

# CHIPRA Preconception/ Postpartum /Interconception Toolkit Pilot Study Report

Prepared by: EverThrive IL

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## INTRODUCTION

Since February 2010, the Illinois Department of Healthcare and Family Services (IDHFS) has administered the Children's Health Insurance Program Reauthorization Act (CHIPRA) Quality Demonstration Grant, a federal grant focused on improving the quality of children's health care. As part of a two-state partnership between Illinois and Florida, the CHIPRA grant focused on four areas of work: measuring quality by collecting/reporting on the children's core measure set; improving quality using health information exchange technology; improving/enhancing the delivery system – patient centered medical homes; and improving birth outcomes. This report discusses the work focused on improving birth outcomes in Illinois, specifically, selected components of a Perinatal Education Toolkit developed by the CHIPRA Category E workgroup which consisted of perinatal experts. The Category E work group worked with EverThrive IL to develop a web-based education Toolkit on preconception, prenatal, postpartum, and interconception care. Materials included in the Toolkit are based on feedback from the developers of CDC's Show Your Love campaign, along with CHIPRA Category E and Provider Toolkit Workgroup guidance.

EverThrive IL piloted the materials with consumers and providers through two rounds of focus groups with over 300 participants to review the materials and gather feedback. Materials were modified after each round of focus groups. Based on this feedback, the materials were finalized and a website was developed, <http://healthychoiceshealthyfutures.org>. This web-based education Toolkit contains resources for healthcare providers to use with women of childbearing age. The five components of the Toolkit include:

- **Health Communication and Social Marketing Materials:** Directed at women of childbearing age, all of these materials include an image and a clear message on preconception, prenatal, postpartum and interconception health topics.
- **Checklist Brochures to promote patient engagement in prenatal and postpartum care:** These brochures are intended to educate women about the importance of prenatal and postpartum care, understand what to expect at visits, and suggest questions women can ask providers.
- **Text4baby(t4b):** The text4baby brochure and poster are intended to educate women about how to sign up for the text4baby free mobile health information service which sends health and pregnancy messages to the woman's cell phone.
- **Electronic education matrix:** This is a comprehensive electronic guide of resources on preconception, prenatal, postpartum and interconception health directed toward medical and social service providers.
- **Best Practice Strategies for Postpartum Transition:** The strategies proposed are intended to increase the number of women covered by Medicaid who receive postpartum services. A variety of strategies are proposed for providers who have contact with women at various points during the perinatal period to help these women take an active role in their perinatal health care.

EverThrive IL and HFS piloted the Perinatal Education Toolkit components with providers and women in St. Clair County and Winnebago County. In order to limit the scope of the evaluation, the prenatal-focused tools were not tested. The remainder of this report will discuss the tools that were tested and their impact. The report concludes with a series of recommendations.

## TOOLKIT PILOT

### Background

The goal of the Toolkit pilot was two-fold: 1) to evaluate the effectiveness of the tools (Health Communication and Social Marketing Materials, Postpartum Checklist Brochure to promote patient engagement in postpartum care, and text4baby) among women of reproductive age; and, 2) to conduct a survey of users of the Electronic Education Matrix and Postpartum Transition Strategies.

EverThrive IL and IDHFS solicited the participation of five health organizations outside of the Chicago Metro area to pilot the tools. Eligible organizations included those providing obstetric care and/or perinatal support services such as WIC and perinatal case management, and birthing hospitals. Selected agencies included two Federally Qualified Health Centers, two health departments, and one hospital within two geographic regions:

- St. Clair County
  - o St. Clair County Health Department (SCCHD)
  - o Southern Illinois Healthcare Foundation (SIHF) - FQHC
  - o Touchette Regional Hospital (Touchette)
- Winnebago County
  - o Winnebago County Health Department (WCHD)

- Crusader Health (Crusader) – FQHC

Each grantee submitted a project plan and budget to EverThrive IL that detailed how the organization planned to implement and use the Toolkit. Over the course of the project, grantees participated in orientations/trainings to become familiar with the Toolkit, committed to using it for six months, and provided input/feedback on the Toolkit.

Additionally, the grantees distributed surveys to their client base at two points in time with two independent cohorts. These surveys assessed client knowledge, behavioral intentions, and exposure to and sources of, preconception/interconception/postpartum health information (See Appendix A and B). Women volunteered to complete the surveys while in waiting rooms at clinics and WIC sites, during home visits, and at the hospital. In addition to evaluating the marketing materials, the checklist, and t4b, EverThrive IL conducted a user-testing survey of providers with the Electronic Education Matrix and the Postpartum Transition Strategies.

See Appendix A for a breakdown of how the tools were used, how they were integrated into the different agencies' workflow, and the client base at each of the grantee locations.

## CLIENT SURVEY RESULTS/ANALYSIS/RECOMMENDATIONS

### Evaluation Methods

To determine the effectiveness of the Toolkit messaging on knowledge, behavioral intentions and sources of information related to preconception/interconception/postpartum health among women of reproductive age, surveys were collected from 651 pre-intervention and 302 post-intervention women of reproductive age at five sites in two counties (St. Clair and Winnebago); the pre and post- intervention participants were independent samples.

