



CHILD HEALTH  
NETWORK

for the Greater  
Toronto Area

Working Together for Children's Health

# **Niday Perinatal Database for the Greater Toronto Area:**

## **Second Annual Statistical Report 2004/05**

*November 22, 2005*

Presented by:

Dr. Andrew Shennan Medical Vice President,  
Perinatal & Gynaecology. SWCHSC



**2004/05 Niday perinatal data for  
the Greater Toronto Area:  
an overview of highlights and  
observations**



# Preparing the Second Annual Statistical Report...

*the process*



# NIDAY PERINATAL DATABASE SECOND ANNUAL STATISTICAL REPORT

## *Steps for Development of the Report*

- Prepare press release
- Review published report
- Release report at AGM

- Request completing of data entry to all 24 GTA hospitals
- Meeting of the Niday Perinatal Database GTA Working Group
  - To outline purpose of report
  - To direct analysis of indicators for report
- First cleaning of annual data and request sent to hospitals for corrections

**APRIL**

- 2<sup>nd</sup> request for data entry completion to remaining hospitals
- Continue review of annual cleaning and requests for hospital corrections
- Development of statistical software syntax for analysis by epidemiologist

**NOVEMBER**

- Final draft to the Board of Directors for approval in principle for release of report
- Final draft and presentation to Coordinating Committee approval in principle for release of report
- Completion of Annual Statistical Report send to printers for publication

**OCTOBER**

**MAY**

**JUNE**

- Presented Report purpose and recommendation for data analysis to the Maternal/Newborn Services Task Force
- Data extraction for analysis

**SEPTEMBER**

- Meeting of the Niday Perinatal Database Working Group. Presentation of outcomes and concluding observation. Recommendations for changes and further analysis
- Presented to Maternal/Newborn Services Task Force. Concluding observations highlighted, discuss on outcomes and recommendations for further changes. Approval of report release in principle

**JULY**

- Data analysis by epidemiologist
- Literature search for report development
- Report text preparation

**AUGUST**

- Review of analysis and report by epidemiologist and Niday project coordinator
- Further report development, comparison with regional and national outcomes, trends and practice standards

# CHN's Niday Perinatal Database Work Group

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- Mathias Gysler (Chair), The Credit Valley Hospital
- Kathryn Doren, Halton Healthcare Services
- Nazira Jaffer, North York General Hospital
- Wil Ng, Toronto Public Health
- Mathew Sermer, Mount Sinai Hospital
- Andrew Shennan, Sunnybrook & Women's College Health Sciences Centre
- Janice Ward, Toronto East General Hospital
- Hilary Whyte, The Hospital for Sick Children
- Barbara Chapman, Child Health Network
- Bev Nickoloff, Child Health Network



# *The Report*

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- Inclusion of data from all CHN hospitals providing perinatal care for the 2004-05 fiscal year
- Inclusion of home birth data for the entire GTA region
- Analysis by cluster, level of care and hospital size (based on birth volumes)
- Additional analysis of variables related to infant outcomes based on a further breakdown of gestational age (i.e., <30, 31-32, 32-36 and >36 weeks)
- Comparison between 2003-04 and 2004-05 data).

