemiology and cancer prevention researchers [13].

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