

Wisconsin's Birth Cost Recovery Policy: Implications for Health Disparities in Infant Mortality

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Abstract

Despite diligent efforts, infant mortality remains a significant problem in the United States. Perhaps more alarming, health disparities in infant mortality persist across the US, and are more pronounced in Wisconsin than elsewhere. While there are many conditions that can lead to infant death, prematurity remains the largest cause of black infant mortality in the United States and in Wisconsin, and is associated with a variety of risk factors, many of which are modifiable. This report aims to highlight known risk factors for prematurity, to discuss these risk factors in the context of the life-course perspective, and to compare Wisconsin's birth outcomes among both its white and black populations. It also summarizes and critically analyzes Wisconsin's birth cost recovery (BCR) policy, which allows the state to recover pregnancy-related costs paid for by Medicaid from unmarried fathers after the birth of the child. This paper proposes several mechanisms by which BCR policy may impact health disparities in birth outcomes, and seeks to evaluate the magnitude of the impact of BCR policy on Wisconsin families by using county-specific and publicly-available state data. Data sources utilized included medical literature which reviewed prematurity risk factors, social science literature which analyzed the relationship between BCR policy and subsequent child support payments, state statute and administrative code documents, legislative fiscal bureau and other state reports, key informant interviews, and available national and state databases on birth outcomes. Available data demonstrate that BCR policy interacts with several key risk factors for prematurity, affects ~30% of births occurring yearly in Wisconsin, and collects between \$15 and \$20 million from low-income families yearly. A comparison of several proposed policy modifications suggests that elimination of BCR statewide would result in the largest gains in population birth outcomes and equity. Elimination of BCR policy should be considered as part of a multi-faceted effort to reduce health disparities in infant mortality in our state.

Introduction

The infant mortality rate (IMR), defined as the number of infant deaths before age one per 1,000 live births, is an important indicator of the health of a society.¹ It serves as a marker of the general health status of children within a certain country—when the IMR is high, rates of other diseases among children are also likely to be high. The IMR is a frequently used population health measurement and can be used to compare health system effectiveness between different countries, or between different regions within a given country.

In Wisconsin, the IMR is much higher for black infants than for white infants. Health disparities in infant mortality between blacks and whites have been noted throughout the United States, but Wisconsin's difference is one of the largest in the nation, a fact that has generated considerable public concern and launched a number of initiatives to attempt to understand the reason for the difference and to ameliorate the problem.

Overall, the reason for the black-white infant mortality gap is poorly understood. In the background section of this paper, I will summarize existing research to discuss possible etiologies of infant mortality, with a specific focus on risk factors for pre-term birth, as differential rates of preterm birth between blacks and whites can account for the majority of differential rates of infant mortality between these two groups. I will also discuss the life-course perspective and explain why this model suggests that broad-based policy solutions are necessary to eliminate Wisconsin's black-white infant mortality gap.

Though low-income women who become pregnant frequently qualify for Medicaid, which would pay for pregnancy and birth-related costs, the state is allowed to attempt to recover these costs from unmarried fathers after the birth of the child. The bulk of my paper will discuss this birth cost recovery (BCR) policy, which has the potential to influence many risk factors that are correlated with preterm birth and infant mortality. Using a variety of sources, I will define the policy, discuss its implementation, estimate its magnitude, and discuss the costs and benefits associated with Wisconsin's use of this policy. I will discuss how BCR policy may contribute to health disparities in infant mortality as an unintended outcome, and I will suggest policy alternatives which could be instituted as part of a multi-faceted effort to reduce health disparities in infant mortality.

Background

Health Disparities in Infant Mortality

As noted previously, the IMR of a country is an important population health marker and is frequently used to evaluate health system effectiveness. The IMR in the United States has declined significantly over the course of the 20th century—it decreased from about 100 infant deaths per 1,000 live births in 1900 to 6.89 deaths per 1,000 live births in the year 2000.² However, the IMR appears to have stabilized at this number over the past decade, and no further improvements have been seen in subsequent years. The IMR of the US is significantly higher than other similarly industrialized and developed countries—for example, in 2005, the US ranking fell to 30th in the world, behind countries such as Singapore, Japan, France, the United

Kingdom, and Cuba.³ When comparing the US to countries in Europe, the higher rate of preterm birth (birth prior to 37 weeks gestation) in the US appears to be responsible for much of the excess infant deaths and the higher US IMR.⁴ Decreasing the US IMR is an important public health goal, and reduction of the IMR as well as reduction in pre-term birth rates are critical *Healthy People 2020* objectives.⁵

While the overall US IMR is useful for statistical comparisons between similarly industrialized countries, it masks significant racial disparities that exist within the US. In the United States, black infants die at much higher rates than white infants. Nationally, in 2006, black infants died at a rate which was 2.4 times greater than that of white infants.⁶ This disparity in birth outcomes is even more pronounced in Wisconsin. Between 2008-2010, black infants in Wisconsin died at a rate which was 2.7 times greater than that of white infants.⁷ Over the past several decades, Wisconsin has achieved important gains in reducing infant mortality among its majority white population and also among its American Indian population (Table 1). The IMR among blacks, however, has not responded as robustly to public health interventions—the present IMR of ~14 infant deaths per 1000 live births is similar to the IMR of ~18 deaths per 1000 live births noted in the mid-1980s. Because Wisconsin's white IMR has declined while its black IMR remains high, disparities in birth outcomes between blacks and whites have actually increased—the rate ratio of black-white IMR in Wisconsin was 2.1 in 1984-1986, while it was 2.7 in 2008-2010. Comparing rate ratios of disparities in black-white infant mortality rates between Wisconsin and other states confirms that Wisconsin has a larger black-white infant mortality gap than most other states.⁸

3-year Infant Mortality Rates by Race and Ethnicity				
Race	3-Year Time Period			
	1984-1986	1994-1996	2004-2006	2008-2010
American Indian	19.6	9.2	8.1	7.3
African American	18.4	18.3	17.2	14.0
Hispanic	6.4	9.4	6.0	5.7
White	8.6	6.2	5.0	5.2
Total	9.5	7.6	6.3	6.2

Table 1. Trends in IMR in Wisconsin by race/ethnicity. Steep declines in IMR has been noted among American Indian populations, while gradual but steady declines have been noted among whites. African-American IMR have remained elevated, with the exception of a mild decrease between 2004-2006 and 2008-2010.⁹

In the US as a whole, more black infant deaths are attributable to pre-term birth (birth before 37 weeks gestational age) than to any other cause, and the percentage of infants born preterm is much higher for blacks than for any other racial group.¹⁰ This also holds true in Wisconsin—review of data from the period between 1998-2002 found that the leading cause of black infant death was pre-term birth/low birth weight,¹¹ and in 2009, the prematurity rate of blacks in Wisconsin (17.5%) was much higher than that of whites (9.9%).¹² Given this increased rate of preterm birth and associated neonatal morbidity and mortality, interventions that seek to reduce

health disparities in infant mortality must involve strategies to reduce prematurity in black infants.

Though the factors contributing to pre-term birth remain poorly elucidated, there is a large body of research that has demonstrated interesting associations between pre-term birth and specific risk factors that I will briefly summarize below. There has been increased recognition that various risk factors for prematurity may interact with each other in a synergistic manner, as well as a greater appreciation of the need for innovative solutions to combat this considerable public health problem.

Risk Factors for Prematurity

The etiology of pre-term birth is not well understood, nor is the etiology of significant health disparities in pre-term birth well explained. Previous scientific literature has attempted to find associations between single risk factors or protective factors and risk of pre-term birth. While this literature has documented numerous correlations, it has failed to determine a single risk factor that can account for underlying health disparities in prematurity between US blacks and whites.

The Institute of Medicine (IOM), in its publication *Pre-Term Birth: Causes, Consequences, and Prevention*, conducted a systematic review of existing literature related to both individual and community risk factors contributing to pre-term birth in all races.¹³ The IOM authors attempted to separate studies evaluating causation into several different domains: biochemical and biologic causes, biomedical and pregnancy related causes, behavioral and psychological causes, and socio-demographic/socio-economic causes. Because this present paper is most concerned with the impact of BCR policy on infant mortality, research regarding risk factors and protective factors which are most likely influenced by Wisconsin's BCR policy will be highlighted.

Maternal Stress

The IOM review found that evidence existed to support a positive association between pre-term birth and maternal stress. Specifically, they summarized evidence which suggested that severe major life events occurring during pregnancy, chronic stress over the course of a women's lifetime, lifetime exposure to racism, and anxiety about the pregnancy all are associated with an increased risk of pre-term birth.¹⁴

Evidence also exists which suggests that stressors are more pronounced among minorities, which could partially account for higher rates of prematurity among minorities. In a retrospective analysis, Lu and Chen reviewed data on stress during pregnancy obtained through the Pregnancy Reporting and Monitoring System (PRAMS) survey of more than 33,000 women who delivered infants in the year 2000 in nineteen different states. Stress was divided into four different subtypes: emotional stress, financial stress, partner-related stress, or traumatic stress. Blacks and American Indians were significantly more likely to experience stress prior to and during pregnancy than whites. Even after correcting for socio-demographic differences, blacks still experienced emotional stressors and partner-related stress at a higher rate than whites, and the authors suggested that future research regarding the impact of partner-related stress on preterm delivery would be beneficial.¹⁵

Socio-Demographic Factors

The IOM review also found that research supported an association between preterm birth and marital status (unmarried women who do not cohabit with the baby's father are more likely to experience preterm birth than cohabiting women, who are in turn more likely to experience preterm birth than married women). Likewise, an association was noted between preterm birth and socioeconomic conditions (mothers living in poverty have higher rates of preterm birth than those with greater financial resources).¹⁶ Some have argued that excess black preterm births are solely due to socio-economic factors, but socio-economic conditions alone cannot fully explain disparities in preterm birth and infant mortality between blacks and whites at the national level nor in Wisconsin. In a study which evaluated the infant mortality rates for blacks and whites living in the city of Milwaukee, black and white infant mortality rate was calculated for three socioeconomic strata. While infant mortality rates generally declined as socio-economic status increased, black infants did poorly compared to white infants across all socioeconomic levels, and the black IMR for the highest black socio-economic group (10.6 deaths/1,000 live births) was actually higher than the white IMR for the lowest white socio-economic group (10.1 deaths/1,000 live births).¹⁷

Lack of Father Involvement

Maternal stress, marital status, and poverty are demonstrated risk factors for preterm birth. However, paternal involvement (or lack thereof) during pregnancy and afterwards may critically influence all of these variables. Greater paternal involvement likely reduces maternal partner-related stress, while lack of paternal involvement may increase maternal stress significantly. Paternal financial support can mitigate the effects of poverty, while lack of paternal financial support can be devastating to the new mother and child. It is admittedly difficult to evaluate the impact of paternal involvement in pregnancy on birth outcomes using currently collected metrics, but a body of research is beginning to emerge which focuses on such associations both nationally and in Wisconsin.