This report includes an overall analysis of all 953 surveys (both pre and post) as well as county-level analyses and recommendations. Surveys focused on three major dimensions: knowledge, behavioral intentions, and information sources. (See Appendix B through E for surveys). In this evaluation, knowledge was assessed using true/false statements, and multiple choice questions. Respondents were asked to indicate whether statements were true or false, or whether they “don’t know”. The results presented in the “Knowledge Variable Analysis: Correct Answers” table, include the number and proportion of respondents answering the true/false statements correctly. In addition, knowledge was assessed using multiple choice questions; the results of those questions are also provided in the “Knowledge Variable Analysis: Correct Answers” table and include the number and proportion of survey participants answering each of those questions correctly. Behavioral intentions were measured using a four-point Likert-type Scale; participants were asked to rate the “Likelihood” of performing a behavior (Very Unlikely, Unlikely, Neither Unlikely Nor Likely, Very Likely). Participants were also given the option to select “Not sure/Don’t know”. Results provided in the “Behavioral Intentions Variables Analysis: Correct Answers” table include only the number and proportion of women who selected “Very Likely”. The evaluation of information/sources used a frequency analysis to examine exposure to preconception/interconception/postpartum health information including text4baby, as well as an examination of the sources of this information. The “Information/Sources Variables Frequency Analysis” table includes the results of women answering affirmatively to questions relating to exposure, as well as the results of the most frequently identified sources of such information.

Percent correct was calculated as the number of survey participants answering the questions correctly over the total number of respondents for each question. Significance tests focused on the change in correct answers from pre-test to post-test and were based on chi-square analyses. For most analyses, only the overall p values are presented because the changes within counties reflected the overall change. However, in instances where there appeared to be county-specific differences from pre to post-test, county specific p-values are also presented.

	Pre-intervention Surveys	Post-intervention Surveys	Total Number of Surveys
St. Clair County	280 (43%)	133 (44%)	413 (43%)
Winnebago County	371(57%)	169 (56%)	540 (57%)
Total	651	302	953

### Demographics

EverThrive IL selected St. Clair County and Winnebago County to participate in the Preconception/Interconception/Postpartum Toolkit Pilot Study based on demographics data which included racial and ethnic breakdown, poverty rates, percentage of low birth weight babies, as well as infant mortality and teen birth rates. Winnebago and St. Clair Counties are the 7th and 9th most populous counties in Illinois, respectively, after Cook.

- St. Clair County is located in southwestern Illinois bordering Missouri and has a population of 268,858. The largest racial/ethnic groups are White (65.7%), African American (30.4%), and Hispanic (3.7%)<sup>i</sup>. The median household income is \$46,921 and the poverty rate of 18.3%.<sup>ii</sup>

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- Winnebago County is located in northern Illinois on the border with Wisconsin with a population of 295,266. The largest racial/ethnic groups of Winnebago are White (81.7%), African American (14.7%), and Hispanic (16.5%)<sup>iii</sup>. The median household income in Winnebago County is \$49,060 and the poverty rate is 16.3%<sup>iv</sup>.

In 2012, 9.2% of babies were born at low birth weight in St. Clair County and 8.7% in Winnebago County compared to the Illinois rate of 8.3%. The infant mortality rate (deaths per 1,000 births) was 7.0 in St. Clair County in 2010 and 7.1 in Winnebago County compared to the overall Illinois rate of 6.8. Additionally, the 2005-2011 average teen birth rate, which is number of births per 1,000 female population ages 15-19, was 50 in St. Clair, 49 in Winnebago, and 36 for Illinois.<sup>v</sup>

### Overall Results

Survey questions were grouped into three categories: *Knowledge, Behavioral Intentions, and Information/Sources*. The results below are provided accordingly.

**Knowledge Results:** Significance levels in red indicate a change from pre to post that was statistically significant, but do not provide information about the direction of that change.

KNOWLEDGE VARIABLE ANALYSIS: CORRECT ANSWERS						
Q2	Knowledge Statement	PRE		POST		
2.1	Getting medical care and advice before becoming pregnant improve a woman's chances of having a healthy pregnancy	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	278	91.4 (254)*	130	89.2 (116)*	
	Winnebago County	370	89.2 (330)	169	91.7 (155)	
	<b>Total</b>	<b>648</b>	<b>90.1 (584)</b>	<b>299</b>	<b>90.6 (271)</b>	<b>0.8</b>
2.2	It is not important for women to get shots for rubella, tetanus, hepatitis, pertussis, and flu before getting pregnant	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	278	52.5 (146)	130	54.6 (71)	
	Winnebago County	370	60.8 (225)	168	57.7 (97)	
	<b>Total</b>	<b>648</b>	<b>57.3 (371)</b>	<b>299</b>	<b>56.2 (168)</b>	<b>0.76</b>
2.3	After the birth of a baby, if a woman is breastfeeding, she cannot become pregnant	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	271	76.4 (207)	130	76.2 (99)	
	Winnebago County	370	84.6 (313)	167	86.8 (145)	
	<b>Total</b>	<b>641</b>	<b>81.1 (520)</b>	<b>299</b>	<b>81.6 (244)</b>	<b>0.86</b>
2.4	It is important for a woman to talk to her health care provider if after the birth of a baby she has sad feelings that last more than two weeks	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	278	90.3 (251)	130	90.0 (117)	
	Winnebago County	370	94.1 (348)	169	72.2 (122)	<b>&lt;.001</b>
	<b>Total</b>	<b>648</b>	<b>92.4 (599)</b>	<b>299</b>	<b>79.9 (239)</b>	<b>&lt;.001</b>
2.5	It is important for a woman to choose lean meat or low-fat proteins like poultry, seafood (not fried), 90% or above lean ground beef, or beans when you buy meat or protein foods?	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	263	75.7 (199)	129	72.1 (93)	
	Winnebago County	370	62.7 (232)	169	91.1 (154)	<b>&lt;.001</b>
	<b>Total</b>	<b>633</b>	<b>68.1 (431)</b>	<b>298</b>	<b>82.9 (247)</b>	<b>&lt;.001</b>
Q3	<b>In order for a woman to make sure she has enough time between pregnancies to have a healthy baby she and her partner should choose a method of birth control that is effective</b>	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	276	72.8 (201)*	132	40.2 (53)*	<b>&lt;.001</b>
	Winnebago County	371	89.5 (332)	169	81.7 (138)	<b>0.012</b>
	<b>Total</b>	<b>647</b>	<b>82.4 (533)</b>	<b>301</b>	<b>63.5 (191)</b>	<b>&lt;.001</b>
Q4	<b>In order for a woman's body to recover after giving birth, the recommended time a woman should wait before trying to become pregnant is at least 18-24 months</b>	N	%	N	%	SIGNIFICANCE (p)
	St Clair County	278	50.7 (141)*	133	50.4 (67)*	
	Winnebago County	371	37.5 (139)	169	40.8 (69)	
	<b>Total</b>	<b>649</b>	<b>43.1 (280)</b>	<b>302</b>	<b>45.0 (136)</b>	<b>0.58</b>

