Healthcare utilization patterns among safety-net patients with cancer and multimorbidities

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Purpose

To examine how cancer diagnoses influence healthcare utilization for patients with multiple chronic conditions receiving care in county safety-net health system

Background and Objectives

- Coordinating care for cancer patients who also have other chronic conditions is complex and challenging for primary care and oncology
- Previous research has found that cancer patients are more likely to receive primary and ambulatory care than non-cancer patients
- Safety-net patients, who have more chronic conditions, have a higher prevalence of risk behaviors and are not well represented in the existing research
- Exploring how healthcare utilization changes after cancer diagnoses for under- and uninsured patients seeking care in safety-net settings can direct future interventions to improve care coordination & outcomes

Sample

- We used EHR data to match 631 cases (patients diagnosed with breast or colorectal cancer during 2010 to 2016 and at least one other chronic condition) to 631 controls (patients with no history of cancer and at least 2 chronic conditions) on gender and comorbidity risk profile
- 20 semi-structured interviews were conducted to assess experiences with healthcare processes and referrals between primary care and specialty care

Statistical Analysis

- Descriptive statistics were used to describe the sample of cases and controls and visit patterns
- Conditional fixed effects Poisson regression models were used to evaluate the relationship between matched cases/controls and the number primary care visits and number of emergency care visits
- Two-level, mixed effects, matched logistic regression model accounting for clustered data structure of multiple visits per patient was used to evaluate the odds of completing an in-person visit
- Interview transcripts were analyzed using an iterative deductive and inductive coding scheme

Summary of Key Findings

Table 1: Patient Characteristics (N=1,262)

	Cases (n=631)	Controls (n=631)
Age (mean, SD)	59 (10.6)	54 (12.7)
Sex (male)	291 (46.1)	291 (46.1)
Race/Ethnicity		
Non-Hispanic White	52 (8.2)	75 (11.9)
Non-Hispanic Black	447 (70.8)	239 (37.9)
Hispanic	116 (18.4)	296 (46.9)
Other	16 (2.6)	21 (3.3)
Language (Spanish)	58 (9.2)	226 (35.9)
Health Insurance		
Medicaid	168 (27.0)	18 (2.8)
Medicare	205 (33.0)	34 (5.4)
Parkland (Charity)	217 (34.4)	576 (91.3)
Commercial/BS/Others	31 (5.0)	3 (0.50)
Charlson score (Mean, SD)	2.7 (1.3)	2.7 (1.3)
No of Chronic Conditions		
2	427 (67.7)	427 (67.7)
3	112 (17.8)	112 (17.8)
4	40 (6.3)	40 (6.3)
5+	52 (8.2)	52 (8.2)
Cancer Stage		
0	72 (11.4)	--
I	130 (20.6)	--
II	148 (23.5)	--
III	149 (23.6)	--
IV	79 (12.5)	--
Unknown/Missing	53 (8.4)	--

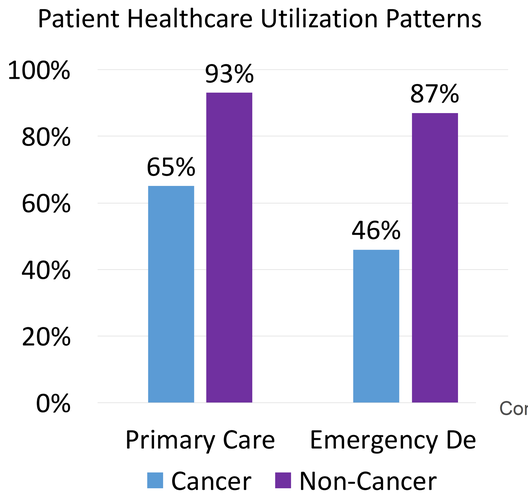
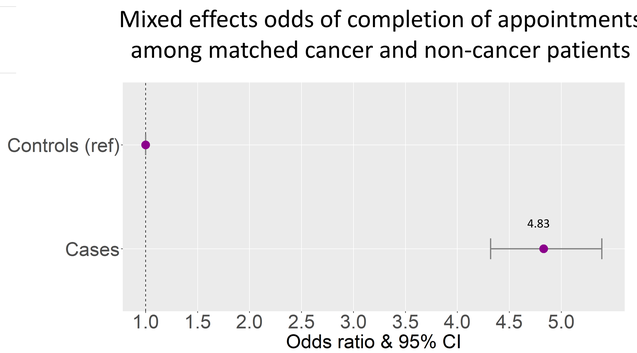


Table 2. Conditional fixed incidence rate ratio of count of visits among matched cancer and non-cancer patients

	Emergency Dept. Adjusted[1] IRR (95% CI)	Primary Care Adjusted IRR (95% CI)
Cancer	0.15*** (0.13, 0.18)	0.18*** (0.16, 0.20)

[1]Adjusted for age, race/ethnicity, language, marriage, and insurance



> **[Cancer patients] want to live so they follow instructions a lot better…for all their diseases**

Interview Findings: Reasons for Not Visiting Primary Care

- **Not understanding the purpose of primary care** visits as they received urgent services in oncology for chronic conditions
- **Delays in securing primary care appointments** and challenges completing appointments in various locations
- **Inconsistent communication** between oncology and primary care teams about cancer and chronic disease treatment needs
- **Role confusion** related to who was primarily responsible for survivors' care and follow-up

Conclusions

- Cancer patients with chronic conditions were less likely to visit primary care and the ED compared to non-cancer patients with a similar comorbidity, but were more likely to complete appointments
- Patients' increased motivation to seek care for their cancer could be leveraged to create pathways with primary care to deliver comprehensive care- not just for cancer but for concurrent chronic diseases
- Oncology, primary care, and other clinical specialty teams need to function as a multi-team system to deliver high quality care for cancer and chronic conditions that results in optimal clinical outcomes and is cost-effective

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