

Impact of Inpatient Pain Pharmacist E-consults on Post-Discharge Morphine Equivalent Daily Doses



U.S. Department of Veterans Affairs
VA Long Beach Healthcare System

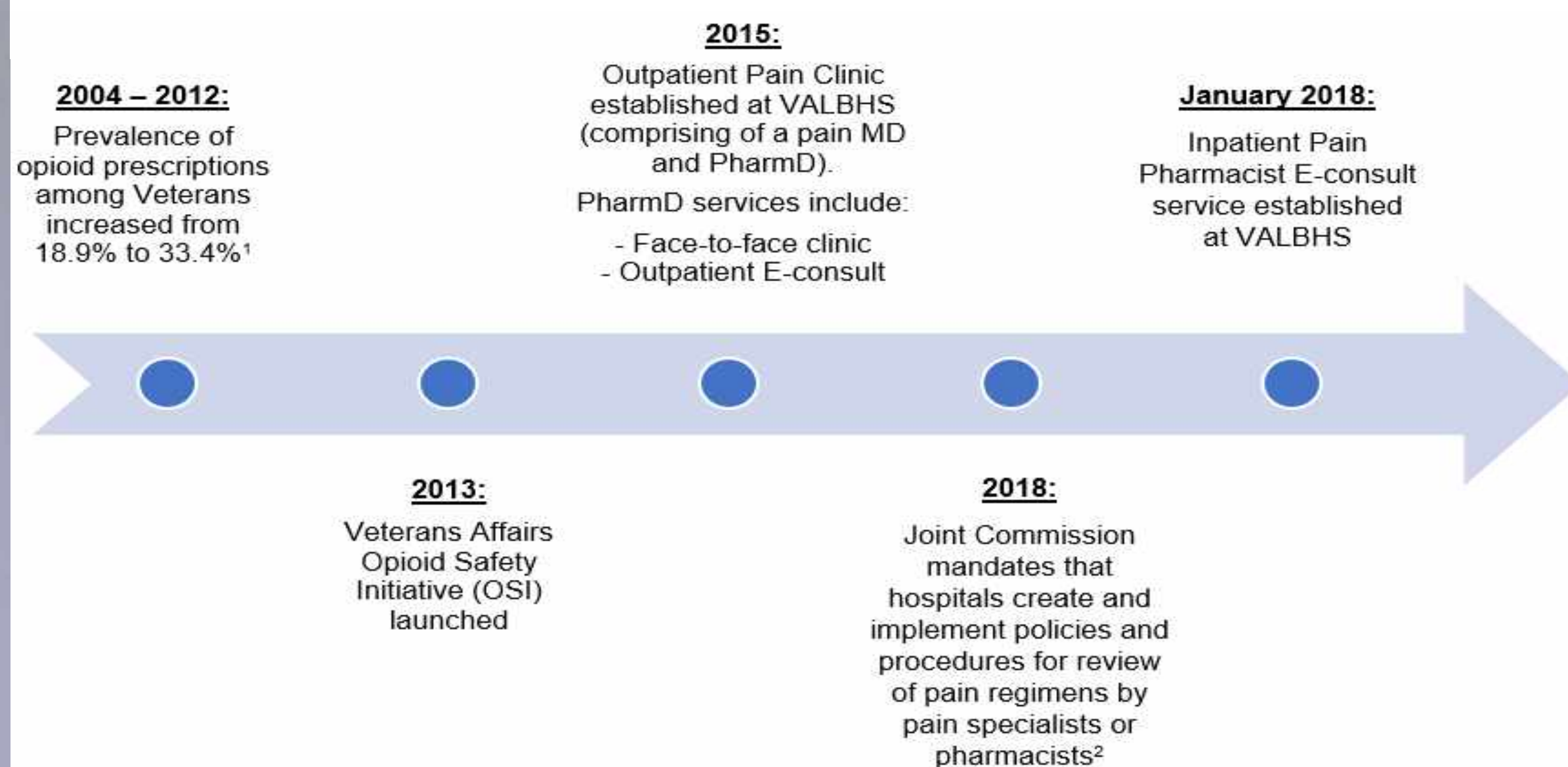


U.S. Department of Veterans Affairs
VA Long Beach Healthcare System

Chung-De (Derek) Joe, PharmD; Thien C. Pham, PharmD, APH; Rajkumar J. Sevak, PhD, RPh; Yong S.K. Moon, PharmD
Tibor Rubin VA Medical Center, VA Long Beach Healthcare System, Long Beach, California

