

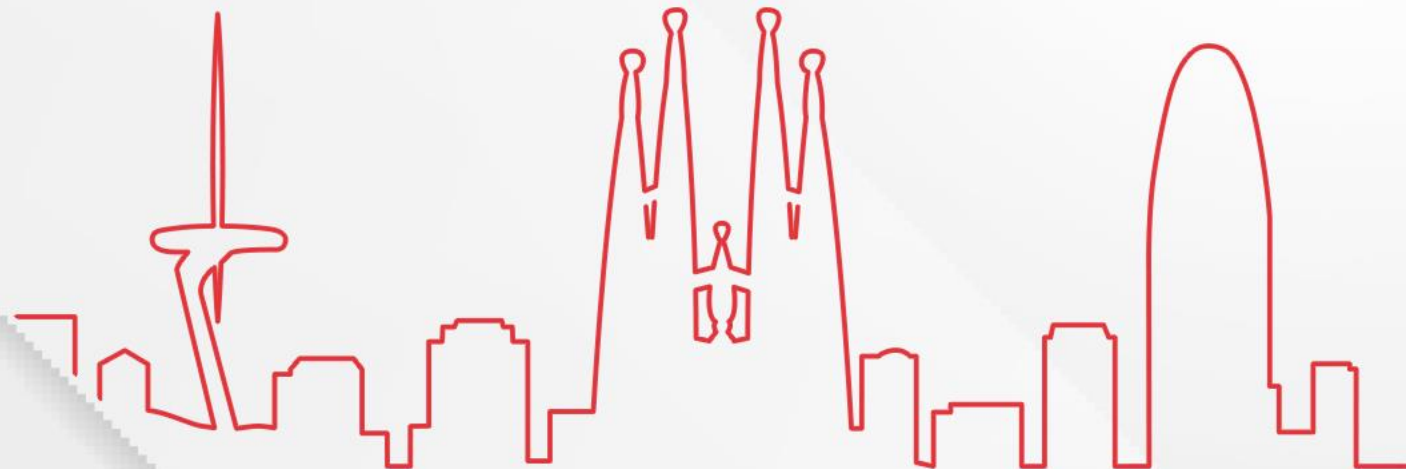
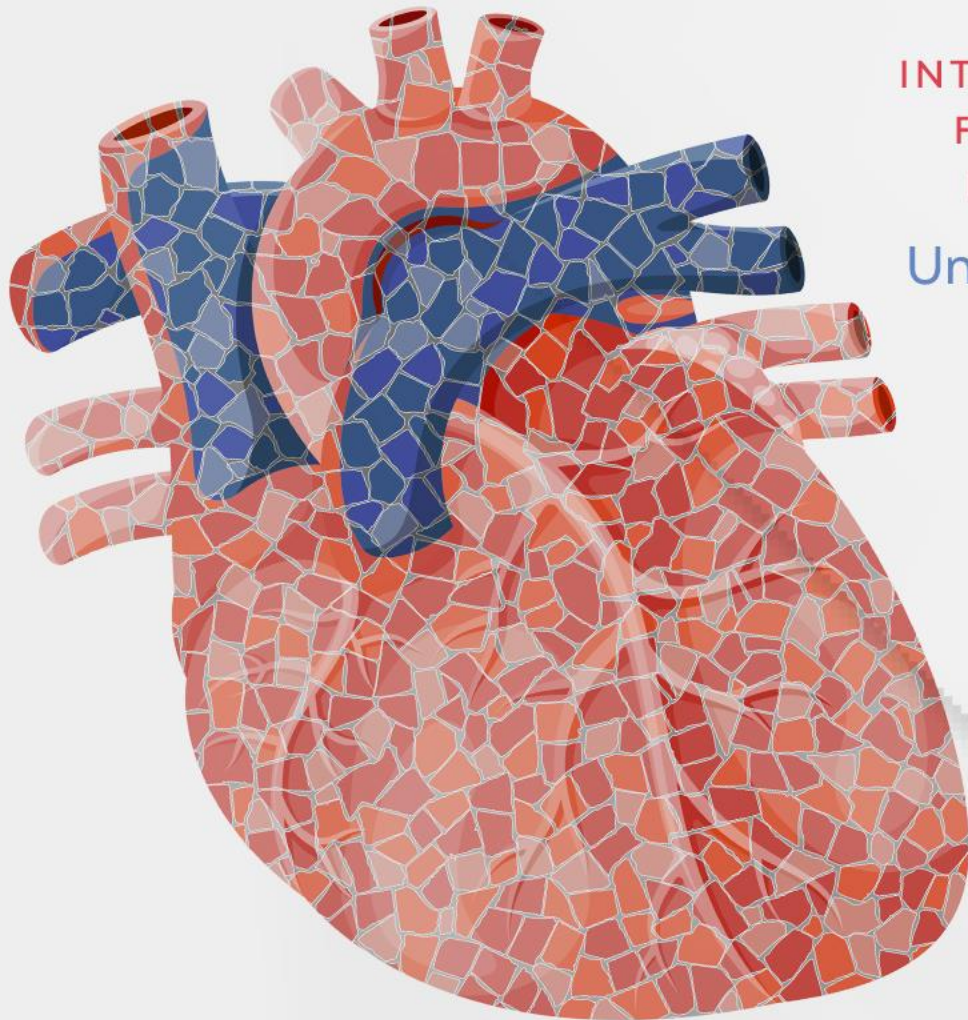


BARCELONA
JUNE 18TH - 20TH
2022

INTERNATIONAL SOCIETY
FOR CARDIOVASCULAR
INFECTIOUS DISEASES

University of Barcelona
Faculty of Medicine

16TH SYMPOSIUM
ISCVID

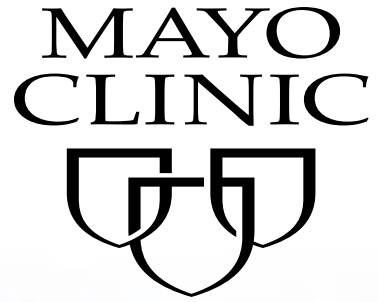


www.iscvid2022.com



Financial Disclosures

- **UpToDate, Inc.**
 - Royalty (authorship) payments
- **Boston Scientific**
 - Consultant payments
- **Roivant Sciences**
 - Consultant payments
- **No COI to report**



Injection Drug Use-Related Endocarditis: A Reemerging Disease

Larry M. Baddour, MD, FIDSA, FAHA
Professor Emeritus of Medicine
Consultant in Research
Mayo Clinic College of Medicine

Learning Objectives

- Appreciate - opioid epidemic's **impact** on IE trends
 - Hospitalizations
 - Cardiac surgery
 - Readmissions
 - Discharge against medical advice
 - Outcomes
- Two-part presentation

SPIKE ALERT: LEVEL THREE



New Haven is currently experiencing a spike in overdoses.