For example, a recent study in Wisconsin examined associations between paternity status reported on birth certificates and birth outcomes including pre-term birth and low birth weight. They used paternal report on birth certificates as a surrogate measure of father involvement. The marital status of each infant's mother was categorized into one of four groups: a) married, b) unmarried with voluntary paternity acknowledgement, c) unmarried with court-established child paternity ruling or legitimization, and d) unmarried with no child father on record. Logistical regression models were used to analyze data. These models suggested that, for all races, being unmarried with no father on record was a significant predictor of preterm birth and low birth weight. These models also suggested that black infants were much more likely than white infants to be born to an unmarried mother with no child father reported on the record. The study authors suggest that policies which increase paternal involvement in perinatal period may assist in reducing health disparities in preterm birth.¹⁸

Access to Pre-Natal Care

The IOM did not specifically address another domain that may influence prematurity risk—health care system-related factors, such as access to pre-natal care or continuous health insurance coverage. Wisconsin's BCR policy could very well influence health care system access among

pregnant women by deterring women from early enrollment in Medicaid upon becoming pregnant, so the impact of early access to pre-natal care on birth outcomes is also important to address.

It is uncertain to what extent late entry to prenatal care or poor quality prenatal care contributes to pre-term birth and poor birth outcomes. The research on this question is equivocal, for a variety of reasons. Because prenatal care is the medical standard of care, any randomized clinical trials comparing birth outcomes among women with prenatal care to those without prenatal care would be considered unethical. Instead, researchers use research methods such as cohort studies, case-control studies, or cross-sectional studies to try to assess the relationship between prenatal care and birth outcomes, and these evaluations are more prone to bias. Women who present late for prenatal care often have many other risk factors associated with poor birth outcomes, and it can be difficult to measure and control for such confounding variables to isolate the specific impact of prenatal care. Additionally, what constitutes “adequate” prenatal care remains the subject of debate, as adequate care for a low-risk pregnant woman may be much different than adequate care for a high-risk pregnant woman.¹⁹

Increasing access to Medicaid and prenatal care for low-income women was a major public priority in the mid 1980s and early 1990s; policy-makers reasoned that Medicaid expansion would allow more women access to early prenatal care and that prenatal care would significantly reduce rates of prematurity. Because Medicaid expansion efforts were rolled out incrementally, some authors were able to compare Medicaid enrollment rates and prematurity rates before and after the expansion in order to better estimate the impact of expansion on prematurity or low-birth-weight (LBW) rates (and, in some cases, on infant mortality rates). Howell reviewed 14 of these studies, several of which examined national birth outcome data and several of which looked at state-specific data. She found that there was strong evidence to suggest that Medicaid expansion efforts in the 1990s did enroll new groups of pregnant women into Medicaid and that an uptake in prenatal services was noted. However, the evidence regarding the association between Medicaid expansion efforts and prematurity rates was much less robust. A few studies did demonstrate an association between Medicaid expansion efforts and decreased prematurity or LBW rates, but in these studies the improved outcome was seen more commonly among white infants than among infants of other races. Most reviewed studies were unable to document either a positive or negative association between increased use of prenatal services and rates of preterm birth or low-birth-weight infants of any race.²⁰

Medicaid expansion policies, by ensuring access to early prenatal care for minorities, hoped to correct health disparities in birth outcomes. However, in a recent study, Healy and colleagues used data from the FASTER trial, a prospective cohort study, to look at relationships between early prenatal care and perinatal mortality, and found that significant disparities in perinatal mortality remained even when access to early prenatal care was equal.²¹ The FASTER trial was initially performed to determine if nuchal translucency could be used as a measure of risk for Down Syndrome. All enrolled women were between 10w3d and 13w6d gestation; thus, enrollment in the study served as a marker of early access to prenatal care. The authors recorded the timing of any perinatal loss and divided outcomes into prior to 24 weeks gestation, after 24 weeks gestation, neonatal demise, and a combined outcome of perinatal mortality. Overall, they found that minority races experienced higher rates of pregnancy complications compared to

white patients, and all minority races experienced significantly higher rates of perinatal mortality compared to white patients, with black patients having the highest IMR. Though the black study population had a greater rate of risk factors (such as fewer years of formal education, more likely to be unmarried, and more likely to report smoking during pregnancy), after adjusting and controlling for these risk factors, race remained a significant predictor of perinatal mortality. Based on this study, early access to prenatal care was not in and of itself sufficient to eliminate health disparities in infant mortality. However, it should be noted that all women in this cohort study received early prenatal care; it is possible that birth outcomes and infant mortality rates would have been much worse for women in this study if no prenatal care was received.

In summary, the available evidence suggests that, while Medicaid expansion has been successful in improving access to prenatal care among pregnant women, it is uncertain what impact the provision of prenatal care has on birth outcomes such as prematurity rates and infant mortality. Physicians, public health workers, and health policy makers realize that early access to prenatal care is essential, but other important variables need to be addressed and additional creative solutions proposed to improve birth outcomes.

Life-Course Perspective

Why didn't the Medicaid expansion efforts do more to reduce health disparities in birth outcomes? Early access to prenatal care is likely *necessary but not sufficient* to reduce prematurity rates and improve health outcomes. Experts theorize that, while the pregnancy period is important, events throughout the course of a woman's life are also critical in influencing her ability to carry a healthy pregnancy to term. The life-course perspective developed by Lu and Halfon posits that both early peri-natal experiences and cumulative life stressors contribute to health disparities in reproductive potential between white and black women (see Figure 1).²² Lu and Halfon developed this model by conducting a literature review of previously developed longitudinal models of health disparities and by synthesizing the two leading models, early programming and cumulative pathways, to create a new model with components of both.

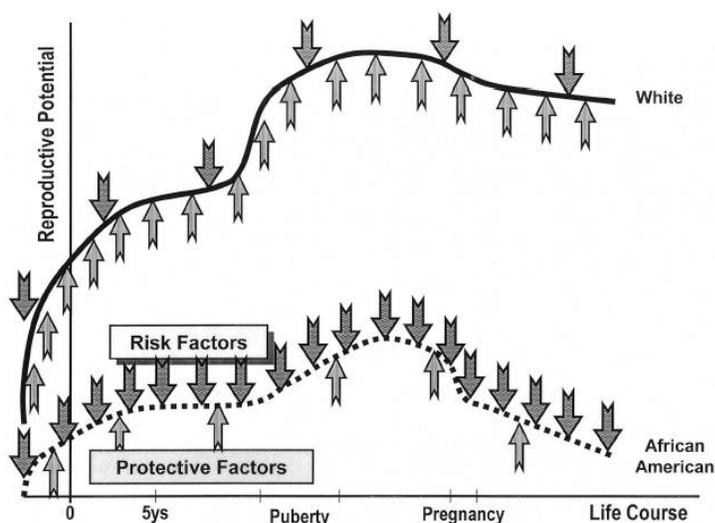


Figure 1. Interaction of early programming and weathering on reproductive potential as part of the life-course perspective. Because of differences in birth outcomes, white and African-

American babies are born already “programmed” with differential reproductive potentials. However, due to differential exposures to risk factors or protective factors, the gap in reproductive potential widens as time passes. (If this paper were submitted for publication, copyright permission for reproduction of this figure would have to be obtained.)²³

Early programming or “fetal origin” proponents argue that the prenatal period is critical, as experiences sustained by a developing fetus while in utero can “program” the fetus and make it more likely that the fetus will experience adverse health outcomes in the future. The importance of the prenatal period on a fetus’s long-term health outcomes was first promulgated by David Barker, who analyzed cohort data from Great Britain to report that among infants born in Hertfordshire, between 1911 and 1930, those who were low-birth-weight had higher rates of death from cardiovascular disease and higher rates of diabetes years later.^{24,25,26} Multiple studies have also demonstrated that a female child who was born premature or low-birth-weight is at increased risk of delivering a premature or low-birth-weight infant herself in the future.^{27,28,29}

However, other factors over the course of infancy, childhood, and adulthood can also impact the likelihood of any woman to experience poor general health status and/or poor birth outcomes. Proponents of the cumulative pathways or weathering hypothesis argue that differential exposures to physical or psycho-social risk factors or protective factors over the course of a lifetime contribute to differential rates of disease among minorities compared to whites, which can in turn lower reproductive potential. For example, when reviewing data from North Carolina, Buescher and Mittal found that racial disparities in birth outcomes as well as disparities in overall health outcomes increased as women aged.³⁰ Holzman and colleagues found that there were significant age-related increases in preterm delivery among black smokers, black non-smokers, and white smokers, and that risk of preterm delivery increased further as neighborhood deprivation index increased.³¹ Risk factors such as poverty, maternal stress, and lack of paternal involvement might be experienced more commonly among minority races; protective factors such as greater socioeconomic resources, safer communities, and greater support might be experienced more commonly among whites. While access to prenatal care is important to maximize the health of the developing fetus, it does not address the substantial gap of reproductive potential which has developed between black women and white women over the course of their lifetimes.

When the life-course perspective is considered as a synthesis of its components, it suggests that investment in the prenatal period is critical, but that other investments are also needed. To reduce health disparities in birth outcomes, policy solutions that invest in the full spectrum of women’s health, community health, and improving social conditions are necessary.