BACKGROUND

- In the inpatient setting, studies suggest that more than 60% of inpatients experience incomplete or inadequate pain relief
- In 2018, The Joint Commission published updated inpatient pain recommendations, suggesting that hospitals establish policies and procedures for review of pain regimens by pain specialists or pharmacists
- In January 2018, the VALBHS implemented an Inpatient Pain Pharmacist electronic consult (E-consult) Service to address indiscriminate opioid prescribing. Its goal was to review patients' electronic medical records and provide strategies to reduce high-dose opioid analgesics and provide recommendations for complex pain management cases



OBJECTIVES

- Primary Objective 1: Describing E-consults**
 - Describe inpatient pain pharmacist E-consults:
 - Categorizing the reasons for consultation
 - Describing pharmacist interventions and recommendations accepted
- Primary Objective 2: Comparing E-consult vs Non E-consult**
 - Evaluate clinical outcomes compared between patients who received an E-consult versus patients who did not regarding:
 - MEDD change
 - Therapy change

METHODS

- Retrospective database chart review
- Patient data obtained using Veterans Affairs Corporate Data Warehouse and the Computerized Patient Record System (CPRS)
- Study Period Index Date: January 1st, 2018 to August 31st, 2019
- Inclusion criteria: Patients receiving LA/ER opioids who received an inpatient pain pharmacist E-consult during the index period
- Exclusion criteria: Patients who transferred their outpatient care to a facility other than VALBHS; passed away within 90 days post-discharge; or were continued on a LA/ER opioid initiated by a non-VA provider
- Statistical Analysis: T-test, Chi-Squared, repeated measures two-way ANOVA

RESULTS

Table 1: Demographic and Baseline Characteristics

Characteristics	E-consult group (N=75)
Age, year, mean ± SD	62.58 ± 12.16
Sex, male – no. (%)	68 (90.6)
Ethnicity, no. (%)	
White	44 (58.7)
Non-white	24 (32.0)
Declined to Answer	7 (9.3)
Level of care, no. (%)	
Noncancer/palliative/hospice	66 (88)
Cancer/palliative/hospice	9 (12)
Medications upon admission ^a , no. (%)	
Opioid therapy,	
No	12 (16.0)
Yes,	
IR opioids only	63 (84.0)
LA/ER opioids only	30 (47.6)
Both IR and LA/ER opioids	8 (12.7)
Nonopioid therapy,	
Anticonvulsants	39 (52.0)
Antidepressants	24 (32.0)
NSAIDs	11 (14.7)
Topical analgesics	29 (38.7)
APAP/tramadol	32 (42.7)
Average MEDD upon admission, ± SD	
Noncancer/palliative/hospice	84.09 ± 88.95
Cancer/palliative/hospice	95.3 ± 227.1

