Examination of oncology patient admissions in a community hospital setting in northern Colorado

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IRB Approved

Disclosure Statement

- Anna Ventimiglia has no conflict of interest and has received no funding to support the research
- The research is subject to different interpretation
- Anna Ventimiglia agrees that this presentation abides by the non-commercial guidelines

Learning Objectives

- Establish the need for monitoring of oncology patient readmissions
- Evaluate the admission and readmission results for Banner Health hospitals in northern Colorado
- Recognize opportunities in readmission prevention in oncology patients

Facilities

North Colorado Medical Center

- 378-bed, acute care hospital
- Nationally recognized for excellence in burn and trauma care

McKee Medical Center

- 132-bed, acute care hospital
- Has served Loveland, CO since 1976

Fort Collins Medical Center

- 22-bed, acute care hospital
- Opened in April 2015

Background

- Development of Hospital Readmissions Reduction Program (HRRP) by CMS
- Readmission: admission to a subsection hospital within 30 days of a discharge from the same or another subsection hospital[1]
- Prediction that oncology patients will be included in HRRP in the future[2]

[1]Readmissions reduction program (HRRP). Centers for Medicare & Medicaid Services website: https://www.cms.gov/medicare/medicare-fee-for-service-payment/acuteinpatientpps/readmissions-reduction-program.html. Updated April 18, 2016. Accessed: September 1, 2016.
[2]Butcher, L. Oncologists seek to understand, address hospital readmissions. *Oncology Times*. 2016;38(6):8-10.

Background

- Estimated annual cost of patient readmissions is $17 billion[3]
- Cancer readmissions may represent 17% of readmissions[4]
- Mean cost of a readmission in palliative medicine or general medicine oncology is $18,365[5]
- Establishment of a definition of preventable readmissions

[3]Brown EG, Burgess D, Li CS, Canter RJ, Bold RJ. Hospital readmissions: necessary evil or preventable target for quality improvement. *Ann Surg*. 2014;260:583-591.

4Ji H, Abushomar H, Chen XK, Qian C, Gerson D. All-cause readmission to acute care for cancer patients. *Healthc Q*. 2012;15(3):14-16.

[5]Montero, A. 3 steps could save millions by reducing oncology readmissions. Cleveland Clinic website: https://consultqd.clevelandclinic.org/2015/06/asco2015oncologyreadmissions/. January 2015. Accessed: August 15, 2016.

Study Objectives

- Primary: evaluate the admission and readmission causes and rates for oncology patients at Banner Health facilities
- Secondary:
  - Assess the predictors for oncology patient admission and determine which predictors can be described as preventable
  - Evaluate the need for an intervention regarding oncology patient readmissions

Methodology

- Retrospective chart review
- 437 adult patients (18-89 years)
- Patients actively being treated for malignancy at Banner Health facilities in northern Colorado over the period of 01/01/2015 to 01/01/2016

Methodology

- Patients identified through and Explorer report (Pharmacy Dispense Query) run through Cerner
- Patients identified as those using oncolytic chemotherapy at specified Banner Health facilities over defined time frame

Results

- 396 patients were included in the study
- Exclusions included: lack of therapy during the study window and noncancerous indication

Demographic Data

Male	Female
169	227

Age ≥65 years	Age < 65 years
185	211

Most Prevalent Cancer Types	Patient Amount	Percentage
Breast	78	19.7%
Lung	57	14.4%
Lymphoma	38	9.6%
Colon	29	7.3%
Bladder	24	6.1%

Admission/Readmission Categories

Category	Admissions	Percentage
Infectious	63	35.6%
Disease Progression	38	21.5%
CV	18	14.1%
GI	23	13%
Surgical	7	4%
Bleed	7	4%
Respiratory	6	3.4%
Other	5	2.8%
Renal	4	2.3%
Line	3	1.7%
Pain	3	1.7%

Results

Category	Patient number	Percentage (of 396 patients)
Admissions (ONLY)	138	34.8%
Readmissions (ONLY)	39	9.85%

Category	Number	Percentage
Average days until readmission	12.4	-
Patients with readmissions	30	7.58%

Readmission Results

Preventable readmissions	Not preventable readmissions
• GI bleed • Neutropenic fever if did not receive Neulasta and was a candidate • AMS most likely due to home medications • N/V • Husband not able to take care of patient	• PE • AKI • Disease progression • PEG tube site bleeding requiring transfusion • Obstructive jaundice • Post-surgical hematoma

Demographic Statistics

		Number of readmissions in 30 days	Age	Sex
Number of readmissions in 30 days	Pearson Correlation	1	-.045	.143
	Sig. (2-tailed)		.785	.384
	N	39	39	39
Age	Pearson Correlation	-.045	1	.127*
	Sig. (2-tailed)	.785		.012
	N	39	396	396
Sex	Pearson Correlation	.143	.127*	1
	Sig. (2-tailed)	.384	.012	
	N	39	396	396

*. Correlation is significant at the 0.05 level (2-tailed).

