Cancer: Caring and Conquering

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A Competency-Based Approach To Expanding the Cancer Care Workforce: Proof of Concept

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As part of an effort to address shortages in the cancer workforce, C-Change developed competency standards and logic model-driven implementation tools for strengthening the cancer knowledge and skills of non-oncology health professionals. Testing of these standards and tools at four diverse pilot sites yielded very promising results.

The nation's ability to fight cancer depends upon the health of its cancer workforce. A critical shortage of cancer specialists threatens the country's ability to provide cancer care across the continuum from prevention to survivorship. Nearly all professional disciplines that play a role in the delivery of comprehensive cancer services are experiencing a shortage, including physicians, nurses, social workers, pharmacists, public health workers, researchers, scientists, technologists, and cancer registrars (see Table 1). Without a

Editor's Note: In April 2007, *Cancer: Conquering and Caring* featured "A Competency-Based Approach to Expanding the Cancer Care Workforce" (Smith & Lichtveld, 2007), which described the cancer workforce challenges, the rationale for a competency-based approach, the multidisciplinary development process, and the resulting comprehensive inventory of cancer competency statements. The proof of concept is detailed in this follow-up article.

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Table 1.
Supply and Demand Forces in Cancer Care

Supply
• Demand for oncologists is expected to exceed supply by 25%-30% by 2020 (American Society for Clinical Oncology, 2007).
• The social work labor force is older than most professions, with nearly 30% of licensed social workers over age 55 (National Association of Social Workers, 2006).
• By 2020 the projected gap between supply and demand for RNs will be 340,000 (three times larger than ever experienced in the U.S.). By 2020, more RNs will be in their 60s than in their 20s (Auerbach, Buerhaus, & Staiger, 2007).
• The average age of a public health worker is 47; many public health agencies currently face a 20% vacancy rate (American Public Health Association, 2008).
• Cancer registrar vacancies remain difficult to fill in some regions of the country and demand for registrars is estimated to grow 10% in the next 15 years (National Cancer Registrars Association, 2006).
• The proportion of minorities in the population outstrips their representation among health professionals by several fold (Institute of Medicine, 2004).

Demand
• Cancer is the second most common cause of death by disease, claiming the lives of more than half a million people per year (American Cancer Society, 2007).
• Cancer rates are expected to increase as Baby Boomers age (U.S. Cancer Statistics Working Group, 2003).
• The lifetime probability of developing cancer is 1 in 2 for men and 1 in 3 for women (National Cancer Institute, 2005).
• Five-year cancer survival rates have risen to 64% for adults (Centers for Disease Control and Prevention [CDC], 2005).

Table 2.
Potential Impact of Cancer Competency Among Non-Oncology Professionals

	Oncology Specialists	Total Professionals
Nurses	21,000 oncology-certified	2,000,000 registered nurses
Social Workers	1,200 members, Association of Oncology Social Workers	320,000 licensed clinical social workers

healthy workforce, achievement of any national goals to improve cancer research, prevention, and care will be difficult, if not impossible.

These national trends directly threaten the ability of individual health care institutions to meet the needs of the public for timely and comprehensive cancer care. Delayed access to screening, early detection, treatment, and survivorship support services compromise optimal patient outcomes. Workforce burnout and turnover result from working short-handed, which also negatively impacts care quality and service. The inability to meet the competency and service expectations of patients and referring clinicians undermines the stability of health care institutions by

discouraging follow up by patients and referrals by clinicians. In addition to impeding the achievement of national goals, lack of a healthy workforce will make achievement of institution-specific goals to improve cancer research, prevention, and care difficult, if not impossible (Buerhaus, Auerbach, & Staiger, 2007).

Envisioning a Solution: A Competency-Based Approach for the Non-Oncology Health Workforce

Many cancer-focused organizations continue to invest in efforts to expand the number of cancer specialists. Rather than duplicate their expert work, C-Change chose to complement

those efforts by strengthening the knowledge and skills of non-oncology health professionals through its Cancer Core Competency Initiative. Table 2 illustrates the opportunity to improve access to health professionals with at least basic knowledge in cancer.

These examples illustrate the power of the Cancer Core Competency Initiative — the potential for giving approximately 2 million registered nurses some of the basic knowledge held by the 21,000 oncology-certified expert nurses. With greater awareness of all aspects of cancer diagnosis and treatment, health professionals will be better able to meet the needs of people at risk for or living with cancer and better leverage the expertise of cancer specialists.

Investment in a competency-based program directly contributes to solving the workforce crisis in several practical ways (U.S. Department of Education, 2002). This intervention, which is a key component to recruitment and retention efforts, has offered students and professionals a meaningful and relevant opportunity for professional growth and development. Program development fosters collaboration among experts serving as faculty. The host organization benefits from a stronger workforce and from an improved image in the surrounding community of patients and professionals. Ultimately, such a program increases the knowledge, skills, and attitudes of staff to address appropriately the special needs of people at risk for and living with cancer.

