DEVELOPMENT OF A COMPUTERIZED DECISION SUPPORT SYSTEM TO AID LOWER LITERACY WOMEN IN MAKING BREAST CANCER TREATMENT DECISIONS

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BACKGROUND AND PURPOSE
National and local data on treatment choices indicate under-utilization of breast conserving surgery by women with early stage breast cancer, while current literature suggests that the issue may relate to inadequacies in efforts to educate them about treatment options. The purpose of this four-year project is to develop and test an interactive, multi-media, computerized decision support system (CDSS) on breast cancer for low-income, low-literate, multi-ethnic women who speak English or Spanish. This project was designed to inform and educate women with Stage I, IIA, IIB, and IIIA breast cancer using a culturally sensitive CDSS and to determine whether they (1) make breast cancer treatment decisions more consistent with their personal preferences, (2) are more knowledgeable about treatment options, and (3) are more satisfied about treatment decisions prior to post treatment, compared with women who get standard care and education at a public hospital.

METHODOLOGY
To accomplish this, three major project components were designed and developed, (a) a breast cancer treatment decision analytic model, (b) a utility assessment computerized program on breast cancer treatment outcomes, and (c) a CDSS for early stage breast cancer treatment. Outcome states identified when building the decision analytic model are assessed by means of eliciting patients’ utilities and integrated, along with content material (from the patient’s perspective) identified through interview with 50 patients, in the CDSS whose effectiveness is then tested by conducting clinical trials. In both the utility assessment program and CDSS, education and information is delivered through multimedia approaches (e.g., voice-over narrative in simple English or Spanish; use of photo novella and/or “soap opera” presentation of situational material that allows women to explore possible consequences associated with different decisions). Primary outcomes will include breast cancer treatment decisions consistent with preferences, knowledge about treatment, satisfaction with decisions, decisional conflict, and satisfaction with the decision making process. For those women using the CDSS system, we will also conduct an evaluation of their satisfaction in using system.

The sample utilized for this study comprises low-income women who are patients at an urban community health clinic (predominantly African American and Hispanic). Clinical trials of the CDSS program will enroll 136 women, with 65 randomly assigned to a control group (provided with treatment information in conventional formats, e.g., printed materials) and 65 randomly assigned to an intervention group (provided with information in conventional formats and participation in the CDSS program).

RESULTS (PROGRESS REPORT)
To date this project has: (1) developed a breast cancer treatment decision-analytic model to organize the presentation of the CDSS, and to predict the optimal treatment based on patient-specific utility values; (2) produced and pilot-tested a bilingual (English-Spanish) utility assessment program (“rank preference”) on breast cancer treatment outcomes; and (3) produced and pilot-tested a bilingual (English-Spanish), culturally sensitive, interactive CDSS on breast cancer.

CONCLUSIONS
We are presently conducting the clinical trials in order to test the effectiveness of the CDSS in increasing BCS utilization in primarily low-income, minority women. We will demonstrate the CDSS program and provide findings from the first 30 patients who participated in the clinical trials.