Addressing Perinatal Mortality

By Sara Margetts, Emily Lowe, and Jamal-Jared Alexander
**Research Question:**
What are evidence-based approaches to treating Perinatal Mood and Anxiety Disorders (PMAD)?

**Program goal:**
Decrease perinatal mortality rates
- Identify population health need
  - Interviews and data analysis
- Identify interventions
  - Theoretical framework
- Plan program
  - Logic model
Topic and Target Population
### Table 1. Mental Health Conditions by Selected Maternal Characteristics, Utah PRAMS, 2013-2015

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Pre-existing Depression</th>
<th></th>
<th>Pre-existing Anxiety</th>
<th></th>
<th>Postpartum Depressive Symptoms</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>95% Confidence Interval</td>
<td>P-Value</td>
<td>%</td>
<td>95% Confidence Interval</td>
<td>P-Value</td>
</tr>
<tr>
<td><strong>Total Maternal Population</strong></td>
<td>10.3</td>
<td>(9.2 – 11.4)</td>
<td>NS</td>
<td>14.8</td>
<td>(13.6 – 16.1)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td><strong>Maternal Age</strong></td>
<td></td>
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<tr>
<td>≤ 17</td>
<td>19.3</td>
<td>(10.1 – 28.5)</td>
<td>NS</td>
<td>25.0</td>
<td>(14.9 – 35.2)</td>
<td>&lt;0.05</td>
</tr>
<tr>
<td>18 - 19</td>
<td>15.2</td>
<td>(9.5 – 21.0)</td>
<td></td>
<td>25.2</td>
<td>(18.0 – 32.4)</td>
<td></td>
</tr>
<tr>
<td>20 - 24</td>
<td>12.0</td>
<td>(9.6 – 14.4)</td>
<td></td>
<td>15.6</td>
<td>(12.9 – 18.2)</td>
<td></td>
</tr>
<tr>
<td>25 - 29</td>
<td>9.1</td>
<td>(7.3 – 11.0)</td>
<td></td>
<td>13.6</td>
<td>(11.4 – 15.7)</td>
<td></td>
</tr>
<tr>
<td>30 - 34</td>
<td>9.2</td>
<td>(7.2 – 11.3)</td>
<td></td>
<td>14.4</td>
<td>(11.8 – 17.0)</td>
<td></td>
</tr>
<tr>
<td>35 - 39</td>
<td>11.2</td>
<td>(7.5 – 14.8)</td>
<td></td>
<td>15.8</td>
<td>(11.7 – 19.9)</td>
<td></td>
</tr>
<tr>
<td>40 +</td>
<td>10.4*</td>
<td>(0.8 – 20.0)</td>
<td>&lt;0.0001</td>
<td>9.6*</td>
<td>(1.7 – 17.4)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Education Level</strong></td>
<td></td>
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<tr>
<td>Less than High School</td>
<td>14.8</td>
<td>(12.2 – 17.3)</td>
<td>&lt;0.0001</td>
<td>17.5</td>
<td>(14.8 – 20.1)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Completed High School</td>
<td>13.0</td>
<td>(10.9 – 15.0)</td>
<td></td>
<td>18.4</td>
<td>(16.1 – 20.7)</td>
<td></td>
</tr>
<tr>
<td>Some College</td>
<td>10.6</td>
<td>(8.4 – 12.9)</td>
<td></td>
<td>16.2</td>
<td>(13.6 – 18.7)</td>
<td></td>
</tr>
<tr>
<td>College Graduate</td>
<td>7.4</td>
<td>(5.6 – 9.2)</td>
<td>&lt;0.0001</td>
<td>11.1</td>
<td>(8.9 – 13.3)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td><strong>Marital Status</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Married</td>
<td>8.6</td>
<td>(7.5 – 9.8)</td>
<td>&lt;0.0001</td>
<td>13.5</td>
<td>(12.1 – 14.9)</td>
<td>&lt;0.0001</td>
</tr>
<tr>
<td>Unmarried</td>
<td>18.5</td>
<td>(15.2 – 21.9)</td>
<td>&lt;0.05</td>
<td>21.7</td>
<td>(18.5 – 24.9)</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>White</td>
<td>10.8</td>
<td>(9.3 – 12.0)</td>
<td>&lt;0.05</td>
<td>16.0</td>
<td>(14.5 – 17.4)</td>
<td></td>
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<tr>
<td>Other than White</td>
<td>7.3</td>
<td>(4.9 – 9.7)</td>
<td></td>
<td>9.0</td>
<td>(6.5 – 11.5)</td>
<td></td>
</tr>
</tbody>
</table>
The Problem/ Needs Assessment Data:

Demographic characteristics
Women in the perinatal period who are pregnant or have given birth within the last year

Health conditions
Depression, anxiety, and other mood disorders which occur in the perinatal period

Environment
No psychiatrists focusing exclusively on perinatal care in the state of Utah.

