
Maternal Mortality Review

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New York State Department of Health

Maternal Mortality

“Maternal mortalities are devastating events with prolonged effects on mothers, partners, children and families, and obstetric health care teams.”

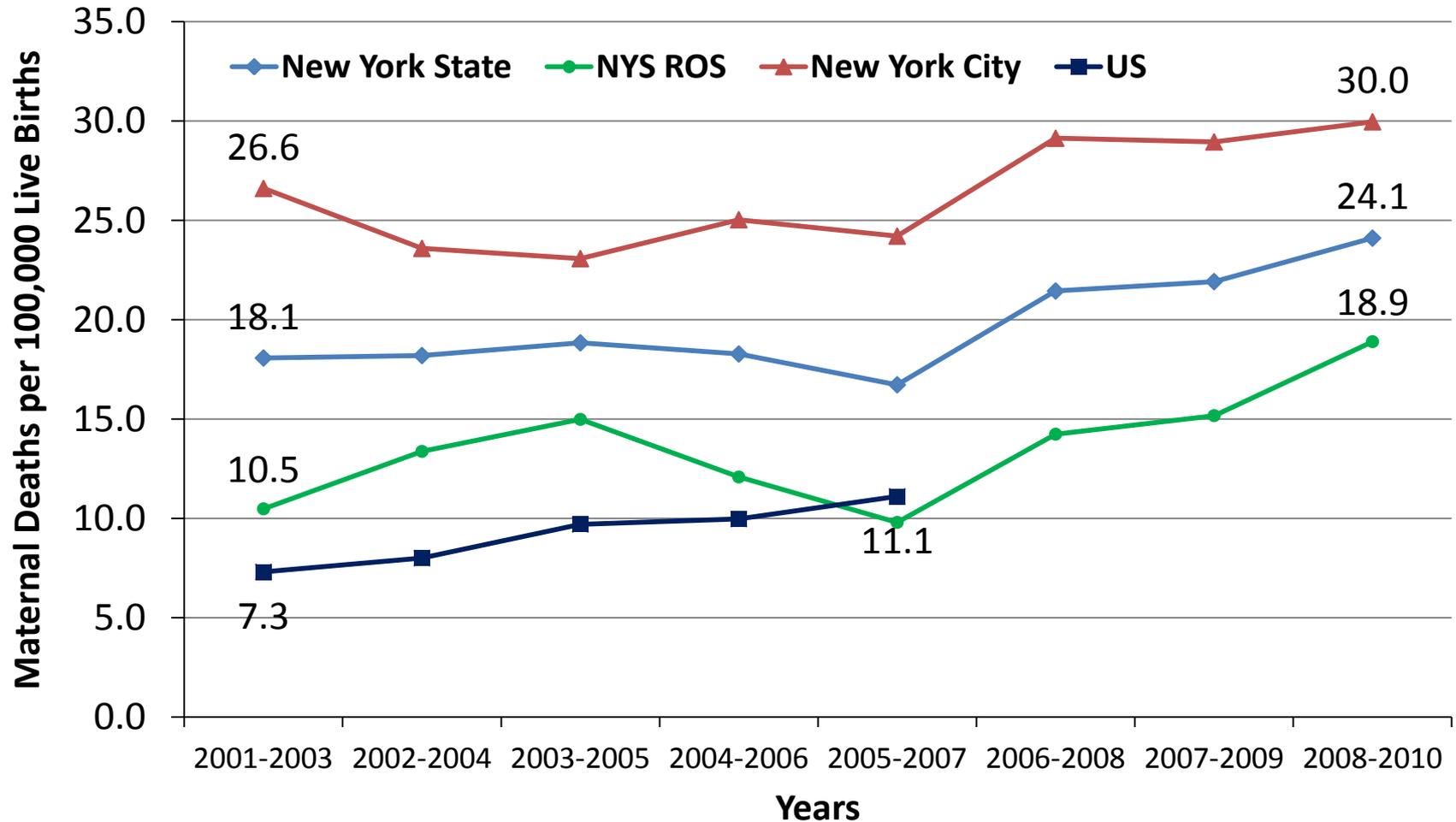
Richard F. Daines, M.D.
Commissioner of Health