\* Numbers in parentheses indicate the number of correct responses

### Knowledge Results Summary

In general, there were not many significant changes between the pre- and post-test cohorts with respect to preconception knowledge. Changes that were present were often not in the expected direction. Some highlights include:

- Ninety percent (both pre and post) of respondents knew that obtaining medical care before becoming pregnant improves the chances of having a healthy pregnancy.

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- Immunization knowledge was low both at baseline and post-intervention.
- There was a statistically significant decrease from pre to post in the proportion of women who said that “it is important for a woman to talk to her provider if she has sad feelings lasting more than two weeks”. This decline was isolated to Winnebago County with 94.1% of women answering correctly at baseline and only 72.2% of women answering correctly post-intervention.
- The overall proportion of women stating that “it is important to choose lean meats and low fat proteins” increased significantly from pre to post; this was due in large part to a statistically significant increase among respondents in Winnebago County.
- The proportion of women who selected “effectiveness” as the primary factor in their decision-making with respect to selecting a birth control method decreased significantly overall from pre to post.
- Knowledge on adequate pregnancy spacing was low both pre and post, with fewer than half of the respondents answering this question correctly both at baseline and post-intervention.

**Behavioral Intention Results:** Significance levels in red indicate a change from pre to post that was statistically significant but do not provide information about the direction of that change.

BEHAVIORAL INTENTIONS VARIABLE ANALYSIS: CORRECT ANSWERS						
Q5	Likeliness of performing the Behavior	PRE		POST		
		N	%	N	%	SIGNIFICANCE (p)
5.1	See your doctor to discuss your pregnancy plans and specific ways to improve your health?					
	St Clair County	280	77.9 (218) *	132	65.9 (87)*	
	Winnebago County	371	65.5 (243)	169	67.5 (114)	
	<b>Total</b>	<b>651</b>	<b>70.8 (461)</b>	<b>302</b>	<b>66.6 (201)</b>	<b>0.18</b>
5.2	Take a multivitamin with at least 400 micrograms of folic acid?					
	St Clair County	279	56.3 (157)	132	56.8 (75)	
	Winnebago County	369	52.8 (195)	169	57.4 (97)	
	<b>Total</b>	<b>648</b>	<b>54.3 (352)</b>	<b>301</b>	<b>57.1 (172)</b>	<b>0.38</b>
5.3	Get regular medical care for health problems like diabetes, high blood pressure, or depression?					
	St Clair County	280	79.6 (223)	133	74.4 (99)	
	Winnebago County	371	74.9 (278)	169	74.0 (125)	
	<b>Total</b>	<b>651</b>	<b>77.0 (501)</b>	<b>302</b>	<b>74.2 (224)</b>	<b>0.35</b>
5.4	Ask your doctor about a healthy weight for you?					
	St Clair County	279	76.7 (214)	133	57.9 (77)	<b>&lt;.001</b>
	Winnebago County	371	68.7 (255)	169	65.7 (111)	0.48
	<b>Total</b>	<b>650</b>	<b>72.2 (469)</b>	<b>302</b>	<b>62.3 (188)</b>	<b>0.002</b>
5.5	Get tested for sexually transmitted infections					
	St Clair County	280	82.1 (230)	133	75.9 (101)	
	Winnebago County	371	78.7 (292)	169	74.0 (125)	
	<b>Total</b>	<b>651</b>	<b>80.2 (522)</b>	<b>302</b>	<b>74.8 (226)</b>	<b>0.06</b>
5.6	Ask your doctor about medications you are taking to make sure they are safe to take if you are trying to become pregnant?					
	St Clair County	279	84.6 (236)	132	74.2 (98)	
	Winnebago County	371	79.0 (293)	169	79.3 (134)	
	<b>Total</b>	<b>650</b>	<b>81.4 (529)</b>	<b>301</b>	<b>77.1 (232)</b>	<b>0.12</b>
Q6	Likeliness of performing the behavior	PRE		POST		
		N	%	N	%	SIGNIFICANCE (p)
6.1	Get care for yourself within four to six weeks after the birth?					
	St Clair County	279	91.4 (255)*	133	84.2 (112)*	
	Winnebago County	371	85.4 (317)	169	86.4 (146)	
	<b>Total</b>	<b>650</b>	<b>88.0 (572)</b>	<b>302</b>	<b>85.4 (258)</b>	<b>0.27</b>
6.2	Get a method of birth control before even leaving the hospital?					
	St Clair County	279	62.4 (174)	132	54.5 (72)	
	Winnebago County	371	59.6 (221)	169	55.0 (93)	
	<b>Total</b>	<b>650</b>	<b>60.8 (395)</b>	<b>301</b>	<b>54.8 (165)</b>	<b>0.08</b>
6.3	Get a method of birth control at a four to six week check up for yourself if you did not already have a birth control method					
	St Clair County	279	81.0 (226)	133	75.9 (101)	
	Winnebago County	371	76.8 (285)	169	72.2 (122)	
	<b>Total</b>	<b>650</b>	<b>78.6 (511)</b>	<b>302</b>	<b>73.8 (223)</b>	<b>0.1</b>

