CERCIT Workshop 3: Cancer Effectiveness Research and the Texas Cancer Registry

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Overview of Workshop

- Introduction to comparative effectiveness research
- Use of a linked cancer registry with Medicare claims database for cancer effectiveness studies
- Cancer registry data
- The Medicare program
- Description of the Medicare data files
- Research examples of CERCIT mentors
- Limitations and methodological issues of the linked data
Use of a Linked Cancer Registry with Medicare Claims Database for Cancer Effectiveness Studies: Examining Trajectories of Cancer Care

Screening -> Diagnosis -> Treatment -> Survivorship -> Recurrence -> End of life Care/Death
Cancer Effectiveness Research on Screening

- Use of screening services
- Impact of changing technology and screening guidelines
- Influence of practice patterns on cancer detection
- Performance of screening tests (sensitivity and specificity)
Cancer Effectiveness Research and Diagnosis

- Factors that influence stage at diagnosis
- Disparities in stage at diagnosis
- Patterns of diagnostic procedures
- Delays in diagnosis
Cancer Effectiveness Research and Treatment

• Patterns of care
• Peri-operative complications
• Volume/outcome studies
• Influence of clinical trials and treatment guidelines
• Disparities in cancer care
Cancer Effectiveness Research and Survivorship

- Late effects of treatment
- Use of screening procedures
Cancer Effectiveness Research and Recurrence

• Rates of recurrence
• Relationship of treatment and surveillance on recurrence
• Time to recurrence
Cancer Effectiveness Research and End of Life Care/Death

- Use of hospice service
- End of life patterns of care
- Effect of cancer treatment on survival
TX Cancer Registry Data: Selected Elements

- Clinical Variables
  - Cancer site
  - Stage
  - Tumor size
  - Date of dx
  - Tumor grade
  - Vital status

- Cancer Treatment
  - Surgery
  - Radiation

- Socio-demographic
  - Gender
  - Age at dx
  - Race
  - Spanish/Hispanic Origin
Medicare Program

- **Eligibility**
  - Age 65 and older
  - Selected adults with disabilities
- **Part A**
  - Inpatient hospitalizations
  - Hospice care
  - Home health
  - Skilled nursing facilities
- **Part B** (physician, outpatient facility, durable medical equipment)
- **Part C** (managed care, 1985)
- **Part D** (medications, 2006)
Selected MEDPAR (Hospital) Data Elements

- Hospital ID
- Admission source
- Admission type
- Diagnoses
- Procedures
- DRG
- Total Charges
- Total reimbursements
- ICU days
- Discharge status
- Length of stay
Selected Physician/Supplier Data Elements

- Physician ID
- Diagnosis
- Procedure
- Date of service
- Reimbursement
- Charge
Research on Breast Cancer Care with Linked Data: CERCIT Mentors

• Screening
  Measuring breast cancer screening with claims
  Performance of screening mammography in community practice
  Reducing the effects of lead-time bias, length bias and over-detection in evaluating the effect of screening mammography on breast cancer mortality
  Mammography use in women 80 years and older
Research on Breast Cancer Care with Linked Data: CERCIT Mentors

• Diagnosis
  Relationship of screening to size and stage of breast cancer at diagnosis
  Disparities in stage and size of breast cancer at diagnosis
Research on Breast Cancer Care with Linked Data: CERCIT Mentors

• Treatment
  Patterns in use of chemotherapy
  Disparities in receipt of adjuvant chemotherapy
  Completion of radiation therapy
  Use of intravenous bisphosphonates
  Outcomes of adjuvant chemotherapy
Research on Breast Cancer Care with Linked Data: CERCIT Mentors

• Surveillance

Cardiac morbidity of adjuvant radiation therapy
Impact of diabetes on complications and outcomes of chemotherapy
Research on Breast Cancer Care with Linked Data: CERCIT Mentors

• End of Life Care
  Decreasing variation in use of hospice
  Hospice use by Hispanic and non-Hispanic white cancer decedents
Research on Breast Cancer Care with Linked Data: CERCIT Mentors

- Death
  
  Effect of depression on survival of older women with breast cancer
  
  Impact of treatment and SES on racial disparities in survival
Limitations and Methodological Issues with the Linked TX Registry/Medicare Data

- Limitations
  - Some clinical services not captured in claims
  - Missing claims for HMO enrollees
  - Sensitivity of the diagnosis and procedure codes varies by condition
  - Limitations of methods/measures to assess comorbidity or severity of illness
  - Limited data on cancers affecting younger populations
  - Variation in coding practices across institutions
  - Circumstances involving treatment decision not captured in claims
Limitations and Methodological Issues with the Linked TX Registry/Medicare Data

- Methodological Issues/Approaches
  - Limit cohorts to beneficiaries likely to have claims over the study period
  - Develop and evaluate algorithms to identify clinical conditions or treatments of interest
  - Combine information across data sources (Cancer Registry/Claims) to capture cancer treatment
  - Limit analyses of “appropriate care” to groups of patients (not individual patients)