**2004/05**

# **Niday Perinatal Data Analysis**

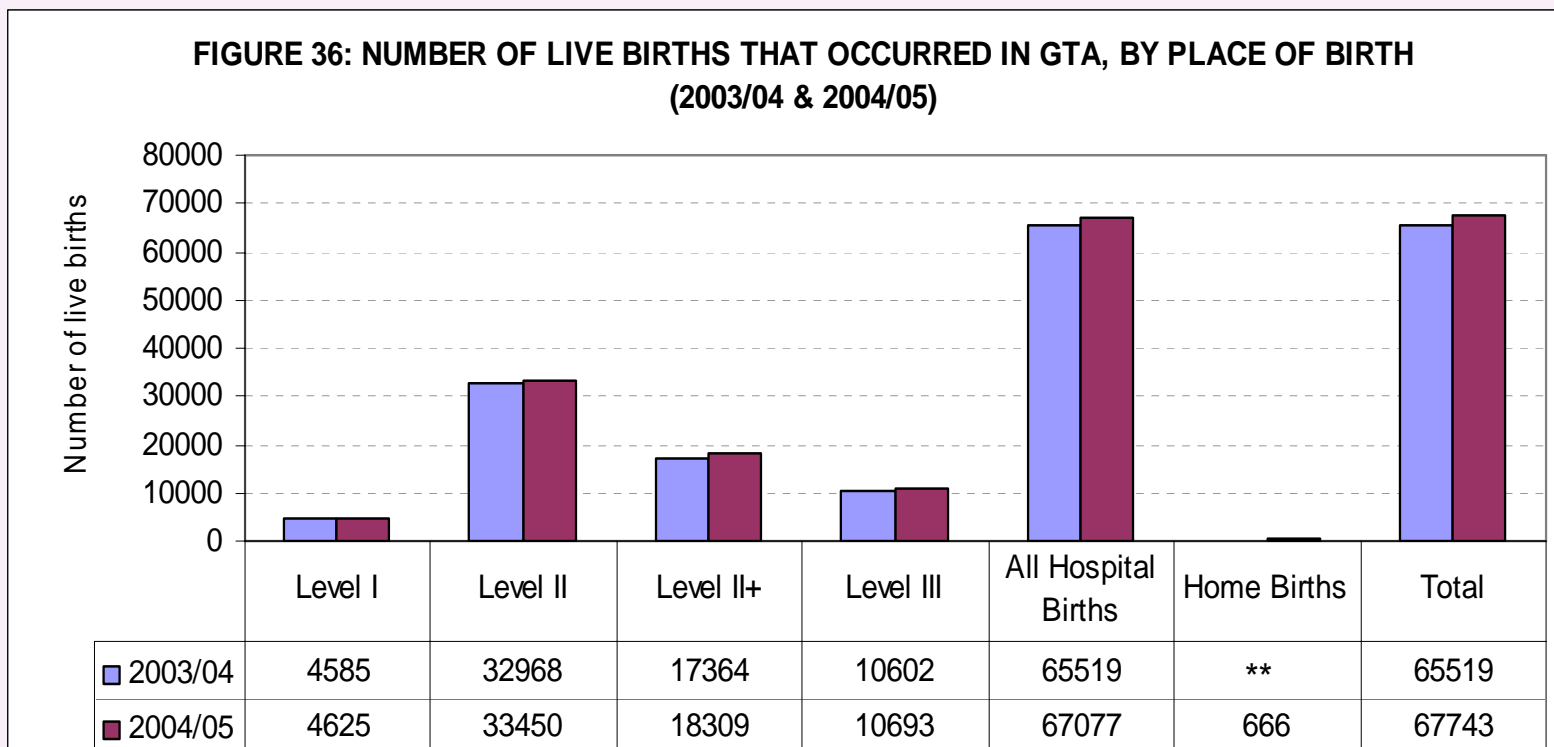


# Growth in the GTA

GTA Live Births for March 2004 - April 2005 = 67,077 (Hospital)  
+ 666 (Home)

51 % of ON total. 20% of the nations births [Statistics Canada 2003]

Increases over two study periods: 4.2% total; East & North 4.2%; Level II+ 5.4%



Source: Niday Perinatal Database for the GTA

\*\* Home births data not collected in 2003/04

# Appropriate Level of Care

215/4619 (5%) babies born at Level I sites are <36 weeks

189/51232 babies born at Level II & II+ sites are <32 weeks

9,154/10,671 (~86.%) babies born in Level III are full term

## 2003/2004

## 2004/2005

HOSPITAL LEVEL OF CARE	GESTATIONAL AGE			HOSPITAL LEVEL OF CARE	GESTATIONAL AGE		
	<32 week (N=745)	32-36 week (N=4173)	37+ weeks (N=60,177)		<32 week (N=760)	32-36 week (N=4,470)	37+ weeks (N=61,274)
III	68.6%	21.5%	15.2%	III	72.1%	21.7%	14.9%
II / II+	29.1%	74.2%	77.5%	II / II+	24.9%	74.0%	77.9%
I	2.3%	4.3%	7.3%	I	3.0%	4.3%	7.2%

