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MANITOBA'S HEALTHY BABY PROGRAM: Does it Make a Difference?

A summary of the report, *Evaluation of the Manitoba Healthy Baby Program*
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It can tug at your heartstrings. Whether while watching television, or in the pages of magazines, you've no doubt come across those advertisements for programs that claim to change the lives of impoverished children. All for slightly more than it costs to buy your daily cup of coffee. But what if someone told you about a program designed to improve the health outcomes, not for children in a far off and distant land, but for some of Manitoba's most vulnerable babies? And what if they told you that there was now some evidence this program came as advertised? That it actually worked?

Participation in either component of The Healthy Baby Program appears to be associated with healthier outcomes for some of Manitoba's most vulnerable babies.

This is exactly what the latest report from the Manitoba Centre for Health Policy (MCHP) does. The report, entitled 'Evaluation of the Manitoba Healthy Baby Program' evaluates Healthy Child Manitoba's Healthy Baby program. The program has been around since 2001, and is made up of two components: the prenatal income supplement, and the community support programs. Both are targeted at lower income women and their babies. The prenatal income supplement, which starts in the second trimester of a woman's pregnancy, provides a maximum of $81.41 a month to low-income pregnant women up to the time that they give birth. So the maximum benefit anyone can get is less than 3 dollars a day. The community support program component of Healthy Baby provides education and support groups to women in their own communities, and these are given both while the woman is pregnant and throughout her baby's first year up to the first birthday.

Both parts of Healthy Baby are designed to improve the health of babies both before birth (prenatally) and during infancy. So the main task of the MCHP report was to find out whether or not the program had an impact on the health of babies. The report also looks at the uptake of the program—was it being used by the population it was designed to help?

What was done

To do this, researchers at MCHP linked together information from the Healthy Baby program to the population-based administrative health information available in MCHP's data repository, using anonymized personal health numbers. So information on doctor's visits, hospitalizations, and immunizations for both mom and baby were linked to Healthy Baby program data. Importantly, because information on babies at the time of birth was available, the health of the babies at

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delivery could also be linked. In this way, we could see whether using Healthy Baby prenatally had an impact on the health of babies at the time of birth. Of course, since "healthiness" is not simple to capture, we chose to look at some indicators, or outcomes which are thought to be associated with healthy babies. Table 1 lists the specific health outcomes examined. The study team looked at all babies born in Manitoba from April 1, 2004 through March 31, 2008.

At the outset, we ran into two challenges. First, we had to figure out a way to measure exactly which components of the program worked. Remember, we had mentioned that the program was made of two parts, and some people were enrolled in one and not the other, while some people were enrolled in both. So we looked at outcomes when only the prenatal benefit was used, when only the community support program was used, and when both were used.

Second, in trying to figure out whether or not the program worked, we had to have a comparison group. After all, you can't just say something worked, without having some kind of yardstick to measure it against. The best way to compare whether something worked or not is to implement what is called an experimental design; one or more randomly picked groups would receive the treatment in question, while others wouldn't. Then, a comparison could be made to see whether the group receiving the treatment did any better than the one that didn't.

Unfortunately, in the real world, this design is often difficult to do for a variety of reasons. In the Healthy Baby situation, we were only able to use what is called an observational design. Even in this design, however, having a well-defined group to study, and a proper comparison group was of utmost importance. The challenge was that we couldn't just simply pick any group of women who weren't enrolled in Healthy Baby, because many women don't actually need it. So an improvement in those who needed the program might not necessarily appear as such, when compared to those who didn't need the program in the first place. To do a proper apples-to-apples comparison, researchers had to pick women who were similar to those enrolled in the program, but who weren't actually participants.

To do this, we created two groups. Remember that first challenge, the one about which parts of the program worked? Well, within each group, four sub-groups were created, with three of those sub-groups considered as 'treatment' groups: those that participated in the prenatal benefit only, those that participated in the community support group only, and those that received both. The final sub-group was considered the comparison group, and was made up of those that received neither of the Healthy Baby components. The first group, which we'll call Population 1, was made up of all women who applied for the prenatal benefit component of Healthy Baby. The reason behind this choice was that since these women applied for the benefit, they probably felt they needed financial help. For Population 1, the 'treatment' groups were made up of women who received either, or both of the program parts, while the comparison group was those women in Population 1 who ended up not getting the prenatal benefit part of the program and not attending any community support program.

