
New York State Department of Health

**Statistical Summary of Children
Born in 1983-2007**

Congenital Malformations Registry

Additional and related information is also available from the New York State Department of Health Web site on the Internet: <http://www.health.state.ny.us>

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EXECUTIVE SUMMARY

This Congenital Malformations Registry Summary Report presents statistical results for selected birth defects occurring among children who were born alive to New York State residents during the 25 years, 1983-2007, using data collected by the New York State Congenital Malformations Registry (CMR). Forty-five specific congenital malformations, including omphalocele and 12 major defects that are included in the Centers for Disease Control and Prevention's Environmental Public Health Tracking (EPHT), are analyzed by demographic and birth characteristics in this report. Information provided here has been obtained through mandated reporting by hospitals and physicians in New York State.

Children reported with 45 selected congenital malformations represent 2.2% of live births in New York State. Males have a higher prevalence rate of major congenital malformations than females (263 versus 180/10,000 live births), and non-Hispanic white children show a higher prevalence rate than children of any other race/ethnicity. Birth defects are more prevalent among children with low birth weight (<2499 grams) and early gestational age (<37 weeks). Overall, most children included in these analyses have a single defect, but it varies by specific malformation. Since 1992, the overall prevalence rate for children with selected congenital malformations has increased annually in New York State, probably due to better case ascertainment resulting from improved surveillance methods.

In addition to prevalence and trend analyses, mortality and survival probabilities for selected birth defects are assessed in this report. A higher proportion of children with congenital malformations die before one year of age compared to children without any birth defect and for certain defects, the infant mortality rate is 10-fold higher compared to infants with no defect (64.5 vs. 6.4/10,000 live births). Low survival probabilities are estimated for children with congenital malformations who are low birth weight and early gestational age. Among others, survival probabilities of children with congenital malformations in the central nervous system and cardiovascular system are particularly low. Moreover, increasing number of birth defects per child is an important indicator of low survival probability for children with congenital malformations.

Although it is impossible to capture every single birth defect, the CMR has made continual improvements since its inception to enable identification of most congenital malformation cases in New York State. This report contains data collected for 25 years, providing information on prevalence, trends, mortality, and survival probabilities for children with selected birth defects in New York State.

I. INTRODUCTION

I-1 Congenital Malformations

It is estimated that major congenital malformations (birth defects) affect approximately 3% of all births (Honein et al. 1999). For decades, congenital malformations have been the leading cause of infant and childhood mortality in the United States. They are the fifth leading cause of years of potential life lost and a major cause of morbidity and mortality throughout childhood (Petrini et al. 2002; Miniño et al. 2007). Twenty percent of infant deaths are attributed to congenital malformations, a percentage that has increased over time (Petrini et al. 2002; Miniño et al. 2007). Congenital malformations of various types are leading causes of pediatric hospitalization and contribute to long hospital stays and medical expenditures (Yoon et al. 1997; Robbins et al. 2007). Little is known about the causes of congenital malformations. A combination of heredity and other factors, single gene mutations, chromosome abnormalities, maternal illnesses, environmental exposures, and gene-environment interaction have been suspected as possible causes of birth defects (Kalter and Warkany 1983). Approximately 40% to 60% of congenital malformations are of unknown origin (Kalter and Warkany 1983; Nelson and Holmes 1989).

I-2 Role of Birth Defects Registries

Although radiation and rubella had been linked to birth defects, not until the thalidomide tragedy of the early 1960s was there a widespread interest in possible associations between congenital malformations and environmental agents. During the 1970s, events such as Love Canal, Three Mile Island and Seveso solidified the concern that environmental factors could cause birth defects. In response, many states across the U.S. established birth defects registries to gather data for tracking trends with malformations (Holtzman and Khoury 1986; Lynberg and Edmonds 1992). The existence of a birth defects registry also makes it possible to respond to public concerns about apparent high numbers of specific birth defects in geographic regions by conducting objective investigations. A birth defects registry can provide cases for traditional epidemiologic studies of specific congenital malformations and provide information for the planning, provision and evaluation of health services (Holtzman and Khoury 1986; Lynberg and Edmonds 1992).

I-3 New York State Congenital Malformations Registry

As one of the largest statewide, population-based birth defects registries in the nation, the New York State Department of Health (NYSDOH) Congenital Malformations Registry (CMR) was developed as the result of the Love Canal crisis. In 1978, the NYSDOH investigated whether adverse pregnancy outcomes increased in the Love Canal area. Birth certificates obtained and used for a study of low birth weight births proved to be inadequate for the evaluation of birth defects. In the 1980s, cognizant of the need to collect more reliable and valid surveillance data for birth defects, the NYS legislature enacted a bill authorizing the Department of Health to require hospitals and physicians to report diseases and conditions that are designated as “environmentally related.”

In 1981, the CMR was established as part of the Environmental Disease Surveillance Program by enactment of Part 22 of the New York Sanitary Code. This regulation mandated reporting by hospitals and physicians of all children under age 2 years diagnosed with a birth defect. The CMR began operations in late 1982. Annually, the CMR receives birth defect reports for more than 12,000 children out of the 250,000 live births in New York State. A majority of reports are sent by hospitals, primarily from their medical records departments. A small number are sent by individual physicians. Physicians are also contacted to verify diagnoses initially suspected in the hospital but confirmed on an outpatient basis and to clarify nonspecific diagnoses reported by hospitals.

I-4 Mission and Objectives of the NYS CMR

The mission of the NYS CMR is to: 1) collect information on the births of infants and children with selected birth defects in New York State; 2) monitor trends and patterns of prevalence, mortality, and survival rates of selected birth defects and 3) provide data for education, research, and planning in public health, leading to the understanding, prevention, and treatment of birth defects.

The initial goal of the NYS CMR was to identify environmental exposures that may cause birth defects and to provide information for their prevention. Over time, other purposes for congenital malformations surveillance have evolved. Specific objectives of the NYS CMR include: 1) determine the annual incidence of congenital malformations among New York live births; 2) monitor the incidence and type of major malformations with regard to geographic distribution and community characteristics; 3) investigate suspected increases in the incidence of malformations that may be associated with environmental exposures; 4) conduct epidemiological studies of specific malformations; 5) respond to medical inquiries regarding congenital malformations; 6) work with other bureaus within the Department of Health to ensure that services and quality care for children with malformations are provided; and 7) provide data for planning, advocacy, education, and other requests.

I-5 Pertinent Public Health Laws and Regulations

The following laws and regulations establish the legal authority to collect information on birth defects and genetic diseases, to perform studies, and to maintain the confidentiality of the information, limiting its use to research and the improvement of quality of medical care.

Section 206 (1) of the Public Health Law

1. The commissioner shall:

- (d) investigate the causes of disease, epidemics, the sources of mortality, and the effects of localities, employments and other conditions, upon the public health;

- (e) obtain, collect and preserve such information relating to marriage, birth, mortality, disease and health as may be useful in the discharge of his duties or may contribute to the promotion of health or the security of life in the state; establish rules and regulations for the determination of asymptomatic conditions including, but not limited to RH sensitivity, anemia, sickle cell anemia, cooley's anemia and venereal disease;
- (j) cause to be made such scientific studies and research which have for their purpose the reduction of morbidity and mortality and the improvement of the quality of medical care through the conduction of medical audits within the state. In conducting such studies and research, the commissioner is authorized to receive reports on forms prepared by him and the furnishing of such information to the commissioner, or his authorized representatives, shall not subject any person, hospital, sanitarium, rest home, nursing home, or other person or agency furnishing such information to any action for damages or other relief. Such information when received by the commissioner, or his authorized representatives, shall be kept confidential and shall be used solely for the purposes of medical or scientific research or the improvement of the quality of medical care through the conduction of medical audits. Such information shall not be admissible as evidence in any action of any kind in any court or before any other tribunal, board, agency or person.

Section 225(5)(t) of the Public Health Law

5. The sanitary code may:

- (t) facilitate epidemiological research into the prevention of environmental diseases, by establishing regulations designating as environmentally related diseases those pathological conditions of the body or mind resulting from contact with toxins, mutagens or teratogens in solid, liquid or gaseous form, or in the form of ionizing radiation or nonionizing electromagnetic radiation, and by requiring the reporting of such diseases or suspected cases of such diseases to the department by physicians, medical facilities and clinical laboratories. Any information provided to the department pursuant to such regulations shall be in the form required by the department, and shall be kept confidential and used by the commissioner pursuant to the provisions of paragraph (j) of subdivision one of section two hundred six of this chapter, and other applicable laws relating to the confidential treatment of patient and medical data, except that the department may share identifying or other information with a local health department when, and only to the extent that, the department determines this information is necessary to protect public health against the hazards associated with exposure to the material. Data shared with the local health department shall not be further disclosed and shall be otherwise subject to the confidentiality requirements of paragraph (j) of subdivision one of section two hundred six of this chapter and any other applicable laws related to the confidential treatment of patient and medical data.

Section 2733 of the Public Health Law

1. Birth defects and genetic and allied diseases shall be reported by physicians, hospitals, and persons in attendance at births in the manner and on such forms as may be prescribed by the commissioner.
2. Such reports and information shall be kept confidential and shall not be admissible as evidence in an action or proceeding in any court or before any other tribunal, board, agency or person. The commissioner may, however, publish analyses of such reports and information from time to time for scientific and public health purposes, in such manner as to assure that the identities of the individuals concerned cannot be ascertained.

State Sanitary Code: Part 22 – Environmental Diseases

(Statutory authority: Public Health Law, §§ 225 [5][t], 206 [1][j])

- 22.1 Supplementary reports of spontaneous abortions and fetal deaths for epidemiologic surveillance; filing. Every physician and hospital shall file a supplemental report with the State Commissioner of Health of each spontaneous abortion or other fetal death occurring naturally. Such report shall be filed within 10 days of the occurrence of such event on such forms as may be prescribed by the commissioner to facilitate epidemiological investigation and surveillance.
- 22.2 Supplementary reports of low birth weights for epidemiological surveillance; filing. Every physician, hospital, and person in attendance at live births shall file a supplementary report with the State Commissioner of Health of each live birth for which the birth weight is 2,500 grams (5.2 pounds) less. Such report shall be filed within 10 days of the birth and shall be on such forms as may be prescribed by the commissioner to facilitate epidemiological investigation and surveillance.

Regulation Specifically Establishing the CMR

- 22.3 Supplementary reports of certain congenital anomalies for epidemiological surveillance; filing. Every physician and hospital in attendance on an individual diagnosed within two years of birth as having one or more of the congenital anomalies listed in this section shall file a supplementary report with the State Commissioner of Health within 10 days of diagnosis thereof. Such report shall be on such forms as may be prescribed by the commissioner to facilitate epidemiological investigation and surveillance.
 - Anencephalus and similar anomalies
 - Spina bifida
 - Congenital anomalies of the nervous system
 - Congenital anomalies of the eye
 - Congenital anomalies of ear, face, neck
 - Congenital anomalies of heart
 - Congenital anomalies of circulatory system
 - Congenital anomalies of respiratory system
 - Cleft palate and cleft lip
 - Congenital anomalies of upper alimentary tract

- Congenital anomalies of digestive system
- Congenital anomalies of urinary system
- Congenital anomalies of genital organs
- Congenital anomalies of limbs
- Congenital musculoskeletal deformities
- Other congenital musculoskeletal anomalies
- Congenital anomalies of the integument
- Congenital anomalies of the spleen
- Congenital anomalies of the adrenal gland
- Congenital anomalies of other endocrine glands
- Multiple congenital anomalies
- Anomaly, multiple NOS
- Deformity, multiple NOS

I-6 New York Demographics & Geography

New York State's population of more than nineteen million people is comprised of geographically, culturally and ethnically diverse groups. New York City comprises about 40 percent of the state's population and the counties immediately north of New York City (Orange and Westchester Counties) and on Long Island (Nassau and Suffolk Counties) comprise an additional 21 percent of the state's population. Twenty-six percent of New Yorkers live in rural areas. The vast and diverse demographics of the state are noted by the range of population density, from an average of 52,808 individuals per square mile in New York County (Manhattan) to only three people per square mile in Hamilton County in the Adirondacks.

Although non-Hispanic whites remain the largest racial group, three out of every ten persons belong to one of the state's racial or ethnic minority groups. According to the 2010 U.S. Census, New York State has the largest population of Blacks in the United States (3,073,800), is among the top eight states with Hispanic residents (3,416,922) and includes more than one million Asian/ Pacific Islanders (1,429,010). Thus, inherent to all assessment, strategic planning and program development activities is the recognition of the importance of the cultural and linguistic diversity of the state. The racial and ethnic diversity of the people of New York State, as well as the varied geography and disparate population density pose special challenges as well as opportunities for birth defects surveillance, research and prevention.

New York State is divided into five geographical regions defined by counties including: 1) Western NY (Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans and Wyoming); 2) Finger Lakes-Central NY (Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, Tioga); 3) Northeastern NY (Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, Washington); 4) Mid-Hudson (Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester); and 5) New York City (Bronx, Kings, New York, Queens, Richmond, Nassau, Suffolk).

I-7 New York Center for the National Birth Defects Prevention Study

To help reduce birth defects among U.S. babies, in 1996 Congress directed the Centers for Disease Control and Prevention (CDC) to establish the Centers of Excellence for Birth Defects Research and Prevention. That same year, the CMR was selected to be one of eight Centers of Excellence. Currently there are centers in nine states including New York.

The major research effort of the Centers is the National Birth Defects Prevention Study (NBDPS). The NBDPS is the largest study of birth defect causes ever undertaken in the United States. Researchers have gathered information from more than 36,000 participants and are using this information to look at key questions on potential causes of birth defects. The study has three components. First, the Centers identify and collect information on infants who have at least one of 30 major birth defects (“cases”). The Centers also collect data on selected infants who do not have any major malformations (“controls”) for comparison. Second, the infants’ mothers are interviewed using a computer-assisted telephone interview (CATI). The interview includes questions about pregnancy and medical histories, lifestyle habits and possible exposure of the mother or her fetus to harmful substances in the mother’s workplace. Third, the Centers collect cheek cell samples from the infants and their parents. Researchers will study the DNA (genetic material) from these cheek cells to find genetic susceptibilities to birth defects.

Topics Being Studied by the New York Center

- Risk of birth defects with maternal hypertension, thyroid disease or asthma. Results of studies on maternal illness and medication use can help women and physicians make informed decisions about medication use during pregnancy. A future study will look at risks associated with medication used to treat tension headaches.
- Effects of maternal caffeine consumption on the risk of various birth defects. A study that takes into account genetically determined differences in caffeine metabolism is being conducted.
- Alcohol exposure during pregnancy. DOH is researching the effects of maternal alcohol use on the risk of several birth defects.
- Influence of climate, air pollution and tap water use during pregnancy on occurrence of birth defects. Since the Center is based in the Department of Health’s Center for Environmental Health, there is access to resources and expertise to conduct studies on the effect of these factors on birth defects.
- Home and Occupational Pesticide Exposure (HOPE) Study. New York is a rural state and issues of pesticide exposure are of concern. A pilot study of home and occupational pesticide exposure on birth defects was conducted by collecting additional information from NBDPS participants on pesticide exposure.

I-8 National Birth Defects Prevention Network

CMR staff are active members of the National Birth Defects Prevention Network (NBDPN). The NBDPN was formed in 1997 to establish and maintain a national network of state and population-based programs for birth defects surveillance and research in order to: 1) assess the impact of birth defects upon children, families, and health care; 2) identify factors that can be used to develop primary prevention strategies; and 3) assist families and their providers with secondary disabilities prevention. The NBDPN also serves as a forum for exchanging ideas and facilitating the communication and dissemination of information related to birth defects. On an annual basis, the Department prepares datasets for the NBDPN containing 45 selected birth defects that are published in a special issue of the journal *Birth Defects Research Part A*. The annual report includes directory information for U.S. birth defects programs, state-specific data on 45 selected birth defects and journal articles on birth defects surveillance and epidemiology (NBDPN 2010).

I-9 Environmental Public Health Tracking

The CMR provides birth defect data collected in New York State to the Environmental Public Health Tracking (EPHT) Program. EPHT is a national program led by the CDC to share data, and track and analyze patterns and trends in environmental health across the nation. It is intended to provide better public access to environmental health information and support research, programs and policies that may help protect communities. The following qualities are part of the EPHT system: environmental (air, water, hazardous waste, radon, pesticides), health (cancer, birth outcomes, asthma and more), exposures (measured concentrations of chemicals in people's bodies), demographics and property, and personal choices. The CMR has provided the number of children with 12 selected birth defects and the prevalence of those defects on a county-level in New York to the EPHT since 2000.

II. METHODOLOGY

II-1 Case Definition

Use of a consistent case definition is critical when evaluating the sensitivity and specificity of surveillance data and the efficiency and utility of surveillance programs. A congenital malformation is defined as any structural, functional, or biochemical abnormality determined genetically or induced during gestation and not due to birthing events. The list of CMR reportable malformations is presented in Appendix 1. For inclusion in the CMR, the following criteria must be met:

- Child is born or resides in New York State.
- The live born infant or child must have a major structural or chromosomal malformation, or a selected metabolic disorder, that is present at birth and has been diagnosed before the child's 2nd birthday.

For the purpose of generating this summary report, only cases with any of the 45 malformations (Appendix 2) recommended by the NBDPN for its annual reports (NBDPN 2010) are included.

II-2 Case Ascertainment

The CMR uses a passive method of case ascertainment of birth defects that occur among live births, with an active follow-up for assuring the accuracy and completeness of case reporting. Birth defect cases reported from hospitals and physicians are reviewed and the diagnoses are coded by the registry's trained staff. Reporting hospitals and physicians are contacted for cases that have insufficient diagnostic information to classify and code. State regulations require all physicians and other hospital staff to report major congenital malformations diagnosed at birth through the age of 24 months. In reality, reporting sources for the CMR consist primarily of hospitals that provide obstetric and pediatric services. Only a small number of reports are submitted by individual physicians. The CMR provides written guidelines to hospitals and physicians describing what and how to report (NYS CMR Handbook, 2010).

When a case is identified, hospitals and physicians are required to submit a report to the CMR within 10 days of diagnosis. In most hospitals, CMR reporting is done by their medical records department. Medical records staff report the cases to the CMR when they routinely review and code the medical record for billing purposes. Hospitals must report the appropriate International Classification of Disease Code (ICD-9) for each malformation and, under most circumstances, must also provide a narrative, or text, description of the malformation. When the report reaches the CMR, it is reviewed and processed before it is added to the CMR database. CMR data are maintained on a secure, dedicated database server. All changes including additions, updates and edits to the database are done through the automated and staff interactive database management system.

II-3 Case Reporting System

Paper-based Reporting System

From 1982 to 1998, the only method available to report birth defect cases to the CMR was a manual, paper-based reporting system. A standard report form needed to be completed by hospital staff for each child and then mailed to the CMR. Upon receipt, information was manually entered from the report form into a computerized database system. This reporting process had several disadvantages including data entry errors due to illegible handwritten reports and delays in receiving reports. Moreover, filling in the report form by hand or a typewriter and then submitting the reports to the CMR had been perceived as an extra burden by reporting hospitals.

Electronic Reporting Through SPARCS

In 1998, in an attempt to reduce reporting burden and improve completeness and timeliness of reporting, the Department worked with hospitals' medical records personnel and software vendors to promote electronic reporting through the New York Statewide Planning and Research Cooperative System (SPARCS). Implemented by the NYSDOH in 1979, SPARCS is a comprehensive, integrated data reporting system established through cooperation between the health care industry and government. Initially created to collect information on hospital discharges, SPARCS currently collects patient level data on patient characteristics, diagnoses, treatments, services, and charges for every hospital discharge, ambulatory surgery patient and emergency department admission in NYS. The SPARCS receives, processes, stores and analyzes the inpatient hospitalization data from all facilities in New York State and ambulatory surgery data from hospital-based ambulatory surgery services and all other facilities providing ambulatory surgery services. Each health care provider submits its SPARCS data, as mandated, in the uniform, computer-readable format described in the Universal Data Set.

From 1998 to 2005, a total of 27 hospitals reported cases to the CMR through SPARCS. While more efficient, this new approach was problematic. These reports comprised about 10% of the total cases reported to the CMR, however, several required pieces of information including patients' names, narrative diagnoses and birth and maternal variables were missing in a majority of the reports.

Web-based Reporting System

In the late 1990's, the NYSDOH began developing an internet-based communications infrastructure, the Health Commerce System (HCS), using powerful Internet Secure Sockets Layer (SSL) encryption technology. The purpose was to provide a communication and reporting mechanism for use between NYSDOH and other health care providers within the state. Since 2001, the CMR program has been working to develop and implement a web-based reporting, data management and communication system on the HCS platform (Wang et al. 2007a; Steen et al. 2008). By January 2006, the CMR had converted all reporting hospitals statewide from a manual, paper-based reporting system to the web-based system. The web-based reporting system provides two options for the hospital users, a manual on-line data entry of individual

reports or a data file upload of batch reports. The on-line data entry function allows users to submit reports using a fully customized on-line data entry form. The file upload utility enables hospitals to send, at regular intervals, batch files containing cases collected via their own information technology system to the CMR web server through the data submission process. This new reporting system provides a platform-independent environment for data submission, retrieval and analysis, offering a secure, cost-effective solution for participating hospitals. An authorized user can submit, edit, and query case information dynamically from any personal computer equipped with an internet browser. This innovative system enables the Department to review and perform quality assurance on every report submitted and to query hospitals quickly about submitted reports.

Wang et al. (2007b) evaluated the completeness of submitted case information and timeliness of reporting to the CMR and the effectiveness of the HCS communication and query system compared to the previous manual, paper-based system. They found that the implementation of the HCS system resulted in more timely submission of cases and enhanced effective communication between the CMR and reporting hospitals. There was a nearly 50% reduction in median days for reporting (Wang et al. 2007b).

