Using Virtual Patients, Online Learning Modules and a Novel App to Enhance Oncology Education in the Undergraduate Medical Curriculum

Paris Ann Ingledeew, Joanne Tseng, Alison Lee, Pretty Verma, Selina Li, Elana Thau, Sarah Hamilton, Leo Lai
Faculty of Medicine, UBC and BC Cancer Agency, Fraser Valley Cancer Centre

Introduction

Regardless of discipline, physicians will encounter oncology patients. Despite this, and the rising incidence of cancer, oncology education in the medical undergraduate curriculum is fragmented and discipline specific. As a result, graduating medical students feel unprepared to care for this growing patient population.

To address the significant gaps in oncology training at the undergraduate level, the goals of this project were to develop online learning modules, supplemented by virtual patients, to enhance oncology instruction during undergraduate medical training.

The curricular materials were designed to supplement undergraduate medical studies and also be used by radiation therapy students, oncology nursing students and oncology residents.

Methods

The Kern 6-step approach to curriculum development was employed:

- Problem and General Needs Assessment:
  - 2008

- Needs Assessment of Targeted Learners:
  - 2008

- Goals and Specific Measurable Objectives:
  - 2008

- Educational Strategies:
  - 2009 - 2014

- Implementation:
  - ongoing

- Evaluation and Feedback:
  - ongoing

1. Online modules and Virtual Patients:
   a) Modules
      - Ten web-based learning oncology modules authored by medical students (2008-2014) and peer reviewed
      - Modules hosted on public website: www.learnoncology.ca/

   b) Virtual Patients (VP) (Figure 2)
      - Each module has an accompanying branching-logic VP case designed using Articulate software
      - The VPs supplement and consolidate module material in the context of realistic oncology scenarios in which clinical decisions affect patient outcome.
      - VPs are accessible on computer and through an iPad application

   c) Onconotes App (Figure 3)
      - A “flashcard” question and answer format that students can use to review their oncology knowledge
      - Allows the user to monitor progress with individual statistics and for the administrators to monitor student progress individually or as a group

Results

Targeted Needs Assessment:

- 53% of third year medical students completed the needs assessment
- 50% of respondents had not interacted with cancer patients during clerkship.
- 62% felt their ability to discuss oncology issues with patients was poor or fair.
- 80% believed that online modules would enhance learning.

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Future Directions

- Modules have been submitted MedEdPortal
- Add modules in communication skills and oncology history taking
- Expand use of online modules to all 4 years of UBC medical curriculum
- Collaboration with national initiative to define undergraduate oncology curriculum

Conclusions

- The gaps in oncology education during the undergraduate medical curriculum can be addressed with flexible learning projects such as online learning modules with integrated interactive virtual patients.
- The TLEF has allowed for faculty and learners to work side by side: creating, learning and mentoring to produce a novel educational product

References


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Contact Information

Dr. Paris Ann Ingledeew
Email: pingledew@bccancer.bc.ca