Opioid Prescriptions Among Women of Reproductive Age Enrolled in Medicaid — New York, 2008–2013

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Exposure to opioids during pregnancy can lead to adverse infant outcomes, including neonatal abstinence syndrome (*1*) and birth defects (*2*). Ascertaining opioid prescriptions for women who become pregnant or have no indication of contraceptive use is important to determine the number of women who are at potential risk for adverse fetal outcomes. The New York State (NYS) Department of Health (DOH) analyzed data for women aged 15–44 years (i.e., reproductive-aged women) enrolled in Medicaid to examine opioid drug prescriptions during 2008–2013. On the basis of Medicaid drug claims for any drug with an opioid ingredient, prescriptions were identified for the enrolled population of reproductive-aged women and for three subgroups: women whose diagnosis, procedure, and drug codes indicated contraceptive use or infertility; women who were not using contraceptives and not infertile; and women who had had a live birth during the reporting year. During 2008–2013, among all women of reproductive age, 20.0% received a prescription for a drug with an opioid component; the proportion was highest (27.3%) among women with an indication of contraceptive use or infertility, intermediate (17.3%) among women who had no indication of contraceptive use, and lowest (9.5%) among women who had had a live birth. Although New York's proportion of opioid prescriptions among female Medicaid recipients who had a live birth is lower than a recent U.S. estimate (*3*), these results suggest nearly one in 10 women in this group may have been exposed to opioids in the prenatal period.

To understand patterns of prescribing opioid medications for women of reproductive age, NYS DOH examined Medicaid fee-for-service and managed care data during 2008–2013 for females aged 15–44 years who were continuously enrolled in Medicaid during each reporting year. NYS DOH used a list of medications derived from the NYS Medicaid formulary with First Data Bank hierarchical ingredient codes indicating opioids, and defined opioid prescription as any outpatient claim for a drug that contained an opioid ingredient for any woman during each reporting year (*4*). Live births were identified based on an *International Classification of Diseases, Ninth Revision* (ICD-9) primary diagnosis code indicating live birth (641.01–676.64, V27) and a principal procedure code indicating live birth (vaginal and cesarean delivery Current Procedural Terminology codes 59400, 59409, 59410, 59510, 59514, 59515, 59610, 59612, 59614, 59620, and 59622; ICD-9 procedure codes 73.51, 73.59, 74.0, 74.1, and 72.0–72.7) within 2 days of the diagnosis code.

To determine the prenatal period, Medicaid records for a 1-year cohort of women were matched with vital statistics birth records. Among enrolled women who had a live birth, the mean gestational age in days for each pregnancy-related ICD-9 primary diagnosis code was calculated and used to compute the average prenatal period. Using this approach, the prenatal period was defined as the 280 days preceding the date of a live birth for women with an indication of "late" pregnancy (ICD-9 code 645), 252 days for women with an indication of "multiple gestation" (ICD-9 code 651), or "antepartum hemorrhage" (ICD-9 code 641); as 238 days for women with an indication of "preterm labor" (ICD-9 code 644); and 270 days for all other live births (ICD-9 codes 650, 652, 654–657, 659, 660–666, or 669). Prescription of an opioid was ascertained during the prenatal period for women with an ICD-9 and Current Procedural Terminology code indicating a live birth, and for the entire reporting period for all other women of reproductive age. Women were identified as infertile using an approach similar to the Centers for Medicare & Medicaid Services developmental measure for pre- and interconception health (*5*). This approach uses diagnosis codes as well as procedure codes indicating hysterectomy, bilateral oophorectomy, or premature menopause occurring in the reporting year to identify women who cannot become pregnant. Contraceptive use during the reporting year was ascertained using diagnosis, procedure, and drug codes to identify female sterilization, or use of an intrauterine device, hormonal implant, injectable contraception, oral contraception, birth control patch, vaginal ring, or diaphragm. Results are reported for all women enrolled in Medicaid for whom opioid drugs were prescribed and for three subgroups: women with an indication of contraceptive use or infertility; women with no indication of contraceptive use; and, during pregnancy, women who had a live birth during 2008–2013. The percentage of overall prescribing does not include opioids prescribed to women before pregnancy, on the date of delivery, or after pregnancy for women who had a live birth.