Table 1: Outcome measures examine in the *Healthy Baby* report

Prenatal and Birth Outcomes	
Adequate/inadequate prenatal care	Increase in breastfeeding initiation
Low/high birth weight	Preterm birth
Small/large for gestational age	Congenital anomalies
Apgar scores	
Infant Outcomes in First Year	
Hospitalizations	Injury hospitalizations
Continuity of care	Children in care
Infant mortality (excluded because it is a rare event)	
Longer-term Outcomes (up to 2 years post-delivery)	
Immunizations	Sibling spacing

Table 2: Summary of outcomes associated with Healthy Baby program components

What outcomes were associated with receiving the Prenatal Benefit?
1.4%-9.0% Reduction in low birth weight births
0.4%-6.0% Reduction in preterm births
10.0%-21.0% Increase in breastfeeding initiation
What outcomes were associated with participation in Community Support Programs?
4.0%-5.7% Increase in adequate prenatal care
10.0%-21.0% Increase in breastfeeding initiation

Population 2 was made up of all women who gave birth during the study period, and who received income assistance for at least one month while they were pregnant. The reason for choosing this group was that women receiving income assistance during pregnancy represent a particularly vulnerable population. Similar to Population 1, the 'treatment' groups in Population 2 were composed of women who participated in either or both of the Healthy Baby program components. The comparison group, not surprisingly, was composed of women in Population 2 who did not participate in either of the parts of Healthy Baby, but who were in need of provincial financial assistance.

To be on the safe side, because arguments could be made for either of the populations to be the 'best' to study, we decided that the best evidence for program impact (good or bad) was when results for both populations happened to agree. So it was a good sign the program was working if we saw improvements in Population 1. But it was an even clearer sign when a similar impact was seen in both Population 1 and Population 2. We should add as well, through sophisticated statistical techniques, we 'adjusted' the groups according to such characteristics as where moms lived, whether they had completed high school, and marital status, to be even more confident that a true apples-to-apples comparison was being made.

Who used the Healthy Baby Program?

So, what did the researchers find? First, we'll talk about how well the program reached its targeted populations. With respect to uptake of the prenatal benefits part, we found that out of the 56,560 births in Manitoba during the study period, almost 1 out of every 3 took advantage of the prenatal benefit. We found that uptake of the program was even higher in women who happened to be on income assistance when they were pregnant: almost three-quarters of women on income assistance during this time period received the prenatal benefit. Over half of pregnant women living in the poorest areas of Manitoba received the prenatal benefit, compared to just about 10% of women living in the wealthiest areas of Manitoba. So this was good news, as the prenatal income supplement seemed to be reaching a reasonable portion of the population it was designed to serve.

However, we found that the news was not as good for the community support part of the program. Slightly more than 5% of women giving birth during the study period took part in a community support program prior to giving birth. As well, unlike the prenatal benefits component, uptake in the group of women thought to be most vulnerable was lower than expected. For example, only 22% of women receiving income

Women who received the prenatal benefit had fewer low birth weight babies and fewer preterm births. Women receiving the prenatal benefit and participating in community support program were more likely to breastfeed their infants.

assistance, 18% of women in low income areas and 21% of teen mothers participated in the community support part of Healthy Baby.

Does the Healthy Baby Program work?

When we looked at outcomes at birth, we found some very good news. Women who received the prenatal benefit had fewer low birth weight babies and preterm births. Preterm birth is the terminology used when babies are born too early (at 37 weeks gestation or less); babies born preterm or of low birth weight have higher risk of sickness and death. Perhaps the most dramatic results were seen in breastfeeding: women who used both parts of Healthy Baby were more likely to breastfeed their babies. Which is very good news indeed, as breastfeeding has been shown to have good impacts on the short-term and long-term health of infants. A summary of the significant findings is provided in Table 2.

Seeing the positive associations with either component of the Healthy Baby Program, a strong argument can be made to find ways to enroll more women into the program.

Next we estimated what the benefit to each of the populations studied would be, if all women in each population had used Healthy Baby. So if all women in Population 1 had used the prenatal benefit, an extra 14 babies would have been born at a normal birth weight for every 1000 babies born during the study period. For Population 2, the net benefit would have been much higher, with an extra 90 babies born at normal rather than low birth weight for every 1000 babies born.

When we look at preterm births, for every 1000 births, 4 preterm births would have been avoided, had all eligible women in Population 1 received the prenatal benefit. Again, for Population 2, the net benefit was estimated to be much higher. Here, for every 1000 births, 60 preterm births would have been prevented. Looking at breastfeeding, an extra 100 babies out of every 1000 births in Population 1, and 210 babies out of every 1000 births in Population 2 would have been breast fed.

So in the end, there was good news, and some room for improvement. We found that women in the Healthy Baby program had babies with healthier outcomes. However, we found that the reach of the community support program was not as wide as it could be, especially to women most in need. Seeing the positive associations with either component, a strong argument can be made for trying to find ways to get more women enrolled in both aspects of the program.

Given what we know about the importance of healthy outcomes at birth on later life, that such dramatic results can be observed from a relatively straightforward program is remarkable: a little boost, and some proper support at the right time, can make all the difference in the world.

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Want the complete report? You can download it from the MCHP web site:
http://mchp-appserv.cpe.umanitoba.ca/deliverablesList.html

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