

# **Non-Medically Indicated Early Deliveries(NMIED) in Illinois Using Birth Certificate Data, 2010-2012**

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# The Context for Perinatal Quality Improvement in Illinois

- Illinois ranks in the bottom half of all 50 states and DC in rates of low birthweight, preterm delivery, and infant mortality
- The black/white disparity in infant mortality is highest in the Region V states—Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin
- In Illinois, the black / white disparity in infant mortality is 2.48

# The Context for Perinatal Quality Improvement in Illinois

- Approximately two-thirds of births in Illinois occur at 39 weeks gestation or later
- One quarter of births occur at 37 or 38 weeks;
- The rate of preterm birth is approximately 8%.

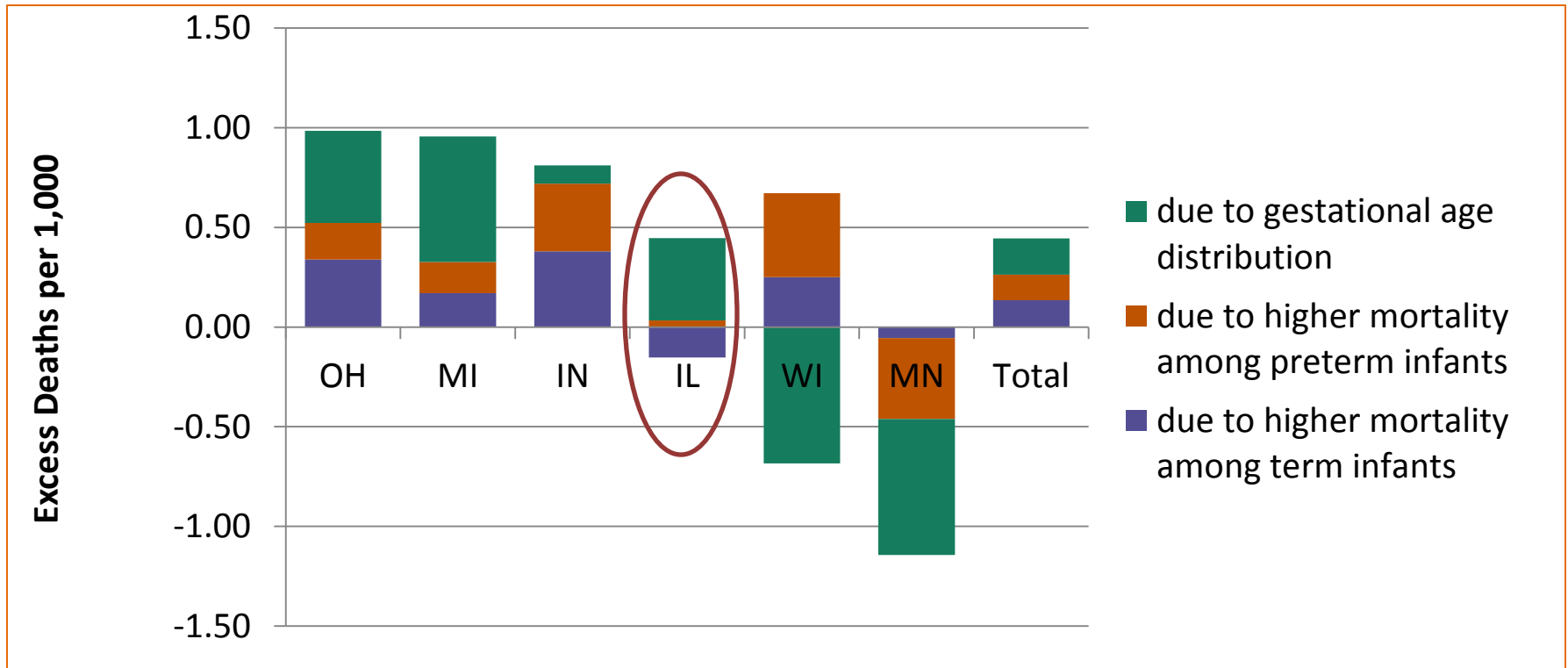
<b>Gestational Age Distribution Illinois Singleton Live Births, 2012</b>				
Preterm		Term		TOTAL
< 34 Wks	34-36 Wks	37-38 Wks	>= 39 Wks	
2,965 2.0%	8,565 5.8%	36,568 24.6%	100,727 67.7%	148,825 100%

# The Context for Perinatal Quality Improvement in Illinois

Racial disparity is evident across the gestational age distribution.

<b>Gestational Age Distribution, Illinois Singleton Live Births, 2012 by Maternal Race</b>					
Race	Preterm		Term		TOTAL
	<34 Wks	34-36 Wks	37-38 Wks	>=39 Wks	
White	1,156 1.5%	4,134 5.3%	18,274 23.2%	55,184 70.1%	78,748
Black	978 3.8%	1,877 7.3%	6,797 26.4%	16,058 62.5%	25,710
Hispanic/ Latina	653 1.9%	1,975 5.9%	8,572 25.5%	22,446 66.7%	33,646

# Gestational Age Components of Excess Infant Mortality in Region V Compared to All Other Regions, 2007-2009



The excess infant mortality in IL was almost entirely due to higher rates of very preterm birth—the gestational age distribution.

# Focus on Non-Medically Indicated Early Deliveries (NMIED)

- Joint Commission National Quality Measure
- Quality Improvement initiatives by many partners
- As part of the federal CoIN to Reduce Infant Mortality, states are using vital records data to enrich our understanding of the extent of the problem and to monitor improvement over time

# Identifying NMIED: Methods

- Algorithm for identifying EED using birth certificates is being promulgated nationally, authored by Dr. William Sappenfield
- Analysis includes only women who are considered "at risk" for ***a non-medically indicated*** delivery at 37-38 weeks gestation
- Gestational age determined by clinical estimate of gestation on birth certificate

# Identifying NMIED: Methods

- General Exclusions:
  - Preterm Births (<37 weeks)
  - Multiple births
  - Non-resident and Out-of-State births
- Exclusions Based on Medical Indication:
  - women with: *hypertension (including chronic, gestational, and eclampsia), diabetes (including chronic and gestational), or previous poor pregnancy outcomes*
  - births with: *non-vertex presentation at birth, anencephaly, meningomyelocele/spina bifida, down syndrome, suspected chromosomal disorder, cyanotic congenital heart disease, diaphragmatic hernia, omphalocele, or gastroschisis*

# Identifying NMIED: Methods

- Indications for early delivery (inclusions):
  - Premature rupture of membranes
  - Prolonged labor
  - Fetal distress
  - Abnormal fetal heart rate
  - Chorioamnionitis

# Identifying NMIED: Methods

## Numerator:

Births delivered at 37-38 weeks gestation after non-indicated induced labor or a cesarean section with no trial of labor

