Annual Report to the Nation
2009

National Cancer Advisory Board
February 18, 2010
Brenda K. Edwards
Surveillance Research Program
NCI
Monitoring the Impact of Cancer & Progress to Reduce Cancer

• Important for ongoing surveillance
  – All sites, common or rare
  – All populations, by age, sex, race & ethnicity, geography

• Identifying unusual patterns
  – Rapid changes in incidence
    • Relevance to etiology
    • Relevance to public health
      – Planning
      – Evaluating the impact of public health interventions
Annual Report to the Nation on the Status of Cancer

• Coordinated & shared responsibility since 1998
  – National Cancer Institute
  – Centers for Disease Control & Prevention
  – American Cancer Society
  – North American Association for Central Cancer Registries

• Latest data on cancer incidence & mortality
• Requires data linkages, methods development
• Special feature:
  – Tobacco control & lung cancer
  – American Indian & Alaska Natives; Hispanics
  – Treatment patterns
  – Cancer control
  – Survival
  – Cancer and aging population
Commentary

Annual Report to the Nation on the Status Of Cancer, 1975-2006, Featuring Colorectal Cancer Trends and Impact of Interventions (Risk Factors, Screening, and Treatment) to Reduce Future Rates

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Rates of new diagnoses and rates of death from all cancers combined declined significantly in the most recent time period for men and women overall and for most racial & ethnic US populations

- Incidence: 0.7 % per year from 1999-2006
- Deaths: 1.6% per year from 2001-2006
United States improved coverage for population-based cancer incidence

NAACCR 2002-2006 86%
NAACCR 1997-2006 71%
SEER 9: 1975-2006 (9.4%)
SEER 13: 1992-2006 (14%)
SEER 17: 2000-2006 (26%)
NAACCR: 2002-2006 (86%)
USCS: 2005 (01/08) (100%)
<table>
<thead>
<tr>
<th>Cancer Type</th>
<th>Men: New Cases</th>
<th>Men: Deaths</th>
<th>Women: New Cases</th>
<th>Women: Deaths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bladder</td>
<td>_</td>
<td>_</td>
<td>+0.2%</td>
<td>+0.4%</td>
</tr>
<tr>
<td>Brain</td>
<td>-0.5%</td>
<td>-1.0%</td>
<td>_</td>
<td>-1.1%</td>
</tr>
<tr>
<td>Breast</td>
<td>-2.0%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cervix</td>
<td>-3.5%</td>
<td>_</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colon/rectum</td>
<td>-3.0%</td>
<td>-3.9%</td>
<td>-2.2%</td>
<td>-3.4%</td>
</tr>
<tr>
<td>Esophagus</td>
<td>+0.7%</td>
<td>+0.4%</td>
<td>-2.2%</td>
<td>-3.4%</td>
</tr>
<tr>
<td>Kidney</td>
<td>+1.8%</td>
<td>-1.5%</td>
<td>+2.4%</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Leukemia</td>
<td>+0.1%</td>
<td>-0.8%</td>
<td>+0.3%</td>
<td>-1.6%</td>
</tr>
<tr>
<td>Liver</td>
<td>+3.6%</td>
<td>+2.4%</td>
<td></td>
<td>+1.8%</td>
</tr>
<tr>
<td>Lung</td>
<td>-1.8%</td>
<td>-2.0%</td>
<td>+0.4%</td>
<td>_</td>
</tr>
<tr>
<td>Melanoma</td>
<td>+3.1%</td>
<td>+2.0%</td>
<td>+3.0%</td>
<td></td>
</tr>
<tr>
<td>Myeloma</td>
<td>+0.7%</td>
<td>-1.1%</td>
<td></td>
<td>-2.4%</td>
</tr>
<tr>
<td>Non-Hodgkin Lymphoma</td>
<td>_</td>
<td>-3.0%</td>
<td>+1.1%</td>
<td>-3.7%</td>
</tr>
<tr>
<td>Oral</td>
<td>-1.2%</td>
<td>-2.2%</td>
<td>-0.9%</td>
<td></td>
</tr>
<tr>
<td>Ovary</td>
<td>-2.1%</td>
<td>-1.4%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pancreas</td>
<td>_</td>
<td>_</td>
<td>+1.7%</td>
<td>+0.1%</td>
</tr>
<tr>
<td>Prostate</td>
<td>-2.4%</td>
<td>-4.1%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stomach</td>
<td>-2.0%</td>
<td>-3.7%</td>
<td></td>
<td>-2.7%</td>
</tr>
<tr>
<td>Thyroid</td>
<td></td>
<td></td>
<td></td>
<td>+6.3%</td>
</tr>
<tr>
<td>Uterus</td>
<td></td>
<td></td>
<td>-0.5%</td>
<td>_</td>
</tr>
</tbody>
</table>
All Cancers, SEER Incidence and US Death Rates
Joinpoint Analyses for Whites & Blacks 1975-2006
Asian/Pacific Islanders, American Indians/Alaska Natives & Hispanics 1992-2006

Incidence

Mortality

Rates are age-adjusted to the 2000 U.S. standard million population. Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS
Male Lung & Bronchus Cancer
SEER Incidence (delay adjusted) & US Death Rates
1975-2006