To access Naloxone (Narcan), fentanyl testing strips, or other harm reduction supplies, call or text:

Sex Workers Alliance Network (SWAN) (203) 935-5701

Community Health Care Van (CHCV) (203) 826-0743

www.connectgnh.org/harmreduction

Signs of an overdose:

- Unresponsive
- Pale, blue/grey skin, lips or fingertips
- Pinpoint pupils
- Slow or no breathing
- Snoring or gurgling noises

What to do:

- Call 911
- Give Narcan, if you have it
- Provide rescue breaths (1 breath into the mouth, every 5 seconds)
- Do not leave person alone

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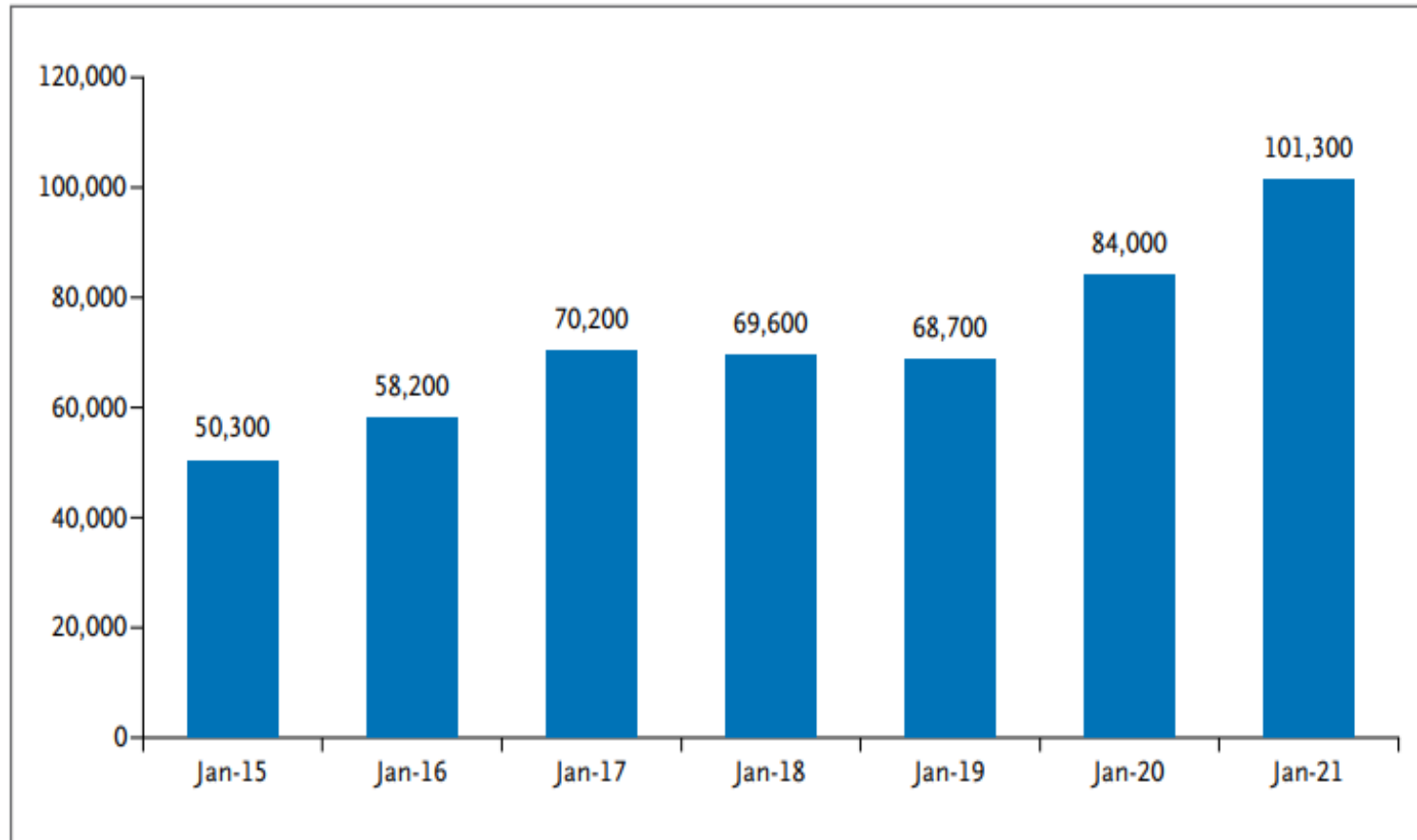


Figure 1. U.S. Overdose Deaths for the Preceding 12-Month Period, 2015 to 2021.

Opioid Epidemic (USA)

“First wave” - 1995

- OxyContin
- “Pain is the Fifth Vital Sign”
- 2004
 - Warnings of overprescribing
- **“Second wave” - 2010**
 - Move to heroin from prescription pain Rx
- **“Third wave” – 2013**
 - Move to fentanyl

- Cook CC, et al. *J Thorac CV Surg.* 2020;159:1273-1278.

Opioid Epidemic (USA)

- **Heroin** – as initiating opioid
 - 2005 – 8.7%
 - 2015 – 31.6%
- Cicero TJ, et al. *Addict Behav.* 2018;87:267-271.

Am J Public Health. 2020 Apr;110(4):509-516. doi: 10.2105/AJPH.2019.305527. Epub 2020 Feb 20.

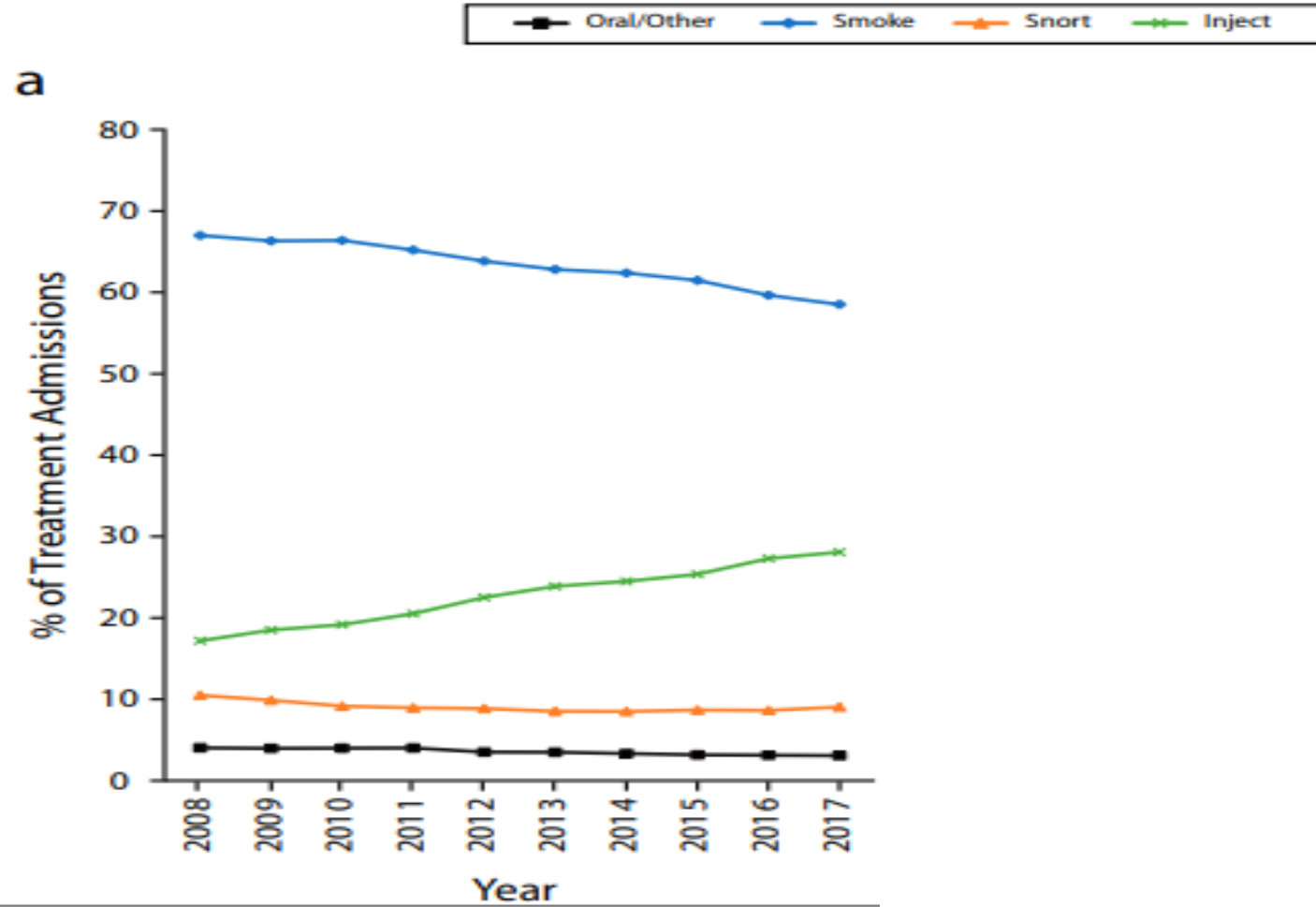
Resurgent Methamphetamine Use at Treatment Admission in the United States, 2008–2017