II-4 Coding

A coding system with great specificity is needed to allow the analysis and categorization of congenital malformations, and it should be applied in a consistent fashion. To provide greater consistency in coding, the CMR staff coded the narrative diagnostic reports of congenital malformations using the ninth revision of the International Classification of Disease Coding Manual (ICD-9-CM). In 1992, the CMR adopted a modified version of the British Pediatric Association (BPA) system, which is used by other systems such as the CDC birth defects registry and provides more specific coding. The hospital provides the narrative description of the malformation and the ICD-9 code, and the CMR staff uses this information to provide a BPA code.

II-5 Active Follow-up

Since the CMR uses passive case ascertainment, ensuring completeness of registry data is important. Efforts are made by CMR staff to improve and evaluate completeness of case ascertainment for the registry using various methods.

SPARCS Audits

In an attempt to capture unreported cases and improve completeness of reporting, the CMR started using a new monitoring system in 1995 to audit all reporting hospitals with obstetric or pediatric departments. This system uses hospital inpatient discharge data from the NYS SPARCS for children born with major birth defects. For the SPARCS audit, children age two years or younger and diagnosed with reportable birth defects are selected from SPARCS files from all reporting hospitals and matched to the CMR database for the same birth year period.

Since about 90% of children reported to the CMR are diagnosed in the first six months of life, the Department began to audit hospitals 12 to 24 months after the reporting period for each year of birth.

Unmatched reports from the SPARCS hospital discharge files representing potentially unreported birth defects are sent to hospitals with a request to submit any previously unreported cases or birth defects. Analysis of SPARCS audit results shows that this method is a valuable and effective method of enhancing birth defects reporting completeness, particularly for those hospitals with low reporting rates. Hospital audits resulted in not only added new reports (comprising 21.4% of all CMR reports for the birth year 1998-2000) to the CMR but also improved reporting for subsequent years, probably due to hospitals' positively reacting to the audits (Wang et al. 2005). Auditing hospitals sent a message to reporting hospitals that both the quality and the quantity of their reports are closely monitored.

Since 2009, the SPARCS outpatient data (including emergency visits and ambulatory surgeries) for discharge years starting from 2006 were made available to the NYSDOH researchers. The Department added the outpatient data to the SPARCS audit project which further improved the completeness of case reporting.

On-site Hospital Audits

Prior to 2003, the Department did not visit each hospital to view and abstract information directly from the medical record. As such, it was not known if the hospital correctly and accurately identified and reported all the reportable defects for each case. Thus, the CMR instituted on-site hospital audits in August of 2003 to monitor reporting completeness and accuracy by hospitals. The first step for on-site audits is to notify the hospital and request that they provide the CMR with a discharge summary for all children two years of age and younger for a specific discharge period, usually one year. The list includes all children discharged in that given year, not just those with a congenital code, so that reportable conditions that may have been miscoded can be identified. The Department reviews the discharge list, comparing it to the list of children already reported by the hospital. A report is created that includes a list of reported, not reported and partially reported cases. Depending on available time and number of auditors available, the entire list or a subset is provided to the hospital with a request to make the charts available for review. The Department usually spends between one and two days at a facility reviewing records. Following the site visit, the facility is asked to report any previously unreported cases considered reportable. In addition, hospitals are asked to report any unreported ("missed") birth defects for previously reported cases ("partially reported cases"). The director of medical records receives a written summary of the audit findings including comments that may indicate what chronic reporting problems were evident.

Since 2003, 86 hospitals have had an "in-hospital" audit; 4913 charts have been reviewed; 1835 cases that were not previously reported were flagged and subsequently reported, 430 cases that were partially reported were completed and 187 cases with incorrect diagnoses reported were corrected or deleted. Of the diagnoses that were reported, over 90% were correct.

In-house Hospital Audits

Since 2006, the Department conducted “in-house” chart reviews of discharge summaries from 63 reporting hospitals. In-house audits follow the same procedure as on-site audits requesting discharge summaries. Instead of requesting medical records be pulled for review, the hospitals receive a list of all cases that have not been reported or have been partially reported to the registry. The facility is asked to re-review the chart, determine if the case or defect is indeed reportable and report the additional information to the CMR.

Chromosomal Case Confirmation and Ascertainment

In 2008, CMR gained access to the cytogenetic testing data submitted by New York State licensed laboratories via NYSDOH Electronic Clinical Laboratory Reporting System (ECLRS) and linked the data to CMR cases for confirming diagnoses of CMR cases and ascertaining cases. By the end of 2010, a total of 927 reports on 747 children were submitted to the CMR by 14 cytogenetic testing laboratories. From these laboratory reports, 218 cases in the CMR were confirmed and 151 new cases with chromosomal anomalies were identified and added to the CMR. Thus, cytogenetic laboratory reports can serve as an important source for confirming and ascertaining cases with Down syndrome, autosomal deletion syndrome and other chromosomal anomalies.

CMR Report Cards

Bi-annual report cards for individual reporting hospitals have been developed to monitor and improve the completeness of case reporting and the accuracy of reported cases. An on-line application developed in 2008 generates report cards for hospitals to track their reporting progress. The first report card summarizing reporting status and progress of hospitals for the reporting period of June 1 - December 31, 2007 was sent to each individual hospital in April 2008. The report cards for all reporting hospitals are generated bi-annually and made available online for the hospital officials.

II-6 Data Linkage

CMR records are routinely matched to birth certificates to verify individuals’ identities and obtain additional birth and maternal information. Record linkage programs were developed using the Statistical Analysis System (SAS, North Carolina, USA). Deterministic data linkage methods are used with multiple criteria to establish a match between records. Since there is no unique identifier available among the data sources, personal identifiers such as surname, sex, date of birth and residential address are used as common identifiers in linking databases. Several combinations of common identifiers are used to identify all possible matches. Other potential indicators such as race/ethnicity and medical record number are also used to further improve the accuracy of data linkages. Matches which may be more uncertain are reviewed individually in order to determine if there is a true match. Unmatched cases are checked further to see if all possible aliases have been identified. About 97% of CMR cases are able to be matched to birth certificates. Matching is more complete for cases born in New York but outside of New York

City compared to New York City cases. Similarly, data linkage of CMR cases with death records is routinely conducted to determine the mortality status of children in the CMR.

II-7 Geocoding

Geographic information systems have been widely used in mapping health data and analyzing the geographic distribution of disease. Mapping and spatially analyzing data normally begins with geocoding, a process of assigning geographic coordinates to an address so that it can be displayed and analyzed on a map. Web-based geocoding applications for the New York State birth defects surveillance system were developed and implemented in 2008 (Wang et al. 2010). Geocoding software in conjunction with a Java-based development tool (J Server) was used to develop the web-based applications on the New York State Department of Health's Health Commerce System (HCS). The geocoding tools were integrated into the web-based birth defects surveillance system that was developed and implemented by the CMR (Wang et al. 2008). To the best of our knowledge, the CMR is the first population-based birth defects surveillance program in the nation that has developed and implemented a web-based geocoding system for real-time, street-level geocoding of routinely collected birth defects reports. Up to 92% of the CMR records have been geocoded with maternal addresses.

II-8 Quality Control and Quality Assurance

Surveillance requires on-going efforts to improve the quality of the surveillance data and to ensure that the surveillance data are accurate, complete and timely. Constant communication and feedback between the reporting sources and the surveillance system are necessary to improve data quality. The CMR has developed several methods to monitor and improve the system's completeness, accuracy and timeliness.

During the past several years, the CMR has developed and implemented a web-based integrated birth defects surveillance system for the statewide birth defects registry in New York State using the NYSDOH's HCS (Wang et al. 2008). The web-based applications allow the CMR to easily and routinely monitor the completeness of case reporting, such as searching and retrieving hospital case reports, generating real-time data quality reports and performing simple statistical analyses using the CMR's database; perform data quality assurance and quality control activities such as to check invalid data and track referential integrity of links among CMR's relational data tables to ensure that no "orphan" records exist in the data tables; search and edit records with invalid or redundant BPA codes which are used for coding the birth defects; communicate with hospital staff via on-line query tools to notify an institution immediately if a specific case report has an unspecified diagnosis or lacks information and allow for the submitting of this additional information; and generate bi-annual report cards for individual reporting hospitals to summarize the status of the case reporting.

II-9 Evaluation

Evaluating timeliness of case reporting, completeness of case ascertainment and accuracy of reported diagnosis information is especially important for the CMR to meet program needs and surveillance objectives.

Timeliness. The timeliness of case reporting, defined as the interval between the hospital discharge date and the CMR receiving date, has been estimated and compared for the two reporting systems, the old manual, paper-based system, and the new electronic, web-based system (Wang et al. 2007b). The implementation of the web-based reporting and communication system has resulted in more timely submission of cases to the CMR and promoted effective communication between the CMR and reporting hospitals. Overall, the median days used for reporting by the web-based reporting system (31 days) was significantly less than that used by the manual paper-based reporting system (59 days) - a nearly 50% reduction.

Completeness. The completeness of a registry, i.e., the ability to identify and register all new cases diagnosed within a population, is essential to produce accurate statistics and conduct valid studies on birth defects in a population. Using birth certificates as the secondary data source in a simple two-source capture-recapture model, the CMR estimated the completeness of case ascertainment of the CMR for selected major birth defects recorded in both sources and relatively easy to identify and correctly diagnosed at birth. The estimated completeness was 71% for all selected major birth defects combined with higher estimates for oral clefts (90%) and Down syndrome (88%) (Wang et al. 2005).

Accuracy. Analyses are underway to evaluate the accuracy of reported diagnoses using the data collected through on-site and in-house report audits and medical records review.

II-10 Data Usage

Prevalence, Trends, Mortality and Survival Studies. CMR data have been used to generate annual reports that provide a statistical summary of children born in New York and diagnosed through 2 years after birth (CMR online publications, URL: http://www.health.ny.gov/diseases/congenital_malformations/cmrapubli.htm), conduct trends analyses and assess the mortality and survival experience of children with birth defects (Wang et al. 2010; Wang et al. 2011).

Parent Services Mailings. One of the objectives of the CMR is to identify children in need of special programs to families in finding programs and services for their children. In 1999, the CMR started a statewide mass-mailing program to inform parents of children with major birth defects about New York State programs and support groups that might be helpful to them. Annually, about 1,800 mailings are sent out to parents of affected children. A follow-up survey conducted in 2002 to mothers of affected children showed that the statewide information-mailing program administered by the CMR was helpful and useful to families of children with major birth defects (Sharpe-Stimac et al. 2004). Parents with children younger than six months of age at the time of mailing were more likely to find the information helpful, compared to parents with children six months of age or older. A majority of responding parents had contacted and/or used

the NYSDOH Early Intervention Program
(www.health.ny.gov/community/infants_children/early_intervention).

Epidemiologic Research. The Department has been actively participating in collaborative research projects with other agencies, organizations and registries to enhance birth defects surveillance and/or prevention activities and increase knowledge about environmental and/or genetic causes of birth defects. Collaborative parties include other states' surveillance registries, the NBDPN, the National Institutes of Health (NIH), the Muscular Dystrophy Surveillance Tracking and Research Network (MD STARnet) and academia.

- **The NBDPN.** Several studies facilitated by the NBDPN use data from state birth defects surveillance programs including the CMR. Abstracts of publications from numerous collaborative projects are available on NBDPN's website (http://www.nbdpn.org/multistate_collaborative_proj.php).
- **The Genetic Factors in Birth Defects Study.** In collaboration with the NIH, cases identified from the NYS CMR are included in special projects to investigate genetic causes of birth defects.
- **Fetal Alcohol Syndrome (FAS) surveillance project.** A population-based FAS surveillance project in western New York has been established by the CMR for the determination of an accurate prevalence estimate for children ages 7-9 and enhancement of awareness and diagnostic referrals in order to improve outcomes for affected children.
- **The MD STARnet.** The CMR provides birth defects data to the MD STARnet that was established to determine the prevalence of Duchenne and Becker muscular dystrophy in the U.S.
- **The Slone Epidemiology Study.** The CMR collaborates with Boston University School of Public Health to assess risks and relative safety of a wide range of environmental exposures during pregnancy in relation to specific birth defects.

III. DATA ANALYSIS AND PRESENTATION

III-1 Prevalence

Prevalence measures the frequency of certain existing health conditions. It is defined as the proportion of total population that has a condition at a specific time or during a specific period of time. Prevalence is considered to be a more relevant measure of frequency for birth defect studies because the incidence, which is the number of birth defect cases among all conceptions, cannot be reliably estimated (Mason et al. 2005).

In the present report, birth defect prevalence is calculated as the ratio of the number of children with the specific defect(s) to the number of live births among New York State residents, with the exception of hypospadias and epispadias which used the total number of male live births for a denominator because of the nature of the defects that occurred exclusively among males. A total of 45 birth defects included in the NBDPN Annual Report (NBDPN 2010) which are more common and/or severe, with greater impact on a child's health are included. The defect name and ICD-9-CM codes and corresponding modified BPA (British Pediatric Association) codes by the CDC are listed in Appendix 2. Data describing defects per child as well as on the types of birth defects are presented. Some children have more than one major defect and this "case" would be counted more than once depending on the number of defects present. Demographic characteristics obtained from the birth certificate and presented in this report include: maternal age, maternal race and ethnicity, birth weight, gestational age, child's sex and residence at birth by health service area (Western New York, Central New York, Northeastern New York, and Downstate New York), county and residence region. Child's sex was unknown or ambiguous for a small proportion of children; those children were excluded from the analyses.

The prevalence of all 45 individual birth defects by child's sex and maternal race/ethnicity is presented in Table 1. Sex ratio is calculated by dividing the prevalence of male children by the prevalence of female children for each individual birth defect. Hypospadias and epispadias were not separated before 1992 when the CMR started using a BPA code. Therefore, all cases of hypospadias and epispadias from 1983 to 2007 were used in the current report. As noted, the prevalence of hypospadias and epispadias was calculated for only male live births.

The prevalence of all 45 major birth defects among live births by demographic and birth characteristics (maternal age groups, maternal race and ethnicity, birth weight, gestational age, and child's sex) and by geographic location of residence (New York City, and New York State excluding New York City) are presented in Table 2. Among 45 selected birth defects, the prevalence of omphalocele and 12 major birth defects included in the EPHT are also calculated by demographic and birth characteristics, geographic location of residence and the number of birth defects per child. They are presented from Table 1.1.1 to Table 1.1.13 in Appendix 3. These 13 individual defects include anencephaly, spina bifida, transposition of the great arteries, tetralogy of Fallot, hypoplastic left heart syndrome, cleft palate without cleft lip, cleft lip with or without cleft palate, hypospadias and epispadias, upper limb deficiencies, lower limb deficiencies, omphalocele, gastroschisis, and trisomy 21 (Down syndrome).

Prevalence by birth defects category for the 45 major defects and by health service area of New York is presented in Table 3. In addition, the prevalence of all 45 major birth defects combined and the prevalence of each of 13 selected major birth defects by demographic and birth characteristics and by the health service areas of New York State are calculated and presented in Table 1.2.1 to Table 1.2.14 in Appendix 3.

The prevalence of all 45 major birth defects by child's sex and sex ratio, calculated by dividing the prevalence of male by the prevalence of female children for birth defects, are presented for each county in Table 4.

III-2 Trends

Using cases of birth defects in New York State from 1983 to 2007 identified by the CMR, trends of prevalence of selected birth defects among children in New York State are examined. Children with any of 45 birth defects who are born between 1983 and 2007 are included in the analysis. Trends of overall birth defects in New York State using three-year moving averages of prevalence are illustrated in Figure 1. Trends for each of the 13 major birth defects in New York State using three-year moving averages of prevalence are illustrated in Figure 2. Prevalence of 45 major birth defects by six consecutive birth year periods categorized as 1983-1987, 1988-1992, 1993-1997, 1998-2002, and 2003-2007 are presented in Table 5.

The prevalence of all 45 major birth defects combined by demographic and birth characteristics and by birth year periods are also described in Table 2.1.1 in Appendix 4. The prevalence of each of 13 major birth defects by demographic and birth characteristics and by birth year periods is also presented from Table 2.1.2 to 2.1.14 in Appendix 4.

III-3 Mortality

Mortality rate is defined as the number of deaths in a population per unit time. In this report, the mortality rate of children with birth defects is computed and compared with that of children without birth defects. The study population is children with any of the 45 selected birth defects born between 1983 and 2007. The comparison population is live born infants between 1983 and 2007 with New York State residence and without birth defects.

Mortality rates for neonatal infants (0–27 days), post-neonatal infants (28 days – <1 year), and all infants younger than one year are computed by dividing the number of deaths by the number of total live births. The mortality rate for children age one and older is calculated by dividing the number of deaths by the total person-years for each individual age-at-death group.

The crude and adjusted mortality rate ratios (the relative risk) with 95% confidence intervals (CI) for children with and without birth defects are computed using a Poisson regression model. The estimated relative risk of mortality is obtained by exponentiating β_1 . A relative risk of >1 indicates that the mortality rate among the children with birth defects is greater than that among the children without birth defects. To estimate the adjusted relative risk for children with birth

defects compared to children without birth defects, variables of demographic and birth characteristics such as maternal age, maternal race/ethnicity, child's sex, the geographic location of residence were added to the base model.

The characteristics of deceased children with and without any of the selected birth defects from 1983 to 2007 are summarized in Table 6. The number of infant deaths, mortality rate, and mortality rate ratio of children with and without selected birth defects by age at death (<28 days and 28-364 days) are compared in Table 7. Infant (<1 year) mortality rate and mortality rate ratio by demographic and birth characteristics and by geographic location of residence are described in Table 8. The mortality rate ratios of infants with 13 selected major birth defects by age at death are presented in Table 9. The ten most common underlying causes of death of children with selected birth defects are presented in Table 10.

III-4 Survival

The survival probability of children with selected birth defects in the CMR was examined. The Kaplan–Meier method was used to determine the pattern and survival probability. The 95% CIs were computed using a log-transformation method. Reported p-values are based on the log-rank test of equality of survival curves.

The results of survival analysis of children with any of the selected birth defects by demographic and birth characteristics are reported in Table 11. Birth defect-specific survival probabilities for children with 13 selected major birth defects by survival age (7-day, 1-month, 1-year, 5-year, 15-year, and 25-year) are presented in Table 12.

The survival probability over 25 years of children with any of selected birth defects by plurality, number of birth defects, and gestational age/birth weights are illustrated in Figures 3, 4 and 5, respectively.

The SAS software package (SAS Institute Inc., Cary, NC) was used for summary statistics and the regression analysis. Statistical significance is defined as P-value <0.05 in the current report.

IV. SUMMARY AND DISCUSSION

IV-1 Prevalence

Prevalence of 45 selected birth defects among live births in New York State using data collected by the CMR from 1983 to 2007 are presented in Table 1. Across New York State, the most frequent defect was ventricular septal defect (37/10,000 live births) followed by atrial septal defect (32/10,000 live births), obstructive genitourinary defect (22/10,000 live births) and pyloric stenosis (17/10,000 live births), whereas the least prevalent birth defect was aniridia (0.11/10,000 live births). The prevalence of hypospadias and epispadias among male live births was 61/10,000 live births. Congenital hip dislocation and most of defects of the central nervous system except hydrocephalus were more common in female infants whereas the prevalence of pyloric stenosis, obstructive genitourinary defect and Hirschsprung's disease was higher among male infants. Prevalence of congenital hip dislocation, hypospadias and epispadias, and pyloric stenosis was substantially higher among children whose maternal race/ethnicity was reported as non-Hispanic white, while atrial septal defect, fetal alcohol syndrome, hydrocephalus without spina bifida, microcephalus, patent ductus arteriosus, pulmonary valve atresia and stenosis were more commonly observed among children whose maternal race/ethnicity was reported as non-Hispanic black. Prevalence of choanal atresia, congenital hip dislocation, obstructive genitourinary defect and pyloric stenosis were considerably lower among children of non-Hispanic black mothers.

The overall prevalence of 45 selected birth defects among live births in New York State using data collected by the CMR from 1983 to 2007 was 222/10,000 live births (Table 2). Higher prevalence was observed among children who were born to mothers older than 35 years of age (262/10,000 live births) and non-Hispanic white mothers (233/10,000 live births) compared to mothers in younger age and other race/ethnicity groups. Preterm birth (gestational age <37 weeks), and very low (<1500 grams) or low birth weight (1500-2499 grams) were much more common among almost all of the infants with defects examined in this report. Overall prevalence of reported birth defects was approximately five times higher among children born less than 1500 grams (908/10,000 live births) and 2.5-times higher among children of birth weight 1500-2499 grams (474/10,000 live births) compared to children with normal birth weight (191/10,000 live births). The prevalence of birth defects among children born preterm (400/10,000 live births) was a little more than double that for term births (187/10,000 live births). The prevalence of birth defects was higher among male children (263/10,000 live births) than among female children (179/10,000 live births). Overall, the prevalence of 45 selected birth defects was a little higher in New York State excluding New York City (234/10,000 live births) than in New York City (208/10,000 live births), possibly due to better case ascertainment in New York State excluding New York City. Approximately 66% of children with birth defects had a single defect.

Although the prevalence of most of the 13 defects were similar in New York City and New York State excluding New York City or a little higher in the latter region (Tables 1.1.1-1.1.13 in Appendix 3), the prevalence of hypospadias and epispadias was considerably higher in New York State excluding New York City (51/10,000 vs. 70/10,000 live births) (Table 1.1.8). While most individual birth defects seemed unaffected by maternal age, our data showed commonly

observed patterns of gastroschisis (Table 1.1.12) and Down syndrome (Table 1.1.13). The prevalence of Down syndrome was substantially higher among children born to mothers older than 35 years old whereas gastroschisis was more common among children of young mothers. Children with hypospadias and epispadias were more frequently observed in non-Hispanic white mothers (Table 1.1.8).