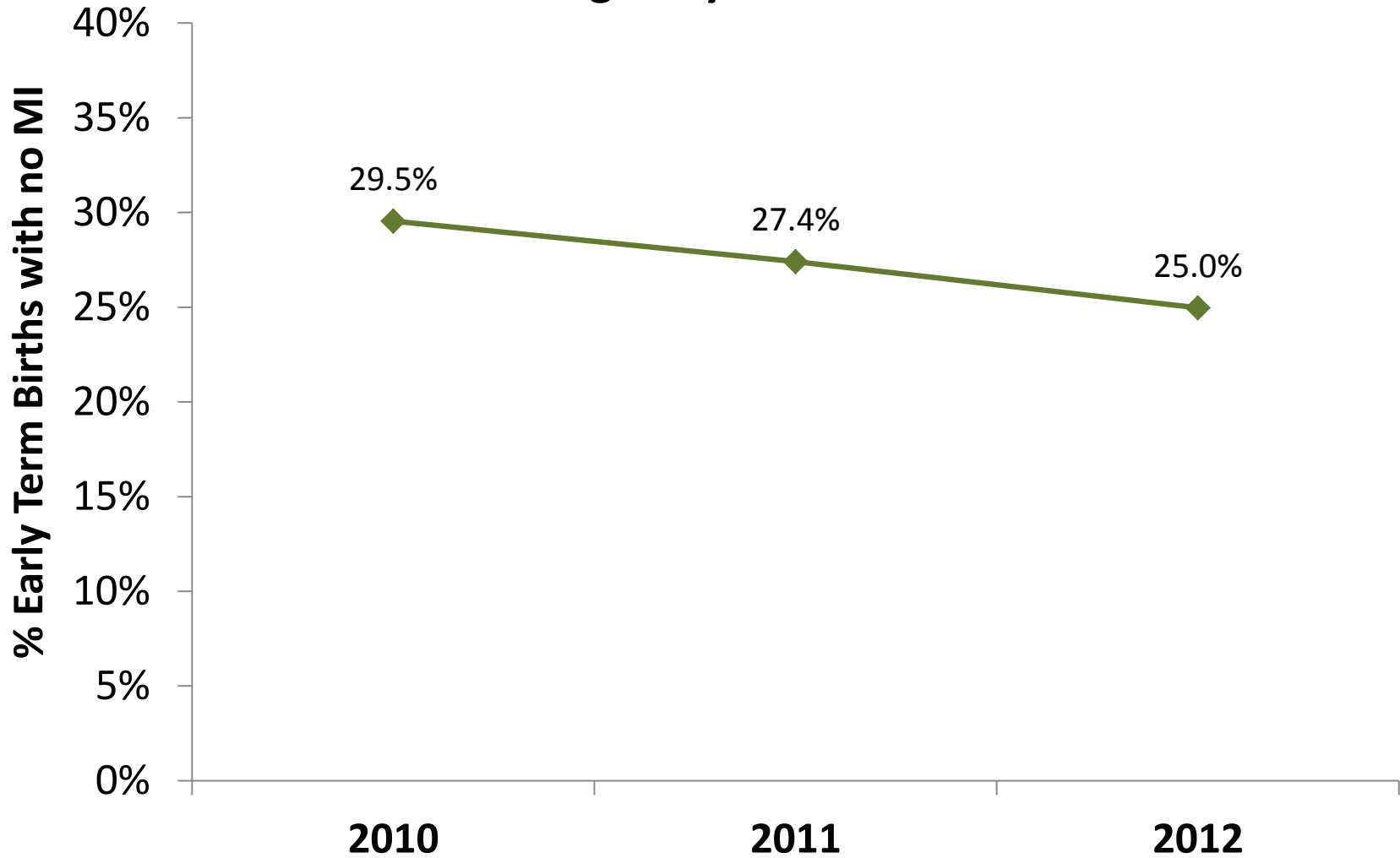
## Denominator Choices After Exclusions:

1. All ***term*** deliveries ( $\geq 37$  weeks)
2. All ***early term*** deliveries (37-38 weeks)

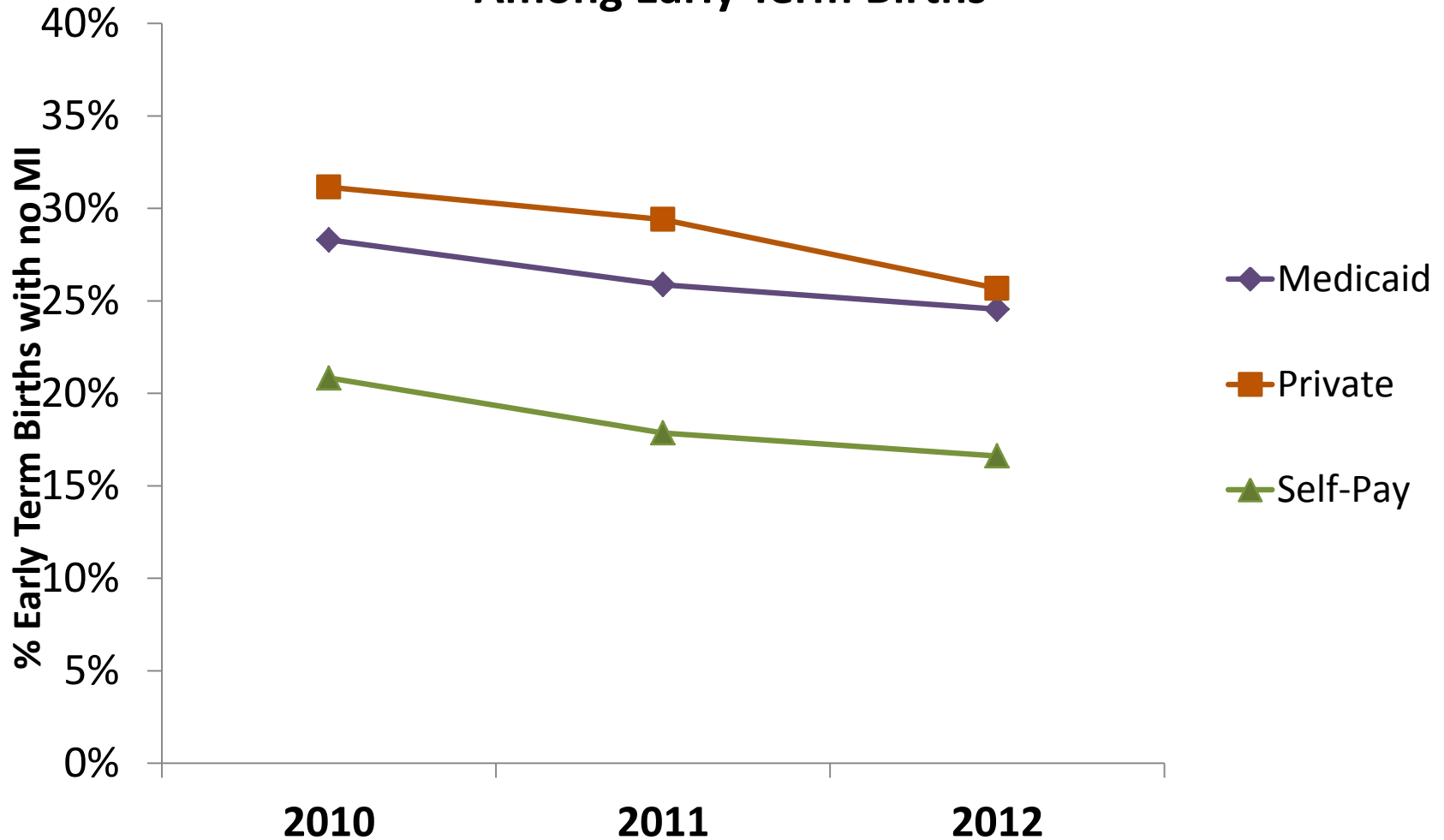
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation)

