



School Reentry for Children with Cancer

Grant Number: R44CA91668-03

Abbreviated Abstract

The purpose of this Small Business Innovation Research (SBIR) Phase II project is to develop a multimedia-based school reentry program and intervention package for elementary school-aged children returning to school following cancer treatment. This intervention package, which consists of an Educational Video, Facilitators' Guide, and Online Learning Center Website, is designed to educate and inform children's peers about cancer, foster peer acceptance of children with cancer, and thereby promote the healthy psychosocial adjustment of children with cancer. The ultimate goal is to provide a multicomponent, multimedia intervention that will help provide a smooth transition from hospitalization and home care to the school environment and thereby decrease the likelihood of long-term psychosocial problems.

Primary Investigator

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Research Team & Affiliations

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Total Budget

\$1,012,940

Research Objectives

AIMS

1. Produce the Video Intervention—Using the video storyboards and script developed during Phase I, we will conduct all processes required to shoot and produce the video intervention.
2. Develop the Facilitators' Guide—The Facilitators' Guide will be designed to augment the video intervention and provide facilitators with a series of exercises and suggestions for using the video and the Website.
3. Develop the Online Learning Center Website—This Website will include resources for (1) youth, (2) teachers and other facilitators, and (3) parents and other concerned adults.
4. Evaluate the Multimedia Intervention Package—We will conduct an empirical evaluation of the Multimedia Intervention Package with children with and without cancer, to determine the impact of the package.



Theory/Hypothesis

1. Students who participate in the *Crusaders Against Cancer* intervention will report significantly more knowledge and positive attitudes about childhood cancer than students who do not participate in the program.
2. Students who participate in the *Crusaders Against Cancer* intervention will report significantly more knowledge and positive attitudes about childhood cancer following the intervention (at posttest) than prior to receiving the intervention (pretest).
3. The majority of children with cancer, parents, siblings, and classmates who participate in the *Crusaders Against Cancer* intervention will report a high level of acceptability.

Experimental Design

Quantitative: Children were randomly assigned to the treatment group, where they watched the *Crusaders Against Cancer* or *Growing Up Fast* video, or to the control group, where they watched an unrelated video. Before and after watching the video, children in both groups completed a questionnaire concerning their knowledge of cancer.

Qualitative: The project team collaborated with a number of organizations to recruit children and teens with cancer, as well as members of their social support network (parents, siblings, peers, teachers, etc.), to watch our videos and provide comments. These qualitative data were collected using mixed method focus group/survey research with two groups. All participants completed questionnaires before and after watching the *Crusaders Against Cancer* and *Growing Up Fast* video.

Final Sample Size & Study Demographics

Quantitative:

Crusaders Against Cancer Video Intervention: This sample consisted of 109 children, ages 9 to 12 years, in grades 3 to 5. Children were randomly assigned to the treatment group (40 percent), where they watched the *Crusaders Against Cancer* video, or the control group (60 percent), where they watched an unrelated video. The majority of the children were African American (96 percent) and female (56 percent). All the children attended the Woodbridge School, a charter school located in Washington, DC.

Growing Up Fast Video Intervention: This sample consisted of 135 young people, ages 11 to 16, in grades 6 to 9. Using procedures similar to those implemented for the younger age group, the children were randomly assigned to the treatment group (54 percent), where they watched the *Growing Up Fast* video, or the control group (46 percent), where they watched an unrelated video. The majority of the children were African American (65 percent) and female (52 percent).

Qualitative:

1. The Heart Connection, a division of the Children's Oncology Camping Association, located in Des Moines, IA. This focus group consisted of 59 young people who had been diagnosed with cancer. Participants ranged in age from 12 to 18, with the majority (56 percent) being female and Caucasian (90 percent).
2. The American Cancer Society's Camp Adventure in Long Island, NY. This sample consisted of 61 children, with the majority of participants being Caucasian (74 percent) and female (51 percent). Sixteen parents of children who had been diagnosed with cancer participated in this focus group. Parent participants ranged in age from 25 to 55, with the majority (81 percent) being between the ages of 36 and 45. Seventy-five percent of participants were Caucasian. Fifteen siblings of children who had been diagnosed with cancer also participated in this focus group. Siblings ranged in age from 7 to 25, with the majority (60 percent) being female.

Data Collection Methods

Quantitative: Questionnaires



Qualitative: Focus groups, interviews, questionnaires

Outcome Measures

Acceptability and feasibility of use; impact on knowledge and attitudes toward individuals with cancer (measured with a modified version of the Chedoke-McMaster Attitudes Toward Children With Handicaps [CATCH] questionnaire).

Evaluation Methods

Quantitative: Change scores for those in the experimental and control groups were compared.

Qualitative: Responses from participants were descriptively analyzed.

Research Results

The results of the quantitative evaluation with naïve peers support our hypotheses that exposure to the video-based interventions would result in an increase in knowledge and positive attitudes about cancer and children with cancer for the child and teenage groups. According to the theoretical basis that underlies this product, a change in knowledge and attitudes is a necessary precursor for the development of a supportive classroom. By increasing peers' positive attitudes about children with cancer, the child or teen with cancer receives more positive feedback, which enhances his or her self-esteem and reduces social anxiety, ultimately increasing his or her socially competent behaviors. Through the support of well-educated peers, the school reentry intervention has its ultimate impact on social adjustment of the child with cancer. The results presented above provide evidence that our videos, *Crusaders Against Cancer* and *Growing Up Fast*, lay the necessary foundation of knowledge and attitude change, supporting the creation of a supportive classroom environment for the child returning to school after cancer treatment.

The results of the qualitative evaluation suggest that children and teens with cancer have high levels of support for the end video products. Overall, teens and children with cancer reported that they believed the videos covered the most important aspects that peers or classmates should know about cancer and cancer treatment when preparing for a student's return to the classroom. Teens with cancer and their caregivers indicated that the video captured a realistic image of the most significant concerns around school reentry. Children with cancer reported liking the main character of the child video and believed the video discussed their main fears and worries. Overall, teens and children with cancer and their parents, siblings, and friends reported high levels of approval for both videos.

Barriers & Solutions

Barriers: We originally planned for a rigorous pretest/posttest control group study that required recruiting children with cancer from local hospitals just prior to their return to school, assigning them to an intervention or lagged control group, and collecting data related to peer acceptance and school adjustment before and after the video presentation. As we began recruiting for this evaluation, a number of obstacles arose:

- Hospitals were unwilling to consider assigning subjects to a control group, even with the lagged treatment condition, as it would mean delaying their school reentry presentation.
- The number of patients returning to school from many hospitals was low. For instance, Children's National Medical Center reported sending back only three to five children per year. Given that our power analysis called for a minimum sample size of 60 subjects, this was a substantive obstacle.
- Institutional review board (IRB) procedures for most hospitals were extremely onerous, even with the support of an institutional sponsor. The amount of time required to prepare and submit the IRB application, vis-à-vis the maximum number of subjects that could be expected, was not feasible.



- Many parents were unwilling to allow their child to participate in the study, given the already stressful events taking place in their lives.

Solution: Given these obstacles, we changed the approach of the study from a mostly quantitative study to a mostly qualitative approach. The new evaluation plan called for using non-hospital contacts to recruit children with cancer to provide feedback on our video presentation, while simultaneously evaluating the impact of the video on the knowledge and attitudes of naïve peers.

Product(s) Developed from This Research

Crusaders Against Cancer; Growing Up Fast ; www.back2class.com: Video and teacher's guide (one for children, one for teens)