\* Numbers in parentheses indicate the number of correct responses

**Behavioral Intentions Summary**

Similar to the knowledge questions there were not significant changes between the pre and post cohorts with respect to behavioral intentions. Highlights of these results include:

- A majority of respondents (post-intervention) reported that before the birth of a baby they would be “very likely” to:
  - o See a doctor to discuss ways to improve their health before becoming pregnant (67%)
  - o Get regular care for chronic conditions (74%)
  - o Get tested for STIs (75%)
  - o Talk to their doctor about safety of medications if they are trying to conceive (77%)
- Only about half of respondents both pre and post in both counties said they would take a multivitamin with at least 400mcg of Folic Acid.
- While a majority (62%) of respondents stated that they would be “very likely” to talk to their doctor about a healthy weight for them, there was a significant decline (overall and in St Clair County) in the proportion of women stating that they would be “very likely” to do so from baseline to post-intervention.
- Only about half of respondents (55%) post-intervention reported being “very likely” to get a method of birth control before leaving the hospital; this proportion was not statistically significant different from baseline.
- A majority of respondents (post-intervention) reported that after the birth of a baby they would be “very likely” to:
  - o Go to a 4-6 week postpartum visit (85%)
  - o Get a method of birth control at the 4-6 week postpartum checkup (74%)

**Information/Sources Results:** Significance levels in red indicate a change from pre to post that was statistically significant but do not provide information about the direction of that change.

**INFORMATION/SOURCES VARIABLES FREQUENCY ANALYSIS**

		PRE		POST		
Q7	Have you recently seen, heard or read anything about how to be healthy before pregnancy or between pregnancies?	N	%	N	%	Significance (p)
	St Clair County	279	77.8 (217)	132	49.2 (65)	p<.001
	Winnebago County	370	58.9 (218)	168	67.9 (114)	0.05
	<b>Total</b>	<b>649</b>	<b>67.0 (435)</b>	<b>300</b>	<b>59.7 (179)</b>	<b>0.03</b>
Q8	Where seen/heard/read about preconception/interconception messages?	PRE		POST		
	WIC Office	N	%	N	%	Significance (p)
	St Clair County	223	45.3 (101)	123	63.4 (78)	0.001
	Winnebago County	332	39.5 (131)	142	23.9 (34)	0.001
	<b>Total</b>	<b>555</b>	<b>41.8 (232)</b>	<b>265</b>	<b>42.3 (256)</b>	<b>0.9</b>
	Doctor's Office	N	%	N	%	Significance (p)
	St Clair County	223	52.0 (116)	123	60.2 (74)	0.15
	Winnebago County	332	57.2 (190)	142	30.3 (43)	p<.001
	<b>Total</b>	<b>555</b>	<b>55.1 (306)</b>	<b>265</b>	<b>44.2 (117)</b>	<b>0.003</b>
	Movie	N	%	N	%	Significance (p)
	St Clair County	223	2.2 (5)	123	4.1 (5)	
	Winnebago County	332	1.5 (5)	142	0 (0)	
	<b>Total</b>	<b>555</b>	<b>1.8 (10)</b>	<b>265</b>	<b>1.9 (5)</b>	<b>0.93</b>
	Hospital	N	%	N	%	Significance (p)
	St Clair County	223	10.8 (24)	123	30.1 (37)	p<.001
	Winnebago County	332	25.3 (84)	142	8.5 (12)	p<.001
	<b>Total</b>	<b>555</b>	<b>19.5 (108)</b>	<b>265</b>	<b>18.5 (49)</b>	<b>0.74</b>
	Bus	N	%	N	%	Significance (p)
	St Clair County	223	2.2 (5)	123	7.3 (9)	
	Winnebago County	332	1.2 (4)	142	0 (0)	
	<b>Total</b>	<b>555</b>	<b>1.6 (9)</b>	<b>265</b>	<b>3.4 (9)</b>	<b>0.1</b>
	Haven't Seen	N	%	N	%	Significance (p)
	St Clair County	223	13.9 (31)	123	4.9 (6)	
	Winnebago County	332	25.0 (83)	142	4.9 (7)	
	<b>Total</b>	<b>555</b>	<b>20.5 (114)</b>	<b>265</b>	<b>4.9 (13)</b>	<b>p&lt;.001</b>
Q9	Have you heard of Text 4 Baby?	PRE		POST		
		N	%	N	%	Significance (p)
	St Clair County	273	28.6 (78)	132	41.7 (55)	
	Winnebago County	371	11.3 (42)	164	39.0 (64)	

