

Dane County Birth Outcomes Investigation

Thomas Schlenker MD,MPH, Mamadou Ndiaye MD, MPH

February 19, 2008

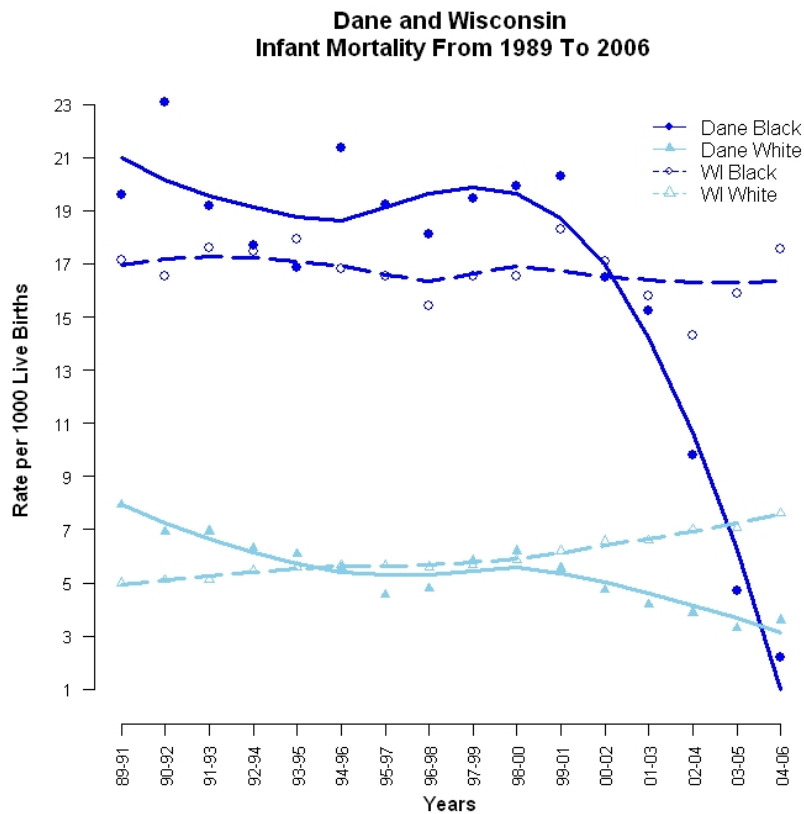


Public Health
MADISON & DANE COUNTY

Healthy people and places



Decline in Black Infant Mortality



- Is the trend real?
- What are its context and component parts?
- What impact has it on the community?
- What might be the causes?
- How do we find out?

