

Title:

Cancer Registry and Electronic Medical Record Data In Head and Neck Cancer Research

Janet Van Cleave, PhD, MSN

Rory Meyers College of Nursing, New York University, New York, NY, USA

Session Title:

Nurse-Managed Technology to Enhance Cancer Care Outcomes for Survivors With Breast Cancer or Head/Neck Cancer

Slot:

F 14: Friday, 28 July 2017: 2:30 PM-3:45 PM

Scheduled Time:

3:10 PM

Keywords:

Cancer, Registry and Technology

References:

Genther, D. J., & Gourin, C. G. (2012). The effect of hospital safety-net burden status on short-term outcomes and cost of care after head and neck surgery. *Archives of otolaryngology -- head & neck surgery*, 138, 1015 - 1022.

Van Cleave, J. H., Smith-Howell, E., & Naylor, M. D. (2016). Achieving a high-quality cancer care delivery system for older adults: innovative models of care. *Seminars in oncology nursing*, 32, 122-133.

Van Cleave, J. H., Kenis, C., Sattar, S., Jabloo, V. G., Ayala, A. P., & Puts, M. (2016). A research agenda for gero-oncology nursing. *Seminars in oncology nursing*, 32, 55 - 64.

Abstract Summary:

Using hospital tumor registry and electronic medical record data, our study findings indicate that the cancer stage, age, and race/ethnicity may influence receipt of head and neck cancer treatment in a safety-net health system in the United States.

Learning Activity:

LEARNING OBJECTIVES	EXPANDED CONTENT OUTLINE
The learner will be able to describe the process of combining hospital cancer and electronic medical record data for research studies in medically underserved cancer populations.	Describe the steps of identifying the study population, abstracting and recording electronic medical record, and analyzing the data.
The learner will be able to describe the benefits and challenges of using hospital cancer registry and electronic health record data	Identify the study strengths and limitations due to the use of combined cancer registry and electronic medical record data

Abstract Text:

Purpose: Medically underserved head and neck cancer populations are underrepresented in clinical trials and national datasets in the United States (US). Therefore, limited evidence is available to guide the care of patients receiving cancer treatments in safety-net health systems for low-income, uninsured, or vulnerable populations. Using combined hospital cancer registry and electronic medical record (EMR) data from a northeastern United States integrated safety-net system, we analyzed factors associated with receipt of cancer treatment among medically underserved persons with head and neck cancer. The research objectives of the study were to: 1) Identify demographic and clinical features of the population receiving care for head and neck cancer in an integrated, safety-net health system, and 2) determine factors associated with receipt of cancer treatment.

Methods: A retrospective, multi-institution review was conducted using combined hospital cancer registry and EMR data from 343 patients diagnosed with squamous cell carcinoma of the head and neck between January 1, 2007 and December 31, 2010. All patients received care in an integrated, safety-net health system located in the northeastern US. After receiving human subjects' approval from a regional biomedical internal review board, the participating hospital cancer registrars identified the study population and obtained demographic data from their automated registry. After identification of the study population, investigators abstracted cancer treatment data from the electronic medical records and entered this data into an encrypted, password protected Microsoft Excel file. All data were uploaded and analyzed with STATA 13. Descriptive statistics, and multivariable analyses using logistic regression were conducted to determine the association between the dependent variable (receipt of cancer treatment) and independent variables of age, gender, race/ethnicity, cancer stage, and cancer site. Tobacco use was also included as an independent variable because of the association of tobacco use with increased mortality risk.

Results: Among the 343 patients with head and neck cancer, the mean age was 59 years (SD = 13, Range 20 to 100). The population was racially and ethnically diverse (white 19%, black 43%, Hispanic 17%, Asian or other race/ethnicity 20%), and predominantly male (male 78%, female 22%). Most patients presented with advanced stage head and neck cancer (Stage I – III 31%, Stage IV or Metastatic 57%, Unknown 11%). The majority of the study population received chemotherapy, radiation therapy, surgery, or combination of these therapies (85%). While controlling for age, gender, race/ethnicity, cancer stage and site, and tobacco use, the regression model demonstrated that cancer stage, age, and race/ethnicity were associated with receipt of cancer treatment. Specifically, persons with an unknown stage of head and neck cancer were significantly less likely to receive cancer treatment than those with Stage I disease (Odds Ratio [OR] = .07, [95% Confidence Interval (CI): .02 - .22]). Further, those who were ages 60 and over were less likely to receive cancer treatment than those ages 59 and under (OR = .53, [95% CI: .30 - .94]). However, those who identified as Asian or other race/ethnicity were more likely to receive cancer treatment than those who identified as white (OR=2.18, [95% CI: 1.01 – 4.69]).

Conclusion: Using hospital cancer registry and EMR data, our study findings indicate that those who receive care for head and neck cancer in a safety-net health system in the US comprise a racially/ethnically diverse population. Further, a person's cancer stage, age, and race/ethnicity may influence receipt of cancer treatment. Possible explanations for study findings include the impact of physiological status and social support on provider-patient decisions in cancer treatment. Limitations of using a combined hospital cancer registry and EMR data set include the lack of information about episodes of care that occur outside the integrated safety-net system. To address this limitation, more research and policy initiatives are needed to accelerate data sharing across both US and international health care systems.