The prevalence of each of the 45 individual birth defects is presented by health service areas of New York State in Table 3. The prevalence of 45 selected defects in Table 3 is generally higher in Western New York and lower in Downstate New York, as also noted for the 13 defects in Appendix Table 1.2.1-1.2.14. The prevalence of most of the defects was similar across different health service areas or slightly lower in Downstate New York (Tables 1.2.2-1.2.14 in Appendix 3). The prevalence of selected defects was also examined by the 62 counties in New York State (Table 4), and the highest prevalence of overall birth defects was reported in Oswego County (284/10,000 live births) while the lowest prevalence was in Essex county (148/10,000 live births).

The results of the current report using 25 years of CMR data collected in New York State are comparable to analogous reports of selected birth defects from other states (Canfield et al. 2006; CDC 2006; Reller et al. 2008; Mangones et al. 2010; Florida 2011). A recent report on congenital anomalies in Florida using 10 years of surveillance data, from 1998 to 2007, demonstrated a similar or slightly higher prevalence for most of the selected birth defects compared to our results (Florida 2011). Prevalence of selected cardiovascular defects observed in New York State is similar to, or a little lower than, that reported in Atlanta, Georgia, except for atrial septal defect (13.1/10,000 live births) and transposition of the great arteries (2.3/10,000 live births) which are much higher in New York State (32 and 4.15/10,000 live births, respectively) (Reller et al. 2008). Compared to the prevalence of selected congenital heart defects studied in Texas, the prevalence of tetralogy of Fallot is higher in New York State whereas the prevalence of transposition of the great arteries is lower than in Texas (Langlois et al. 2010).

Using the birth defects surveillance data collected from several states in the U.S., national prevalence estimates have been reported for selected birth defects (Canfield et al. 2006; Parker et al. 2010). Generally, the prevalence of defects reported in New York State is a little higher than the national prevalence estimates using data from passive surveillance systems with follow-up but slightly lower than the prevalence estimates using active surveillance data. However, orofacial, musculoskeletal and chromosomal defects in New York State are lower than the prevalence estimates using data from both surveillance types. Although the prevalence is similar for most defects, prevalence estimates for certain defects vary by states and studies, probably due to different types of surveillance systems with different case ascertainment, populations and geographic factors.

As has been reported previously by Dolan et al. (2007), a higher proportion of infants with major birth defects were born preterm (> 37 weeks) and with birth weight less than 2500 grams, compared to infants without birth defects. The relationship between the prevalence of major structural and/or chromosomal birth defects and gestational age (≥ 37 or 20-36 weeks) or birth weight (≥ 2500 and < 2500 grams) has been reported in many studies of congenital malformations. A study in Atlanta, Georgia, using birth defects data collected between 1978 and

2005 showed approximately two to three times higher birth defect prevalence rates for preterm birth and low birth weight children compared to normal ranges (CDC 2008). A similar pattern was observed in most of the defects in 13 states in the U.S. (Honein et al. 2009). Although categories of birth weights are often defined differently in each study, the close relationship between birth defects and preterm birth and low birth weight is consistent with our findings in this report.

The prevalence rates reported for certain birth defects based on child's sex were similar to other reports. For instance, selected congenital heart defects such as tetralogy of Fallot and transposition of the great arteries were more common among male children in this report, which is consistent with results of other studies (Reller et al. 2008; Langlois et al. 2010).

Specific defects were more frequently observed in particular maternal race/ethnicity groups. Both in New York as well as in other states, a slightly higher prevalence of gastroschisis was observed among children who were born to Hispanic mothers (Salihu et al. 2003; Canfield et al. 2006; Vu et al. 2008; Benjamin et al. 2010). Florida is the exception where the prevalence of gastroschisis was twice as high among children born to non-Hispanic white mothers (Florida 2011). The prevalence of hypospadias and epispadias among children born to non-Hispanic white mothers was higher than among children born to mothers of other race/ethnicity in this report, and the same pattern was observed in Florida (Florida 2011) and in California (Elliott et al. 2011).

The prevalence of selected birth defects is closely related to maternal age in this report, similar to the pattern observed elsewhere, including the national estimates (CDC 2008; Florida 2011). Particular defects such as congenital heart defects, gastroschisis, and chromosomal defects were more affected by maternal age than other defects. For instance, the prevalence of transposition of the great arteries was higher among children born to older mothers and it is consistent with results from other studies (Reller et al. 2008; Langlois et al. 2009). Higher prevalence of gastroschisis among children born to mothers younger than 19 years old (5.15/10,000 live births) than other age groups detected in the present report has been observed in other states as well (Vu et al. 2008; Benjamin et al. 2010). In addition, a higher prevalence of Down syndrome was observed among mothers over 35 years of age compared to mothers younger than 30 years of age (about 4.5-times higher), which has also been reported elsewhere (Shin et al. 2009; Florida 2011).

IV-2 Trends

Prevalence trends of 45 selected birth defects among live births from 1983 to 2007 using a three-year moving average shows a decrease in the overall prevalence from 1983 to 1991 and a gradual increase from 1992 to 2007 (Figure 1). A slight decrease in the overall prevalence of these birth defects from 1983 to 1985 is probably the result of CMR development and stabilization, during which time a new coding system to identify congenital malformations was being put into place. A large decrease in prevalence from 1985 to 1991 resulted from decreased activities in active follow-up of cases due to reduced funding. A sharp increase in the early 1990s reflects the introduction of a new monitoring system to audit all New York reporting hospitals which had

obstetric or pediatric departments. Similarly, a large increase in the early 2000s resulted from implementation of a web-based, electronic case reporting system among all reporting hospitals.

Some of the individual defects have the same general trend as the overall prevalence of the 45 defects, including atrial septal defect, coarctation of aorta, Ebstein's anomaly, gastroschisis, obstructive genitourinary tract defects and patent ductus arteriosus (Table 5). The prevalence of atrial septal defect has remarkably increased from 9 to 46/10,000 live births while obstructive genitourinary tract defects and patent ductus arteriosus have increased from 7 to 37/10,000 live births and 15 to 28/10,000 live births, respectively. However, unlike the overall trend, the prevalence of most of the central nervous system defects, including anencephaly, spina bifida, hydrocephaly, encephalocele, and microcephalus, hypospadias and epispadias, and congenital hip dislocation have declined since the inception of surveillance in 1983.

During 25 years of surveillance from 1983 to 2007, the overall prevalence of 45 selected birth defects has increased by 24% from 206 to 256/10,000 live births in New York State (Table 2.1.1 in Appendix 4). Substantial increase in the prevalence of selected birth defects was observed among children born less than 1,500 grams, indicated by 685 to 1220/10,000 live births during 25 years of surveillance. Prevalence of omphalocele and most of the 12 EPHT defects was unchanged or slightly decreased, except gastroschisis and Down syndrome (Table 2.1.2 to Table 2.1.14 in Appendix 4 and Figure 2). The slight increases in the prevalence of congenital heart defects including truncus arteriosus, transposition of the great arteries, tetralogy of Fallot and ventricular septal defect detected here in NY were also observed in Texas (Langlois et al. 2009; Langlois et al. 2010).

Overall birth defect prevalence as well as the prevalence of some of individual defects has increased over the past 25 years of surveillance. An increase in the prevalence of Down syndrome has been reported in a study using national birth data from 1979 to 2003 (Shin et al. 2009), as well as in Florida between 1998 and 2007 (Florida 2011). However, an increase in the prevalence of atrial septal defect observed in New York was not found in Texas (Langlois et al. 2009). The increased prevalence of selected defects shown in this report could reflect improvements with diagnosis and surveillance rather than a true increase in birth defects (Langlois et al. 2011).

Since the inception of CMR surveillance in 1983, decreases in the prevalence of anencephaly and spina bifida have been observed in New York State. Other states in the U.S. have similarly reported a decline in neural tube defects since the late 1960s, probably resulting from improvements with prenatal diagnosis, which result in pregnancy termination (Cragan et al. 1995; Peller et al. 2004). In 1996, U.S. Food and Drug Administration (FDA) published proposed regulations to fortify flour with folic acid, and the regulations took effect on January 1, 1998 (FDA 1996). Our report shows further declines in the prevalence of anencephaly and spina bifida without anencephaly occurred in the late 1990s similar to what had been observed elsewhere. Using pooled data from a number of U.S. states, Canfield et al. (2005) showed decreasing prevalence rates following fortification with folic acid.

IV-3 Mortality

Mortality of New York children with and without birth defects by demographic characteristics is compared in Table 6. Although a majority of deaths occurred during infancy (age <1 year) regardless of the presence of birth defects, a greater proportion of the deaths among children with birth defects occurred before one year of age (80.2%) compared to deaths among children without any defect (63.3%).

The overall mortality rate was higher during the neonatal period (age <28 days) than during the postneonatal period (28 - 364 days) both for children with and without any defects (Table 7). The overall infant mortality risk was 10-times higher for infants with birth defects compared to infants without birth defects. The relative mortality risk for infants born with birth defects was even higher during the postneonatal period, 12-times higher for children with birth defects compared to children without any defect.

Infant mortality and mortality risk for children with any of the 45 birth defects in New York State were analyzed by demographic and birth characteristics (Table 8). Mortality risk during infancy was slightly higher among female infants with any of the selected defects and children born to non-Hispanic black mothers and younger or older mothers. However, after adjusting for other covariates, mortality risks were similar across different maternal race/ethnicity and maternal age groups. Lower birth weight was significantly related to higher mortality risk, evidenced by approximately 6- and 3.5-times higher mortality rate ratio for those infants born less than 1500 and 1500-2499 grams, respectively. These findings remained significant after adjusting for child's sex and maternal race/ethnicity. Gestational age also affected mortality risk. A 2.8-times higher mortality risk was observed among preterm births (<37 weeks of gestation).

An evaluation of infant mortality risks for omphalocele and the 12 EPHT defects showed that mortality risk during the neonatal period was high for infants with central nervous system defects including anencephaly and spina bifida without anencephaly, musculoskeletal defects and hypoplastic left heart syndrome (Table 9). Mortality risks for children with transposition of the great arteries, tetralogy of Fallot, orofacial defects, hypospadias and epispadias, and Down syndrome were higher during the postneonatal period. Although inclusion criteria were not clearly stated, similar observations were reported in Michigan using their birth defects registry data collected from 1992 through 2000 (Copeland and Kirby 2007).

Underlying cause of death for children with any of the 45 selected birth defects was also examined (Table 10). Congenital anomalies (63.8%), followed by perinatal period conditions (13.2%) and diseases of the circulatory (4.1%) and respiratory system (3.4%) were leading causes of death among children born with congenital malformations in New York.

Congenital malformations are a leading cause of infant death in the U.S. Between 1995 and 1998, 22% of infant deaths in the U.S. were attributable to birth defects, ranging from 11.1% in District of Columbia to 31.5% in Utah (Petrini et al. 2002). In 2006, 20% of all infant deaths in the U.S. were due to birth defects, an increase of 1.6% from the previous year (Heron et al. 2009).

Children born with birth defects are consistently more likely to die during infancy compared to children without any defects (Druschel et al. 1996; Malcoe et al. 1999; Nembhard et al. 2001; Petrini et al. 2002; Berger et al. 2003; Copeland and Kirby 2007). In this report, approximately 80% of children with any of the 45 selected birth defects died in the first year (Table 6), and our findings are similar to the proportion of infant deaths reported among children with or without birth defects in Canada (82.7% vs. 67.1%) (Agha et al. 2006). In Michigan, infant mortality risk was approximately seven times higher among singleton children with reportable congenital anomalies compared to singleton children without any defects (Berger et al. 2003; Copeland and Kirby 2007). In comparison with the Michigan finding, this report shows infant mortality rates 10-times higher for children with birth defects (Table 7).

For selected major birth defects, children with low birth weight, preterm birth, or multiple birth defects had higher mortality risks compared to children with normal birth weight, normal gestational age, and a single defect. This finding is similar to that reported in Canada from the Canadian Congenital Anomalies Surveillance System (Agha et al. 2006). This report finds that infant mortality risk was higher for children born to mothers other than non-Hispanic white. California and Michigan studied mortality disparities for children with birth defects, comparing non-Hispanic white and non-Hispanic black infants (Berger et al. 2003). Although overall mortality risk was higher during infancy regardless of race/ethnicity, the infant mortality risk was higher among black children with congenital anomalies in comparison with white children in Michigan (Berger et al. 2003); however, overall seven-year risk adjusted for birth weight, child's sex, maternal age and maternal education was not significantly different.

IV-4 Survival

Using demographic and birth characteristics, the overall survival probability of children born with selected birth defects in New York State was examined. The survival probability of children with birth defects was lower among those who were born to younger or older mothers compared to other age groups, and it significantly decreased with low birth weight, early gestational age and increasing number of major defects per child (Table 11). Specifically, a 72% survival probability for infants born less than 1500 grams and 82% for birth weight 1500-2499 grams was found, while survival probability was 96% for birth weight greater than 4000 grams. The number of major defects per child significantly impacted survival probability, evidenced by a 96% survival probability for newborns with a single defect compared to 59% for newborns with more than five defects.

Comparing survival trends of selected defects by plurality, we observed higher survival probabilities for singleton births (Figure 3). The number of major defects per child was an important indicator of survival probability (Table 11 and Figure 4). Figure 5 shows survival trends of New York State children with birth defects in association with gestational age and birth weight. Children with normal gestational ages and birth weights greater 4000 grams had higher survival probabilities. Overall survival probabilities decreased as gestational age decreases and/or birth weight decreases. These results suggest that birth weight is more relevant than gestational age for survival of children with any of the 45 selected birth defects.

Examination of survival probabilities for any of the selected major defects by survival age is presented in Table 12. Overall survival probability of children for 7 days, 1 month, and 1, 5, 15, 25 years of age was approximately 97.1%, 96.0%, 93.5%, 92.5%, 91.8% and 90.9%, respectively, indicating that most of the decrease in survival probability occurred during infancy (<1 year of age). Birth defect-specific survival probabilities varied considerably by different types of birth defects. In the current report, poorest survival probability was observed for children with anencephaly and hypoplastic left heart syndrome from the neonatal period to 25 years of age. Children having orofacial defects, hypospadias and epispadias, and limb deficiencies demonstrated better survival throughout their lives.

A number of studies have reported that children born with birth defects are less likely to survive compared to children without any birth defects. Five- and seven-year survival probabilities for children with birth defects were reported as 92.5% in Canada (Agha et al. 2006) and 95.0% in Michigan (Berger et al. 2003), respectively. In European countries, lower survival probabilities during infancy have been reported, ranging from 82.0 to 85.5%, compared to those reported in the U.S. (Wren and O'Sullivan 2001; Tennant et al. 2010) The 93.5% infant survival probability for children with birth defects in this report is similar to the findings reported in Canada (Agha et al. 2006). Unlike these two sources, lower infant survival probabilities for children with birth defects have been reported in Arkansas and Texas, 88.2% and 80.8%, respectively (Nembhard et al. 2001; Cleves et al. 2003). Similarly, neonatal (<28 days of age) survival probability in this report was higher in New York State (96.0%) compared to that in Arkansas (94.0%) (Cleves et al. 2003).

Defect-specific survival probabilities for some of the major birth defects in New York State were higher than those reported in other states or countries. In the first year of life, survival probabilities of infants with cardiovascular, orofacial, and most musculoskeletal defects except gastroschisis were considerably higher in New York State compared to Texas (Nembhard et al. 2001). In New York, first year survival probability of children with hypoplastic left heart syndrome (41.0%) is significantly higher than that was reported in Texas (20.9%) or in Arkansas (22.6%) (Nembhard et al. 2001; Cleves et al. 2003). The first year survival probabilities of New York children with almost all of the 45 selected birth defects are comparable to those reported in Europe (Dastgiri et al. 2003; Tennant et al. 2010) except for Down syndrome, which is higher in New York State.

In New York State during 1983 to 2007, overall survival probability was much lower for children with birth defects than for those without any birth defect. Children with multiple defects had even lower survival probabilities (Druschel et al. 1996; Agha et al. 2006). Preterm birth and low birth weight, separately or in combination, were important factors affecting survival probabilities (Draper et al. 1999; Tanner et al. 2005).

IV-5 Limitations and Strengths

Limitations

This report has several limitations. One limitation is the possibility of under-ascertainment of birth defect cases by the CMR. The New York State CMR is a passive registry relying on mandatory case reporting by hospitals and physicians. To ensure accuracy and completeness of case reporting, CMR records are matched to other available population-based administrative data such as hospital discharge data, hospital discharge summaries, and on-site audits at selected poor reporting hospitals. Although CMR staff has been actively conducting this additional case finding, it is impossible to ascertain all birth defect cases that have occurred in New York State.

Summary measures of prevalence rates and mortality rates might be underestimated in this report. Individual cases of congenital malformations have been identified only among live births in New York State. Therefore, birth defect cases resulting in spontaneous abortions, stillbirths, and pregnancy terminations are not included in our surveillance methods and are not reflected in this report. In addition, only the 45 birth defects selected for inclusion in the NBDPN's Annual Report are included in this report. Thus, the overall prevalence of birth defects in New York State is higher than that reported in the current report if all reported birth defects are included. Furthermore, although the prevalence of hypospadias and epispadias in this report was calculated for male live births, all live births were used in the calculation of the overall prevalence of birth defects including hypospadias and epispadias which resulted in lower prevalence than the actual prevalence.

Methodology for the follow-up and determination of the mortality status of the children in the CMR is another limitation (Wang et al. 2010). This report is based on the data linkage between the CMR and the New York State death certificate files. Incomplete information for certain variables used for matching would reduce successful matching and, consequently, some actual deaths would not be identified. This would result in lower mortality rates and higher survival rates than what is actually the case. For example, anencephaly is a lethal birth defect so survival past the neonatal period probably reflects fetal deaths for which identifying information was not available, coding errors, or loss to follow-up.

Since children who die right after birth might be less likely to be reported, under-ascertainment would decrease the mortality risk of children with birth defects compared to children without birth defects. Similarly, out-of-state deaths among children with birth defects may be missed. The effect of missing data on mortality risk would exist and matters for comparisons of survival compared to other states and countries, but the effect on relative mortality risk should be minimal.

Although several maternal and infant characteristics are included in the analysis, there are other important factors that might affect prevalence, mortality and survival of children with selected birth defects. For instance, maternal smoking and drinking, exposure to teratogens, residence near hazardous sites, and environmental and occupational exposure during pregnancy might be associated with birth defects. However, access to good quality information on those factors is not available.

Although these results are compared to those reported by other states and groups of investigators, direct comparison and interpretation is limited due to differences in case definitions and inclusion criteria. Furthermore, no categorization of selected major birth defects based on the

severity of the birth defects was used in this report, which may particularly affect overall mortality rate ratios and survival probabilities. For instance, hypoplastic left heart syndrome can be categorized into a severe group whereas transposition of the great arteries and tetralogy of Fallot can be categorized as moderate-severity based on mortality rate (Dolk et al. 2011). Instead of summary measures by severity, the report presents overall measures and measures of selected individual defects. Therefore, comparison of overall prevalence, mortality rate and mortality rate ratio, and survival probability presented in the current report to others including reports and studies from other states in the United States, the national estimates in the United States, or other countries should be cautiously interpreted.

Strengths

The current report provides information on the overall burden of selected major birth defects in New York State from 1983 to 2007 using data collected by the CMR, a state-wide population-based birth defects surveillance registry. A total of 146,831 children with one or more major birth defects were detected among 6,616,300 live births in New York State during 25 years of surveillance. This report also presents trends, mortality rate and risk, and long-term survival experience from infancy to up to 25 years of age by individual birth defect for children born with birth defects in New York State.

Prevalence, trends, mortality rate and risk, and survival probability and patterns of selected major birth defects were evaluated by residence and geographic areas in New York State which may provide valuable information to New York State residents. Furthermore, we assessed a comprehensive panel of important factors that might be associated with selected birth defects, such as maternal age, race/ethnicity, birth weight, gestational age, child's sex, and number of major defects per child. The large number of observations provided statistical power to identify major contributors to the higher risk of mortality and survival probability observed among New York State children born with birth defects in comparison to those without birth defects.

This report contains 25 years of CMR data collected in New York State, which enables evaluation of long-term prevalence trends, mortality and survival probabilities up to 25 years of age for selected individual birth defects and provides detailed information on the pattern of each defect in New York State.

