Quality Improvement Study for Postpartum Hypertension Readmissions

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Purpose

- Our primary goal is to identify risk factors in our community and reduce postpartum readmission for hypertension within our hospital system
Percentage of Readmissions (Nov 2014 – 2015) n=49

- Hypertension: 57% (n=28)
- Infection: 29%
- Other: 12%
- Hemorrhage: 2%
Background

- Hospital readmission rates are a focus of the Centers for Medicare and Medicaid Services
  - A healthcare system opportunity to improve health care quality and patient education
  - Preventable readmissions regarding hypertension has been flagged as an area for improvement in OBGYN at Aurora Health Care

- In 2009, 27% of obstetric readmissions were due to hypertensive disease.
  - Factors contributing to postpartum hypertension readmissions rates include:
    - Provider and patient lack of knowledge regarding the disease process and progression, lack of standardized management and treatment plans, and insufficient patient education.
• Task Force on Hypertension in Pregnancy guidelines have been established by the American College of Obstetricians and Gynecologists for management of maternal hypertension in labor and delivery, but these do not specifically address management during the postpartum period.

• Postpartum hypertension not only significantly impacts health care costs but also contributes to maternal morbidity including stroke and mortality.
Our Goals

- To better educate patients prior to discharge on their diagnosis and provide easy to understand written and verbal information
  - Ensure patient understanding and recognition of symptoms
  - Create easier access to follow up with scheduled appointments and access to medications prior to discharge
Milwaukee County Community Health Needs Assessment

- Chronic disease
  - high blood pressure, diabetes and asthma
  - significantly higher in the lowest income ZIP codes compared to the highest income ZIP codes in Milwaukee County
- Health literacy

- Community Health Needs Assessment
  - determined that disparities exist among race, ethnicity, education and income
  - recognizes that these issues continue impact the Milwaukee community’s health
## Race and Ethnicity Profile

<table>
<thead>
<tr>
<th>Race/Ethnicity</th>
<th>City of Milwaukee</th>
<th>State of Wisconsin</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>37</td>
<td>83.3</td>
</tr>
<tr>
<td>Black/AA</td>
<td>40</td>
<td>6.3</td>
</tr>
<tr>
<td>Asian</td>
<td>3.5</td>
<td>2.3</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.8</td>
<td>1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17.3</td>
<td>5.9</td>
</tr>
<tr>
<td>Other</td>
<td>3.4</td>
<td>1.8</td>
</tr>
</tbody>
</table>

**Figure 1. Race and ethnicity profile**

[http://www.chw.org/~/media/Files/Childrens%20And%20Community/MilwaukeeAssessment2013.pdf](http://www.chw.org/~/media/Files/Childrens%20And%20Community/MilwaukeeAssessment2013.pdf)
Figure 4. Poverty profile

<table>
<thead>
<tr>
<th>Region</th>
<th>Poverty Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of Milwaukee</td>
<td>29.40%</td>
</tr>
<tr>
<td>Milwaukee County</td>
<td>17.80%</td>
</tr>
<tr>
<td>State of Wisconsin</td>
<td>10.70%</td>
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</tbody>
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What Clinical Interventions Have Been Implemented to Prevent or Reduce Postpartum Hypertension Readmissions? A Clin-IQ

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Abstract
A literature review was conducted to determine what clinical interventions have been studied and implemented to prevent and/or reduce postpartum hypertension readmissions. Appropriate verbal and printed educational materials should be given to the patient prior to discharge with use of the “teach back” method. Patients and health care providers within the multidisciplinary team should be educated on the warning signs and symptoms of worsening hypertensive disease and when to appropriately involve the obstetrician. The use of text messaging may be useful in preventing hospital readmissions by increasing patient follow-up and compliance and appropriately managing patients in the postpartum period. Treating postpartum patients with furosemide may decrease blood pressure and prevent postpartum hypertension and the need for antihypertensive therapy. (J Patient Cent Res Rev. 2016;3:xxx-xxx.)

Keywords
postpartum hypertension; readmission; prevention
Methods

• Quality Improvement Study: Retrospective chart review from Nov 2014-2015
  • **Demographics**: Age, GP, BMI, Race, Ethnicity, Language, Interpreter Needed, Insurance
  • **Comorbidities**: Existing HTN, Diabetes, Existing Renal Disease, h/o preeclampsia, Singleton vs Multiples
  • **Hospitalization**: Type of Delivery, Induction/Augmentation Status, Length of Labor, # Oral Meds, Type of Oral Med, UOP last 24 hours, Serum Cr prior to discharge, IV Lasix, Given PP IV antihypertensive
  • **Upon Discharge**: Severe range BPs in 24 hours before DC, PPD, SBP, DBP, HTN DC instructions provided, Education level, Follow up appointment scheduled
  • **Readmission**: Follow up appointment attended, Follow up SBP, Follow Up DBP, Appointment within 1 week, SBP, DBP, Magnesium on previous DC, Magnesium on readmission
Preliminary Chart Review
(n=28)

**Age**
- <18: 3%
- 18-34: 68%
- 34-40: 29%

**Race**
- Black: 7%
- White: 82%
- Asian: 4%
- Hispanic: 7%
Preliminary Chart Review (n=28)

**HTN History**
- HTN Diagnosis: 64%
- De Novo: 36%

**Mode of Delivery**
- CS: 57%
- NSVD/VBAC: 43%
### Preliminary Chart Review (n=28)

- 26 spoke English (92%)
- 26 were Medicare/Medicaid (92%)
- 8 started on oral antihypertensives (29%)
- 7 required IV antihypertensives (25%)
- 2 had severe range BP in 24 hours prior to DC (7%)
- 28 had appropriate BP on DC (100%)
- 8 had received magnesium (29%)
- 24 received magnesium on readmission (85%)
- 5 had HTN discharge instructions printed (18%)
- 13 had postpartum BP appts (46%)
Interventions

- Provider and Nursing Education
  - Multi-disciplinary discussion raising awareness of HTN readmissions
  - Increased surveillance for postpartum vitals for at risk patients (every 4 hours, daily weights, I/O)
  - Discharge instructions to appropriate verbal and written precautions for signs and symptoms of de novo or worsening disease

- Access to Care
  - BP checks within 72 hours
  - Utilizing Aurora at Home for BP checks
  - Improved outpatient management when appropriate
Discussion

• Are these readmissions preventable?
• Will these interventions reduce readmissions?
• Is this cost effective?
Next Steps

- Review 4 months of readmission in October
- Repeat data analysis in December
- Decide what measures seem to be helping
Resources

- Milwaukee County Community Health Needs Assessment; 2015-2016 Executive Summary


