

A Real-World Analysis of Healthcare Cost and Utilization among Patients Receiving Prescription Opioids and Identification of Potential Candidates for Opioid Discontinuation Therapy

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Background

- Prescription opioid use can lead to dependence, addiction, and diversion, all of which perpetuate opioid use and increase healthcare expenditures
- Longer initial opioid use increases the risk of long-term opioid dependence; estimated lifetime prevalence for opioid use disorder among patients receiving long-term opioid therapy is 41%
- Patients initiated on opioids for pain often continue use to avoid opioid withdrawal
- Earlier patient identification and intervention may reduce perpetuated opioid use and offset increased healthcare costs associated with prolonged use

Objectives

- Define a patient population potentially appropriate for opioid withdrawal therapy
- Quantify the clinical and economic impact this patient population has on the healthcare system

Methods

- This real-world, retrospective analysis of administrative claims data assessed opioid utilization from January 1, 2012 to July 31, 2017 for patients 18 years or older in commercial health plans
- Patients received an opioid following an accident, injury, or select maxillofacial or orthopedic surgeries
- Patients were segmented into mutually exclusive cohorts to compare the clinical and economic impact of various durations of opioid exposure by number of days: <7, 7-30, 31-90, 91-180, 181-365
- Patients were followed for a year from the first opioid prescription
- Outcome metrics included prescriber specialty, daily dose, duration of therapy, indication for use, concomitant medications, and healthcare cost and utilization

Results

- There were 323,795 patients included in the study
- For the most part, healthcare cost and utilization strictly increased with duration of opioid therapy
- Mean medical costs ranged from \$4,511 (<7 day group) to \$12,574 (181-365 day group) (Table 2)
- There was a substantial increase in costs for patients on >31 days of opioids as compared to those with <30 days (Tables 2 & 3)
- Inpatient utilization, average length of stay, emergency department visits, and costs associated with admissions and visits increased with longer duration of opioid therapy (Table 3)
- Most opioid prescriptions were initiated in the hospital or by family medicine practitioners

Table 1. Demographics

	<7 days	7-30 days	31-90 days	91-180 days	181-365 days
N	147,044	137,858	28,580	6,746	3,567
Age	40.49 (11.76) [42]	41.86 (11.72) [42]	45.22 (11.21) [47]	46.53 (10.83) [47]	46.33 (10.67) [47]
Female	83,638 (56.9%)	74,947 (54.4%)	14,773 (51.7%)	3,520 (52.2%)	1,854 (52.0%)
Male	63,406 (43.1%)	62,911 (45.6%)	13,807 (48.3%)	3,226 (47.8%)	1,713 (48.0%)

Mean(Median)[SD] N(%)

Table 2. Overall Healthcare Cost and Utilization

	<7 days	7-30 days	31-90 days	91-180 days	181-365 days
N	147,044	137,858	28,580	6,746	3,567
Medical Cost	4,511 (10,165)	7,406 (13,989)	11,064 (25,091)	11,824 (18,656)	12,574 (23,692)
	[1,926]	[3,585]	[5,746]	[6,139]	[5,794]
Rx Cost	1,031 (4,251)	1,401 (4,867)	2,215 (6,289)	2,792 (6,256)	3,529 (8,937)
	[167]	[295]	[610]	[961]	[1,247]

Mean(Median)[SD]

Table 3. Healthcare Cost and Utilization

	<7 days	7-30 days	31-90 days	91-180 days	181-365 days
N	147,044	137,858	28,580	6,746	3,567
Inpatient Utilizers	5,450 (3.7%)	11,140 (8.1%)	4,414 (15.4%)	1,256 (18.6%)	618 (17.3%)
Inpatient Admissions	1.23 (2.20)[1]	1.26 (2.53)[1]	1.30 (0.78)[1]	1.36 (0.80) [1]	1.48 (1.01)[1]
Inpatient Cost	15,548 (33,644) [7,916]	20,324 (33,864) [11,435]	28,919 (34,259) [22,137]	32,196 (37,211) [23,309]	40,222 (58,397) [26,388]
ALOS	3.90 (4.48) [3]	4.12 (3.94) [3]	4.50 (5.86) [4]	4.77 (4.52) [4]	5.21 (5.45) [4]
ED Utilizers	30,593 (20.8%)	35,766 (25.9%)	8,906 (31.2%)	2,121 (31.4%)	1,139 (31.9%)
ED Visits	1.26 (0.69) [1]	1.44 (0.98) [1]	1.60 (1.23)[1]	1.70 (1.80)[1]	1.79 (1.43)[1]
ED Cost	451 (379) [345]	555 (542) [466]	627 (664) [506]	671 (806) [506]	683 (681) [506]

Mean (Median) [SD]

Abbrevations: ALOS = Average Length of Stay; ED = Emergency Department

Conclusion

- Duration of incident opioid prescription for pain due to accident, injury, or select surgeries and total medical costs were directly correlated and increased substantially for opioid duration >30 days
- Costs nearly tripled for opioid duration of 181-365 days compared with <7 days
- Discontinuing opioid therapy as soon as clinically appropriate may help offset costs and should be explored prospectively

Disclosures

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Resources

a. US Dept. of Veteran Affairs. Opioid Use Disorder: A VA Clinician's Guide to Identification and Management of Opioid Use Disorder (2016). Sept 2016.