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VI. TABLES AND FIGURES

Table 1
Prevalence of individual defects^a by sex and race/ ethnicity.
New York births, 1983-2007

Malformation	Total		Sex			Prevalence by Race/Ethnicity				
	Cases	Prev ^b	Male	Female	Ratio	Non-Hispanic white	Non-Hispanic black	Hispanic	Asian/Pacific Islander	Other/Unknown Race
			Prev ^b	Prev ^b	(M/F)					
Central Nervous System										
Anencephalus	495	0.75	0.63	0.87	0.73	0.80	0.64	0.72	0.51	1.50
Spina bifida without anencephalus	2,068	3.13	2.86	3.41	0.84	3.03	3.10	3.76	2.02	3.30
Encephalocele	565	0.85	0.80	0.91	0.88	0.73	1.16	1.02	0.49	1.05
Microcephalus	3,909	5.91	4.96	6.91	0.72	4.28	10.04	6.80	5.10	7.34
Hydrocephalus without Spina Bifida	5,703	8.62	9.50	7.69	1.24	7.18	12.72	9.37	6.55	9.59
Eye										
Anophthalmia/microphthalmia	802	1.21	1.19	1.23	0.97	1.16	1.20	1.42	0.86	2.10
Congenital cataract	964	1.46	1.44	1.48	0.98	1.52	1.64	1.28	0.94	0.60
Aniridia	71	0.11	0.10	0.12	0.83	0.12	0.08	0.10	0.11	0.15
Ear										
Anotia/microtia	565	0.85	0.92	0.78	1.17	0.86	0.45	1.27	0.76	0.75
Cardiovascular										
Truncus arteriosus	473	0.71	0.68	0.75	0.91	0.72	0.80	0.66	0.54	1.05
Transposition of the great arteries	2,746	4.15	5.05	3.20	1.58	4.48	3.62	3.75	3.69	5.70
Tetralogy of Fallot	2,967	4.48	4.94	4.00	1.23	4.40	4.88	4.06	5.39	4.95
Ventricular septal defect	24,665	37.28	34.99	39.68	0.88	39.63	34.04	34.55	34.41	34.48
Atrial septal defect	21,230	32.09	31.82	32.37	0.98	28.47	44.91	29.55	33.62	33.73
Atrioventricular septal defects	2,238	3.38	3.17	3.61	0.88	3.55	3.86	2.70	2.29	4.50
Pulmonary valve atresia and stenosis	5,850	8.84	8.76	8.92	0.98	7.98	12.35	8.45	6.66	10.94
Tricuspid valve atresia and stenosis	726	1.10	1.21	0.98	1.23	0.97	1.40	1.21	0.94	1.35
Ebstein's anomaly	324	0.49	0.52	0.46	1.12	0.51	0.39	0.50	0.49	0.75
Aortic valve stenosis	941	1.42	1.86	0.96	1.93	1.85	0.88	0.90	0.70	1.35
Hypoplastic left heart syndrome	1,391	2.10	2.42	1.77	1.36	2.19	2.36	1.90	1.00	2.55
Patent ductus arteriosus	7,718	11.67	11.50	11.84	0.97	10.88	15.69	9.85	11.54	15.44
Coarctation of aorta	2,713	4.10	4.65	3.53	1.32	4.58	3.44	3.58	3.13	4.80
Orofacial										
Choanal atresia	1,082	1.64	1.62	1.65	0.98	1.90	1.33	1.38	0.76	2.10
Cleft palate without cleft lip	3,897	5.89	5.10	6.72	0.76	6.56	4.25	5.47	5.93	6.75
Cleft lip with and without cleft palate	4,881	7.38	8.84	5.84	1.51	8.38	4.80	6.72	7.95	8.99
Gastrointestinal										
Esophageal atresia/tracheoesophageal fistula	1,651	2.50	2.68	2.30	1.16	2.92	1.88	2.18	1.38	2.70
Pyloric stenosis	11,536	17.44	27.84	6.51	4.28	21.25	8.54	18.25	7.17	13.19
Rectal and large intestinal atresia/stenosis	2,781	4.20	4.50	3.90	1.15	4.46	3.35	4.18	4.40	5.10
Hirschsprung's disease (congenital megacolon)	1,465	2.21	3.00	1.39	2.15	2.06	2.93	2.02	2.00	2.25
Biliary atresia	657	0.99	1.00	0.99	1.02	0.76	1.42	1.05	1.59	1.50
Genitourinary										
Hypospadias and Epispadias ^c	20,714	61.10	61.10	-	-	73.52	52.95	40.12	37.17	48.32
Renal agenesis/hypoplasia	2,061	3.12	3.84	2.35	1.64	3.42	2.81	2.76	2.16	3.75
Obstructive genitourinary defect	14,421	21.80	30.35	12.80	2.37	22.66	16.82	23.06	26.02	18.89
Bladder exstrophy	164	0.25	0.27	0.23	1.16	0.32	0.15	0.16	0.16	0.00
Musculoskeletal										
Congenital hip dislocation	9,385	14.18	6.91	21.83	0.32	17.24	6.49	13.15	13.24	12.44
Limb deficiencies, upper	1,824	2.76	2.85	2.66	1.07	3.09	2.61	2.32	1.40	2.70
Limb deficiencies, lower	1,074	1.62	1.73	1.52	1.14	1.56	2.09	1.47	1.05	2.70
Diaphragmatic hernia	1,621	2.45	2.77	2.12	1.31	2.58	2.29	2.23	2.02	4.50
Gastroschisis	906	1.37	1.39	1.35	1.03	1.38	1.18	1.82	0.40	1.35
Omphalocele	744	1.12	1.22	1.02	1.20	1.08	1.56	0.90	0.78	1.95
Chromosomal										
Trisomy 21 (Down syndrome)	7,174	10.84	11.07	10.60	1.05	11.30	9.87	11.07	8.28	13.64
Trisomy 13	546	0.83	0.92	0.73	1.26	0.76	0.91	0.99	0.76	0.45
Trisomy 18	809	1.22	0.92	1.54	0.60	1.11	1.63	1.18	0.92	2.25
Other										
Fetal alcohol syndrome	740	1.12	1.13	1.11	1.02	0.50	3.70	0.66	0.05	1.80
Amniotic bands	182	0.28	0.25	0.30	0.83	0.27	0.33	0.28	0.22	0.00
Total	179,439	271	314	225	1.40	283	264	253	229	280

^a 45 major defects recommended for inclusion by NBDPN.

^b Prevalence: number of children with birth defects per 10,000 live births.

^c Hypospadias and epispadias cases only among males are included.

Table 2
Prevalence of all selected defects^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	146,831	6,616,300	222	63,807	3,064,232	208	83,024	3,552,068	234
Maternal age groups									
<= 19	12,731	582,853	218	5,823	300,027	194	6,908	282,826	244
20-24	30,311	1,434,558	211	13,643	711,349	192	16,668	723,209	230
25-29	40,292	1,912,328	211	16,996	863,203	197	23,296	1,049,125	222
30-34	37,867	1,710,004	221	15,424	730,748	211	22,443	979,256	229
>=35	25,630	976,557	262	11,921	458,905	260	13,709	517,652	265
Maternal race/ethnicity									
Non-Hispanic white	86,193	3,691,360	233	20,005	884,598	226	66,188	2,806,762	236
Non-Hispanic black	26,878	1,250,247	215	18,624	896,460	208	8,254	353,787	233
Hispanic	25,404	1,237,104	205	19,272	968,028	199	6,132	269,076	228
Asian or Pacific	6,888	370,876	186	5,291	285,465	185	1,597	85,411	187
Other/Unknown	1,468	66,713	220	615	29,681	207	853	37,032	230
Birth weight (grams)									
<1500	9,804	107,931	908	4,749	54,736	868	5,055	53,195	950
1500-2499	19,594	413,636	474	9,460	220,643	429	10,134	192,993	525
2500-3999	104,376	5,452,417	191	44,947	2,555,052	176	59,429	2,897,365	205
>=4000	13,057	642,316	203	4,651	233,801	199	8,406	408,515	206
Gestational age (weeks)									
<37	28,126	703,093	400	12,519	364,182	344	15,607	338,911	461
>=37	108,257	5,774,076	187	43,597	2,613,585	167	64,660	3,160,491	205
Other/Unknown	10,448	139,131	751	7,691	86,465	889	2,757	52,666	523
Sex									
Female	57,826	3,226,307	179	26,018	1,494,595	174	31,808	1,731,712	184
Male	89,005	3,389,993	263	37,789	1,569,637	241	51,216	1,820,356	281
Number of major defects per child									
1	96,640	6,616,300	146	41,736	3,064,232	136	54,904	3,552,068	155
2	27,255	6,616,300	41	12,233	3,064,232	40	15,022	3,552,068	42
3	10,829	6,616,300	16	4,802	3,064,232	16	6,027	3,552,068	17
4	5,178	6,616,300	8	2,282	3,064,232	7	2,896	3,552,068	8
>=5	6,929	6,616,300	10	2,754	3,064,232	9	4,175	3,552,068	12

^a Children with any of the 45 defects recommended for inclusion by NBDPN.

^b Total number of live births.

^c Prevalence: number of children with birth defects per 10,000 live births.

Table 3
Prevalence of individual defects^a by geographic areas.
New York births, 1983-2007

	New York State (NYS)		Western NY ^b		Central NY ^c		Northeastern NY ^d		Downstate NY ^e	
	Cases	Prev ^f	Cases	Prev ^f	Cases	Prev ^f	Cases	Prev ^f	Cases	Prev ^f
Malformations										
Central Nervous System										
Anencephalus	495	0.75	41	0.81	110	1.11	54	1.25	290	0.62
Spina bifida without anencephalus	2,068	3.13	207	4.09	354	3.58	151	3.49	1,356	2.89
Encephalocele	565	0.85	56	1.11	83	0.84	24	0.55	402	0.86
Microcephalus	3,909	5.91	283	5.59	548	5.55	175	4.05	2,903	6.19
Hydrocephalus without spina bifida	5,703	8.62	349	6.89	786	7.95	295	6.82	4,273	9.11
Eye										
Anophthalmia/microphthalmia	802	1.21	59	1.17	113	1.14	51	1.18	579	1.23
Congenital cataract	964	1.46	88	1.74	186	1.88	74	1.71	616	1.31
Aniridia	71	0.11	5	0.10	17	0.17	5	0.12	44	0.09
Ear										
Anotia/microtia	565	0.85	71	1.40	80	0.81	38	0.88	376	0.80
Cardiovascular										
Truncus arteriosus	473	0.71	59	1.17	81	0.82	27	0.62	306	0.65
Transposition of the great arteries	2,746	4.15	292	5.77	464	4.70	175	4.05	1,815	3.87
Tetralogy of Fallot	2,967	4.48	242	4.78	450	4.55	161	3.72	2,114	4.51
Ventricular septal defect	24,665	37.28	2,237	44.19	4,177	42.27	1,526	35.28	16,725	35.67
Atrial septal defect	21,230	32.09	1,981	39.14	2,121	21.46	1,147	26.52	15,981	34.08
Atrioventricular septal defects	2,238	3.38	232	4.58	363	3.67	161	3.72	1,482	3.16
Pulmonary valve atresia and stenosis	5,850	8.84	554	10.94	981	9.93	380	8.79	3,935	8.39
Tricuspid valve atresia and stenosis	726	1.10	58	1.15	99	1.00	36	0.83	533	1.14
Ebstein's anomaly	324	0.49	27	0.53	59	0.60	25	0.58	213	0.45
Aortic valve stenosis	941	1.42	91	1.80	202	2.04	85	1.97	563	1.20
Hypoplastic left heart syndrome	1,391	2.10	140	2.77	248	2.51	102	2.36	901	1.92
Patent ductus arteriosus	7,718	11.67	788	15.57	861	8.71	449	10.38	5,620	11.98
Coarctation of aorta	2,713	4.10	271	5.35	471	4.77	198	4.58	1,773	3.78
Orofacial										
Choanal atresia	1,082	1.64	127	2.51	223	2.26	64	1.48	668	1.42
Cleft palate without cleft lip	3,897	5.89	359	7.09	795	8.04	308	7.12	2,435	5.19
Cleft lip with and without cleft palate	4,881	7.38	482	9.52	979	9.91	407	9.41	3,013	6.43
Gastrointestinal										
Esophageal atresia/tracheoesophageal fistula	1,651	2.50	147	2.90	263	2.66	114	2.64	1,127	2.40
Pyloric stenosis	11,536	17.44	1,214	23.98	2,178	22.04	1,013	23.42	7,131	15.21
Rectal and large intestinal atresia/stenosis	2,781	4.20	262	5.18	399	4.04	191	4.42	1,929	4.11
Hirschsprung's disease (congenital megacolon)	1,465	2.21	139	2.75	255	2.58	79	1.83	992	2.12
Biliary atresia	657	0.99	47	0.93	90	0.91	21	0.49	499	1.06
Genitourinary										
Hypospadias and epispadias ^g	20,714	61.10	1,920	74.08	3,634	71.80	1,518	68.44	13,642	56.77
Renal agenesis/hypoplasia	2,061	3.12	209	4.13	413	4.18	142	3.28	1,297	2.77
Obstructive genitourinary defect	14,421	21.80	759	14.99	2,258	22.85	853	19.72	10,551	22.50
Bladder exstrophy	164	0.25	20	0.40	27	0.27	16	0.37	101	0.22
Musculoskeletal										
Congenital hip dislocation	9,385	14.18	611	12.07	1,596	16.15	682	15.77	6,496	13.85
Limb deficiencies, upper	1,824	2.76	205	4.05	357	3.61	156	3.61	1,106	2.36
Limb deficiencies, lower	1,074	1.62	99	1.96	168	1.70	75	1.73	732	1.56
Diaphragmatic hernia	1,621	2.45	177	3.50	284	2.87	112	2.59	1,048	2.23
Gastroschisis	906	1.37	113	2.23	216	2.19	90	2.08	487	1.04
Omphalocele	744	1.12	84	1.66	136	1.38	65	1.50	459	0.98
Chromosomal										
Trisomy 21 (Down syndrome)	7,174	10.84	669	13.22	1,135	11.49	441	10.20	4,929	10.51
Trisomy 13	546	0.83	50	0.99	89	0.90	35	0.81	372	0.79
Trisomy 18	809	1.22	73	1.44	140	1.42	51	1.18	545	1.16
Other										
Fetal alcohol syndrome	740	1.12	104	2.05	120	1.21	38	0.88	478	1.02
Amniotic bands	182	0.28	30	0.59	29	0.29	11	0.25	112	0.24
Total Case	179,439	271	16,031	317	28,638	290	11,821	273	122,949	262
Total live births	6,616,300		506,175		988,202		432,509		4,689,414	

^a 45 defects recommended for inclusion by NBDPN.

^b Western New York (NY) region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central NY region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern NY region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate NY region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Prevalence: number of children with birth defects per 10,000 live births.

^g Hypospadias and epispadias cases only among males are included.

Table 4
Prevalence of all selected defects^a by county and sex and race/ethnicity.
New York births, 1983-2007

County	Total		Male	Female	Ratio (M/F)
	Cases	Prevalence ^b	Prevalence ^b	Prevalence ^b	
ALBANY	2,056	235	277	192	1.44
ALLEGANY	329	220	273	165	1.65
BRONX	11,510	195	226	162	1.40
BROOME	1,571	250	292	205	1.42
CATTARAUGUS	650	233	283	180	1.57
CAYUGA	610	241	297	181	1.64
CHAUTAUQUA	991	231	273	186	1.47
CHEMUNG	782	268	321	212	1.52
CHENANGO	413	256	295	214	1.38
CLINTON	518	201	234	167	1.40
COLUMBIA	332	193	243	141	1.72
CORTLAND	350	227	286	168	1.70
DELAWARE	308	235	293	173	1.69
DUTCHESS	1,696	203	244	160	1.52
ERIE	7,940	260	313	205	1.52
ESSEX	154	148	186	106	1.74
FRANKLIN	213	156	193	116	1.66
FULTON	453	276	326	225	1.45
GENESEE	515	261	303	217	1.40
GREENE	255	202	241	163	1.47
HAMILTON	26	224	243	205	1.18
HERKIMER	500	259	292	225	1.30
JEFFERSON	1,028	235	280	188	1.49
KINGS	23,444	224	257	188	1.37
LEWIS	225	241	294	185	1.59
LIVINGSTON	399	217	269	162	1.66
MADISON	571	264	308	216	1.42
MONROE	5,347	211	258	161	1.60
MONTGOMERY	365	228	286	166	1.73
NASSAU	10,423	251	299	201	1.49
NEW YORK	10,344	202	232	171	1.35
NIAGARA	1,732	250	298	199	1.49
ONEIDA	1,903	247	290	202	1.43
ONONDAGA	4,458	275	316	232	1.36
ONTARIO	698	225	272	176	1.54
ORANGE	2,626	212	253	170	1.49
ORLEANS	339	247	307	184	1.67
OSWEGO	1,160	284	349	215	1.63
OTSEGO	372	232	301	158	1.90
PUTNAM	585	197	245	147	1.67
QUEENS	15,465	202	233	169	1.38
RENSSELAER	1,102	228	273	180	1.52
RICHMOND	3,044	209	253	162	1.57
ROCKLAND	2,152	205	258	150	1.72
SARATOGA	1,384	223	272	172	1.58
SCHENECTADY	1,111	230	286	171	1.68
SCHOHARIE	193	230	255	204	1.25
SCHUYLER	122	222	279	160	1.74
SENECA	223	215	285	143	1.99
ST LAWRENCE	679	201	245	155	1.58
STEUBEN	714	223	281	163	1.72
SUFFOLK	11,572	237	286	185	1.55
SULLIVAN	529	228	274	180	1.52
TIOGA	329	208	253	160	1.58
TOMPKINS	551	223	265	179	1.48
ULSTER	1,076	209	257	158	1.63
WARREN	429	237	288	183	1.57
WASHINGTON	389	222	253	189	1.34
WAYNE	722	224	288	158	1.82
WESTCHESTER	6,378	210	256	161	1.58
WYOMING	327	261	315	206	1.53
YATES	149	189	227	151	1.50

^a 45 major defects recommended for inclusion by NBDPN.

^b Number of children with birth defects per 10,000 live births.

Table 5
Prevalence of individual birth defects^a by five-year periods.
New York births, 1983-2007

Malformations	Total (1983-2007)		1983-1987		1988-1992		1993-1997		1998-2002		1998-2002	
	Cases	Prev ^b	Cases	Prev ^b	Cases	Prev ^b	Cases	Prev ^b	Cases	Prev ^b	Cases	Prev ^b
Central Nervous System												
Anencephalus	495	0.75	178	1.38	119	0.82	87	0.64	53	0.42	58	0.46
Spina bifida without anencephalus	2,068	3.13	594	4.60	510	3.52	413	3.06	285	2.23	266	2.13
Encephalocele	565	0.85	137	1.06	172	1.19	111	0.82	83	0.65	62	0.50
Microcephalus	3,909	5.91	835	6.46	911	6.29	850	6.29	633	4.96	680	5.44
Hydrocephalus without spina bifida	5,703	8.62	1,363	10.55	1,347	9.30	1,059	7.83	939	7.36	995	7.96
Eye												
Anophthalmia/microphthalmia	802	1.21	181	1.40	190	1.31	190	1.41	106	0.83	135	1.08
Congenital cataract	964	1.46	251	1.94	257	1.78	213	1.58	150	1.18	93	0.74
Aniridia	71	0.11	19	0.15	16	0.11	18	0.13	9	0.07	9	0.07
Ear												
Anotia/microtia	565	0.85	95	0.74	128	0.88	147	1.09	94	0.74	101	0.81
Cardiovascular												
Truncus arteriosus	473	0.71	87	0.67	112	0.77	118	0.87	76	0.60	80	0.64
Transposition of the great arteries	2,746	4.15	528	4.09	580	4.01	584	4.32	511	4.01	543	4.35
Tetralogy of Fallot	2,967	4.48	556	4.30	646	4.46	619	4.58	556	4.36	590	4.72
Ventricular septal defect	24,665	37.28	4,996	38.67	5,034	34.77	4,960	36.69	4,392	34.43	5,283	42.29
Atrial septal defect	21,230	32.09	1,263	9.78	2,526	17.45	5,279	39.05	6,540	51.27	5,622	45.00
Atrioventricular septal defects	2,238	3.38	465	3.60	530	3.66	476	3.52	375	2.94	392	3.14
Pulmonary valve atresia and stenosis	5,850	8.84	935	7.24	1,251	8.64	1,393	10.31	1,098	8.61	1,173	9.39
Tricuspid valve atresia and stenosis	726	1.10	131	1.01	168	1.16	166	1.23	108	0.85	153	1.22
Ebstein's anomaly	324	0.49	48	0.37	55	0.38	66	0.49	76	0.60	79	0.63
Aortic valve stenosis	941	1.42	185	1.43	198	1.37	200	1.48	161	1.26	197	1.58
Hypoplastic left heart syndrome	1,391	2.10	257	1.99	306	2.11	264	1.95	250	1.96	314	2.51
Patent ductus arteriosus	7,718	11.67	1,873	14.50	643	4.44	553	4.09	1,353	10.61	3,296	26.38
Coarctation of aorta	2,713	4.10	432	3.34	526	3.63	530	3.92	553	4.34	672	5.38
Orofacial												
Choanal atresia	1,082	1.64	177	1.37	266	1.84	245	1.81	193	1.51	201	1.61
Cleft palate without cleft lip	3,897	5.89	858	6.64	837	5.78	760	5.62	729	5.71	713	5.71
Cleft lip with and without cleft palate	4,881	7.38	1,001	7.75	1,103	7.62	963	7.12	918	7.20	896	7.17
Gastrointestinal												
Esophageal atresia/tracheoesophageal fistula	1,651	2.50	351	2.72	373	2.58	329	2.43	294	2.30	304	2.43
Pyloric stenosis	11,536	17.44	2,377	18.40	2,022	13.97	2,392	17.70	2,160	16.93	2,585	20.69
Rectal and large intestinal atresia/stenosis	2,781	4.20	591	4.57	591	4.08	550	4.07	514	4.03	535	4.28
Hirschsprung's disease (congenital megacolon)	1,465	2.21	292	2.26	293	2.02	270	2.00	286	2.24	324	2.59
Biliary atresia	657	0.99	133	1.03	148	1.02	120	0.89	132	1.03	124	0.99
Genitourinary												
Hypospadias and epispadias ^c	20,714	61.10	4,390	66.28	4,727	63.73	4,296	62.12	3,788	57.93	3,513	54.84
Renal agenesis/hypoplasia	2,061	3.12	346	2.68	422	2.92	418	3.09	398	3.12	477	3.82
Obstructive genitourinary defect	14,421	21.80	1,022	7.91	2,225	15.37	3,125	23.12	3,577	28.04	4,472	35.79
Bladder exstrophy	164	0.25	38	0.29	42	0.29	33	0.24	30	0.24	21	0.17
Musculoskeletal												
Congenital hip dislocation	9,385	14.18	2,410	18.65	2,427	16.76	2,027	15.00	1,401	10.98	1,120	8.96
Limb deficiencies, upper	1,824	2.76	419	3.24	501	3.46	399	2.95	241	1.89	264	2.11
Limb deficiencies, lower	1,074	1.62	271	2.10	255	1.76	247	1.83	170	1.33	131	1.05
Diaphragmatic hernia	1,621	2.45	376	2.91	365	2.52	314	2.32	228	1.79	338	2.71
Gastroschisis	906	1.37	123	0.95	149	1.03	194	1.44	174	1.36	266	2.13
Omphalocele	744	1.12	122	0.94	122	0.84	202	1.49	142	1.11	156	1.25
Chromosomal												
Trisomy 21 (Down syndrome)	7,174	10.84	1,353	10.47	1,444	9.97	1,417	10.48	1,414	11.08	1,546	12.37
Trisomy 13	546	0.83	115	0.89	114	0.79	115	0.85	93	0.73	109	0.87
Trisomy 18	809	1.22	177	1.37	193	1.33	168	1.24	131	1.03	140	1.12
Other												
Fetal alcohol syndrome	740	1.12	33	0.26	219	1.51	296	2.19	128	1.00	64	0.51
Amniotic bands	182	0.28	20	0.15	39	0.27	44	0.33	36	0.28	43	0.34
Total Case	179,439	271	32,404	251	35,102	242	37,220	275	35,578	279	39,135	313
Total live births	6,616,300		1,291,884		1,447,683		1,351,739		1,275,634		1,249,360	

^a 45 defects recommended for inclusion by NBDPN.