Select Results for IL Overall

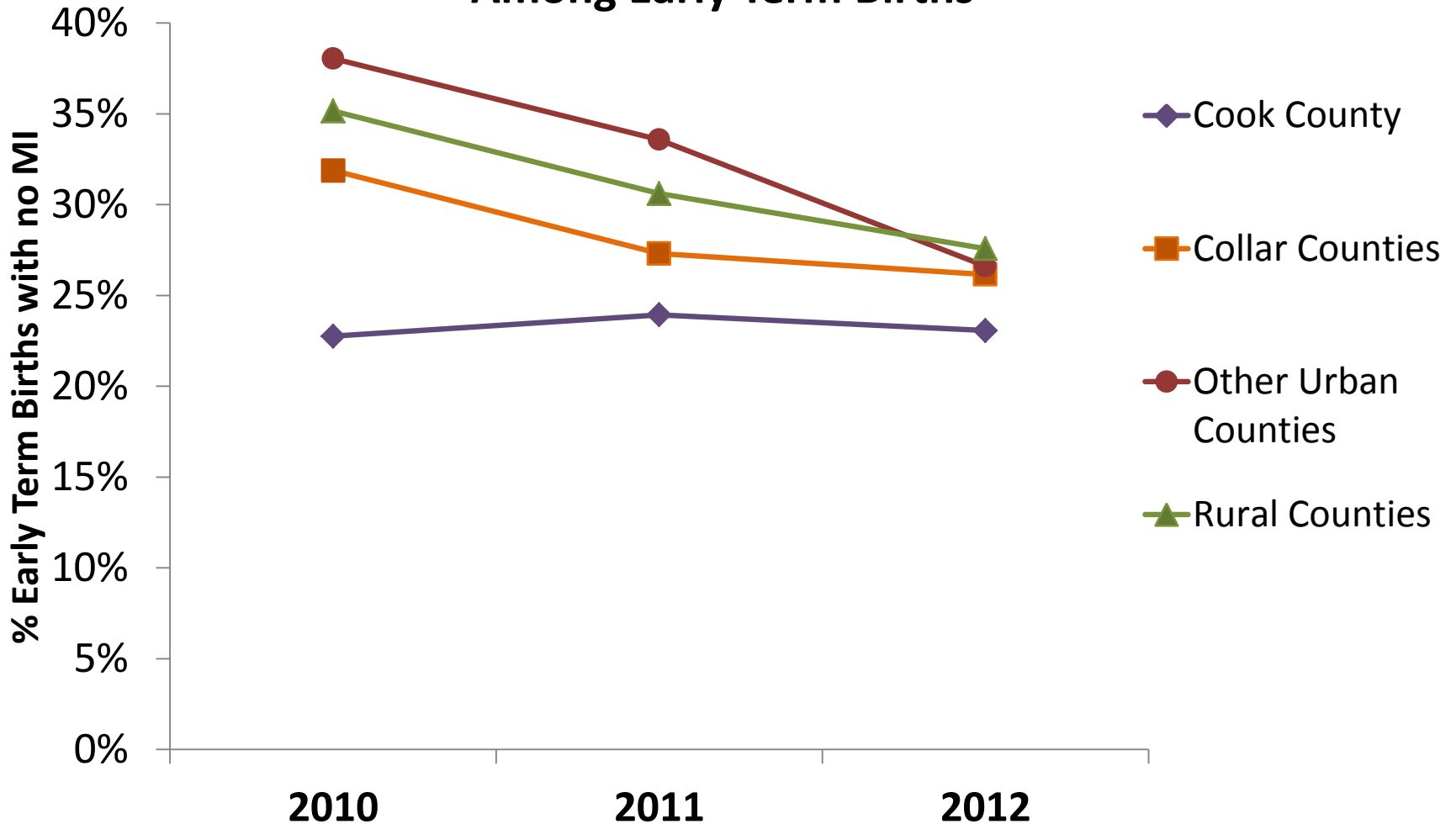
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) In Illinois Among Early Term Births