Creating a Flexible and Useful Approach

The first phase of the Cancer Core Competency Initiative, described in an earlier article (Smith & Lichtveld, 2007), included the rationale for a competency-based approach, the definition of the targeted professional populations, and a complete inventory of the

Table 3.
Targeted Professional Populations Utilizing Cancer Core Competencies

Professionals who diagnose or prescribe	Doctor of Dentistry (DDS) Doctor of Medicine (MD) Doctor of Osteopathy (DO) Doctor of Pharmacy (PharmD) Advanced Practice Nurse (APN) Physician Assistant (PA)
Professionals who develop, implement, and evaluate care	Physical Therapist (PT) Occupational Therapist (OT) Registered Nurse (RN) Registered Dental Hygienist (RDH) Respiratory Therapist (RT)
Professionals who diagnose counsel, and educate patients or families	Psychologist (PsyD) Social Worker (BSW, MSW) Registered Dietician (RD) Health Educator (CHES)

Figure 1.
Scope of Competency Standards, Disciplines, and Work Setting

competency statements. To summarize, standards for knowledge and skills (competency statements) are the building blocks for workforce development. Competency statements define the tasks or functions a person should be able to perform and can be used to determine if competency has been achieved. The cancer competency statements were written to address the learning needs of any health professional who has general knowledge of cancer and can initiate the cancer care continuum from prevention and screening through palliative care (see Table 3).

The competency statements also were written to be interpreted at basic, intermediate, or advanced levels of expertise. Similarly, they can be interpreted within a particular profession's scope of practice, or in the context of an individual's years of experience or current role and responsibilities. For example, the general competency "manage symptoms of the cancer patient" will be performed differently by:

• A physician, who may prescribe specific medications.
• An occupational therapist, who may assist a patient in developing new approaches to activities of daily living.
• A psychologist facilitating an understanding of new limits in physical activity.
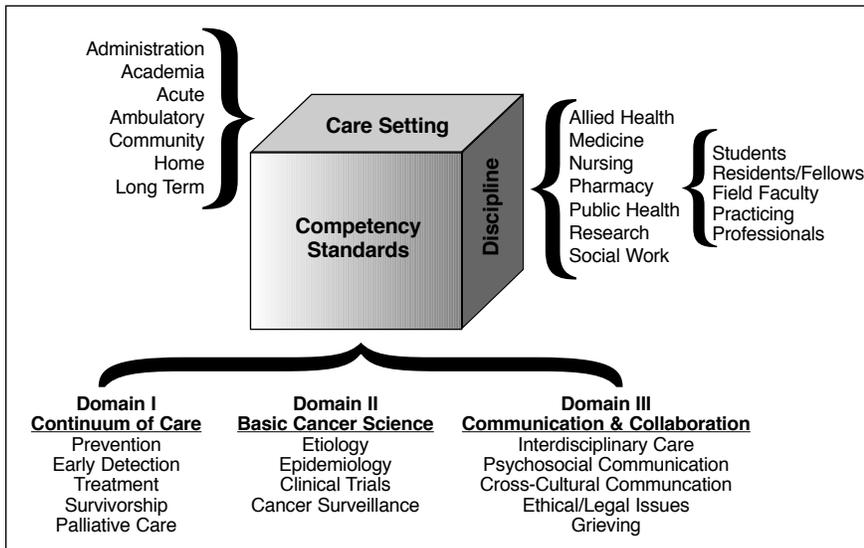
All these disciplines play an important role in managing symptoms for a cancer patient, but the focus and expertise the practitioners bring to the bedside are quite different. Thus, a competency-based approach provided a set of measurable standards with which to drive professional education and training.

The expert panel developed a set of competency statements that cross the continuum of care, science, and communication; are relevant among multiple health professionals; and are applicable across diverse training and care delivery settings. The application of the competency statements in any work setting, with any discipline, and across the continuum of care is illustrated in Figure 1. Several examples from the comprehensive content addressed by cancer competency statements are provided in Table 4. Again, each statement should be interpreted within the context of a professional discipline and scope of professional practice. A comprehensive list detailing the domains and examples can be found on the Internet (www.cancercorecompetency.org).