Cells denote optimal site for care

"Watch Zone"; Cells denote activity areas not optimal for care

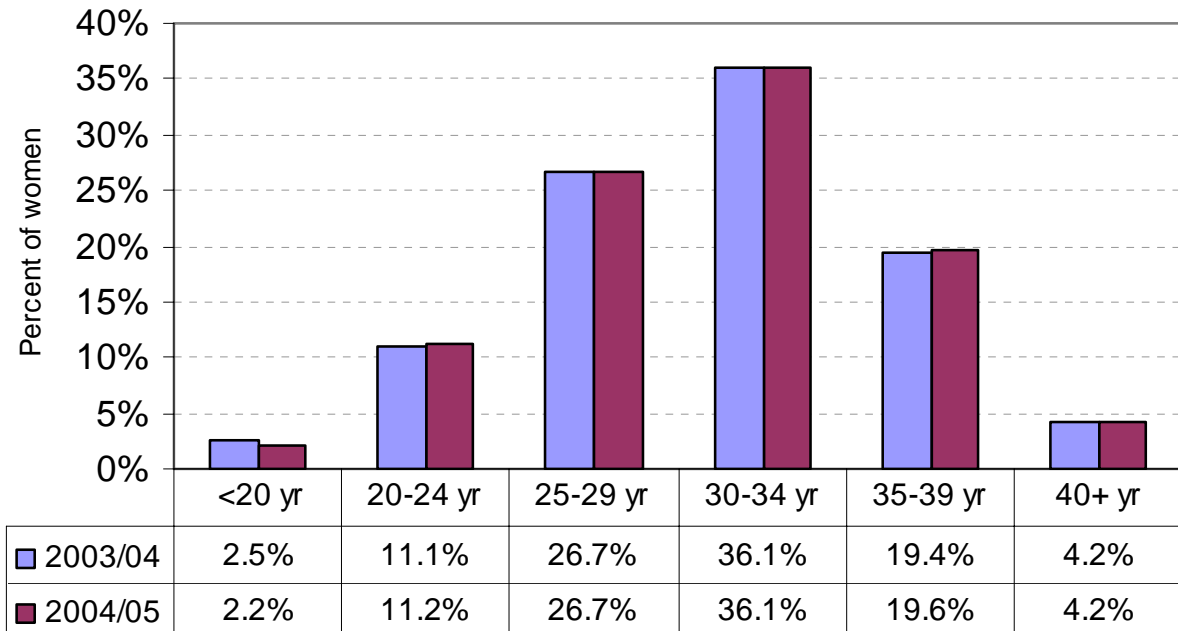
# Increasing Maternal Age

4.2% of women giving birth in GTA are 40+ compared with 3.0% in Ontario (Niday Perinatal data warehouse 2004-05 )

**Later maternal age - potential increase in:**

- Complications
- Interventions
- Perinatal mortality
- Adverse outcomes

**FIGURE 13: PERCENTAGE OF WOMEN WHO GAVE BIRTH IN CHN HOSPITALS, BY MATERNAL AGE (April 2003 - March 2005)**



Source: Niday Perinatal Database for the GTA

Note: 2003/04 data do not include a "Level II Central Cluster Organization due to data quality concerns.

# Human Resources

**88.9 % of births attended by obstetrician**

Family Physician and Midwifery attended birth declined over two study periods:

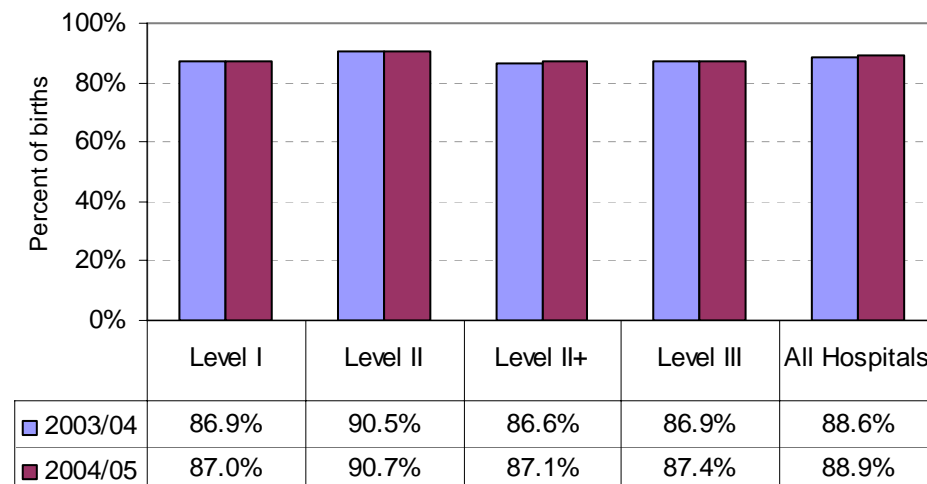
11.6 – 11.0% Family Physician  
2.6 – 2.3% Midwives

