

# Neonatal Abstinence Syndrome (NAS), Infant Drug Exposure and Maternal Use of Opiates

South Dakota 2009-2013

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# Objectives

To determine the incidence of NAS and infant drug exposure in South Dakota using hospital discharge data and to describe populations at increased risk.



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# Definitions

## Neonatal Abstinence Syndrome (NAS):

- Newborn drug withdrawal syndrome (ICD-9 code 779.5)
- Narcotics affecting fetus or newborn via placenta or breast milk (added per CDC communications; ICD-9 code 760.72)



# Definitions

## Infant Drug Exposure:

- Newborn drug withdrawal syndrome (ICD-9 779.5)
- Narcotics affecting fetus or newborn via placenta or breast milk (ICD-9 760.72)
- Hallucinogenic agents affecting fetus or newborn via placenta or breast milk (ICD-9 760.73)
- Cocaine affecting fetus or newborn via placenta or breast milk (ICD-9 760.75)



# Definitions

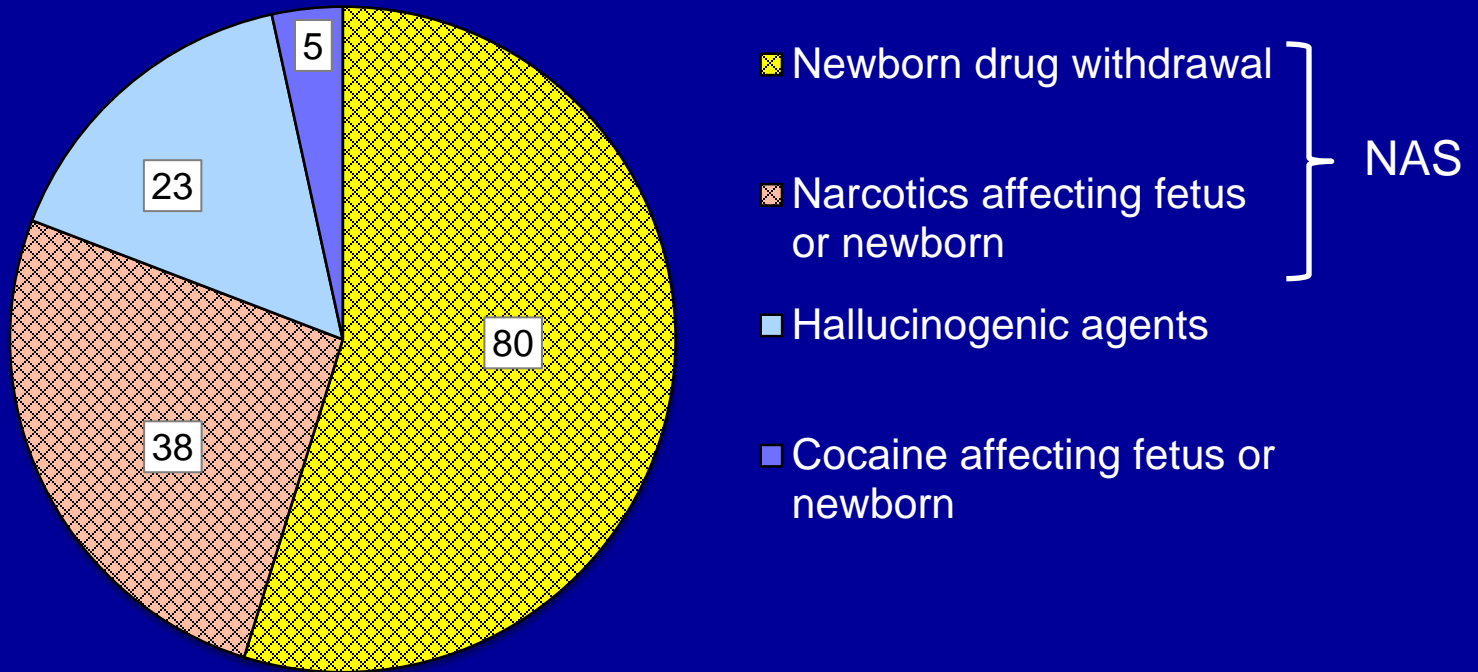
## Maternal Opiate Use:

- Opioid type dependence (ICD-9 304.0)
- Sedative, hypnotic or anxiolytic dependence (ICD-9 304.1)
- Combinations of opioid type drug with any other drug dependence (ICD-9 304.7)
- Combinations of drug dependence excluding opioid type drug (ICD-9 304.8)
- Non-dependent opioid abuse (ICD-9 305.5)
- Non-dependent cocaine abuse (ICD-9 305.6)
- Long-term use of methadone or other opiate analgesics (ICD-9 V58.69) limited to women discharged with complication of pregnancy (ICD-9 630-679)