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	<b>Total</b>	<b>644</b>	<b>18.6 (120)</b>	<b>296</b>	<b>40.2 (119)</b>		<b>p&lt;.001</b>
<b>Q10</b>	<b>Have you ever enrolled in the Text4baby program? Skip pattern Q9</b>	N	%	N	%	Significance (p)	
	St Clair County	155	31.0 (48)*	87	46.0 (40)*		<b>0.02</b>
	Winnebago County	71	21.1 (15)	75	30.7 (23)		0.19
	<b>Total</b>	<b>226</b>	<b>27.9 (63)</b>	<b>162</b>	<b>38.9 (63)</b>		<b>0.02</b>
<b>Q11</b>	<b>How did you hear about T4B?</b>		<b>PRE</b>		<b>POST</b>		
	Poster/Flyer	N	%	N	%	Significance (p)	
	St Clair County	137	7.3 (10)	77	20.8 (16)		
	Winnebago County	38	28.9 (11)	59	8.5 (5)		
	<b>Total</b>	<b>175</b>	<b>12.0 (21)</b>	<b>136</b>	<b>15.4 (21)</b>		<b>0.38</b>
	Newspaper	N	%	N	%	Significance (p)	
	St Clair County	137	5.1 (7)	77	10.4 (8)		
	Winnebago County	38	18.4 (7)	59	1.7 (1)		
	<b>Total</b>	<b>175</b>	<b>8.0 (14)</b>	<b>136</b>	<b>6.6 (9)</b>		<b>0.64</b>
	Nurse	N	%	N	%	Significance (p)	
	St Clair County	137	34.3 (47)	77	36.4 (28)		
	Winnebago County	38	18.4 (7)	59	8.5 (5)		
	<b>Total</b>	<b>175</b>	<b>30.9 (54)</b>	<b>136</b>	<b>24.3 (33)</b>		<b>0.2</b>
	WIC Office	N	%	N	%	Significance (p)	
	St Clair County	137	16.1 (22)	77	50.6 (39)		<b>p&lt;.001</b>
	Winnebago County	38	44.7 (17)	59	39.0 (23)		<b>0.32</b>
	<b>Total</b>	<b>175</b>	<b>22.3 (39)</b>	<b>136</b>	<b>45.6 (62)</b>		<b>p&lt;.001</b>

\* Numbers in parentheses indicate the number of correct responses

### Information/Sources Summary

Changes between pre and post-test in information sources were also not as expected. Highlights of these results include:

- The proportion of women reporting having “seen, heard, or read” any information on preconception/interconception health declined overall, although there was a significant increase in Winnebago County.
- Doctors’ offices, WIC offices, and hospitals were the three most commonly identified locations where women “saw, heard, or read” information on preconception/interconception health. The proportion of respondents identifying WIC offices and hospitals as places they saw the information increased in St Clair County, but decreased in Winnebago County.
- At baseline, only 19% of respondents reported ever hearing about text4baby (t4b) compared to 40% after the pilot project. Self-reported enrollment in t4b increased significantly from 28% at baseline to 39% post-intervention.
- There was significant increase in the proportion of women who enrolled in text4baby, 28% of women reported being enrolled at baseline compared to 39% after the pilot was complete.
- WIC Offices and Nurses were the most commonly identified sources of information for text4baby, in Winnebago County a smaller proportion of women identified these sources from pre to post; however, these declines were not statistically significant.

### Discussion

#### Knowledge Discussion

The results of the pre/post survey regarding women’s knowledge highlighted some areas of strength as well as some gaps in knowledge among this population. From this analysis it is evident that most of the women surveyed both pre and post, understood the importance of medical care before pregnancy, were aware that breastfeeding was not an effective form of birth control, and knew to choose lean meats and low fat proteins. This analysis also highlighted some gaps in knowledge within this population, most notably, the importance of vaccination prior to pregnancy, adequate pregnancy spacing, and the importance of effectiveness in selecting a birth control method. While there was no significant change from pre to post on the question regarding the importance of vaccination, only about half of the women surveyed answered this question correctly. This indicates a potential need for additional immunization-specific education, coupled with improved access to vaccinations prior to pregnancy. Similarly, knowledge regarding adequate pregnancy spacing was generally low and did not change significantly from baseline, also highlighting a need to provide additional focus on this topic among this population. Interestingly, the proportion of women who selected “effectiveness” as the primary factor in deciding which birth control method to use decreased significantly in both counties [St. Clair had a larger decline (73% to 40%) than Winnebago (90% to 82%) between the pre and posttest cohorts. Given the limitations of this evaluation it is difficult to identify the cause of this decrease; however, it is evident from these findings that there is still considerable confusion regarding the importance of effectiveness in selecting a birth control method. Education regarding

birth control should focus on the importance of using “effectiveness” as a criterion in birth control method selection. Finally, there was a notable decline in the proportion of women who said that it was important to talk to a provider after the birth of a baby if a woman has sad feelings lasting more than two weeks. It is important to note that this decrease was only observed in Winnebago County (In St. Clair County 90% of respondents answered this question correctly both pre and post). While the cause of this decline is unknown, these data suggest that women of reproductive age in Winnebago County may benefit from additional information on postpartum depression.