Infant Mortality Rates, by Country, 2004

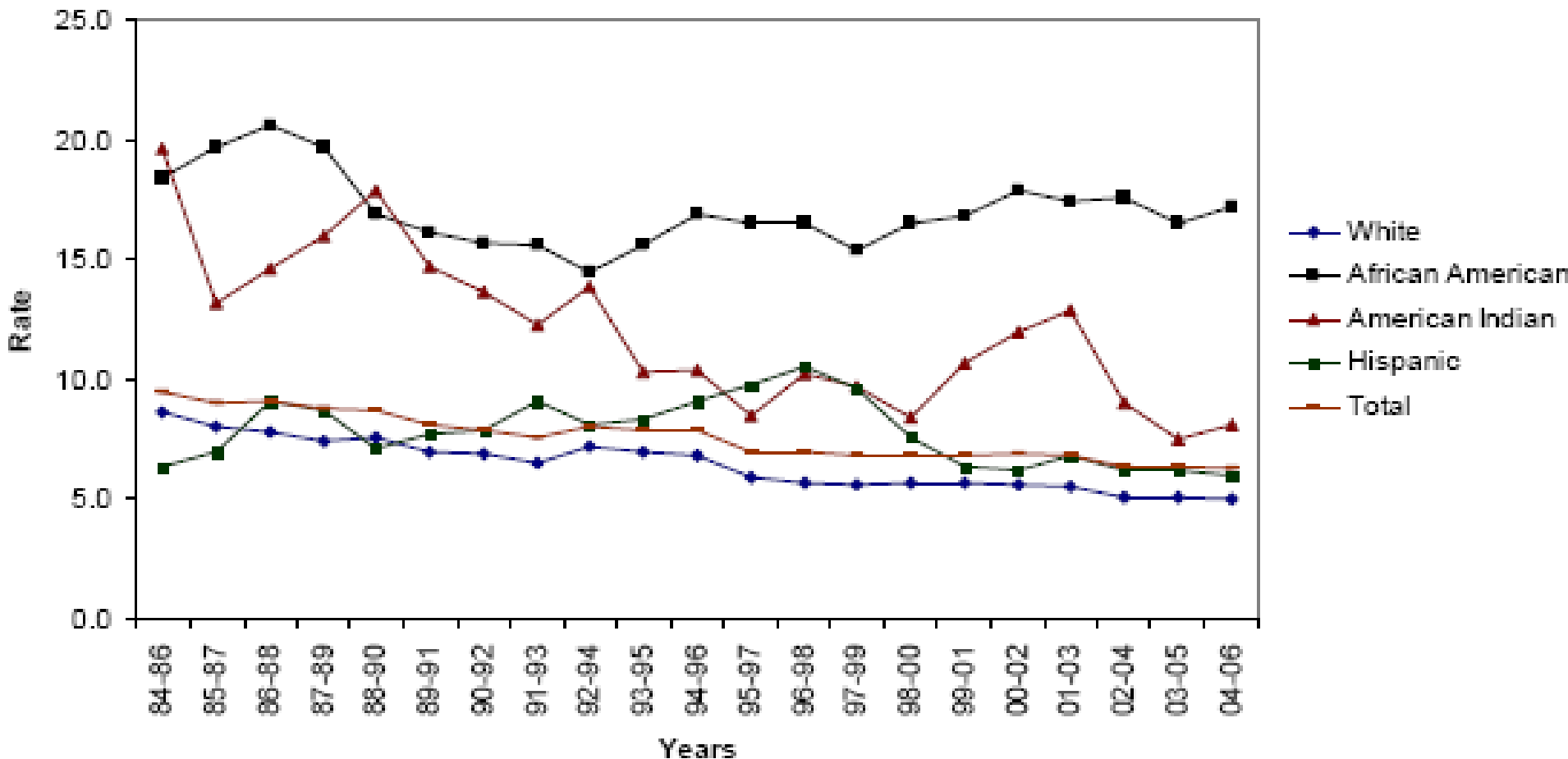
Rank	Country	IMR Rate	Rank	Country	IMR Rate
1	Singapore	2.28	60	Sri Lanka	14.78
2	Sweden	2.77	61	United Arab Emirates	15.06
3	Hong Kong S.A.R.	2.97	62	Mauritius	15.57
4	Japan	3.28	63	Argentina	15.66
5	Iceland	3.31	64	Russia	16.01
6	Finland	3.59	65	Jamaica	16.63
7	Norway	3.73	66	Panama	17.14
8	Malta	3.94	67	Bahrain	17.91
9	Czech Republic	3.97	68	Jordan	18.11
10	Germany	4.2	69	Malaysia	18.35
11	France	4.31		Wisconsin Black	19.2
12	Macau S.A.R.	4.39	70	Qatar	19.32
13	Switzerland	4.43	71	Georgia	19.34
14	Spain	4.48	72	West Bank	20.16
15	Slovenia	4.5	73	Oman	20.26
	Wisconsin White	4.5	74	Thailand	20.83
16	Denmark	4.63	75	Bulgaria	21.31
17	Austria	4.68	76	Mexico	21.69
18	Australia	4.76	77	Colombia	21.72
19	Belgium	4.76	78	Solomon Islands	22.09
20	Canada	4.82	79	Albania	22.31

U.S. Census International Data Base, for countries with populations greater than 250,000

AA Infant Mortality Rate by state, 2004

US								
Rank	State	AA Rate	Rank	State	AA Rate	Rank	State	AA Rate
		13.79						
1	Massachusetts	9.18	14	Pennsylvania	13.47	27	Ohio	16.34
2	Minnesota	9.21	15	Georgia	13.93	28	Nebraska	16.53
3	Washington	10.60	16	Maryland	13.96	29	Kansas	16.54
4	New Jersey	10.66	17	So Carolina	14.12	30	No Carolina	16.76
5	New York	10.90	18	Virginia	14.19	31	Indiana	16.92
6	Florida	11.81	19	Mississippi	14.58	32	Oklahoma	17.21
7	Arizona	11.96	20	D.C.	14.65	33	Michigan	17.51
8	California	12.39	21	Missouri	14.66	34	Nevada	18.56
9	Kentucky	12.59	22	Colorado	14.68	35	Wisconsin	19.39
10	Texas	12.73	23	Louisiana	14.78			
11	Connecticut	12.88	24	Delaware	15.48			
12	Alabama	13.25	25	Illinois	15.73			
13	Arkansas	13.40	26	Tennessee	15.97			

