

Data to Inform™ — practice, policy, and research

Perinatal Quality Across the State 2011-2015



The goal of this report is to share Wisconsin-specific data on selected perinatal indicators that can be used to inform evidence-based identification and management of perinatal care and encourage changes in clinical practice and policy to promote and improve both maternal and newborn outcomes.

PeriData.Net® is a perinatal data platform developed by the Wisconsin Association for Perinatal Care (WAPC) used by 72 birthing hospitals in Wisconsin, and records data for 85% of all births in the state. The current system has been in use since 2006. Its predecessor, PC-LOG, had been used since the mid-1980's.

The following report summarizes five years of statewide data --2011 through 2015 inclusive—from PeriData.Net®. The purposes of the report are to:

- Review the 'state of the state' on selected perinatal indicators.
- Describe variation by year, by size of hospital, and by WAPC region
- Use data comparisons by hospital size and region for identifying opportunities to improve perinatal care in Wisconsin.

Hospitals are divided into groups based on the annual number of births-:

- Equal to or less than 200 annual births
- 201-500 annual births
- 501-1000 annual births
- Greater than 1000 annual births

WAPC is divided into seven regions:

- Northwest
- Western
- Northcentral
- Northeast
- Fox Valley
- Southcentral
- Southeast

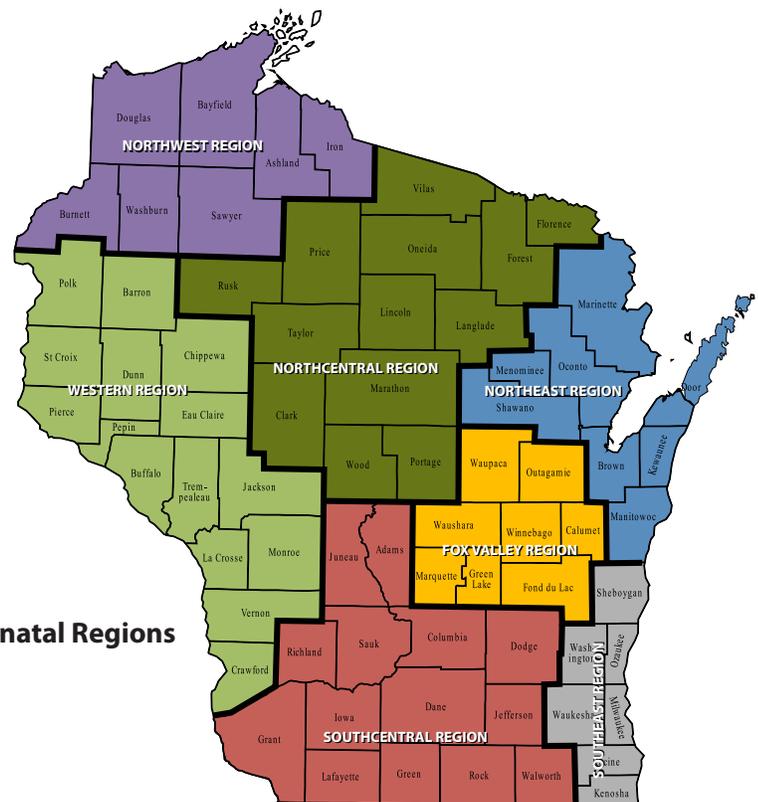


Figure A: WAPC Perinatal Regions

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Caveats and Cautions:

Use of PeriData.Net® by birth hospitals is highly recommended but not required. Data are dependent on the accuracy of abstraction of records, particularly since these data were recorded prior to the introduction of the ability to upload electronic health record (EHR) fields directly into PeriData.Net®. Data are submitted by the hospital recording the birth and may not fully account for transfers.

Demographics:

In 2015, PeriData.Net® reported 57,085 births (85% of the 67,004 live births in WI). The Southeast region accounted for 24,006 (42%) births, followed by the South Central with 11,539 (20%). Four regions had similar numbers - Northeast 5,736 (10%), Fox Valley 5,364 (9%), North Central 5,221 (9%), and Western 5,026 (8%). The Northwest region represented 193 (0.3%) births.

