

Using Data from the Manitoba Centre for Health Policy to Help Us Understand Child Health

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Moving Child Health Data into Practice

National Child Day Forum, 2010, Pre-Conference
Workshop, Winnipeg, MB, November 15, 2010



Manitoba Centre for Health Policy

- University of Manitoba
- unit of the Department of Community Health Sciences, Faculty of Medicine
- 1991 ... but a long history pre-dates this
- Five-year contracts with Manitoba Health; 6 deliverables per year
- Independently funded research



Manitoba Centre for Health Policy

MISSION

MCHP is a research centre of excellence that conducts world class population-based research on health services, population and public health, and the social determinants of health. MCHP develops and maintains the comprehensive population-based data repository on behalf of the Province of Manitoba for use by the local, national and international research community. MCHP promotes a collaborative environment to create, disseminate and apply its research. The work of MCHP supports the development of policy, programs and services that maintain and improve the health of Manitobans.

VISION

MCHP sets the international standard for using population-based secondary data to create new knowledge that informs health policy, social policy and service delivery.





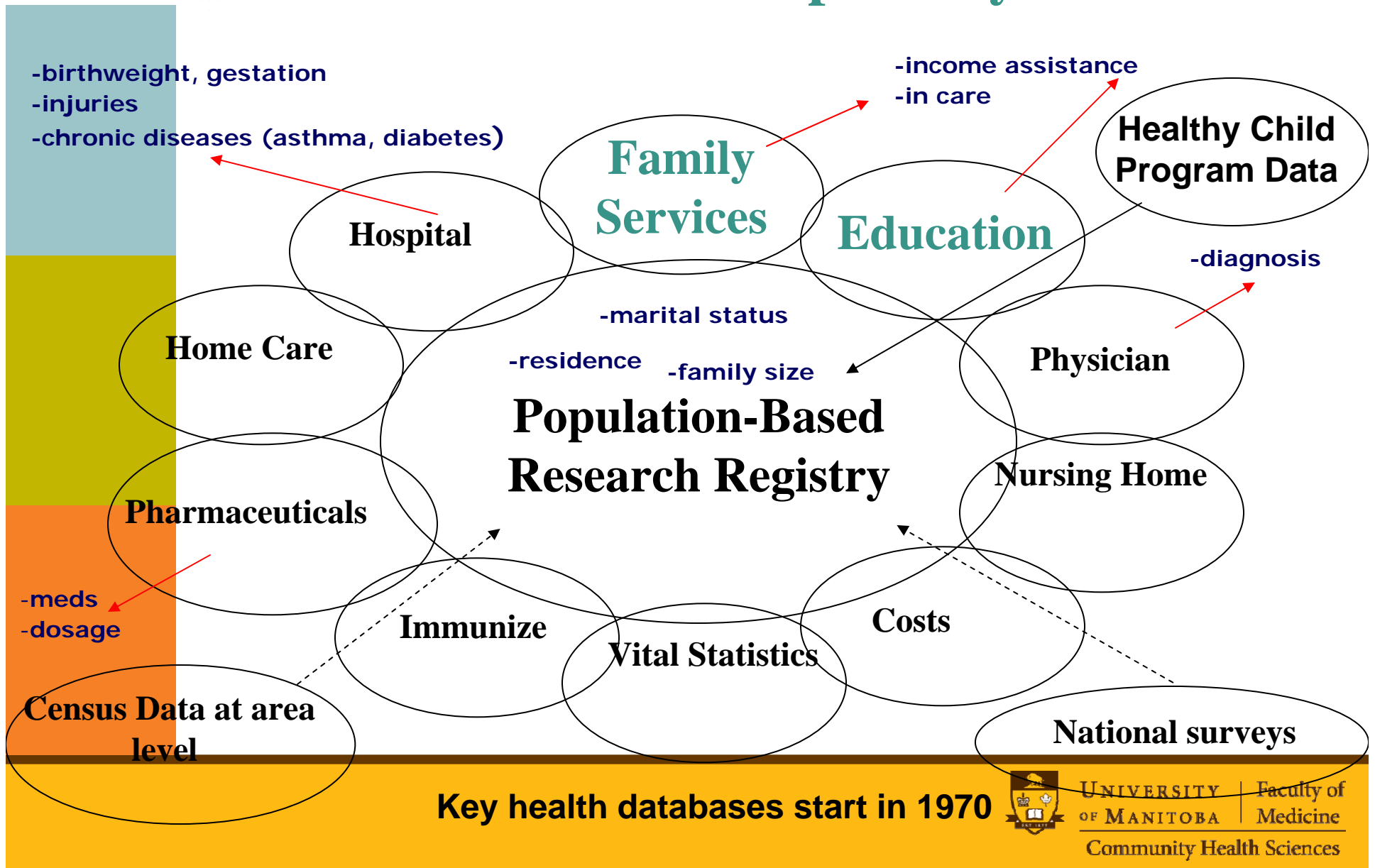
Birthday Game Disasters

**Making
decisions
“in the dark”??
...
or using
population-based
research evidence**

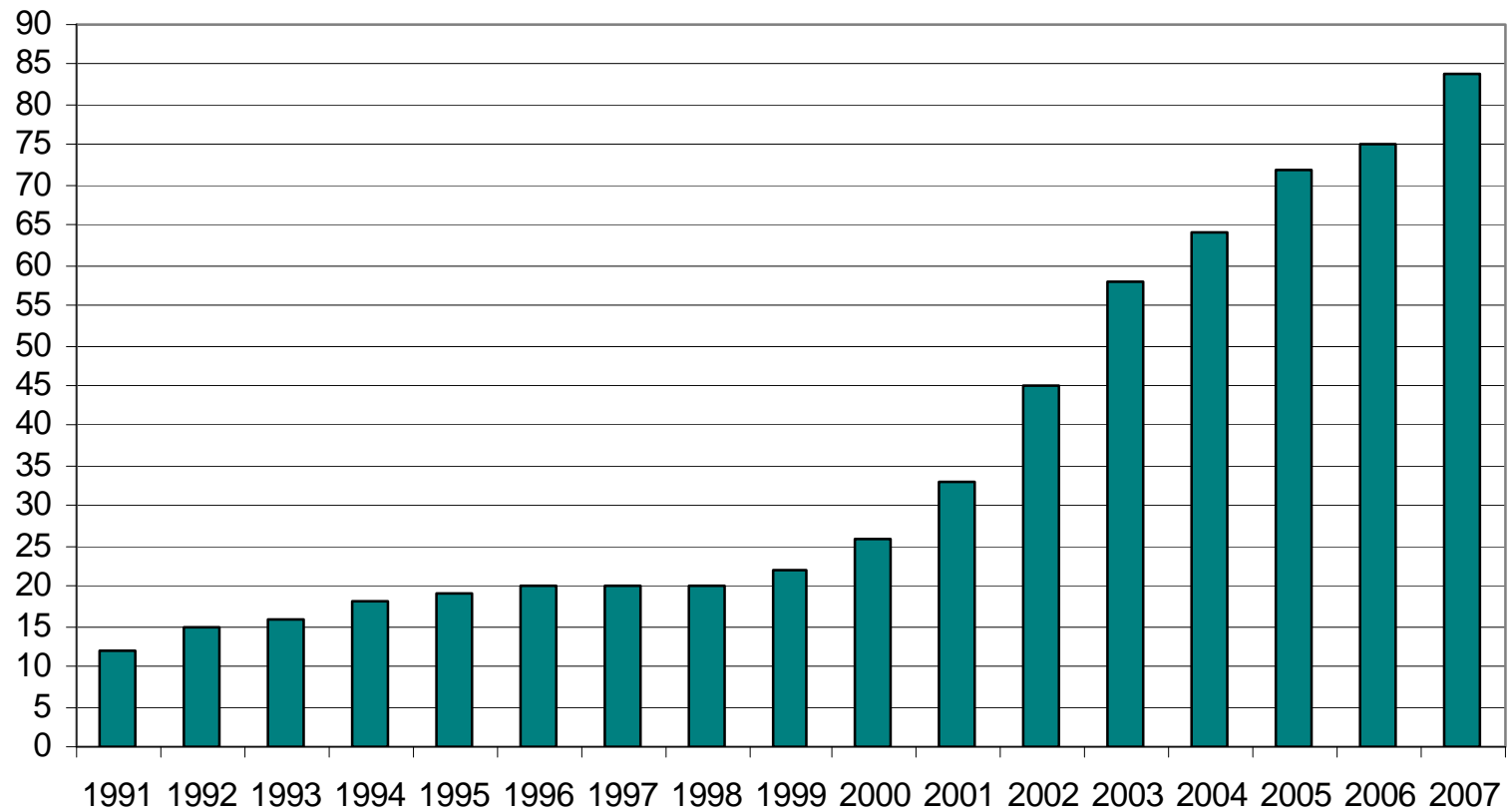


Manitoba Population Health Research Data Repository

- standards tests
- high school marks
- graduation
- retention



Total Number of Data Files in MCHP Repository



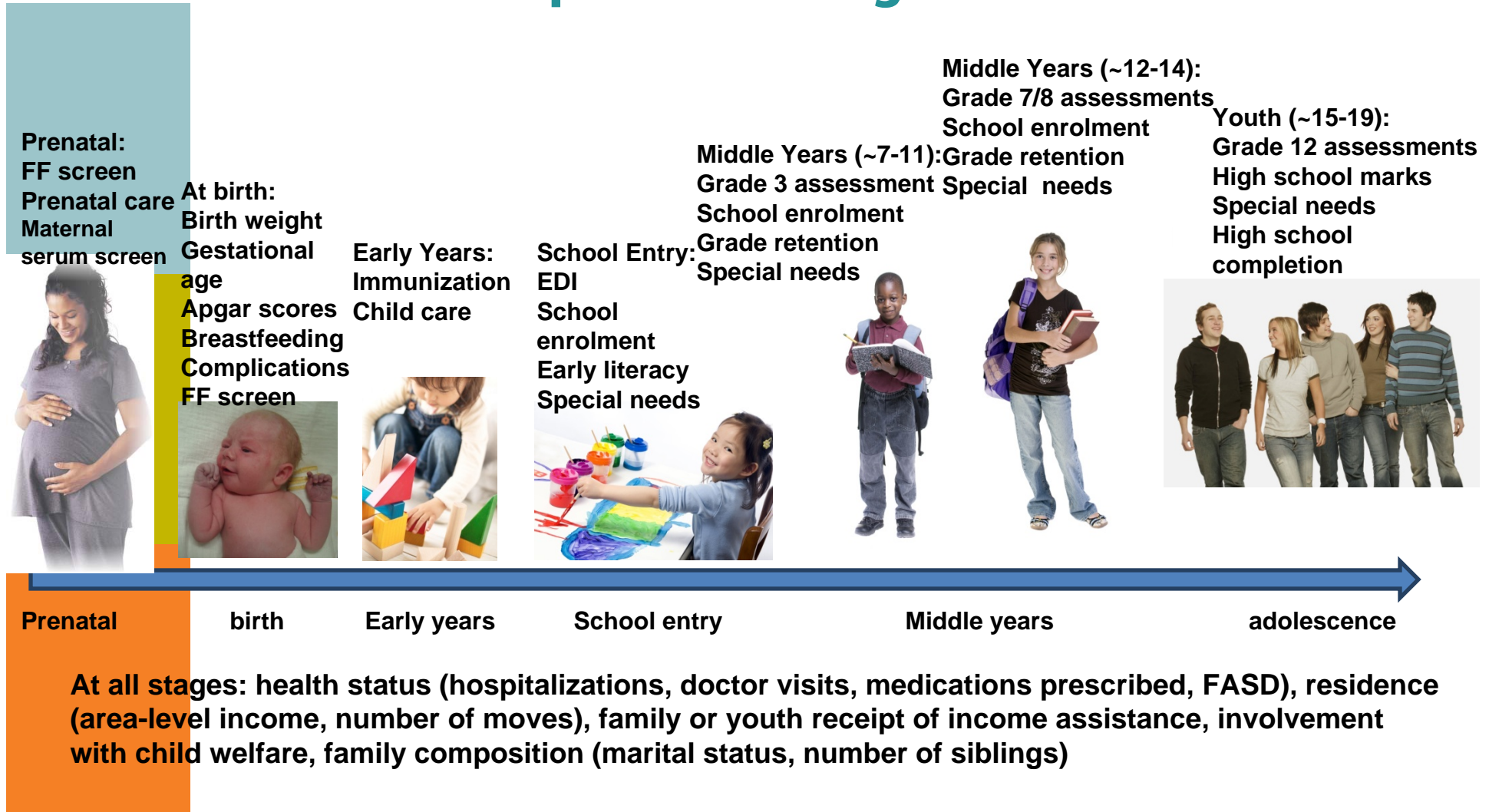
**Continual expansion of databases -
CFI funding 1999-2003 (\$2.7 million)**