**In BC:**

Obstetrician – 51% (VCHA)  
71% (GVA)

Family Physicians – 48.1%  
Midwifery 3.7% (BCRCP 2004)

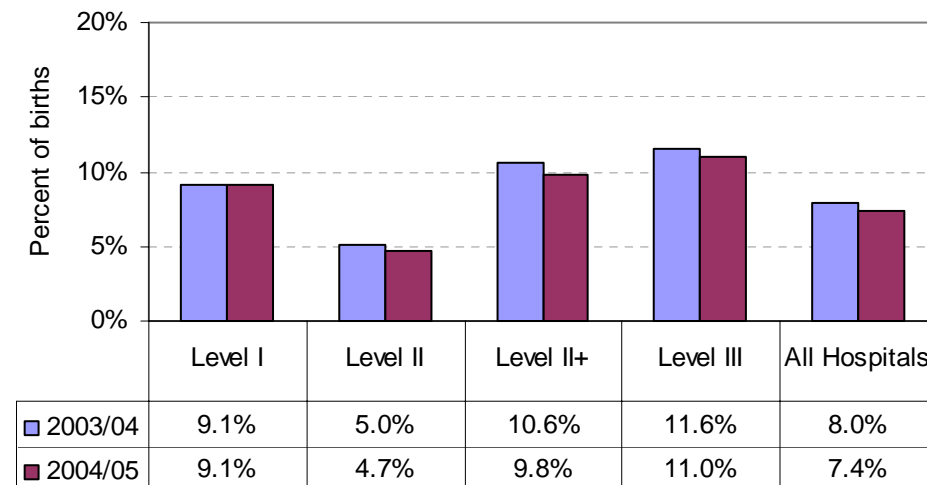
**FIGURE 4: PERCENTAGE OF BIRTHS DELIVERED IN CHN HOSPITALS BY OBSTETRICIANS, BY HOSPITAL LEVEL OF CARE (April 2003 - March 2005)**



Source: Niday Perinatal Database for the GTA

Note: 2003/04 data do not include a "Level II Central Cluster Organization" due to data quality concerns.

**FIGURE 5: PERCENTAGE OF BIRTHS DELIVERED IN CHN HOSPITALS BY FAMILY PHYSICIANS, BY HOSPITAL LEVEL OF CARE (April 2003 - March 2005)**



Source: Niday Perinatal Database for the GTA

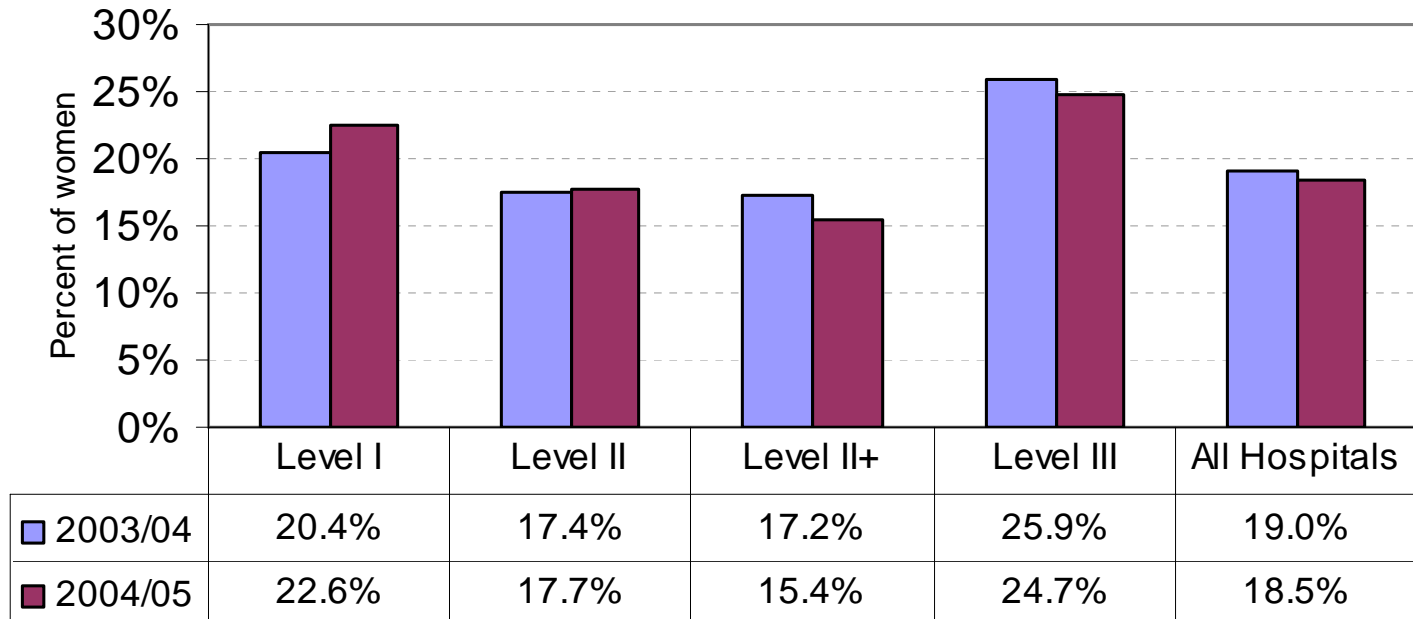
Note: 2003/04 data do not include a "Level II Central Cluster Organization" due to data quality concerns.