# NAS & Infant Drug Exposure

SD Cases, 2009-2013

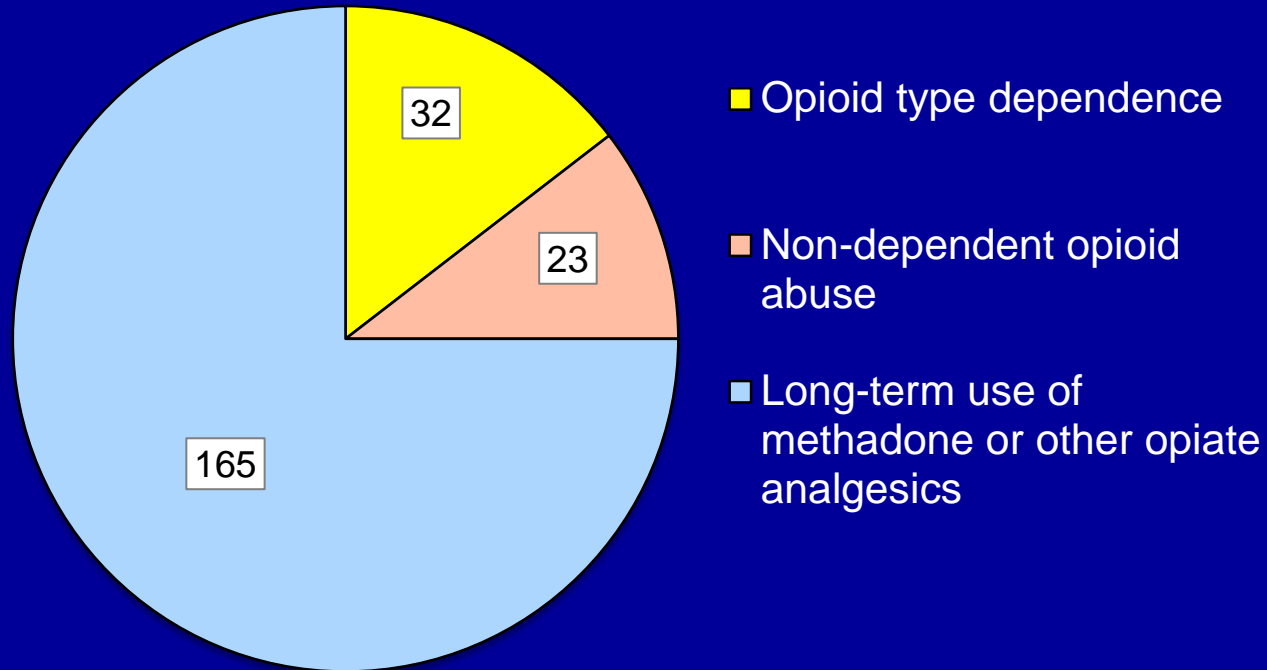


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# Maternal Opiate Use \*

SD Cases, 2009-2013



\* Only categories with more than 5 cases are shown



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# Why do we use rates?

## Questions:

Has the occurrence of NAS changed over time?

Are certain populations at greater risk than other populations?