MCHP: Respect for Privacy

- Highest standards of security, privacy & confidentiality of data (PHIA, FIPPA)
 - No names, no addresses; “scrambled” identifier numbers
 - Memorandum/Data Sharing Agreements with data providers
 - Limited access on project-specific basis; data stored in unlinked files
 - Ethics review committee, Health Information Privacy Committee, other stakeholder groups as required
 - Data for research not for administrative use

Using linked data to build a picture of development throughout childhood



Recent and Upcoming MCHP Child Health Reports

- **Next Steps in the Provincial Evaluation of the *BabyFirst* Program: Measuring Early Impacts on Outcomes Associated with Child Maltreatment** http://mchp-appserv.cpe.umanitoba.ca/reference/BF_web.pdf
- **Manitoba Child Health Atlas Update** <http://mchp-appserv.cpe.umanitoba.ca/reference/Child Health Atlas Update Final.pdf>
- **Evaluation of the Manitoba Health Baby Program**
- **The Early Development Instrument (EDI) in Manitoba: Linking Socioeconomic Adversity and Biological Vulnerability at Birth to Children's Outcomes at Age 5**
- **Prenatal Services and Outcomes in Manitoba**

Evaluation of the Manitoba Health Baby Program

Project Team

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Advisory Group

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Dr. Chelsea Ruth Dr. Rob Santos Harvey Stevens

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Manitoba Healthy Baby Program

- aimed at promoting pre- and perinatal health
- includes two components:
 - 1) prenatal income supplement (PB)
 - Available to low-income pregnant women
 - 2) community support programs (CSP)
 - Available to all women prenatally and postnatally

Study Objectives

- to determine the uptake of PB by target groups and the CSP by target groups
- to determine the impact of the Healthy Baby Program on prenatal and birth outcomes, and infant outcomes

Methods

- Linked together program data and administrative data in MCHP Repository
- All hospital births 2004/05-2007/08
 - Linked to mom
- All applications to PB
- All participants in CSP

