

# CHARACTERISTICS OF PATIENTS WITH UNCONTROLLED PAIN ON DISCHARGE WITH 30-DAY EMERGENCY CENTER VISITS AT A TERTIARY CANCER CENTER

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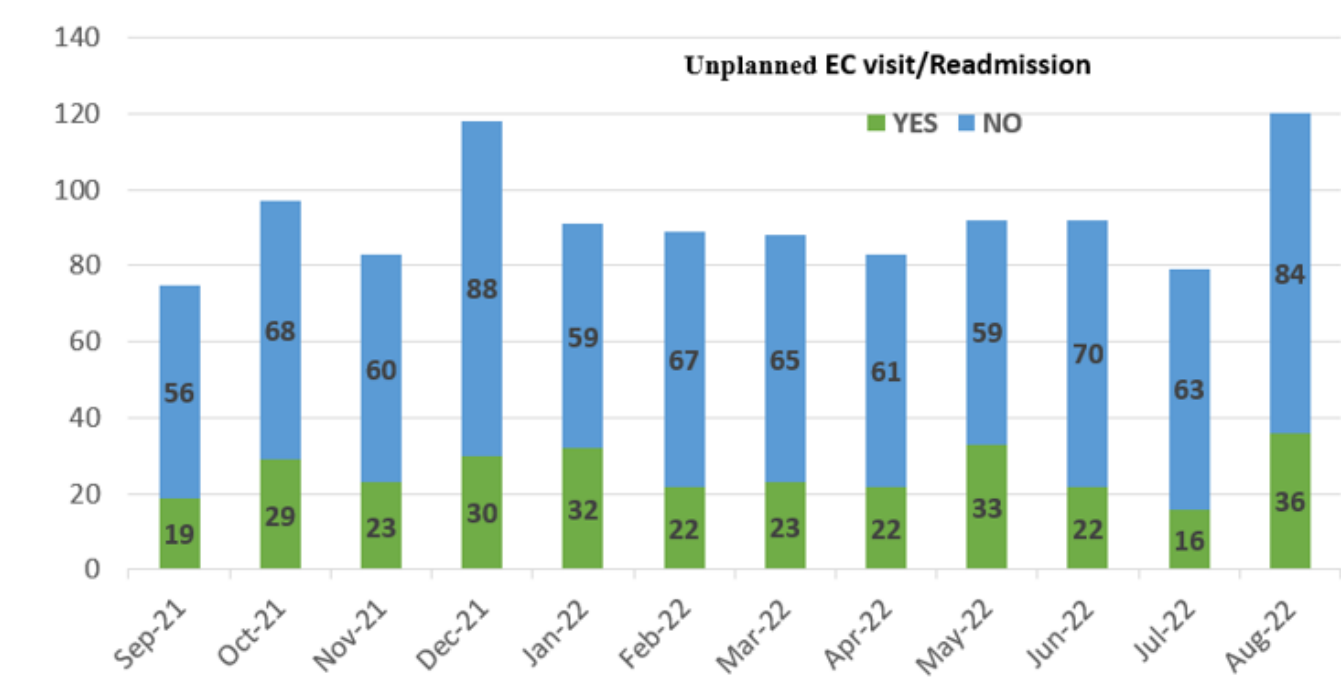
**INTRODUCTION:** Severe pain on discharge may increase likelihood of 30-Day emergency-center visits (30D-ECV) and readmissions. This study aimed to explore the frequency and characteristics of hospital discharges with severe pain on day of discharge and with 30D-ECV at a tertiary cancer hospital.

**METHODS :** This is a retrospective study of adult inpatient discharges over one year ( September 1<sup>st</sup> 2021 - August 31<sup>st</sup> 2022) who were discharged from an acute tertiary hospital with severe pain on discharge day, and who had a 30D-ECV. For the purpose of this analysis, severe pain was defined as having severe pain (SP;  $\geq 7$  on 0-10 scale) as the very last pain score prior to discharge..

We selected a random sample of 100 hospital discharges with LPS-SP and a 30D-ECV, to explore patient characteristics including hospitalization days, and pain consultation status

**RESULTS:** Over a one-year there were a total of 1107 discharges with 30D-ECV. Of these discharges, approximately 28% (N=307) had SP-LPS on discharge day.