Wisconsin Responses

The problem of health disparities in infant mortality in Wisconsin has spurred various groups to action. The Milwaukee Journal Sentinel published an ongoing *Empty Cradles* series in 2011, providing a wealth of information to the general public on the magnitude of the problem of health disparities in infant mortality, the possible causes of the problem, proposed solutions, and responses of public officials and institutions.³² In November of 2011, the City of Milwaukee publically announced its goal to reduce infant mortality in Milwaukee by 10% in 2017, with a

corresponding goal of a 15% infant mortality reduction among the city's black infants.³³ The City of Milwaukee Health Department has partnered with the United Way of greater Milwaukee to attempt to improve birth outcomes in several of the city's worst zip codes, and the Health Department continues its Strong Babies and Safe Sleep campaigns as well as its annual Infant Mortality Summit.^{34,35,36} The University of Wisconsin School of Medicine and Public Health, through the Wisconsin Partnership Program, has funded a \$10 million initiative and awarded grants to certain communities in Wisconsin that are seeking to eliminate disparities in infant mortality. This initiative, called the LifeCourse Initiative for Healthy Families (LIHFs), encourages grant recipients to use consider the life-course perspective developed by Lu and Halfon when designing their projects. Projects developed by grant recipients in the communities of Beloit, Kenosha, Milwaukee, and Racine must advance the following three goals: improving health care for African-American women, strengthening African-American families and communities, and addressing social and economic inequities.³⁷ Finally, a special legislative committee on infant mortality, composed of 4 state legislators and 15 public members, was appointed to further study the issue, and recently sent its completed report of 11 recommendations to the Joint Legislative Council for consideration.³⁸ Their proposed recommendations ranged from mandating all health professional students trained in Wisconsin to receive cultural competency training, to offering an additional earned income tax credit to certain parents, to requiring documentation of informed consent by pregnant women when performing an elective cesarean section or elective induction of labor prior to 39 weeks gestational age.

Wisconsin's Birth Cost Recovery Policy

Introduction

As the previous pages have demonstrated, health disparities in infant mortality are a significant problem in Wisconsin, and a variety of interventions which consider the life-course perspective have been undertaken in an attempt to find solutions. Curiously, despite increased attention to the issue of health disparities in birth outcomes, there is little awareness and little public discussion of the role that Wisconsin's birth cost recovery (BCR) policy might play in maintaining or perpetuating these health disparities. Wisconsin's BCR policy allows the state to recover pregnancy-related costs paid for by Medicaid from unmarried fathers after the birth of the child, and likely influences critical risk factors for poor birth outcomes including contributing to poverty among low-income families, increasing maternal stress, decreasing paternal support, and decreasing access to prenatal care through delayed initiation or sanctioning. In the next section of this paper, I will define BCR policy, discuss how it is implemented, estimate the magnitude of its effect, and highlight how it may interact with risk factors for prematurity and infant mortality.

Definitions

Birth cost recovery, or recovery of "lying-in" costs, refers to Wisconsin's practice of recouping costs related to pregnancy and childbirth from the unmarried fathers of women receiving pregnancy-related care services through the Medicaid program. While federal statute defines Medicaid pregnancy benefits as an entitlement to pregnant women who meet income criteria, and they cannot be charged for these services, states are permitted to charge unmarried fathers for the

cost of the birth. Again, this policy applies only to unmarried women and their partners who receive pregnancy-related services through Medicaid. (If a married woman uses Medicaid as her insurance source for her pregnancy-related care, her husband is not charged.)

When a pregnant woman applies for Medicaid services, she is asked to name the father of the child as part of her medical assistance application. The father's name is then passed on to the local county child support agency (CSA), and after the birth of the child, the CSA will attempt to recover birth-related costs from the father. Recovery efforts are tied to child support obligation payments, and are set by a judge in family court.

A woman who chooses not to report the name of the father on the Medicaid application cannot be denied Medicaid services while pregnant, but Medicaid benefits will cease six weeks after the birth if she fails to cooperate with child support in identifying the father, a process called *sanctioning*. Women who fear that reporting the father may lead to emotional or physical harm can apply for a *good cause* exemption, and if granted, these women and their children can continue to receive Medicaid services and other public assistance services (such as Wisconsin Works benefits) for which they qualify. However, a good cause request, which is reviewed and decided by economic support workers, can be denied. Should this occur, a woman may be faced with the choice of either reporting the father at risk to her safety or being denied public assistance benefits for which she is otherwise eligible.

Policy Implementation

Child Support Rules

As noted above, the recovery of birth-related costs from an unmarried father is carried out by the local county CSA. Birth cost orders are typically set by family court judges at the same time that ongoing child support obligations are determined, but no support orders or birth cost orders can be entered unless legal paternity has been established.

If parents of a newborn are unmarried at the time of a child's birth, there is no *legal* father on record, even if both parents are present in the hospital for the birth. Legal fatherhood can be established through one of two methods: a) both parents must sign a voluntary acknowledgement of paternity (which usually occurs while parents are in the hospital after birth), or b) paternity is determined by a judge in family court (and will usually involve DNA testing). If paternity is determined by a judge, birth cost and support orders as well as visitation and custody orders might be established concurrently. The establishment of voluntary paternity, on the other hand, does not occur in a courtroom, so fathers may not be aware that orders for birth costs and ongoing support are still entered. Non-custodial parents must be notified by mail of legal proceedings in which child support orders will be set, but child support orders (including birth cost repayment amounts) may be set without their presence and input.³⁹

The amount that unmarried low-income fathers can be charged for birth costs is regulated by Wisconsin statute.⁴⁰ A CSA can ask the judge to set a maximum birth cost order of whatever is lower: one-half of the actual cost of the birth, one half of the regional average amount of the birth, or 5% of a father's income over a 36 month period.⁴¹ Using this formula, low-income fathers between 75% to 150% of the federal poverty level have birth cost amounts set that range

between \$797 (for a monthly income of \$675, 75% of FPL) and \$2430 (for a monthly income of \$1350, 150% of FPL).⁴² For low-income fathers with incomes <75% of FPL, the court is directed to determine “an amount appropriate to the father’s circumstances”.

If the mother chooses, she can waive her right to ongoing child support payments from the father (as she may decide to do if the father lives with her and is providing ongoing financial support). However, the mother cannot choose to waive any birth cost debt, as this amount is not owed to her, but is rather a debt owed to the state.

Once a birth cost repayment amount and/or ongoing child support payment amounts are set by a judge, non-custodial parents are legally obligated to make periodic payments on a monthly basis. If a parent is unable to make a payment, he can accumulate child support arrearages, and these arrearages can be collected through a number of administrative enforcement mechanisms, which may include tax-intercept, liens, or license revocations. If fathers fail to comply despite administrative actions, legal charges of criminal non-support or civil contempt of court can be pursued to further encourage compliance and payment.

Through oral and e-mail communications with individuals in the child support division of the Wisconsin Department of Children and Families (March 2012), I have been informed that birth cost arrearages are kept in a “bucket” distinct from ongoing support obligations. Tax-intercept can be used to recover both birth cost debt and ongoing child support debt, but the use of administrative enforcement actions for the collection of *birth cost* debt specifically, though allowed by law, is rarely used because missed payments on birth-cost related debts are not tracked.

County child support agencies are allowed to collect birth cost debt from fathers, but are not compelled to do so by the state office. However, county CSAs that do collect birth cost monies are allowed to keep 15% of the amount collected for local county office use, which may incentivize counties to pursue birth cost collection to offset other budget shortfalls. Given that birth cost collection is optional, that the amount set is contingent on interpretation of statute by family court judges, and that there is a wide array of administrative mechanisms that may or may not be utilized by local CSAs to collect repayment, there is potential for broad variation in aggressiveness of collection efforts between counties.

Amount of Collections

Many states have abandoned birth cost recovery collection efforts. In fact, Wisconsin is one of only nine states that continues to charge unmarried fathers for birth costs, and it leads those nine states in amount collected per year (email communication with staff from federal Office of Child Support Enforcement, US Department of Health and Human Services, October 2011). Although a comprehensive review of each state’s legislative history regarding BCR policy was beyond the scope of this paper, individuals from the federal OSCE noted that the trend had been for states to lessen enforcement of or to eliminate BCR because of consensus that this type of policy is detrimental to low-income families (email communication with staff from federal OSCE, US DHHS, October 2011).

Individuals in the Bureau of Budget and Policy within the Wisconsin Department of Children and Families provided me with unpublished information regarding birth cost collections in even-numbered years (October, 2011). According to this information, in 2010, the last year for which data was available, Wisconsin collected a total of \$18.8 million dollars in birth costs.

(Importantly, this amount does not encompass collections for births which have occurred in 2010 *only*; it includes money collected for births occurring in previous years as well, from fathers with ongoing debts.) While the bulk of this money was returned to the state Medicaid program, \$2.82 million (15%) was made available to counties for their own use. For the decade from 2001-2010, a total of \$216.7 million was *collected* from unmarried fathers through birth cost recovery efforts (see Figure 2).⁴³

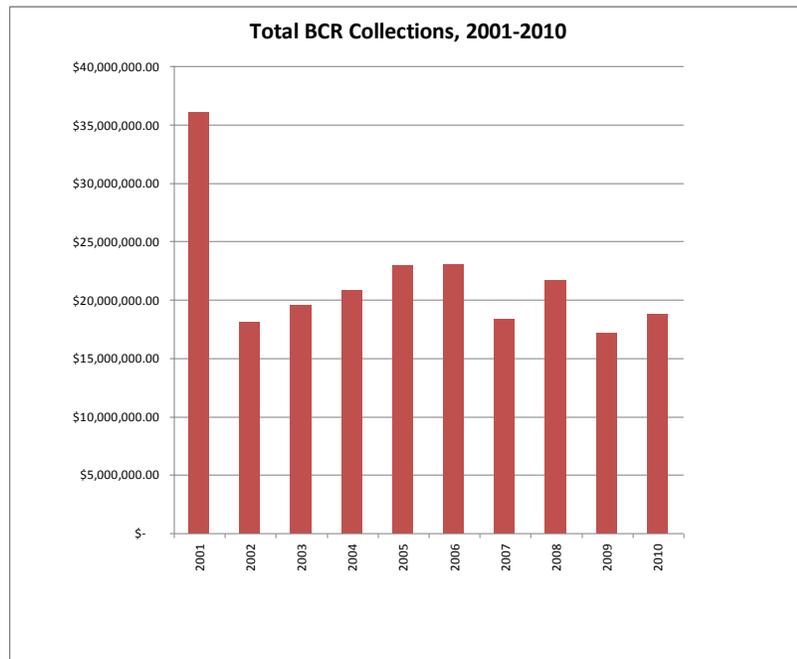


Figure 2. Total BCR Collections in Wisconsin per year, state-wide, during 2001-2010.