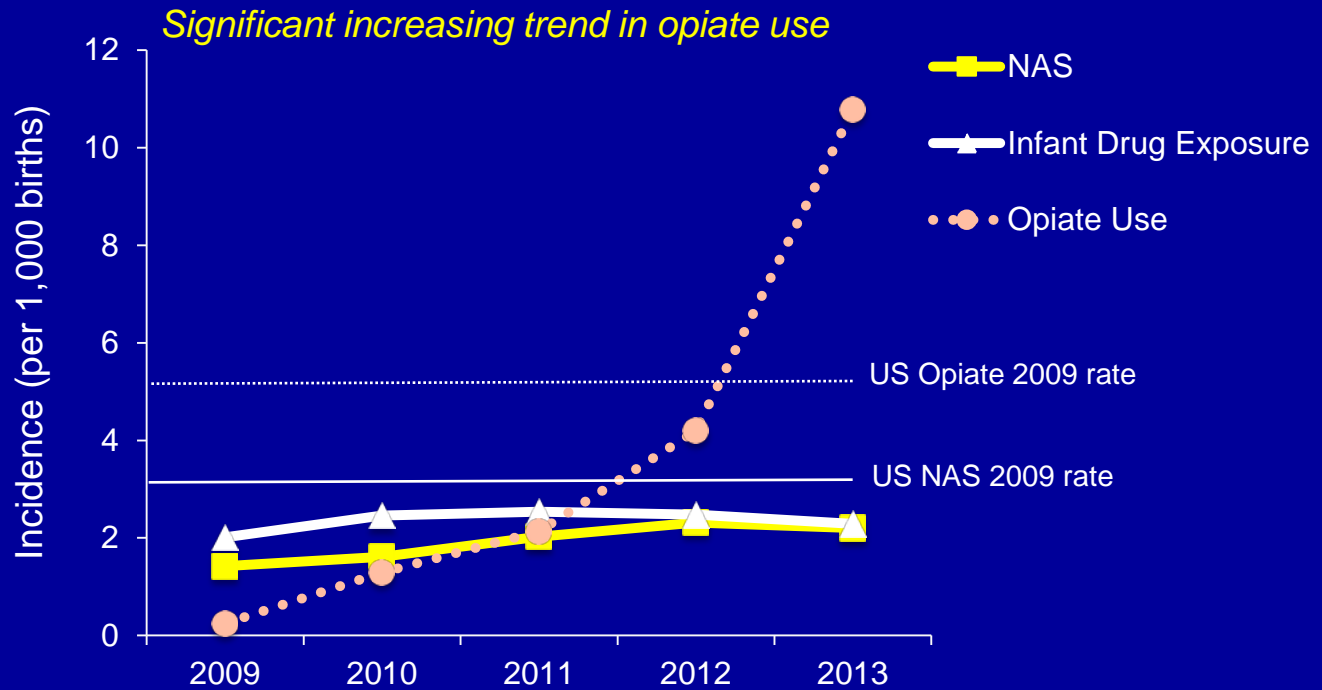
To look at changes over time or to compare populations we need to know how many infants are at risk of being exposed.

We calculate a rate – in this case we divide the number of infants exposed by the total number of births.