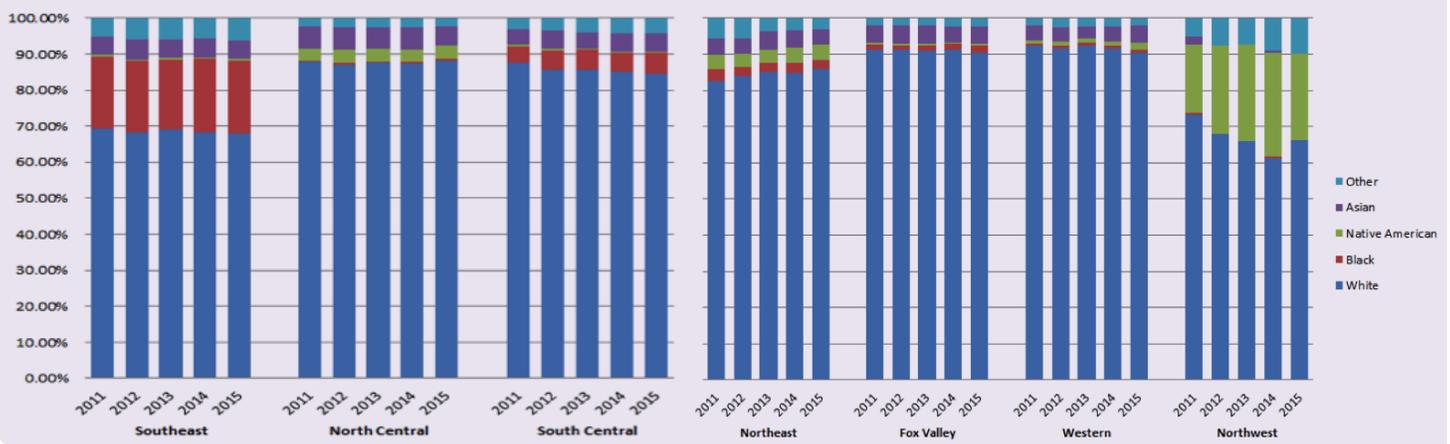
Total births by hospital size were stable over the 5-year period. The distribution of births by hospital size in 2015 is summarized in the Table 1.

Table 1. Number and percent of births by hospital size

Hospital Size	# of Hospitals	Births - number (percent)
<= 200	14	1906 (3%)
201-500	23	7263 (13%)
501-1000	18	11,763 (21%)
1001+	17	36,153 (63%)

Race distribution by region by year. The majority of the population in Wisconsin is White. Table 2 summarizes the data. The Southeast region had the highest proportion of Black women; the Fox Valley and Western regions had the highest proportion of Asian women; the Northwest region had the highest proportion of Native American women; while the Northeast region had a relatively even mix women of racial groups.

Table 2. Race distribution by year.



The Hispanic population increased by about 1 percentage point over 5 years. The Northeast and Southcentral regions had the highest proportion of Hispanic women.



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Mental Health:

Depression experienced during pregnancy increased slightly and was reported most frequently by women in hospitals with over 1,000 births. The Northcentral region reported the highest rate of depression during pregnancy.

Regional rates of reporting over the 5 years increased, as all regions noted more cases in 2015.

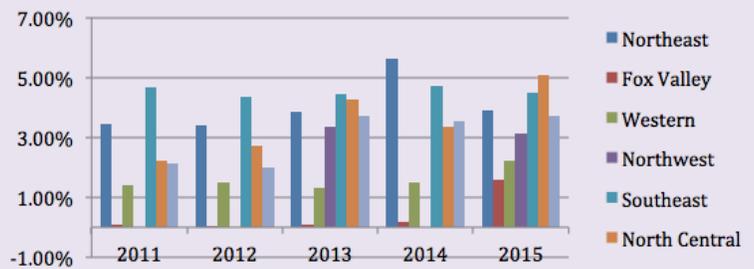
Table 3. Depression rate in pregnancy in Wisconsin

**Depression Rate
During Pregnancy in
Wisconsin**



Table 4: Depression during pregnancy by perinatal region

**Mental Health--Depression Rate
During Pregnancy by Region**



Maternal history of depression before and during pregnancy is captured by the woman's self-report. Clinicians can capture additional information through data fields for antidepressant and psychotropic medication use. **Selected**

Perinatal Risks:

Hypertension – Both chronic and “gestational” hypertension, as defined by 2003 birth certificate specifications, increased over 5 years. Black women experienced higher proportions of hypertension, particularly pregnancy-related. (Note – see Data to Decision info on hypertension for further in-depth information.)

