



Cancer Updates

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The Facts Greater Life Expectancy



“We need about 1.2 M nurses in the next 10 yrs. We need about 3.4 M health care workers.”
- Labor Secretary Chao



The Numbers Tell the Story

- 60% of the 185,000 RNs who have joined the workforce since 2002 are over 50 years old
- 20% increase needed in radiation oncology professionals
- 25% of clinical social work positions are vacant in California

Cont.



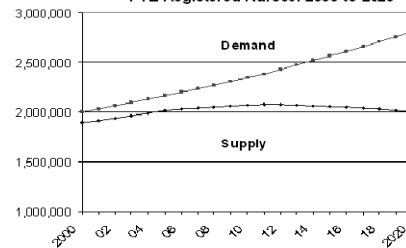
The Numbers Tell the Story

Cont.

- Pharmacist short fall in 2020: 157,000
- Retirement rate of public health professionals by 2009: 45%
- Imaging services demand projected to increase by 140% over the next 20 years.

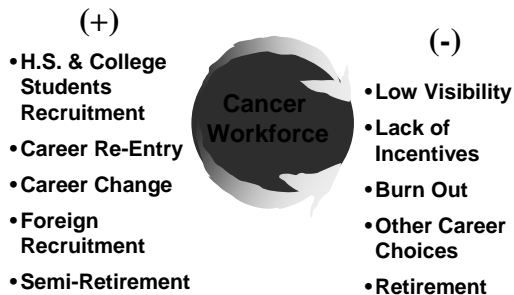
Workforce Shortages: Nursing

Chart 2.1: National Supply and Demand Projections for FTE Registered Nurses: 2000 to 2020



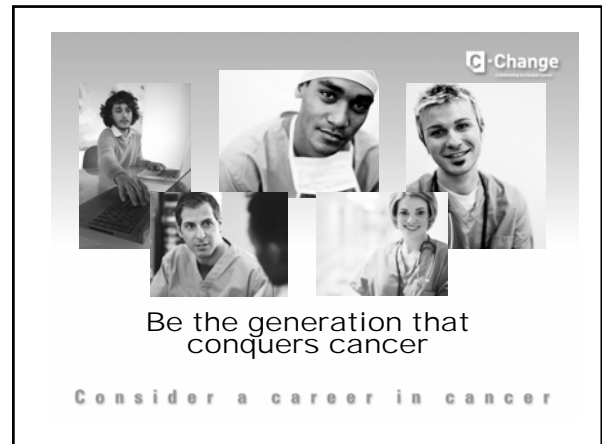
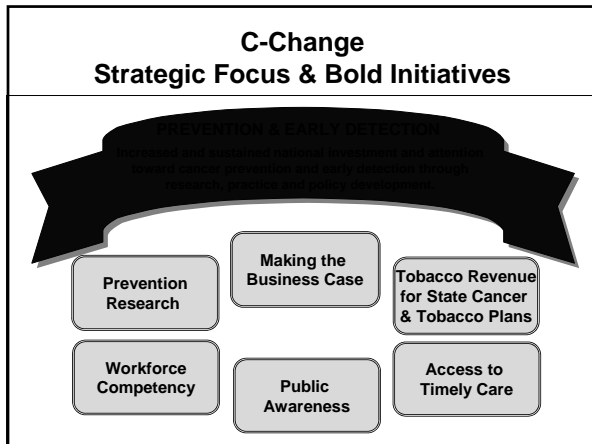
Source: DHHS, Projected Supply, Demand, and Shortages of Registered Nurses 2000-2020, July, 2002.

Forces at Play



Mission

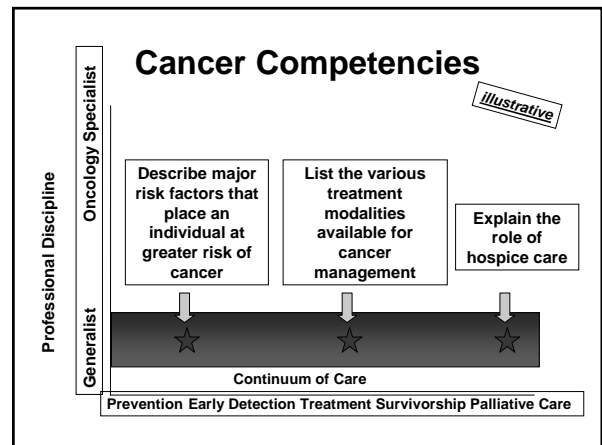
Leverage the expertise and resources of our membership to eliminate cancer as a public health problem, at the earliest possible time.