During 2008–2013, the average number of women aged 15–44 years and continuously enrolled in Medicaid was 800,908; the number ranged from 675,717 in 2008 to 903,721 in 2013 (Table). The average proportion of women

TABLE. Percentage of Medicaid-enrolled women of reproductive age (15–44 years) who were prescribed opioids, by contraception use and pregnancy status — New York, 2008–2013

Characteristic	Year						
	2008	2009	2010	2011	2012	2013	2008–2013*
All women, continuous Medicaid enrollment	**675,717**	**742,067**	**795,551**	**822,356**	**866,035**	**903,721**	**800,908**
No. opioid prescriptions†	126,119	146,898	162,536	172,070	179,393	173,219	160,039
% opioid prescriptions	18.7	19.8	20.4	20.9	20.7	19.2	20.0
Women using contraception/infertile	185,960	227,102	261,767	285,089	300,690	319,488	263,349
No. opioid prescriptions	47,888	61,044	72,586	80,230	84,787	84,493	71,832
% opioid prescriptions	25.8	26.9	27.7	28.1	28.2	26.4	27.3
Women not using contraception/fertile	433,429	453,653	469,962	472,443	498,410	513,191	473,515
No. opioid prescriptions	73,264	79,962	83,545	85,363	88,360	82,255	82,125
% opioid prescriptions	16.9	17.6	17.8	18.1	17.7	16.0	17.3
Women with a live birth in the reporting year	56,328	61,312	63,822	64,824	66,935	71,012	64,044
No. prenatal opioid use	4,967	5,892	6,405	6,477	6,285	6,471	6,083
% prenatal opioid prescriptions	8.8	9.6	10.0	10.0	9.4	9.1	9.5

* Average for all 6 years.
† Does not include opioid prescriptions before pregnancy, on the day of delivery, or after pregnancy for women with a live birth.

of reproductive age who received prescriptions for opioids during 2008–2013 was 20.0%, ranging from a low of 18.7% in 2008 to a high of 20.9% in 2011. The average proportion of opioid prescriptions for women with an indication of contraceptive use or infertility was 27.3%, with a range of 25.8% in 2008 to 28.2% for 2012. The average proportion of opioid prescriptions for women with no indication of contraceptive use was 17.3%, with a range of 18.1% in 2011 to 16.0% in 2013. The average proportion of prenatal opioid prescriptions for women who had a live birth was 9.5%, ranging from 8.8% in 2008 to 10.0% in 2010 and 2011.

Discussion

During 2008–2013, an average of 20.0% of reproductive-aged women enrolled in Medicaid in New York (average total = 800,908) received a prescription for opioids at least one time. Previous studies have examined opioid prescriptions among women of reproductive age enrolled in Medicaid, and women enrolled in Medicaid experiencing a live birth (*3*,*4*). During 2008–2012, an estimated 39.4% of reproductive-aged women enrolled in Medicaid in a selection of U.S. states received opioid prescriptions (*4*), a higher proportion than New York's overall proportion of 20.0% during a similar period. Because data used for the U.S. results did not allow a geographic breakdown of prescribing, a direct comparison with the findings from New York is not possible. A study that examined opioid prescriptions in Medicaid-enrolled women who had a live birth during 2000–2007 reported that in the United States overall, 21.6% of these women had received opioid prescriptions, including 9.3% in the Northeast (*3*) and 9.6% in New York (R. Desai, personal communication, June 9, 2015), proportions which are similar to New York's 9.5% during 2008–2013. Regional differences in opioid prescriptions for males and females in the Medicaid program have also been reported for the fee-for-service population during 1996–2002; New York was in the lowest opioid prescription quintile (*6*). Geographic variation in opioid prescribing has also been reported for the U.S. population (males and females); in 2008, the proportion of residents receiving opioid prescriptions in New York was low compared with other states (*7*).