^aMay have more than 1 per category

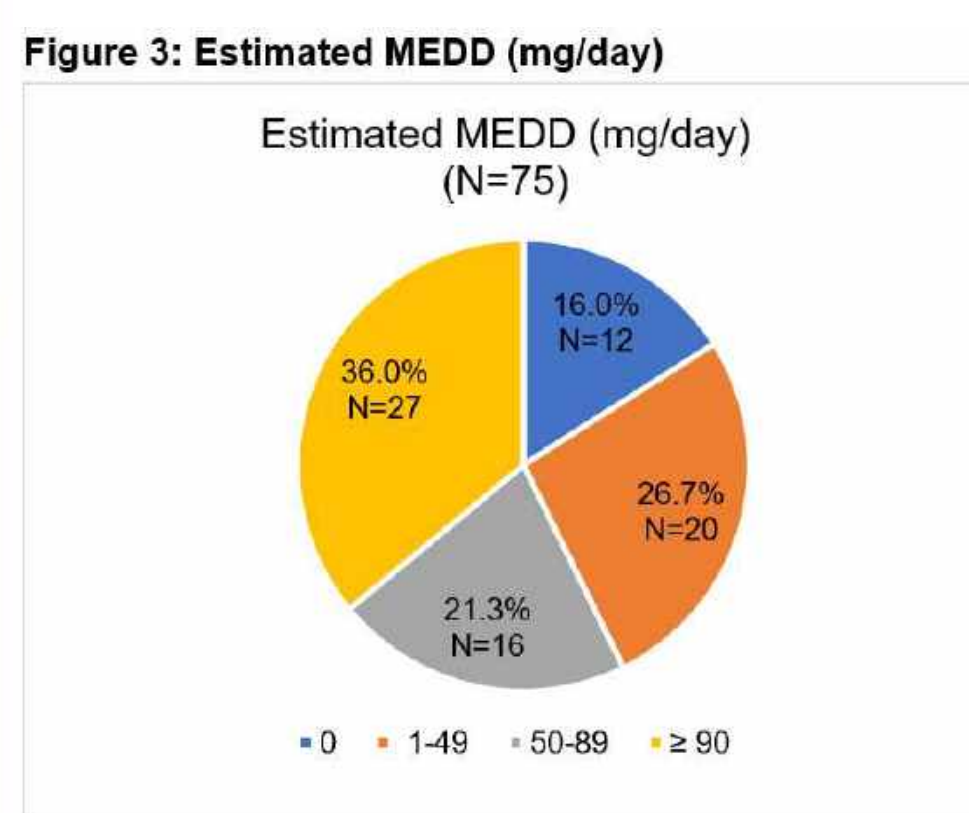


Figure 1: Reasons for E-consultation

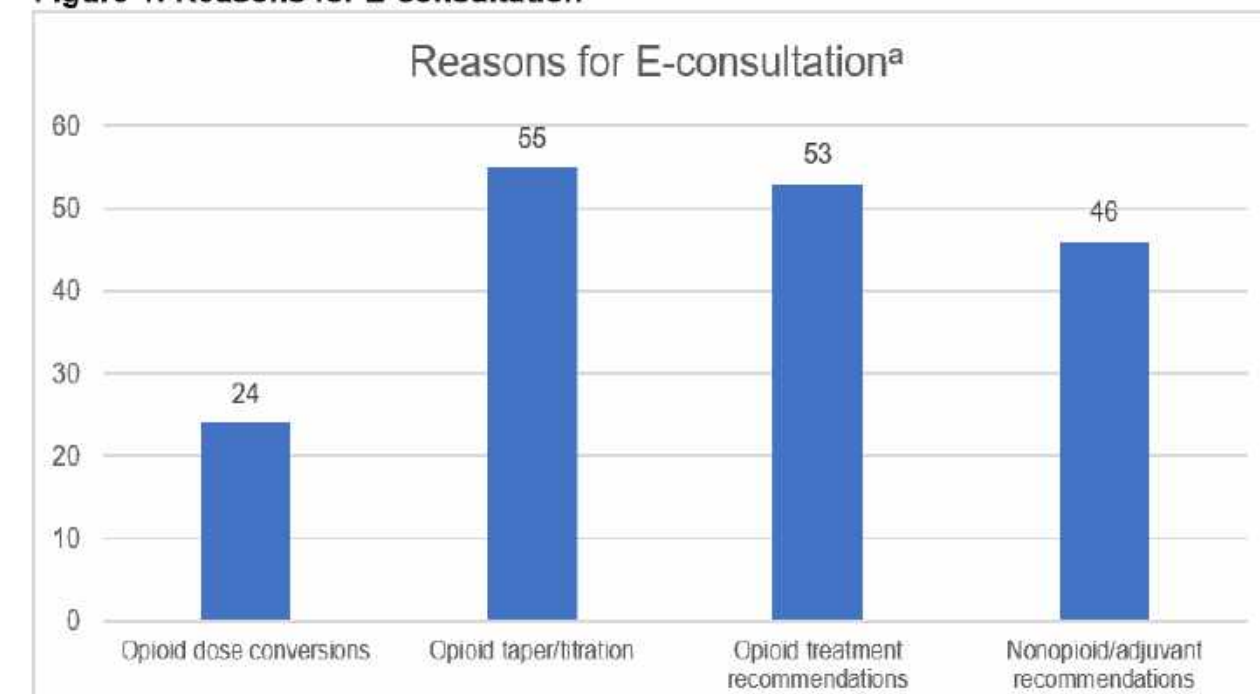
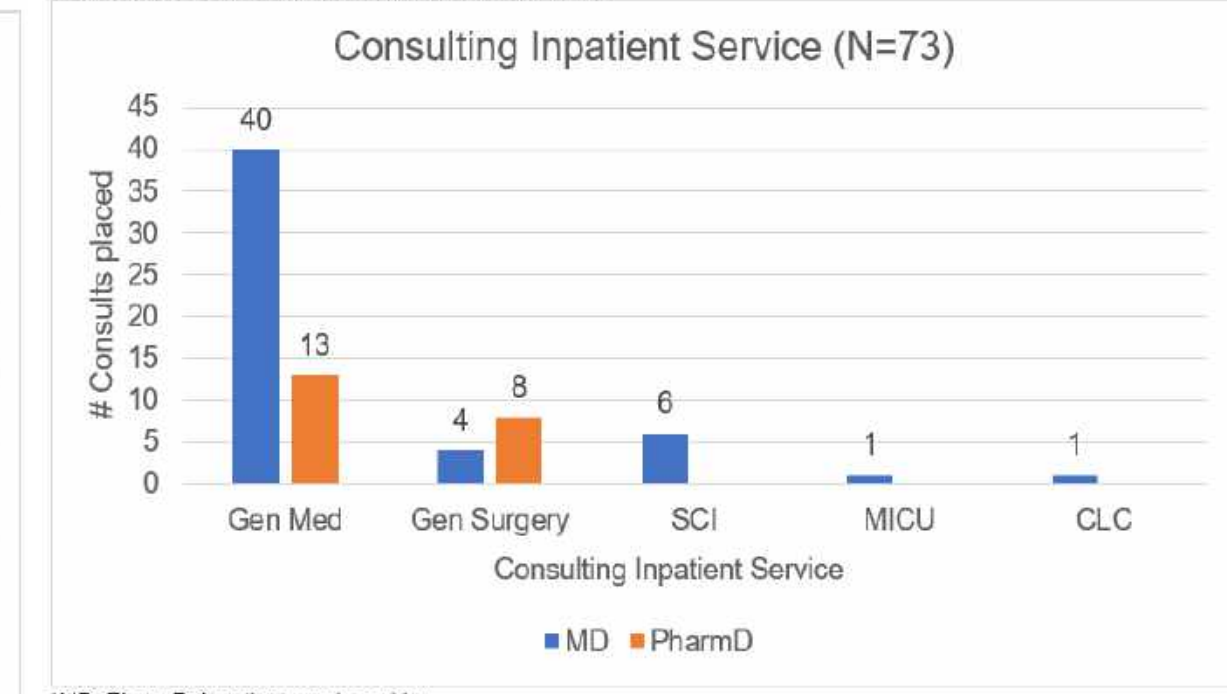


Figure 2: Consulting Inpatient Service



RESULTS

Table 2: Demographic and Baseline Characteristics

Characteristics	E-consult group, (N=65)	Non E-consult group, (N=69)	p-value
Age, year – (mean ± SD)	62.92 ± 12.49	64.46 ± 13.23	0.49
Sex, male – no. (%)	58 (89.2)	66 (95.7)	0.16
Ethnicity – no. (%)			0.89
White	38 (58.5)	45 (65.2)	
Non-white	22 (33.8)	20 (30.0)	
Declined to Answer	5 (7.7)	4 (5.8)	
Level of care – no. (%)			0.88
Noncancer/palliative/hospice	60 (92.3)	62 (89.8)	
Cancer/palliative/hospice	5 (7.7)	7 (10.1)	
Medications upon admission – no. (%)			
Opioid therapy,			
Not on opioids	11 (16.9)	11 (15.9)	0.99