Considering a More Rigorous Approach to Professional Education

Many health care organizations routinely provide ongoing educational programs in the form of inservice training for staff or continuing medical education for

Table 4.
Sample of Competency Statements

Domain I: Continuum of Care	
Topic	*Competency Statement Example*
Prevention and Behavioral Risks	Describe evidence-based early detection guidelines based upon risk factors.
Screening and Early Detection	Explain the benefits and risks of screening tests.
Treatment	Manage diseases and treatment-related symptoms.
Survivorship	Manage late and continuing effects of cancer and cancer treatment.
Palliative and End-of-Life-Care	Refer patients to community palliative and end-of-life care and support resources.
Domain II: Basic Cancer Science	
Topic	*Competency Statement Example*
Incorporate General Cancer Knowledge into Professional Practice	Participate in professional cancer education opportunities.
Describe the Biologic Attributes of Cancer Etiology	Explain the relationship between cancer and genetics.
Reference the Cancer Epidemiology and Risk-Factor Data for Individuals and Specific Communities	Apply epidemiologic principles of sensitivity and specificity to cancer screening recommendations.
Discuss Complementary and Alternative Therapies	Assess patient and family beliefs regarding complementary and alternative therapies.
Support Participation in Clinical Trials	Describe a clinical trial process beginning with informed consent.
Adhere to the Data Collection Standards in Reporting Cancer Cases to Hospital, State, and National Tumor Surveillance Registries	Describe the role of tumor surveillance registries.
Domain III: Collaboration and Communication	
Topic	*Competency Statement Example*
Participate Within an Interdisciplinary Cancer Care Team	Define interdisciplinary care.
Incorporate Psychosocial Communication Strategies in Conveying Cancer Information	Recognize signs and symptoms of cancer-related anxiety and depression.
Incorporate Cross-Cultural Communication Strategies in Conveying Cancer Information	Define culture-specific beliefs and practices.
Describe Common Ethical and Legal Issues in Cancer Care	Adhere to HIPAA policies, procedures, and regulations.
Incorporate Communication Strategies That Encourage the Process of Grieving	Assist oncology team members with coping strategies following the death of patients with cancer.

physicians. However, these educational investments often fail to include the planning methods recommended to achieve material and measurable gains in competency. Competency-based education is an approach that is best supported using a logic model for curriculum development, participant-focused teaching methods, and measures of participant improvement (Wlodkowski, 2008). The logic model and validation template described here assure that each aspect of the curriculum supports the ultimate competency goals. It also assures that the educational method matches the desired outcome. For example, didactic lectures, analytic exercises, or reading assignments would be appropriate educational activities if an increase in knowledge is desired. If an increase in skills is desired, appropriate methods would include demonstration, role play, and other hands-on or interactive activities (Ellerbusch, Calkins, & Sanddal, n.d).

Furthermore, the development of evaluation measures that are tied directly to the educational experience and measure the achievement of the competency goals are a pivotal component of this approach. Assessing immediate gains in knowledge, improvement in skills, and changes in attitude are predictive of longer-term practice changes. The Theory of Planned Behavior asserts that the "most important determinant of behavior is a person's behavioral intention" (Glanz, Rimer, & Lewis, 2002, p. 70). Changes in knowledge can be measured by administering pre and post-tests. Proficiency in a certain skill can be demonstrated and evaluated according to a checklist or by an observer. Attitudinal changes can be assessed by asking learners about the relevance of the information to their practice, confidence in their abilities, and likelihood to change practice. Together, these evaluation methods indicate the degree to which participants' competency goals have been achieved and guide the organization to adapt or continue their efforts.

In summary, the flexible competency statements or standards can be applied in a wide array of professional disciplines that include but are not limited to medicine, nursing, social work, and public health. The competency standards can be utilized by persons with varying levels of expertise, including students and practicing professionals. Similarly, the competency tools (logic model and valida-

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Table 5.
Steps for Competency Program Development, Implementation, and Evaluation

STEP 1: Define the Audience and Topic Area

Defining a target professional audience is the first step in designing an effective program utilizing the competency statements. The statements are relevant to any health professional who has general knowledge of cancer and is able to initiate the continuum of cancer care from prevention and screening through palliative care. With an audience defined and the practitioners' respective scope of practice in mind, a topic area is chosen. The competency statements encompass three domains, including clinical aspects of the continuum of care, foundational aspects of cancer science, and interpersonal aspects of care collaboration and communication.

STEP 2: Build a Balanced Leadership and Planning Team Equipped to Meet the Challenges of the Program

To ensure the success of the planning, implementation, and evaluation phases of a competency-based program, a program planning and leadership team should be composed of professionals with specific skills: cancer expertise related to the topic area, educational event planning skills, analytic and data management skills, and scientific/educational writing experience. In addition to these skills, the leadership team should contain members of the targeted discipline(s). In addition, if the targeted professionals are employees, the leadership team should include a supervisor. Also, the team must contain or be able to secure political support from the organization in order to access the needed human, facility, and financial resources to support the initiative.