The total amount of birth cost debt actually *assessed* per year is unknown – the child support division of the Wisconsin Department of Children and Families was unable to provide me with this information, as it is not routinely tracked. However, an individual from the Wisconsin Department of Children and Families was able to provide me with average HMO Medicaid costs for live births in different regions in Wisconsin—these ranged from \$3,959 in Region 5 to \$5,119 in Region 1 (March 2012). As noted in the preceding section, a judge may set a maximal birth cost order of whatever is lower: one-half the actual cost of the birth, one half the regional average of the birth, or 5% of a father’s income over a 36-month period.⁴⁴ For an estimate of possible total birth costs assessed during 2008 using both low and high-range values for birth cost amounts, please see Table 2.

Estimated Total Yearly Birth Cost Charges Assessed in 2008			
	Birth Cost Amount Charged per Birth	# of Births to Unmarried Women on Medicaid	Estimated Total Amount Assessed (Amount per birth x # of births)
Maximum charge for low-income payer at 75% of FPL	\$ 797.00	21,594	\$ 17,210,418.00
1/2 of Regional Cost of Birth in Region 5	\$ 1,979.50	21,594	\$ 42,745,323.00
Maximum charge for low-income payer at 150% of FPL	\$ 2,430.00	21,594	\$ 52,473,420.00
1/2 of Regional Cost of Birth in Region 1	\$ 2,559.50	21,594	\$ 55,269,843.00

Table 2. Estimated amounts of birth cost charges assessed per year. Assuming all birth cost charges are set using the maximum allowed charge for a low-income payer at 75% of the FPL, a total amount of \$17 million in birth costs would have been assessed for births occurring in 2008 (row one). Assuming that all birth cost charges are set using the maximum allowed charge of one-half the regional cost of the birth in HMO region 1, a total amount of \$55 million in birth costs would have been assessed in 2008 (row 4). The *actual* total amount of birth cost charges assessed per year is unknown; these numbers are provided to give a theoretical range. The true total amount of birth cost charges assessed per year likely lies in between these two extremes.

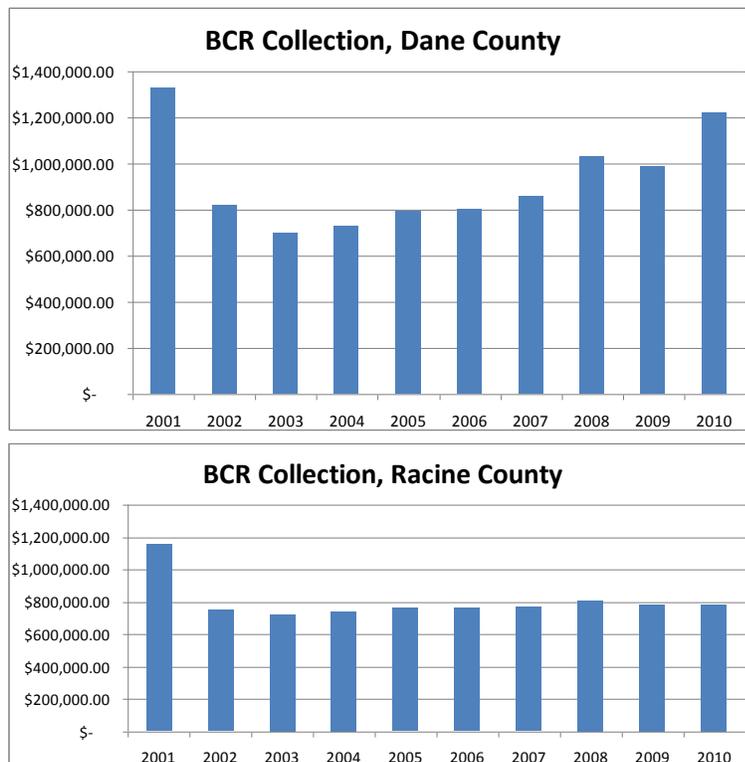


Figure 3. Trends in BCR Collection in Dane and Racine County, 2001-2010.

There does appear to be variation in the amount of birth costs collected by county that is not wholly explained by population density or frequency of births. For example, a review of 10-year trends in Dane County demonstrated a trend towards increased collection efforts between 2003 (~\$700,000 collected) and 2010 (~\$1.2 million collected), while Racine County collections remained stable during that same time period (between \$700,000 to \$800,000 collected per year) (Figure 3).⁴⁵ Such variations in BCR trends supports the hypothesis that the assignment of birth costs is not standardized and that individual counties may be more or less aggressive in their collection efforts, through a variety of mechanisms.

Magnitude of Impact

Data provided by the Wisconsin Department of Health Services, which utilized linked birth event files that connected Medicaid records with newborn hospital discharge summaries, documented that both the percentage of births to unmarried women on Medicaid and the crude number of births to unmarried women on Medicaid have increased slightly each year (December 2011). In 2000, a total of 14,747 births occurred to unmarried women on Medicaid, which represented 22.3% of all births occurring in the state. In contrast, in 2008, a total of 21,594 births occurred to unmarried women in the Medicaid program, which represented 31.3% of all deliveries. Birth cost recovery policy will come into play for *all* unmarried women who receive pregnancy-related Medicaid services. Thus, over the past decade, this policy has impacted large total numbers of women, their unmarried partners, and their children. At present, birth cost recovery policy has a direct impact on nearly one-third of families who have a child in Wisconsin in a given year.

Because any two counties may have larger or smaller numbers of privately insured versus publically insured patients, an individual county may have a larger or smaller proportion of families affected by birth cost recovery policy. For example, while only 10.9% of deliveries occurred to unmarried women on Medicaid in Ozaukee County, 48.5% of deliveries occurred to unmarried women on Medicaid in Milwaukee County (email communication with Wisconsin Department of Human Services, December 2011).

Data also suggests that birth cost recovery policy has a disproportionate impact on black women and their families. A review of data again provided by the Wisconsin Department of Health Services, displayed in table 3 below, demonstrated that in 2008, a total of 18,151 unmarried white women and 6,039 unmarried black women enrolled in Medicaid gave birth (email communication in April 2012). From these numbers, it is evident that larger total numbers of white women were affected by BCR policy than black women. However, a much higher percentage of white women (68%) were married at the time of birth than black women (16%). A white Medicaid recipient who gave birth in 2008 had a 32% probability of being unmarried, and subsequently, a 32% probability of being affected by BCR policy. A black Medicaid recipient who gave birth in 2008 had an 84% probability of being unmarried, and subsequently, an 84% probability of being affected by BCR policy. Among all Medicaid recipients who gave birth in 2008, black women were 2.67 times more likely to be unmarried than white women. In other words, if an unmarried woman gave birth in 2008, and her pregnancy was financed by Medicaid, her partner was 2.67 times more likely to have been charged for the cost of the birth if she was black than if she was white.

Births to Women Enrolled in Medicaid, 2008		
Marital Status	Whites	Blacks
Married	39388	1125
Unmarried	18151	6039
Unknown	1	3
Total	57540	7167
Percent Married	68%	16%
Percent Unmarried	32%	84%

Table 3. Births to women on Medicaid in Wisconsin in 2008, by marital status and race.

Women who are fearful that father identification may lead to physical or emotional harm do have the option of applying for a good cause exemption, which would eliminate the requirement to cooperate with child support agencies. However, this option appears to be largely unused by women in Wisconsin. The federal Office of Child Support Enforcement, in their FY 2009 Annual Report to Congress, noted that in fiscal year 2008, there were only 18 cases open in Wisconsin with good cause determinations.⁴⁶ Women in Wisconsin can request good cause when applying for any number of public assistance programming, so this number does not necessarily refer to merely women who have applied for Medicaid pre-natal care services. However, even if all 18 good cause exemptions were granted to pregnant women *only* (which would be a high estimate), then good cause exemptions were granted to 0.08% of all unmarried pregnant women on Medicaid who gave birth during that year (18 cases/21,594 births in 2008 x 100%). In the same federal OCSE report, the number of women in Wisconsin who were sanctioned for non-cooperation in 2008 was noted to be 543.⁴⁷ Again, this number represents women who may have applied for a number of public assistance programs, not just pregnant women applying for Medicaid coverage of pre-natal care services. The total number of child support cases open at the end of fiscal year 2008 was 355,251.⁴⁸ Though the percentage of women sanctioned as a proportion of open child support cases in Wisconsin is small (543 sanctioned/355,251 active cases x 100% = 0.15%), and the gross number of women sanctioned for non-cooperation is not as high in Wisconsin as in some other states, it still represents a sizeable number of low-income women who would be ineligible for individual Medicaid coverage if they were not currently pregnant.

Consequences of Birth Cost Recovery Policy

Intended Consequences

Off-Sets Costs to Taxpayers

Birth cost recovery policy was created with two purposes in mind: 1) to encourage paternal responsibility by helping to “capture” fathers to ensure payment of child support, and 2) to offset Medicaid birth costs to taxpayers. In the next section, I will discuss available evidence which suggests that this policy does not achieve its first objective. However, the policy does seem to achieve its second objective in offsetting the immediate cost of births and providing some taxpayer relief. In 2010, \$18.8 million was collected, the bulk of which was returned to the Medicaid program. Of note, 15% of collections went to local county agencies, helping to fund some of their operations without additional cost to taxpayers.

Unintended Consequences

Discourages Subsequent Child Support Compliance

While one of the intended goals of BCR policy is to encourage paternal responsibility and ensure regular payment of child support, there is little evidence that BCR policy achieves this objective. In fact, increased levels of debt among non-custodial parents may lead to decreased child support compliance. Woller and Plotnick compiled qualitative evidence that suggested that fathers who carry a high level of child support debt may despair of ever being able to pay off their debt, and may drop out of formal employment to avoid automatic withdrawals and other administrative mechanisms.⁴⁹ Because birth cost debt may be treated differently than other child support arrearages, and because birth cost recovery does not occur in every state, research on the association between birth cost recovery debt and subsequent child support compliance is limited. However, two Wisconsin-based studies did attempt to isolate the impact of birth cost debt on subsequent child support compliance.