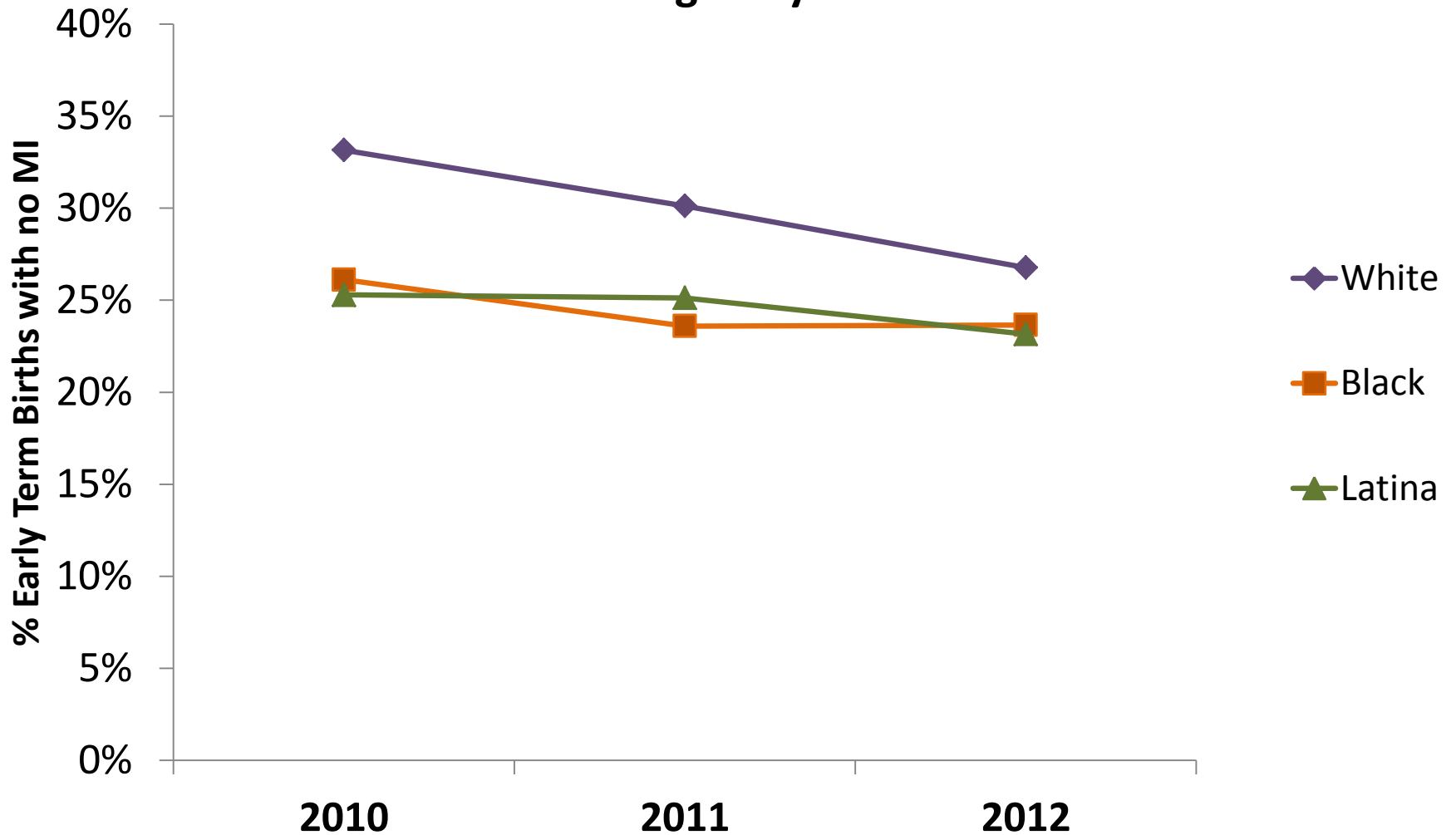
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Payer In Illinois Among Early Term Births



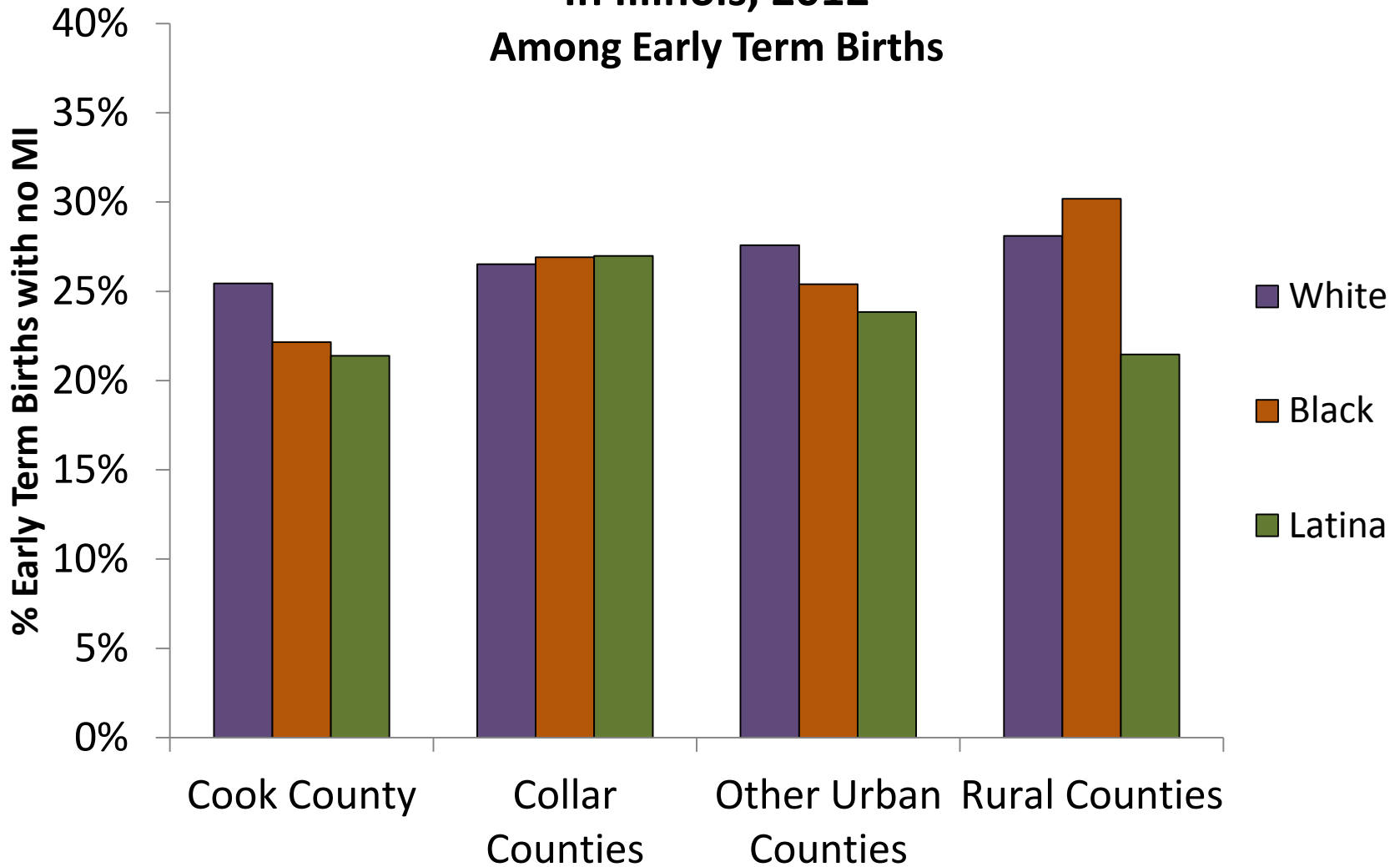
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Region In Illinois Among Early Term Births