Cynthia Chazotte, M.D., FACO
ACOG, District II/NY

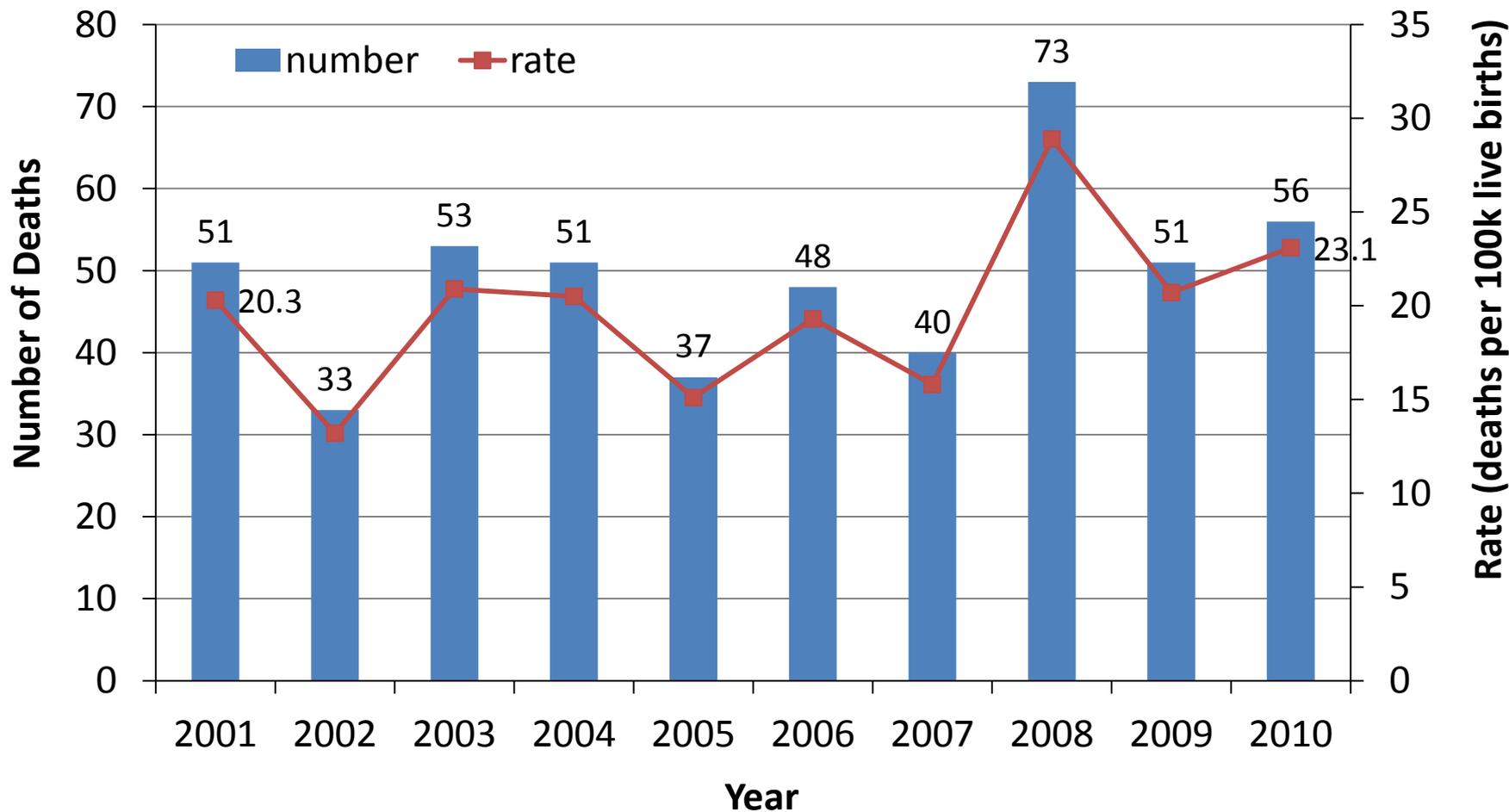
Maternal Mortality

- The United States ranks behind 40 nations in maternal deaths
 - Spends more on care per birth than any other nation
- NYS ranks 47/50 states
- Significant racial disparities