^b Prevalence: number of children with birth defects per 10,000 live births.

^c Hypospadias and epispadias cases only among males are included.

Table 6
Characteristics of deceased children without birth defects and deceased children with birth defects
recorded in the Congenital Malformations Registry (CMR).
New York births, 1983-2007

Characteristics	Children without birth defects		CMR children with selected major birth defects^a	
	N	%	N	%
Total	62,251	100	11,800	100
Sex				
Female	25,759	41.4	5,303	44.9
Male	36,492	58.6	6,497	55.1
Maternal race/ethnicity				
Non-Hispanic white	29,961	48.1	6,238	52.9
Non-Hispanic black	20,817	33.4	2,812	23.8
Hispanic	6,315	10.1	2,083	17.7
Asian or Pacific	1,590	2.6	491	4.2
Other/Unknown	3,568	5.7	176	1.5
Residence				
New York City (NYC)	31,720	51.0	5,265	44.6
New York State excluding NYC	30,531	49.0	6,535	55.4
Age of death				
<1 year	39,393	63.3	9,467	80.2
>=1 year	22,858	36.7	2,333	19.8

^a 45 defects recommended for inclusion by NBDPN.

Table 7
Infant (<1 year) mortality rate and infant mortality rate ratio by age at death for children without birth defects compared to children with birth defects.
New York births, 1983-2007

Age at Death	Children without birth defects^a		Children with selected birth defects^b		Mortality rate ratio^d	95% CI^e
	Deaths	Mortality rate^c	Deaths	Mortality rate^c		
<28 days (Neonatal)	25,190	4.3	5,797	39.5	9.1	8.8 - 9.3
28 - 364 days (Postneonatal)	12,046	2.1	3,670	25.0	12.0	11.6 - 12.5
Total	37,236	6.4	9,467	64.5	10.0	9.8 - 10.3

^a Only children born between 1983-2005 are included because death information is not available for New York City children born between 2006-2007.

^b 45 defects recommended for inclusion by NBDPN.

^c Mortality rate: number of birth defects per 1,000 live births.

^d The mortality rate ratio was calculated using the mortality rate among children without birth defects from 1983-2005 as the denominator.

^e CI, confidence interval.

Table 8
**Infant (<1 Year) mortality by selected variables^a for children with selected major birth defects^b recorded in Congenital Malformations Registry (CMR).
 New York births, 1983-2007**

Characteristics	CMR Children Total	Deaths ^c	Mortality Rate ^d	Mortality Rate Ratio		
				Crude	Adjusted ^e	95% Ci ^f
Total	146,831	9,467	64.5			
Sex						
Female	57,826	4,283	74.1	1.27	1.15	1.10 - 1.19
Male	89,005	5,184	58.2	1.00	1.00	reference
Maternal race/ethnicity						
Non-Hispanic white	86,193	5,004	58.1	1.00	1.00	reference
Non-Hispanic black	26,878	2,224	82.7	1.43	1.05	0.99 - 1.11
Hispanic	25,404	1,687	66.4	1.14	1.07	1.01 - 1.14
Asian or Pacific Islander	6,888	409	59.4	1.02	0.98	0.88 - 1.08
Residence						
New York City(NYC)	63,807	4,225	66.2	1.00	1.00	reference
New York State excluding NYC	83,024	5,242	63.1	0.95	1.05	1.00 - 1.10
Maternal age groups						
<= 19	12,731	981	77.1	1.23	1.08	1.01 - 1.16
20-34	108,470	6,770	62.4	1.00	1.00	reference
>=35	25,630	1,716	67.0	1.07	1.00	0.95 - 1.05
Birth weight (grams)						
<1500	9,804	2,344	239.1	6.22	6.13	5.74 - 6.54
1500-2499	19,594	2,819	143.9	3.74	3.69	3.50 - 3.90
2500-3999	104,376	4,014	38.5	1.00	1.00	reference
>=4000	13,057	290	22.2	0.58	0.59	0.52 - 0.66
Gestational age (weeks)						
<37	28,126	3,774	134.2	2.82	1.01	0.96 - 1.07
>=37	108,257	5,148	47.6	1.00	1.00	reference

^a Only cases with valid information of the descriptive variable are included in the analysis.

^b 45 defects recommended for inclusion by NBDPN.

^c Only children born between 1983-2005 are included because death information is not available for New York City children born between 2006-2007.

^d Mortality rate: number of birth defects per 1,000 live births.

^e RR adjusted for child sex and maternal race/ethnicity compared to children without birth defects.

^f CI, confidence interval.

Table 9
Adjusted infant mortality rate ratio (RR) calculated by birth defect category and age at death for
children with selected major birth defects using Poisson regression.
New York births, 1983-2007

Malformations	<28 days(Neonatal)		28-364 days (Postneonatal)	
	RR^a	95% CI^c	RR^a	95% CI^c
Central Nervous System				
Anencephaly	274.1	261.4 - 287.4	10.9	4.6 - 26.1
Spina bifida (without anencephaly)	24.9	20.5 - 30.3	19.4	13.8 - 27.2
Cardiovascular				
Transposition of the Great Arteries	37.1	32.6 - 42.1	52.3	44.4 - 61.5
Tetralogy of Fallot	16.7	13.7 - 20.4	45.6	38.1 - 54.5
Hypoplastic left heart syndrome	143.9	133.5 - 155.0	76.5	63.4 - 92.3
Orofacial				
Cleft palate without cleft lip	15.6	13.1 - 18.5	20.4	16.2 - 25.5
Cleft lip with or without cleft palate	15.8	13.7 - 18.4	14.8	11.8 - 18.6
Genitorinary				
Hypospadias and Epispadias	1.8	1.5 - 2.2	3.3	2.6 - 4.1
Musculoskeletal				
Upper limb deficiencies	19.3	15.4 - 24.0	13.5	9.1 - 20.1
Lower limb deficiencies	27.9	21.7 - 35.8	6.5	2.9 - 14.5
Omphalocele	68.9	57.6 - 82.5	32.9	- ^b
Gastroschisis	16.9	11.8 - 24.0	12.6	- ^b
Chromosomal				
Trisomy 21 (Down syndrome)	9.5	8.0 - 11.2	25.5	21.9 - 29.7

^a RR indicates Mortality Rate Ratio and has been adjusted for child sex and maternal rate/ethnicity compared to children without birth defects.

^b Not calculated due to the small number of deaths.

^c CI, confidence interval.

Table 10
Leading cause of death among children with birth defects ^a recorded at the Congenital Malformations Registry (CMR).
New York births, 1983-2007

Underlying cause of death ^c	CMR children with selected birth defects ^b		Neonatal death (<28 days)		Postneonatal death (28-364 days)	
	N	%	N	%	N	%
Total	11,796	100.01	5,796	100.01	3,668	100.00
Congenital anomalies	7,523	63.78	4,355	75.14	2,217	60.44
Perinatal period conditions	1553	13.17	1,122	19.36	392	10.69
Circulatory system	486	4.12	90	1.55	197	5.37
Respiratory system	399	3.38	18	0.31	165	4.50
Unspecified conditions	332	2.81	30	0.52	196	5.34
Nervous system	308	2.61	19	0.33	82	2.24
Infectious and Parasitic diseases	248	2.10	5	0.09	114	3.11
Digestive system	225	1.91	44	0.76	101	2.75
External causes	146	1.24	6	0.10	17	0.46
Neoplasms	133	1.13	15	0.26	31	0.85
Others	443	3.76	92	1.59	156	4.25

^a 45 defects recommended for inclusion by NBDPN

^b Eight cases with no information on the cause of death are excluded.

^c Underlying cause of death identified by ICD-10

Table 11
Univariate analysis of survival of children with selected birth defects^a by selected variables^b
New York births, 1983-2007

Characteristics	Total children	Total deaths (%)	Overall survival probability	
			% (95% CI) ^c	p-value
Total	146,831	11,800 (8.04)	90.88 (90.68-91.07)	
Maternal age groups				<.001
<= 19	12,731	1245 (9.78)	89.22 (88.58-89.82)	
20-24	30,311	2689 (8.87)	89.92 (89.48-90.34)	
25-29	40,292	3110 (7.72)	91.28 (90.90-91.64)	
30-34	37,867	2711 (7.16)	91.83 (91.43-92.22)	
>=35	25,630	2045 (7.98)	90.87 (90.35-91.35)	
Maternal race/ethnicity				<.001
Non-Hispanic White	86,193	6238 (7.24)	91.84 (91.60-92.07)	
Non-Hispanic Black	26,878	2812 (10.46)	87.98 (87.39-88.54)	
Hispanic	25,404	2083 (8.20)	90.55 (90.01-91.05)	
Asian or Pacific	6,888	491 (7.13)	92.23 (91.42-92.97)	
Other/Unknown	1,468	176 (11.99)	86.04 (83.66-88.10)	
Birth weight (grams)				<.001
<1500	9,804	2584 (26.36)	71.79 (70.69-72.85)	
1500-2499	19,594	3317 (16.93)	81.60 (80.91-82.26)	
2500-3999	104,000	5483 (5.25)	93.74 (93.53-93.95)	
>=4000	13,057	416 (3.19)	95.91 (95.36-96.39)	
Gestational age (weeks)				<.001
<37	28,126	4365 (15.52)	83.19 (82.66-83.71)	
>=37	108,000	6814 (6.29)	92.73 (92.52-92.94)	
Sex				<.001
Female	57,826	5303 (9.17)	89.83 (89.51-90.14)	
Male	89,005	6497 (7.30)	91.55 (91.30-91.80)	
Number of major defects per child				<.001
1	96,640	3347 (3.46)	95.88 (95.70-96.06)	
2	27,255	2574 (9.44)	89.31 (88.80-89.79)	
3	10,829	1897 (17.52)	80.43 (79.38-81.43)	
4	5,178	1325 (25.59)	72.67 (71.30-73.99)	
>=5	6,929	2657 (38.35)	58.59 (57.20-59.96)	

^a 45 defects recommended for inclusion by NBDPN.

^b Only cases with valid information of the descriptive variable are included in the analysis.

^c CI, confidence interval.

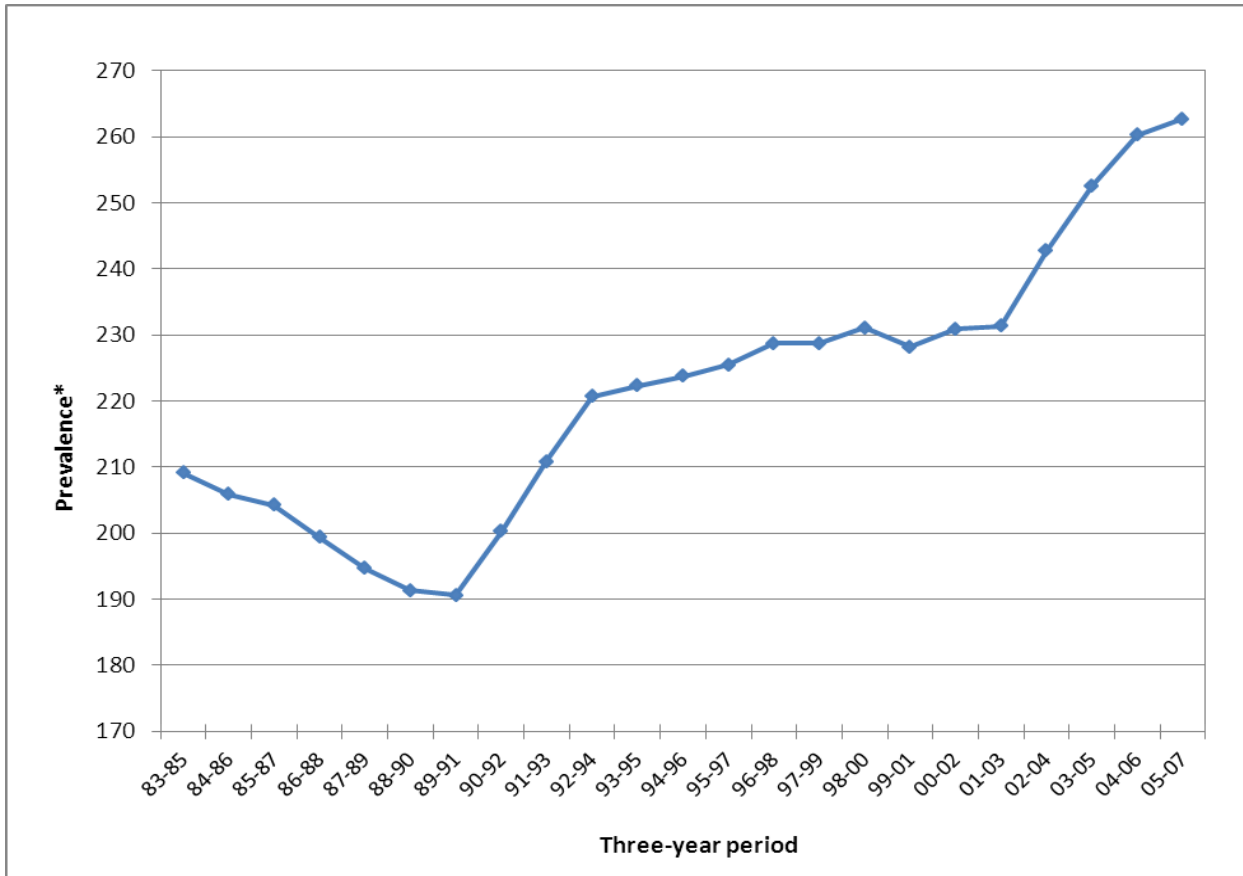
Table 12
Survival probability of children by selected major birth defects and survival age^a
New York births, 1983-2007

Malformations	No. of live births	No. of deaths	7-day survival probability, % (95% CI) ^b	1-month survival probability, % (95% CI) ^b	1-year survival probability, % (95% CI) ^b	5-year survival probability, % (95% CI) ^b	15-year survival probability, % (95% CI) ^b	25-year survival probability, % (95% CI) ^b
Total	146,831	11,800	97.09 (97.01-97.18)	95.95 (95.85-96.05)	93.53 (93.41-93.66)	92.52 (92.38-92.65)	91.81 (91.66-91.95)	90.88 (90.68-91.07)
Central Nervous System								
Anencephaly	495	456	15.76 (12.70-19.11)	11.72 (9.07-14.73)	8.48 (6.24-11.15)	7.97 (5.78-10.60)	7.65 (5.49-10.27)	7.65 (5.49-10.27)
Spina bifida (without anencephaly)	2,068	326	93.57 (92.42-94.55)	92.31 (91.08-93.38)	88.83 (87.39-90.11)	86.67 (85.12-88.07)	84.07 (82.36-85.63)	81.32 (78.72-83.64)
Cardiovascular								
Transposition of the Great Arteries	2,746	856	92.97 (91.95-93.87)	87.07 (85.76-88.27)	75.93 (74.28-77.48)	71.03 (69.28-72.70)	68.43 (66.57-70.21)	63.66 (60.85-66.33)
Tetralogy of Fallot	2,967	614	97.17 (96.51-97.71)	94.41 (93.52-95.18)	86.01 (84.71-87.21)	80.90 (79.42-82.28)	78.64 (77.04-80.14)	76.94 (75.07-78.69)
Hypoplastic left heart syndrome	1,391	920	70.52 (68.05-72.85)	53.92 (51.26-56.50)	40.98 (38.39-43.55)	35.19 (32.65-37.74)	31.78 (29.04-34.56)	28.79 (25.52-32.13)
Orofacial								
Cleft palate without cleft lip	3,897	420	96.07 (95.42-96.64)	94.66 (93.91-95.32)	91.12 (90.18-91.97)	89.82 (88.83-90.73)	89.04 (87.99-90.01)	88.46 (87.31-89.51)
Cleft lip with or without cleft palate	4,881	467	95.98 (95.40-96.50)	94.28 (93.60-94.90)	91.76 (90.96-92.50)	90.85 (90.00-91.63)	90.28 (89.39-91.09)	90.05 (89.14-90.89)
Genitourinary								
Hypospadias and Epispadias	20,714	440	99.50 (99.40-99.59)	99.17 (99.04-99.28)	98.45 (98.27-98.61)	98.19 (98.00-98.37)	97.94 (97.73-98.13)	97.15 (96.75-97.51)
Musculoskeletal								
Upper limb deficiencies	1,824	206	94.02 (92.84-95.02)	92.65 (91.36-93.76)	90.73 (89.31-91.98)	89.41 (87.90-90.74)	88.97 (87.42-90.34)	86.79 (84.00-89.12)
Lower limb deficiencies	1,074	138	91.99 (90.20-93.47)	90.69 (88.79-92.28)	88.73 (86.69-90.48)	87.47 (85.33-89.31)	87.24 (85.08-89.10)	86.81 (84.57-88.74)
Omphalocele	744	215	82.26 (79.32-84.82)	77.69 (74.52-80.51)	71.77 (68.39-74.86)	71.20 (67.80-74.32)	71.02 (67.61-74.15)	71.02 (67.61-74.15)
Gastroschisis	906	103	94.26 (92.54-95.60)	93.05 (91.19-94.53)	90.62 (88.53-92.34)	88.96 (86.71-90.84)	88.45 (86.13-90.40)	87.58 (84.59-90.02)
Chromosomal								
Trisomy 21 (Down syndrome)	7,174	765	97.67 (97.30-98.00)	96.91 (96.48-97.28)	92.14 (91.49-92.74)	90.16 (89.44-90.83)	89.13 (88.35-89.85)	87.79 (86.78-88.73)

^a Only cases with valid information on age are included in the analysis.

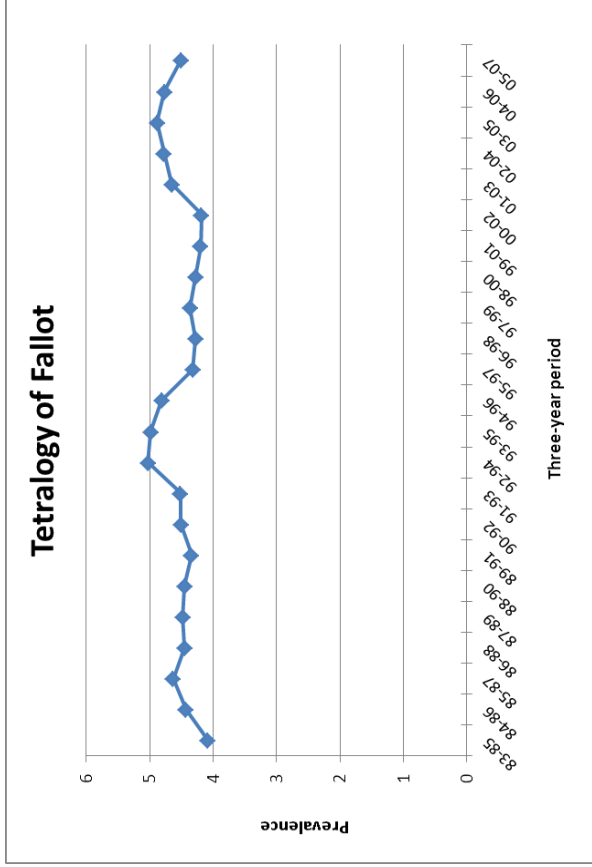
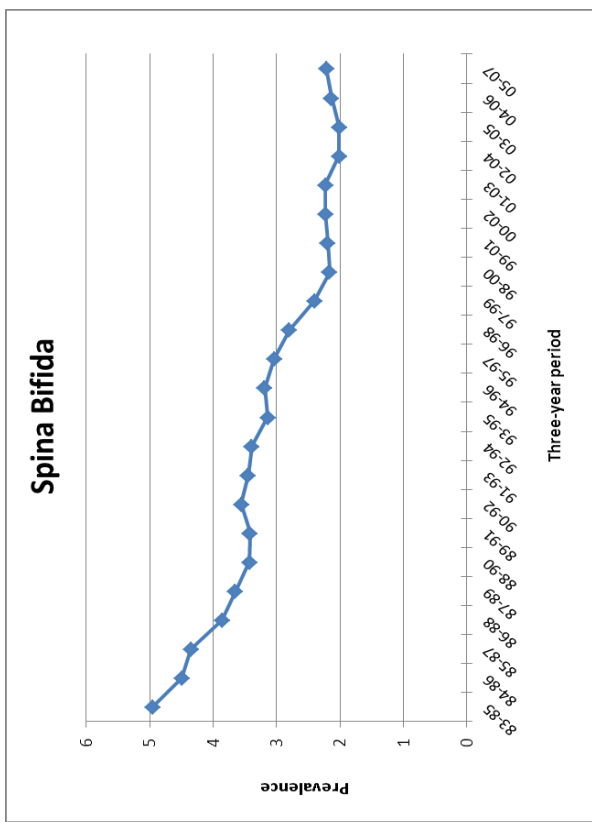
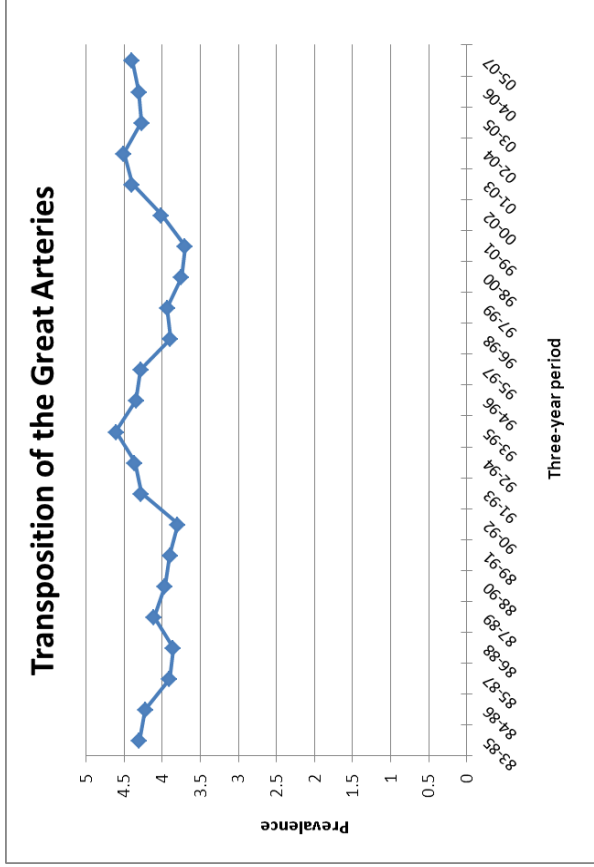
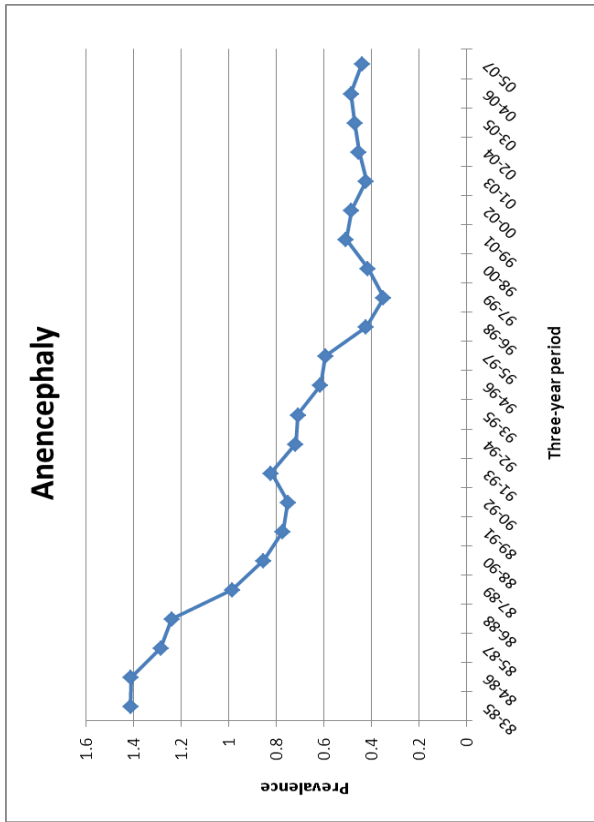
^b CI, confidence interval.