Linking Hospital Births to Prenatal Benefit Applications

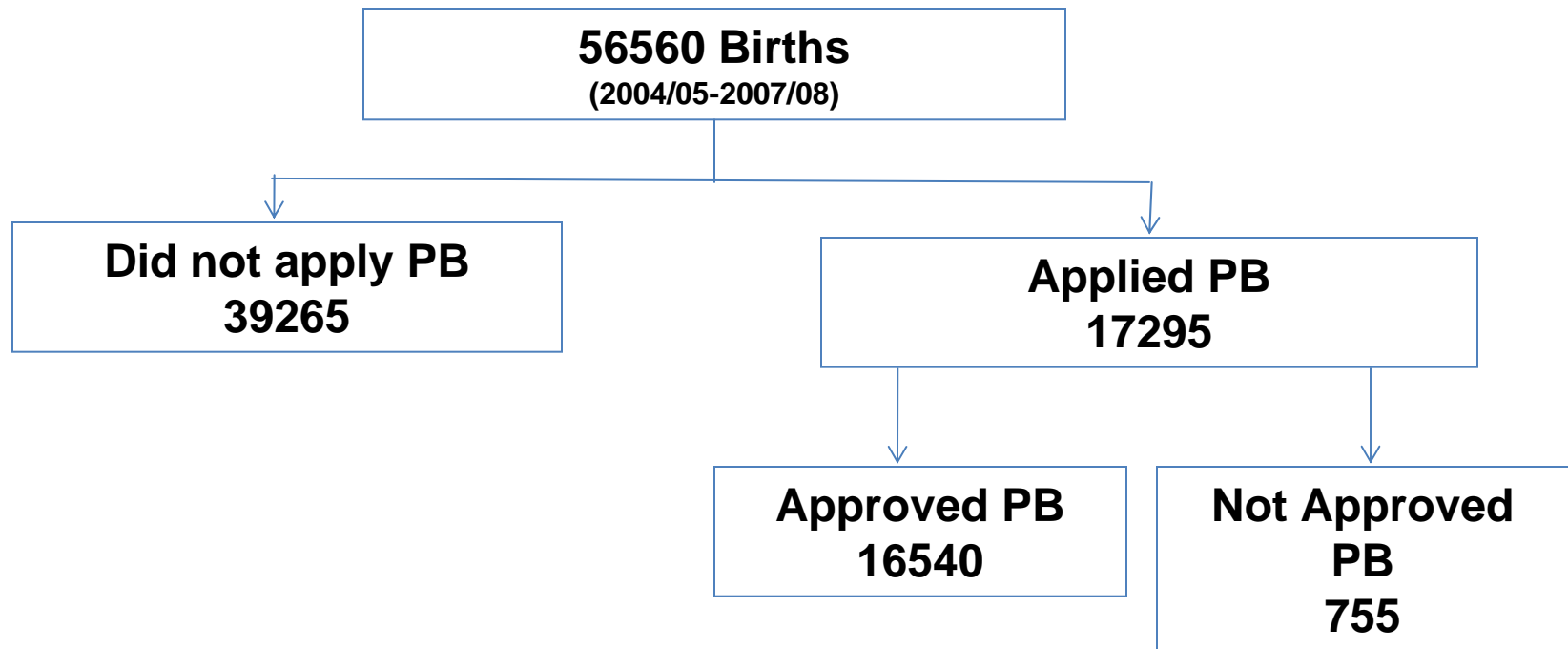
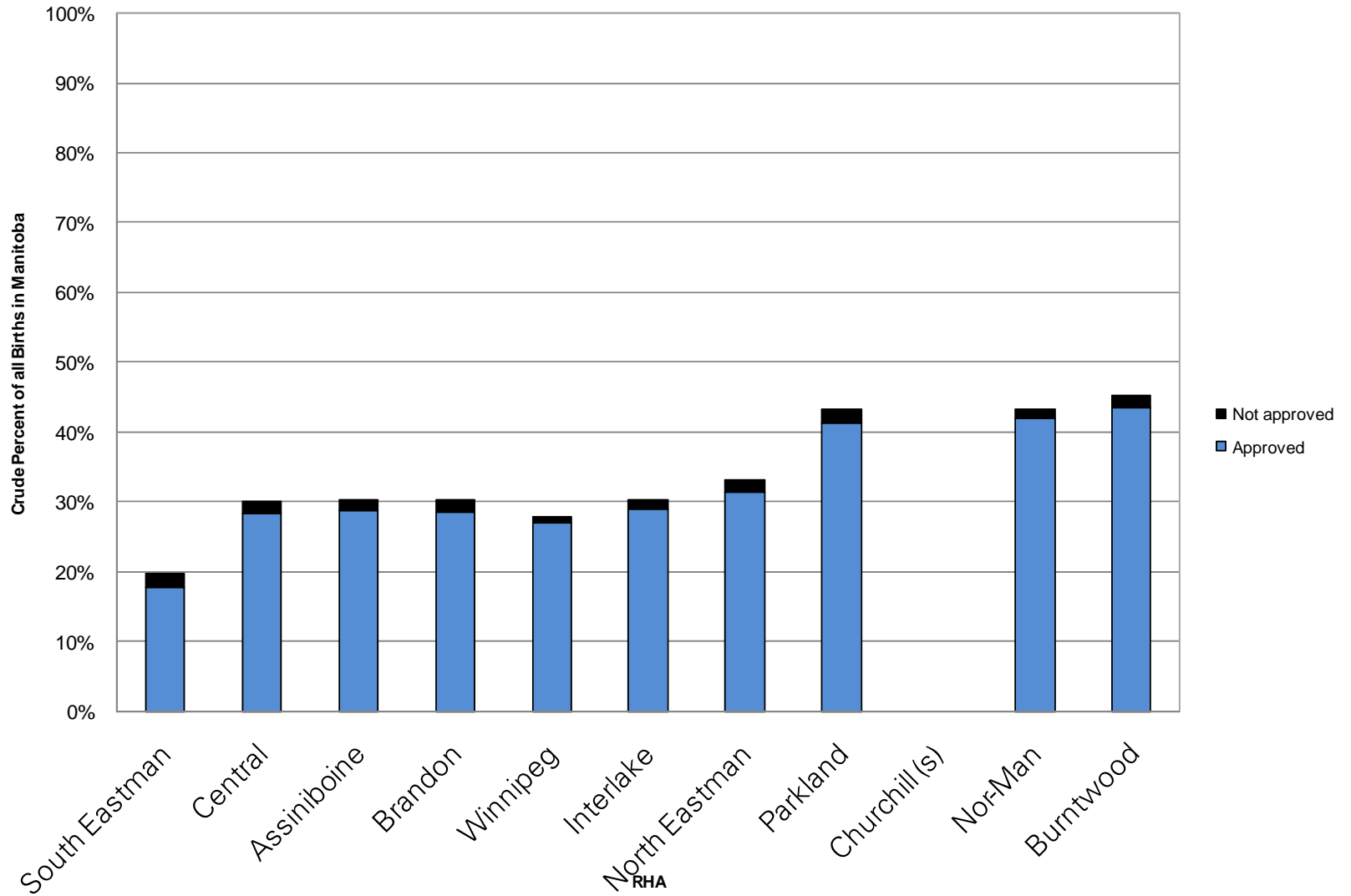


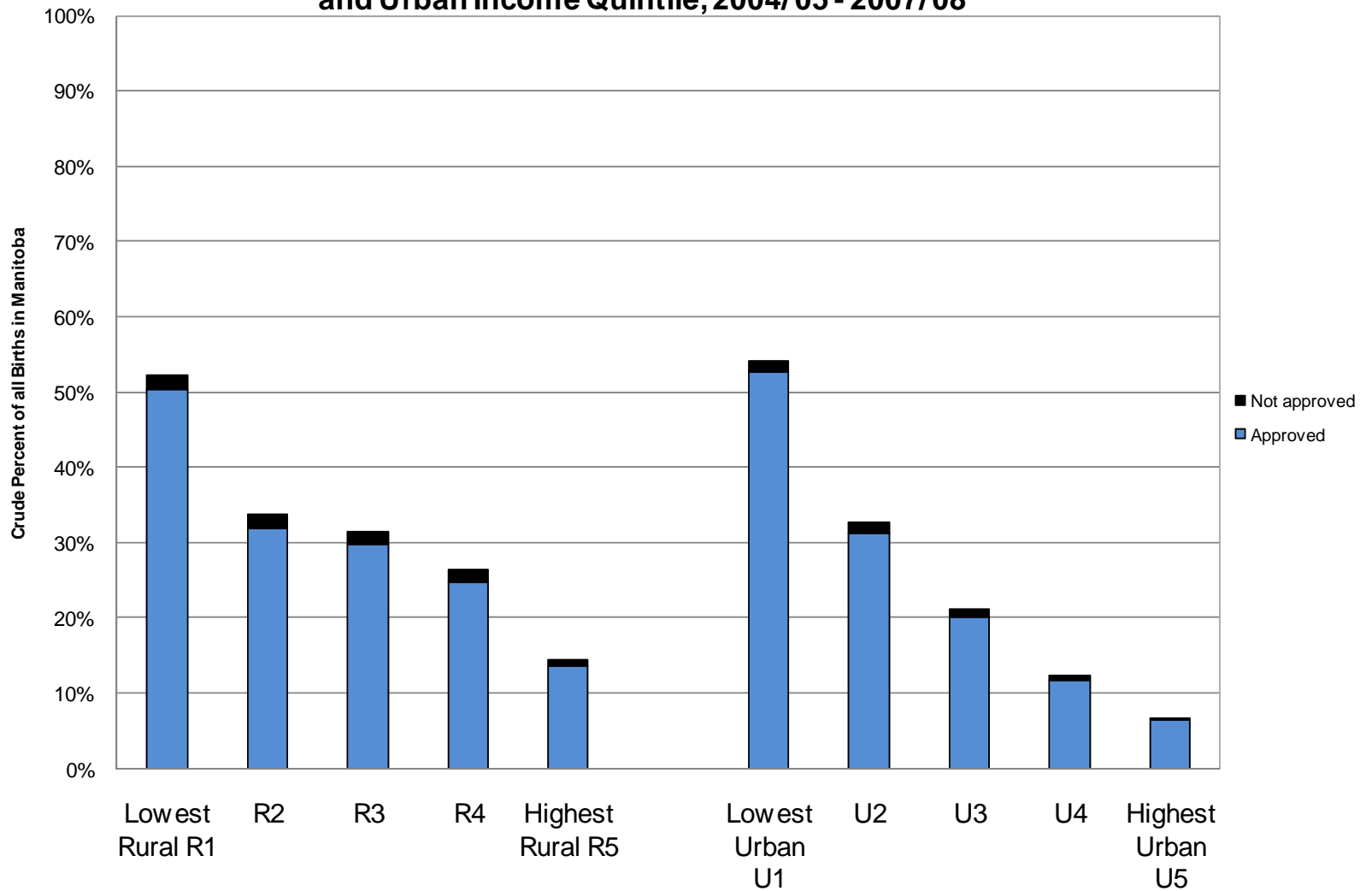
Figure 3.3: Percent of Births by Healthy Baby Prenatal Benefit Application Type by RHA