Diabetes – Hospitals in the Northcentral and Western regions reported the highest percentage of women with diabetes. Women with pre-existing diabetes were more likely to be delivered at hospitals with more births. Black women again had higher proportions of diabetes.



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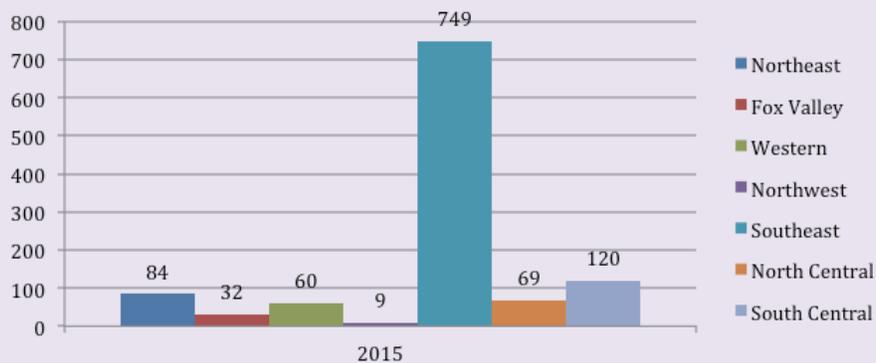
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Marijuana use during pregnancy rose from 1.1% to 2% over the 5 year period. Actual cases of use reported show the Southeast region had the majority at 749, followed by the Southcentral with 120, and the Northwest was lowest with 9 cases. See Table 5.

Table 5. Marijuana use by region, 2015

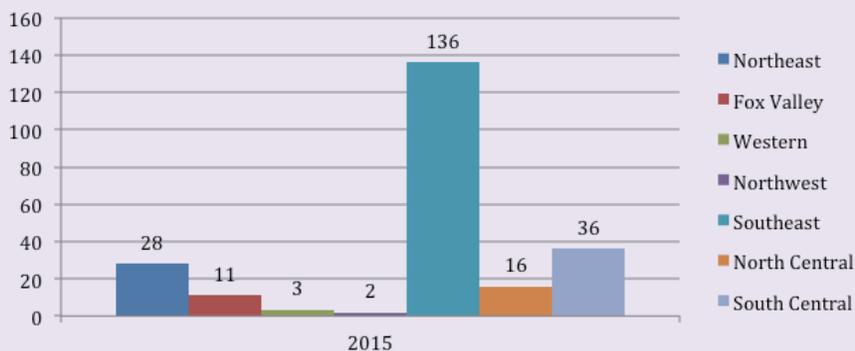
2015 Cases of Marijuana Use during Pregnancy by Region



The rate of women reporting *opioid use* during pregnancy increased from 0.19% to 0.41%. The majority of the women delivered in hospitals with more than 1000 births. Regional cases of use follow the same pattern as marijuana with the Southeast region reporting 136 cases in 2015.

Table 6. Opioid use by region, 2015

2015 Cases of Opioid Use during Pregnancy by Region



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Labor and Birth:

Induction of labor of any type has remained steady at 30%. The Northwest region has strikingly fewer inductions at about 20%. Larger hospitals have a somewhat higher induction rate. Inductions resulting in Cesarean delivery are steady at 5%. The largest and smallest hospitals have the highest rates. The Fox Valley region has seen the reduction from 5.33% to 4.22% over 5 years.

Vaginal birth after Cesarean (VBAC) rates are 3 times higher at large hospitals (13.33%) than at small hospitals (4.68%). Women may not have the option of trial of labor if the delivery hospital does not have 24/7 anesthesia coverage or in-house OB provider support.

Neonates:

Human milk feeding at discharge has been trending from 74% to 79% over 5 years. The percentage of women breastfeeding is similar regardless of hospital size. The Southcentral region consistently has higher rates of breastfeeding at discharge compared to all other regions in the state.

Infants born at a facility and needing transport to another facility that provides a higher level of care (higher acuity level) has remained steady at 2%. The smallest hospitals transfer at a higher rate, less than 3%. The Fox Valley transfers externally at about 5%, while the Southcentral region has the lowest rate at 1%.