Christopher M Jones¹, Emily O Olsen¹, Julie O'Donnell¹, Desiree Mustaquim¹

Affiliations + expand

PMID: 32078347 PMCID: [PMC7067087](#) DOI: [10.2105/AJPH.2019.305527](#)



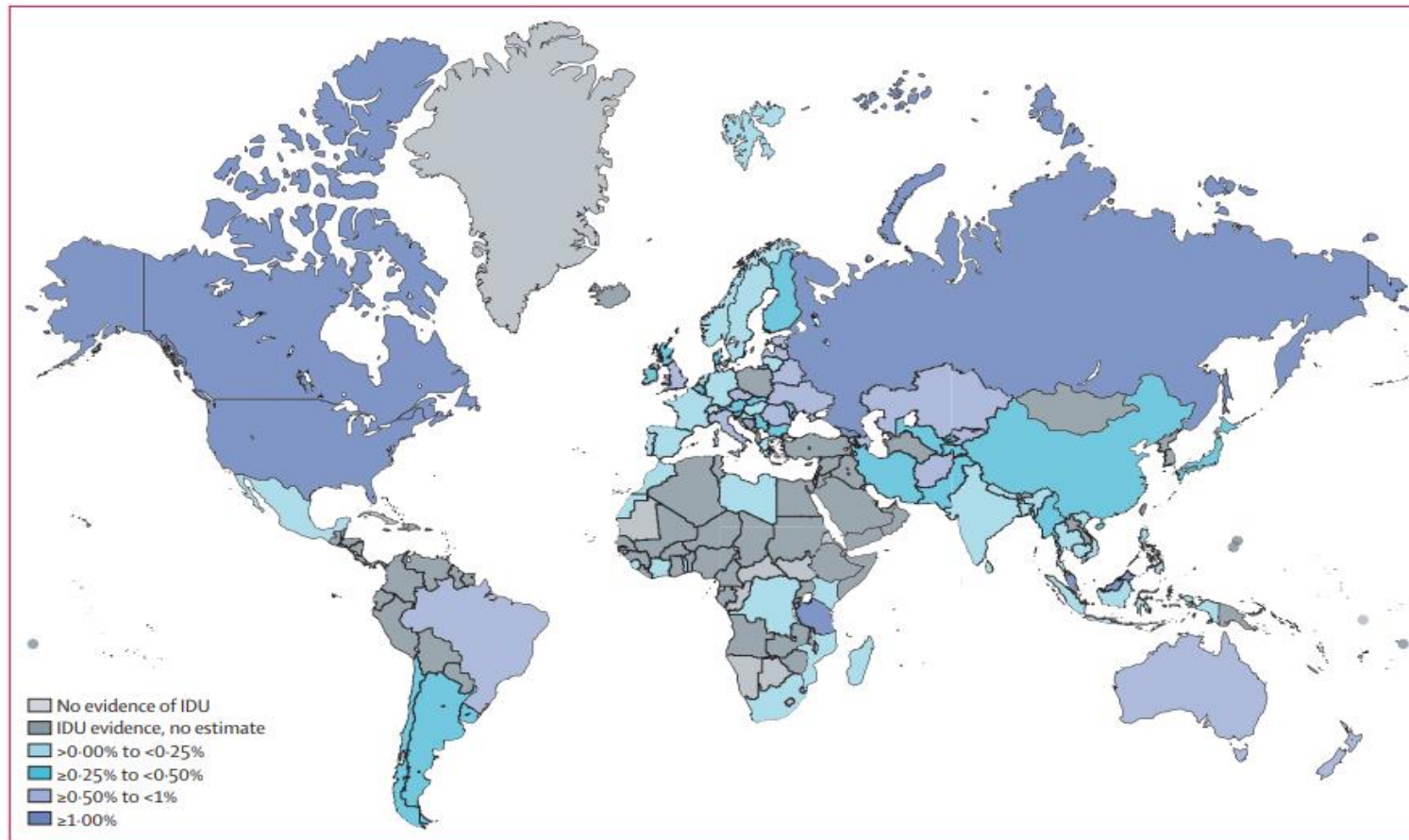


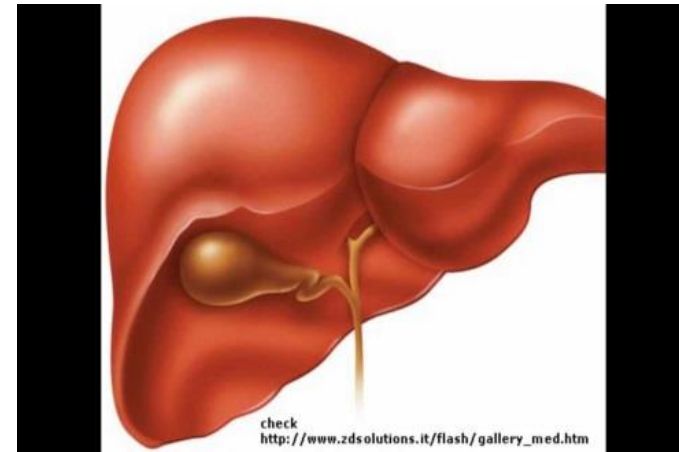
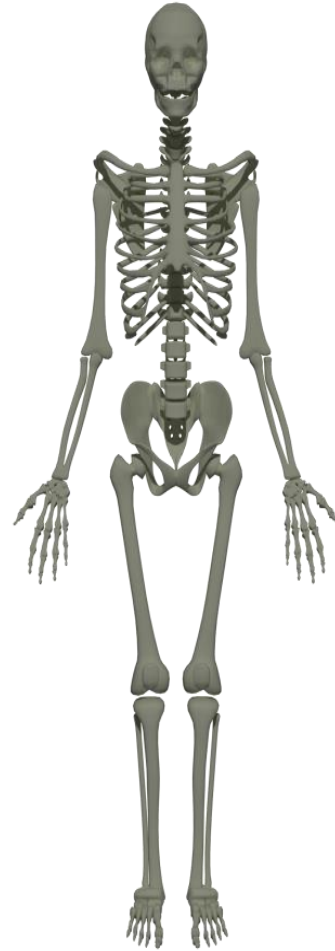
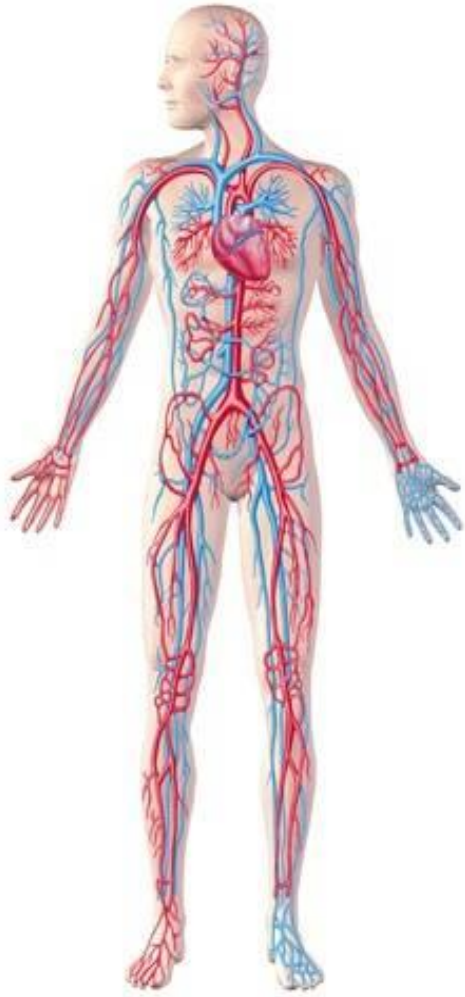
Figure 2: Estimated prevalence of injecting drug use by country
IDU=injecting drug use.

Injection Drug Use

- Global aspects (2017)
 - IDU in 179 **(86.9%)** of 206 countries
 - **99%** of population
 - 15-64 y/o
 - Increase of 31 countries since last report
- Degenhardt L et al. *Lancet Global Health*.2017;5:e1192-e1207.
- Mathers BM et al. *Lancet*. 2008;372:1733-1745.