# Intrapartum Interventions

Difference in rates of some interventions were found between  
Level of Care Centres

- *Level I and III induction rates higher than Level II & II+*

**FIGURE 21: LABOUR INDUCTION RATES, BY HOSPITAL LEVEL OF CARE (April 2003 - March 2005)**



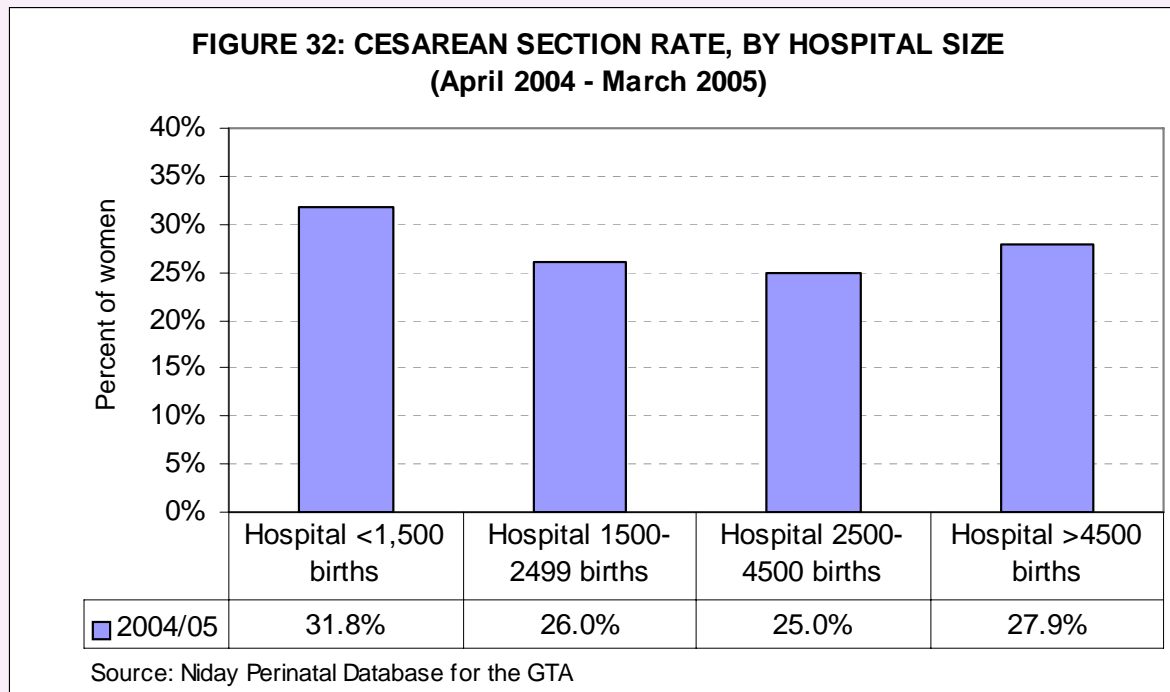
Source: Niday Perinatal Database for the GTA

Note: 2003/04 data do not include a "Level II Central Cluster Organization" due to data quality concerns.