STEP 3: Complete a Needs Assessment with the Target Audience; Interpret and Integrate Findings

For adult learners, their readiness to learn and sense that the knowledge or skill is relevant to their role are related directly to their likelihood to participate and truly engage in the program. Understanding the participants' baseline knowledge of the topic area and their motivation for participating in the program will help program managers to develop curriculum that facilitates learning. This information also will help to define participation incentives, rewards, and/or expectations, a key step in achieving the desired level of involvement from the target professional population. Assessing the target audience can be done in a variety of ways. Some organizations may wish to develop a formal survey, while others will confer informally with staff or other leaders.

Program creators must consider carefully how adults learn best. Adult learners have clear expectations about the learning objectives, assignments, and how they will be graded or assessed. The instructional methods should recognize participants' previous experiences and skills, and be geared to maximize professional independence (Wlodkowski, 2008).

With information from the needs assessment in mind, leadership team members need to contemplate the following questions as they begin development of the program.
- What will motivate your target population to participate? Should participation be mandatory? Incentives such as scheduled time off, continuing education credit, reference

books, and gift certificates may encourage participation. Presenting these incentives at the conclusion of a course may help to ensure maximum participation. In some cases, participation may be a requirement, or demonstrated competency may be a performance expectation.
- How can the skill level and the competency content be integrated into instructional activities? Beyond the typical lecture format, competencies can be introduced through interactive learning experiences that are engaging to learners, such as case studies, role plays, tabletop exercises, and small group discussions.
- How can the competency-based educational experience be translated from the classroom environment into professional practice? Competencies tend to stimulate changes in human resource policy, including job classifications and workforce development criteria. They also can appear in toolkits, bedside resources, continuing education reference lists, and on-line self-assessment tools.
- How will knowledge and skill be assessed to determine the competency attainment by the learners? Pre-tests and post-tests, case studies, peer evaluation, clinical assessments/observations, return demonstrations, standardized patient interactions, and videotaping structured experiences are some examples.
- What other factors will affect program enrollment? Program marketing; program fees, event timing, location, duration, and format are examples of factors that can influence program success.

STEP 4: Refine Competency Focus

Defining more specific competency goals is the next step in program development. The competency statements provide an extensive list of potential competency goals. Choosing one or more of these statements will establish the fundamental goals of the program. Statement interpretation, both generally and specifically as well as with respect to the target professionals' scope of practice, will affect directly the breadth and/or depth of the curriculum. For example, only one competency statement may be addressed if program leaders want learners to achieve an extremely high level of independence and expertise. This would be a sensible educational approach when the competency requires a high degree of proficiency in order to master the skill. If learners need to gain a broader perspective on a variety of topics, it may be preferable to choose several statements and address them more broadly.

STEP 5: Develop Logic Model and Validation Template

A logic model provides a map for program development. Logic models do not have to be complicated. Simply stated, the logic model ensures that the competency goals are supported by the curriculum, instructional method, and evaluation methods. The model's function resembles that of a S.O.A.P.I.E.R (Subjective, Objective, Assessment, Plan, Intervention, Evaluation, Reevaluation) note or nursing care plan, which ties a diagnosis or assessment to a plan, intervention, and evaluation in order to achieve a treatment goal. It is important to remember that the logic model will be unique to the particular program and institution.

Table 5. (continued)
Steps for Competency Program Development, Implementation, and Evaluation

STEP 5: Develop Logic Model and Validation Template

continued
Figure 2 illustrates the basic structure of a logic model. By utilizing this tool, faculty will consider the inputs (human and material program resources) and outputs (programmatic activities and participation) that will result ultimately in the desired outcome (short-term, middle-term, and long-term effects and goals).

Examples of logic models designed by the pilot sites for the C-Change Cancer Core Competency Initiative can be found on the Internet (www.cancercorecompetency.org). They illustrate both the flexibility and utility of the logic model. Participating organizations used the tool for developing programs with different competency goals, target student and professional populations, and different education and evaluation methods.

The following links provide additional resources regarding logic models:
- University of Wisconsin Cooperative Extension online course and resources: http://www.uwex.edu/ces/pdande/evaluation/evallogicmodel.html
- Kellogg Foundation Logic Model Development Guide: http://www. wkkf.org/Pubs/Tools/Evaluation/Pub3669.pdf
- CDC recommended resources: http://www.cdc.gov/eval/resources.htm#logic%20model

The validation template guides the development of more specific plans to achieve the desired competency outcomes. For example, the general template (see Table 6) illustrates the components of the validation template. Faculty must consider the competencies that will be applied as well as the characteristics of the learners and how the learners will prepare for the course. A downloadable version of the validation template can be found on the Internet (www.cancercorecompetency.org).