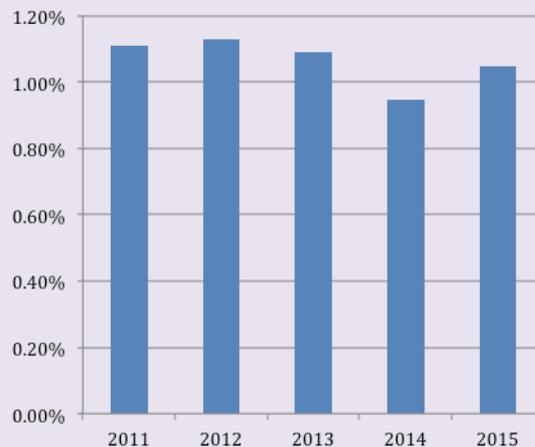
Neonatal Abstinence Syndrome (NAS) follows the trends reported for opioid use in mothers (see above) particularly for actual cases. Regional rates follow a slightly different pattern, with the Northeast and Southcentral regions reporting higher percentages of infants with NAS in 2015.

Quality and Safety:

The percent of women transferred to a facility for maternal or fetal indications prior to delivery has been consistent at approximately 1%. The majority of women are transferred to larger hospitals. The Northcentral region had the highest rate of maternal transfers at 2.5%.

Table 7. Maternal transfers prior to birth by year.

**Percent of Women Transferred
Prior to Birth in Wisconsin**



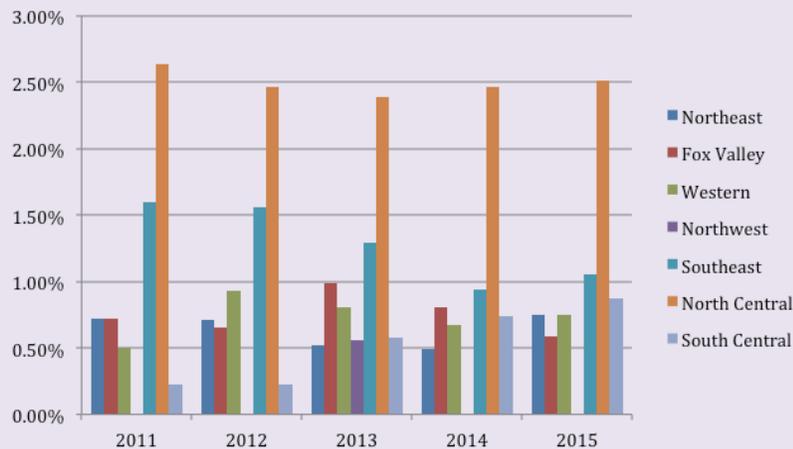
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Table 8. Maternal transfers prior to birth by region.

Percent of Women Transferred Prior to Birth by Region



Data to decision:

Policy: The policy implications of this report are to examine and promote processes to enable 1) consistent and full use of the PeriData.Net® system for reporting the spectrum of perinatal care including its broader use across state lines, 2) enhancement of data entry fields as needed to more fully capture needed and relevant perinatal information, and 3) fully leveraging electronic health record documentation that can be uploaded into a consistent perinatal platform.

Other broader policy implications focus on institutionalizing a culture of quality and safety throughout the continuum of perinatal care.

WAPC supports risk-based care as a requisite condition for meeting the Triple Aim of the Institute for Healthcare Improvement (IHI). “Triple Aim” refers to the simultaneous pursuit of improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care.²³ The three components are not independent of each other and at times may operate in opposition. The challenge is to optimize all three within the context in which care is delivered. Risk-based care provides a common denominator by which the three components can be understood and integrated.

Position Statement: The Triple Aim and Risk-based Perinatal Care: Improving Care in the Era of Quality Improvement, WAPC, January 2017.



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Practice: The practice implications have the potential to impact all aspects of maternal and newborn care. Each hospital can compare its results to the aggregate in the state. Regions can work together to promote best practices by sharing what has led to high performing results. Statewide collaborative initiatives led by groups such as the Wisconsin Perinatal Quality Collaborative (WisPQC) can use data to determine perinatal care areas of focus.

Research: The ease of access and availability of PeriData.Net® reports for hospitals makes ongoing quality improvement efforts possible. The ability to work on rapid cycle process improvements by seeing both summary as well as patient level data allows clinicians and administrators to tailor process improvements based on detailed information at their facilities.

Broader research is possible by using aggregated statewide data from PeriData.Net®.

In summary, the information contained in this report is a sampling of what is available to clinicians, administrators, educators, and researchers. Many questions can be answered, and many more questions may arise from the use of PeriData.Net®, a source of real-time perinatal data.