Source: Manitoba Centre for Health Policy, 201



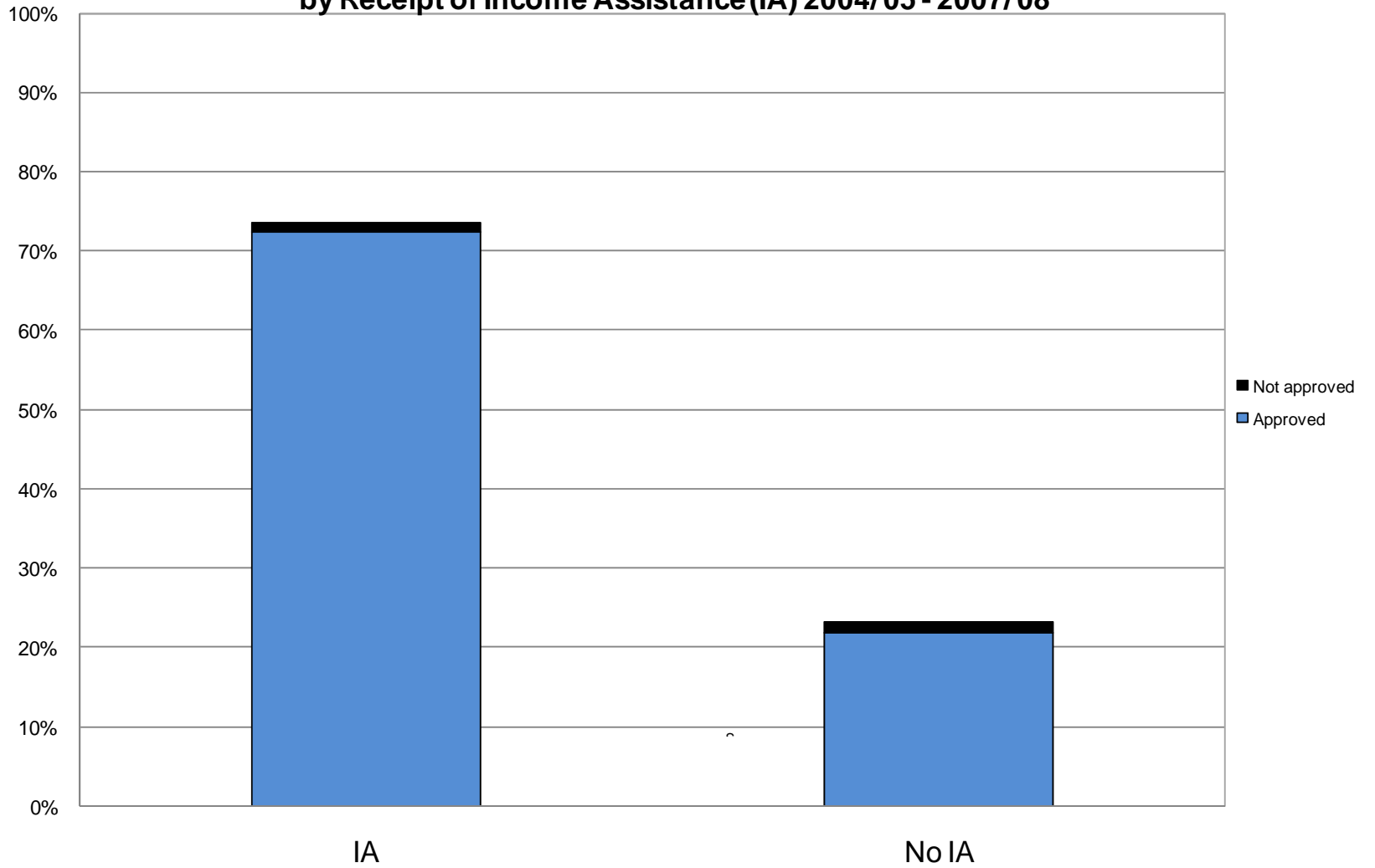
Figure 3.5: Percent of Births by Healthy Baby Prenatal Benefit Application Type, by Rural and Urban Income Quintile, 2004/05 - 2007/08



Source: Manitoba Centre for Health Policy, 2010



Figure 3.4: Percent of Births by Healthy Baby Prenatal Benefit Application Type by Receipt of Income Assistance (IA) 2004/05 - 2007/08



Summary of PB participation

- Close to 1/3 (29%) of all births in study period were to women who received the PB
 - Appears to be reaching reasonable portion of target population:
 - 72% of women receiving IA
 - 52% of women in low income areas
 - 57% of teen moms