**Figure 1: The monthly frequency of 30D-ECV by SP-LPS status**



**Random sample 100 cancer patient discharges:**

- medical (n=77), surgical (N=22) and pediatric (N=1) discharges.
- 43% discharges were male; and median age 54 years.
- 30% discharges had hematological-malignancies, and 68% had relapsed/ metastatic disease.
- Median comorbidity score (Elixhauser) was 8.
- Median hospitalization was 5 days; higher for medical vs surgical discharges (8 vs 3 days).

- 85% discharges had pain-specialty consultations during index hospitalization, to Supportive-Care (N=50) and Chronic Pain (N=34) services.
- Among surgical discharges, 36% (N=8) had surgery.
- Following discharge, 24% had follow-up visits (N=6, median 19 days from discharge) and/or patient-initiated documented telephone calls (N=21) with pain teams.
- Emergency center visit (ECV)
  - The median time from hospital discharge to ECV was 10 days (range 1-30)
  - Pain was a chief complaint or primary ICD diagnosis in 49% of visits
- EC disposition included:
  - 80% admitted (includes 17% admitted following observation)
  - 11% observation;
  - 8% discharged;
  - 1% not seen.

**Table 1: Characteristics of cancer patient discharges (medical N=77 and Surgical 22 ) with uncontrolled pain and subsequent 30-Day unplanned EC visit**

Characteristics	All	Medical	Surgical	P*
N	100	77	22	
<b>Patient factors</b>				
Age in years, median (range)	54 (19-91)	56 (19-91)	47 (32-74)	0.17
Male, N (%)	43 (43%)	36 (47%)	6 (27%)	0.10
Metastatic or Relapsed malignancy, N (%)	68 (68%)	62 (81%)	18 (82%)	0.89
Comorbidity Index (Elixhauser), median (range)	8 (1-15)	8 (2-15)	7 (1-10)	0.14
<b>Pain Characteristics</b>				
Severe Pain admission day, N (%)	88 (88%)	66 (86%)	21 (96%)	0.22
Last pain score on discharge, median (range)	7 (7-10)	7 (7-10)	7 (7-10)	0.69
3cSP discharge day, N(%)	43 (43%)	30 (69%)	13 (59%)	0.09
Pain specialty consult, N (%)	85 (85%)	66 (86%)	19 (86%)	0.94
• Supportive Care Service, N	50	39 (51%)	11 (50%)	0.02
• Chronic Pain Service, N	34	27 (35%)	7 (30%)	
Days from admission to consult, median (range)	1 (0-16)	1 (0-16)	1 (0-2)	0.65
Days from consult to discharge, median (range)	6 (0-47)	8.3 (1-47)	3 (0-16)	0.06
<b>Index Hospitalization</b>				
Hospital Days, Median (Range)	5 (0-48)	8 (0-48)	3 (0-16)	0.01
Disposition on Discharge, N (%)				0.82
• Home	74 (74%)	56 (73%)	18 (82%)	
• Home with Home Health or Physical therapy	18 (18%)	14 (18%)	4 (18%)	
• Skilled nursing, rehabilitation or acute care facility	6 (6%)	6 (8%)	0	
• Home with Hospice	1 (1%)	1 (1%)	0	
Surgery performed, N (%)	8 (8%)	0	8 (36%)	
<b>Unplanned Visit to Emergency Center</b>				
Days from discharge to EC visit, median (range)	10 (1-30)	10 (1-30)	9 (1-26)	0.92
Chief complaint of pain or primary ICD diagnosis of Pain EC visit, N (%)	49 (49%)	34 (44%)	14 (64%)	0.11
Disposition EC visit, N (%)				0.04
• Admit	80 (80%)	66 (86%)	13 (59%)	
• Observation only	11 (11%)	6 (8%)	5 (23%)	
• Discharge	8 (8%)	4 (5%)	4 (18%)	
• Other	1 (1%)	1 (1%)	0	
Survival time,(days) from EC visit median (95% CI)	71 (60-82)	67 (48-85)	102 (31-173)	0.41**

\*Mann-Whitney U Test and Chi-Square tests used as appropriate  
\*\* Kaplan Meier log rank

**Table 2: Characteristics of Medical and Surgical discharges, by individual services with uncontrolled pain and subsequent 30-Day unplanned EC visit**