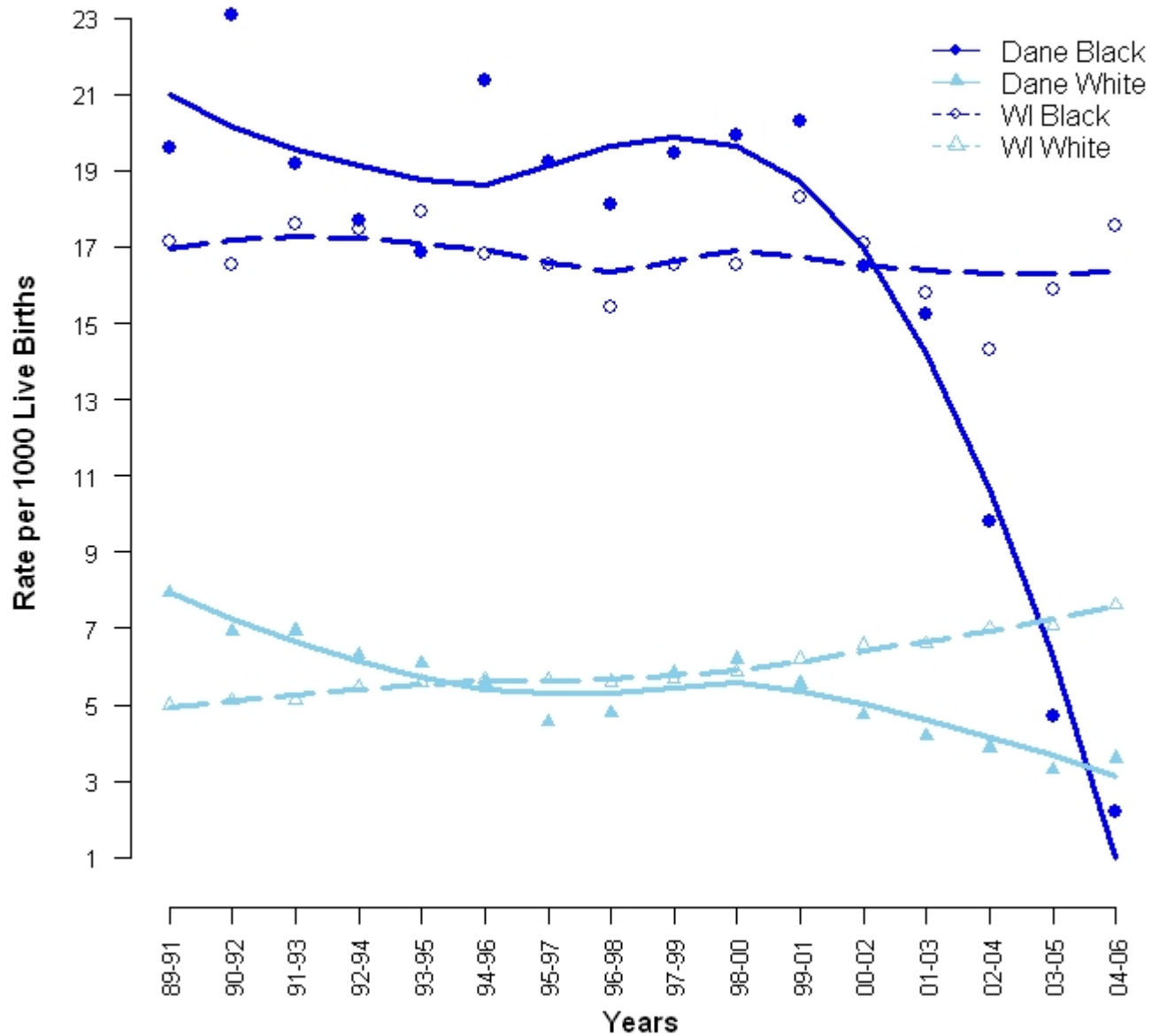
Wisconsin Infant Mortality Rates by Race/Ethnicity, 1984-2006 (3-Year Rolling Averages)



