

VA-INPC demonstration:

data linkage between Veterans Affairs (VA) and Indiana Network for Patient Care (INPC) data to assess surveillance testing among veterans with colorectal cancer

David A. Haggstrom, MD, MAS

VA HSR&D Center on Implementing Evidence-Based Practice
Indiana University School of Medicine, Division of General Internal
Medicine & Geriatrics
Regenstrief Institute, IU Center for Health Services and Outcomes
Research

Methods

Study Population: patients with incident CRC at the Indianapolis VAMC and diagnosed from 2000-2007.

- 468 individuals were identified in the Indianapolis VA cancer registry.

VA-INPC data linkage: deterministic linkage

- 1) linkage was performed using an exact match of SSN for the initial potential match: 335 matches were found (72% of original VA sample)
- 2) linkage was then performed using a combination of the same last name (first 6 positions), same first name (first 6 positions), and month of birth: 7 additional matches were found (341 total)

Methods

Data sources:

1. INPC:

- a. demographic file
- b. procedures (colonoscopy)
- c. imaging (CT scans, chest & abdomen)
- d. laboratory results (CBC, LFTs)

2. VA: VA cancer registry and electronic medical record (VISTA) data

Analysis: additional value of INPC data, by test:

of patients (or tests) with INPC data

of patients (or tests) with VA or INPC data

Surveillance test categories	# of patients (% of pts receiving test from data source)			Total patients (% of eligible)	# of surveillance tests (% of tests received from data source)			Total tests
	VA data alone	both VA and INPC data	INPC data alone		VA data alone	both VA and INPC data	INPC data alone	
<u>Procedure and imaging tests</u>								
Colonoscopy	150 (97%)	4 (3%)	0	154 (33%)	190 (97%)	5 (3%)	0	195
CT scan (abdomen)	202 (87%)	17 (7%)	12 (5%)	231 (50%)	369 (87%)	40 (9%)	16 (4%)	425
CT scan (chest)	4 (21%)	0	15 (79%)	19 (4%)	4 (14%)	0	25 (86%)	29
<u>Lab tests</u>								
Carcinoembryonic antigen (CEA) test	196 (92%)	10 (5%)	6 (3%)	212 (45%)	524 (95%)	23 (4%)	12 (2%)	559
Complete blood count (CBC) test	223 (75%)	49 (17%)	24 (8%)	296 (63%)	1823 (72%)	416 (16%)	286 (11%)	2525
Liver function test (LFT) test	45 (47%)	7 (7%)	44 (46%)	96 (21%)	62 (21%)	24 (8%)	206 (71%)	292

Additional value of INPC data

Test	Additional value at patient level	Additional value at test level
Colonoscopy	3%	3%
<u>Imaging</u>		
CT scan (abdomen)	13%	13%
CT scan (chest)	79%	86%
<u>Laboratory</u>		
CEA test	8%	6%
CBC	25%	28%
LFT	53%	79%

Take-away points

- The incremental benefit of linking VA and INPC data varied, depending upon
 1. test of interest
 2. may vary by cancer/disease
- New, important information about care outside the VA is obtained through RHIO (regional health information organization) data linkage
 1. Clinical information (redundant testing)
 2. Performance information (health system quality)

Acknowledgments

Regenstrief Institute

- Marc Rosenman, MD
- Evgenia Teal, MS

VA

- Laura J. Myers, PhD
- Brad Doebbeling, MD, MSc