# Quality and Efficiency

**Data analysis by size of hospital was added to the 2004-05 report to look at the relationship between volumes and quality and efficiencies**

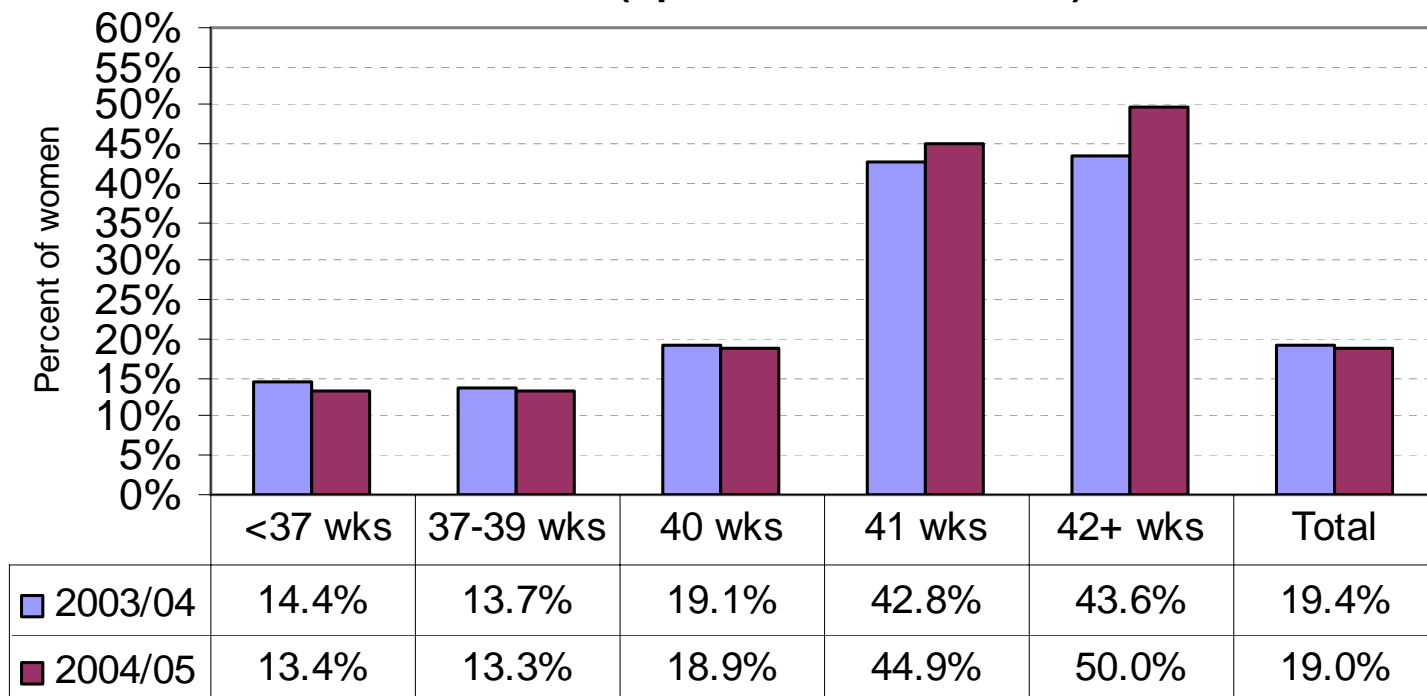
The caesarean section rate in the GTA is 26.2% for the 2004-05 fiscal year  
Hospitals with a birth rate <1500 per year report a rate that is ~ 5 % higher



# Intrapartum Interventions

Time of induction and rate of induction varied between levels of care and size of hospital

**FIGURE 24: PERCENTAGE OF WOMEN WITH SINGLETON VERTEX LIVE BIRTH WHO HAD LABOUR INDUCED, BY GESTATION (April 2003 - March 2005)**