Readmissions per Cancer Type

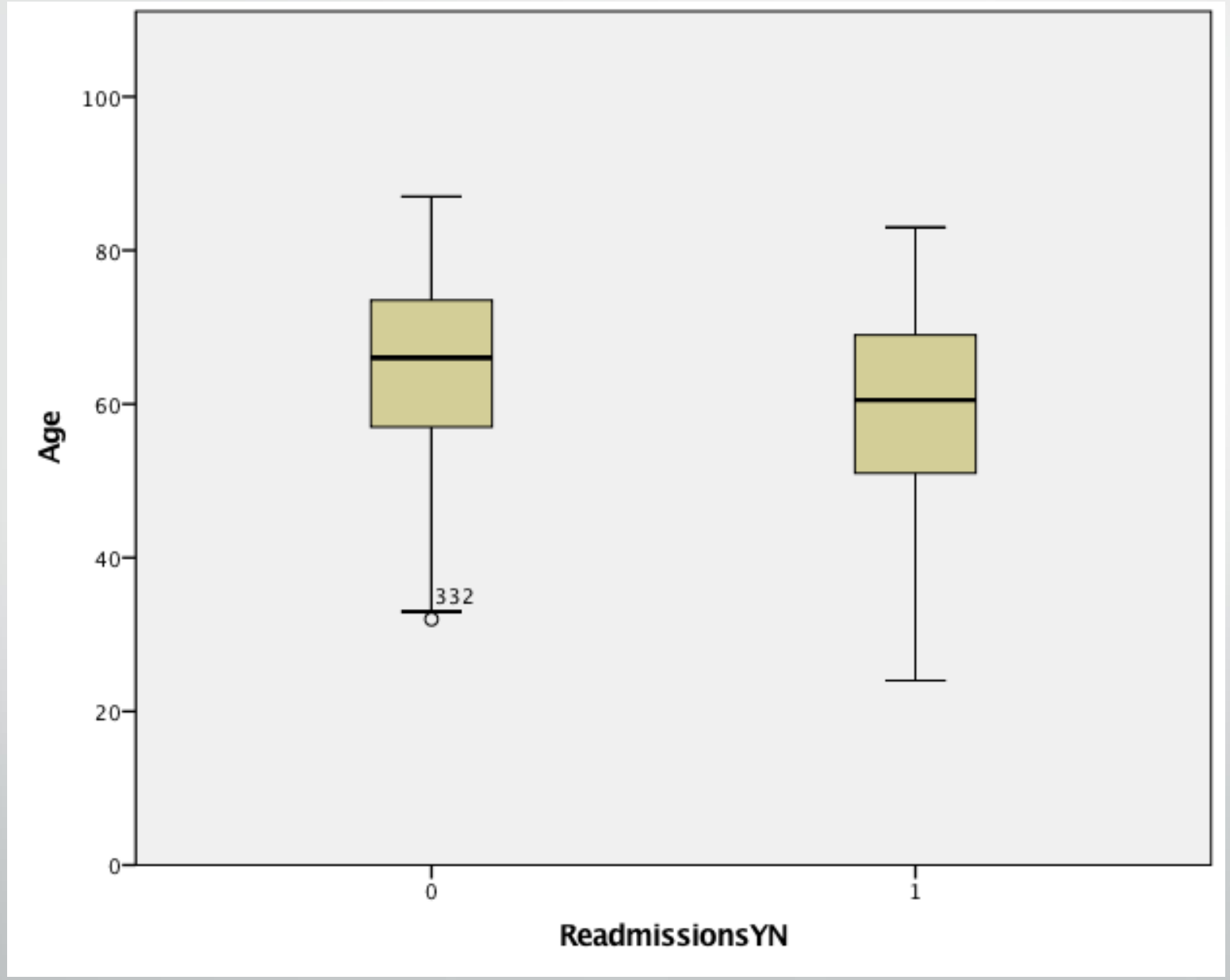
Category	Percentage
Breast	12.8%
Lung	12.8%
Lymphoma	10.3%
Ovarian	7.7%
Duodenal	5.1%

Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	58.252[a]	72	.879
Likelihood Ratio	52.496	72	.959
N of Valid Cases	39		