In her recent analysis, Bartfeld attempted to distinguish the extent to which high arrears (some of which were due to birth cost debt) were linked to subsequent compliance among fathers of children whose mothers received W-2 benefits.⁵⁰ (It's important to note that, for children of mothers who receive W-2 benefits, the bulk of any child support payments made by the father get passed through to the mother and children. In contrast, any payment made by the father for birth-cost related debt is given directly to the state and not passed through to the mother and children.) The study compared the impact of lying-in orders on subsequent child support compliance among fathers to the impact of high arrears in general on subsequent child support compliance. The results demonstrated that, among discretionary obligators (*i.e.*, among fathers who were not subject to automatic paycheck withdrawal and other administrative mechanisms, and thus were unlikely in the formal employment sector), high arrears *in general* did not discourage subsequent compliance, but the presence of *lying-in orders* did. The results suggested that discretionary obligators were more likely to continue with formal child support when the money was passed through to the mother and children, and less likely to do so if a portion of the money went to the state for birth-cost recovery charges.

In another study, Cancian and colleagues looked at the relationship between birth cost debt and two distinct dependent variables: a) subsequent child support payments by non-custodial parents, and b) formal earnings of non-custodial parents.⁵¹ The authors found that, while some fathers were able to increase their formal earnings and subsequent child support payments when starting with high birth cost debt burdens, other fathers were not able to do so. For fathers who were not employed prior to the birth of their first child, an increase in predicted arrears led to increased child support payments in the first two years after the child's birth. But for fathers who were already employed prior to the birth of their child, increased levels of arrearages led to reductions in child support payments. Importantly, younger fathers (<21 years of age) who previously had strong labor market attachment and participation were likely to have reduced their earnings and their child support payments when faced with higher birth cost debt.

Taken together, the results from these studies suggest that birth cost recovery policy, rather than fostering continuous regular formal child support, may lead to reduced formal child support over the long-term, especially among certain types of fathers. The relationship between general child

support arrearages, birth cost arrearages, and subsequent child support compliance needs to be further delineated before the true impact of birth cost recovery on non-custodial parent support can be truly ascertained.

Perpetuates Poverty for Low-Income Families

As noted above, birth cost arrearages may lead to reduced formal child support. Moreover, any birth cost payment that the father makes does not go directly to the child, but rather goes to the state. Assuming that a father was charged half of the regional cost of the birth (which may be a high estimate if his income is considered to be <150% of the FPL), he will owe between \$1,979 and \$2,560 to the state for birth costs. Even if a non-custodial parent is making regular child support payments which are completely passed through to the mother and child, ~\$2,000 is paid directly to the state and will never be seen by the mother and child. For a low-income woman and child, \$2,000 is not an insignificant amount and could be used for a variety of purposes that contribute to the child's well-being.

Many parents may choose to live together after the birth of the child but remain unmarried. In such situations, the father and mother may both be working and may use their combined incomes to pay for household expenses. In such a situation, where the father is contributing regular financial support to the household and to his child, the mother may waive her right to formal regular support payments collected from the father on the child's behalf by the state. However, the birth cost debt owed to the state must still be paid, and the removal of \$2,000 from the household likely contributes to financial hardship and stress for low-income families.

Increases Maternal Stress and Parental Conflict

Infants born to unmarried mothers receiving prenatal care services through Medicaid are, by definition, born to low-income women who are likely to have decreased formal financial and emotional partner support compared to women who are married. It is easy to imagine how the complicated tangle of birth cost and child support charges that ensue after the birth of the child can worsen the relationship between the unmarried parents. An unmarried mother may not be aware of the amount of birth cost repayment assigned to the unmarried father after the birth, and she certainly has no input into what amount is charged nor how debt is collected. An unmarried father may assume that payments removed from his check for birth costs are being paid to the mother, and may not appreciate that the total amount of support taken from his earnings does not go directly to the mother and child. Parental conflict regarding child support can lead to decreased father involvement in the life of the child. Additionally, if an unmarried father has previous experience with birth cost recovery policy, he may reduce his formal monetary support and/or emotional support to the mother during her pregnancy, perhaps as a compensatory mechanism for the payment he knows he must make to the state after the birth.

Creates Barrier to Accessing Pre-Natal and Inter-Conceptional Care

If an unmarried pregnant woman has previous knowledge or experience with birth cost recovery policy, she may be tempted to go without pre-natal care or to refuse to identify the father on the Medicaid application in order to prevent him from incurring a birth cost debt after the birth. As noted previously, a woman cannot be denied Medicaid prenatal care services while pregnant, but she can be sanctioned for non-cooperation after the birth of the child. Advocates working with low-income women in the Milwaukee area have reported that fear of BCR policy has led to increasing numbers of women arriving at hospitals in labor without having prior pre-natal care (oral

communication, October 2011). Additionally, sanctioning for failure to cooperate with child support is not uncommon, and occurred for 543 Wisconsin women in 2008 (see Policy Implementation—Magnitude of Impact section). A woman who is sanctioned does not have access to Medicaid and thus is unlikely to have health care access when not pregnant. For women who have previously experienced an poor birth outcome, continuous access to health care is important for ensuring inter-conceptual care and reduction of risk factors. Lack of continuous inter-conceptual care can contribute to poor pregnancy outcomes in the future.

Contributes to Health Disparities in Infant Mortality

As discussed previously, Wisconsin has significant health disparities between black and white infants in regards to infant mortality rates, and more black deaths are attributed to prematurity than any other cause. Risk factors for prematurity include certain demographic factors such as unmarried status and poverty, maternal stress, and lack of father involvement. While increased access to pre-natal care has not clearly reduced prematurity or eliminated health disparities in pre-term birth, access to pre-natal care and inter-conceptual care are still undeniably important in ensuring healthy birth outcomes. Figure 4 illustrates how the birth cost recovery policy directly influences many of the risk factors associated with pre-term birth, thereby increasing the risk of pre-term birth for all women receiving Medicaid benefits in Wisconsin, regardless of race.

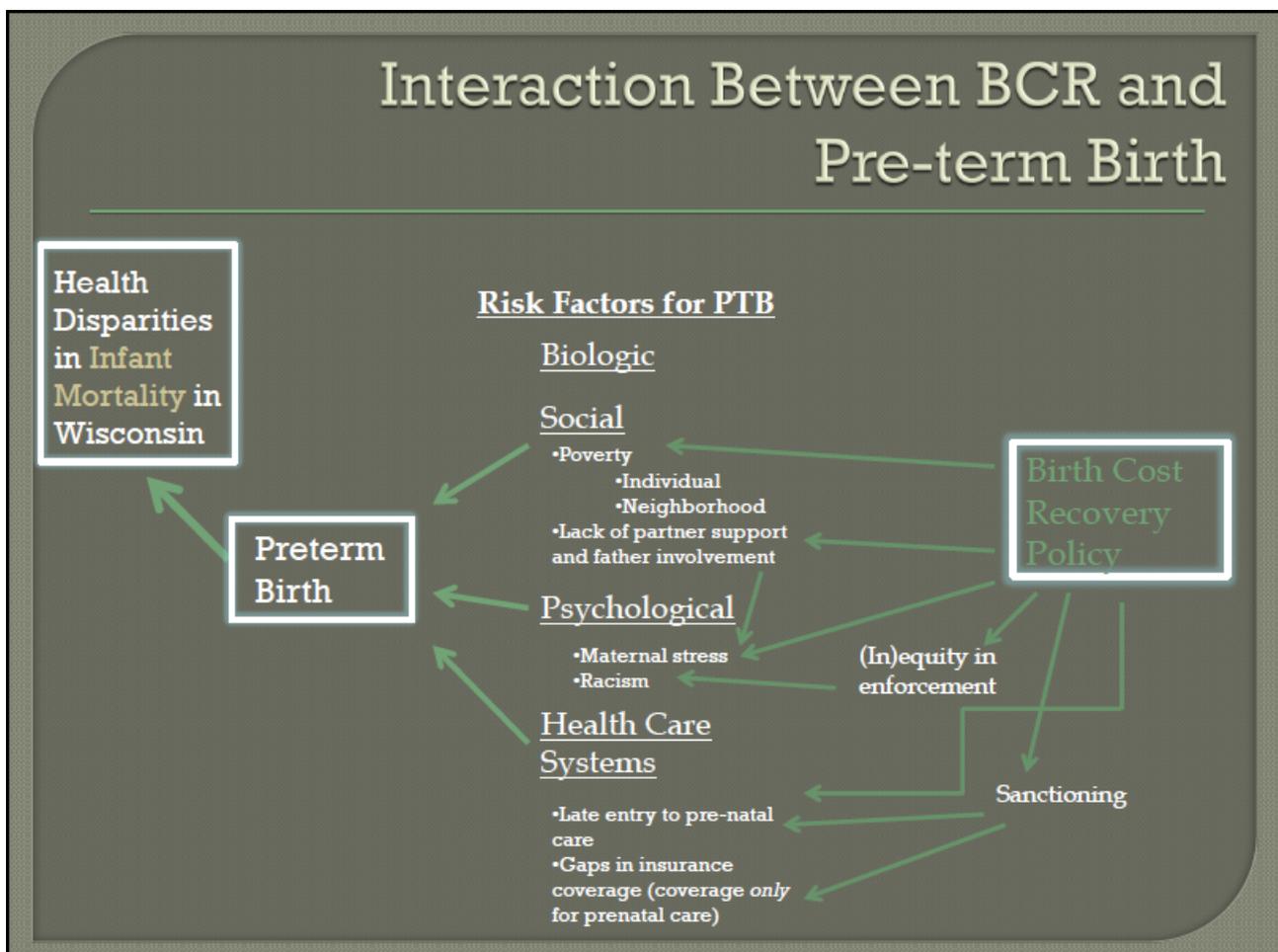


Figure 4. Interaction between birth cost recovery policy and health disparities in pre-term birth and infant mortality in Wisconsin (reproduced in larger form in Appendix 2).