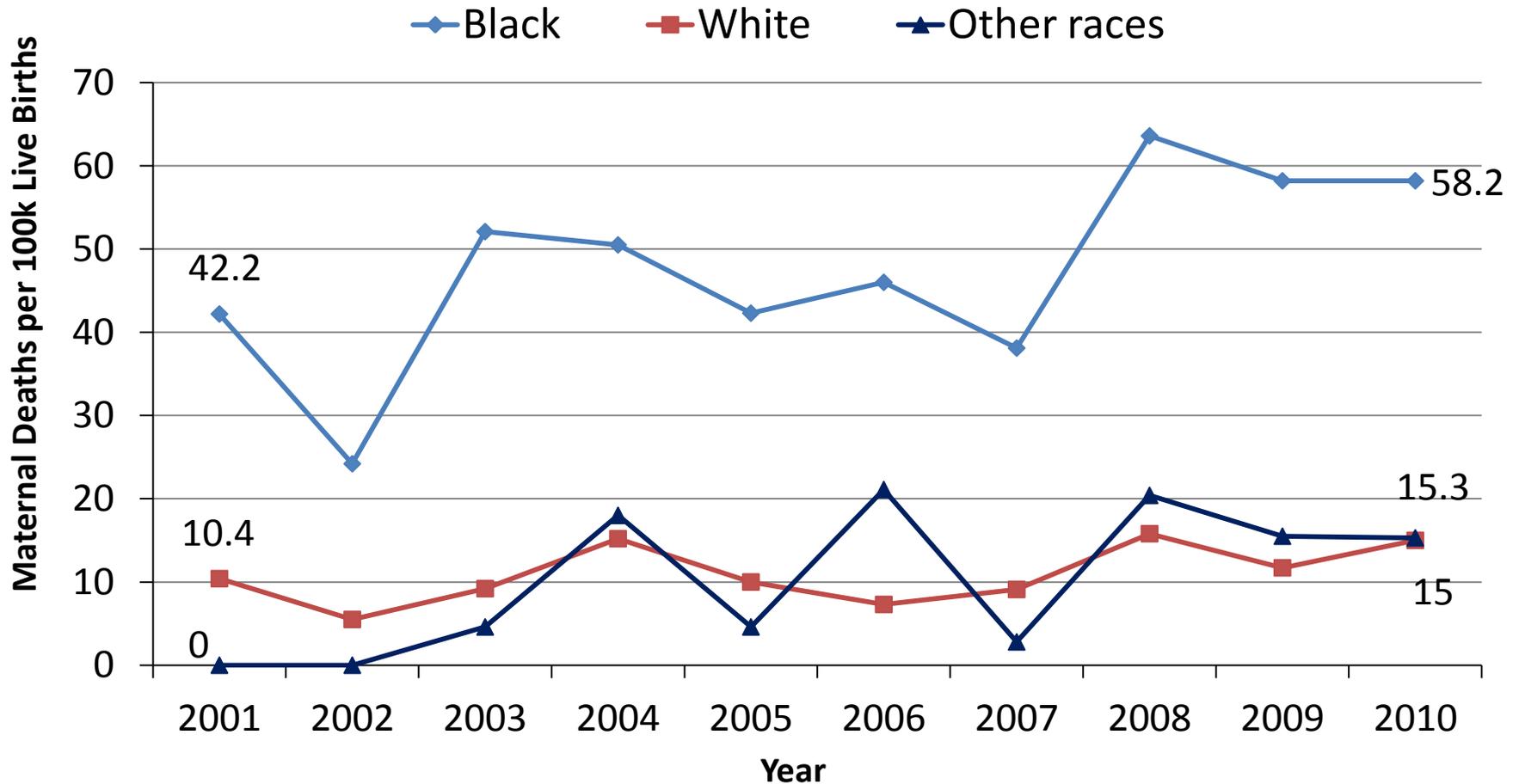
3 Yr Rolling Average Maternal Mortality Rate: NYS, 2001–2010



Maternal Mortality in New York, 2001-2010



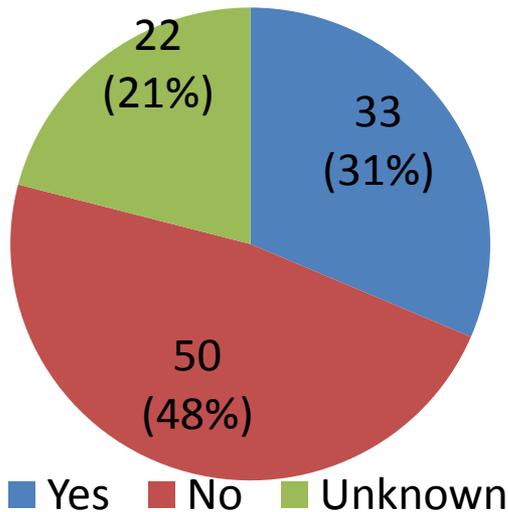
Maternal Mortality Rate by Race, NYS Vital Records, 2001–2010