Untapped Resources

Opportunity

	Oncology Specialists	Generalists
Nurses	21,000 Oncology certified	2,000,000 Registered Nurses
Social Workers	1,200 Association of Oncology Social Workers Members	320,000 Licensed Clinical Social Workers



- ### Three Workforce Tiers
- 1) **Oncology specialists**
 - Diagnose condition
 - Determine treatment regime
 - Evaluate disease process
 - 2) **Health care professionals**
 - Initiate the continuum of care through prevention and screening
 - Assure the continuum of services to patients and their families
 - 3) **Health care workers**
 - Provide general support to infra-structure

- ### Three Competency Domains
- 1) **Continuum of Care**
 - 2) **Basic Cancer Science**
 - 3) **Collaboration and Communication**
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Domain 1: Continuum of Care

- Prevention and Behavioral Risks
- Screening and Early Detection
- Treatment
- Survivorship
- Palliative care and end of life



Example Competencies: Prevention and Behavioral Risks

- “Refer individuals to resources for cancer prevention, screening and management of pre-cancerous conditions”
- “Refer for full body skin examination”



Domain 2: Basic Cancer Science

- Incorporation of general cancer knowledge in practice
- Biology of cancer etiology
- Cancer epidemiology and risk factors
- Complementary and alternative therapies
- Participation in community-based clinical trials
- Adherence to data collection standards and reporting



Example Competencies: Basic Cancer Science

- “Distinguish cancer facts from cancer myths”
- “Describe the clinical trial process”



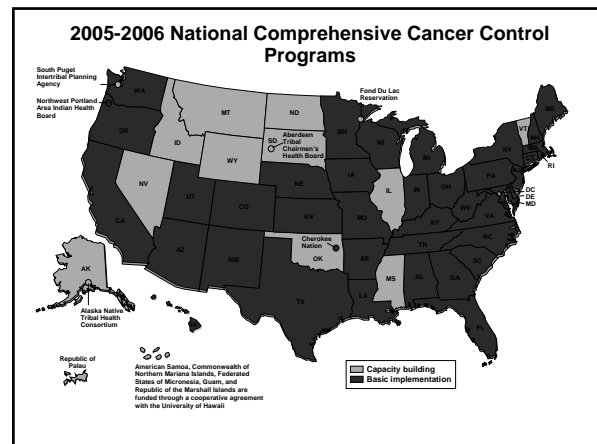
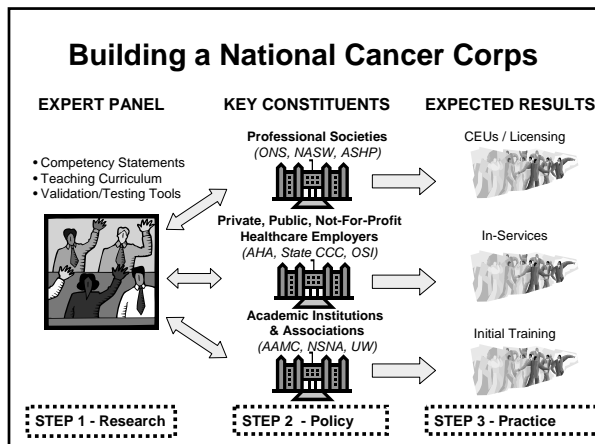
Domain 3: Collaboration and Communication

- Participation in interdisciplinary team
- Cross-cultural and psychosocial communication strategies
- Communication strategies to encourage grieving
- Ethical and legal issues relevant to cancer care




Example Competencies: Collaboration and Communication

- “Refer patients to mental health and psychosocial services”
- “Contribute professional perspective in the development of a cancer care plan”



Resources

http://c-changetogether.org/about_ndc/ndc_teams/cancer_workforce_study_group.asp



Breast Cancer

- Mortality rates from breast cancer have been steadily declining in New York and the nation – due to
 - improved treatment
 - early detection
- Yet, it remains the second leading cause of cancer-related death among women in the US.

Cont.

Breast Cancer

Cont.

