THE WORCESTER HEALTHY BABY COLLABORATIVE

The Worcester Healthy Baby Collaborative began as the Worcester Infant Mortality Reduction Task Force in 2019. It is a collaborative of health care providers, local social services partners, local healthcare providers, and advocates concerned with addressing the city’s higher than state average IMR. The WHBC is working to reduce the city’s IMR by providing educational materials to new parents and supplies which promote safe sleep, connecting new parents to community resources, and advocating for health improvements in the community.

INFANT MORTALITY IN WORCESTER

The infant mortality rate (IMR) is defined as the number of infant deaths per every 1,000 live births. The US IMR has decreased from 10.9 in 1983 to 5.7 in 2017 despite this, the US IMR is fourth highest among the largest high-income countries (OECD, 2018). At 4.6 in 2016, Worcester’s IMR is lower than the US IMR. However, it is higher than the state IMR of 4.3 (Worcester Division of Public Health and Massachusetts Birth Reports, 2019). Additionally, the IMR in Worcester varies significantly amongst races and ethnicities.

Infant mortality is most commonly caused by the following: birth defects, low birth weight, maternal pregnancy complications, Sudden Unexpected Infant Death Syndrome (SUIDS), and injuries. In the US in 2017, deaths due to SUIDS broke down as follows: 38% of cases were categorized as sudden infant death syndrome, 36% were categorized as an unknown cause, and 26% were categorized as accidental suffocation and strangulation in bed (Centers for Disease Control and Prevention, 2019). The promotion of safe sleep practices for infants has been important in reducing IMR nationwide.

THE BABY BOX INITIATIVE

Since the initiation of the CDC’s Back To Sleep campaign in 1994, the US SUIDS rate has decreased from 130.3 deaths per 100,000 live births in 1990 to 35.4 deaths per 100,000 live births in 2017 (Centers for Disease Control and Prevention, 2019). The Back To Sleep campaign has evolved to encompass the following guidelines by the CDC: place the baby on his back on a firm sleep surface with a tight-fitting sheet for every sleep, the baby should sleep alone in her own crib without blankets, crib bumpers, pillows, toys or other objects, and the crib should be located in the same room as the parents, breastfeeding is recommended, and smoking is strongly discouraged.

At a community forum held in Worcester in September 2016, a diverse group of participants voted on new items for distribution. The 200 baby boxes project was strongly supported in order to provide educational materials to new mothers, supplies, and a safe sleep space for the new baby (City of Worcester, Massachusetts, 2017). The Baby Box is inspired by a 75-year program in Finland where new mothers can receive a box which serves as a safe space for infants in addition to receiving educational materials and supplies. Finland has the lowest IMR of any country at 2.5 per 1,000 in 2017 (OECD, 2018). In 2018, the WHBC received 100 baby boxes from The Baby Box Company— a company who had modeled their program on the Finnish model.

The WHBC has since held a number of distribution days at local churches and community centers. Further support from Kennedy Community Health Center, Pernet, Head Start, and the Family Health Center of Worcester have been key in also distributing the boxes and materials.

MEASURING OUTCOMES

Outcomes are measured via self-reporting pre-education, post-education, and follow-up surveys. These variables include:

1. Demographics including Age, Race, Primary Language, Educational Attainment, Number of Pregnancies, Smoking

2. Likely to engage in healthy behaviors before and after watching the educational videos. These behaviors include:
   - Asking a WIC counselor for help
   - Talking to a healthcare provider about substance use, postpartum depression, and contraception
   - Breastfeeding
   - Roomsharing
   - Asking a WIC counselor for help
   - Talking to a healthcare provider about substance use, postpartum depression, and contraception
   - Breastfeeding
   - Roomsharing
   - Six weeks after delivery, the mother is contacted to ask her about the frequency that the following behaviors are engaged in:
     - Breastfeeding
     - Roomsharing

THE PROCESS

New mothers receiving a Baby Box follow this process:

1. Complete a pre-education survey
2. Watch a 20-30 minute video about Safe Sleep, Breast Feeding, Contraction, Postpartum Depression, and Early Literacy
3. Complete a post-education survey
4. Receive a baby box which contains a firm mattress, sheet, cotton washable, toweling, and informational documents about community resources, early literacy, breastfeeding, and contraception
5. Six weeks after the new baby is delivered, a representative of the WHBC contacts the mother to conduct a brief follow-up survey on healthy behaviors and baby box use

PRELIMINARY RESULTS

<table>
<thead>
<tr>
<th>Variable</th>
<th>Post-Education (%)</th>
<th>Pre-Education (%)</th>
<th>Z-score (p-value)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Likelihood WIC</td>
<td>37/57 (64.9%)</td>
<td>50/59 (84.7%)</td>
<td>2.47 (.014)</td>
</tr>
<tr>
<td>Likelihood WIC Use</td>
<td>28/58 (48.3%)</td>
<td>39/58 (67.2%)</td>
<td>2.01 (.043)</td>
</tr>
<tr>
<td>Likelihood Postpartum Depression</td>
<td>32/50 (64%)</td>
<td>46/79 (59.8%)</td>
<td>2.93 (.004)</td>
</tr>
<tr>
<td>Likelihood Postpartum Depression</td>
<td>32/50 (64%)</td>
<td>46/79 (59.8%)</td>
<td>2.93 (.004)</td>
</tr>
<tr>
<td>Likelihood Birth Control</td>
<td>47/59 (81.0%)</td>
<td>56/59 (94.9%)</td>
<td>2.47 (.014)</td>
</tr>
<tr>
<td>Likelihood Breastfeeding</td>
<td>51/59 (86.4%)</td>
<td>51/59 (86.4%)</td>
<td>0 (1.0)</td>
</tr>
<tr>
<td>Likelihood Bedsharing</td>
<td>48/57 (84.2%)</td>
<td>53/59 (89.8%)</td>
<td>0.90 (.368)</td>
</tr>
<tr>
<td>Likelihood Roomsharing</td>
<td>10/57 (17.5%)</td>
<td>6/59 (10.2%)</td>
<td>1.15 (.250)</td>
</tr>
<tr>
<td>Likelihood Breastfeeding</td>
<td>47/58 (81%)</td>
<td>56/59 (94.9%)</td>
<td>2.31 (.021)</td>
</tr>
</tbody>
</table>

ACKNOWLEDGEMENTS

A preliminary analysis of the data shows a significant increase in the likelihood of mothers asking a WIC counselor for help, talking to their healthcare provider about substance use, postpartum depression and birth control, and an increased likelihood of using the Baby Box following watching the educational videos. To date, 20 Follow-Up surveys have been completed.

REFERENCES