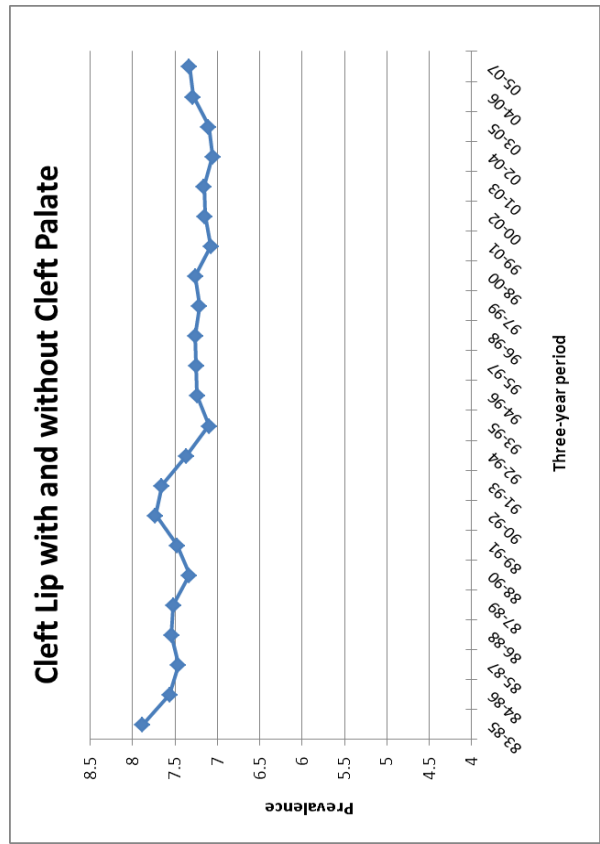
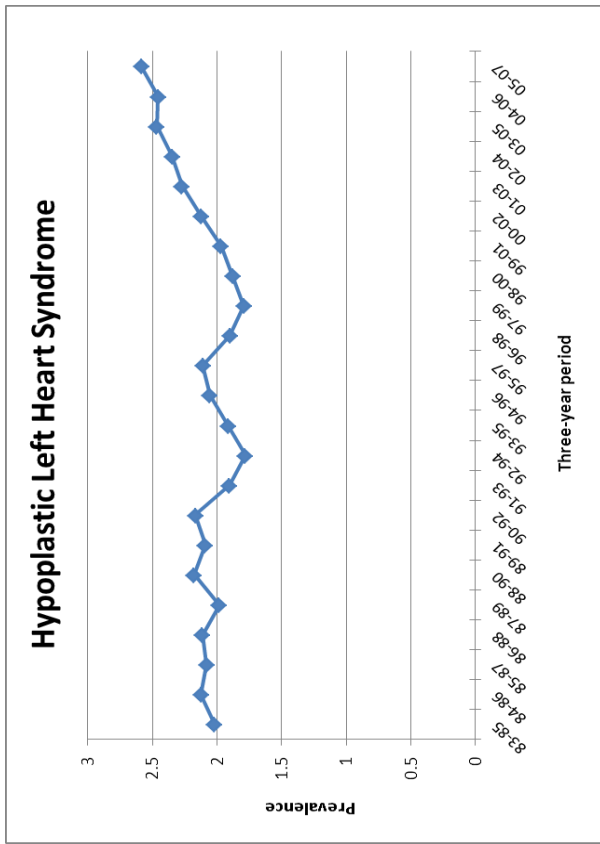
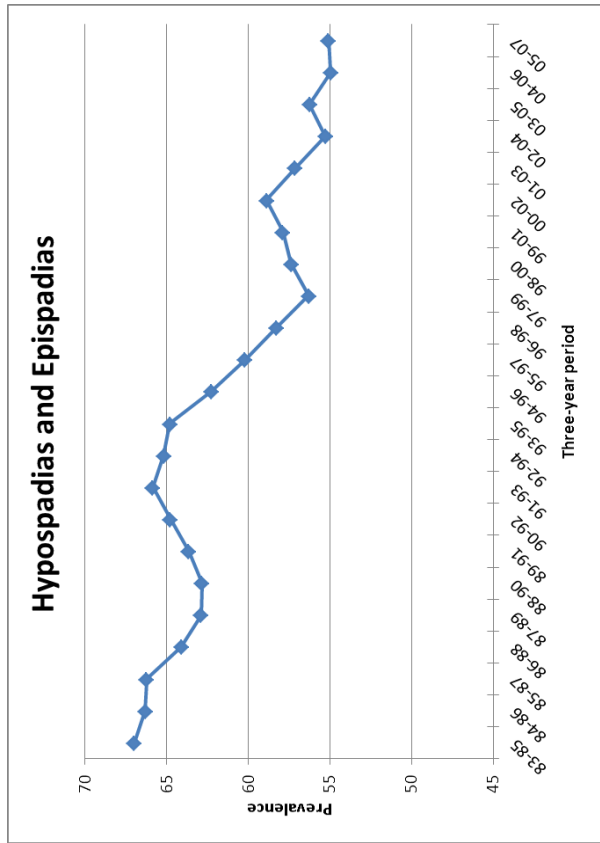
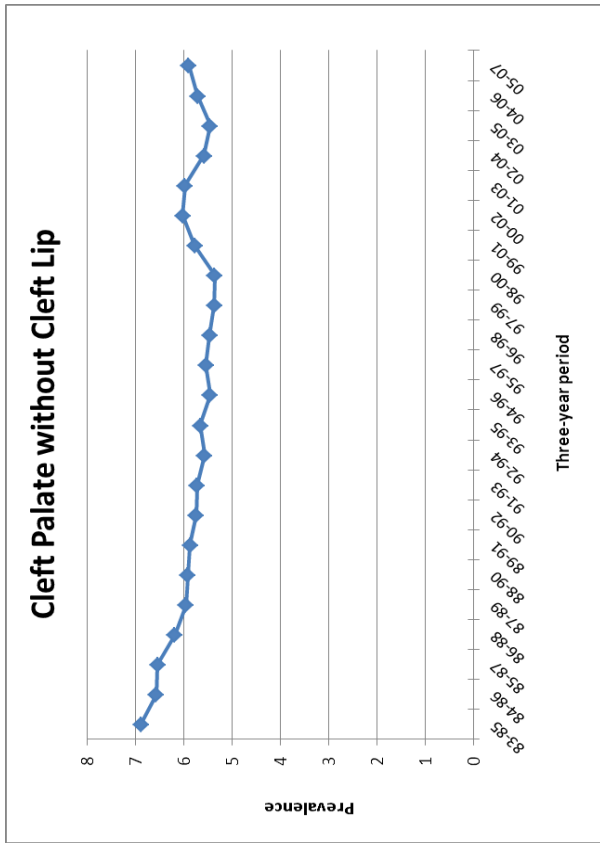
Figure 1. Trend of overall birth defects in New York State, 1983-2007, using three-year moving average.

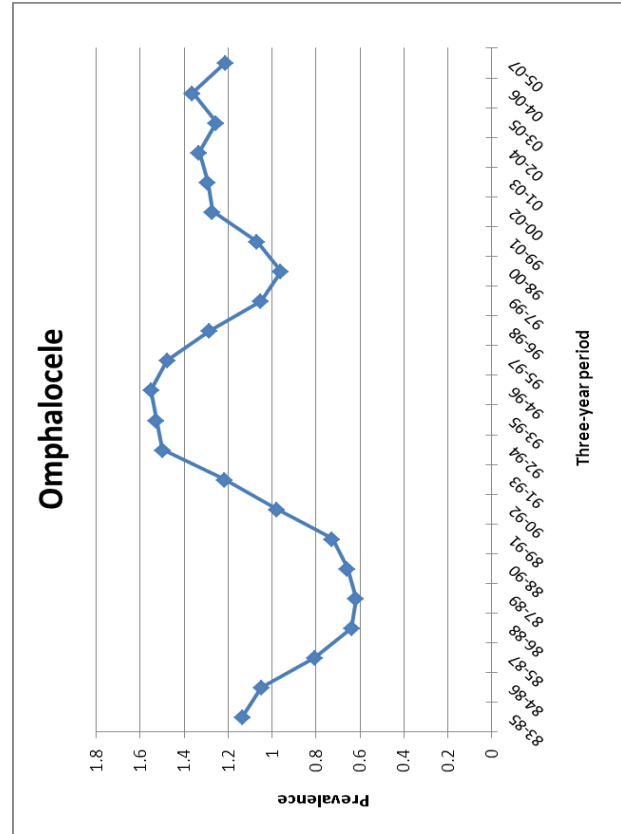
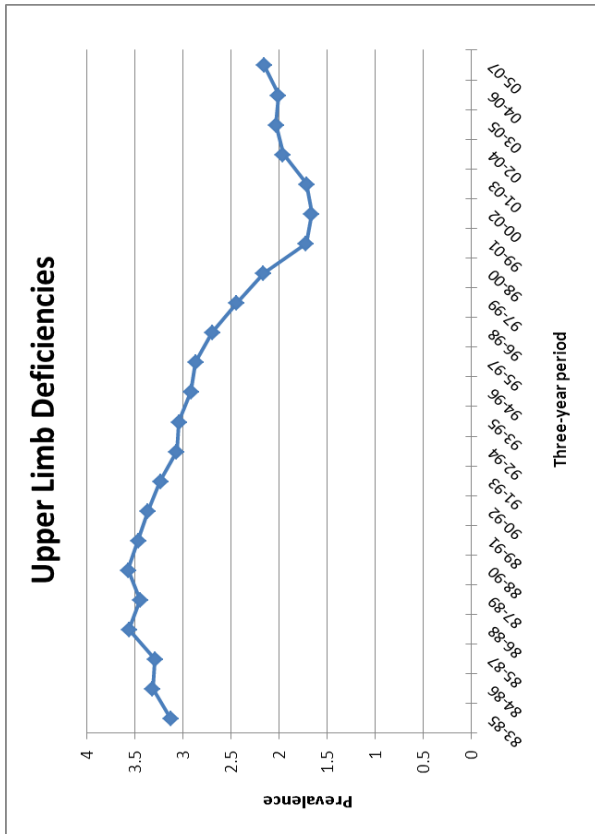
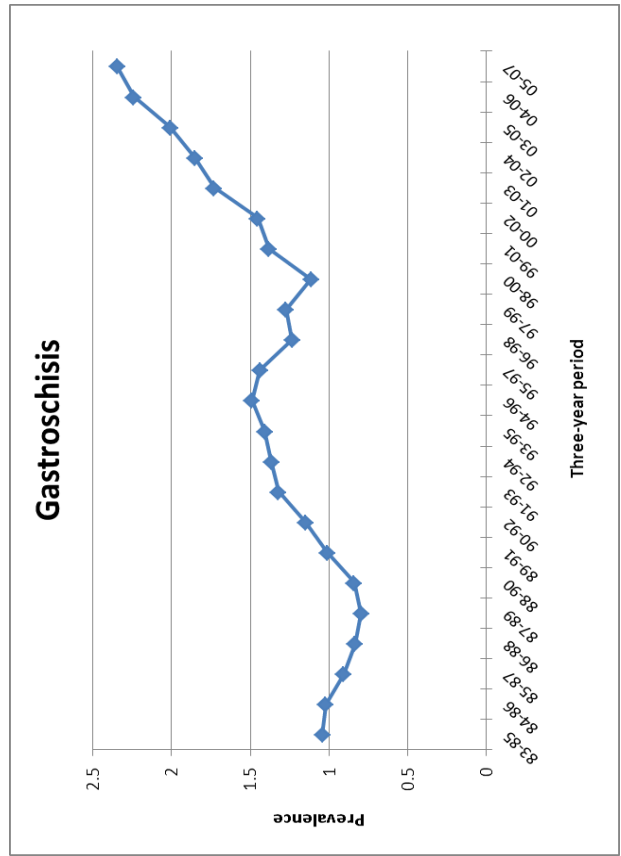
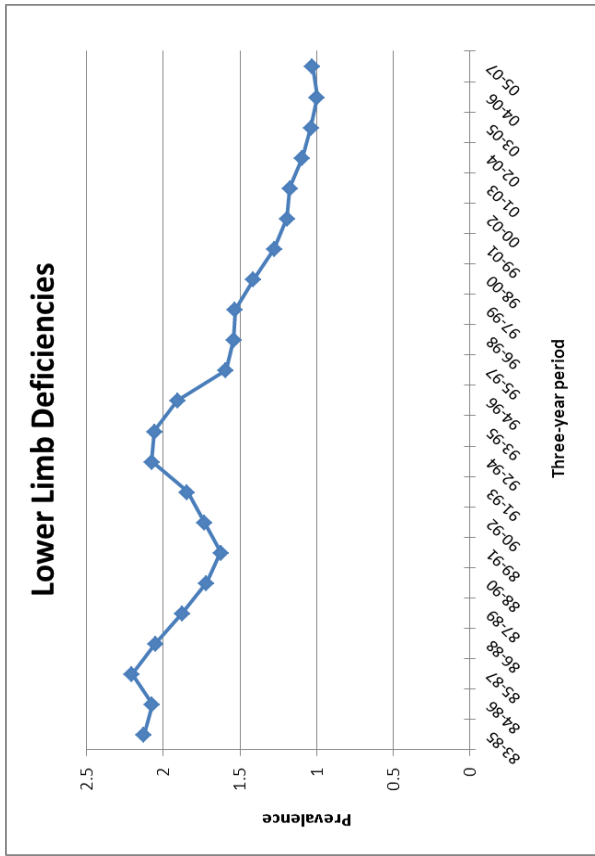


* Average of prevalences for three years.

Figure 2. Trend of the prevalence of children by birth defects category (anencephaly, spina bifida, transposition of the great arteries, tetralogy of Fallot, hypoplastic left heart syndrome, cleft palate without cleft lip, cleft lip with or without cleft palate, hypospadias and epispadias, upper limb deficiencies, lower limb deficiencies, omphalocele, gastroschisis, and trisomy 21) in New York State, 1983-2007, using three-year moving average.







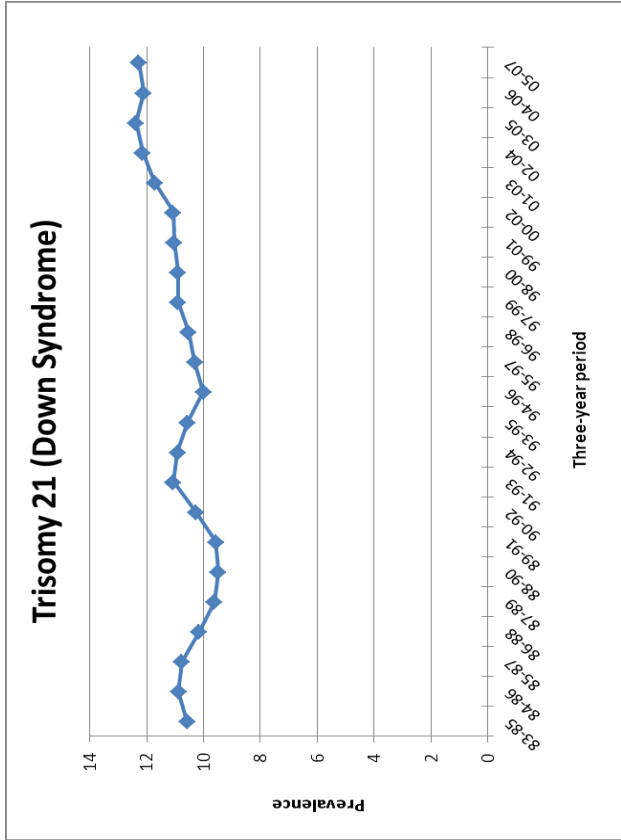


Figure 3. Survival curve by plurality for children with selected birth defects, New York State, 1983-2007.

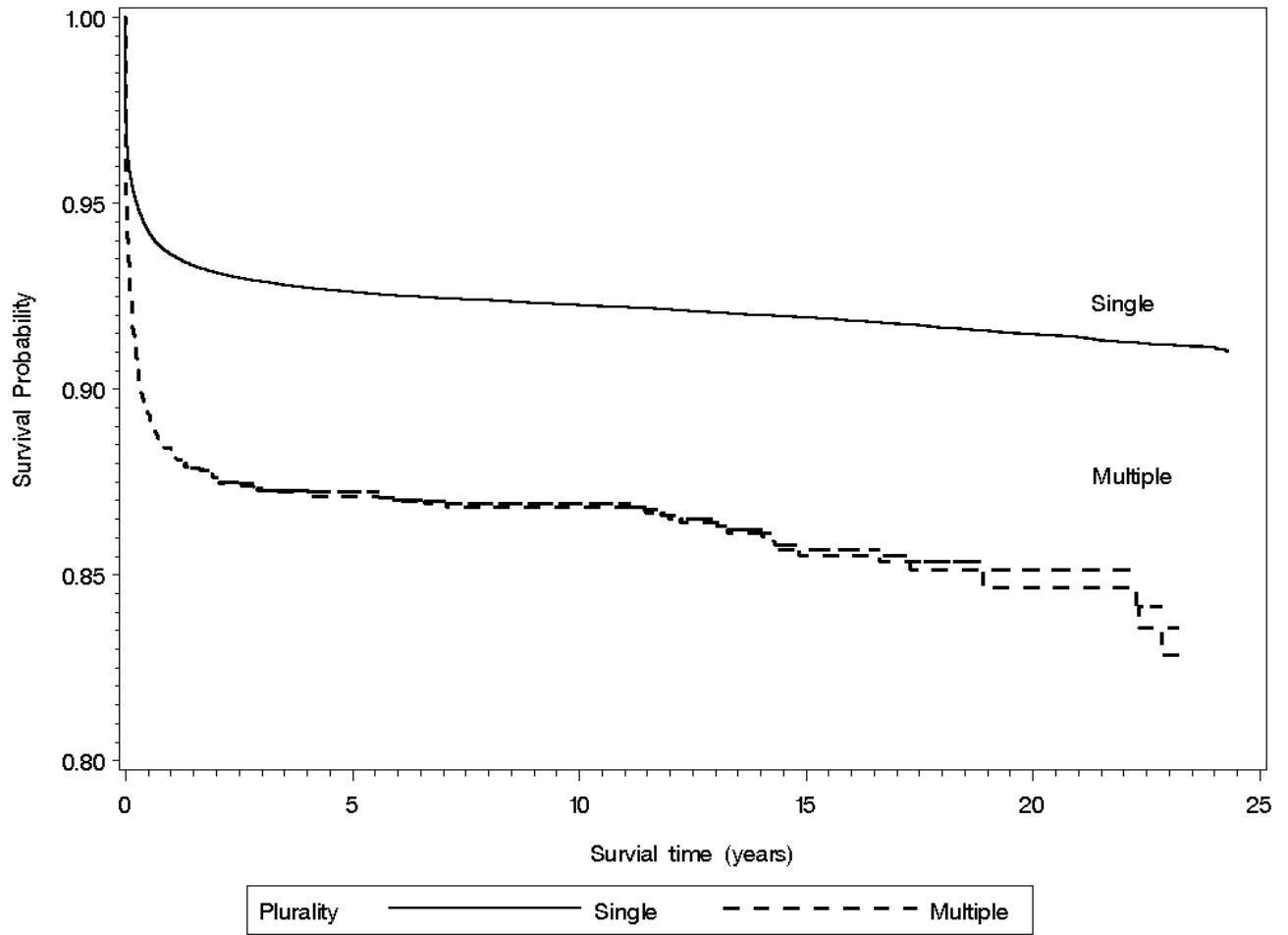


Figure 4. Survival curve by number of birth defects for children with selected birth defects, New York State, 1983-2007.