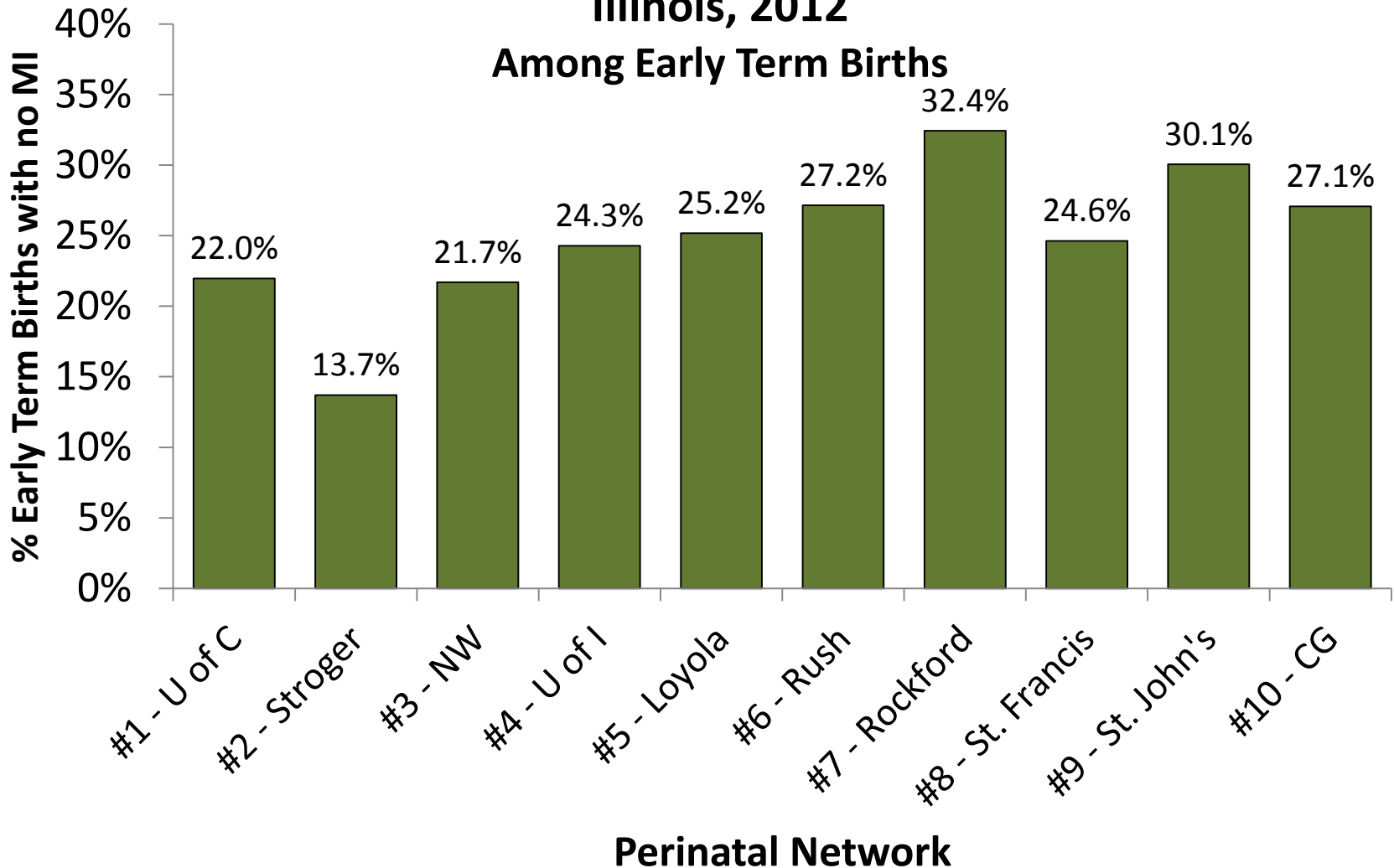
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Race/Ethnicity In Illinois Among Early Term Births



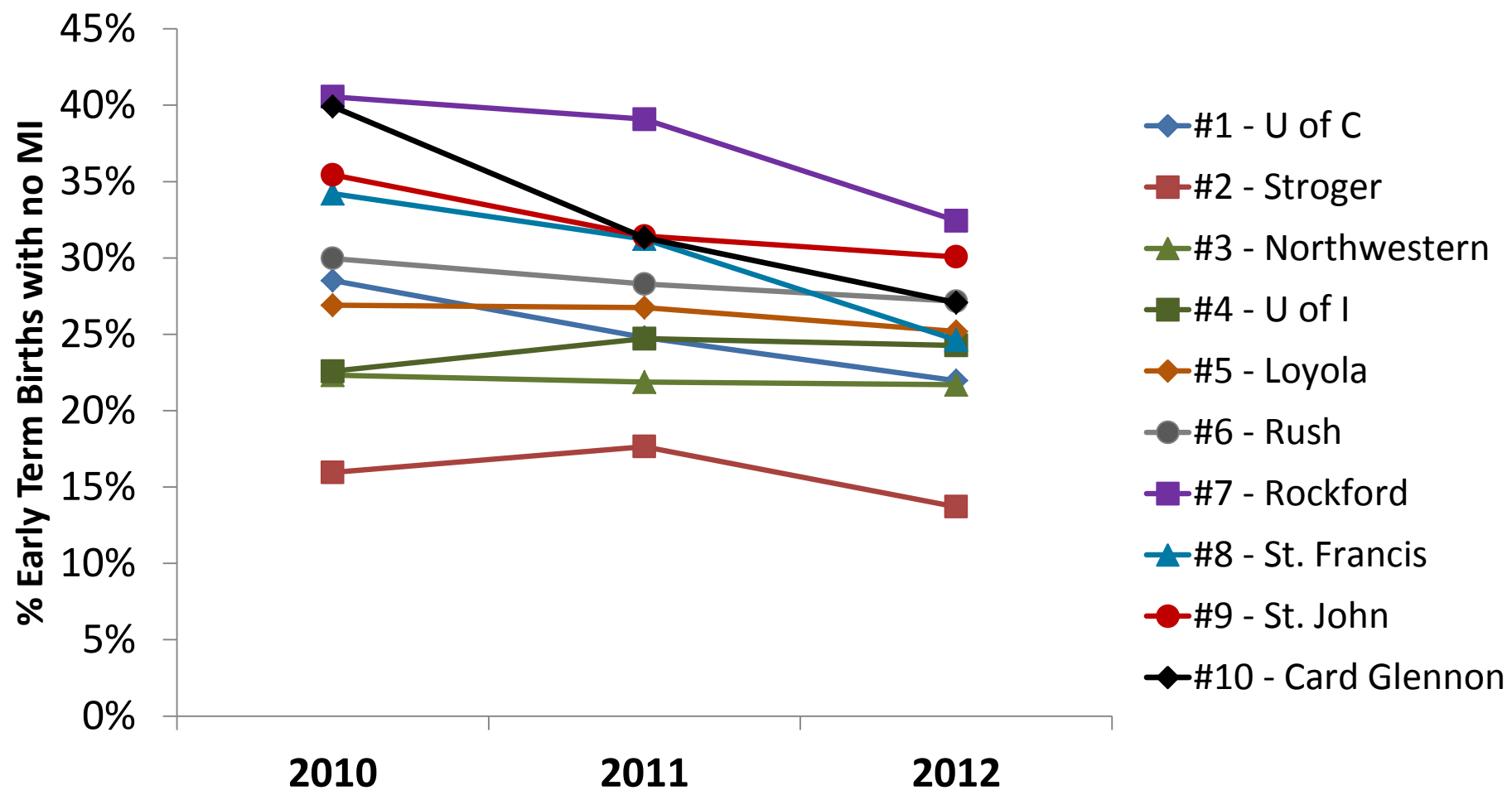
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Region and Race/Ethnicity In Illinois, 2012 Among Early Term Births