IR opioids only	27 (50.0)	12 (20.7)	0.02
LA/ER opioids only	8 (14.8)	13 (22.4)	0.78
Both IR and LA/ER opioids	19 (35.2)	33 (56.9)	0.18
Nonopioid therapy ^a ,			
Anticonvulsants	31 (47.7)	42 (60.9)	0.33
Antidepressants	11 (16.9)	4 (5.8)	0.24
NSAIDs	13 (20.0)	9 (13.0)	0.76
Topical analgesics	29 (44.5)	34 (49.3)	0.96
APAP/tramadol	33 (50.8)	19 (27.5)	0.06
Average MEDD upon admission ± SD			0.61
Noncancer/palliative/hospice	71.05 ± 72.17	68.08 ± 65.18	
Cancer/palliative/hospice	63.6 ± 85.16	77.43 ± 33.44	
Estimated MEDD (mg/day) – no. (%)			0.93
0	11 (16.9)	11 (15.9)	
1-49	20 (30.8)	23 (33.3)	
50-89	16 (24.6)	14 (20.3)	
≥ 90	18 (27.7)	21 (30.4)	
Inpatient LA/ER opioid received – no. (%)			0.51
Fentanyl transdermal patch	9 (13.8)	5 (7.2)	
Methadone	3 (4.6)	2 (2.9)	
Morphine sustained-release	53 (81.5)	62 (89.9)	
Two of the above ^b	2 (7.7)	1 (1.4)	

