

OPEN EDUCATIONAL RESOURCES FOR CANCER: FOUR YEARS OF PROGRESS 2008–12



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Open Educational Resources for Cancer (OERC), an affiliate of INCTR, was established in 2009 and its website, www.oerc.merlot.org, was launched at the 2009 INCTR annual meeting in Antalya, Turkey. As a global resource for cancer educators, the objective of OERC is to provide cancer-specific high quality curricular and teaching materials aimed at educating health care providers and expanding cancer care capacity, with focus on low-income countries. OERC.Merlot.org now provides no-cost access to an open online collection of donor contributed, categorized cancer educational materials (lectures in text and Power Point, clinical guides, course curricula, videos, research summaries, patient pamphlets etc.). OERC is continuing to build the open online library to allow access to educational materials contributed by the worldwide community of clinical and basic cancer professionals. The OERC-India project was developed as a model application of OERC to cancer care capacity expansion in India. Its primary goals are to define and address the cancer educational needs of medical and nursing students, clinical trainees, practising providers and researchers in India and to explore and optimize existing and innovative technology options and platforms to best serve the needs of Indian educators and learners.

OERC rationale

The rapid rise in global cancer rates is well established. By 2012, WHO estimates that cancer will become leading global cause of death. By 2030 estimates from The International Agency for Research on Cancer indicate that the global burden of cancer could be as high as 17 million new cases per annum and that more than 50% of cancer cases and 70% of cancer deaths will occur in developing countries. Thus, a major challenge will be faced by nations with low resources. Most evident at present are the deficiencies in human capital and material resources. There is a clear lack of potential for cancer control capacity development at both quantitative and qualitative levels, and it is generally agreed that human capital development is most critical and should be a low cost, high impact endeavour. Therefore, most experts agree that expansion and education of the cancer workforce should be a high priority for national and international cancer control planning especially in low-resource countries.

OERC planners have recognized and focused upon the critical, global need for education of cancer care providers for

enhancement and expansion of the oncology workforce. At the same time it was evident that extensive and diverse cancer educational materials are continuously generated by teachers, training programs, universities, research organizations, cancer institutes, et al. Many excellent such didactic cancer modules remain unpublished and inaccessible in the public domain. Thus it was proposed that learning modules of varying formats to be solicited, reviewed, classified and made accessible in an open resource environment. These materials would then be posted online in an open repository, free of cost to anyone involved in cancer education, control and treatment around the world.

OERC – the first three years

In June of 2008, at ASCO in Chicago, 30 cancer educators and researchers from INCTR, NCI and various universities gathered for a day to enhance their understanding of the educational requirements to build capacity for cancer control and treatment in developing countries and to develop a mechanism for global sharing of cancer educational tools. A

Box 1: The OERC Mission Statement

To enhance knowledge sharing on cancer control strategies with a focus on developing countries.

- ▶ To expand and enhance capacity of physicians, nurses and care givers in developing countries to treat cancer patients.
- ▶ To act on the current WHO recommendation for knowledge sharing on cancer.
- ▶ To provide high quality didactic materials to cancer educators in easily accessible formats at no cost on a worldwide scale.
- ▶ To make available latest clinical trials information to cancer care providers and patients.
- ▶ To contribute to the development of a research infrastructure and a research ethos for cancer prevention and care at a global level.

small, interdisciplinary working group of committed individuals (later to become the OERC Executive Committee) began to design an online repository of cancer education modules selected to aid educators in low- resource countries to develop curricula and teaching programmes tailored to the specific needs of their learners and local environment. Materials were solicited from cancer centres in USA and Europe, to be made easily accessible at no cost to medical teachers anywhere, anytime.