Correlations

		Age	Sex	Readmissions Y/N
Age	Pearson Correlation	1	.127*	-.172
	Sig. (2-tailed)		.012	.068
	N	396	396	114
Sex	Pearson Correlation	.127*	1	.042
	Sig. (2-tailed)	.012		.657
	N	396	396	114
Readmissions Y/N	Pearson Correlation	-.172	.042	1
	Sig. (2-tailed)	.068	.657	
	N	114	114	114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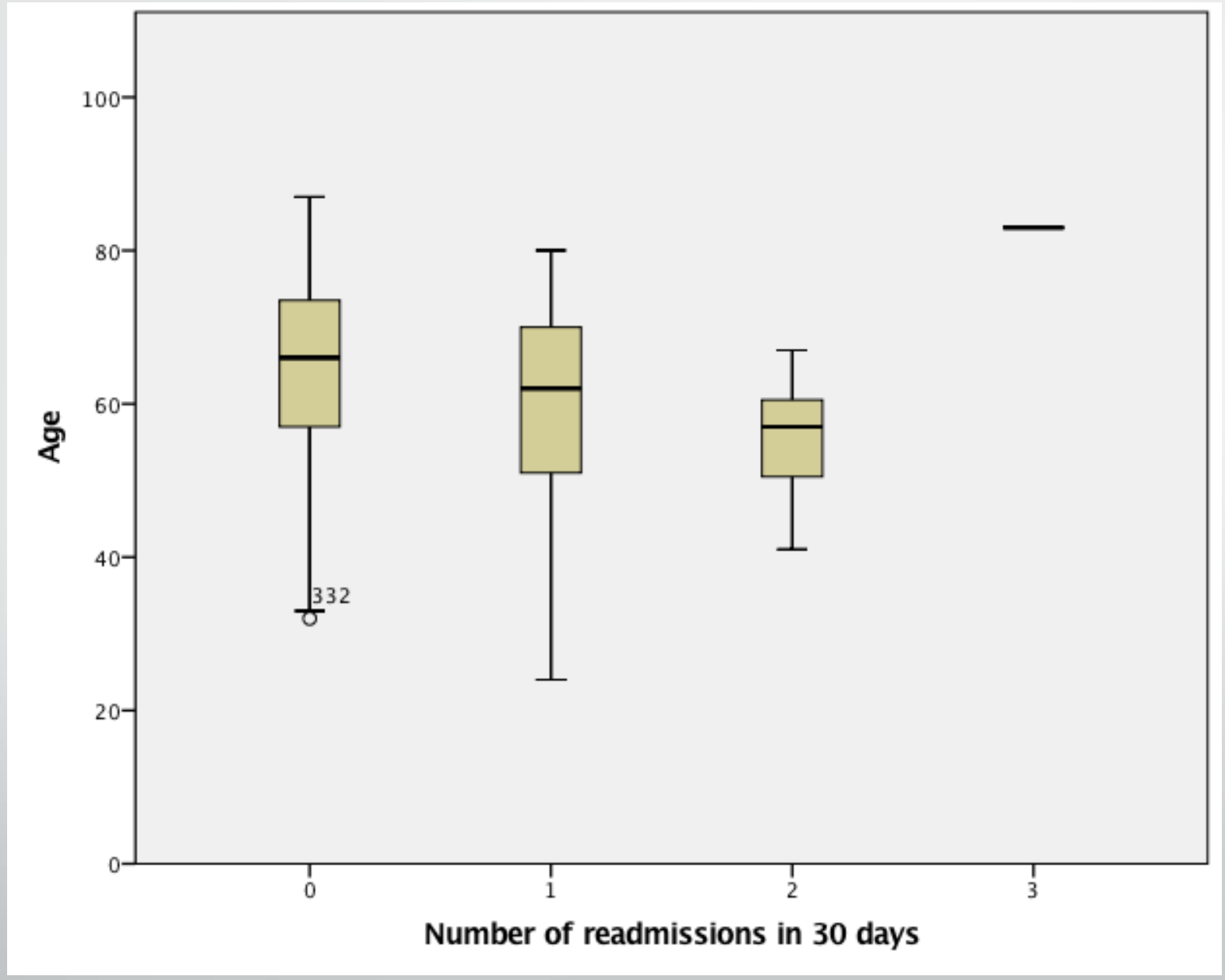
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Number of readmissions in 30 days

Limitations

- Variability in researcher opinion on preventability
- Lack of evaluation of medications and connection with readmissions
- Statistics looked at readmissions, but not admissions

Conclusion

- Changing CMS standards may indicate a need to prevent oncology patient readmissions for reimbursement
- Low overall readmission rate of oncology patients at Banner Health hospitals in northern Colorado
- Opportunities for preventing readmissions and admissions in patients such as GI bleed and patient placement

Post-test Assessment Questions

Why may it be important for hospitals to track oncology patient readmissions in the future?

A. New CMS standards
B. Good practice
C. USP 800
D. Track hospital census

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A. Disease progression
B. Post-surgical bleed
C. Placement issue
D. Obstructive jaundice

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Which of the following is true regarding the results of this study?

A. Men were more of the population
B. Most patients were ≥65 years old
C. Bladder cancer was the most prevalent cancer type
D. 7.6% of patients had readmissions

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Thank You

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