The validation template instructs faculty to consider the instructional activities, including the method for material introduction, didactic and interactive exercises, and integration of course material at the conclusion of the program. As with any learning environment, students may grasp the course content at differ-

ent levels and may require supplemental materials. The template includes remedial activities for students who need more information and enhancement activities for students who desire additional course content. The faculty is urged to consider strategies for learner evaluation, such as observational checklists, interactive exercises, and paper assessments, as well as specific indicators to gauge participant progress during the learning activity. Examples from pilot phase of the C-Change Cancer Core Competency Initiative illustrate both the flexibility and utility of the validation template; they can be found on the Internet (www.cancercorecompetency.org).

STEP 6: Manage Additional Important Implementation Details
For programs offering continuing education credit, approval must be obtained from appropriate approvers. If evaluation data from the program will be used for anything beyond learner assessment and feedback, including quality improvement efforts or professional publications, IRB approval might be necessary. Reserving venues and coordinating program times to suit scheduling needs is another basic but important planning step. Some programs may need to address staff working throughout the 24-hour day, rotational schedules, or academic calendars. It also will be important to address the practicalities of the program, such as registration, audiovisual equipment needs, catering, and other day-of event logistics

STEP 7: Evaluate and Interpret Data
Evaluation of program participants is essential. Many organizations utilize pre-tests and post-tests or skills tests, and solicit participant perceptions to assess knowledge, skills, and attitudes. These data are critical to identifying participant mastery of the curriculum and to gauging the success of the program.

STEP 8: Sustain Effort through Sharing with the Professional Community
Efforts to document and publish project findings are highly encouraged as a contribution to the health professions. Publication and presentation efforts also serve as an important professional development opportunity for the faculty.

tion template) are useful in a wide array of settings from clinical environments, such as ambulatory care clinics, cancer centers, hospitals, comprehensive cancer coalitions, professional societies, and advocacy organizations, to academic training programs for any health professional. Together, the standards and tools provide flexibility and utility in developing educational interventions to improve cancer competency.

Putting the Competency Standards and Tools to Work

The process for applying the competency standards and program development tools is described in a stepwise fashion in Table 5. Beginning with the planning phase, defining the audience and topic area shapes the initial goals of the educational intervention; who are the learners and what will they learn? Forming a team with the leadership and skills to carry out the initiative has

both practical and political implications. Carrying out the rigorous planning methods requires skills and support beyond the content area of the program. A needs assessment from the learner's perspective also can affect learners' level of participation as well as the degree to which they truly engage in the program and ultimately change their practice.

With the findings of the needs assessment in mind, the planning team can refine the program focus

Table 6.
Validation Template

Project Name	Evaluation Strategies	Indicators	Notes to the Instructor
Competency			
Sub-Competencies			
Learner Characteristics			
Learner Preparation			
Instructional Activities			
Introduction			
Case Study			
Didactic Exercise			
Interactive Exercise			
Closure			
Remedial Activities			
Enhancement Activities			

Figure 2.
Logic Model
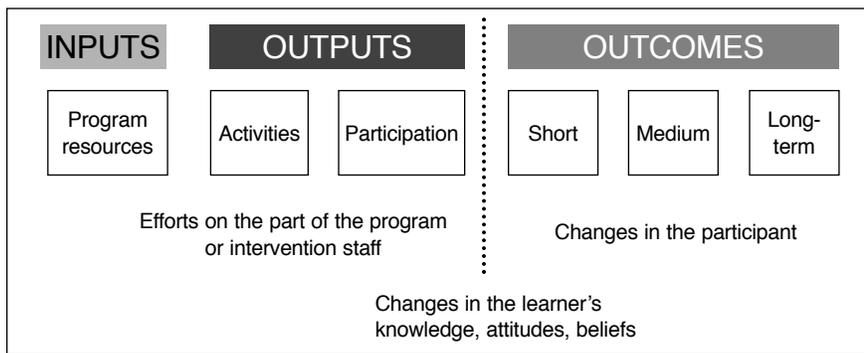
and begin developing the logic model (see Figure 2). This tool simply outlines the necessary inputs and outputs to achieve the desired outcomes. It assures that all energies and resources expended in the program support achievement of the competency goals. The validation template serves as the basis for a more specific plan for learning activities (see Table 6). The last planning step involves managing the familiar details of event logistics, such as program promotion, planning for space, audiovisual equipment, and refreshments. In some cases, institutional review board (IRB) or continuing education approval may be necessary.

