

Supply Trends in Opioid Medications

The healthcare community continues to see a rise in opioid misuse and drug-overdose deaths.¹ In response, public health and healthcare entities have launched awareness campaigns and policy changes in an attempt to curb inappropriate use and prevent addiction.² But has the effort to increase public and provider awareness decreased prescription rates? IBM® Watson Health™ conducted two studies to explore this issue.

In the first study, IBM Watson Health researchers and their collaborators analyzed 10 years of IBM Watson Health MarketScan data to identify trends in average days' supply of six commonly prescribed opioid drugs: hydrocodone, hydromorphone, oxycodone, oxymorphone, tapentadol, and morphine.

The findings show that between 2013 and 2015, when awareness of the opioid epidemic started to increase, but prior to CDC opioid prescribing guidelines, there was no decline in the median days supplied for any of the opioids. In fact, average days' supply increased for all but one opioid evaluated (morphine). The largest increase in both Medicaid and commercially insured populations occurred with oxycodone, which increased by 4.5 and 6 days, respectively; representing a 37% and 56% increase.*

Despite national headlines around the impact of the growing opioid addiction epidemic and efforts to encourage more judicious prescribing, this analysis of MarketScan data shows days' supply for opioid prescriptions has increased.

The second study assessed trends in days' supply for opioid prescriptions filled by adolescents with commercial insurance and Medicaid. Research indicates that use of prescribed opioid analgesics prior to high school graduation increases the risk of later opioid misuse.³

IBM Watson Health researchers and their collaborators analyzed 12 years of IBM Watson Health MarketScan data to identify trends in prescribed average days' supply for the most commonly prescribed opioid drugs in adolescents ages 12–17.

For adolescents covered by Medicaid, a 2–3 days' supply was most commonly prescribed, followed by a 4–5 days' supply. From 2005 to 2016, the percentage of patients receiving a 2–3 days' supply decreased, while the 4–5 days' supply increased. By 2016, the percentage of patients receiving a 4–5 days' supply surpassed that of a 2–3 days' supply by a small amount. A similar pattern was seen for adolescents covered by commercial plans.**

The findings in this study indicated that efforts to reduce opioid prescribing prior to 2016 do not appear to have affected prescribing for adolescents as much as desired.

^{1,2} <https://www.cdc.gov/features/confronting-opioids/index.htm>

³ Miech R, Johnston L, O'Malley PM, Keyes K, Heard K. Prescription opioids in adolescence and future opioid misuse. *Pediatrics*. 2015;136:e1169–e1177. doi:10.1542/peds.2015-1364.

*MarketScan Multi-State Medicaid data, 2005–2014.

**Henke RM, Tehrani AB, Ali MM, Mutter R, Mazer-Amirshahi M, O'Brien PL, Mark TL. Opioid prescribing to adolescents in the United States from 2005 to 2016 [published online July 9, 2018]. *Psychiatr Serv*. doi:10.1176/appi.ps.201700562.

Methodology

Trends in average days' supply of opioid medications in Medicaid and commercial insurance

Method: IBM Watson Health MarketScan Commercial Claims and Encounters data (2005–2015) and MarketScan Multi-State Medicaid data (2005–2014) were used to measure trends in opioid average days' supply.

Opioid Prescribing to Adolescents in the United States From 2005 to 2016

Method: IBM Watson Health MarketScan commercial and Medicaid pharmacy claims data (2005–2016) were used to measure days' supply among adolescents and to determine whether there were differences between patients with commercial insurance or Medicaid coverage.

