5-1-2019

Characteristics of Inpatients with Opioid Use Disorder Seen by “IMAT” Consult Service from 7/2016 - 6/2017

Katherine Nenninger
Maine Medical Center

Jenny Carwile
Maine Medical Center

Jonathan Fellers
Maine Medical Center

Kinna Thakarar
Maine Medical Center

Characteristics of Inpatients with Opioid Use Disorder Seen by "IMAT" Consult Service from 7/2016 - 6/2017

Katherine Nenninger[1], MD, Jenny Carwile[1], MPH ScD, Jonathan Fellers[2], MD, Kinna Thakarar[3,4,5], DO MPH

[1]Internal Medicine, Maine Medical Center, Portland, Maine, [2]Psychiatry, Maine Medical Center, [3]Infectious Diseases, Maine Medical Center, [4]Tufts Medicine Center, Boston, Massachusetts, [5]Intermed Infectious Disease, Portland, Maine

Maine Medical Center
MaineHealth

Intro:

- For people with opioid use disorder (OUD), admission to the hospital can provide an opportunity to initiate substance use disorder (SUD) treatment and preventive care
- In 2016, a multidisciplinary "IMAT" (integrated medication for addiction treatment) inpatient team was established to help treat patients with SUD

Aims

- Describe inpatients with OUD, including psychiatric and infectious comorbidities, who were evaluated by the IMAT team
- Identify areas of need and opportunities for practice improvement

Methods:

- Retrospective chart review of inpatients at MMC seen by the IMAT consult service for illicit opioid use disorder between 7/1/2016 – 6/30/2017.
- Data was recorded directly into a secure online REDCap database
- Descriptive analysis was performed using SAS

Discussion:

- Many patients with OUD engaged in addiction treatment, and had follow up planned after discharge
- An important further area for investigation is treatment retention; high rates of housing instability and unemployment may be obstacles
- Only 10% of patients were documented to be offered naloxone kits, with fewer accepting the prescription. Given polysubstance use and overdose risk in this population, naloxone distribution is an area for improvement
- High rates of hepatitis C co-infection, as well as low rates of hepatitis B vaccinations, raise the question of whether and how these could be addressed during hospitalization

References

1. Murphy MK, Chabon B, Delgado A, Newville H, Nicolson SE. (2009). Development of a substance abuse consultation and referral service in an academic medical center: challenges, achievements and dissemination. *J Clin Psychol Med Settings*; 16(1): 77-86. doi: 10.1007/s10880-009-9149-8.
2. Suzuki J, DeVido J, Kalra I, Mittal L, Shah S, Zinser J, Weiss RD. (2015). Initiating buprenorphine treatment for hospitalized patients with opioid dependence: A case series. *Am J Addict*; 24(1): 10-4. doi: 10.1111/ajad.12161.
3. Trowbridge P, Weinstein ZM, Kerensky T, Roy P, Regan D, Samet JH, Walley AY. (2017). Addiction consultation services - Linking hospitalized patients to outpatient addiction treatment. *J Subst Abuse Treat*; 79: 1-5. doi: 10.1016/j.jsat.2017.05.007.
4. Thakarar K, Weinstein ZM, Walley AY. Optimizing health and safety of people who inject drugs during transition from acute to outpatient care: narrative review with clinical checklist. Postgrad med J 2016; 92: 356-363.
5. Centers for Disease C, Prevention. Integrated prevention services for HIV infection, viral hepatitis, sexually transmitted diseases, and tuberculosis for persons who use drugs illicitly: summary guidance from CDC and the U.S. Department of Health and Human Services. *MMWR Recomm Rep.* 2012;61(RR-5):1-40.

Summary of results:

This analysis showed that hospitalized patients with opioid use disorder who received multidisciplinary IMAT services had high utilization of medication for addiction treatment.

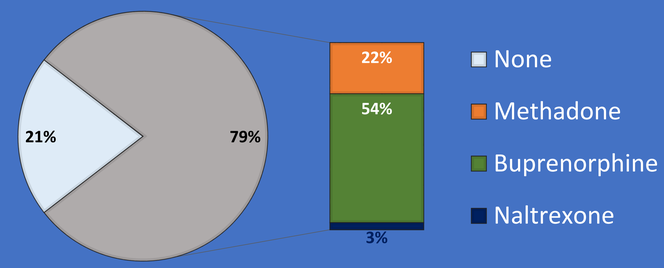
However, there were low implementation of preventive measures to decrease risk of overdose fatalities and injection-related infections.