Once program implementation has occurred, data gathered to assess knowledge, skill, and attitude changes can be interpreted. Findings can be used to evaluate the competency of the individual learners as well as in aggregate to evaluate the effectiveness of the program investment. For example, aggregate data may indicate needed changes in the teaching methods, program timing, or faculty. Lastly, sustaining the results of a program investment can be pursued by repetition of the program, replication of the program methods using another topic or professional population, and/or publication or presentation of the findings to and outside professional audience.
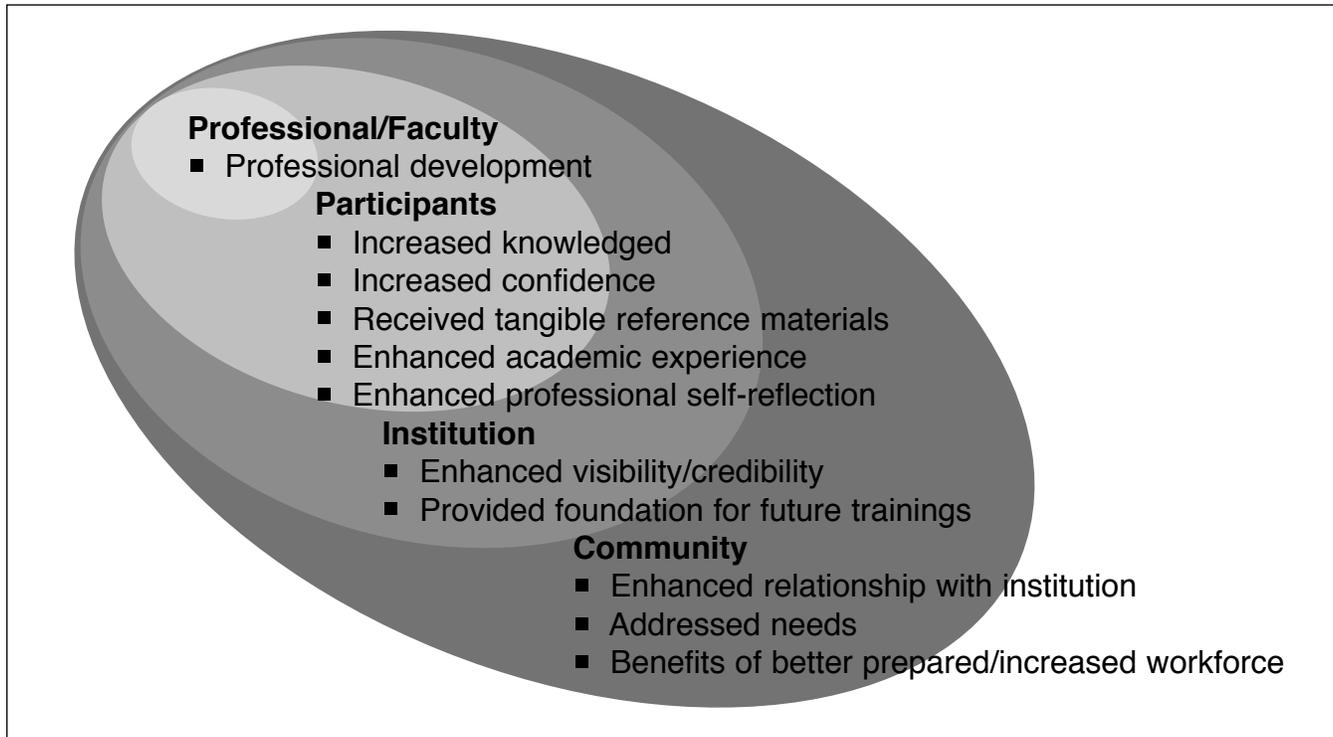
Measuring the Benefits

In 2008, four organizations pilot-tested the Cancer Competency Initiative tools and standards. Based on needs defined by the host organization, the initiative's goal was to improve the ability of the general health workforce to meet the needs of patients with cancer by increasing their basic cancer knowledge, skills, and attitudes. Specifically, the objectives of the pilot phase were to:

- Define implementation methods for various organizations, disciplines, and geographic areas.
- Implement program plans across various settings to evaluate the applicability of the competencies and utility of the implementation tools.
- Evaluate the impact of the program on professional competency and attitudes.

Each diverse site demonstrated substantial benefits to participants. Quantitatively, each site demonstrated measurable improvements in the knowledge, skills, and attitudes of participants. The percentage improvement in participant knowledge between pre-tests and post-tests ranged from 20% to 177%. Qualitatively, the pilot sites realized

Figure 3.
Qualitative Benefits of Cancer Competency Program Investment

Professional/Faculty
- Professional development

Participants
- Increased knowledged
- Increased confidence
- Received tangible reference materials
- Enhanced academic experience
- Enhanced professional self-reflection

Institution
- Enhanced visibility/credibility
- Provided foundation for future trainings

Community
- Enhanced relationship with institution
- Addressed needs
- Benefits of better prepared/increased workforce

benefits extending from program leaders to the community (see Figure 3).

