

The cost of opioid use during pregnancy

A new study published today by the scientific journal *Addiction* reveals that the incidence of neonatal abstinence syndrome - often caused by mothers using opioids during pregnancy - is increasing in the United States, and carries an enormous burden in terms of hospital days and costs. The number of US hospital admissions involving neonatal abstinence syndrome increased more than fourfold between the years 2003 and 2012. In 2012, neonatal abstinence syndrome cost nearly \$316 million in the United States.

Neonatal abstinence syndrome (NAS) is a constellation of symptoms that occur in newborn infants exposed to addictive illegal or prescription drugs *in utero*. Infants affected by NAS typically show a number of neurological symptoms and behaviors (e.g., tremors, seizures) as well as poor feeding and gastrointestinal dysfunction. Standard management of NAS involves the administration of opioids for opioid withdrawal, with additional medications for stubborn cases or instances of multi-drug exposure. This drug administration has been performed traditionally in the hospital setting, consuming valuable and finite hospital resources.

In this study, researchers measured the inflation-adjusted health care provider costs and length of hospital stay for almost 28,000 infants with NAS, compared with over 3 million infants without NAS. They found that between 2003 and 2012, NAS admissions increased more than fourfold, resulting in a surge in annual costs from \$61 million and 67,869 hospital days in 2003 to nearly \$316 million and 291,168 hospital days in 2012. For an infant affected by NAS, the hospital stay was nearly 3.5 times as long (16.57 hospital days compared with 4.98 days for a non-NAS patient) and the costs more than three times greater (\$16,893 compared with \$5,610 for a non-affected infant).

In an era of increasingly constrained health-care resources, the rising incidence of NAS has significant implications for policymakers, hospital administrators and health care providers nationwide. Increased public health initiatives are needed to target, educate and provide resources for women of reproductive age to decrease *in utero* drug exposure. Additionally, given the large variation in screening and treatment of NAS, further study is needed to determine the most effective assessment and management strategies, with a focus on developing therapeutic plans that offer more cost-efficient management of NAS.

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For editors:

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Addiction is a monthly international scientific journal publishing peer-reviewed research reports on alcohol, illicit drugs, tobacco, and gambling as well as editorials and other debate pieces. Owned by the Society for the Study of Addiction, it has been in continuous publication since 1884. *Addiction* is the number one journal in the 2016 ISI Journal Citation Reports ranking in the substance abuse category for both science and social science editions.