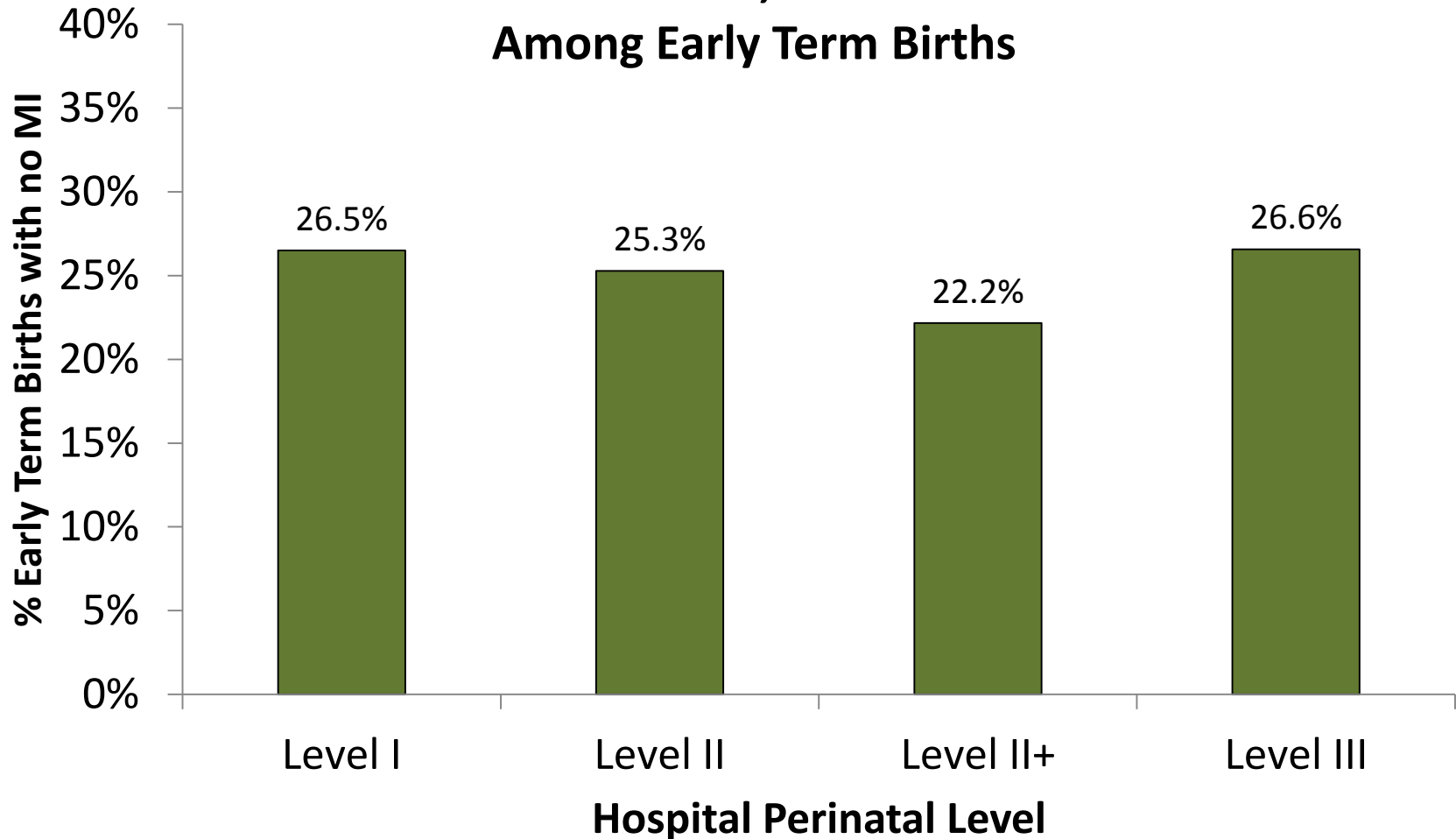
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Perinatal Network In Illinois, 2012



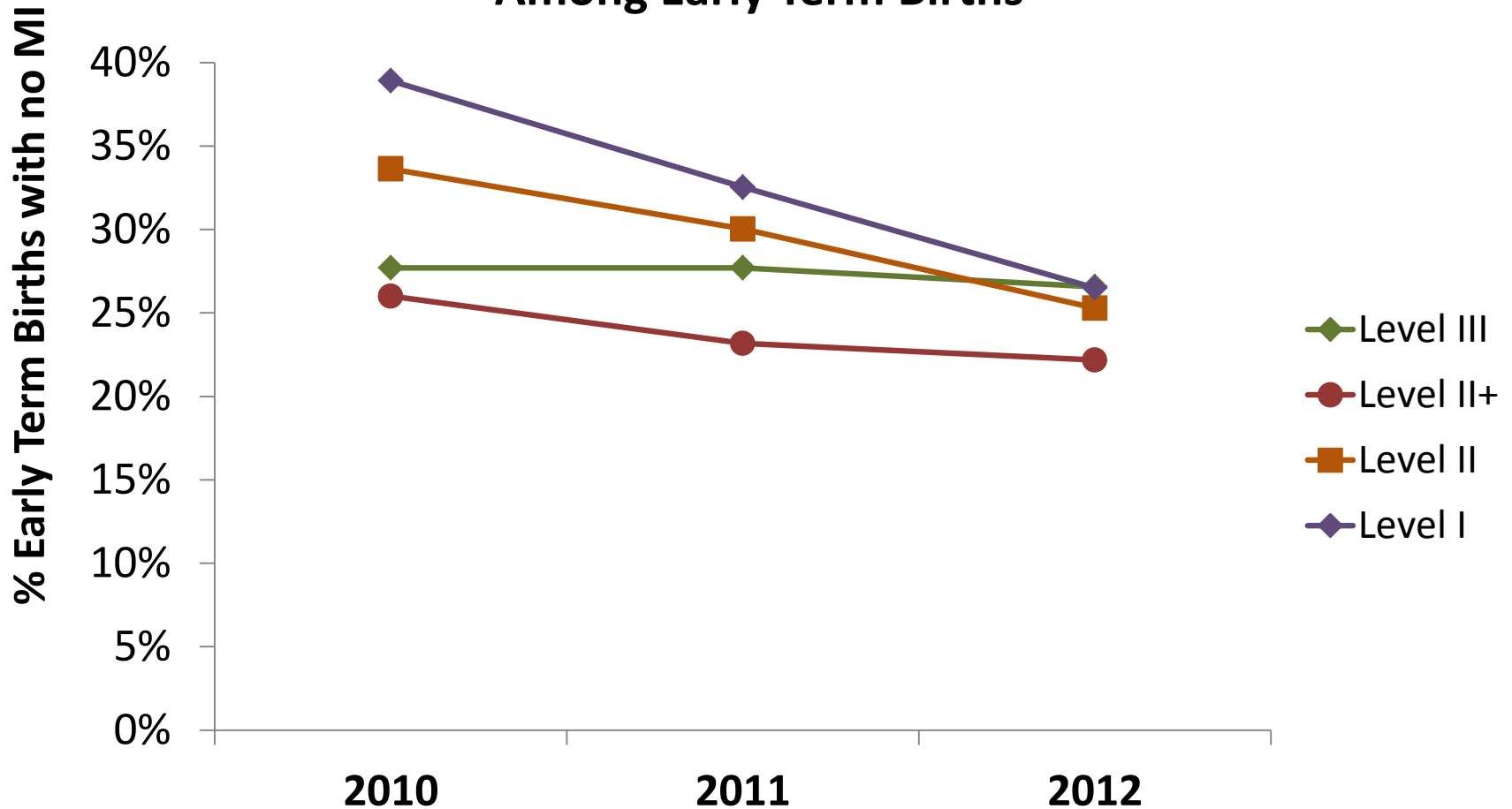
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Perinatal Network In Illinois, 2012 Among Early Term Births