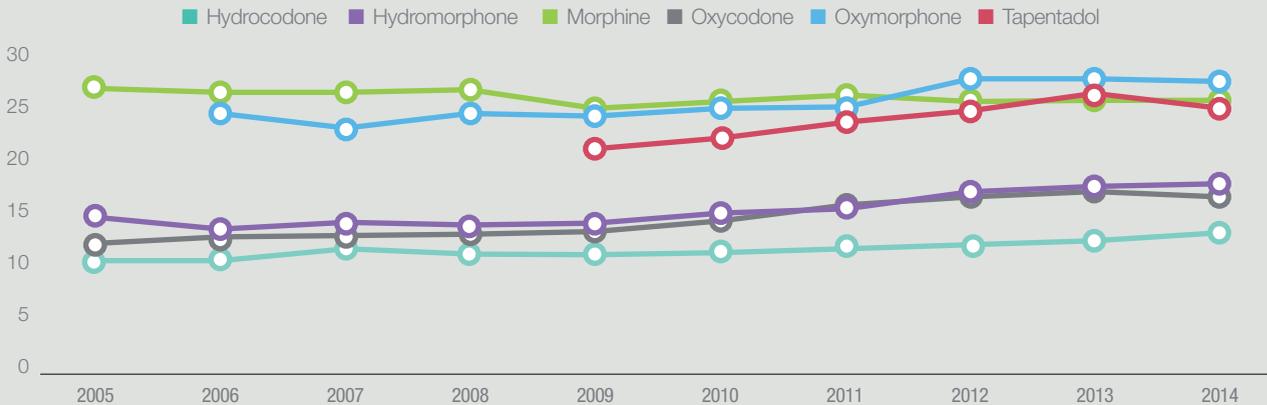
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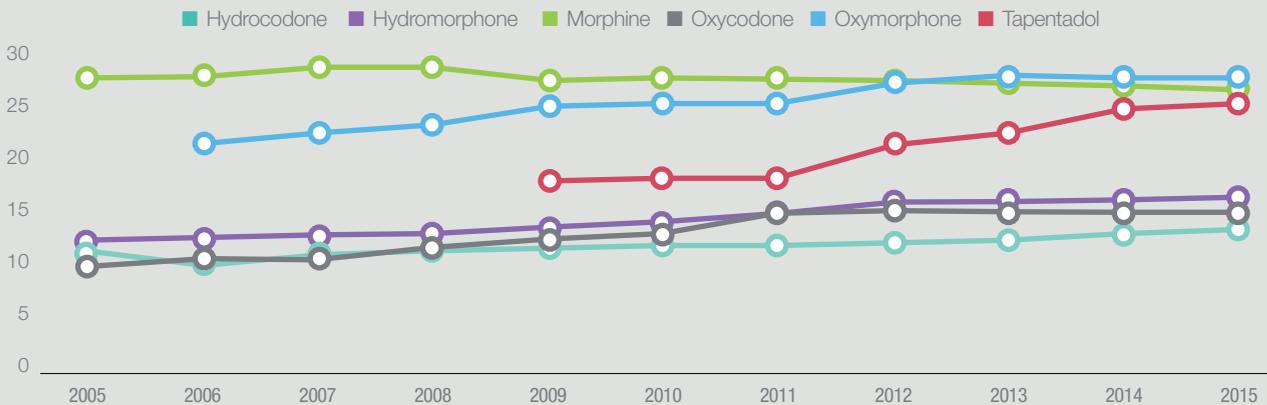


Average days' supply for opioid medications in adults with Medicaid, 2005–2014



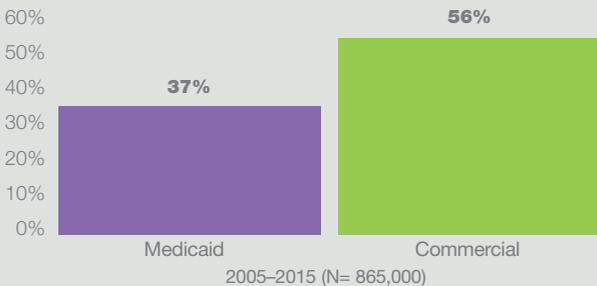
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Average days' supply for opioid medications in adults with commercial insurance, 2005–2015



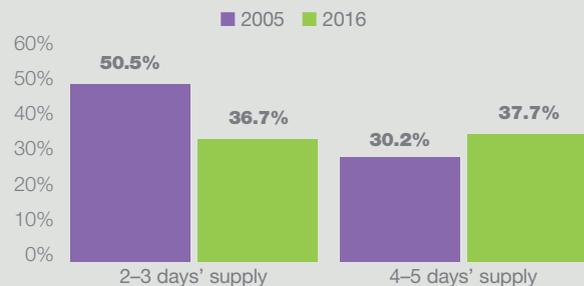
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Trends in average days' supply of opioid medications in Medicaid and commercial insurance



SOURCE: Tehrani AB, Henke RM, Ali MM, Mutter R, Mark TL. Trends in average days' supply of opioid medications in Medicaid and commercial insurance [published online August 19, 2017]. *Addict Behav*. 2018;76:218–222.

OPIOID USE IN ADOLESCENTS Opioid prescribing to adolescents in the United States from 2005 to 2016



SOURCE: Henke RM, Tehrani AB, Ali MM, Mutter R, Mazer-Amirshahi M, O'Brien PL, Mark TL. Opioid prescribing to adolescents in the United States from 2005 to 2016 [published online July 9, 2018]. *Psychiatr Serv*. doi:10.1176/appi.ps.201700562