^aMay have more than 1 per category
^bPatients on dual LA/ER opioid: E-consult – 1 patient on fentanyl + morphine SA, 1 patient on fentanyl + morphine SA; Non E-consult – 1 patient on fentanyl + methadone

Figure 10: Overall MEDD

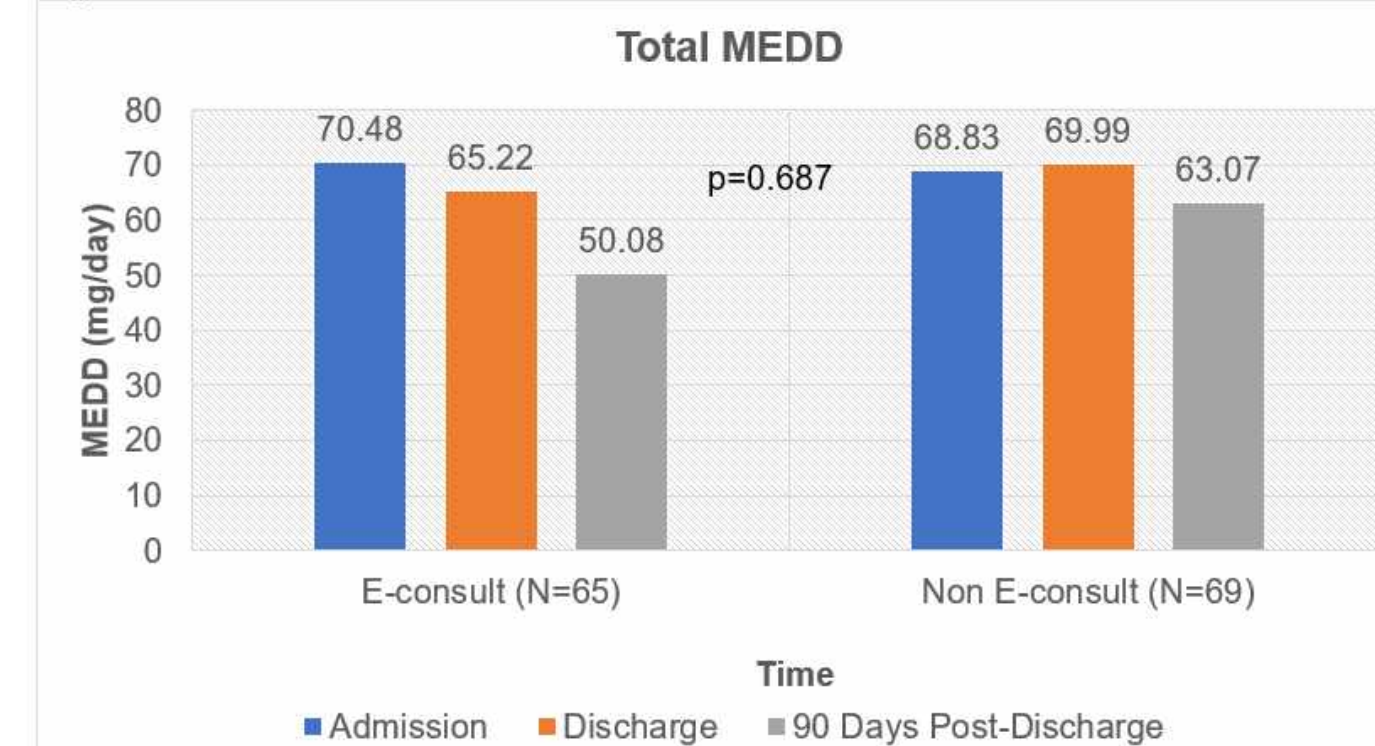


Figure 11: MEDD Difference from Admission

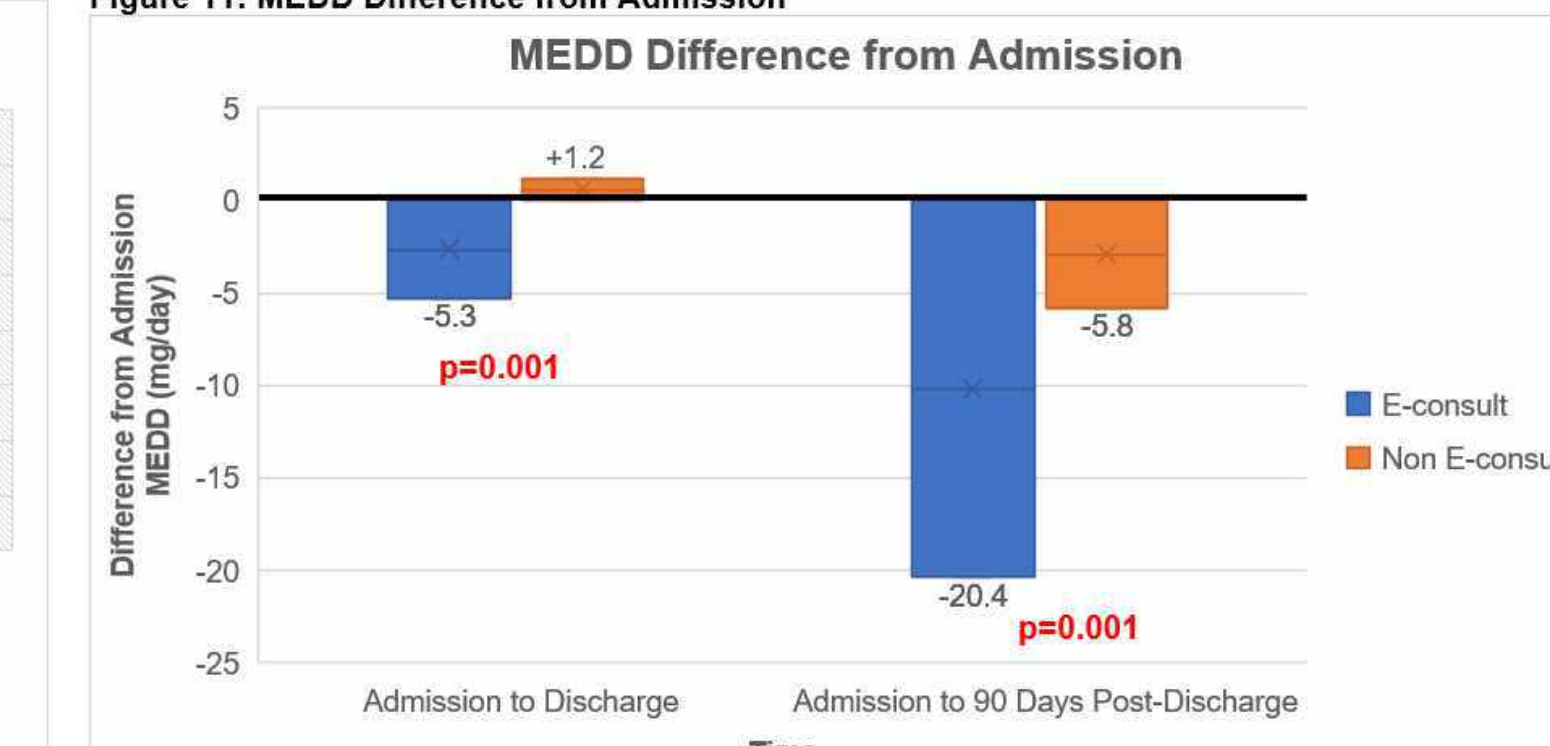


Table 3: Nonopioid Therapy Change

% Therapy Change	E-consult group, N=65	Non E-consult group, N=69
Anticonvulsants,		
Admission to Discharge	+15.4%	+6.8%
Admission to 90 Days Post-Discharge	+18.5%	+5.8%
Antidepressants,		
Admission to Discharge	-3.1%	0.0%
Admission to 90 Days Post-Discharge	+5.8%	0.0%
NSAIDs,		
Admission to Discharge	-3.1%	+5.8%
Admission to 90 Days Post-Discharge	-4.6%	+4.4%
Topical analgesics,		
Admission to Discharge	+4.6%	-4.4%
Admission to 90 Days Post-Discharge	+13.9%	+1.4%
APAP/tramadol,		
Admission to Discharge	-1.6%	+4.4%
Admission to 90 Days Post-Discharge	+3.0%	+8.7%

DISCUSSION

- Primary reasons for E-consultation: opioid taper/titration and opioid treatment recommendations
- Pharmacologic recommendations acceptance rate: 51.3%
 - Most common: IR opioid, anticonvulsant, topical analgesics
- Nonpharmacologic recommendations acceptance rate: 41.1%
 - Most common: Substance Abuse Clinic and Outpatient Pain Clinic
- Data highlights the impact of a pharmacy-based pain management service in the inpatient setting