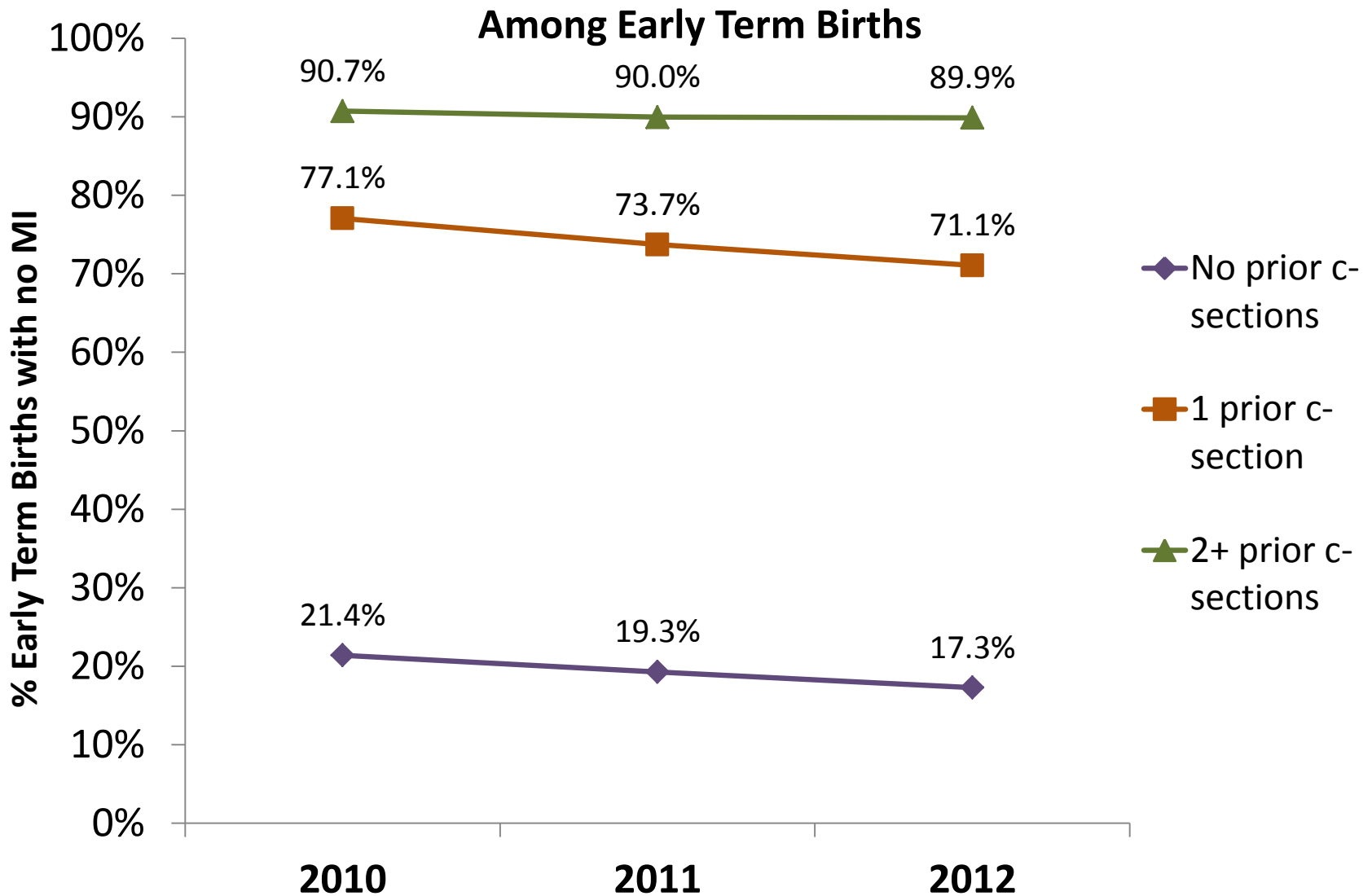
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Perinatal Level In Illinois, 2012



# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Perinatal Level In Illinois Among Early Term Births