Existing programs
Postpartum Support International has provider training available

Funding stream
Grants, and insurance reimbursement for inpatient care services
• The Perinatal Mood & Anxiety Disorders program:
  • Pilot a program in a single large metropolitan hospital psychiatric ward in SLC.
  
  • Activities related to training mental health providers to establish a perinatal-specific inpatient treatment unit.
  
  • Program interventions apply to the infrastructure services level of the public health pyramid.
Theoretical Framework:

- Lack of screening for postpartum mood disorders
- Lack of use of latest FDA approved pharmacological treatment for severe postpartum depression
- Lack of trained mental health professionals
- Lack of inpatient mental health facilities specializing in perinatal mood disorders
- Lack of adequate insurance coverage for mental health care
- Stigma is U.S. culture regarding mental health issues
- Lack of knowledge for women and families regarding risks, symptoms, resources and treatment options for perinatal mood disorders
- Perceived barrier that treatments are often slow to take effect or ineffective
- Perceived barrier of being separated from family & infant
- Unresponsive infrastructure support regarding perinatal mental health needs
- Women don’t receive necessary evidence-based mental health interventions
- Suicide or overdose in 1st year postpartum
- Women don’t self-report perinatal mental health needs
<table>
<thead>
<tr>
<th><strong>Inputs</strong></th>
<th><strong>Activities</strong></th>
<th><strong>Outputs</strong></th>
<th><strong>Short-term Outcomes</strong></th>
<th><strong>Long-term Outcomes</strong></th>
<th><strong>Impacts</strong></th>
<th><strong>Goals</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel</td>
<td>Identify coalition of groups or organizations who will support program.</td>
<td>Possible coalition members identified.</td>
<td>Make twenty contacts with leaders or organizations.</td>
<td>Identify ten to participate and contribute.</td>
<td>Coalition of leaders and organizations working to implement program.</td>
<td>Increase mental health of perinatal patients.</td>
</tr>
<tr>
<td>Funding</td>
<td>Identify space for Hospital inpatient unit with 3-5 beds.</td>
<td>Designated patient rooms.</td>
<td># of patients admitted</td>
<td># of patients treated</td>
<td>Increased mental health of perinatal patients.</td>
<td>Decrease mortality in women in the perinatal period due to mood and anxiety disorders.</td>
</tr>
<tr>
<td>Space/building</td>
<td>Create educational materials to increase community awareness and primary care provider education of the program.</td>
<td>Educational materials created.</td>
<td>Primary care provider more aware of the program.</td>
<td>Perinatal patients are admitted to the specific perinatal psychiatric unit.</td>
<td>Increased health in infants and families in the community.</td>
<td></td>
</tr>
<tr>
<td>Education/awareness materials</td>
<td>Train staff with online webinar through PSI.</td>
<td>100% of staff complete PSI certificate training.</td>
<td>Increased knowledge of providers</td>
<td>Increased effective inpatient treatment by experts.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logic Model:**

- **Brexanolone training.**
  - Psychiatrists and pharmacists are trained in Brexanolone.
  - Increase skills in knowledge of Brexanolone.
  - Women receive appropriate pharmaceutical treatment for PMAD.
Timeline:

April 2019
Gastroenterology and Nutrition research funded 3,000,000
Helios Foundation
http://www.heliosfoundation.org

July 2019
Increase community awareness by creating ongoing education materials for the next 5 years. Program education for healthcare team.

Dec. 2019
P.I.A.D. write fully accepted with the latest technology and equipment for research and quality care.

March 2020
Grand opening of P.I.A.D. unit, documented patient will be added to the first P.I.A.D. and remain at 22.C.
Family resources will be provided.

March 2021
Annual review of unit that will include: data, patient satisfaction, outcomes, etc.

May 2019
Identify, based on clinical standard test for 3200 products, the number of patients admitted and treated.

Sept. 2019
Health care team working the P.I.A.D. unit will undergo P.I.A.D. training.
Future team integrated all the components of the P.I.A.D. within the month of May.

January 2020
FDA approved provision of equipment that is appropriate for P.I.A.D. will be incorporated—training for additional training for healthcare team.

July 2020
P.I.A.D. undergoes semi-annual evaluation for funding requirement of productivity and sustainability for the Helios Foundation.

2019 - 2021
Funding for Inpatient Unit Budget

- **Total Balance**: $1,078,500
  - First-year operation: $491,000
- **Total Annual Revenue**: $1,825,000
- **Total Annual Expense**: $1,078,500
- **Total One Time Expense**: $132,500


Thank You

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