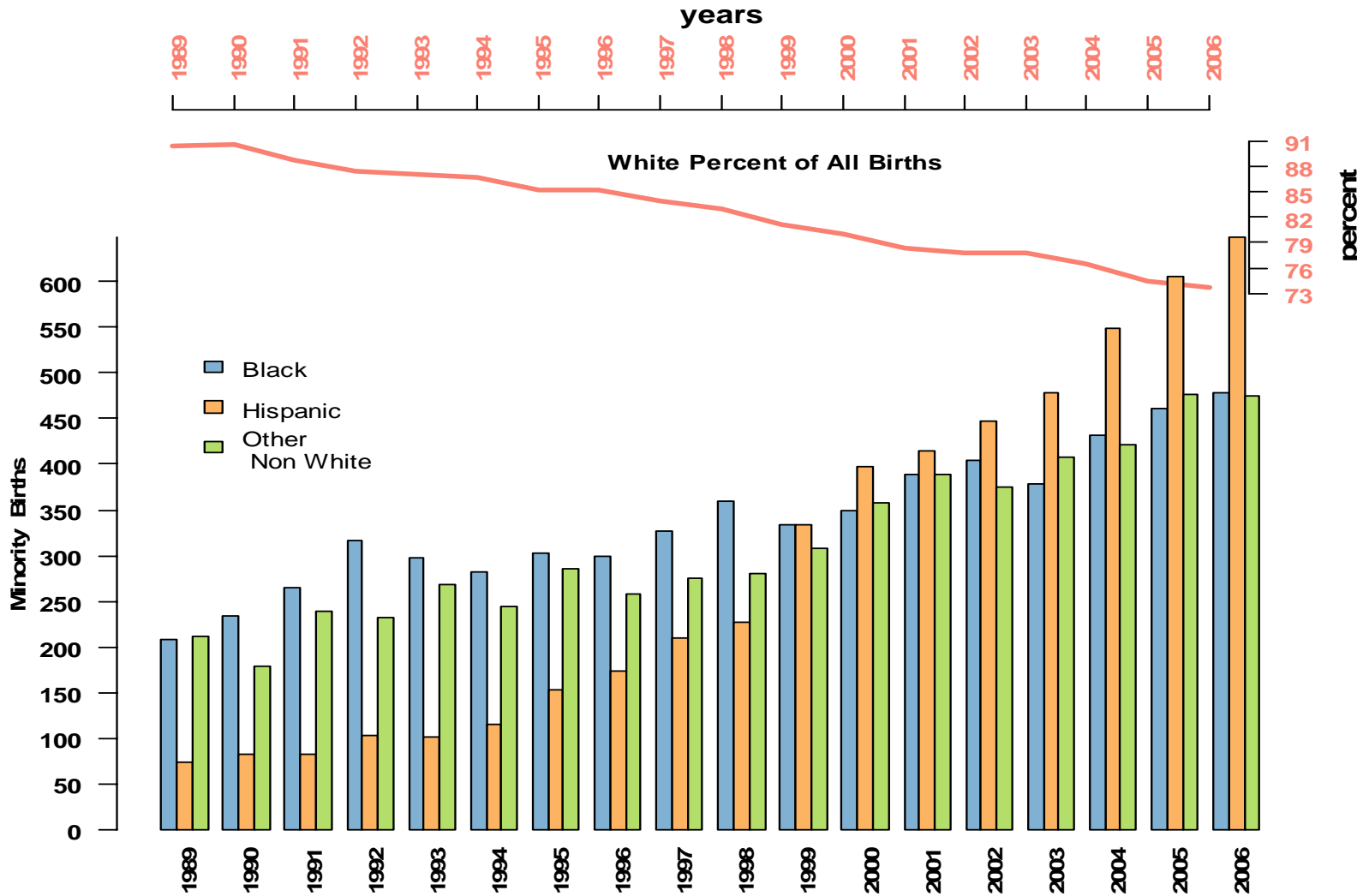
Sources of Data/Potential Error

- Birth/Death Records by Residence
- Definitions
 - Infant death
 - Infant Mortality
 - Premature Birth
 - Extremely Premature Birth
 - Fetal Death
- Classification
- Linkage
- Random variation of small numbers