#### *Behavioral Intentions Discussion*

Similar to the discussion of knowledge, the results regarding behavioral intentions of women in this population also demonstrate strengths and areas of need. Although there was no significant change between the pre and post cohorts, a majority of women stated that they would be “very likely” to see a doctor to improve health prior to pregnancy, get regular care for chronic conditions, get tested for STIs, and talk to their doctor about medication safety if they are trying to conceive. Additionally, a vast majority of women said they would be “very likely” to go to a postpartum check up and also to get a method of birth control at that check-up. These results indicate that women generally have a good sense of what they need to do both prior to and after pregnancy to ensure healthy outcomes for themselves and their babies. This analysis also identified some areas of need within this population. First, while most respondents stated that they were “very likely” to talk to their doctor about a healthy weight before pregnancy, there was a notable decline, primarily in St. Clair County, in the proportion of women who said they would be “very likely” to do so from baseline. The difficulty with this question is that a “healthy weight” is subjective and can be a sensitive topic, so it is important that educational interventions among this population address these two issues. Second, only about half of the women surveyed, both pre and post, stated that they would be “very likely” to take a multivitamin with 400mcg of folic acid before pregnancy, highlighting a need for women to understand the importance of taking folic acid before becoming pregnant. Finally, only 55% of women stated that they would be “very likely” to get a method of birth control before leaving the hospital, suggesting the need to increase access to this service for more women through changes in hospital and reimbursement policies. Such changes will likely need to be followed by approaches to educate women about the delivery hospital as a potential site for postpartum contraception. In addition, the percentage of respondents reporting being “very likely” to get a birth control method at the 4-6 week postpartum check-up decreased between the pre and post cohorts, highlighting the need to provide both education as well as the birth control method of choice for women during this visit.

#### *Information/Sources Discussion*

For the purposes of this project, results listed in the “Information/Sources” section relate to questions on the exposure to and source(s) of preconception/interconception health information. The proportion of women who reported having “seen, heard, or read” any information on preconception/interconception health messages declined significantly from pre to post. The factors contributing to this decrease are unclear given the limitations of the evaluation; however, it does suggest that either exposure to the messaging was insufficient in which case similar interventions need to be even more robust. It is also possible that the questions asked were not sensitive enough to gauge exposure. It is worth noting that while there was an overall decline, there was a significant increase in exposure among respondents in Winnebago County. On the other hand, respondents in Winnebago County did not provide an accurate picture of where or how they were exposed to this information as the proportion of women exposed at the various sites such as WIC or hospitals decreased between the pre and post test in Winnebago County.

Unfortunately, there was an observed decrease in the proportion of women who reported having recently “seen, heard, or read” preconception/interconception/postpartum health messaging. The primary locations where women identified hearing, seeing, or reading anything on preconception/interconception health were doctors’ offices, WIC offices, and hospitals. Very few people reported seeing this messaging in the movies, on buses, or in newspapers and there was no significant change from pre to post. This indicates that either these may not be appropriate venues for disseminating this type of information, or that interventions using these media need to be considerably more robust. Finally, there was not only a significant increase in the proportion of women who reported ever hearing about text4baby (t4b) from baseline, there was also a significant increase in the proportion of women who reported ever having been enrolled in t4b. This indicates that the pilot was successful in increasing both awareness and utilization of this service among this population. This is the most notable success of this project, potentially because enrolling in t4b is a concrete identifiable intervention so participants were able to complete the desired task (enroll in t4b) and provide accurate responses for questions related to this intervention. This implies that when individuals have something concrete to do and report on, there can be demonstrable results.

#### *Study Limitations*

This Preconception/Interconception/Postpartum Toolkit Pilot Study had a number of limitations. Due to the convenience sampling of this project, pre and post data were not able to be collected from the same individual. Both pre and post surveys were collected at the same sites, but data represent cross-sectional slices at two points in time. In

addition, while there is no actual measure of exposure of individual women to the intervention, we do know that in a given month an average of 500 women per county received some form of preconception, postpartum or interconception health service at the five grantee locations. All women surveyed were clients of these health settings who should have been exposed to the Toolkit and preconception/postpartum/ interconception messages. The opportunities for exposure during the intervention period included billboards, bus wraps, cinema ads, posters in the waiting room, distribution of client materials, and one-one-one counseling. Because there is no record of the intensity of exposure, its robustness cannot be measured overall or for individual women. Also, because the intervention covered so many unique topics, measuring the impact of information on any one topic is difficult.

Given this situation, it was difficult to draw conclusions regarding the impact of this pilot test on individual-level knowledge and/or behavior change. However, we were able to draw some general conclusions regarding overall strengths and areas of need and were also able to make recommendations for future interventions based on the data collected.

### Recommendations

Based on the analysis of the survey/interview results, the following are recommendations for future interventions focused on preconception/interconception/postpartum health:

- 1.) Education interventions with this population should focus on the following topic areas:
  - a. Immunizations: specifically focusing on the importance of vaccinations prior to pregnancy.
  - b. Adequate pregnancy spacing: messaging should clearly state the amount of time needed between pregnancies.
  - c. Birth control methods: specifically focusing on the importance of “effectiveness of method” as an important factor. In addition, policies which capitalize on the time women are in the hospital after delivery to allow for the distribution of birth control are warranted.
  - d. Folic Acid: messaging needs to be clearer and should be shared by providers with all women of reproductive age so that they know to take it before, during, and between pregnancies.
- 2.) Preconception/Interconception health messaging needs to be very clear, especially as it relates to vaccinations, pregnancy spacing, folic acid, and birth control.
- 3.) Preconception/Interconception health educational interventions appear to need to be robust to catch the attention of women.
- 4.) If resources are limited, information dissemination on preconception/interconception health should be provided in doctors’ offices, WIC offices, and hospitals since these were the most commonly identified locations where women reported accessing this information. Interventions intending to utilize other venues such as movies, buses, or newspapers need to be more robust in order to successfully reach this population.
- 5.) Continue to promote t4b as an educational resource. It is easy for patients to enroll in t4b with clear, simple steps. t4b is a passive form of education – once enrolled, there is no further action required on the patient’s part – they receive relevant education on a regular basis.