The specific details of each pilot site's experience can be found on the Internet (www.cancercorecompetency.org). The logic models, validation templates, evaluation tools, and evaluation data are discussed in detail. The highlights of the program design and learner outcomes include:

- *The Audrain Medical Center* (Mexico, MO) program strengthened rural public health nurses' knowledge, skills, and attitudes related to skin cancer screening and patient education. The program offered a workshop on skin cancer, followed by a preceptor-guided clinical experience. Participants' knowledge improved 39% and confidence in their skills to differentiate benign and malignant lesions improved.
- *The California University of Pennsylvania* (California, PA)

program strengthened knowledge, skills, and attitudes of social work students and field faculty with regard to cancer-related anxiety and depression. The program provided an online course, lectures for students, and faculty workshops. Participants' knowledge in their ability to recognize and manage anxiety and depression in patients with cancer and their families increased 177%.

- *The University of Pittsburgh Medical Center* (Pittsburgh, PA) program strengthened primary caregivers' knowledge, skills, and attitudes on survivorship issues. The program provided a workshop, Web cast, and survivorship resources toolkit for use in rural and urban clinic settings. Participants' confidence in their knowledge and ability to assess and manage issues

related to survivorship improved an average 20%.

- *The Marshall University School of Medicine* (Huntington, WV) program strengthened the knowledge, skills, and attitudes of 2nd-year medical students with regard to breast cancer screening and patient communication. Students participated in a workshop addressing aspects of radiology, pathology, oncology, patient communication, and ethics. Students' knowledge regarding breast cancer improved 119%. Observations by attending physicians and standardized patients indicated clinical and interpersonal skill improvements.

An overview of the approach taken by each pilot site using the cancer competency standards and tools to meet the specific goals of the organization is provided in Tables 7-9. In addition, a report

Table 7.
Project Scope: C-Change Cancer Core Competency Pilot Project

	Audrain	Marshall	UPMC	California
Cancer Topic	Skin cancer prevention and early detection	Breast cancer screening and patient communication	Survivorship	Psychosocial assessment and intervention with cancer-related depression and anxiety
Health Care Discipline	Nurses	Physicians	Physicians, advanced practice nurses	Social workers
Level of Education and Experience	Practicing professionals nurses: AD, BSN, MSN	Students 2nd year medical school	Practicing professionals master's/doctorate	Graduate students, practicing professionals/ field faculty, BSW, MSW
Practice Setting	Rural, public health field workers	Pre-professional academic training program	Urban/rural, primary care clinics	Rural, social service agencies
Motivation to Host Program	Area professionals requested training	Faculty saw opportunity to integrate clinical and inter-personal skills for students	Oncology specialists saw unmet need in primary care settings	Faculty recognized the unique needs of patients with cancer and growing need for cancer support services from generalist social workers.
Host Goal for Pilot Outcome	Ability to conduct inde-pendent skin cancer screening assessment and provide community health education	Reinforce knowledge of breast cancer examination and screening and have early exposure to patient interaction.	Identify and refer for sup-port or meet the physical and psychosocial needs of cancer survivors.	Identify and support the needs of people at risk for or living with cancer-related anxiety and depression.

Table 8.
Planning Methods: C-Change Cancer Core Competency Pilot Project

	Audrain	Marshall	UPMC	California
Instructional Methods	Didactic lecture by advanced practice nurse instructor Slide identification and case studies Observation and practice in clinical setting with clini-cal preceptor	Didactic lecture by multi-disciplinary faculty and attending physicians Topic-specific seminars with slide/film review and case study discussion Standardized patient interactions (2) – physical examination and screen-ing visit; communication of bad news and follow care planning	Didactic lecture by multi-disciplinary faculty and attending physicians Archived Webcast	Didactic lecture for stu-dents and workshop for field faculty by social work faculty Intensive discussion of theory and case studies Online course content Standardized patients experience for students (in progress)
Evaluation Methods	Pre-post knowledge assessment Skill assessment by clini-cal preceptor Self-assessment of atti-tudes* after didactic lec-ture and after clinical experience	Pre-post knowledge assessment Skill assessment by attending physician of standardized patient inter-action #1 Skill assessment by stan-dardized patient of inter-action #1 and #2 Self-assessment of attitudes*	Pre-post knowledge assessment Self-assessment of attitudes*	Pre-post knowledge assessment Self-assessment of attitudes*
Enduring Content	Practice resources for field reference	Integration of seminar content into medical school curriculum	Survivorship toolkit Survivorship Webinar	Online course

* Self-assessment of attitudes = confidence, relevance, likely to change practice, likely to recommend to peers

**Table 9.
Participation Drivers: C-Change Cancer Core Competency Pilot Project**

	Audrain	Marshall	UPMC	California
Incentives, Rewards, and Requirements	Continuing education credit Free registration Take-home materials: reference books, pocket guide Clinical preceptor Ongoing consultative support Opportunity for regional networking and coordination of care	School requirement Opportunity for patient interaction	Continuing education credit Free registration Flexible Webcast options Take-home materials: survivorship toolkit resources Opportunity for regional networking and coordination of care	School requirement for students Free course for faculty Opportunity for students to have patient interaction Opportunity for field faculty to collaborate with peers Opportunity for regional networking and coordination of care

analyzing the process and outcome of all sites can be found on the Internet (www.cancercore competency.org). This report details the rationale for the program methods, interpretation of the cross-cutting quantitative and qualitative findings, limitations, and recommendations for further study.