Dane and Wisconsin Infant Mortality From 1989 To 2006



Dane County Births by Race/Ethnicity



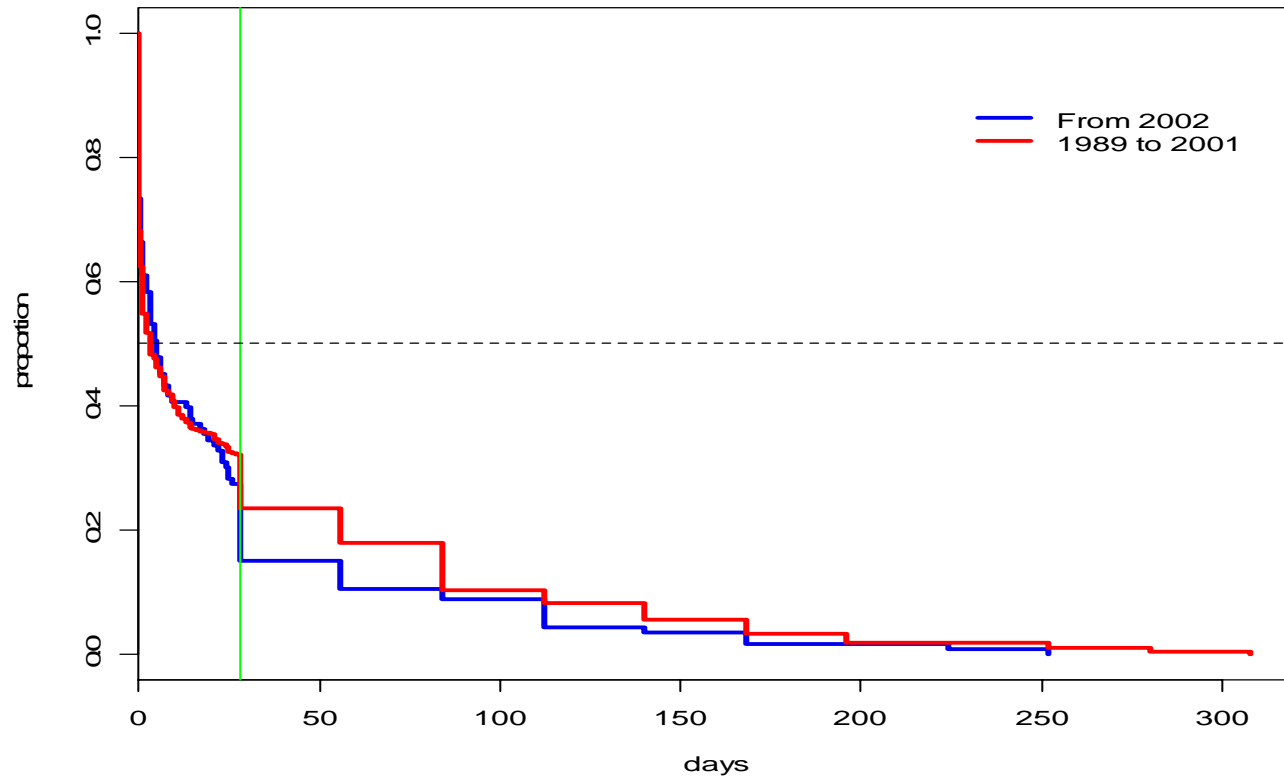
Infant Mortality Rates, 2002-2006

State/County City	White	Black	Hispanic	B/W Ratio
Dane	3.8	6.45	5.5	1.7
Madison	3.2	7.15	6.3	2.2
Kenosha	4.1	18.0	3.35	4.4