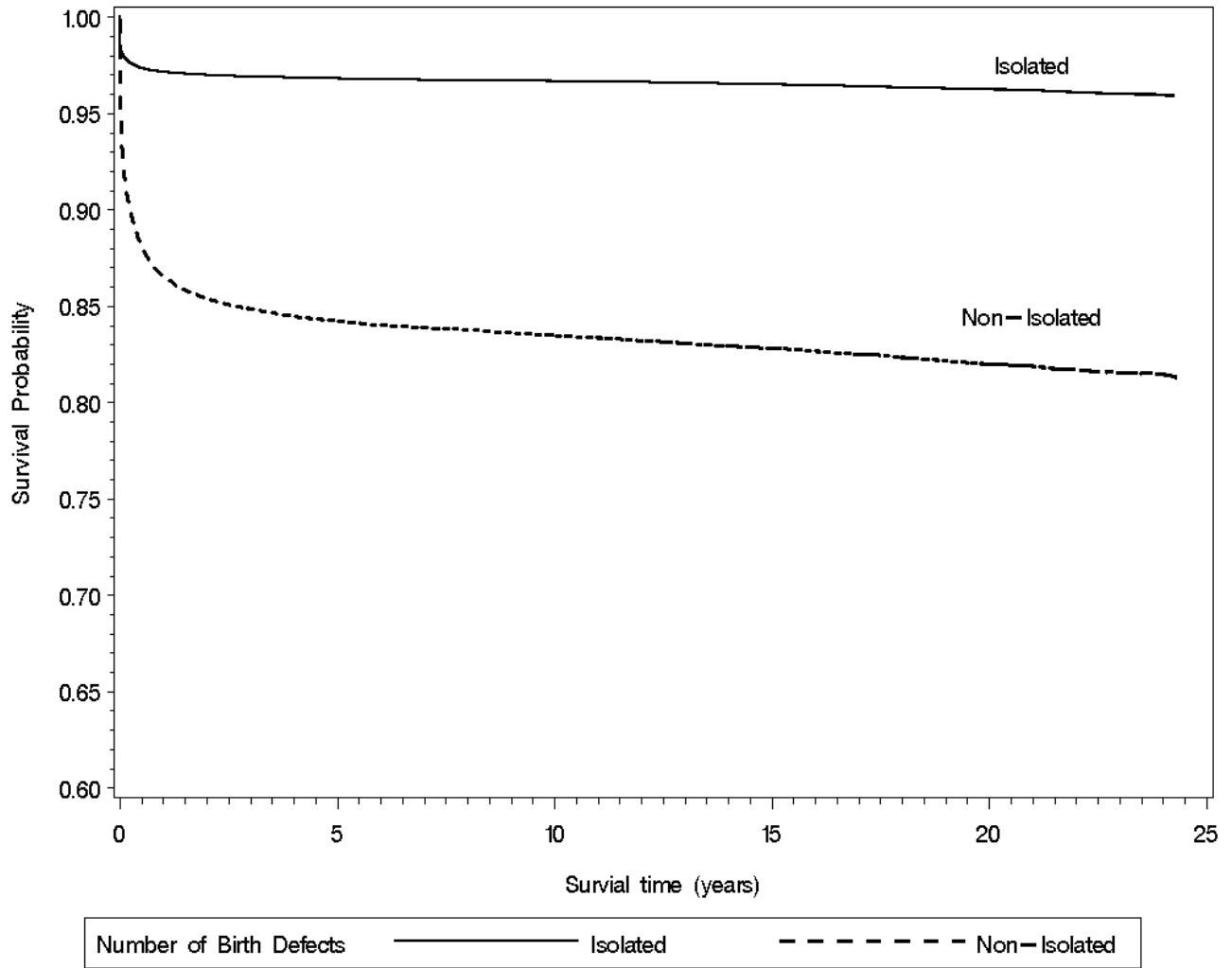
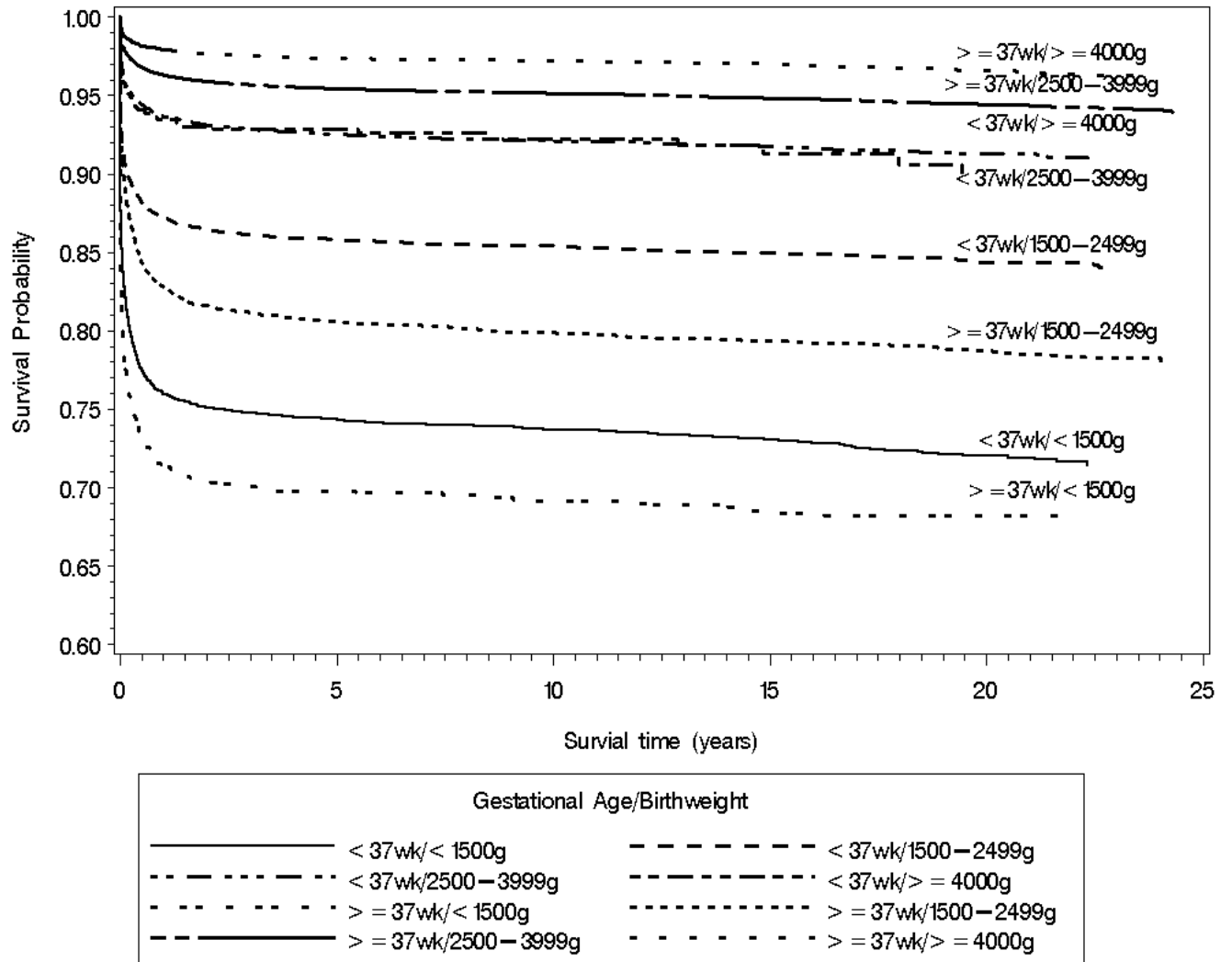


Figure 5. Survival curve by gestational age/birth weights for children with selected birth defects, New York State, 1983-2007.



VII. APPENDICES (ATTACHED)

New York State Department of Health

**Statistical Summary of Children
Born in 1983-2007**

Congenital Malformations Registry

Appendices

Additional and related information is also available from the New York State Department of Health Web site on the Internet: <http://www.health.state.ny.us>

Comments regarding the format or content of this report are welcome.

For further information:

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New York State Department of Health
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Bureau of Environmental and Occupational Epidemiology
Empire State Plaza – Corning Tower, Room 1243
Albany, New York 12237
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APPENDICES

Congenital malformations have traditionally been divided into categories of “major” and “minor”. A major anomaly has an adverse effect on the individual's health, functioning or social acceptability. A minor anomaly is generally considered of limited social or medical significance. While minor anomalies in themselves do not greatly affect the child, they can be related to major anomalies or be indications of certain syndromes (Marden et al. 1964; Leppig et al. 1987).

The division between major and minor is far from perfect. No standard lists or definitions exist. We used several sources, including the practices of other registries, to develop a list of minor anomalies (Myriantopoulos and Chung 1974; Merlob et al. 1985; Jones 1988). One serious problem in making this distinction is that some ICD-9-CM codes include major and minor malformations under the same code. A more specific coding scheme that eliminates most of these problems has been adopted.

Appendix 1 contains a general listing of conditions included in this report and their classification. A few codes are not listed since they contain only a very few cases. Reporting hospitals receive a CMR Handbook with a complete, detailed list of reportable anomalies.

Appendix 2 contains 45 birth defects that are included in the case definition of the NBDPN.

Appendix 3 contains prevalence of selected major birth defects by residence and geographic areas and by descriptive characteristics.

Appendix 4 contains prevalence of selected major birth defects by five-year period and descriptive characteristics.

Appendix 1. List of CMR reportable birth defects.

Major Malformations	
740 - 759*	Congenital Anomalies
760.71	Fetal Alcohol Syndrome
762.8	Amniotic Band Syndrome
771.0 - 771.2	Congenital Infections: including rubella, cytomegalovirus toxoplasmosis and herpes simplex

*See list of minor and excluded codes

Minor Malformations	
214	Lipoma
216	Benign neoplasm of skin
228.01	Hemangioma of skin
553.1	Umbilical hernia
744.1	Accessory auricle
744.29	Other specified anomalies of ear
744.3	Unspecified anomaly of ear
744.4	Branchial cleft cyst
744.89	Other specified anomalies of face and neck
744.9	Other unspecified anomalies of face and neck
747.5	Single umbilical artery
752.41	Embryonic cyst of cervix, vagina and external female genitalia
752.42	Imperforate hymen
757.2	Dermatoglyphic anomalies
757.32	Vascular hamartomas
757.33	Congenital pigmentation anomalies of skin
757.39	Other anomalies of skin
757.4	Specified anomalies of hair
757.5	Specified anomalies of nails
757.6	Specified anomalies of breast
757.8	Other specified anomalies of integument
757.9	Unspecified anomalies of the integument
Exclusions	
750.0	Tongue tie
758.4	Balanced autosomal translocation in normal individual
778.6	Congenital hydrocele

Appendix 2. Birth defects included in the case definition of the National Birth Defects Prevention Network.

Birth Defects	ICD-9-CM Codes	CDC/BPA Codes
Central Nervous System		
Anencephalus	740.0 – 740.1	740.00 – 740.10
Spina bifida without anencephalus	741.0 – 741.9 w/o 740.0 – 740.10	741.00 – 741.99 w/o 740.0 – 740.10
Encephalocele	742.0	742.00 – 742.09
Microcephalus	742.1	742.10
Hydrocephalus without spina bifida	742.3 w/o 741.0, 741.9	742.30 – 742.39 w/o 741.00 – 741.99
Eye		
Anophthalmia/microphthalmia	743.0, 743.1	743.00 – 743.10
Congenital cataract	743.30 – 743.34	743.32 – 743.326
Aniridia	743.45	743.42
Ear		
Anotia/microtia	744.01, 744.23	744.01, 744.21
Cardiovascular		
Truncus arteriosus	745.0	745.00 – 745.01
Transposition of the great arteries	745.10, .11, .12, .19	745.10 – 745.19
Tetralogy of Fallot	745.2	745.20 – 745.21, 746.84
Ventricular septal defect	745.4	745.40 – 745.490 (exclude 745.498)
Atrial septal defect	745.5	745.50 – 745.59 (exclude 745.50)
Atrioventricular septal defect	745.60, .61, .69	745.60 – 745.69
Pulmonary valve atresia and stenosis	746.01, 746.02	746.00 – 746.01
Tricuspid valve atresia and stenosis	746.1	746.10 (exclude 746.105)
Ebstein's anomaly	746.2	746.20
Aortic valve stenosis	746.3	746.30
Hypoplastic left heart syndrome	746.7	746.70
Patent ductus arteriosus (include only if weight \geq 2500 grams or note if unable to exclude $<$ 2500 grams infants)	747.0	747.00
Coarctation of aorta	747.10	747.10 – 747.19
Orofacial		
Choanal atresia	748.0	748.00
Cleft palate without cleft lip	749.0	749.00 – 749.09
Cleft lip with or without cleft palate	749.1, 749.2	749.10 – 749.29
Gastrointestinal		
Esophageal atresia/tracheoesophageal fistula	750.3	750.30 – 750.35
Pyloric stenosis	750.5	750.51
Rectal and large intestinal atresia/stenosis	751.2	751.20 – 751.24
Hirschprung's disease (congenital megacolon)	751.3	751.30 – 751.34
Biliary atresia	751.61	751.65
Genitourinary		
Hypospadias and Epispadias	752.61, 752.62	752.600 – 752.627 (excluding 752.621)
Renal agenesis/hypoplasia	753.0	753.00 – 753.01
Obstructive genitourinary tract	753.2, 753.6	753.20–29, 753.60–69
Bladder exstrophy	753.5	753.50

Birth Defects	ICD-9-CM Codes	CDC/BPA Codes
Musculoskeletal		
Congenital hip dislocation	754.30, .31, .35	754.30
Reduction deformity, upper limbs	755.20 – 755.29	755.20 – 755.29
Reduction deformity, lower limbs	755.30 – 755.39	755.30 – 755.39
Diaphragmatic hernia	756.6	756.610 – 756.617
Gastroschisis	756.79	756.71
Omphalocele	756.79	756.70
Chromosomal		
Down syndrome (Trisomy 21)	758.0	758.00 – 758.09
Trisomy 13	758.1	758.10 – 758.19
Trisomy 18	758.2	758.20 – 758.290
Other		
Fetal alcohol syndrome	760.71	760.71
Amniotic band syndrome	No code	658.80

Appendix 3. Prevalence of selected major birth defects by residence and descriptive characteristics.

Table 1.1.1	Prevalence of anencephaly by residence and descriptive characteristics
Table 1.1.2	Prevalence of spina bifida by residence and descriptive characteristics
Table 1.1.3	Prevalence of transposition of the great arteries by residence and descriptive characteristics
Table 1.1.4	Prevalence of tetralogy of Fallot by residence and descriptive characteristics
Table 1.1.5	Prevalence of hypoplastic left heart syndrome by residence and descriptive characteristics
Table 1.1.6	Prevalence of cleft palate without cleft lip by residence and descriptive characteristics
Table 1.1.7	Prevalence of cleft lip with and without cleft palate by residence and descriptive characteristics
Table 1.1.8	Prevalence of hypospadias and epispadias by residence and descriptive characteristics
Table 1.1.9	Prevalence of upper limb deficiencies by residence and descriptive characteristics
Table 1.1.10	Prevalence of lower limb deficiencies by residence and descriptive characteristics
Table 1.1.11	Prevalence of omphalocele by residence and descriptive characteristics
Table 1.1.12	Prevalence of gastroschisis by residence and descriptive characteristics
Table 1.1.13	Prevalence of trisomy 21 (Down syndrome) by residence and descriptive characteristics
Table 1.2.1	Prevalence of all 45 selected major birth defects by geographic areas and descriptive characteristics
Table 1.2.2	Prevalence of anencephaly by geographic areas and descriptive characteristics
Table 1.2.3	Prevalence of spina bifida by geographic areas and descriptive characteristics
Table 1.2.4	Prevalence of transposition of the great arteries by geographic areas and descriptive characteristics
Table 1.2.5	Prevalence of tetralogy of Fallot by geographic areas and descriptive characteristics
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Table 1.2.13	Prevalence of gastroschisis by geographic areas and descriptive characteristics
Table 1.2.14	Prevalence of trisomy 21 (Down syndrome) by geographic areas and descriptive characteristics

Appendix 4. Prevalence of selected major birth defects by 5-year period and descriptive characteristics.

Table 2.1.1	Prevalence of all 45 selected major birth defects by 5-year period and descriptive characteristics
Table 2.1.2	Prevalence of anencephaly by 5-year period and descriptive characteristics
Table 2.1.3	Prevalence of spina bifida by 5-year period and descriptive characteristics
Table 2.1.4	Prevalence of transposition of the great arteries by 5-year period and descriptive characteristics
Table 2.1.5	Prevalence of tetralogy of Fallot by 5-year period and descriptive characteristics
Table 2.1.6	Prevalence of hypoplastic left heart syndrome by 5-year period and descriptive characteristics
Table 2.1.7	Prevalence of cleft palate without cleft lip by 5-year period and descriptive characteristics.
Table 2.1.8	Prevalence of cleft lip with and without cleft palate by 5-year period and descriptive characteristics
Table 2.1.9	Prevalence of hypospadias and epispadias by 5-year period and descriptive characteristics
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Table 1.1.1
Prevalence of anencephaly^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	495	6,616,300	0.75	189	3,064,232	0.62	306	3,552,068	0.86
Maternal age groups									
<= 19	55	582,853	0.94	26	300,027	0.87	29	282,826	1.03
20-24	122	1,434,558	0.85	55	711,349	0.77	67	723,209	0.93
25-29	137	1,912,328	0.72	41	863,203	0.48	96	1,049,125	0.92
30-34	122	1,710,004	0.71	42	730,748	0.57	80	979,256	0.82
>=35	59	976,557	0.60	25	458,905	0.54	34	517,652	0.66
Maternal race/ethnicity									
Non-Hispanic white	297	3,691,360	0.80	57	884,598	0.64	240	2,806,762	0.86
Non-Hispanic black	79	1,250,247	0.63	52	896,460	0.58	27	353,787	0.76
Hispanic	90	1,237,104	0.73	62	968,028	0.64	28	269,076	1.04
Asian or Pacific	19	370,876	0.51	15	285,465	0.53	4	85,411	0.47
Other/Unknown	10	66,713	1.50	3	29,681	1.01	7	37,032	1.89
Birth weight (grams)									
<1500	177	107,931	16.40	58	54,736	10.60	119	53,195	22.37
1500-2499	180	413,636	4.35	62	220,643	2.81	118	192,993	6.11
2500-3999	132	5,452,417	0.24	68	2,555,052	0.27	64	2,897,365	0.22
>=4000	6	642,316	0.09	1	233,801	0.04	5	408,515	0.12
Gestational age (weeks)									
<37	226	703,093	3.21	79	364,182	2.17	147	338,911	4.34
>=37	240	5,774,076	0.42	94	2,613,585	0.36	146	3,160,491	0.46
Other/Unknown	29	139,131	2.08	16	86,465	1.85	13	52,666	2.47
Sex									
Female	281	3,226,307	0.87	92	1,494,595	0.62	189	1,731,712	1.09
Male	214	3,389,993	0.63	97	1,569,637	0.62	117	1,820,356	0.64
Number of major defects per child									
1	365	6,616,300	0.55	134	3,064,232	0.44	231	3,552,068	0.65
2	77	6,616,300	0.12	32	3,064,232	0.10	45	3,552,068	0.13
3	24	6,616,300	0.04	12	3,064,232	0.04	12	3,552,068	0.03
4	15	6,616,300	0.02	6	3,064,232	0.02	9	3,552,068	0.03
>=5	14	6,616,300	0.02	5	3,064,232	0.02	9	3,552,068	0.03

^a Children having anencephaly, with "ICD-9-CM" code 740.0-740.1.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.2
Prevalence of spina bifida^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	2,068	6,616,300	3.13	916	3,064,232	2.99	1,152	3,552,068	3.24
Maternal age groups									
<= 19	209	582,853	3.59	113	300,027	3.77	96	282,826	3.39
20-24	535	1,434,558	3.73	233	711,349	3.28	302	723,209	4.18
25-29	590	1,912,328	3.09	249	863,203	2.88	341	1,049,125	3.25
30-34	481	1,710,004	2.81	205	730,748	2.81	276	979,256	2.82
>=35	253	976,557	2.59	116	458,905	2.53	137	517,652	2.65
Maternal race/ethnicity									
Non-Hispanic white	1,118	3,691,360	3.03	206	884,598	2.33	912	2,806,762	3.25
Non-Hispanic black	383	1,250,247	3.06	273	896,460	3.05	110	353,787	3.11
Hispanic	470	1,237,104	3.80	366	968,028	3.78	104	269,076	3.87
Asian or Pacific	75	370,876	2.02	64	285,465	2.24	11	85,411	1.29
Other/Unknown	22	66,713	3.30	7	29,681	2.36	15	37,032	4.05
Birth weight (grams)									
<1500	131	107,931	12.14	49	54,736	8.95	82	53,195	15.42
1500-2499	299	413,636	7.23	160	220,643	7.25	139	192,993	7.20
2500-3999	1,506	5,452,417	2.76	662	2,555,052	2.59	844	2,897,365	2.91
>=4000	132	642,316	2.06	45	233,801	1.92	87	408,515	2.13
Gestational age (weeks)									
<37	422	703,093	6.00	189	364,182	5.19	233	338,911	6.88
>=37	1,533	5,774,076	2.66	655	2,613,585	2.51	878	3,160,491	2.78
Other/Unknown	113	139,131	8.12	72	86,465	8.33	41	52,666	7.78
Sex									
Female	1,100	3,226,307	3.41	481	1,494,595	3.22	619	1,731,712	3.57
Male	968	3,389,993	2.86	435	1,569,637	2.77	533	1,820,356	2.93
Number of major defects per child									
1	701	6,616,300	1.06	317	3,064,232	1.03	384	3,552,068	1.08
2	572	6,616,300	0.86	256	3,064,232	0.84	316	3,552,068	0.89
3	332	6,616,300	0.50	137	3,064,232	0.45	195	3,552,068	0.55
4	184	6,616,300	0.28	81	3,064,232	0.26	103	3,552,068	0.29
>=5	279	6,616,300	0.42	125	3,064,232	0.41	154	3,552,068	0.43

