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Comparing Prescription Opioids, Methadone, and Heroin Rates from the Treatment Episode Data Set to the RADARS® System Treatment Center Programs

Key Points

1. Rates in the Opioid Treatment Program showed very strong correlations with rates from the Treatment Episodes Data Set (TEDS) for prescription opioids, methadone, and heroin.
2. Rates calculated using data from the Survey of Key Informants' Patients Program showed very strong correlations with prescription opioids and methadone.
3. Differences in heroin rates may be attributable to differences in patient populations.

Background

Cicero, Inciardi, and Muñoz¹ note that surveillance systems, in addition to media reports, were early indicators of the prescription opioid abuse epidemic. They note that abuse of extended release products, such as OxyContin®, proved unexpected given preclinical and clinical studies suggesting lower abuse potential¹. The discrepancy in these results highlight the importance of surveillance systems in measuring the intended and unintended impact of interventions aimed at reducing prescription opioid abuse (e.g. abuse deterrent technologies). The Researched, Abuse, Diversion and Addiction-Related Surveillance (RADARS®) System provides timely product-specific, national and regional surveillance data on prescription and illicit opioid abuse. This analysis assesses whether annual abuse trends observed in the RADARS System Treatment Center Programs are similar to national trends from the Treatment Episodes Data Set (TEDS).

Methods

Programs

The RADARS System Opioid Treatment Program enrolls individuals entering treatment for opioid use disorders at medication-assisted treatment programs. The RADARS System Survey of Key Informants' Patients Program enrolls individuals with opioid dependence entering treatment primarily at private substance abuse treatment programs not using methadone. Both programs share a common questionnaire asking respondents about prescription and illicit opioids used "to get high" in the past month. TEDS includes records on admissions to substance abuse treatment centers nationally for all substances, including prescription and non-prescription opioids. TEDS admission respondents are asked about their primary, secondary, and tertiary drug problem. This analysis focuses on the primary substance reported in TEDS.

Statistical Analysis

From 2008 through 2014, the Opioid Treatment Program and Survey of Key Informants' Patients Program were compared to data from TEDS 2014 national report² for endorsement of use in the past month of drugs common to all three surveys: prescription opioids, heroin, and methadone. In the RADARS System programs, prescription opioids included endorsement of any of oxycodone, fentanyl, hydrocodone, hydromorphone, morphine, oxymorphone, buprenorphine, tramadol, or tapentadol. Population rates were computed as the total number of endorsements divided by the sum of the population in the three digit ZIP codes where at least one respondent resided. These population rates were compared to rates calculated from Table 1.1a in the TEDS 2014 national report². The numerator represented the number of respondents who reported a primary drug of heroin, non-prescription methadone, and other opiates/synthetics. The other opiates/synthetics category includes buprenorphine, codeine, hydrocodone, hydromorphone, meperidine, morphine, opium, oxycodone, pentazocine, propoxyphene, tramadol, and any other drug with morphine-like effects. The denominator was the estimated US population in a given year. Rates were scaled per 100,000 population. A Pearson's correlation coefficient was calculated to test the relationship between both RADARS System programs and the TEDS population rates over time for prescription opioids, methadone, and heroin abuse.

Results

In the Opioid Treatment Program, prescription opioids ($r=0.82$), methadone ($r=0.88$) and heroin ($r=0.68$) were strongly correlations with TEDS data. (Figure 1). In the Survey of Key Informants' Patients Program, prescription opioids ($r=.80$) and methadone ($r=0.85$) were strongly correlated with TEDS data (Figure 2). Heroin showed a moderate negative correlation ($r=-0.40$).

