Rural America registers spike in babies born with opioid withdrawal

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The number of babies born with opioid withdrawal has risen dramatically in the last decade across the United States, with rural areas disproportionally affected. A research letter published online December 12 in the Journal of the American Medical Association publication *JAMA Pediatrics* reported that rural hospitals have dealt with a sharp increase in the number of infants exhibiting neonatal abstinence syndrome (NAS). The increase coincides with the deepening of poverty and explosion of painkiller and heroin use in the United States.

"Compared with their urban peers, rural infants and mothers with opioid-related diagnoses were more likely to be from lower-income families, have public insurance, and be transferred to another hospital following delivery," wrote Nicole L.G. Villapiano, MD, the lead author of the research team from the Robert Wood Johnson Foundation Clinical Scholars Program at the University of Michigan in Ann Arbor (UM).

NAS is a diagnosis that encompasses complications and withdrawal symptoms suffered by newborns exposed to opioids in the mother's womb. Between 2000 and 2012, the US has seen a nearly fivefold increase in the number of NAS cases.

UM researchers analyzed hospital data of neonatal births and obstetric deliveries to correlate rates of NAS and maternal opioid use among rural patients and their urban counterparts from 2004 to 2013. Over this timeframe, they found the percentage of infants with NAS who were from rural counties had spiked from 12.9 percent to 21.2 percent of the total.

The incidence of NAS among rural-born babies rose disproportionately compared with urban births. The incidence of NAS increased from 1.2 cases per 1,000 hospital births to 7.5 cases per 1,000 in rural areas. This represents a growth rate nearly 80 percent higher than that seen by urban hospitals, where the rate rose from 1.4 per 1,000 to 4.8 per 1,000.

Research also revealed an increase in deliveries complicated by maternal opioid use, from 1.3 per 1,000 to 8.1 per 1,000 in rural hospitals. Urban deliveries saw a rise of maternal opioid use of 1.6 per 1,000 to 4.8 per 1,000.

Researchers said the results pointed to the need for increased funding for programs and clinics in rural areas to help with treatment for both mothers and their babies. "Maternal opioid use requires special attention given the poor outcomes and high costs," Dr. Villapiano said in a statement to the press. "If we can provide resources to the areas that need them the most, we can do more on the front lines to address the opioid crisis for our most vulnerable patients."

Over the past two decades, opioid addiction has skyrocketed in the United States. Highly addictive prescription painkillers like Oxycontin and Vicodin flooded into the market, with pharmaceutical companies like Purdue Pharma and Cardinal Health deliberately targeting rural and poor sections of the population. One 2014 study found that low-income mothers on Medicaid were prescribed opioids—most frequently codeine and hydrocodone—at high rates for pregnancy-related pain like backaches and joint pain. A staggering 42 percent of pregnant Medicaid-recipients in Utah and 35 percent of those in Idaho were prescribed opioids.

As the price of prescription pills rose, many patients who had developed addictions to these powerful painkillers turned to street drugs like heroin, leading to a public health epidemic that now claims more lives in many places than automobile accidents and gun violence each year. According to data from the federal Centers for Disease Control and Prevention, 47,055 Americans died of drug overdoses in 2014, nearly two-thirds of them from opioid use.

The illegality of the drugs compound the social stigma of addiction for pregnant women, who may be afraid to

seek basic prenatal health care for fear of being punished. Around the country, legislatures have pushed to criminalize the drug problems of mothers whose addictions may harm fetal development, while simultaneously restricting access to drug treatment and reproductive care. Many drug-addicted women are compelled to struggle with both addiction and pregnancy on their own.

Babies who are born with signs of opioid withdrawal require special care and extended hospital stays in neonatal care units. Often they have low birth weights and are at a higher risk for birth defects like spina bifida or gastroschisis, where internal organs are formed partially outside of a baby's body. They suffer agonizing pain and often cry inconsolably and have seizures. Symptoms of NAS frequently include irritability, high heart rates, diarrhea, breathing problems, and difficulty latching onto the nipple of a bottle or breast.

The cost of caring for these babies is considerable, with hospital NAS treatment expenses rising from $732 million in 2007 to $1.5 billion in 2013, according to a study in the *Journal of Perinatology*. Small, rural hospitals are often understaffed and lack proper facilities to treat the rising numbers of NAS-afflicted infants.

"Typically, rural hospitals that deliver babies have traditionally focused on the lower-risk population in areas they serve," Dr. Alison V. Holmes of the Geisel School of Medicine at Dartmouth told the *New York Times*. "But when you're getting to a point of having a substantial proportion of mothers taking opioids and babies at risk for opioid withdrawal, it becomes a strain on the regional system." The *New England Journal of Medicine* published a study last year revealing that some neonatal units had to spend upwards of 20 percent of their staff hours caring for babies suffering from NAS.