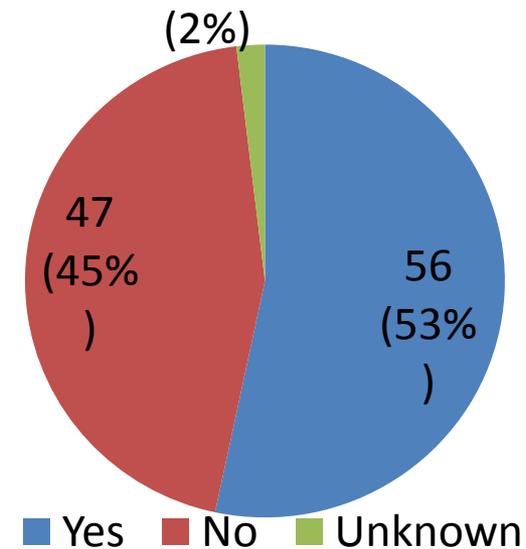
Underlying cause of death due to complications of pregnancy, childbirth and the puerperium, within 42 days of pregnancy.

Preventing Maternal Deaths Pregnancy Related 2006-2011 (n=105)

Was Death Preventable?



Standard of Care Met?



Preventable definition: Could the health care system or individual providers have done something that would have changed the circumstances that led to the death. Preventability is decided by the case review team after reviewing all of the case records available.

Understanding Maternal Mortality

- New York Academy of Medicine Symposium
 - June 18, 2010
- Occurred at a transition in the approach to Maternal Mortality Review in NYS
 - Safe Motherhood Initiative
 - Voluntarily reported cases to ACOG/NYSDOH team
 - Comprehensive case ascertainment and review
 - NYSDOH with many partners

Maternal Mortality Cases by Various Reporting Sources

YEAR	NYSDOH VITAL RECORDS* (rate, per 100k)	SAFE MOTHERHOOD INITIATIVE	NYPORTS
2008	73 (28.9)	17	28
2007	40 (15.8)	8	30
2006	48 (19.3)	2	36
2005	37 (15.1)	2	22
2004	51 (20.5)	25	41
2003	53 (20.9)	6	32

*Underlying cause of death = Complication of pregnancy or childbirth (ICD-10 codes O00-O99)

1. (NYPORTS) New York Patient Occurrence Reporting and Tracking System Patient Safety effort with mandatory reporting that collects information from hospitals and diagnostic treatment centers concerning adverse events.

New York Academy of Medicine
Maternal Mortality in New York:
A Call to Action

Priority Action Steps

- 1. Improve reporting, case review and data system*
- 2. Prevention and risk reduction before pregnancy*
- 3. Hospital based screening and intervention*

1. Reporting, Case Review and Data Systems

NYSDOH Action Steps

- Statewide reporting
 - New York Patient Occurrence Reporting and Tracking System (NYPORTS)
 - Is a statewide mandatory reporting system of pregnancy related deaths
 - Change in Maternal Mortality definition July, 2011
 - **NEW.** Maternal death or serious injury associated with labor or delivery while being cared for in a healthcare setting.
 - **OLD.** Unexpected adverse occurrence in circumstances other than those related to the natural course of illness disease or proper treatment
- Clearer definition and adds 'near misses'*

1. *Reporting, Case Review and Data Systems*

NYSDOH Action Steps

- Statewide reporting
 - All cases of maternal mortality are reviewed
 - Maternal deaths **within 42 days** of giving birth
 - Comprehensive surveillance implemented
 - Now looks for cases that occur **within 1 year** of birth
 - NYSDOH supplements NYPORTS reporting by analyzing linked death certificate, SPARCS & Birth Certificate data
 - Identify deaths in hospital not reported via NYPORTS
 - Identify deaths following hospital discharge

1. *Reporting, Case Review and Data Systems*

NYSDOH Action Steps

Comprehensive Identification Maternal Deaths

- Case identified, Chart requested, IPRO review
- Comprehensive review of medical records
 - Melded NYC’s and Safe Motherhood’s Case Review Tools to create a single review tool
 - Addresses demographic information
 - Addresses nine distinct areas of issues potentially impacting maternal mortality
 - Addresses “official” cause of death and the autopsy report
 - Overall review team assessment
 - Case summary developed
 - Includes the hospital’s root cause analysis document on NYPORTS cases
- Maternal Death Abstraction Form completed

1. *Reporting, Case Review and Data Systems*

NYSDOH Action Steps

Analysis of Data

- Data on 126 cases occurring between 2006 and 2011 were presented to the Maternal Mortality Expert Review Committee on 5/31/12.
- 44 case reviews were added to the database this summer.
- 156 medical records 2006-2008 were recently requested