### TEXT4BABY ENROLLMENT

#### text4baby Enrollment \*

	Baseline	Post	% change
St Clair County	44	25	-43.2
Winnebago County	34	508	1394.1
<b>Total</b>	<b>78</b>	<b>533</b>	<b>583.3</b>

\* Data is from the t4b data portal

There was an overall increase in the number of women who enrolled in t4b during the study period. This increase was due to the substantial increase in enrollees in Winnebago County (1394%). The observed decrease in St Clair County could be a result of a number of factors. The grantees in St. Clair County stated that t4b is not a preferred source of information for many of their clients. One grantee stated, “Many clients were not interested in the text4baby information as they prefer to use some of the many apps that are available to them for pregnancy and baby care rather than getting information through text messages.” t4b has been promoted in St. Clair County for a number of years; further exploration of this decrease is warranted. The success in Winnebago County is likely the direct result of the work of the pilot sites in this county. In the final reports to EverThrive IL the partner sites in Winnebago County stated that t4b was integrated into their WIC education as well as one-on-one WIC and Family Case Management visits. Additionally, weekly drawings for incentives were held for clients that demonstrated their participation in the program. The results in Winnebago are evidence that exposure to concrete, identifiable interventions can produce measurable positive impacts.

## USER-TESTING OF ELECTRONIC EDUCATION MATRIX AND POSTPARTUM TRANSITION STRATEGIES

### Electronic Education Matrix

EverThrive IL worked with 12 individual providers (2 -3 per agency) to user-test the Electronic Education Matrix. Very few providers were willing to schedule a time to speak on the phone. EverThrive IL was able to speak directly with three providers about their experiences and conducted two computer based surveys using Survey Monkey with the remaining providers. The grantees facilitated the names of the providers' and EverThrive IL made the arrangements for their review of the tool. One grantee commented on the difficulty of getting providers to take time to review the materials:

*Struggled with getting providers to review and utilize the materials on the website. They indicated they were too busy.*

EverThrive IL surveyed ten providers on current use of, and satisfaction with, available preconception, prenatal, postpartum and interconception materials. Respondents included two advanced practice nurses, two physicians, one registered nurse, three case managers, and two health educators. The following are the results of their current client education practices.

- The respondents identified the sources they most often use as: CDC.gov, March of Dimes, and Babycenter.com.
- When asked their preferred method of client education, two providers cited one-on-one counseling or discussions, two stated workshops for women, and the remaining six providers stated handouts or internet.
- Five out of ten providers surveyed did not feel that there is enough information for their clients on preconception, postpartum and interconception health.
- Providers identified a need for materials on the following topic areas: family planning, healthy habits (i.e. healthy weight, no smoking or drinking), and materials in Spanish.

Following their review of the web-based Perinatal Education Toolkit and Electronic Education matrix, EverThrive IL surveyed seven providers. Respondents included one advanced practice nurse, two registered nurse, two case managers, and two health educators. The following are the results of the user-test survey. *Appendix F - H for questionnaires.*

- When asked for their overall impression of the site, 100% said it met or exceeded expectations.
- 84% of providers surveyed found the topic areas and resources "very useful" or "useful".
- Providers identified the following as the most useful: checklists, postpartum materials, and links to March of Dimes information.
- 86% of those surveyed said they were likely or very likely to return to the website and recommend to their colleagues.
- Grantees cited that often agencies use firewalls that block certain internet sites which makes it difficult for staff to access the Electronic Education Matrix.

### Postpartum Transition Strategies

The strategies outlined in the IDHFS Postpartum Transition Strategies are intended to increase the number of women covered by Medicaid who received postpartum services. A variety of strategies were proposed for providers who had contact with women at various points during the perinatal period. For the purposes of this pilot, the sole hospital grantee, Touchette Regional Hospital, reviewed these strategies. Based on their comments, Touchette currently employs the strategies outlined in the hospital section of the tool. While they were unable to speak on the "Provider" strategies, Touchette stated that regarding notification of providers:

*Prenatal providers are provided with hospital summaries of patients electronic health record (EHR) on discharge. Many times the prenatal provider is the same as the delivering provider or is a partner. Patients delivering at Touchette primarily are seen by the SIHF (another grantee) practice group.*

In regards to patient education, Touchette stated that a postpartum checklist was included in the hospital electronic health record including follow up and referrals. Additionally, Touchette developed a transition checklist and discharge packet for the patient; the checklists are initiated at admission and completed at the time of discharge. Two parts of the discharge packet document the provider follow-up information with contact information as well as dates and time of appointments. Before discharge, the follow up postpartum appointment is documented in the EHR, which is then shared with the prenatal provider. Touchette Hospital found this tool valuable as it confirmed that the hospital plans for a smooth transition to postpartum care for the patient and their provider at multiple points before and after discharge process.

## CHALLENGES, SUCCESSES AND LESSONS LEARNED FROM GRANTEES

Over the course of the Perinatal Education Toolkit Pilot Study, the five grantees designed a communication strategy, navigated administrative systems, trained staff, and integrated tools into their agency work flow. Throughout this process there were challenges and successes, and many lessons learned. The information below was compiled from monthly reports, one-on-one conversations, and the grantees' final report. When asked which tool they found most useful, four out of five of the grantees identified the Postpartum Checklist Brochure as a great counseling resource. All five grantees would recommend the Perinatal Education Toolkit to other agencies, promote the Electronic Education Matrix, and plan to continue the use of the tools as funds allow.