Figure 1. RADARS® System Opioid Treatment Program and Treatment Episode Data Set (TEDS) Rates of prescription opioids, methadone, and heroin per 100,000 population 2008 to 2014

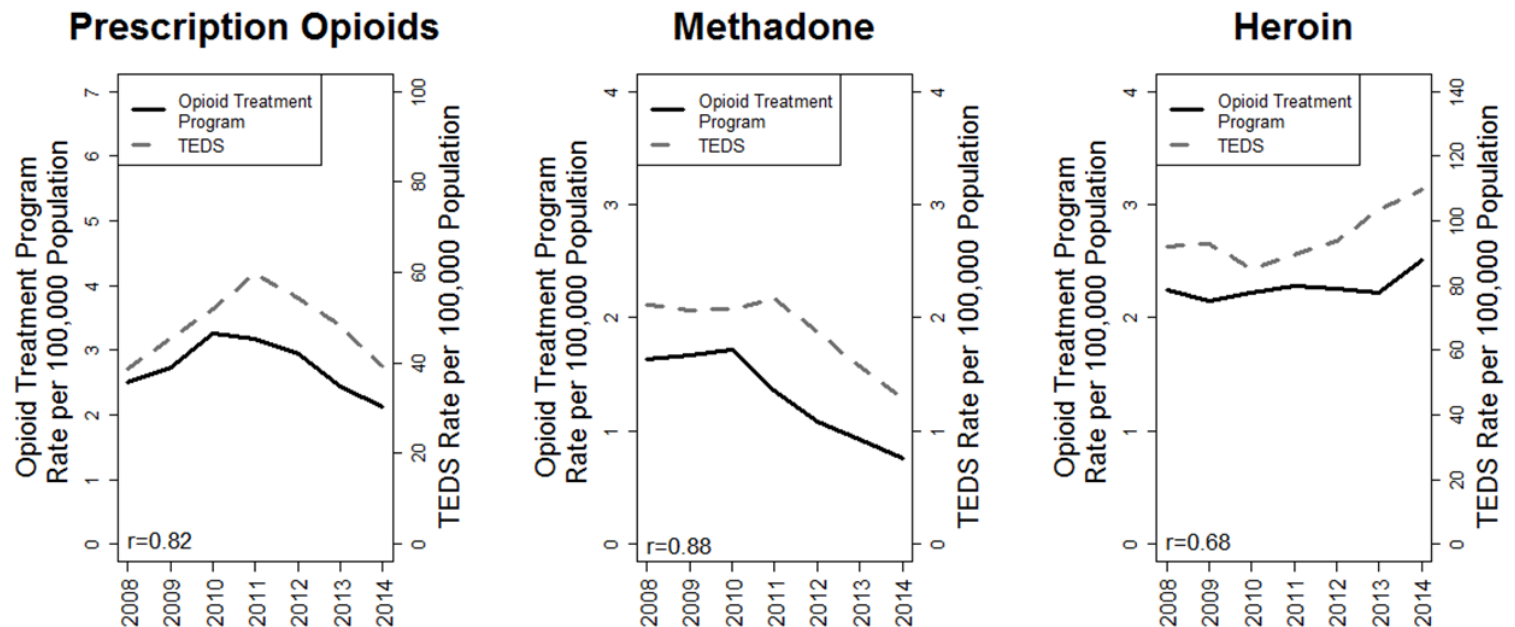
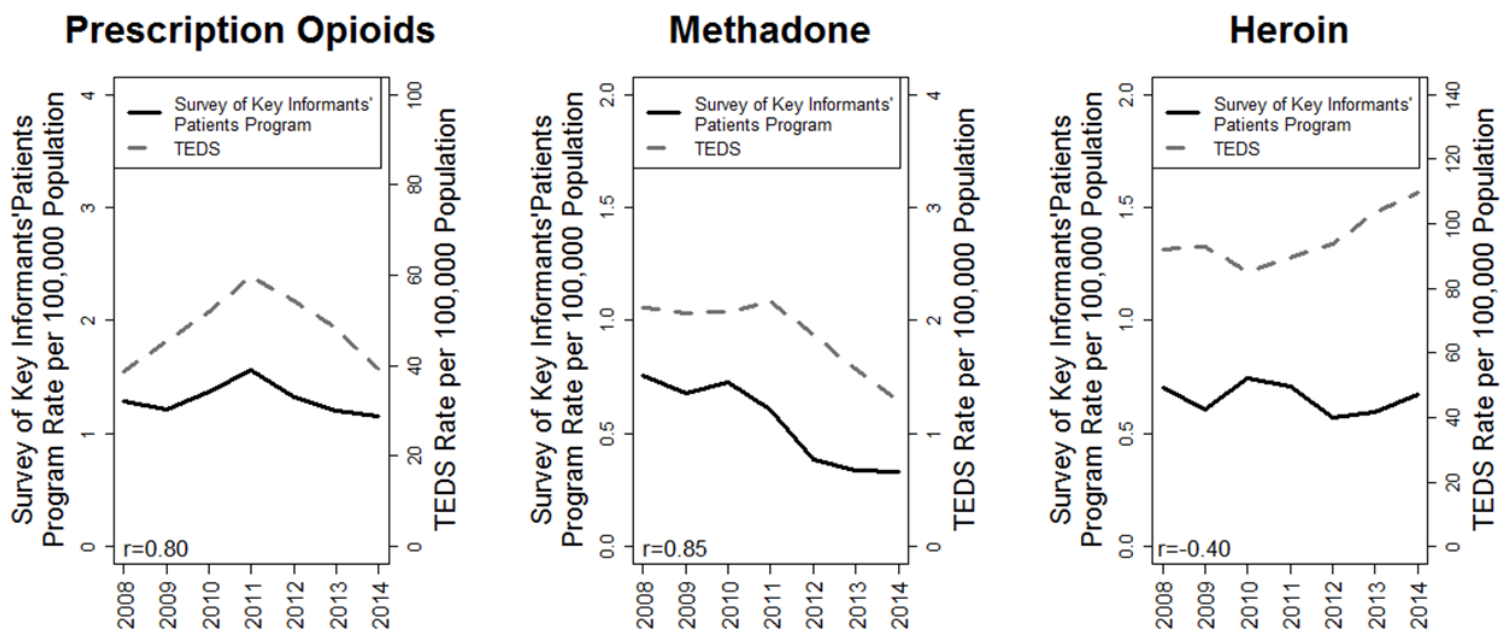