IE in PWID

- University of Kentucky
 - **8-fold** increase in cases (2010-2018)
 - **73% of cases** → people who inject drugs (PWID) - 2018
- <https://www.medpagetoday.com/meetingcoverage/idweek/89275>





Morbidity and Mortality Weekly Report

Weekly / Vol. 66 / No. 22

June 9, 2017

Hospitalizations for Endocarditis and Associated Health Care Costs Among Persons with Diagnosed Drug Dependence — North Carolina, 2010–2015

Aaron T. Fleischauer, PhD^{1,2}; Laura Ruhl, MD³; Sarah Rhea, DVM^{1,4}; Erin Barnes, MD⁵

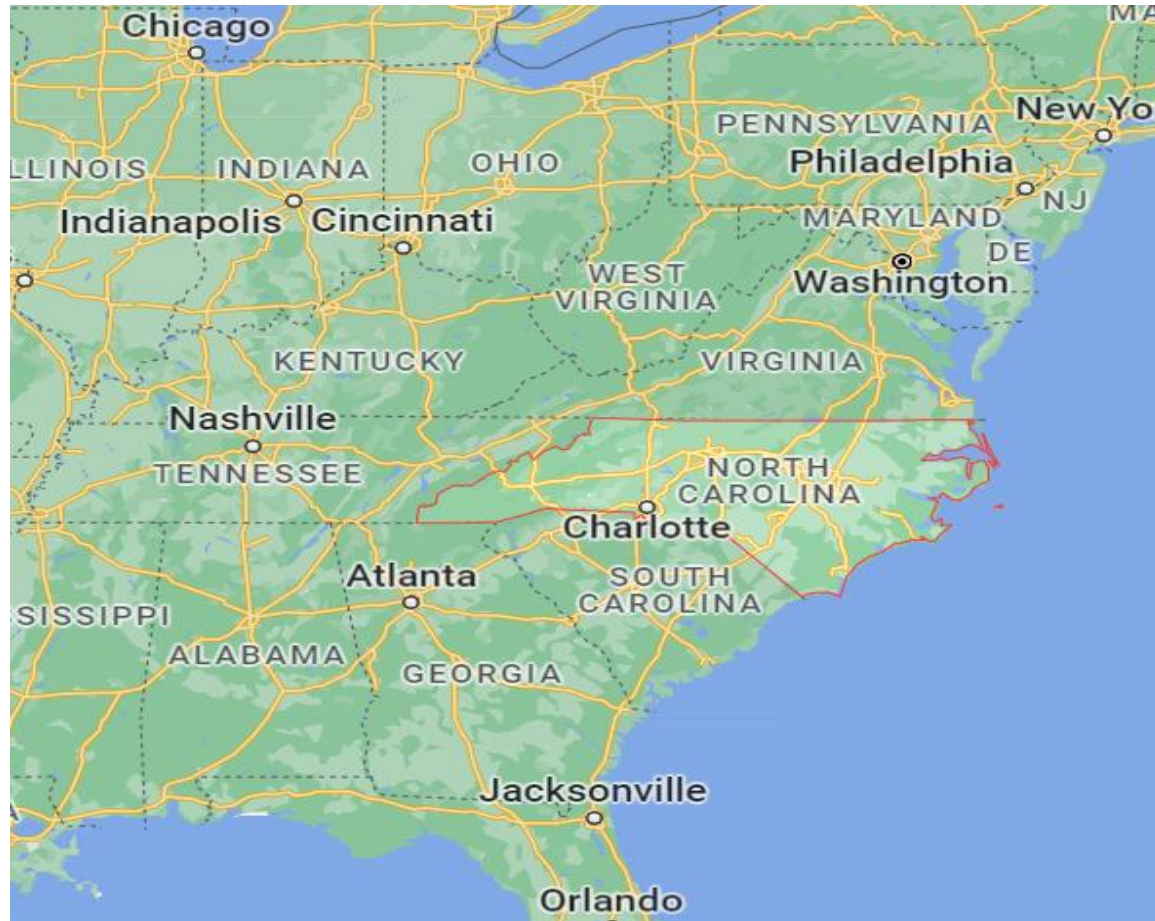


FIGURE 1. Incidence* of hospital discharge diagnoses of drug dependence–associated endocarditis,† by age group — North Carolina, 2010–2015