New York has a history of prescription monitoring, beginning in 1972, with a program to regulate Schedule II controlled substances. In 2012, monitoring was enhanced by implementation of the Internet System for Tracking Over-Prescribing, or I-STOP, prescription monitoring program for Schedule II, III and IV controlled substances. These programs, adopted in response to concerns about the abuse and diversion of controlled substances, might contribute to the lower proportion of opioid prescribing in New York compared with opioid prescribing in most other states and the United States overall.

The findings in this report are subject to at least four limitations. First, ascertainment of opioid prescriptions was based on medications dispensed in the outpatient setting, and it is not known whether women took the prescribed medicine. Second, women who paid for drugs containing opioids without using Medicaid and women who received opioids while using Medicaid services in an inpatient or emergency department setting were not identified. Third, women with no indication of contraceptive use in this analysis might be using nonprescribed contraceptive methods (e.g., condoms) or might not have a male sexual partner or be sexually active; therefore, the number of women who might have had a pregnancy at risk for opioid exposure is smaller than what is presented. Finally, so that New York results could be compared with recent U.S. results (*4*), the opioid prescription experience of women of reproductive age was restricted to recipients continuously

Summary

What is already known about this topic?

Opioid exposure during pregnancy can cause neonatal abstinence syndrome and has been associated with the occurrence of birth defects.

What is added by this report?

During 2008–2013, approximately 20% of women of reproductive age (15–44 years) continuously enrolled in New York's Medicaid program filled a prescription for an opioid pain medication from an outpatient setting. The proportion of women who received opioid prescriptions was lowest during the prenatal period for women who had a live birth (9.5%), intermediate for women with no indication of contraceptive use or infertility (17%), and highest for women with an indication of contraceptive use or infertility (27%).

What are the implications for public health practice?

Pregnancy status, sexual activity, and contraceptive use should be ascertained by providers before prescribing opioid pain medications; for women with chronic pain, recommendations from CDC's opioid prescribing guideline should be followed. For women with other pain conditions who are pregnant or who are not using contraceptives, adherence to acute care setting, dental practice, and other clinical practice guidelines facilitated through clinical quality improvement strategies might result in increased prescribing and use of safer pain medications or nonpharmacologic treatments.

enrolled in New York State Medicaid during each reporting year. However, the health and social characteristics of women continuously enrolled in Medicaid could differ from those of women with limited enrollment, and the proportion of opioid prescriptions for women with limited enrollment might differ from that of women with continuous enrollment.

During 2008–2013, a lower proportion of Medicaid-enrolled, reproductive-aged women in New York received prescriptions for opioid drugs when compared with corresponding proportions reported for the United States. The proportion of women who received opioid prescriptions was lowest during the prenatal period for women who had a live birth (9.5%), intermediate for women with no indication of contraceptive use or infertility (17%), and highest for women with an indication of contraceptive use or infertility (27%). Opportunities exist for physicians and other health care providers treating women of reproductive age who are pregnant or might become pregnant to use other effective nonopioid pharmacologic or nonpharmacologic treatments to reduce the risk for adverse pregnancy outcomes. Fewer than 6,500 women per year in this study population received prescriptions for opioids during pregnancy. However, further study is required to determine the reason for prescribing opioids rather than other pain medication, and whether, for women with chronic pain, the prescribed dose and duration are consistent with CDC's opioid prescribing guideline (*8*) or, for women with other pain presentations, whether other prescribing recommendations are being followed. Additional analyses of opioid prescriptions should also include comparisons of all Medicaid-eligible women with those with continuous enrollment.

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