



An Online Genetics Learning Center for Physicians

Grant Number: R44CA86720-03

Abbreviated Abstract

This SBIR fast-track application developed and evaluated Internet-based continuing medical education (CME) courses to teach primary care physicians and residents about genetic testing, basic genetic counseling, and ethical issues associated with genetics. Thirteen modules were developed and are available at www.GeneticSolutions.com. The courses all include peer review and have been evaluated using a pre/post-test assessment format, as well as incorporating self-efficacy, attitude, and intended behavior measures. Course material has also been incorporated into additional materials developed for medical students by CTI after the conclusion of the SBIR period.

Primary Investigator

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Product URL: <http://www.geneticsolutions.com>

Research Team & Affiliations

Clinical Tools, Inc. (CTI), Chapel Hill, NC:

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Project Leaders: Denise Finneran Needham, MS (2003-2005); Jennifer Peet Farior (2003-2005); and Shannon Magee (2002-2003)

CTI Continuing Medical Education/Continuing Education: June McDermott, MS Pharm, MBA (Director), Tyler Beach, Leena Bhakta, Tracy Shaw, and Gail Zona

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Total Budget

\$900,939

Research Objectives



AIMS

1. The project will create a series of online continuing education modules on genetics, genetic testing/counseling, and cancer genetics topics.
2. Assessment instruments will be created and assessed.
3. Formative and summative evaluations will be conducted to assess the effectiveness of the online modules as educational tools in terms of knowledge, attitude, self-efficacy, and intended behavior.
4. An increased understanding of the effectiveness of Web-based learning in general will be addressed by this research.

Theory/Hypothesis

Educational materials were developed using science and evidence-based content. Module structure and assessment was based in adult learning theory (Knowles 1998), social learning theory (Bandura 1977), and educational technology theory. A cognitive apprentice model was used.

Experimental Design

The effectiveness of the materials was evaluated using a pre-/postassessment in which the true audience (physicians and other health care professionals) used the product as intended.

Final Sample Size & Study Demographics

Thirty-two physicians/health professionals

Data Collection Methods

Assessments and surveys that are integrated into the educational modules

Outcome Measures

Knowledge, intent to treat/intervene in genetics issues, self-efficacy, agreement that genetics issues are part of the physician's legitimate practice, and quality of the learning experience

Evaluation Methods

Change scores on the outcome measures were compared.

Research Results

Positive results were found in all areas. Knowledge increased, as did the other measures.

Barriers & Solutions

These online materials were among the first CME courses to fully integrate assessment and outcome measures into the learning experience. As a result of this type of pioneering work, the field of CME as a whole will require such measures by 2010. The use of knowledge, attitude, self-efficacy, and intended behavior in CME was groundbreaking.

Product(s) Developed from This Research

GeneticSolutions.com : provides continuing medical education on genetic counseling and testing to primary care physicians, medical students, and other health care professionals. The courses include both case-based patient scenario courses and didactic courses. Each course employs multimedia features, such as "Test Your Knowledge" questions, animations depicting biological

SBIR Product Directory

Turning Cancer Research into Commercial Products



processes, and “drag and drop” pedigree constructions to actively engage physicians and reach its educational objectives. Courses are accredited by Clinical Tools for CME (AMA Category I PRE credit®), as well as certified counselor credit where appropriate.