Because the effects of BCR policy are experienced among a greater proportion of blacks than whites, knowledge/fear of the policy as well as subsequent impact of the policy on birth outcomes may be much more widespread in the black community. If true, birth cost recovery policy may play a role in perpetuating health disparities in birth outcomes between blacks and whites in our state.

Estimated Costs of Poor Birth Outcomes

Prematurity

If BCR policy does contribute to increased rates of pre-term birth and infant mortality, it would add significant costs to the state's Medicaid and education budgets. The scope of this analysis does not permit a detailed estimation of the number of pre-term births and/or infant deaths that may be prevented by elimination of this policy. However, even if this policy results in only a few excess pre-term births, the costs associated with those births can be substantial.

In 2005, the IOM estimated that the total economic burden associated with the birth of a pre-term infant was \$51,600, over two-thirds of which was for direct medical costs, with the remainder of costs going towards early intervention and special education services.⁵² In 2010, 7,414 infants in Wisconsin were born prior to 37 weeks gestation, representing 10.9% of all births.⁵³ Using the IOM estimate above, the cost of direct medical costs and education for these infants will be

$$\$51,600 \times 7,414 = \$382,564,000.$$

Many of these infants would have been privately insured; hence, the state did not bear the burden of paying for all direct medical costs. However, a significant proportion of these infants were likely to have been enrolled in Medicaid. In 2008, 47% of all births occurring in Wisconsin were paid for by Medicaid (email communication with Department of Health Services, December 2011). If we assume that 47% of the 7,414 premature infants born in 2010 were ultimately enrolled in Medicaid as well, the cost to the state associated with direct medical costs and education for these infants will be

$$7,414 \times 47\% = 3,484 \text{ premature infants on Medicaid} \times \$51,600 = \$179,774,000.$$

The total birth cost amount collected from low-income families in 2010 was \$18.8 million, the majority of which was used to re-pay the Medicaid program for pregnancy-related costs sustained by enrolled unmarried women. It may be hard for policy-makers to imagine abandoning a policy which brings additional revenue into state coffers, especially in this era of budgetary deficits. However, if elimination of this policy resulted in decreased incidence of premature births, the state revenue lost from failure to collect birth costs would be offset by reductions in need for Medicaid and education services to children who are no longer born premature. If we again use \$51,600 as the cost to the state of providing medical care and educational services to each premature infant,

$$\$18.8 \text{ million in birth costs} / \$51,600 \text{ per premature infant} = \text{Need for 365 cases to be prevented.}$$

In other words, the prevention of 365 cases of prematurity yearly (equivalent to prevention of 5% of preterm births yearly) would lead to sufficient savings such that the lost state revenue from failure to collect birth costs would be offset.

Infant Mortality

While calculation of the costs associated with prematurity is important when considering modifications to Wisconsin's BCR policy, a calculation of costs associated with infant mortality is also important. It is difficult to quantify the financial costs incurred to government and to society because of the death of an infant, and any attempt to do so must involve complex calculations and complicated economic models. Any losses to government and society due of the death of an infant are greater than any losses sustained due of the death of an older adult, because children theoretically have an entire life of work (and economic productivity) ahead of them.

There are numerous articles in the economic literature that attempt to quantify the value of an average life in the United States based on productivity generated through employment. In his review of a number of studies in the early 1990s, Viscusi noted that most authors placed the economic value of a life between \$3 million and \$7 million.⁵⁴ Also, a recent study by Connolly *et.al.* in the health services literature used a generational accounting model to estimate the lifetime net tax contribution of both children conceived naturally and children conceived through IVF-pregnancies.⁵⁵ (The article was arguing for government subsidies to pay for IVF treatments for infertile couples.) The authors adjusted their estimate of lifetime tax contribution for two types of expenses: congestible (including government money allocated for roads, fire/police protection, sewer services, etc.) and transfer (including government money allocated for social security, disability, food stamps, public education, and others). They found that, for a naturally-conceived child with average employment, a lifetime gross tax contribution of \$633,600 was generated. Using the estimates generated in these two studies, we can conclude that one infant death could result in the loss of ~\$630,000 in direct tax-revenue, with an additional loss of \$3 million to \$7 million in economic activity. When viewed through the lens of lost economic productivity, the death of an infant becomes more than a health problem—it's an economic problem.

Of course, the death of an infant cannot be measured solely in economic terms. The death of an infant also has repercussions on the mental health of its parents and family members, which could translate into increased work absenteeism, increased health care spending on behalf of the grieving parents, and decreased productivity. Furthermore, health disparities in infant mortality may contribute to feelings hopelessness among members of affected communities and distrust between members of different races, limiting community-building efforts and impacting race relationships. While such individual, family, and community-level costs are difficult to quantify, they should also be at least briefly considered. If elimination of BCR policy reduced health disparities in infant mortality, the benefits reaped by society could include amelioration of many of the above associated problems.

The Value of a Life

While the above sections have demonstrated that the costs associated with premature birth and infant mortality are substantial, it still may be difficult for policy-makers to determine what quantity of governmental resources are appropriate to address this problem. Elected officials have only a finite amount of resources, and smart policy-makers will use those finite resources for programming which produces large, significant, positive outcomes. In other words, a mechanism is needed to determine the cost-effectiveness of various interventions, so that a finite amount of resources can produce maximal societal good.

When considering the problem of infant mortality, it is important to recognize that any intervention that prevents premature mortality or improves the quality of life of children will be more cost-effective, on average, than interventions that eliminate premature mortality or improve the quality of life of adults, because younger individuals (children) are more likely to live a greater period of time in good health than older individuals (adults) who are closer to death. To better understand this, it's helpful to discuss the significance of a quality-adjusted life year (QALY), a concept used by health economists to attempt to compare the cost-effectiveness of various life-saving and life-prolonging interventions in medicine. A QALY represents an additional year of life in perfect health, and economists typically compare the estimated cost of an intervention per QALY generated.⁵⁶

For example, assume that an intervention X which eliminates premature death could be applied to either an infant or adult population. (Perhaps it prevents a catastrophic accident which would lead to death, and if the accident doesn't occur the individual remains in their present state of health for many additional years.) If applied to an infant population, intervention X prevents death in an infant which would have occurred at 6 months of age, and the infant goes on to live for an additional 70 years in perfect health. The intervention costs \$1 million, but it generates 70 QALYs:

$$\text{\$1 million} / 70 \text{ QALYs} = \text{\$14,286/QALY gained}$$

Now let's assume that intervention X is applied to an adult population instead. It now eliminates the death of an adult prior to age 40, and that adult goes on to live until age 70 in perfect health. The intervention still costs \$1 million, but now only 30 QALYs are generated:

$$\text{\$1 million} / 30 \text{ QALYs} = \text{\$33,333/QALY gained}$$

As these calculations demonstrate, the intervention is a better bargain when applied to the younger population.

It's certain that prevention of one infant death will not routinely generate an additional 70 years of perfect health – over the course of 70 years, that infant will develop other health complications which may reduce overall quality of life, and QALYs would need to be adjusted downward as that occurs. However, for purposes of this analysis, I will continue to use the simplified estimate that prevention of 1 infant death results in 70 QALYs.

As discussed throughout this paper, the causes of prematurity and infant mortality are complex, and BCR policy is one of many factors influencing the rate of these poor birth outcomes. Complete elimination of BCR policy will not lead to complete elimination of infant mortality. However, elimination of BCR policy should reduce certain risk factors for poor birth outcomes, and as part of a multi-faceted strategy, may result in a small reduction in infant mortality overall. In 2010, a total of 393 infants in Wisconsin died prior to the age of one year.⁵⁷ If we assume that elimination of BCR policy reduces infant mortality among 5% of those infants, we find that 19 deaths are averted. Each of those 19 infants saved would generate \$630,000 in gross tax-revenue over the course of their lifetimes, between \$3 million to \$7 million in economic productivity, and 70 QALYs. The overall benefits calculated by saving 19 infants per year includes a total gross tax revenue of ~\$12 million, total economic productivity of \$57 million, and a total of 1,330 QALYs generated (see Table 4).

If BCR Policy Elimination Results in 5% Infant Mortality Reduction...			
Benefit	Estimate for 1 infant	Total # of Infants Saved	Total Impact
Lifetime Gross Tax Contributions	630,000	19	\$ 11,970,000
Economic Productivity	3000000	19	\$ 57,000,000
QALYs	70	19	\$ 1,330

Table 4. Benefits associated with a 5% reduction in current IMR in Wisconsin.

In 2010, the state of Wisconsin collected ~\$18 million in birth costs. If BCR policy was eliminated, and a 5% reduction in infant mortality was noted as a result, Wisconsin would “spend” \$1 million per life saved. From a pure cost-benefit perspective, if each life saved generated only \$630,000 in gross tax-revenue, paying \$1 million per child saved would create a \$270,000 deficit per child. (This is ignoring potential cost savings to the state from reduction in prematurity rates, discussed in a previous section.) However, from a cost-effectiveness perspective, spending \$1 million per child to generate ~70 QALYs is a true bargain, resulting in a cost of \$14,300 per QALY gained. In fact, many life-saving interventions used routinely in medicine have a much higher cost per QALY. For example, the cost/life-year associated with having a pap smear every 3 years among women age 20-74 was found to be \$24,011 per QALY, while the cost/life-year associated with obtaining annual mammograms for women between the ages of 55-65 was \$41,008 per QALY.⁵⁸ Tengs and colleagues reviewed the cost-effectiveness of over 500 life-saving interventions, categorizing these interventions as either medical (*e.g.*, childhood immunizations), fatal-injury reducing (*e.g.*, requiring cars to have airbags), or toxin control (*e.g.*, control of asbestos).⁵⁹ These authors found that the median medical intervention cost \$19,000 per life-year, the median injury reduction intervention cost \$48,000 per life-year, and the median toxin-control intervention cost \$2.8 million per life-year. When compared to the cost-effectiveness of other interventions, the argument to invest resources to eliminate infant mortality carries much more weight.