Linking Hospital Births to Community Support Program Participants

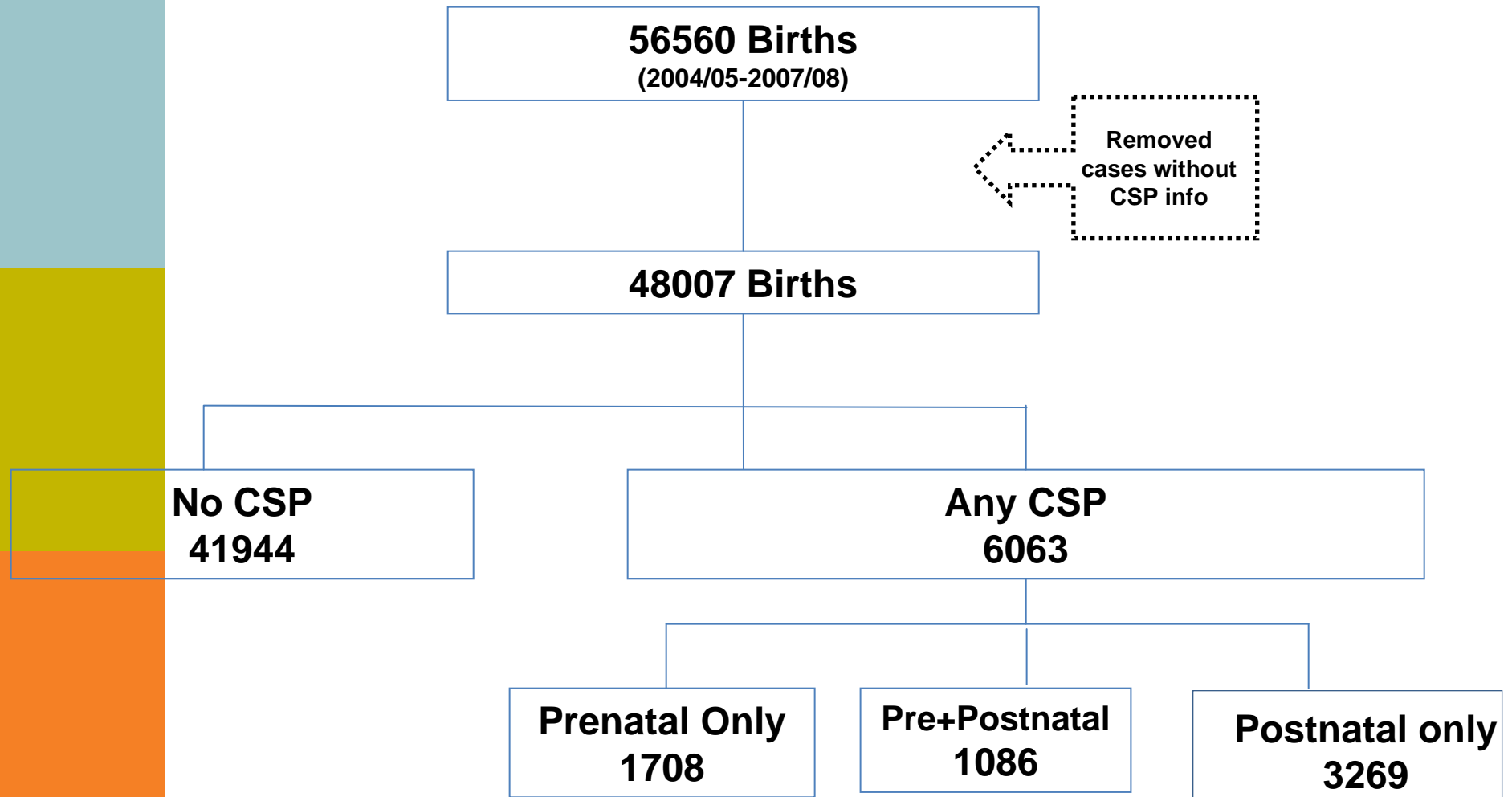
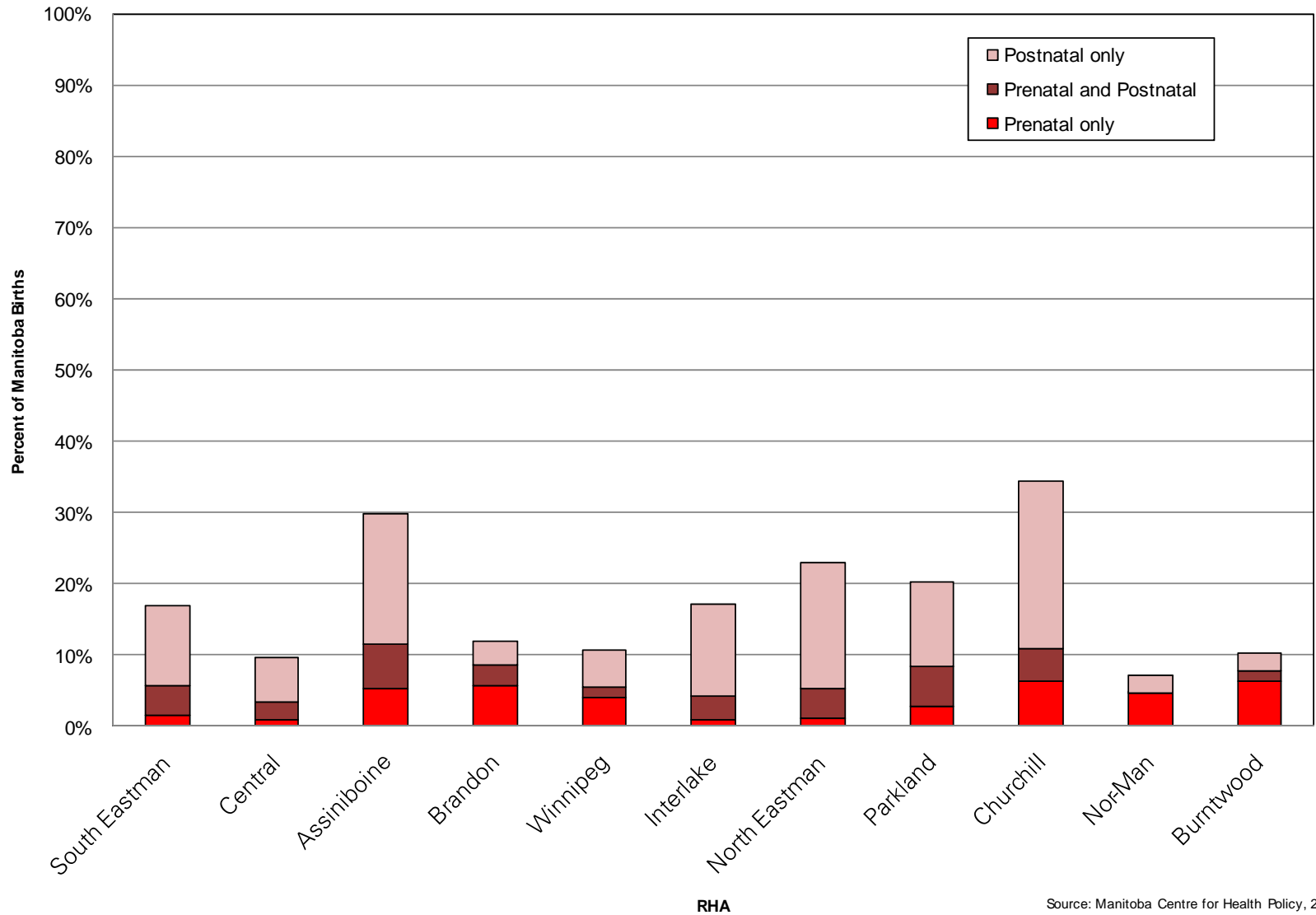