Learning from the Cancer Competency Pilot Experiences

The results from the C-Change Cancer Core Competency Pilot Project evaluation support the following conclusions:

1. The implementation of the Cancer Core Competency methods and tools in four pilot sites improved participant knowledge of their respective cancer topics and resulted in strong cancer skills and attitudes.

2. The methods and tools developed to support program planning, implementation, and evaluation were useful and flexible. All site leaders found the tools useful and supportive of their efforts. All sites utilized the methods and tools in a variety of settings and educational formats and with different disciplines, demon-

strating their flexibility.

3. Each pilot site derived benefits from the program investment beyond the educational gains demonstrated by their program participants. The sites leveraged the competency initiative to include faculty professional development, institutional value, and community value.

Conclusion

Three major phases constitute a cancer competency program investment: planning, implementation, and evaluation. The planning phase requires the greatest investment of time and leadership. Careful planning ensures optimal focus in the educational intervention and participant engagement. The implementation phase may be the most familiar phase because many organizations have ample experience in conducting education and training programs. The evaluation phase is critical in assessing the benefits from the investment and evaluating the opportunities to strengthen outcomes and/or replicate successes.

Application of the competency-based standards, methods, and tools proved effective in four diverse settings among different disciplines in increasing cancer knowledge and skills. The program methods and tools are highly flexible, making them applicable with a variety of disciplines and settings. In addition, the program benefits extend beyond the learners to the institution and community.

Through the pilot testing phase of the Cancer Core Competencies, the competency standards and tools were applied and demonstrated proof of concept. In order to realize the full potential of these resources, several systematic efforts should be considered by nursing leaders in all settings. In

These leadership decisions will better prepare health professionals to meet the needs of people at risk for or living with cancer.

academic institutions, cancer competencies should be integrated into core curricula. In health care facilities, cancer competencies should become the basis for in-service training programs. In professional societies, cancer competencies should drive continuing education priorities. These leadership decisions will better prepare health professionals to meet the needs of people at risk for or living with cancer. ∎

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Answer/Evaluation Form:
A Competency-Based Approach to Expanding the Cancer Care Workforce: Proof of Concept

COMPLETE THE FOLLOWING

This test may be copied for use by others.

Name: _____

Address: _____

City:_____State: _____ Zip: _____

Preferred telephone: (Home)_____ (Work) _____

Registration fee: **Complimentary CNE provided as an educational service by C-Change (www.c-changetogether.org).**

ANSWER FORM

1. If you applied what you have learned from this activity into your practice, what would be different?

   _____
   _____
   _____
   _____

Evaluation	Strongly disagree				Strongly agree
2. By completing this activity, I was able to meet the following objectives:					
a. Discuss the state of the cancer workforce.	1	2	3	4	5
b. Describe a competency-based approach for the non-oncology health workforce.	1	2	3	4	5
c. List the benefits of a professional education model for the cancer workforce.	1	2	3	4	5
3. The content was current and relevant.	1	2	3	4	5
4. The objectives could be achieved using the content provided.	1	2	3	4	5
5. This was an effective method to learn this content.	1	2	3	4	5
6. I am more confident in my abilities since completing this material.	1	2	3	4	5

7. The material was (check one) ___new ___review for me

8. Time required to complete the reading assignment: _____minutes

I verify that I have completed this activity: _____

Comments

_____
_____

OBJECTIVES

This continuing nursing educational (CNE) activity is designed for nurses and other health care professionals who are interested in and affected by the cancer health care workforce. For those wishing to obtain CNE credit, an evaluation follows. After studying the information presented in this article, the nurse will be able to:
1. Discuss the state of the cancer workforce.
2. Describe a competency-based approach for the non-oncology health workforce.
3. List the benefits of a professional education model for the cancer workforce.

CNE Instructions

1. To receive continuing nursing education credit for individual study after reading the article, complete the answer/evaluation form to the left.

2. Photocopy and send the answer/evaluation form to *MEDSURG Nursing*, CNE Series, East Holly Avenue Box 56, Pitman, NJ 08071–0056.

3. Test returns must be postmarked by February 28, 2011. Upon completion of the answer/evaluation form, a certificate for 1.3 contact hour(s) will be awarded and sent to you.

4. CNE forms can also be completed online at www.medsurgnursing.net.