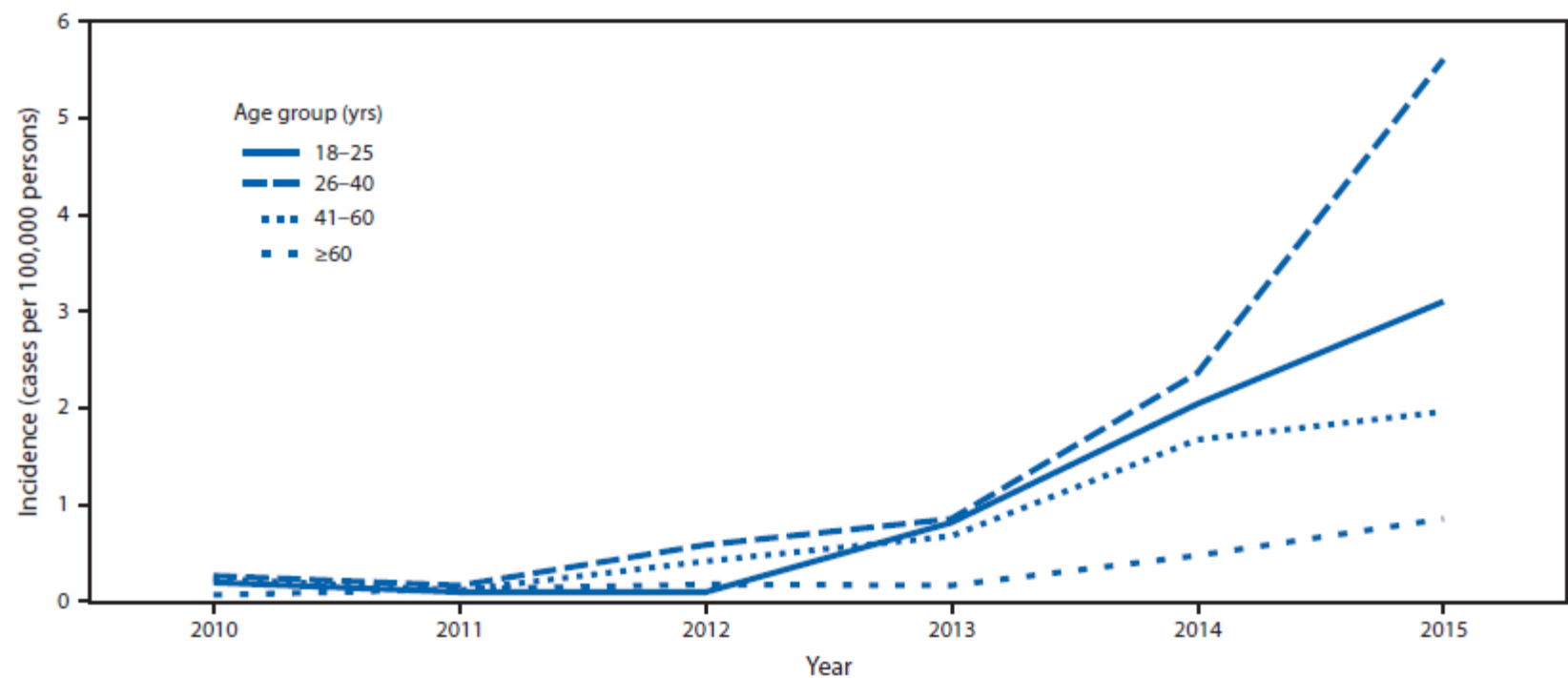
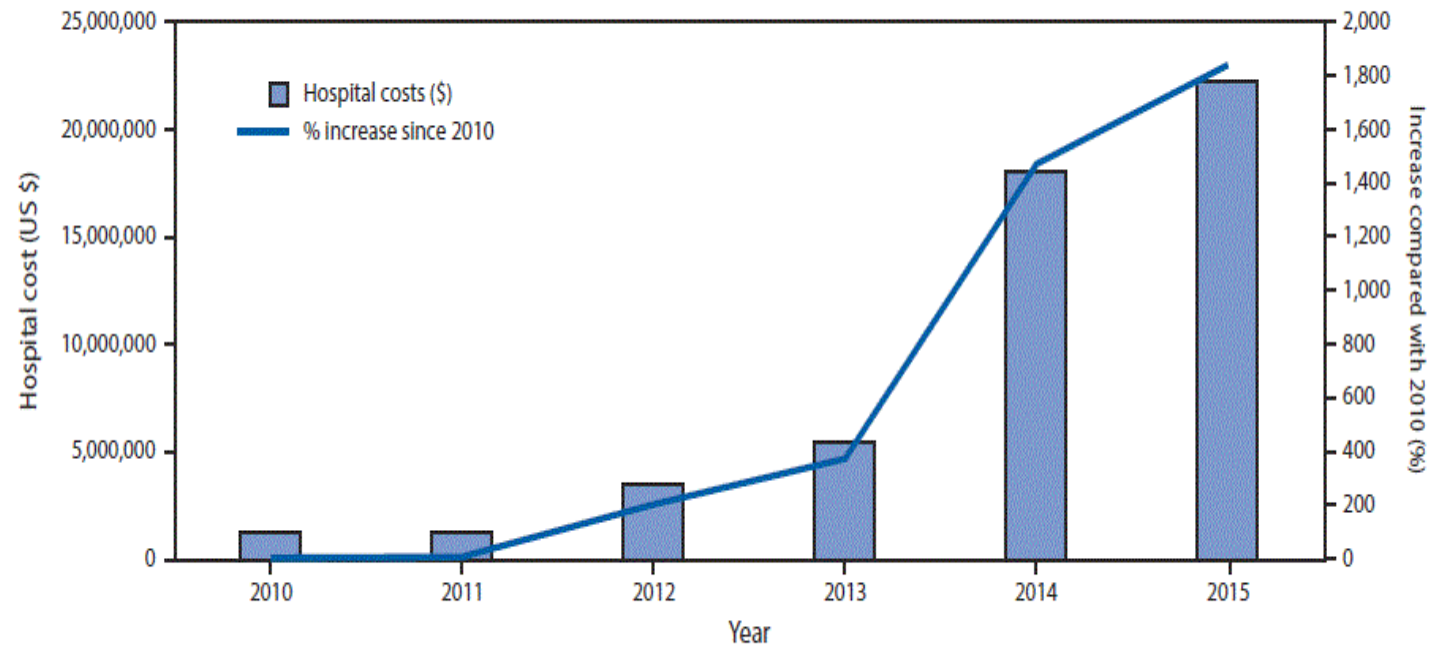


FIGURE 2. Hospital costs for persons with drug dependence–associated endocarditis, and percentage increase since 2010 – North Carolina, 2010–2015

[Return](#) [Top](#)



The figure above is a combination bar and line graph showing hospital costs for persons with drug dependence–associated endocarditis and the percentage increase since 2010 in North Carolina during 2010–2015

RICHARD E. CLARK MEMORIAL PAPER FOR ADULT CARDIAC SURGERY



ADULT CARDIAC SURGERY:

The Annals of Thoracic Surgery CME Program is located online at <http://www.annalsthoracicsurgery.org/cme/home>. To take the CME activity related to this article, you must have either an STS member or an individual non-member subscription to the journal.