Policy Alternatives: Outcomes and Tradeoffs

Policy-makers could consider several potential modifications to Wisconsin’s current BCR policy which would have varying impacts on economic feasibility, administrative feasibility, population birth outcomes, and equity. Three alternatives to the current policy are further described in the text and in Table 5 below. In the ensuing analysis, *economic feasibility* refers to the immediate overall financial impact to the state from reduction in birth cost collections or increased Medicaid costs created by the policy change. (As noted previously, the overall financial impact of current BCR policy to the state is uncertain, particularly if BCR policy contributes to poor birth outcomes which ultimately lead to increased state costs in medical and educational expenses.) *Administrative feasibility* refers to the ease with which this change could be implemented and coordinated among all involved state and county bureaucratic agencies. The criterion of *population birth outcomes* refers to the influence of the policy change on birth outcomes such as prematurity rates and infant mortality rates, and considers the magnitude of the

impact—is there a large population health benefit, or only a small one? The final criterion, *equity*, refers to the ability of the proposed policy change to increase or decrease equity among those the policy directly impacts.

When ranking overall desirability of the different policy alternatives, each criterion was given a score of -2 to +2. Favorable impacts (state budgetary cost savings, lack of administrative hassle, improvement in birth outcomes, or increase in equity) were given positive scores, while negative impacts (immediate losses to state revenue, increased need for administrative coordination, less favorable birth outcomes, and decreased equity) were given negative scores. All criteria were given equal weight and total scores for each policy alternative were calculated.

Policy alternative A, the “Never Sanction” Policy, would eliminate the ability of local CSAs to sanction high-risk women who have previously experienced a poor birth outcome. In other words, a woman who had previously given birth to a premature infant or an infant who subsequently died would be continuously eligible for Medicaid whether or not she chose to cooperate with child support. As noted previously, the number of women sanctioned in Wisconsin is small relative to the number of open cases with child support. In 2008, 543 women were sanctioned for non-cooperation. Making the assumption that one-third of these women had previously experienced a poor birth outcome, ~180 women per year might meet criteria to become “never sanctioned”. An estimation of the immediate financial impact to the state in terms of birth cost collection reduction is difficult, because it is uncertain if these women will become pregnant, and if they did become pregnant, birth costs could still technically be charged to their unmarried partners. If they do not become pregnant, but continue to receive Medicaid services and inter-conceptual medical care, the state will bear the additional cost of these health care services. However, given that the overall number of women eligible to become “never sanctioned” is small, any additional Medicaid costs sustained because of inter-conceptual care are likely to be minimal (economic feasibility score = 0). In terms of administrative feasibility, institution of a “never sanctioned” rule for certain women is likely to be difficult and require coordination between multiple state and county agencies (administrative feasibility score = -2). In terms of its impact on birth outcomes, this policy alternative would target women at high-risk for poor birth outcomes and is likely to have the highest efficiency in terms of total birth outcome improvement per dollar spent. However, the total number of women eligible is very small, so overall population health outcomes are unlikely to be changed (impact on birth outcomes = 0). Finally, in terms of its impact on equity, under this policy only certain women would be “never sanctioned”, so any resultant benefits gained by recipients of this new policy would not be evenly distributed to the larger population affected under the current policy (impact on equity = -1) (Table 5).

Criterion	Policy A: “Never Sanction”	Policy B: “Birth-Friendly County”	Policy C: Expanded Good Cause	Policy D: Statewide BCR Elimination
Economic feasibility:	(0) Possible increased cost of inter-conceptual care, but total number of women affected is small so state costs minimal	(-1) State loses previous birth cost collection monies, but only in certain counties	(-1) State loses previous birth cost collection monies, but only from certain payers granted exemption	(-2) State loses annual birth cost collection monies, currently in the range of \$15 to \$20 million yearly
Administrative feasibility:	(-2) Difficult to coordinate policy throughout various state and county agencies; eligible women may be from multiple different counties	(-1) May require coordination efforts in designated counties, but no need for coordination statewide	(-2) Requires training of those who assist with Medicaid applications; requests for exemption must be reviewed individually	(-0.5) Initial administrative bumps, but uniform nature of elimination makes adaptation of policy easier
Impact on population birth outcomes:	(0) High-risk women are targeted, but total numbers are small, so unlikely to have notable population-based improvements	(+0.5) Improved birth outcomes for women in certain counties; may be minor changes in overall health outcomes	(+1) Improved birth outcomes for certain women (many of whom may be high-risk) if exemptions are fairly granted	(+2) Elimination of BCR for all unmarried pregnant women and largest potential for improvement in overall health outcomes
Impact on equity:	(-1) Only certain women are eligible for the policy; overall contribution to inequity small because of small numbers of women involved	(-2) Eligibility for policy benefits contingent on geographic location	(-1) Eligibility for policy benefits depends on individual case review by economic support worker	(+2) Universal removal of BCR; no preference based on geography or risk status
OVERALL	-3	-3.5	-3	+1.5

Table 5. Summary of policy alternatives, with scores for each criterion as well as overall scores.

Policy alternative B, the “Birth-Friendly County” Policy, would allow the state to conduct a natural experiment by mandating that one or two representative counties do not collect birth costs, either by specifically prohibiting collection of birth costs in those counties, or by providing these counties with grant offsets to make up for the reductions in collections. Since I have previously argued that BCR policy contributes to health disparities in infant outcomes, it would be important for the state to select a county with significant black population to be one of the “Birth-Friendly” counties so that health disparity outcomes could be tracked before and after the policy change. In regards to economic feasibility, the immediate impact to the state from reductions in birth costs collected may be large, particularly if the counties involved had large annual birth cost collections. However, the immediate cost to the state from making the policy change in one or two counties is small compared to the cost required to eliminate the BCR in all counties (economic feasibility score = -1). In terms of administrative feasibility, elimination of the collection of birth costs in only certain counties would involve some administrative hassle,

but all cases in a given county would need to be treated the same, making the process standardized on a county-by-county basis (administrative feasibility = -1). In terms of impact on population birth outcomes, this policy alternative would affect a larger number of women than policy alternative A, but the total overall potential effect of policy change on population health outcomes is likely to be small (impact on birth outcomes = +0.5). Finally, in regards to impact on equity, this policy would extend protection from birth cost recovery to women by virtue of their geographic location only. The distribution of any benefits gained would be inequitable in nature, thus, this policy alternative has a low impact on equity score (-2) (Table 5).

Policy alternative C, the Expanded Good Cause Policy, would expand an unmarried pregnant woman's ability to apply for good cause exemptions. She would continue to be able to apply for good cause if she felt that father identification would result in emotional or physical harm to herself or her baby. Additionally, she could apply ask for a good cause exemption if she felt that identification of the father would lead to significant financial harm and/or loss of his financial support during or after her pregnancy. Essentially, she could petition the state on behalf of the father to have his birth cost debt forgiven. In regards to economic feasibility, the state may lose out on immediate birth cost collections. It's difficult to know the extent of loss of collections because at this time, no data is available which demonstrates what proportion of collections is from low-income payers. However, the loss in collections could be fairly large in magnitude (economic feasibility score = -1). In terms of administrative feasibility, this policy would involve education of all those who help pregnant women apply for Medicaid services, as well as training of economic support workers regarding the new exemption request, and good cause requests would need to be reviewed on a case-by-case basis, requiring significant investment to make this policy work (administrative feasibility score = -2). In terms of impact on birth outcomes, this policy alternative would make the good cause exemption apply to more unmarried pregnant women, and might selectively benefit women at high-risk of birth outcomes, as high-risk women might apply for exemption in greater numbers (impact on birth outcomes = +1). In regards to equity, this policy would not apply uniformly to all unmarried pregnant women, and granting of good cause financial exemption would occur on a case-by-case basis. The distribution of any benefits gained would depend on the individual circumstances of a woman and her partner, as well as the sensitivities of the economic support worker determining if the exemption should be granted (impact on equity = -1) (Table 5).

Policy alternative D, the Birth Cost Recovery Elimination Policy, would require that the state eliminate the practice of BCR completely for all unmarried pregnant women insured by Medicaid, regardless of county of residence or risk status. When evaluating economic feasibility, this alternative does present immediate financial losses to the state. If Wisconsin chose to pursue this policy option, it would forfeit \$15-\$20 million in collection of birth costs from unmarried fathers annually (economic feasibility = -2). When evaluating administrative feasibility, the institution of this policy would likely involve some initial administrative confusion, but its uniform nature (all birth cost recovery is eliminated everywhere in the state) would more than likely reduce hassles (administrative feasibility = -0.5). When evaluating the potential impact on birth outcomes, this policy alternative would apply to all unmarried pregnant women enrolled in Medicaid in the state of Wisconsin. This policy alternative eliminates BCR for all currently affected women. If BCR interacts with risk factors for prematurity and infant mortality as discussed in this paper, complete elimination of this policy for all residents would have the

largest potential impact on population birth outcomes (+2). Finally, the universal application of this policy would be most equitable, as all those who are currently affected by BCR would immediately receive similar protections from BCR. Additionally, the disproportion impact that BCR policy has on pregnant black women would be eliminated (+2) (Table 5).

Summary and Recommendations

When birth cost recovery policy was first implemented, it is likely that policy-makers hoped it would contribute to decreased tax-payer expense and increased paternal responsibility. However, the policy appears to have many unintended consequences that result in significant additional costs to the state. Instead of encouraging paternal responsibility, birth cost recovery policy contributes to high levels of debt among unmarried fathers and may in fact *decrease* subsequent payment of child support by certain subsets of fathers. Because birth cost recovery payment goes directly to the state, money is removed from the pockets of low-income mothers and their children, perpetuating poverty for these families, which is also against the goal of child support in general. Finally, birth cost recovery may influence risk factors for pre-term birth and infant mortality, and the likelihood of being affected by birth cost recovery policy is much higher in the black population, a population that is already at substantially increased risk of poor birth outcomes. These unintended consequences may lead to unanticipated state costs, such as increased need for public assistance programs for low-income families (because of ensuing lack of formal child support if high birth cost charges are assessed) and increased costs to Medicaid programs (to pay for excess pre-term births). If elimination of BCR policy resulted in a 5% reduction in number of infant deaths yearly in Wisconsin, the state would essentially spend \$1 million per life saved. However, given that interventions to reduce premature death in younger populations are more cost-effective than similar interventions in older populations, cost-effectiveness analysis indicates that elimination of BCR policy would be a sound investment.