Figure 3.12: Percent of Births by Community Support Program Participation by RHA



Source: Manitoba Centre for Health Policy, 2010



Figure 3.14: Percent of Births by Community Support Program Participation, by Rural and Urban Income Quintile

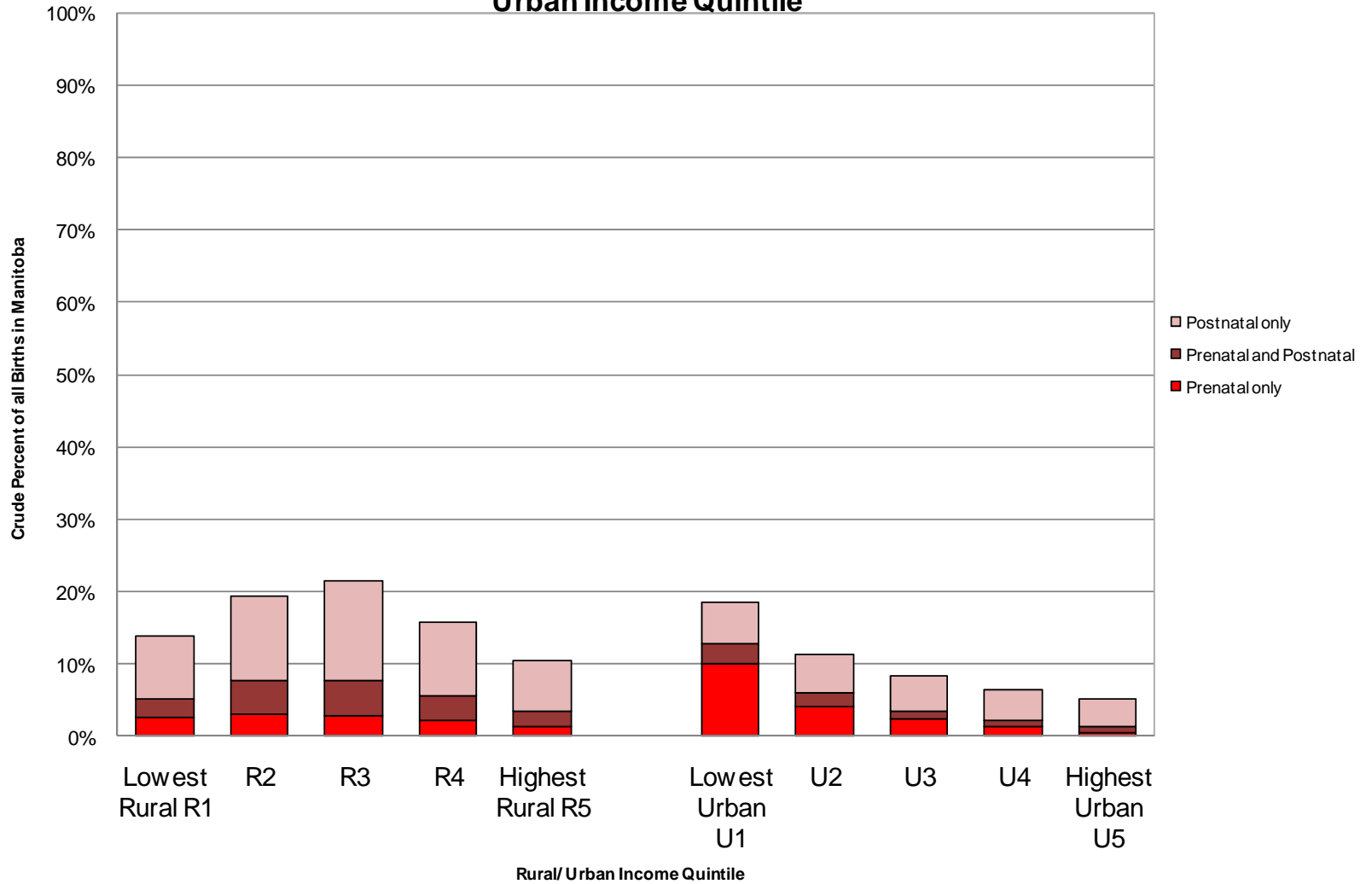
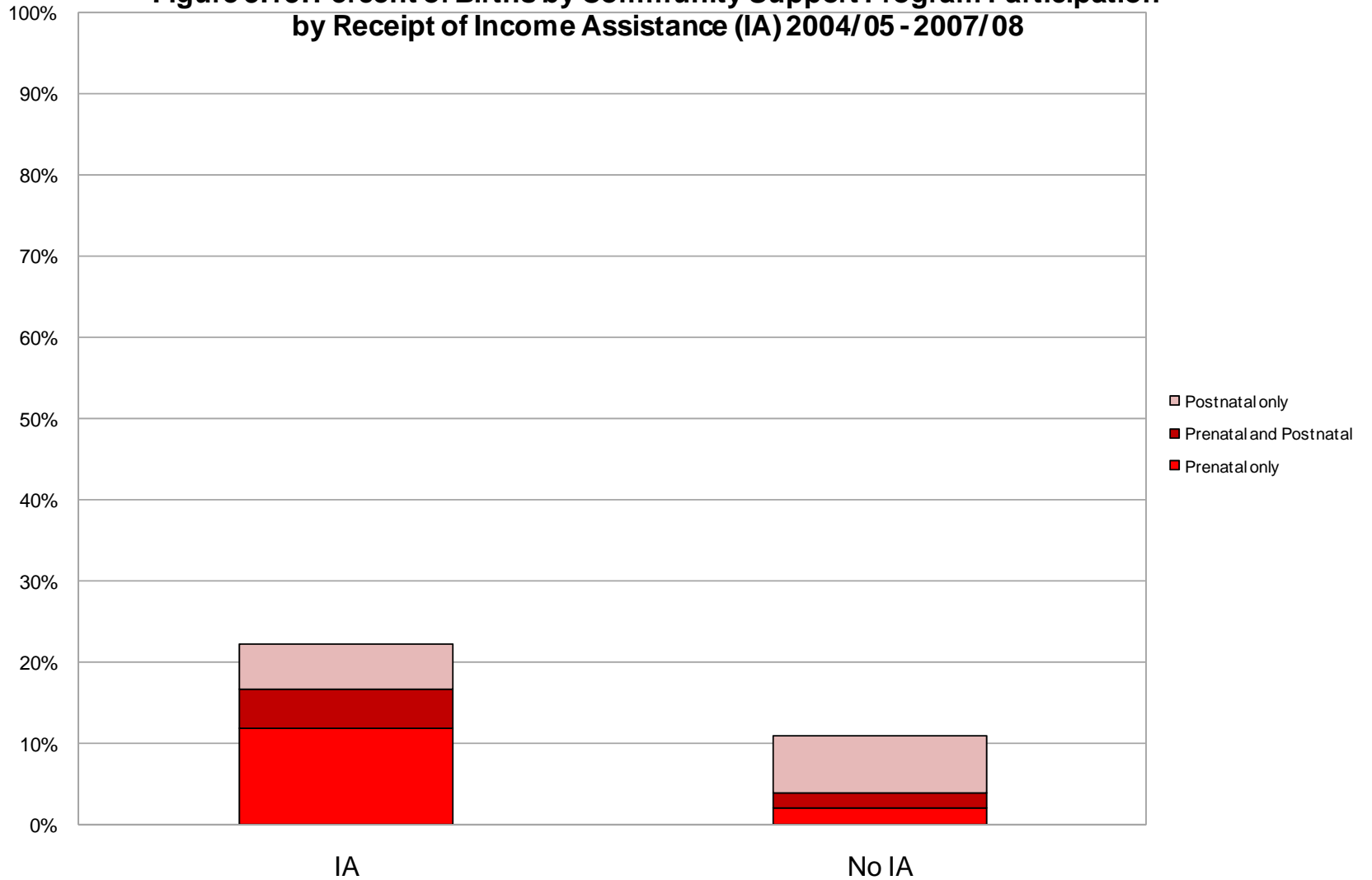