- Improved longevity is resulting in steady increases in the numbers of women who need a mammogram each year creating capacity concerns.
- Annual mammography rates in NYS peaked at 80% in 2000 and have declined to 75% in 2004.

Emerging Technologies

Breast Cancer Screening

Digital Mammography

- Overall accuracy is equivalent to film mammograms among all women
- More accurate than film mammography among:
 - Pre/Perimenopausal women
 - Women <50 years old
 - Women with very dense breast tissue
- Only 8-10% of facilities have digital unit
- More expensive than film mammography

MRI for Women at Increased Risk

- BRCA1/BRCA2 Gene Mutation
- As many as 25% of findings are false-positive

Skin Cancer Prevention Strategies

- Limit exposure to sun, especially between 10am and 4pm
- Use sunscreen with SPF ≥ 15 (UVA and UVB)
- Wear wide brimmed hats
- Wear loose fitting long sleeve shirts and pants
- Stay in shaded areas
- Consider annual exam by dermatologist if at high risk because of family history and phototype

Cervical Cancer

- Sharp decline in cervical cancer mortality in the U.S. over the last 60 years due to the use of the Pap test is one of the greatest public health achievements of the 20th Century.
- Yet, there continues to be 4,000 deaths per year in U.S. due to cervical cancer
- It remains the 2nd leading cause of cancer death for women in the world.

Cervical Cancer

- 50% of cervical cancer deaths in U.S. are among women who have either rarely or never received a Pap test.
- Now know the cause of cervical cancer is infection with certain subtypes of human papillomavirus (HPV)

Human Papillomavirus (HPV) and Cervical Cancer

- 50-80% of adults have been infected with HPV
- Most often HPV infection is cleared by our immune system.
- Persistent HPV infection by certain subtypes (16 and 18) causes 7 out of 10 cervical cancer and by other types (6 and 11) cause 90% of genital warts

Cont.

Human Papillomavirus (HPV) and Cervical Cancer

Cont.

- FDA just approved a quadrivalent vaccine against types 16,18, 6 and 11
- ACIP recommends vaccination primarily for 11 and 12 year old girls, but also consider for 9-26 year olds

HPV Vaccination Issues

- Vaccine is safe and effective
- Noninfectious and nononcogenic – uses viral like particles
- Duration of immunity lasts 5 years, but may be a need for booster in the future.
- Three doses at 0, 2 and 6 months presents challenges for 11-12 year olds
- Cost is a concern, but it seems cost-effective if it ultimately allows for

Colorectal Cancer

- Colorectal cancer is the second leading cause of cancer-related death in New York and the nation.
- Screening rates have improved recently, but lag behind rates for breast and cervical cancer screening.
- As with cervical cancer, colorectal cancer screening can actually result in the prevention of cancer by detecting and removing precancerous adenomatous polyps.

Colorectal Cancer Screening Challenges

- There is a menu of acceptable screening tests including:
 - Colonoscopy every 10 years
 - Flexible sigmoidoscopy every 5 years,
 - Fecal occult blood test (FOBT) kits annually
 - Double contrast barium enema (DCBE)
- Reluctance to discuss colon health and stool
- Lack of referral for screening by primary care providers

Colorectal Cancer Screening Emerging Technologies

- Fecal immunochemical test
 - Test for human hemoglobin rather than peroxidase
 - No need for dietary and medicinal restrictions
 - Fewer false positives
- CT Colonography (Virtual Colonoscopy)
 - Few advantages over colonoscopy
- Molecular screening tests (DNA Stool test)

Advances in Therapy for Cancer More Individualized Therapy in the Future

- Increased recognition that cancers are heterogeneous and may require individualized treatments
- Currently, nearly all women with early stage breast cancer receive adjuvant chemotherapy even though very few will benefit from it (5-10%)
- Example: Her2neu and Herceptin for breast cancer

Individualized Therapy for Cancer

- TAILORx - clinical trial initiated to study a test to identify women with early stage breast cancer who will benefit from adjuvant chemotherapy
- Test activity of 21 genes among tumor samples and provide a score of likelihood of disease recurrence.

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Individualized Therapy for Cancer

Cont.

- Minimize the number of patients who receive toxic chemotherapies to only those who will benefit
- Continued development of tests for specific biomarkers that characterize each cancer and then tailor a course of treatment that will be most effective

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