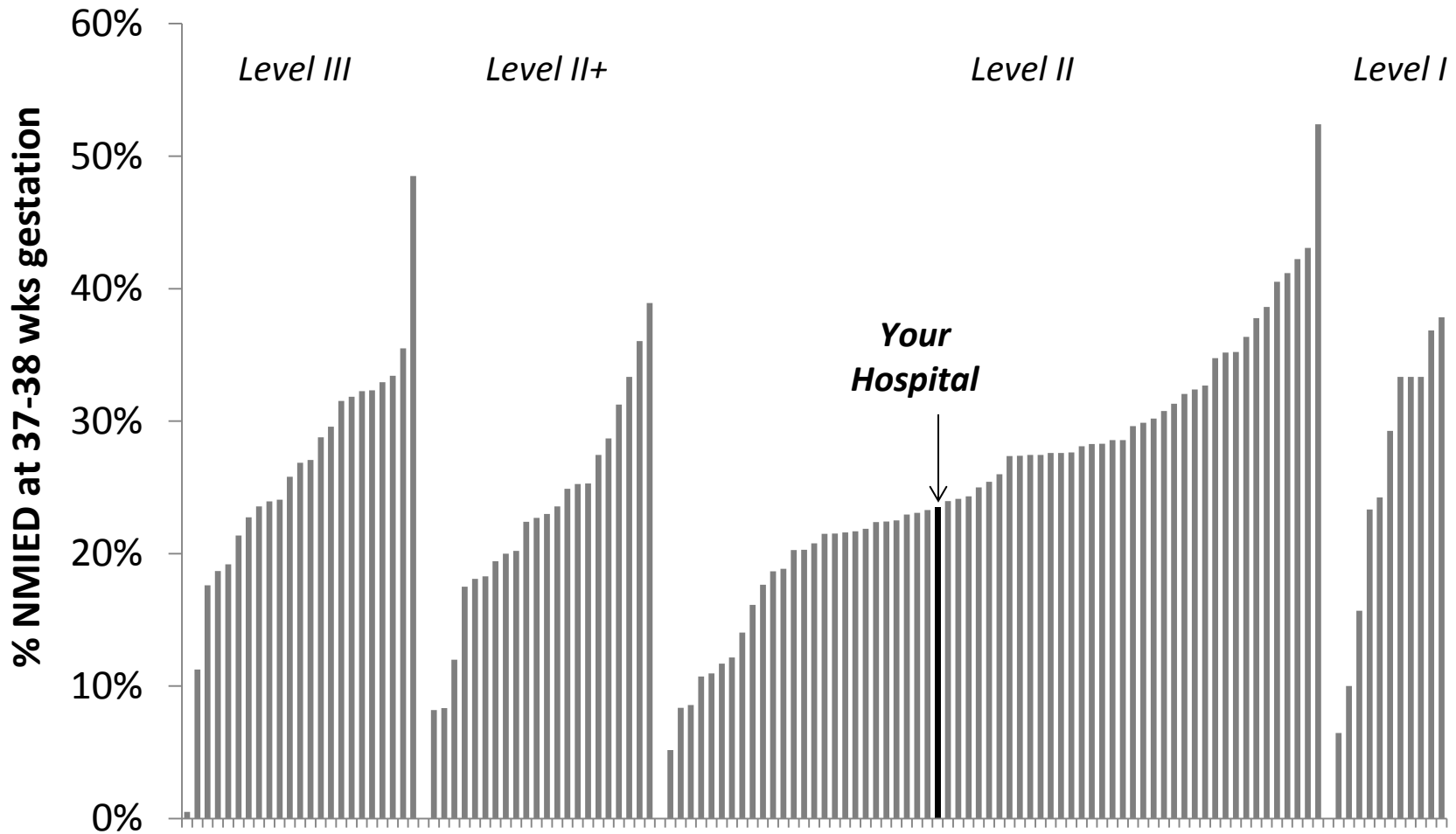
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation) by Previous C-Section Status In Illinois



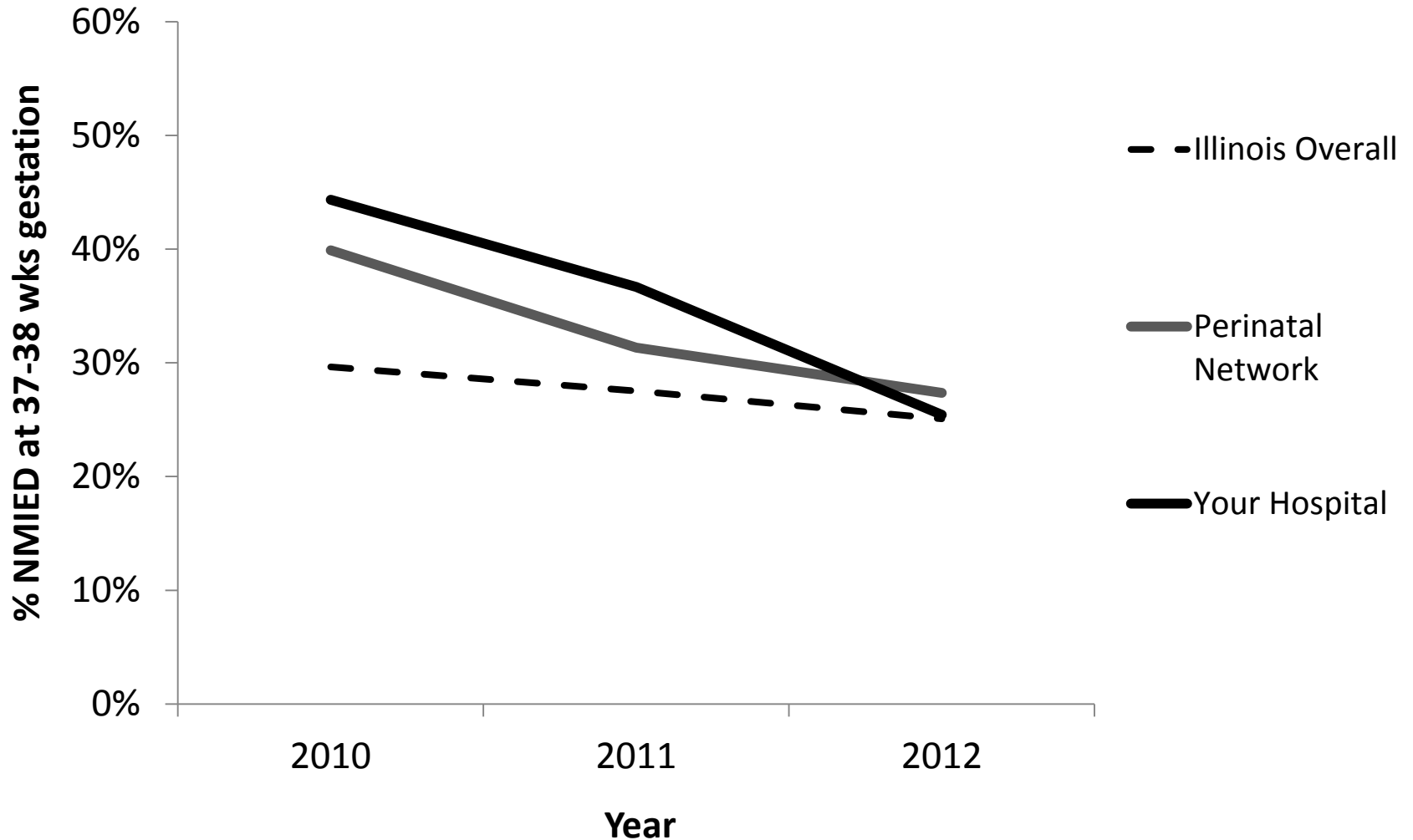
# Non-Medically Indicated Early Delivery (37-38 Weeks Gestation)

Data Sheet  
for Each Hospital

# Example: Percent Non-Medically Indicated Elective Deliveries (NMIED) at 37-38 weeks gestation By Illinois Hospital and Perinatal Level, 2012



## Example: Percent Non-Medically Indicated Elective Deliveries (NMIED) at 37-38 weeks gestation, 2010-2012



# Looking forward...

- Commitment to continued use of data to contribute to perinatal quality improvement initiatives:
  - Facilitate the use and reporting of timely data
  - Produce more refined look at NMIED
  - Update the *IL Breastfeeding Blueprint*
  - Provide epidemiologic analysis of other perinatal quality issues as requested by ILPQC, PAC, or others