#5073 The Impact of Vision Loss on Healthcare Use by Medicare Beneficiaries Following Hospital Discharge

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LIGHTHOUSE GUILD Vision+Health

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PURPOSE

To assess whether a diagnosis of low vision or blindness affects healthcare use and cost following hospital discharge

METHODS

From a national claims database of 20% of all persons with Medicare Parts A, B, and D, we identified Medicare enrollees hospitalized for the most common DRGs: COPD, Pneumonia, Heart Failure, Digestive Disorders, Major Joint Replacement, Renal Failure, Urinary Tract Infection, Sepsis.

INCLUSION CRITERIA

Cases

- 65 years or older
- Health plan enrollment for at least 1 year prior and 35 days after hospitalization
- Hospitalized with 1 of the top most common reasons for hospitalization
- Diagnosed with vision loss (ICD-9 369.xx) prior to hospitalization†

Controls

- 65 years or older
- Health plan enrollment for at least 1 year prior and 35 days after hospitalization
- Hospitalized with 1 of the top most common reasons for hospitalization
- No record of vision loss or related ocular disease prior to hospitalization

MATCHING PROCEDURE

6,179 cases met inclusion criteria

248,653 controls met inclusion criteria

1-to-1 matching based on:
1. Age at hospitalization ± 2 years
2. Year of hospitalization ± 2 years
3. Sex
4. Race
5. Urban vs. rural residence
6. Overall heath in prior year (Charlson Comorbidity Index)

6,165 matched with 6,165 controls N = 12,330

† **Partial Vision Loss (PVL)** — ICD 369.6x, 369.7x, 369.8, 369.9
Unqualified vision loss, unspecified vision loss, profound vision loss in one eye, moderate or severe vision loss

Severe Vision Loss (SVL) — ICD 369.0x, 369.1x, 369.2x, 369.3, 369.4
Profound impairment in both eyes, moderate or severe impairment in the better eye and profound impairment in the lesser eye, moderate or severe impairment in both eyes, unqualified vision loss, legal blindness

Disclosures: ARM – none, PPL – none, WS – none, NT – none, JDS – none

RESULTS

We selected 6,165 case-patients (3,401 partial and 2,764 severe vision loss), who were matched to 6,165 controls.

KEY OUTCOMES

- **Hospital Readmissions:** Cases with partial vision loss had 15% more hospital readmissions, compared to controls; cases with severe vision loss had 22% more hospital readmissions (both significant*).
- **Emergency Department Use:** Cases with partial vision loss had 22% more emergency department use, compared to controls (significant*).
- **Physical Therapy (PT):** There were no significant differences in PT use between cases with vision loss and controls.
- **Length of Stay (LOS):** Cases with partial vision loss had 4% shorter LOS, compared to controls; cases with severe vision loss had 4% longer stays (both significant*).
- **Cost:** Cases with severe vision loss had 7% higher costs, compared to controls (significant*).

Table 1. Odds Ratios

	Readmission Rate	Emergency Department Use	PT	LOS	Cost
Partial Vision Loss vs No Vison Loss	1.15* (1.02-1.31) p=0.02	1.22* (1.07-1.38) p=0.002	1.09 (0.79-1.49) p=0.61	0.96* (0.94-0.99) p=0.01	1.00 (0.97-1.04) p=0.91
Severe Vision Loss vs No Vison Loss	1.22* (1.06-1.41) p=0.007	1.12 (0.97-1.28) p=0.13	0.73 (0.43-1.23) p=0.23	1.04* (1.01-1.07) p=0.02	1.07* (1.03-1.11) p=0.001

Table 2. Degree of Vision Loss

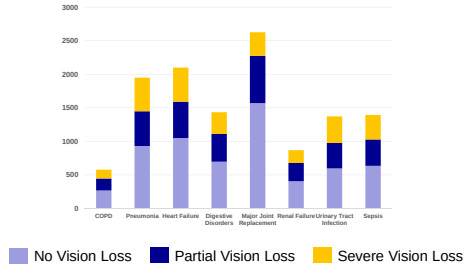
	Readmission Rate		Emergency Department Use		PT		LOS (days)	Cost
	N	%	N	%	N	%	Median	Median
No Vision Loss (Controls)	1,154	*18.7*	1,155	*18.7*	385	*6.2*	4	$43,786
Partial Vision Loss	708	*20.8*	723	*21.3*	184	*5.4*	4	$43,078
Severe Vision Loss	639	*23.1*	619	*22.4*	60	*2.2*	4	$44,394

RESULTS (cont'd)

Table 3. Demographics

	No Vision Loss	Partial Vision Loss	Severe Vision Loss
N	6,165	3,401	2,764
Age (mean/SD)	82.0 (8.3)	80.4 (7.9)	83.9 (8.3)
CC Index (mean/SD)	6.46 (2.5)	6.27 (2.5)	6.70 (2.4)
Male (N, %)	2,332 (37.8)	1,351 (39.7)	981 (35.5)
Female (N, %)	3,833 (62.2)	2,050 (60.3)	1,783 (64.5)
White (N, %)	5,345 (86.7)	2,966 (87.2)	2,379 (86.1)
Black (N, %)	588 (9.5)	307 (9.0)	281 (10.2)
Latino (N, %)	98 (1.6)	40 (1.2)	58 (2.1)
Asian (N, %)	56 (0.9)	37 (1.1)	19 (0.7)

Distributions by Diagnosis



DISCUSSION

Vision Loss Significantly Impacts Healthcare Utilization and Results in Excess Costs

In 2014, Medicare beneficiaries had 2,907,000 hospital stays. Approximately 3% of Americans over age 40 are legally blind, and 23% have low vision.

Our findings suggest that considering co-existing conditions such as vision loss when patients are admitted to hospital would lead to a better experience for patients and could help reduce healthcare costs.