Kenosha City	3.4	17.5	3.6	5.2
Milwaukee	5.8	17.3	7.15	3.0
Milwaukee City	6.7	17.2	7.2	2.6
Racine	7.65	23.4	10.5	3.1
Racine City	6.9	23.0	8.9	3.3
Rock	4.5	18.8	5.0	4.1
Beloit	6.6	19.2	X	2.9
Wisconsin	5.2	17.0	6.3	3.3

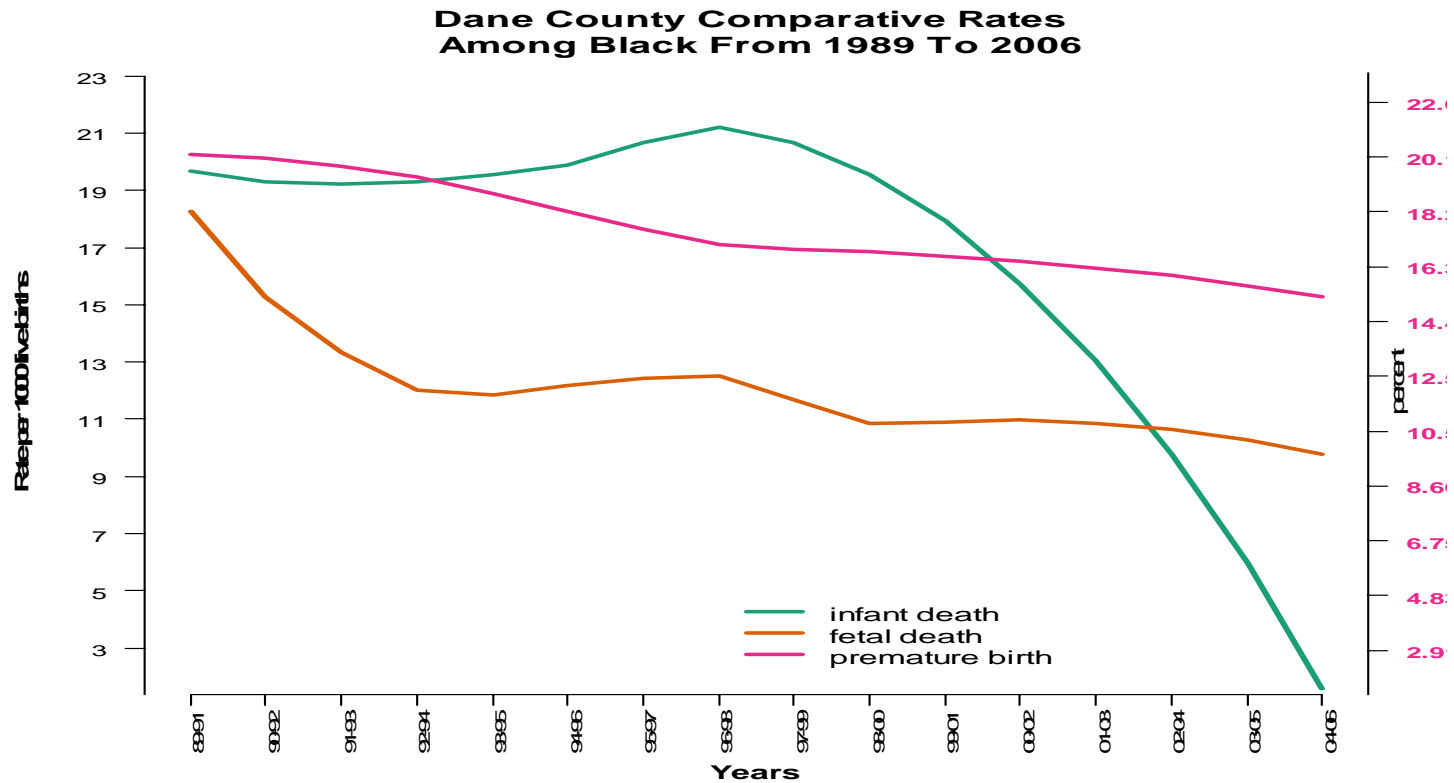
Note: 'X' denotes less than 5 events and is not reported.