After a year of concerted effort, an affiliation between OERC and INCTR was developed to begin to define the cancer educational needs of low-income countries. Development of the educational repository proceeded by 1) establishing cancer taxonomy outline, 2) soliciting, collecting, reviewing,

and classifying educational materials from leading cancer institutions and organizations, and 3) seeking cancer teaching modules in multiple formats, such as Power Point lectures, course syllabi, monographs, videos, etc. MERLOT (Multimedia Educational Resources for Learning and Online Teaching), (www.merlot.org), the well established and proven open resource application of the California State University System, agreed to host and develop a site for the metadata collection repository of cancer education materials and to establish a section devoted to cancer education to which cancer educator in medicine, nursing and other disciplines could easily contribute didactic modules. Thus, a new “cancer education community” was established as part of the MERLOT online health professionals group and the acquisition and accessing of teaching materials began.

The OERC website, www.oerc.merlot.org was announced at the INCTR annual meeting in Antalya, Turkey, and launched online in July 2009. The OERC website, hosted by MERLOT, now provides free access and easy discovery of an online collection of donor contributed, categorized cancer educational materials (lectures, clinical guides, course curricula, videos, research summaries, patient education modules etc.). OERC is currently continuing to build the open online library to allow no-cost access to educational materials contributed by the worldwide community of clinical and basic cancer professionals. These teaching modules are intended for and made available to education and training of health care professionals and students, as well as patients, families and the public.

In building the collection of open educational resources, the OERC set goals of having the collection be free of cost, with

permission to freely use the materials, and to provide both quality and utility resources to the user community. The Creative Commons® policy was selected to serve as the guide to intellectual property matters and explicitly grant to users permission to use all or part of their offerings with appropriate attribution. The OERC collection will be leveraging MERLOT’s strategy for providing users assurance of quality and utility of the resources. As OERC continues to build its collection and community of users, we will establish an editorial board for conducting peer reviews of the collection. MERLOT has an established methodology for peer reviewing materials that it has deployed for the past 10 years which

Figure 1: The OERC website



Box 2: Goals of OERC-INDIA

- ▶ Define the cancer educational needs of Indian medical and nursing students, clinical trainees, practicing providers and researchers.
- ▶ Define the range of methods and technologies for effectively and sustainably delivering the cancer education materials to Indian organizations and communities.
- ▶ Define the types of professional development programmes to support the development and validation of the cancer education skills and knowledge within Indian organizations and communities.
- ▶ Define the assessment rubrics to guide decisions on the readiness of Indian organizations and communities of health care providers to adopt and benefit from the open educational services.
- ▶ Establish a shared governance and management process that will ensure that the collection of OER for cancer is developed, reviewed and distributed effectively and efficiently.
- ▶ Improve OERC-India portal to strengthen and expand the productive collaborations for developing, aggregating, and disseminating open educational resources concerning cancer for the healthcare community in India.

follows peer review process of scholarly research (<http://taste.merlot.org/peerreviewprocess.html>). The methodology begins with training the peer reviewers on the three evaluation criteria used in the peer review process: 1) quality of the content, 2) pedagogical effectiveness, and 3) ease of use. The training provides peer reviewers with guidelines, practices, feedback, and mentoring to develop their skills in conducting valid and reliable peer reviews. MERLOT's peer reviews are published along with other quality and utility information about the resource. Providing the analysis and advice by the larger OERC community can help individual users decide if and how the materials can be used effectively in their local context. Furthermore, MERLOT enables individual users to rate each educational module and to add their advice and experiences about how they were able to use the material in their local situations and add their observations of outcomes. By leveraging MERLOT, OERC enables the community of users, experts, and educational content providers to become connected within circles of communication.