Characteristics	Medical Discharges				Surgical Discharges		
	All	Cancer Medicine-Hematologic	Cancer Medicine	Hospital Medicine	All	GYNONC	Other*
N	77	30	16	31	22	12	10
<b>Patient factors</b>							
Age in years, median (range)	56 (19-91)	54 (19-91)	50 (33-76)	59 (34-79)	47 (32-74)	44 (32-73)	51 (40-74)
Male, N (%)	36 (47%)	14 (47%)	6 (38%)	16 (52%)	6 (27%)	0	6 (60%)
Metastatic or Relapsed , N (%)	62 (81%)	19 (63%)	15 (94%)	28 (90%)	18 (82%)	12 (100%)	6 (60%)
Comorbidity Index (Elixhauser)	8 (2-15)	8 (2-15)	7 (3-11)	8 (3-13)	7 (1-10)	8 (5-9)	7 (1-9)
<b>Pain Characteristics</b>							
Severe Pain admission day, N (%)	66 (86%)	25 (83%)	13 (81%)	28 (90%)	21 (96%)	11 (92%)	10 (100%)
Last pain score on discharge, median (range)	7 (7-10)	7 (7-10)	8 (7-9)	7 (7-9)	7 (7-10)	8 (7-10)	7 (7-9)
3cSP discharge day, N (%)	30 (69%)	9 (30%)	6 (38%)	15 (48%)	13 (59%)	7 (58%)	6 (60%)
Pain specialty consult, N (%)	66 (86%)	25 (83%)	13 (81%)	28 (90%)	19 (86%)	11 (92%)	8 (80%)
Supportive Care Service, N (%)	39 (51%)	10	8 (50)	21 (70%)	11 (50%)	11 (92%)	8 (80%)
Chronic Pain Service, N	27 (35%)	15	5	7 (23%)	7 (30%)	1 (8%)	6 (60%)
Days from admission to consult, median (range)	1 (0-16)	1 (0-16)	0 (0-1)	1 (0-6)	1 (0-2)	1 (0-2)	1 (0-2)
Days from consult to discharge	8.3 (1-47)	6 (1-47)	5 (2-9)	6 (1-20)	3 (0-16)	2 (0-8)	12 (0-16)
<b>Index Hospitalization</b>							
Hospital Days, median (range)	8 (0-48)	7 (2-48)	5 (1-9)	7 (0-21)	3 (0-16)	3 (0-8)	8 (1-16)
<b>Disposition on Discharge</b>							
Home	56 (73%)	24 (80%)	14 (88%)	18 (58%)	18 (82%)	10 (83%)	8 (80%)
Home with Home Health or Physical therapy	14 (18%)	4 (13%)	2 (13%)	8 (26%)	4 (18%)	2 (17%)	2 (20%)
Skilled nursing, rehabilitation or acute care facility	6 (8%)	2 (7%)	0	4 (13%)	0	0	0
Home with Hospice	1 (1%)	0	0	1 (3%)	0	0	0
Surgery index hospitalization, N (%)	0	0	0	0	8	0	8 (80%)
<b>Unplanned Visit to Emergency Center</b>							
Days from index discharge to EC visit, median (range)	10 (1-30)	6 (1-30)	15 (4-29)	12 (1-27)	9 (1-26)	12 (2-24)	7 (1-26)
Chief complaint of pain or primary ICD diagnosis of Pain EC visit, N (%)	28 (36%)	8 (27%)	7 (44%)	19 (61%)	14 (64%)	8 (67%)	6 (60%)
<b>Disposition EC visit</b>							
Admit	66 (86%)	26 (87%)	14 (89%)	26 *84%	13 (59%)	9 (65%)	4 (40%)
Observation only	6 (8%)	1 (3.3%)	2 (13%)	1 (3%)	5 (23%)	3 (25%)	2 (20%)
Discharge	4 (5%)	3 (10%)	0	4 (13%)	4 (18%)	0	4 (40%)
Other	1 (1%)	0	0	0	0	0	0

\*Head and Neck surgery (N=5), Neurosurgery (N=2), Orthopedics (N=1), Surgical oncology (N=1) and Urology (N=1)

**CONCLUSION:** Approximately 28% of hospital discharges with 30D-ECV were discharged with severe pain on discharge day. Of these patients, 50% presented to EC with a primary pain complaint/diagnosis. A majority had been seen by pain-specialty service, yet only a minority had post-discharge follow-up or telephone-call with the team. Optimizing pain-management during hospitalization with targeted discharge interventions that prioritize early follow-up and management of post-discharge pain may help reduce unnecessary readmissions..

**References:**

- Guven DC, et al. Evaluation of early unplanned readmissions and predisposing factors in an oncology clinic. Support Care Cancer. 2021;29(7):4159-64.