- Patients who received an inpatient pain pharmacist E-consult had a significantly greater reduction in MEDD from baseline compared to those who did not
- The E-consult group had a larger percentage of patients initiated on nonopioid therapies (anticonvulsants, antidepressants, and topical analgesics) by 90 days post-discharge
- Interventions made by an inpatient pain pharmacist can improve patient outcomes, and should be considered by healthcare systems

LIMITATIONS

- E-consults were for a single point of time during the inpatient admission
- Lack of pharmacist follow-up on acceptance or rejection of their recommendation
- MEDD therapy was calculated based on the opioids that were on the patient's active outpatient medication list at the time of admission
- Did not stratify patients who were post-surgery or disease severity

FUTURE DIRECTIONS

- Establish a dedicated inpatient pain pharmacy team to monitor patients longitudinally
- Development of a standardized referral criteria for E-consults
- Assess whether opioids administered during inpatient stay differed between E-consult vs Non E-consult group
- Evaluation and trend of increase or decrease in inpatient opioid MEDD throughout hospitalization

REFERENCES

- Murnion BP, et al. Prescription and administration of opioids to hospital in-patients, and barriers to effective use. Pain Med 2010;11(1):58-66.
- Lin RJ, Reid MC, Liu LL, et al. The barriers to high-quality inpatient pain management: a qualitative study. Am J Hosp Palliat Care. 2015;32(6):594-9.
- Chou R, Gordon DB, de Leon-Casasola OA, et al. Management of Postoperative Pain: A Clinical Practice Guideline From the American Pain Society, the American Society of Regional Anesthesia and Pain Medicine, and the American Society of Anesthesiologists' Committee on Regional Anesthesia, Executive Committee, and Administrative Council. The Journal of Pain. 2016; 17(2): 131-157.
- Tran N, DiScala S, Forbes H, et al. Pilot Inpatient Pain Pharmacist Consult Service at the West Palm Beach VA Medical Center. Fed Pract. 2018; 35(1): 38-4.
- Miller D and Harvey T. Pharmacist Pain E-Consults That Result in a Therapy Change. Fed Pract. 2015 Jul; 32(7): 14-19.
- Mosher HJ, Krebs EE, Carrel M, et al. Trends in Prevalent and Incident Opioid Receipt: An Observational Study in Veterans Health Administration 2004-2012. J Gen Intern Med. 2015;30(5):597-604.
- Lin L, Bohnert A, Kerns R, et al. Impact of the Opioid Safety Initiative on Opioid-Related Prescribing in Veterans. Pain. 2017 May;158(5):833-839.
- The Joint Commission. New and Revised Standards Related to Pain Assessment and Management. 2017(37):7, 3-4.

DISCLOSURE STATEMENT

- The authors have nothing to disclose concerning financial or personal relationship with commercial entities that may have a direct or indirect interest in the subject matter of this presentation