Admitted patients with known or suspected opioid use disorder

Psychiatry or IMAT consult engages IMAT team (**N =145)**

- 86% have injected drugs in their lifetime
- 32% do not have stable housing
- 92% have one or more psychiatric co-morbidities

MAT PLANNED ON DISCHARGE:



- 62% had new or adjusted MAT plan on discharge
- 83% had IMAT or psychiatric provider planned on discharge

Some have bacterial or fungal infections related to unsafe injection practices → treatment and prevention indicated

- 57% patients had one or more infections
- 18% had endocarditis
  50% of these patients underwent surgical intervention
- Minimal documentation regarding harm reduction practices knowledge and education

Most are at risk of communicable infection → screening and vaccination indicated

- 50% had hepatitis C
  80% of those aware of diagnosis
  7% of those aware had previously received treatment
- Only 35% patients with clear indication for hepatitis B vaccine (N=37) received a dose

Most are at risk for overdose → overdose prevention indicated

- 10% of patients offered naloxone

Limited ability to capture behavioral characteristics

- 12% of patients left hospital early (against medical advice)
- 10% had code green (elopement) or code grey (security) events

Table 1. Additional characteristics of 145 patients seen by IMAT team between July 2016 and July 2017, N (%).

Female	57 (39.3)
Pregnant	10 (17.5)
Age, years	
<19	1 (0.7)
19-30	36 (24.8)
31-50	88 (60.6)
≥51	20 (13.8)
Unemployed[1]	88 (60.7)
Homeless or unstable housing[1]	47 (32.4)
Rural[2,3]	29 (21.0)
History of psychiatric comorbidities[4]	
Psychosis	10 (6.9)
Depression	93 (64.1)
Anxiety	80 (55.2)
Bipolar disorder	20 (13.8)
PTSD	32 (22.1)
ADHD	32 (22.1)
Personality disorder	18 (12.4)
Admission duration, days, median [range]	10 [2-129]
Discharge disposition	
Home (including homeless shelter)	117 (80.7)
Left hospital early (against medical advice)	18 (12.4)
Rehab	7 (4.8)
Hospice or death	1 (0.7)
Other	2 (1.4)
Behavioral contract established	33 (22.8)
Current substance use	
Illicit opioid use	87 (60.0)
Cocaine	83 (57.2)
Benzodiazepines	26 (18.1)
Cannabis	46 (31.7)
Controlled substance prescriptions prior to admission	
None	71 (49.3)
Opioids	21 (14.5)
Buprenorphine[5]	38 (26.4)
Benzodiazepines	23 (15.9)
Amphetamines	15 (10.3)
History of injection drug use	
Yes	119 (85.6)
Denied, but suspected	2 (1.4)
Current injection drug use	
Yes	76 (54.3)
Denied, but suspected	12 (8.6)
Bacterial Infections[4]	
Cellulitis or osteomyelitis	30 (20.7)
Bacteremia	37 (25.5)
Endocarditis	26 (17.9)
Required valve surgery	13 (50.0)
Spinal epidural abscess	11 (8.1)
Septic joint	10 (6.9)
Pneumonia	25 (17.2)
Other	20 (16)
Infectious disease consultation	59 (40.7)
Viral coinfections	
Hepatitis C	
Not tested	51 (35.2)
Negative	22 (15.2)
Positive	72 (49.7)
Diagnosed during admission	14 (18.7)
Hepatitis B	
Not tested	65 (45.5)
Positive	15 (10.5)
Hepatitis A	
Not tested	109 (75.2)
Positive	8 (5.5)
HIV	
Not tested	59 (40.7)
Positive	2 (1.4)
Missed Hepatitis A vaccination[6]	18 (64.3)
Missed Hepatitis B vaccination[6]	24 (64.9)

[1] Unknown status: Employment, N= ; Housing, N=
[2] Missing data: rural, N=7
[3] Rural status of non-incarcerated Maine and New Hampshire residents was classified using Rural-Urban Continuum Codes for their county of residence.
[4] May report more than one diagnosis
[5] Includes buprenorphine and buprenorphine/naltrexone
[6] Percentages reported out of patients for whom vaccine was determined with certainty be indicated (negative serologies)

Abbreviations: ADHD, Attention Deficit Hyperactivity Disorder; ED, emergency department; PTSD, post-traumatic stress disorder; MAT, medication for addiction treatment