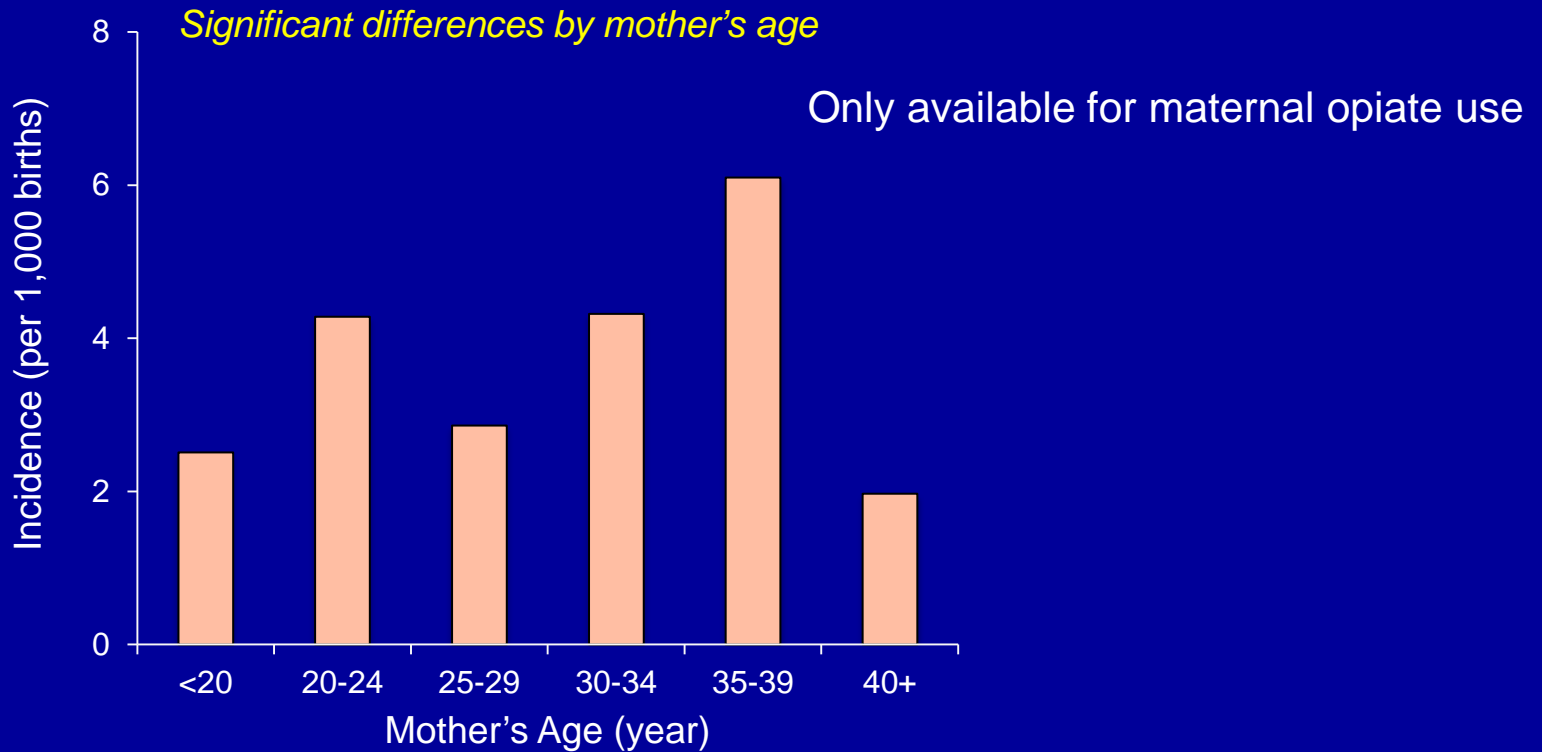




# Trends Over Time

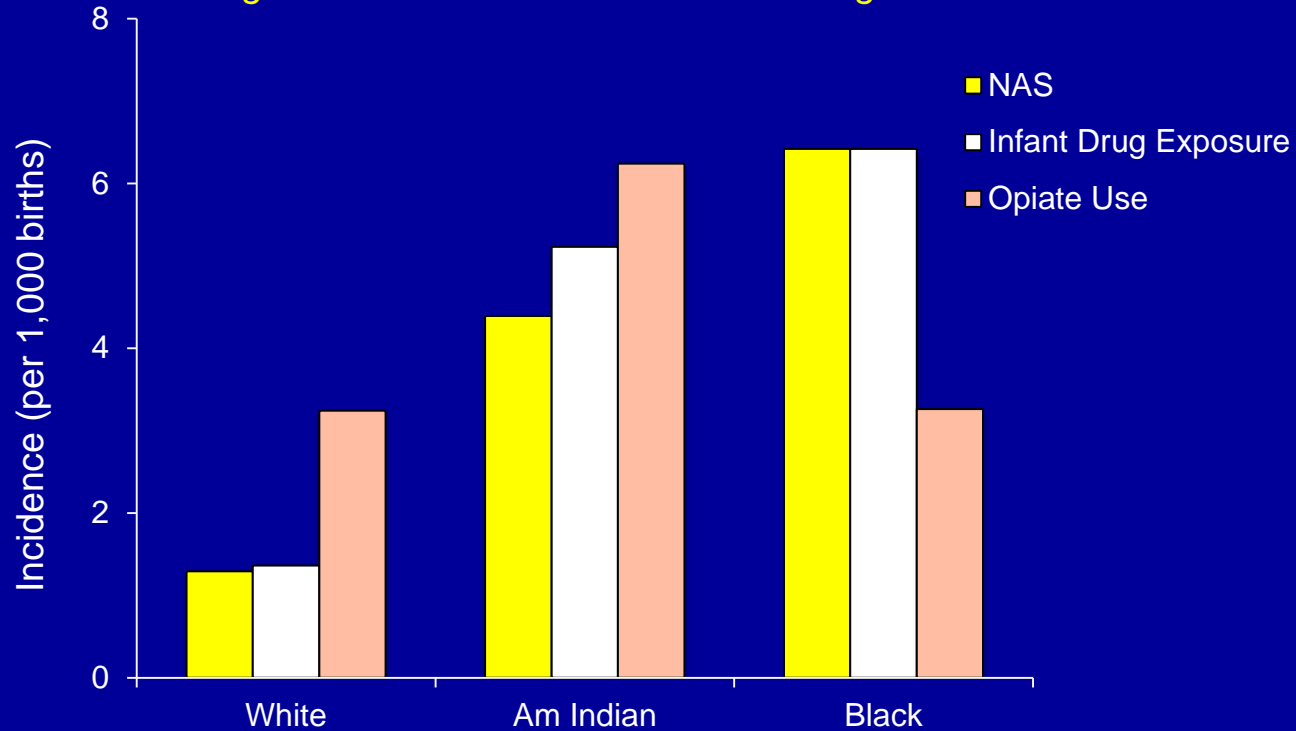


# Exposure by Mother's Age



# Exposure by Race

*Significant race differences in all 3 categories*

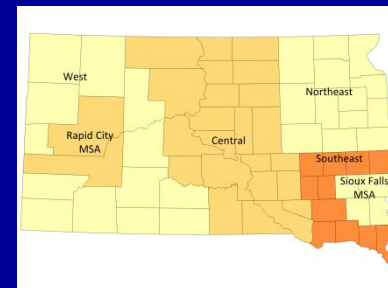
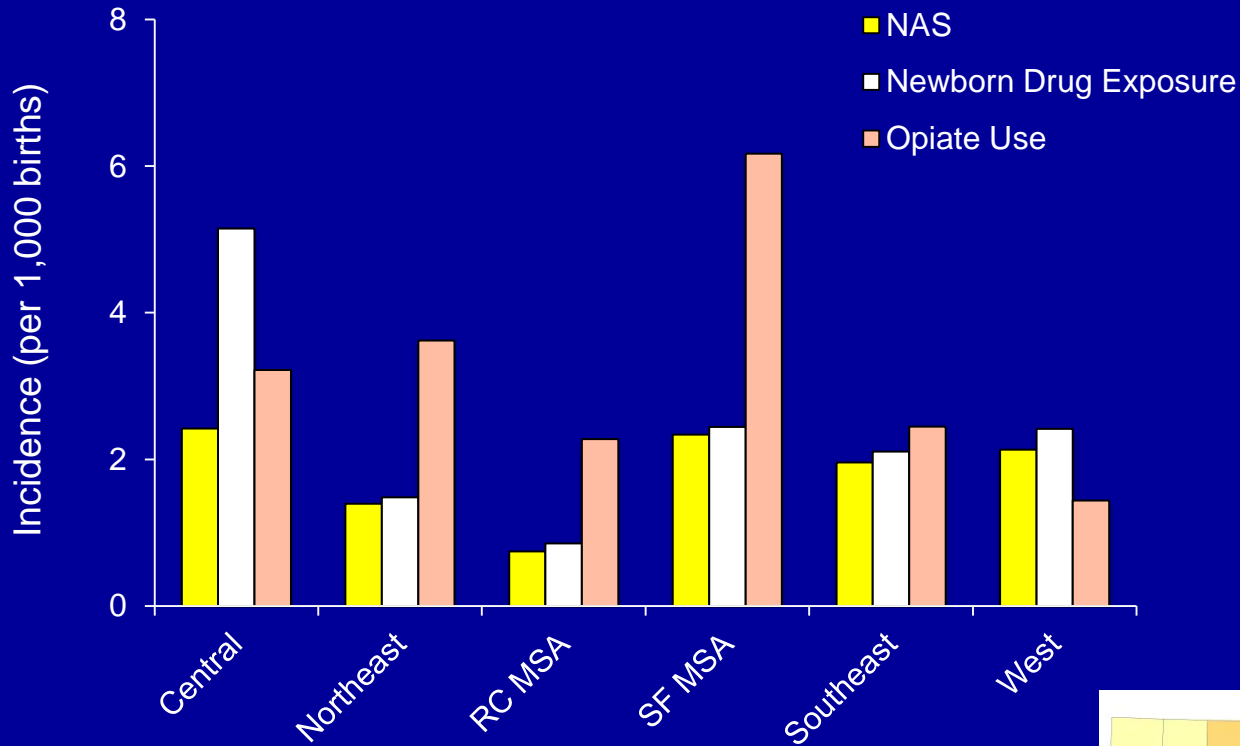


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# Exposure by Region of the State

*Significant regional differences in all 3 categories*



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# Summary

Based on 2009-2013 hospital discharge data:

- Occurrence of NAS & infant drug exposure have not changed significantly; maternal opiate use has increased.
- Majority of maternal opiate use is with long-term use of methadone or other opiate analgesics [i.e., codeine (Atasol, Tylenol 2, 3 or 4), morphine, methadone, meperidine (Demerol), hydromorphone (Dilaudid), oxycodone (OxyContin, Percocet)].



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# Summary

- Highest incidence of maternal opiate use is among women aged 35-39 years
- Significant race differences:
  - Blacks have the highest rate of NAS
  - American Indians have the highest rates of infant drug exposure & maternal opiate use
- Significant regional differences:
  - Central region has the highest NAS & infant drug exposure rates
  - Sioux Falls MSA has the highest maternal opiate use



# What you do



**Choose Not To Use!**

Thank you Audrey German for your work on reducing maternal drug usage.