Figure 3.13: Percent of Births by Community Support Program Participation by Receipt of Income Assistance (IA) 2004/05 - 2007/08



Summary of CSP participation

- Only 12.6% of births in study period were to women who participated in any CSP
 - Uptake by target populations is low:
 - 21% of women receiving IA
 - 18% of women in low income areas
 - 21% of teen moms
- Enhanced efforts to reach high-risk women are needed

Evaluation of the Healthy Baby Program (Objective 2) - Outcomes

Prenatal/Birth related

- Adequacy of Prenatal Care
- Low Birth Weight
- Small-for-Gestational Age
- High Birth Weight
- Large-for-Gestational Age
- Preterm Births
- Congenital Anomalies
- Apgar Scores
- Breastfeeding Initiation

First year/longer-term

- Hospital episodes
- Injury hospitalization
- Child in care
- Continuity of care
- Immunization at 2 years
- Sibling spacing

Evaluation of Healthy Baby Program

- Can't just compare those who participate to those who don't – very different groups of women
 - Random assignment ideal but not feasible
 - Pre-post comparison also not feasible
 - Used a combination of matching and adjustment using regression modeling

Used 2 Different Populations for “Matching”

1. All women applying for PB
 - “no PB” group those who applied for but were not approved (income < \$40,000)
2. All women receiving income assistance
 - all should be eligible for PB but not all apply; many do not participate in CSP

Regression Models

- Main predictors:
 - Received PB (yes, no)?
 - Participated in CSP (yes, no)?
 - PB * CSP?
- Also adjusted for:
 - Mother's age at first birth, area-level income, geographic region, maternal education, marital status, smoking, diabetes, income, multiple births

Results for Prenatal/Birth

Indicator	Prenatal Benefit		Community Support	
	Pop1	Pop2	Pop1	Pop2
Adequate Prenatal Care	ns	↑	↑	↑
Low Birth Weight	↓	↓	ns	ns
Small for GA	ns	↓	ns	ns
High Birth Weight	*	↑	*	ns
Large for GA	ns	↑	↑	ns
Preterm Birth	↓	↓	ns	↓
Congenital Anomaly	ns	ns	ns	ns
5-min. Apgar	*	ns	*	ns
Breastfed at Discharge	*	↑	*	↑

Summary of Findings (Objective 2)

- Receipt of the Prenatal Benefit was associated with
 - Reduction in LBW
 - Reduction in preterm births
 - Increase in breastfeeding initiation
- Participation in Community Support Programs was associated with
 - Increase in adequate prenatal care
 - Increase in breastfeeding initiation
 - Unexpected *decrease* in continuity of care

Recommendations

- Given the association between receipt of the PB and positive outcomes, efforts to reach all vulnerable women should be enhanced
- Given the low participation rates in Community Support Programs and the potential benefits of these programs, efforts to increase participation among vulnerable populations should be enhanced



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