

An Organizational Informatics Analysis of Colorectal, Breast, and Cervical Cancer Screening Clinical Decision Support and Information Systems within Community Health Centers

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An Organizational Informatics Analysis of Colorectal, Breast, and Cervical Cancer Screening Clinical Decision Support and Information Systems within Community Health Centers

[Carney, Timothy Jay](#)



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Committee: Haggstrom, David A.
Members: McDaniel, Anna M.
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Abstract:

A study design has been developed that employs a dual modeling approach to identify factors associated with facility-level cancer screening improvement and how this is mediated by the use of clinical decision support. This dual modeling approach combines principles of (1) Health Informatics, (2) Cancer Prevention and Control, (3) Health Services Research, and (4) Organizational Change/Theory. The study design builds upon the constructs of a conceptual framework developed by Jane Zapka, namely, (1) organizational and/or practice settings, (2) provider characteristics, and (3) patient population characteristics. These constructs have been operationalized as measures in a 2005 HRSA/NCI Health Disparities Cancer Collaborative inventory of 44 community health centers. The first, statistical models will use: sequential, multivariable regression models to test for the organizational determinants that may account for the presence and intensity-of-use of clinical decision support (CDS) and information systems (IS) within community health centers for use in colorectal, breast, and cervical cancer screening. A subsequent test will assess the impact of CDS/IS on provider reported cancer screening improvement rates. The second, computational models will use a multi-agent model of network evolution called CONSTRUCT® to identify the agents, tasks, knowledge, groups, and beliefs associated with cancer screening practices and CDS/IS use to inform both CDS/IS implementation and cancer screening intervention strategies. This virtual experiment will facilitate hypothesis-generation through computer simulation exercises. The outcome of this research will be to identify barriers and facilitators to improving community health center facility-level cancer screening performance using CDS/IS as an agent of change. Stakeholders for this work include both national and local community health center IT leadership, as well as clinical managers deploying IT strategies to improve cancer screening among vulnerable patient populations.

Description:

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