The Evolving Burden of Drug Use Associated Infective Endocarditis in the United States



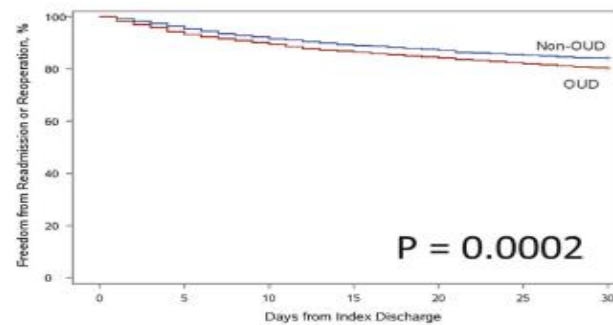
Arnar Geirsson, MD,* Asher Schranz, MD,* Oliver Jawitz, MD, Makoto Mori, MD, Liqi Feng, MS, Brittany A. Zwischenberger, MD, Alexander Iribarne, MD, Joseph Dearani, MD, Gregory Rushing, MD, Vinay Badhwar, MD, and Juan A. Crestanello, MD

Opioid Use Disorder Increases Readmissions After Cardiac Surgery: A Call to Action

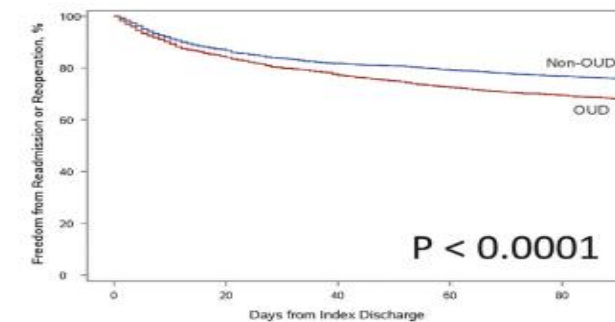
Krish C. Dewan, MD, Guangjin Zhou, PhD, Siran M. Koroukian, PhD, Gosta Petterson, MD, Faisal Bakaeen, MD, Eric E. Roselli, MD, Lars G. Svensson, MD, PhD, A. Marc Gillinov, MD, Douglas Johnston, MD, and Edward G. Soltesz, MD, MPH

Department of Thoracic and Cardiovascular Surgery, Cleveland Clinic, Cleveland, Ohio; and Department of Population and Quantitative Health Sciences, Case Western Reserve University School of Medicine, Cleveland, Ohio

**A 30-DAY OVERALL READMISSIONS
MATCHED**



**B 90-DAY OVERALL READMISSIONS
MATCHED**



**C 180-DAY OVERALL READMISSIONS
MATCHED**

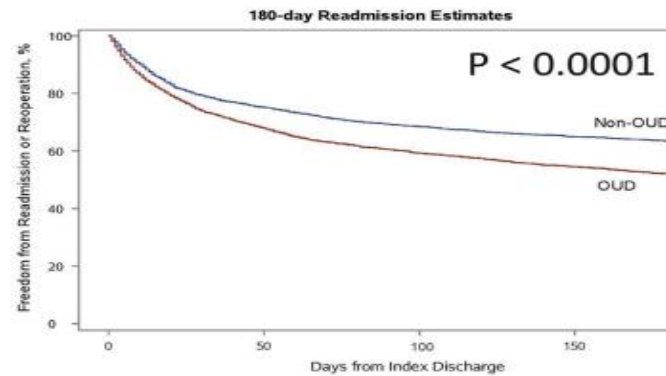


FIGURE 1 Freedom from 30-, 90-, and 180-day readmissions among patients.

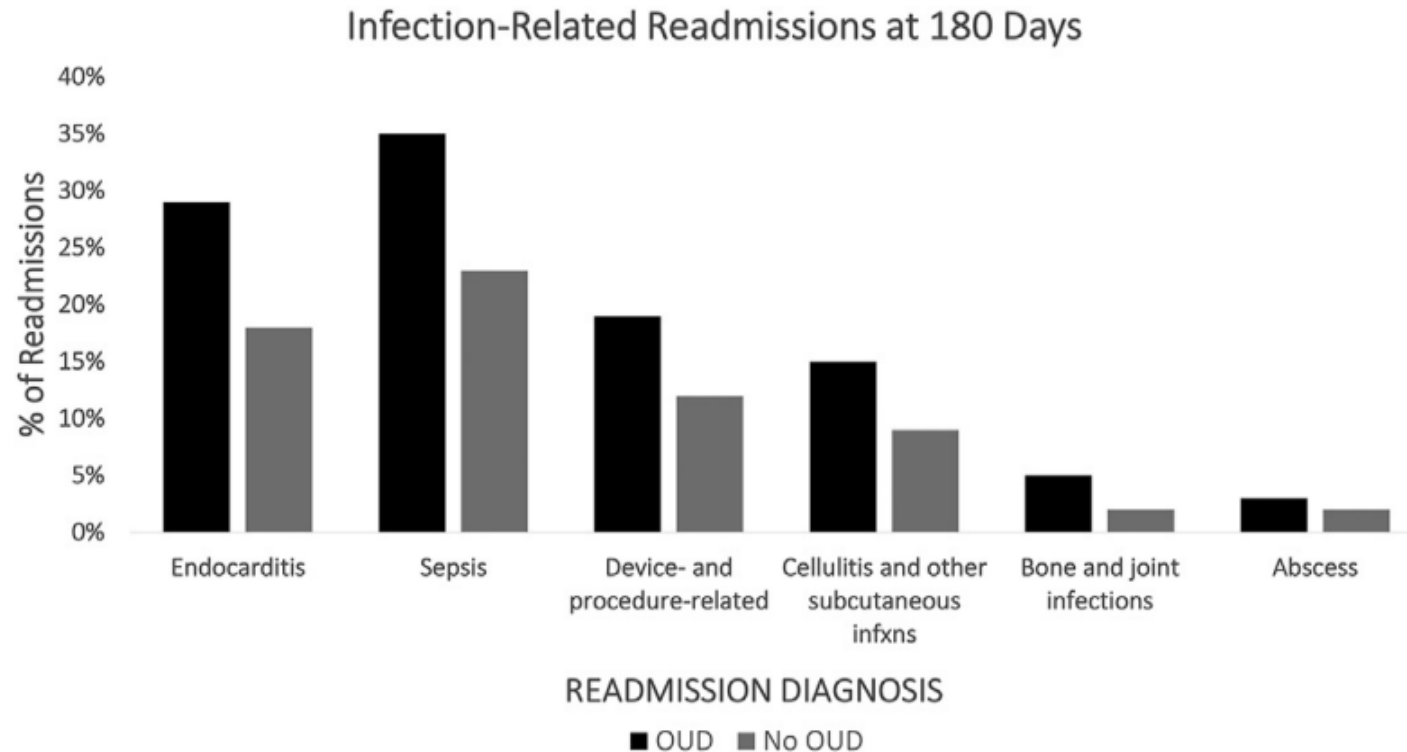


FIGURE 3 Infection-related readmission diagnoses. (Black bars, opioid use disorder (OUD); gray bars, no opioid use disorder.)

TABLE Addiction Treatment on Index Admission of Patients With Opioid Use Disorder

Addiction Treatment	Values (N = 5662)
Substance abuse counseling	...
Detoxification services	90 (1.59)
Substance abuse treatment	21 (0.37)
Pharmacotherapy	13 (0.22)
Substance abuse surveillance	25 (0.45)
Total	136 (2.40)
Values are n (%).	

Multicenter Study

➤ J Thorac Cardiovasc Surg. 2020 Apr;159(4):1262-1268.e2.

doi: 10.1016/j.jtcvs.2019.06.055. Epub 2019 Jul 10.