The life-course perspective suggests that, if the state aims to reduce health disparities in preterm birth and infant mortality, it needs to look beyond access to prenatal care and invest in broad-based policy solutions to improve the overall health of women, communities, and social conditions. BCR policy is uncommon elsewhere in the country and implemented throughout the state of Wisconsin on a county-by-county basis. Thirty percent of births occurring in Wisconsin in 2010 were to unmarried women on Medicaid, indicating that this policy impacted the birthing experience of approximately one-third of women in Wisconsin who gave birth in that year. BCR policy influences a variety of risk factors for preterm birth and infant mortality, and the influence of this policy may be more widespread within the black community. The exact relationship between preterm birth/infant mortality and BCR policy is admittedly difficult to determine, and elimination of BCR policy is unlikely to achieve immediate and complete black-white parity in incidence of preterm births and infant death. However, modification or elimination of BCR policy could be an important component of a comprehensive effort to reduce such disparities in Wisconsin, and an example of broad-based policy solutions that the life-course perspective endorses.

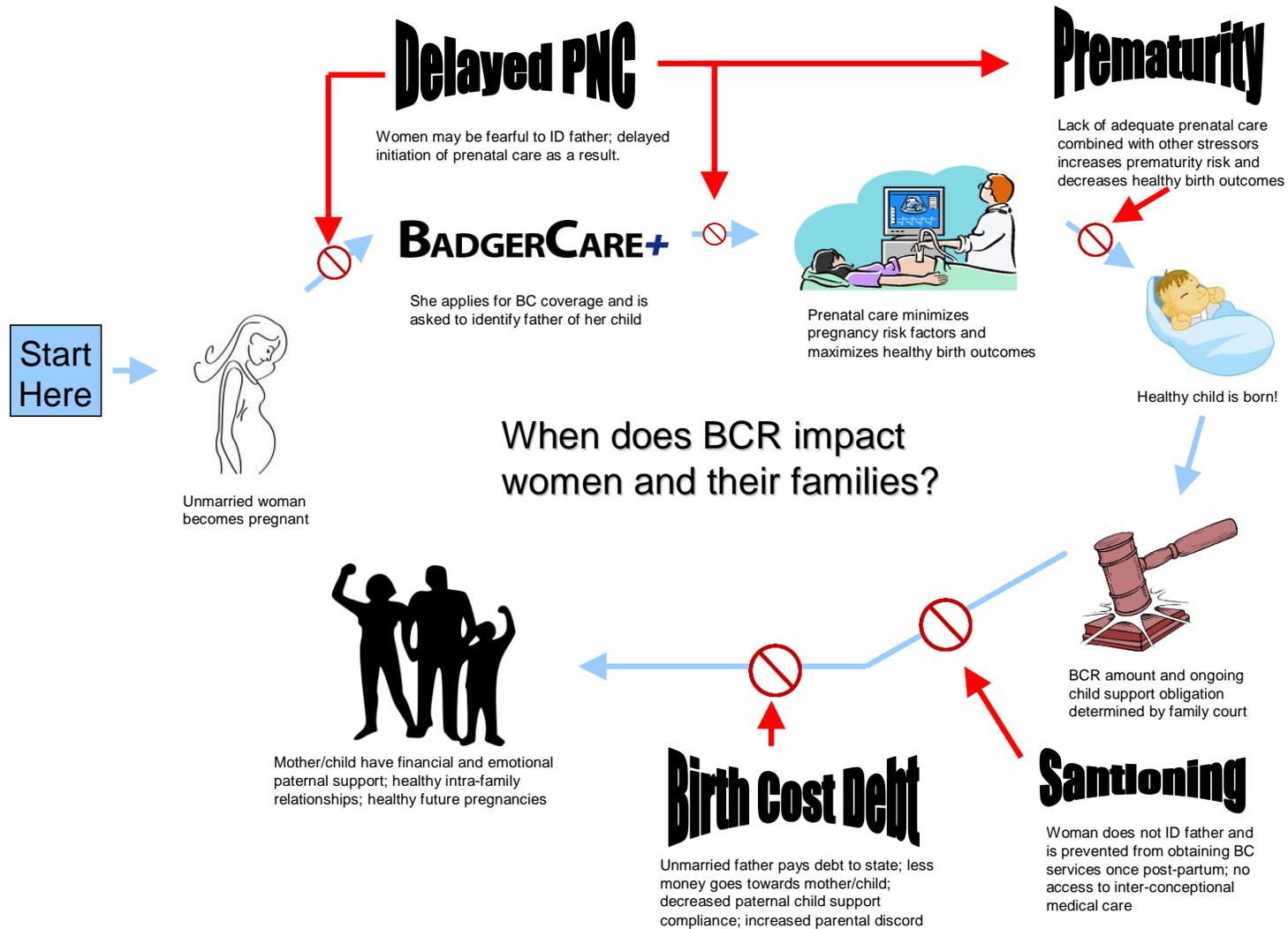
A review of the overall score assigned to each policy alternative demonstrates that policy alternative D, complete elimination of BCR statewide, would be the most optimal policy solution. Implementation of this option would have the largest potential for improving birth outcomes and

would lead to wide-spread benefit to all currently affected low-income women, their partners, and their children. While the immediate financial losses to the state will make pursual of this policy alternative difficult, this policy alternative may have long-term financial benefits that are not immediately apparent. Additionally, if the state of Wisconsin has determined that reduction in disparities in birth outcomes is an important priority, the criterion of population birth outcomes might be more heavily weighted than economic feasibility, which would increase the positive overall score of policy alternative D yet further. For all these reasons, the elimination of BCR should be considered as part of Wisconsin's multi-faceted strategy towards improving health disparities in infant mortality.

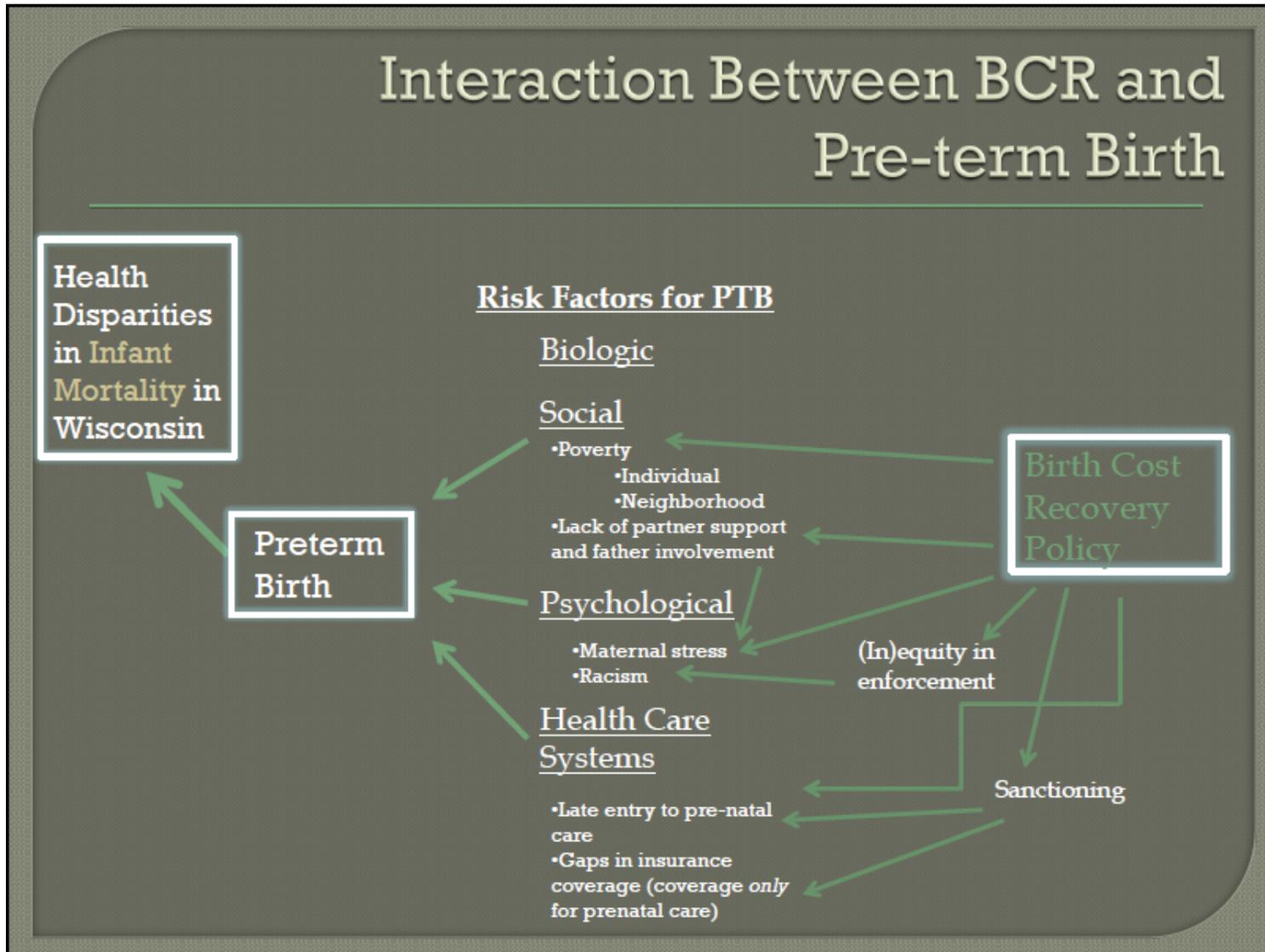
Regardless of whether or not the state chooses to take action, it is important for other academic and non-profit groups who are investigating health disparities in birth outcomes and infant mortality to be aware that BCR policy exists and may significantly impact unmarried pregnant low-income women and their families. More research is needed on how this policy impacts variables such as maternal stress, paternal involvement in pregnancy and post-natal care, and parental discord, as well as how it influences a pregnant woman's thought process regarding applying to Medicaid and seeking pre-natal care. As more information about the impact of this policy becomes available, it will be easier to quantify the implications of continuing with, modifying, or eliminating this complex policy.

Appendix 1 (Handout): BCR and its Negative Impact on Infant, Maternal, and Family Health.

BCR: Negative Impacts on Infant, Maternal, and Family Health



Appendix 2 (Handout): Interaction between BCR Policy and Pre-term Birth.



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