Infant Mortality by Age Dane County, 1989-2006

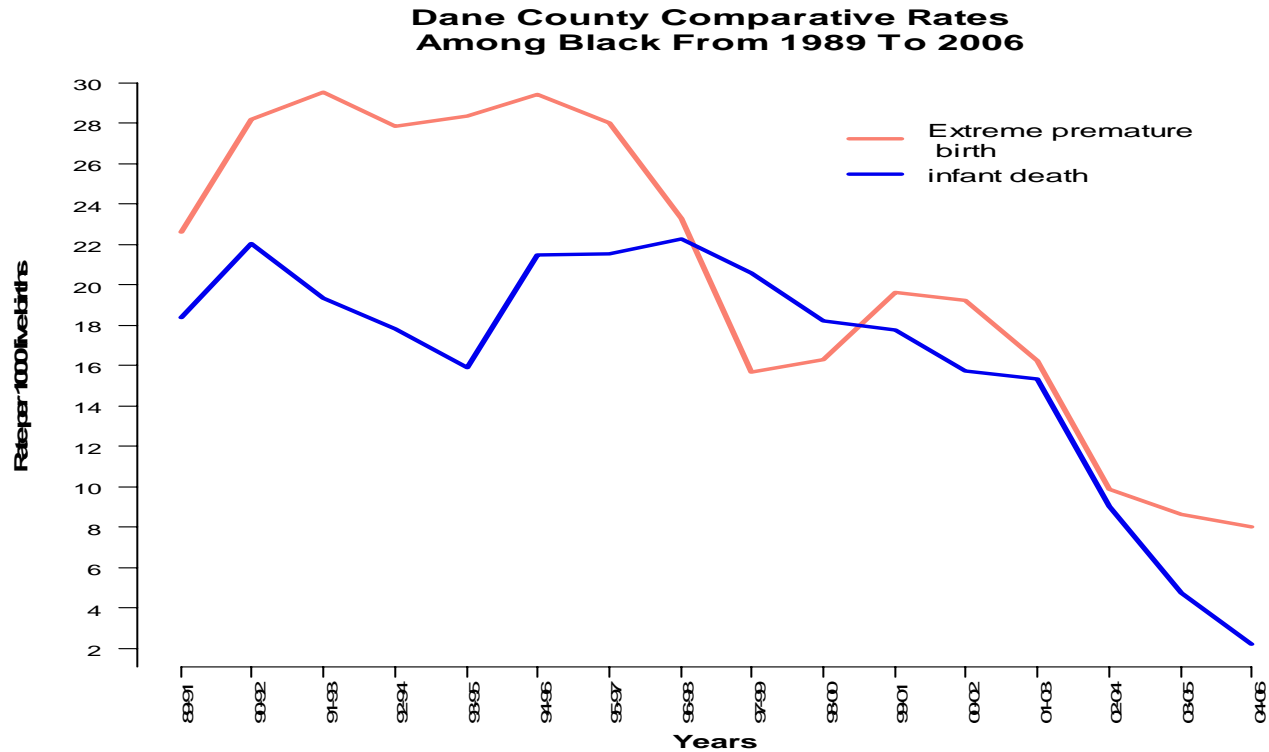
survival curves



BIMR, Premature Births, Fetal Deaths

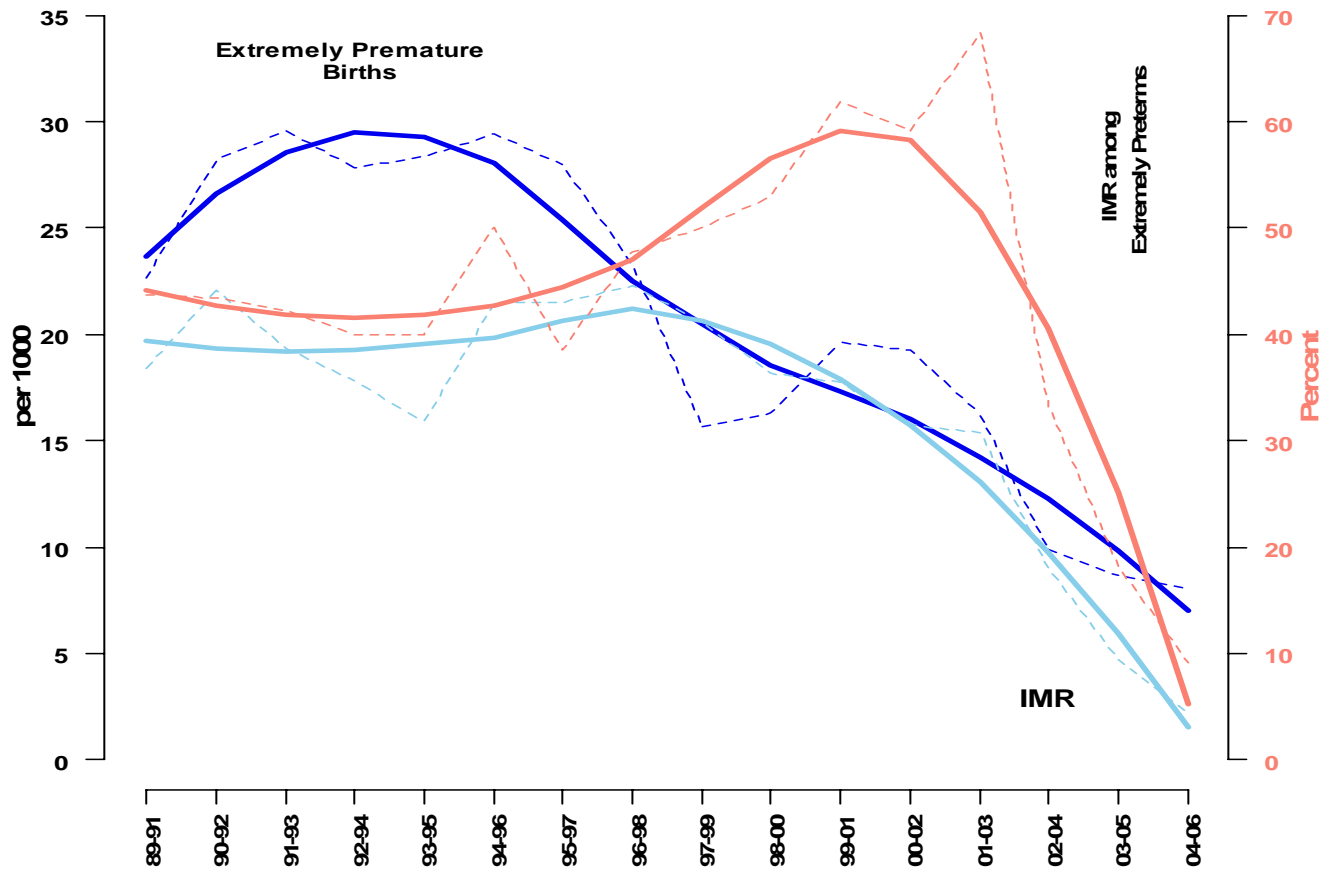


BIMR and Extremely Premature Births

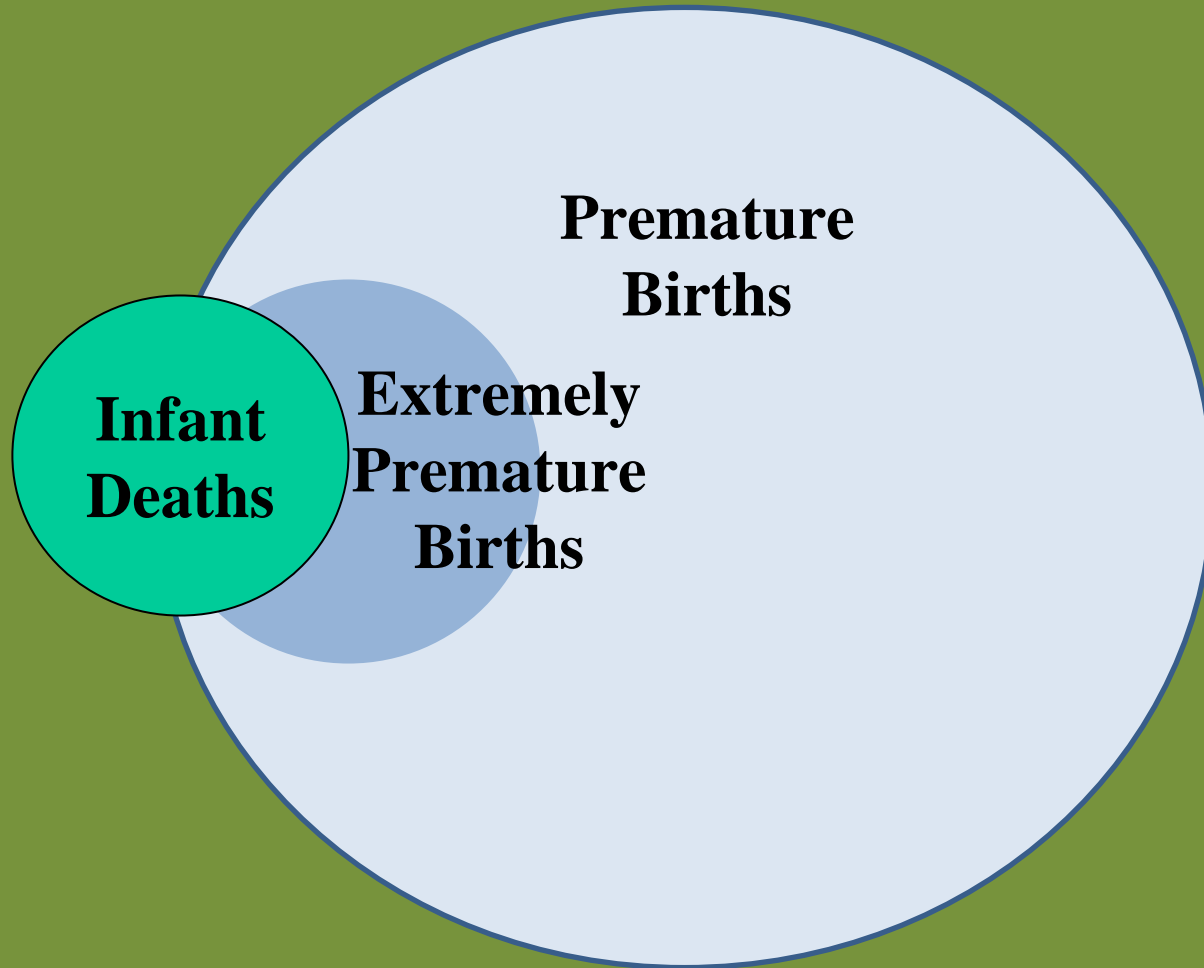


BIMR, Extremely Premature Birth and Death Rates

Comparative Birth Outcomes For AA Mothers



Adverse Birth Outcomes



Impact of Fewer Black Premature Births Dane County, 2002-2006

- 29 lives saved
 - Instead of the 13 actual infant deaths for 2155 live births during 2002-2006 (IMR=6.0), 42 would have been expected if the 1989-2001 trend (IMR=19.2) had prevailed.
- 23 babies not at-risk for lifelong disabilities
 - Instead of the 20 actual extremely premature births 2002-2006 (EPR=9.4), 50 would have been expected if the 1989-2001 trend (EPR=23.7) had prevailed. Of the 30 additional extreme premies, 75% would have survived.
- \$5million in short-term hospital charges
 - Thirty additional extreme premies X \$165,032 (hospitalization only charges during first year of life for birth weights 750-999 grams, DHFS “2005 Medicaid Births in Selected Counties”) = \$4,950,960.

Dane County Birth Outcomes Investigation

Vital Records

**Health Care
and
Social Services**

- Meriter**
- St. Mary's**
- PP**
- PNCC**
- WIC**
- ECI**

**Community
Based
Participatory
Research**