Figure 2. RADARS® System Survey of Key Informants' Patients Program and Treatment Episode Data Set (TEDS)

**Rates of prescription opioids, methadone, and heroin per 100,000 population
2008 to 2014**



Between 2008 and 2014, approximately 66% of individuals entering treatment for opioids in TEDS reported heroin was their primary drug. By contrast, 54% of respondents in the Opioid Treatment Program and 31% of respondents in the Survey of Key Informants' Patients Program reported that heroin was their primary drug.

Conclusions

Trends in both RADARS System Opioid Treatment and Survey of Key Informants' Patients Programs appear to track well with national data from TEDS for both prescription opioids and methadone. Correlations with heroin were strong in the Opioid Treatment Program but negatively correlated with rates in the Survey of Key Informants' Patients Program. The discrepancy is likely due to differences in the populations. A smaller proportion of the Survey of Key Informants' Patient Program report heroin as their primary drug, therefore changes in abuse patterns in the Survey of Key Informants' Patients program may reflect changes in abuse among a sample of primarily prescription opioid users. In addition, discrepancies in rates may also be because the TEDS survey samples from individuals entering substance abuse treatment for substances other than opioids (e.g. alcohol and cocaine).

Suggested Citation

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References

1. Cicero, T. J., Inciardi, J. A., & Muñoz, A. (2005, October). Trends in Abuse of OxyContin® and Other Opioid Analgesics in the United States: 2002-2004. *The Journal of Pain*, 6(10), 662-672.
2. Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. Treatment Episode Data Set (TEDS): 2004-2014. National Admissions to Substance Abuse Treatment Services. BHSIS Series S-84, HHS Publication No. (SMA) 16-4986. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2016.