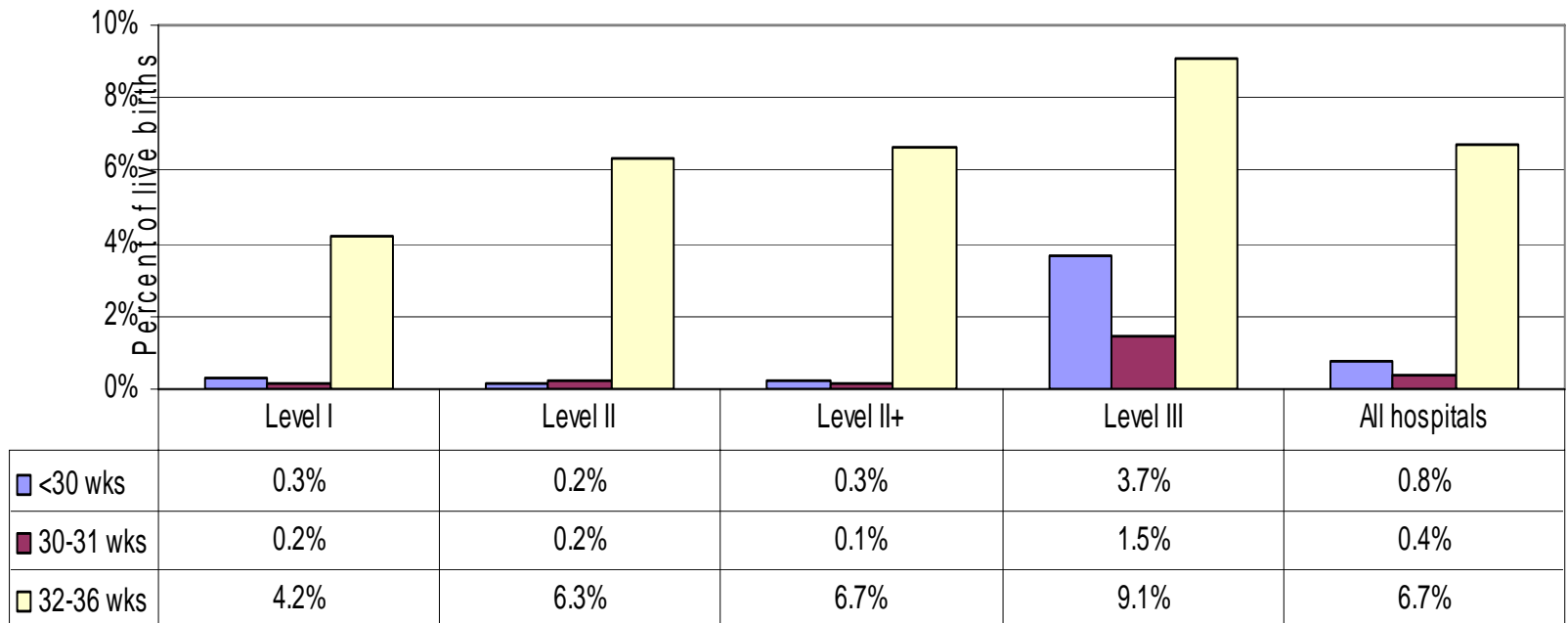
Source: Niday Perinatal Database for the GTA

Note: 2003/04 data do not include a "Level II Central Cluster Organization" due to data quality concerns.

# Infant Outcomes

- **Total # of infants <30 weeks = 506 (an increase of 56 from 2003-04)**
- **295 infants were born between 30 – 31 weeks gestation**
- **4470 infants born between 32 – 36 weeks gestation**

**FIGURE 62: PERCENTAGE OF LIVE BIRTHS THAT WERE PRETERM, BY GESTATIONAL AGE GROUPS IN CHN HOSPITALS, BY HOSPITAL LEVEL OF CARE (2004/05)**



Source: Niday Perinatal Database for the GTA

Note: Excludes births born <24 weeks gestation at Level I, II, and II+ hospitals

# Next Steps

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- Evaluation of the enhanced Niday Perinatal Database
  - Illustrate the relationship between skill, knowledge, resources and processes with data quality
- 2005-06 Annual Statistical Report to include site specific outcomes
  - Increase transparency of perinatal health care
  - Further promote regionalization and enhance accountability re: practice patterns consistent with designated level of care
  - Explore sensitivity that exists with hospital level outcomes reported



*Together....we ARE making  
a difference*