The "OERC-India Project"

The OERC-India project began with the OERC India Task

Force in 2011. It was built upon the longstanding relationships of INCTR and several of the OERC Executive Committee members with Indian medical educational and cancer control programmes. Given the extensive cancer education, control and research activities between INCTR (funded in part by the US National Cancer Institute) and numerous cancer centres and academic cancer institutes in India, the OERC Executive Committee made the decision to focus upon India as the initial model for cancer education, care and research capacity building. Initial discussions with cancer education thought leaders in India indicated substantial need and interest in a shared repository of curricula and educational materials targeted to the specific needs in India for capacity expansion and enhancement of the cancer control, treatment and research workforce. At a preliminary meeting of US and India counterparts, held in Kerala in December, 2011, it was determined that a major conference should be held in India in 2013 to define, develop and implement the OERC-India project. The primary goal of this conference is to leverage and formalize working relationships among US and Indian cancer educators to focus upon the definition of the cancer educational needs of medical and nursing students, trainees, practising providers and researchers. Additional objectives would include (1) exploration and optimization of the existing and innovative technology options and platforms to best serve the needs of Indian learners and educators and (2) to gain consensus on a plan to formalize and sustain the US-India relationships necessary for the future success of the OERC-India programme.

In 2011, the OERC India Task Force was developed under the leadership of Dr Madhavan Pillai, Professor of Medicine and Oncology at the Kimmel Cancer Center of The Jefferson University School of Medicine in Philadelphia. Dr Pillai, originally of the Medical Faculty of the Kerala Medical School in Trivandrum, and a leader in US-India oncology educational efforts, met in Kerala in December, 2011, with several leading Indian cancer educators to conduct an initial needs assessment and preliminary planning session for a proposed OERC India Conference in 2013. Their session confirmed the strong demand for cancer educational collaboration between academic cancer institutions in the US and their India counterparts. They investigated potential IT platforms for collaboration, outlined a tentative agenda and initiated a bilateral list of participants for the planned 2013 conference. A follow-up meeting was held at the June 2012, ASCO meeting in Chicago and underscored the need to further develop the elements and agenda for the OERC-India programme. Continued interaction and interim planning meetings for the proposed OERC-India Conference will be

held via webex meetings. A second plenary OERC-India conference was envisioned to be held in the USA in 2014.

The primary goal of the planned conference is to leverage the working relationships among US and Indian cancer educators in order to:

- Define the cancer educational needs of Indian medical and nursing students, clinical trainees, practicing providers and researchers, examining:
 - the range and types of educational content for different types of cancer;
 - the languages and level of expertise needed for the educational content;
 - the gap between currently available, high quality educational content and the educational content needed for the reliable delivery of quality educational programmes;
 - the social and cultural environment of the setting.
- Define the range of methods and technologies for effectively and sustainably delivering the cancer education materials to Indian organizations and communities, including:
 - the use of different technology devices, such as mobile-smart phones, tablets, computers;
 - the use of different technology applications such as different web browsers, portals, Facebook, YouTube, Twitter, digital libraries, and more.
- Define the types of professional development programmes to support the development and validation of the cancer education skills and knowledge within Indian organizations and communities, including:
 - strategies that will ensure health care providers accessibility to OERC in rural communities;
 - the existing form of education and the Indian health care providers level of knowledge ;
 - the development of initial relationships with experts and leaders who will help maintain and sustain the project.
- Define the assessment rubrics to guide decisions on the readiness of Indian organizations and communities of healthcare providers to adopt and benefit from the open educational services .

Secondary goals of this conference are to enhance the interactions of US and Indian cancer educators in order to

establish a shared governance and management process that will ensure that the collection of OER for cancer is developed, reviewed and distributed effectively and efficiently. This will be achieved by:

- ensuring the methods and technologies for delivering the OER content continue to be effective and appropriate for the Indian organizations and communities;
- ensuring the professional development programmes are designed to achieve the desired learning outcomes;
- ensuring the assessment processes provide feedback that guides the continuous improvement of the OERC educational services.

In summary, the result of the bilateral workshop will be to produce a draft plan for implementing a high quality and culturally appropriate programme to improve the reliability and effectiveness of cancer education in the diverse communities of India, that will be effectively managed by a committed team of professionals from the USA and India medical and nursing teams. ●

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