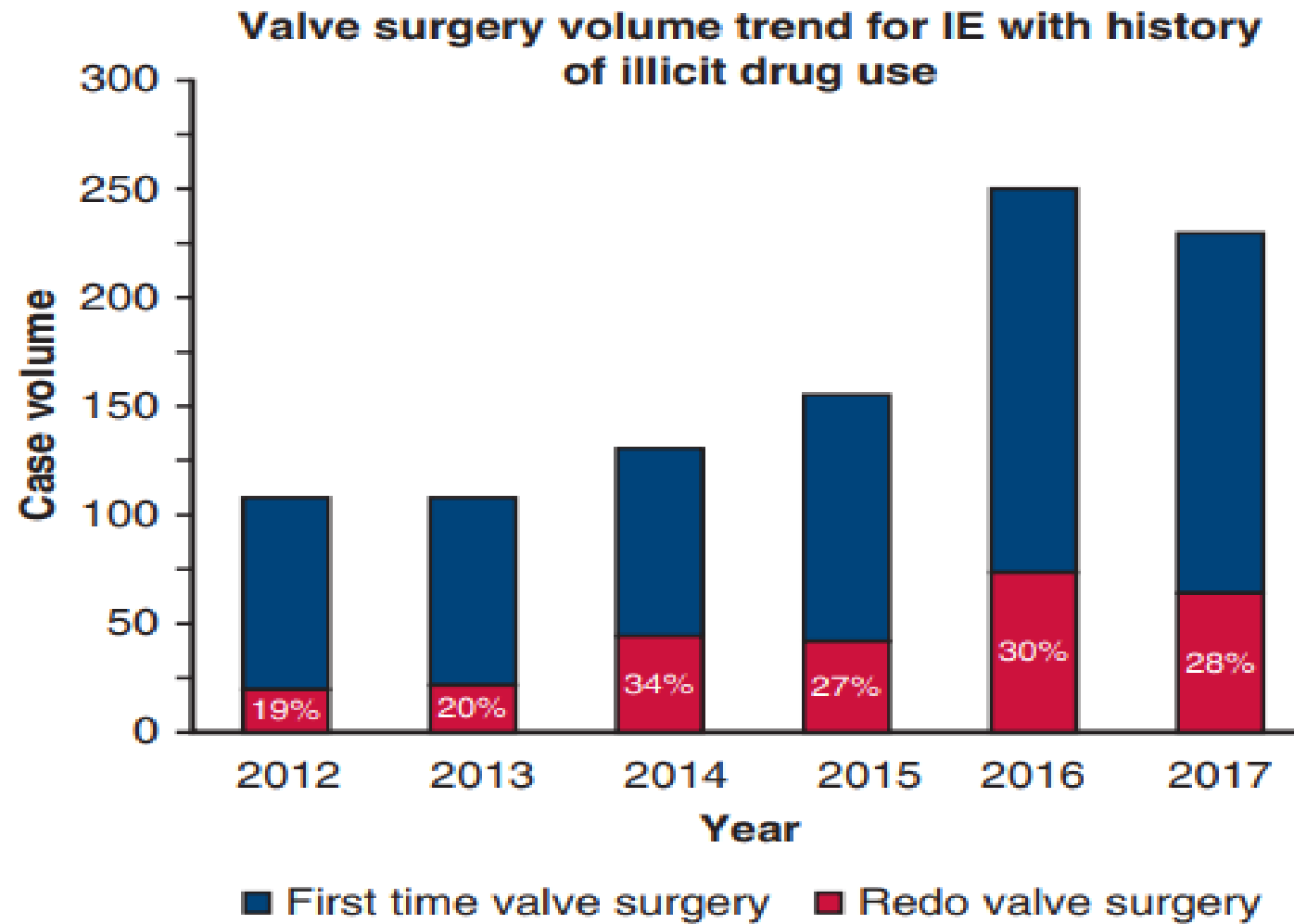
Risk of reoperative valve surgery for endocarditis associated with drug use

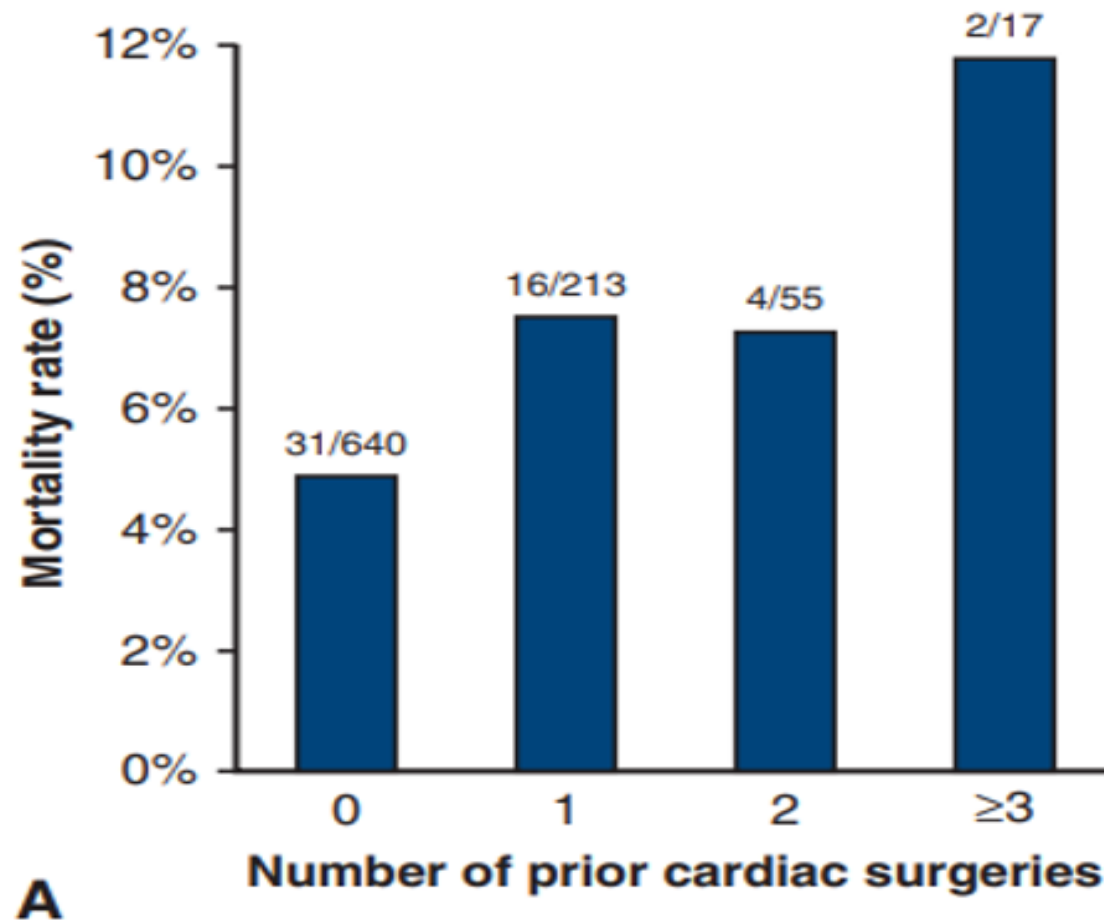


Makoto Mori¹, Syed Usman Bin Mahmood¹, Asher J Schranz², Ibrahim Sultan³,
Andrea L Axtell⁴, Nadeen Sarsour⁵, William Hiesinger⁶, Marko T Boskovski⁷,
Sameer Hirji⁷, Tsuyoshi Kaneko⁷, Joseph Woo⁶, Paul Tang⁵, Arminster S Jassar⁴,
Pavan Atluri⁸, Bryan A Whitson⁹, Thomas Gleason³, Arnar Geirsson¹⁰

Affiliations + expand

PMID: 31420136 PMCID: [PMC6952585](#) DOI: [10.1016/j.jtcvs.2019.06.055](#)





➤ Clin Infect Dis. 2020 Jul 27;71(3):564-571. doi: 10.1093/cid/ciz869.