Incidences
- Black Males: began 1984
- White Males: began 1990

Decline & Gap is Closing
- Black Males: -2.8% (1995-2006)
- White Males: -1.8% (1991-2006)

Rates are age-adjusted to the 2000 U.S. standard million population.
Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS

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Rates are age-adjusted to the 2000 U.S. standard million population. Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS.
Female Breast Cancer
SEER Incidence (delay adjusted) & US Death Rates
1975-2006

Incidence

Mortality

Rates are age-adjusted to the 2000 U.S. standard million population. Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS
Prostate Cancer
SEER Incidence (delay adjusted) & US Death Rates
Males, 1975-2006

- Here is the text
- Second level
- Third level
- Fourth level
- Next set

Blacks
Whites
American Indian/AK Native
Hispanic
Asian/Pacific Islander

Rates are age-adjusted to the 2000 U.S. standard million population. Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS
Liver & Intrahepatic Bile Duct Cancer
SEER Incidence (delay adjusted) & US Death Rates
1975-2006

Incidence

Mortality

Rates are age-adjusted to the 2000 U.S. standard million population. Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS
Cervical Cancer
SEER Incidence (delay adjusted) & US Death Rates
1975-2006

Rates are age-adjusted to the 2000 U.S. standard million population. Sources: Incidence data – NCI SEER Program; Mortality data – CDC NCHS NVSS
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Colorectal Cancer

Age-Standardized Incidence Rates by Stage at Diagnosis
SEER 9 Incidence, 1975-2006, All Races, Both Sexes

5-Year Relative Survival Rates by Stage at Diagnosis
SEER 9 Incidence, 1975-2001, All Races, Both Sexes

5-year Relative Survival Rate (%)
Micro-Simulation Modeling Projections of Colorectal Cancer (CRC) Rates

- CISNET Consortium’s MISCAN-Colon model
  - Tool to analyze historical impact of changes in risk factors, screening & treatment practices and to project future mortality trends for CRC
  - Increase risk (e.g., smoking, obesity & red meat consumption)
  - Decrease risk (e.g., NSAID use, supplements, and physical activity)
  - Screening use (e.g., national data on FOBT, endoscopy)
  - Treatment (4 chemotherapy regimens for advanced CRC)
Micro-Simulation Modeling Projections of Colorectal Cancer (CRC) Rates

- Declines in CRC death rates consistent with
  - Relatively large contribution from screening
  - Smaller demonstrable impact of risk factor reductions (long term) & treatment (short term)
- Declines projected to continue
- Declines could be accelerated with favorable trends in risk factors, higher utilization of screening & optimal treatment (e.g., 50% reduction by 2020)
Partition of Past Trends in Colorectal Cancer Incidence*  
(1975-2000)

* Rates are based on the first primary colorectal cancer and include the primary sites of C18.0 C18.2-C18.9, C19.9, C20.9 and the ICD-03 histologies of: 8000-8001,8010,8020,8140,8210-8211. Rates do not include cases that are from a reporting source of death certificate only or autopsy only.

CRC Incidence rate per 100,000 (age-standardized)

Year of Death
Figure 6. Projections of Colorectal Cancer Mortality with Differing Intensities of Cancer Control (2000 – 2020)
Coming Soon

http://progressreport.cancer.gov


The Cancer Trends Progress Report, first issued in 2001 as the Cancer Progress Report, summarizes our nation’s progress against cancer in relation to Healthy People 2010 targets set forth by the Department of Health and Human Services. The report includes key measures of progress along the cancer control continuum and uses national trend data to illustrate where advances have been made.

Report Highlights
Major conclusions

Trends-at-a-Glance
Trends and summary tables

Prevention
Tobacco, Physical activity, Diet, Sun protection, more...

Early Detection
Breast, cervical, colorectal cancer screening

Diagnosis
Incidence, Stage at diagnosis

Treatment
Bladder, breast, colorectal, kidney, lung, ovary, prostate cancer treatment

Life After Cancer
Survival, Costs of cancer care

End of Life
Mortality, Person-years of life lost

The report, available only online, can be printed in part or in its entirety. Portions of the report are updated annually, while other sections are updated as new data become available. The full report will next be updated in 2011.
Challenges

• Increasing demands on SEER for more data:
  – Comorbidity
  – Recurrence
  – Prognostic factors & clinically relevant characteristics
  – Biospecimens
  – Diagnosis, treatment, and medical management
  – Delivery of care

• Reliance on electronic health records (EHR)
• Automated data collection and processing
• Database linkage (protected patient identifiers)
• Better understanding of population differences
• Coordination & integration (surveillance partners)
A National Framework for Cancer Surveillance


Questions for NCAB

• How can we provide more meaningful cancer data to researchers and the public?
• What are the important cancer statistics that we should report?
• Should we focus more on timely reporting, collaborative reporting, easier access to cancer data, or interpreting cancer data?
• With resource constraints, should we continue to focus on depth (details) rather than breadth (population coverage), improve collaborations with hospitals & cancer centers or team only with federal agencies, and/or expand the use of statistical methods to compensate for limited empirical data?