### Challenges

- Many of the grantees found it difficult to engage providers and community partners in the pilot. One grantee stated: *Difficult to get busy health care providers to complete surveys and review materials (especially if not medical care or research material). Recommend having a peer/medical champion to reach out to providers.*
- Overall the grantees viewed the materials as helpful additions to their programs. However, there were a few comments on readability and design for example: *The message "Are You Feeling Sad?" was on a billboard and we were not to change the appearance of it from the example in the Toolkit. This resulted in green text against a white background that was difficult to read on a sunny day or after dusk even though the billboard had lighting.*
- Overall the Postpartum Checklist Brochure was identified as a useful tool; however one grantee stated that it was perhaps too cumbersome for their client base. *The postpartum checklist was valuable information in one brochure but clients felt it was overwhelming at times.*
- All of the grantees identified challenges in the administration of the project, ranging from staff turnover to agency policies, i.e. fiscal and approval systems. Initially, a delay in fund disbursement to EverThrive Illinois created challenges for the grantees in securing their media contracts. *Not having the grant funds available immediately (at time contract signed/quotes obtained) to purchase media advertisement. When we received funds, the space was no longer available.*

### Successes

- In general, the grantees received positive feedback from providers and community partners on the different materials. *Providers seem to be appreciating the Postpartum Checklist Brochure to give patients. The tools acted as a reminder to staff to discuss preconception and postpartum health topics and also doubled as a discussion starter when talking with clients. We used several of the messages on posters throughout all of our clinic areas and also as WIC folder inserts. The Family Case Managers used the prescription pad tool to discuss the importance of preconception health with postpartum clients.*
- Grantees felt that materials were very useful and easy to display in a variety of formats and locations. Three grantees used the funding to purchase media space on billboards, bus wraps and at bus stops and reporting getting positive feedback from clients. *The bus wraps have been a huge hit. We are hearing positive feedback from community partners and clients alike. Patients recognized the campaign materials of postpartum depression from community billboards.*
- The grantees highlighted the preconception galleys and postpartum depression galleys as being very useful and engaging. *"Are You Planning to Have a Healthy Baby?" is a great tool to use for preconception and reminds the women of the steps to take before getting pregnant. Staff and clients particularly like the Get Healthy, Be Healthy, Stay Healthy and the Folic Acid tools. The most useful tools were "Are You Planning to Have a Healthy Baby?" and the "Are You Feeling Sad?" message. The Postpartum Checklist Brochure was great for staff to cover key education topics.*

### Lessons Learned

- All five grantees involved providers and community partners throughout the process, but suggested identifying a "provider champion" for future campaigns. Additional suggestions include a staff wide education session and kick-off celebration for motivating staff to use the materials. When asked if they would recommend the Perinatal Education Toolkit to other agencies, the grantees overwhelmingly said they would recommend the Toolkit and its components. *We believe that tools were general enough to be used in various agencies and locations. The messaging is conveyed in an understandable way to reach people of various health literacy levels. I would recommend parts of the Toolkit to other agencies. Probably the "Are You Feeling Sad?", "Are You Planning to Have a Healthy Baby?" and maybe a revised [shortened] Postpartum Checklist Brochure.*

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- The grantees commented that in future communication campaigns they would be more intentional and strategic in choosing the location of certain galleys. Additionally, grantees who chose to display the materials using public ad space found it difficult to track the impact or exposure of the messages.  
*A lesson learned was consider carefully what is being placed on a billboard. The message included a phone number which is too difficult to obtain when just driving by.*  
*There was some concern in using the birth spacing messages as a stand-alone marketing tool since the tool did not clarify why birth spacing was so important. We did use the birth spacing tools on our educational screens where we were able to clarify the importance.*
- The grantees' comments on text4baby varied by agency. Winnebago County Health Department felt it was a great addition to the program and offered a much needed resource for the client population, while St. Clair County Health Department's found that their clients were not as interested in enrolling.  
*We have a renewed energy among staff to promote the text4baby campaign and have had significant success in getting our clients enrolled.*  
*Many clients were not interested in the text4baby information as they prefer to use some of the many apps that are available to them for pregnancy and baby care rather than getting information through text messages.*

Based on agency feedback, it is evident that client education and outreach must take into consideration individual agency capacity and policies. The most effective outreach tools were those that were tailored to patient or community preference. Agencies must have autonomy to select the appropriate tool(s) for their population. Grantees commented that the information included on the galleys was limited; therefore it is important that future health communication campaigns include multiple points and types of exposure. Communicating a health message needs to take place at multiple levels including the individual, organization, and community level. For individual agencies, this means repeating the same message in the exam room, the waiting room, and at the bus stop. As one grantee stated, "it takes a village to deliver messages."

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<sup>i</sup> <http://quickfacts.census.gov/qfd/states/17/17163.html>

<sup>ii</sup> <http://www.ilpovertyreport.org/county/st-clair-county#.VXDJys9Viko>

<sup>iii</sup> <http://quickfacts.census.gov/qfd/states/17/17201.html>

<sup>iv</sup> <http://www.ilpovertyreport.org/county/winnebago-county#.VXDGYc9Viko>

<sup>v</sup> <http://www.countyhealthrankings.org/app/illinois/2014/measure/factors/14/map>