Long-term Outcomes Are Poor in Intravenous Drug Users Following Infective Endocarditis, Even After Surgery



Sam Straw¹, M Wazir Baig¹, Richard Gillott², Jianhua Wu², Klaus K Witte^{1 3},
David J O'regan⁴, Jonathan A T Sandoe^{2 5}

Affiliations + expand

PMID: 31504326 DOI: [10.1093/cid/ciz869](https://doi.org/10.1093/cid/ciz869)

IE in PWID

- Prognosis
 - Leeds Teaching Hospitals NHS Trust
 - 2006-2016
 - Tertiary care, two large hospitals
 - Cardiology and CV surgery
 - 47% with IE underwent surgery
 - 30-day survival – 96%

Straw S et al. *Clin Infect Dis*. 2020;71:564-571.

IE in PWID

- Prognosis
 - Leeds Teaching Hospitals NHS Trust
 - **Projection**
 - 36 y/o (median age) male
 - Status-post valve surgery
 - 6.2 years life expectancy
- Straw S, et al. *CID*.2020;71:564-71.
- Schranz AJ. *CID*.2020;71:572-3 (editorial).

➤ Clin Infect Dis. 2021 Nov 2;73(9):e2484-e2492. doi: 10.1093/cid/ciaa1126.

Against Medical Advice Discharges in Injection and Non-injection Drug Use-associated Infective Endocarditis: A Nationwide Cohort Study



Simeon D Kimmel^{1 2}, June-Ho Kim^{3 4}, Bindu Kalesan⁵, Jeffrey H Samet¹,
Alexander Y Walley^{1 6}, Marc R Larochelle¹

Affiliations + expand

PMID: 32756935 PMCID: [PMC8563193](#) DOI: [10.1093/cid/ciaa1126](#)

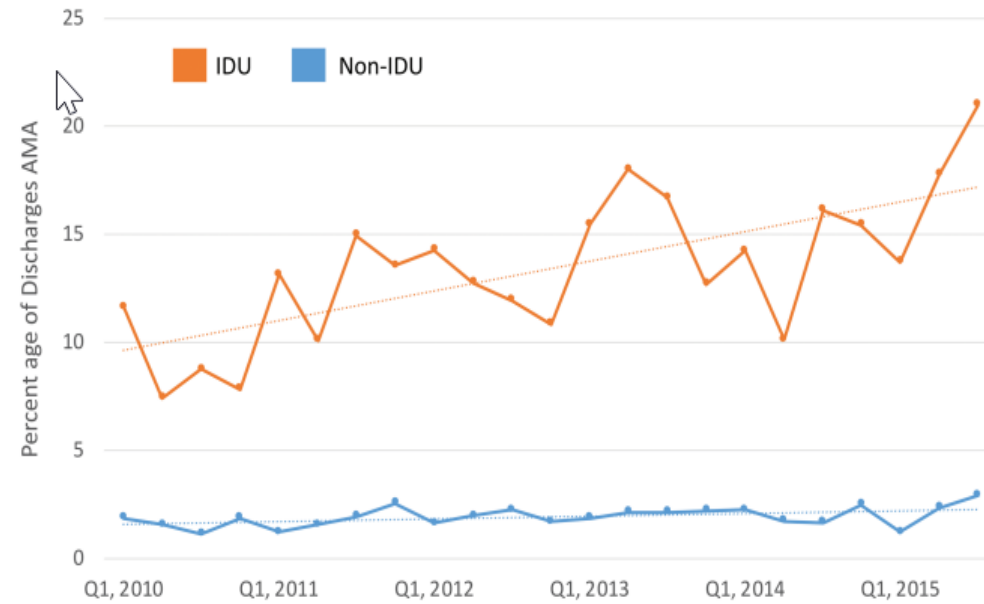
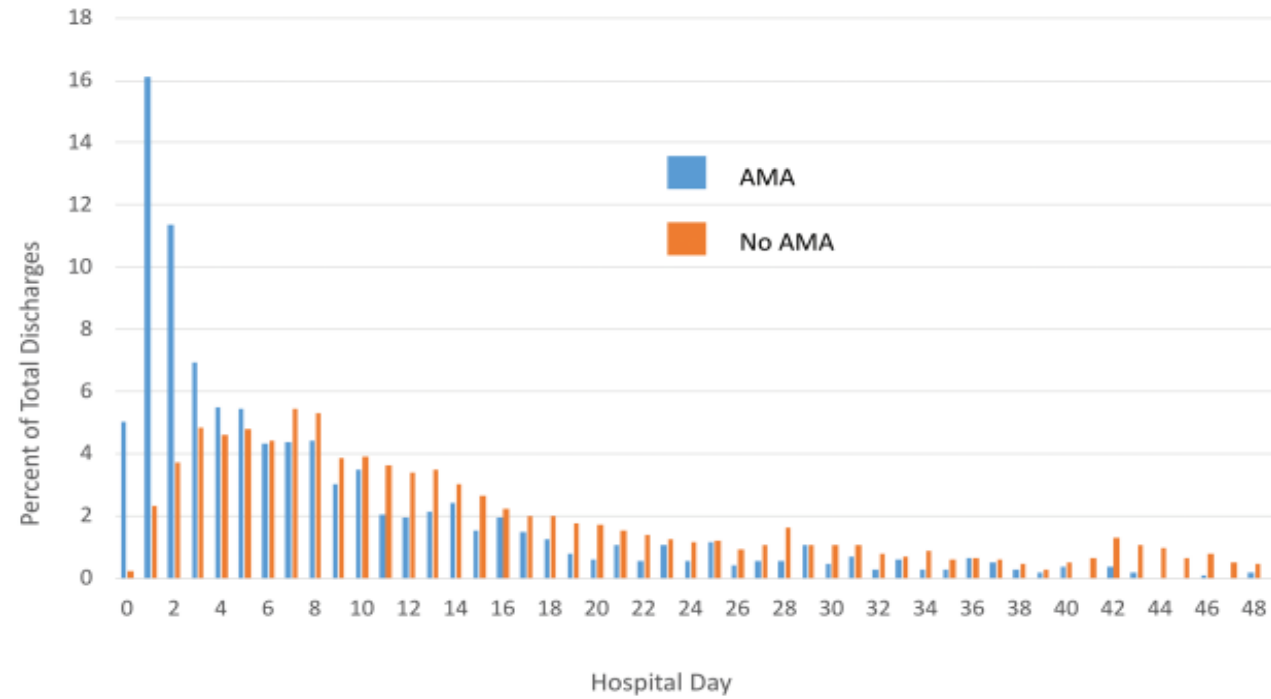


Figure 1. Proportion of injection drug use and non-injection drug use-associated infective endocarditis discharges resulting in against medical advice discharge by quarter, 1 January 2010, to 31 August 2015. Abbreviations: AMA, against medical advice; IDU, injection drug use.

b) Injection drug use



Infective Endocarditis

- PWID

“Source Control”



Concluding Remarks

baddour.larry@mayo.edu

@LBaddour1