1. *Reporting, Case Review and Data Systems*

NYSDOH Action Steps

- Established Statewide MMR Expert Review committee
 - Multispecialty membership
 - Established a Hypertension Guideline subcommittee
 - Developed draft hypertension guidelines
 - Recently requested subcommittee members endorsement of guidelines
- Invitation to join CDC/AMCHP MMR Collaborative
 - 14 states and 1 city (Philadelphia)
 - Standardize definitions, review tool, reporting for national standards
- NYS Health Improvement Plan – Promote Healthy Women, Infant and Children Workgroup Priority

1. *Reporting, Case Review and Data Systems*

NYSDOH Action Steps

- Reduce Cesarean section rates
 - Analysis conducted to identify risks and rates across the state
 - New York State Perinatal Quality Collaborative (2010)
 - Began with Regional Perinatal Centers
 - 105 birthing hospitals participating to reduce scheduled deliveries (July 2012)
 - In partnership with NYSPFP – a CMS funded partnership of HANYS/GNYHA
 - MRT 5402F: Elective delivery (C-section and induction of labor) <39 weeks without medical indication
 - Committed to ASTHO/March of Dimes President's Challenge
 - Reducing preterm delivery

2. Prevention and Risk Reduction Before and During Pregnancy

NYSDOH Action Steps

- Medicaid/DFH April 2010 revised prenatal care standards for all providers
 - Medicaid currently conducting a survey to evaluate implementation of guidance
- MRT 5307D: Health information Technology: Coordinate service delivery among health systems, providers, and community based health organizations
 - New York State Prenatal Care Risk Assessment Form
- MRT 5307B– Expand coverage for interconception care (potential focus in coming year)

3. *Hospital-based Screening and Intervention* *NYSDOH Action Steps*

- **NYS Regional Perinatal Centers**
 - Responsible for quality improvement and review of their affiliate hospitals
 - NYSPQC – working with affiliates in review of scheduled deliveries
 - Members of the RPCs serve on the MMR Expert Committee
- **Practice Guidelines**
 - NYS works with ACOG/HANYS/GNYHA
 - Hemorrhage protocol
 - Developing HTN guidelines
 - Preconception Care

Organization of Efforts

NYSDOH Action Steps

State Leadership to set clear goals, establish priorities, build consensus and coordinate efforts

- NYSPQC partnership with HANYS/GNYHA
- Office of Quality and Patient Safety established
- Perinatal Health, Quality and Safety Leadership Team established within DOH

Maternal Mortality

Opportunities for Improvement

- Numbers are small comparatively – bring issue to forefront
- Resource intensive (but less so than onsite reviews)
 - Many more potential cases identified
 - No specific program created to handle
- Data quality issues
 - Death certificate coding
 - Definitions unclear
 - Availability of timely data
- Involvement of many partners for effective change
- Involvement in national dialogue

Questions

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Maternal Mortality

Expert Review Committee Members

- Obstetrician
- Maternal fetal medicine
- Family practice
- Anesthesiologist
- Internal medicine
- Pathologist
- Obstetrical nurse
- Public health
- NYCDOHMH
- NYC Office of the Chief Medical Examiner
- NYSACHO
- Midwife
- Social worker
- ACOG, HANYS, GNYHA, MSSNY

Sources of Potential Cases

Year	NYPORTS	Death Record and SPARCS	Death Record and SPARCS and Birth Cert	Death Record Alone	Total
2006	35	123	34	8	200
2007	29	146	37	7	219
2008	30	142	25	10	207
2009	27	105	35	16	183
2010*	26	-	-	-	26
2011*	20	-	-	-	20
Total	167	516	131	41	855

* Data not examined yet

Status of Case Review Process 2006-2011

- 389 – Total number of medical records requested.
 - 170 Review tools completed.
 - 63 Number of cases under review.
 - 156 Medical records requested recently

CDC Cause of Death, 2006-2011

Cause of Death	Number of Deaths	% of Total Deaths	Black	White	Hispanic	Other
Cardiac arrest/failure, NOS	39	22.9%	24	6	3	3
Hemorrhage	30	17.6%	10	3	7	7
Embolism	26	15.3%	14	5	5	2
Pregnancy Induced Hypertension	21	12.4%	9	4	5	1
Infection	11	6.5%	3	2	4	1
Pulmonary Problems	9	5.3%	2	2	1	2
Unknown cause of death	8	4.7%	3	1	2	1
Cardiovascular problems	7	4.7%	3	4	-	-
Cancer	2	1.2%	-	1	1	-
Other cause of death	17	9.4%	11	4	2	-
Total Deaths	170	100%	79	32	30	17