^a Children having spina bifida without anencephaly, with "ICD-9-CM" code 741.0-741.9 without 740.0-740.10.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.3
Prevalence of transposition of the great arteries^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	2,746	6,616,300	4.15	1,137	3,064,232	3.71	1,609	3,552,068	4.53
Maternal age groups									
<= 19	230	582,853	3.95	112	300,027	3.73	118	282,826	4.17
20-24	580	1,434,558	4.04	261	711,349	3.67	319	723,209	4.41
25-29	773	1,912,328	4.04	311	863,203	3.60	462	1,049,125	4.40
30-34	698	1,710,004	4.08	264	730,748	3.61	434	979,256	4.43
>=35	465	976,557	4.76	189	458,905	4.12	276	517,652	5.33
Maternal race/ethnicity									
Non-Hispanic white	1,654	3,691,360	4.48	364	884,598	4.11	1,290	2,806,762	4.60
Non-Hispanic black	448	1,250,247	3.58	316	896,460	3.53	132	353,787	3.73
Hispanic	469	1,237,104	3.79	352	968,028	3.64	117	269,076	4.35
Asian or Pacific	137	370,876	3.69	93	285,465	3.26	44	85,411	5.15
Other/Unknown	38	66,713	5.70	12	29,681	4.04	26	37,032	7.02
Birth weight (grams)									
<1500	88	107,931	8.15	38	54,736	6.94	50	53,195	9.40
1500-2499	365	413,636	8.82	167	220,643	7.57	198	192,993	10.26
2500-3999	2,084	5,452,417	3.82	869	2,555,052	3.40	1,215	2,897,365	4.19
>=4000	209	642,316	3.25	63	233,801	2.69	146	408,515	3.57
Gestational age (weeks)									
<37	389	703,093	5.53	162	364,182	4.45	227	338,911	6.70
>=37	2,170	5,774,076	3.76	859	2,613,585	3.29	1,311	3,160,491	4.15
Other/Unknown	187	139,131	13.44	116	86,465	13.42	71	52,666	13.48
Sex									
Female	1,034	3,226,307	3.20	435	1,494,595	2.91	599	1,731,712	3.46
Male	1,712	3,389,993	5.05	702	1,569,637	4.47	1,010	1,820,356	5.55
Number of major defects per child									
1	329	6,616,300	0.50	123	3,064,232	0.40	206	3,552,068	0.58
2	535	6,616,300	0.81	231	3,064,232	0.75	304	3,552,068	0.86
3	553	6,616,300	0.84	235	3,064,232	0.77	318	3,552,068	0.90
4	415	6,616,300	0.63	187	3,064,232	0.61	228	3,552,068	0.64
>=5	914	6,616,300	1.38	361	3,064,232	1.18	553	3,552,068	1.56

^a Children having transposition of the great arteries, with "ICD-9-CM" code 745.10-12, .19.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.4
Prevalence of tetralogy of Fallot^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	2,967	6,616,300	4.48	1,436	3,064,232	4.69	1,531	3,552,068	4.31
Maternal age groups									
<= 19	259	582,853	4.44	138	300,027	4.60	121	282,826	4.28
20-24	619	1,434,558	4.31	322	711,349	4.53	297	723,209	4.11
25-29	804	1,912,328	4.20	368	863,203	4.26	436	1,049,125	4.16
30-34	730	1,710,004	4.27	319	730,748	4.37	411	979,256	4.20
>=35	555	976,557	5.68	289	458,905	6.30	266	517,652	5.14
Maternal race/ethnicity									
Non-Hispanic white	1,623	3,691,360	4.40	412	884,598	4.66	1,211	2,806,762	4.31
Non-Hispanic black	604	1,250,247	4.83	440	896,460	4.91	164	353,787	4.64
Hispanic	507	1,237,104	4.10	410	968,028	4.24	97	269,076	3.60
Asian or Pacific	200	370,876	5.39	160	285,465	5.60	40	85,411	4.68
Other/Unknown	33	66,713	4.95	14	29,681	4.72	19	37,032	5.13
Birth weight (grams)									
<1500	154	107,931	14.27	75	54,736	13.70	79	53,195	14.85
1500-2499	591	413,636	14.29	304	220,643	13.78	287	192,993	14.87
2500-3999	2,075	5,452,417	3.81	991	2,555,052	3.88	1,084	2,897,365	3.74
>=4000	147	642,316	2.29	66	233,801	2.82	81	408,515	1.98
Gestational age (weeks)									
<37	568	703,093	8.08	275	364,182	7.55	293	338,911	8.65
>=37	2,201	5,774,076	3.81	1,013	2,613,585	3.88	1,188	3,160,491	3.76
Other/Unknown	198	139,131	14.23	148	86,465	17.12	50	52,666	9.49
Sex									
Female	1,292	3,226,307	4.00	636	1,494,595	4.26	656	1,731,712	3.79
Male	1,675	3,389,993	4.94	800	1,569,637	5.10	875	1,820,356	4.81
Number of major defects per child									
1	778	6,616,300	1.18	391	3,064,232	1.28	387	3,552,068	1.09
2	688	6,616,300	1.04	335	3,064,232	1.09	353	3,552,068	0.99
3	514	6,616,300	0.78	259	3,064,232	0.85	255	3,552,068	0.72
4	346	6,616,300	0.52	164	3,064,232	0.54	182	3,552,068	0.51
>=5	641	6,616,300	0.97	287	3,064,232	0.94	354	3,552,068	1.00

^a Children having tetralogy of Fallot, with "ICD-9-CM" code 745.2.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.5
Prevalence of hypoplastic of left heart syndrome^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	1,391	6,616,300	2.10	554	3,064,232	1.81	837	3,552,068	2.36
Maternal age groups									
<= 19	115	582,853	1.97	50	300,027	1.67	65	282,826	2.30
20-24	283	1,434,558	1.97	108	711,349	1.52	175	723,209	2.42
25-29	395	1,912,328	2.07	149	863,203	1.73	246	1,049,125	2.34
30-34	379	1,710,004	2.22	143	730,748	1.96	236	979,256	2.41
>=35	219	976,557	2.24	104	458,905	2.27	115	517,652	2.22
Maternal race/ethnicity									
Non-Hispanic white	808	3,691,360	2.19	156	884,598	1.76	652	2,806,762	2.32
Non-Hispanic black	292	1,250,247	2.34	191	896,460	2.13	101	353,787	2.85
Hispanic	237	1,237,104	1.92	176	968,028	1.82	61	269,076	2.27
Asian or Pacific	37	370,876	1.00	24	285,465	0.84	13	85,411	1.52
Other/Unknown	17	66,713	2.55	7	29,681	2.36	10	37,032	2.70
Birth weight (grams)									
<1500	43	107,931	3.98	10	54,736	1.83	33	53,195	6.20
1500-2499	213	413,636	5.15	86	220,643	3.90	127	192,993	6.58
2500-3999	1,050	5,452,417	1.93	431	2,555,052	1.69	619	2,897,365	2.14
>=4000	85	642,316	1.32	27	233,801	1.15	58	408,515	1.42
Gestational age (weeks)									
<37	225	703,093	3.20	82	364,182	2.25	143	338,911	4.22
>=37	1,051	5,774,076	1.82	403	2,613,585	1.54	648	3,160,491	2.05
Other/Unknown	115	139,131	8.27	69	86,465	7.98	46	52,666	8.73
Sex									
Female	572	3,226,307	1.77	233	1,494,595	1.56	339	1,731,712	1.96
Male	819	3,389,993	2.42	321	1,569,637	2.05	498	1,820,356	2.74
Number of major defects per child									
1	398	6,616,300	0.60	164	3,064,232	0.54	234	3,552,068	0.66
2	301	6,616,300	0.45	105	3,064,232	0.34	196	3,552,068	0.55
3	235	6,616,300	0.36	98	3,064,232	0.32	137	3,552,068	0.39
4	151	6,616,300	0.23	72	3,064,232	0.23	79	3,552,068	0.22
>=5	306	6,616,300	0.46	115	3,064,232	0.38	191	3,552,068	0.54

^a Children having hypoplastic left heart syndrome, with "ICD-9-CM" code 746.7.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.6
Prevalence of cleft palate without cleft lip^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	3,897	6,616,300	5.89	1,480	3,064,232	4.83	2,417	3,552,068	6.80
Maternal age groups									
<= 19	331	582,853	5.68	123	300,027	4.10	208	282,826	7.35
20-24	816	1,434,558	5.69	311	711,349	4.37	505	723,209	6.98
25-29	1,082	1,912,328	5.66	402	863,203	4.66	680	1,049,125	6.48
30-34	1,042	1,710,004	6.09	396	730,748	5.42	646	979,256	6.60
>=35	626	976,557	6.41	248	458,905	5.40	378	517,652	7.30
Maternal race/ethnicity									
Non-Hispanic white	2,422	3,691,360	6.56	422	884,598	4.77	2,000	2,806,762	7.13
Non-Hispanic black	526	1,250,247	4.21	368	896,460	4.11	158	353,787	4.47
Hispanic	684	1,237,104	5.53	506	968,028	5.23	178	269,076	6.62
Asian or Pacific	220	370,876	5.93	165	285,465	5.78	55	85,411	6.44
Other/Unknown	45	66,713	6.75	19	29,681	6.40	26	37,032	7.02
Birth weight (grams)									
<1500	156	107,931	14.45	71	54,736	12.97	85	53,195	15.98
1500-2499	580	413,636	14.02	255	220,643	11.56	325	192,993	16.84
2500-3999	2,908	5,452,417	5.33	1,080	2,555,052	4.23	1,828	2,897,365	6.31
>=4000	253	642,316	3.94	74	233,801	3.17	179	408,515	4.38
Gestational age (weeks)									
<37	593	703,093	8.43	253	364,182	6.95	340	338,911	10.03
>=37	3,070	5,774,076	5.32	1,081	2,613,585	4.14	1,989	3,160,491	6.29
Other/Unknown	234	139,131	16.82	146	86,465	16.89	88	52,666	16.71
Sex									
Female	2,167	3,226,307	6.72	841	1,494,595	5.63	1,326	1,731,712	7.66
Male	1,730	3,389,993	5.10	639	1,569,637	4.07	1,091	1,820,356	5.99
Number of major defects per child									
1	1,862	6,616,300	2.81	746	3,064,232	2.43	1,116	3,552,068	3.14
2	689	6,616,300	1.04	259	3,064,232	0.85	430	3,552,068	1.21
3	478	6,616,300	0.72	159	3,064,232	0.52	319	3,552,068	0.90
4	294	6,616,300	0.44	102	3,064,232	0.33	192	3,552,068	0.54
>=5	574	6,616,300	0.87	214	3,064,232	0.70	360	3,552,068	1.01

^a Children having cleft palate without cleft lip, with "ICD-9-CM" code 749.0.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.7
Prevalence of cleft lip with and without cleft palate^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	4,881	6,616,300	7.38	1,805	3,064,232	5.89	3,076	3,552,068	8.66
Maternal age groups									
<= 19	471	582,853	8.08	172	300,027	5.73	299	282,826	10.57
20-24	1,083	1,434,558	7.55	403	711,349	5.67	680	723,209	9.40
25-29	1,421	1,912,328	7.43	513	863,203	5.94	908	1,049,125	8.65
30-34	1,185	1,710,004	6.93	412	730,748	5.64	773	979,256	7.89
>=35	721	976,557	7.38	305	458,905	6.65	416	517,652	8.04
Maternal race/ethnicity									
Non-Hispanic white	3,092	3,691,360	8.38	544	884,598	6.15	2,548	2,806,762	9.08
Non-Hispanic black	594	1,250,247	4.75	401	896,460	4.47	193	353,787	5.46
Hispanic	840	1,237,104	6.79	607	968,028	6.27	233	269,076	8.66
Asian or Pacific	295	370,876	7.95	229	285,465	8.02	66	85,411	7.73
Other/Unknown	60	66,713	8.99	24	29,681	8.09	36	37,032	9.72
Birth weight (grams)									
<1500	177	107,931	16.40	82	54,736	14.98	95	53,195	17.86
1500-2499	619	413,636	14.96	269	220,643	12.19	350	192,993	18.14
2500-3999	3,698	5,452,417	6.78	1,349	2,555,052	5.28	2,349	2,897,365	8.11
>=4000	387	642,316	6.03	105	233,801	4.49	282	408,515	6.90
Gestational age (weeks)									
<37	685	703,093	9.74	262	364,182	7.19	423	338,911	12.48
>=37	3,908	5,774,076	6.77	1,346	2,613,585	5.15	2,562	3,160,491	8.11
Other/Unknown	288	139,131	20.70	197	86,465	22.78	91	52,666	17.28
Sex									
Female	1,884	3,226,307	5.84	792	1,494,595	5.30	1,092	1,731,712	6.31
Male	2,997	3,389,993	8.84	1,013	1,569,637	6.45	1,984	1,820,356	10.90
Number of major defects per child									
1	2,668	6,616,300	4.03	976	3,064,232	3.19	1,692	3,552,068	4.76
2	1,014	6,616,300	1.53	361	3,064,232	1.18	653	3,552,068	1.84
3	490	6,616,300	0.74	201	3,064,232	0.66	289	3,552,068	0.81
4	228	6,616,300	0.34	87	3,064,232	0.28	141	3,552,068	0.40
>=5	481	6,616,300	0.73	180	3,064,232	0.59	301	3,552,068	0.85

^a Children having cleft lip with and without cleft palate, with "ICD-9-CM" code 749.1, 749.2.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.8
Prevalence of hypospadias and epispadias^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	20,714	3,389,993	61.10	8,039	1,569,637	51.22	12,675	1,820,356	69.63
Maternal age groups									
<= 19	1,757	298,546	58.85	714	153,539	46.50	1,043	145,007	71.93
20-24	4,287	735,427	58.29	1,710	364,859	46.87	2,577	370,568	69.54
25-29	5,961	978,455	60.92	2,264	441,137	51.32	3,697	537,318	68.81
30-34	5,438	877,038	62.00	1,967	374,638	52.50	3,471	502,400	69.09
>=35	3,271	500,527	65.35	1,384	235,464	58.78	1,887	265,063	71.19
Maternal race/ethnicity									
Non-Hispanic white	13,938	1,895,927	73.52	3,267	456,139	71.62	10,671	1,439,788	74.12
Non-Hispanic black	3,343	636,279	52.54	2,228	456,370	48.82	1,115	179,909	61.98
Hispanic	2,553	631,303	40.44	1,940	493,663	39.30	613	137,640	44.54
Asian or Pacific	715	192,340	37.17	543	148,176	36.65	172	44,164	38.95
Other/Unknown	165	34,144	48.33	61	15,289	39.90	104	18,855	55.16
Birth weight (grams)									
<1500	863	54,723	157.70	395	27,463	143.83	468	27,260	171.68
1500-2499	2,341	192,210	121.79	1,053	102,378	102.85	1,288	89,832	143.38
2500-3999	15,595	2,734,208	57.04	6,054	1,290,897	46.90	9,541	1,443,311	66.11
>=4000	1,915	408,852	46.84	537	148,899	36.07	1,378	259,953	53.01
Gestational age (weeks)									
<37	3,064	373,848	81.96	1,262	191,713	65.83	1,802	182,135	98.94
>=37	16,640	2,943,534	56.53	6,066	1,332,725	45.52	10,574	1,610,809	65.64
Other/Unknown	1,010	72,611	139.10	711	45,199	157.30	299	27,412	109.08
Number of major defects per child									
1	16,900	3,389,993	49.85	6,523	1,569,637	41.56	10,377	1,820,356	57.01
2	2,438	3,389,993	7.19	982	1,569,637	6.26	1,456	1,820,356	8.00
3	654	3,389,993	1.93	250	1,569,637	1.59	404	1,820,356	2.22
4	292	3,389,993	0.86	114	1,569,637	0.73	178	1,820,356	0.98
>=5	430	3,389,993	1.27	170	1,569,637	1.08	260	1,820,356	1.43

^a Children having hypospadias and epispadias, with "ICD-9-CM" code 752.61, 752.62.

^b Total number of male live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.9
Prevalence of upper limb deficiencies^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	1,824	6,616,300	2.76	700	3,064,232	2.28	1,124	3,552,068	3.16
Maternal age groups									
<= 19	183	582,853	3.14	82	300,027	2.73	101	282,826	3.57
20-24	427	1,434,558	2.98	176	711,349	2.47	251	723,209	3.47
25-29	523	1,912,328	2.73	180	863,203	2.09	343	1,049,125	3.27
30-34	430	1,710,004	2.51	151	730,748	2.07	279	979,256	2.85
>=35	261	976,557	2.67	111	458,905	2.42	150	517,652	2.90
Maternal race/ethnicity									
Non-Hispanic white	1,141	3,691,360	3.09	226	884,598	2.55	915	2,806,762	3.26
Non-Hispanic black	323	1,250,247	2.58	210	896,460	2.34	113	353,787	3.19
Hispanic	290	1,237,104	2.34	218	968,028	2.25	72	269,076	2.68
Asian or Pacific	52	370,876	1.40	37	285,465	1.30	15	85,411	1.76
Other/Unknown	18	66,713	2.70	9	29,681	3.03	9	37,032	2.43
Birth weight (grams)									
<1500	104	107,931	9.64	45	54,736	8.22	59	53,195	11.09
1500-2499	348	413,636	8.41	146	220,643	6.62	202	192,993	10.47
2500-3999	1,285	5,452,417	2.36	479	2,555,052	1.87	806	2,897,365	2.78
>=4000	87	642,316	1.35	30	233,801	1.28	57	408,515	1.40
Gestational age (weeks)									
<37	342	703,093	4.86	134	364,182	3.68	208	338,911	6.14
>=37	1,396	5,774,076	2.42	513	2,613,585	1.96	883	3,160,491	2.79
Other/Unknown	86	139,131	6.18	53	86,465	6.13	33	52,666	6.27
Sex									
Female	857	3,226,307	2.66	345	1,494,595	2.31	512	1,731,712	2.96
Male	967	3,389,993	2.85	355	1,569,637	2.26	612	1,820,356	3.36
Number of major defects per child									
1	690	6,616,300	1.04	260	3,064,232	0.85	430	3,552,068	1.21
2	369	6,616,300	0.56	149	3,064,232	0.49	220	3,552,068	0.62
3	197	6,616,300	0.30	82	3,064,232	0.27	115	3,552,068	0.32
4	149	6,616,300	0.23	55	3,064,232	0.18	94	3,552,068	0.26
>=5	419	6,616,300	0.63	154	3,064,232	0.50	265	3,552,068	0.75

^a Children having upper limb deficiencies, with "ICD-9-CM" code 755.20 -755.29.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.10
Prevalence of lower limb deficiencies^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	1,074	6,616,300	1.62	471	3,064,232	1.54	603	3,552,068	1.70
Maternal age groups									
<= 19	114	582,853	1.96	56	300,027	1.87	58	282,826	2.05
20-24	255	1,434,558	1.78	115	711,349	1.62	140	723,209	1.94
25-29	300	1,912,328	1.57	132	863,203	1.53	168	1,049,125	1.60
30-34	267	1,710,004	1.56	97	730,748	1.33	170	979,256	1.74
>=35	138	976,557	1.41	71	458,905	1.55	67	517,652	1.29
Maternal race/ethnicity									
Non-Hispanic white	575	3,691,360	1.56	113	884,598	1.28	462	2,806,762	1.65
Non-Hispanic black	258	1,250,247	2.06	186	896,460	2.07	72	353,787	2.04
Hispanic	184	1,237,104	1.49	132	968,028	1.36	52	269,076	1.93
Asian or Pacific	39	370,876	1.05	30	285,465	1.05	9	85,411	1.05
Other/Unknown	18	66,713	2.70	10	29,681	3.37	8	37,032	2.16
Birth weight (grams)									
<1500	70	107,931	6.49	34	54,736	6.21	36	53,195	6.77
1500-2499	192	413,636	4.64	86	220,643	3.90	106	192,993	5.49
2500-3999	750	5,452,417	1.38	324	2,555,052	1.27	426	2,897,365	1.47
>=4000	62	642,316	0.97	27	233,801	1.15	35	408,515	0.86
Gestational age (weeks)									
<37	216	703,093	3.07	91	364,182	2.50	125	338,911	3.69
>=37	812	5,774,076	1.41	342	2,613,585	1.31	470	3,160,491	1.49
Other/Unknown	46	139,131	3.31	38	86,465	4.39	8	52,666	1.52
Sex									
Female	489	3,226,307	1.52	214	1,494,595	1.43	275	1,731,712	1.59
Male	585	3,389,993	1.73	257	1,569,637	1.64	328	1,820,356	1.80
Number of major defects per child									
1	332	6,616,300	0.50	159	3,064,232	0.52	173	3,552,068	0.49
2	216	6,616,300	0.33	94	3,064,232	0.31	122	3,552,068	0.34
3	150	6,616,300	0.23	60	3,064,232	0.20	90	3,552,068	0.25
4	100	6,616,300	0.15	50	3,064,232	0.16	50	3,552,068	0.14
>=5	276	6,616,300	0.42	108	3,064,232	0.35	168	3,552,068	0.47

^a Children having lower limb deficiencies, with "ICD-9-CM" code 755.30 -755.39.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.11
Prevalence of omphalocele^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	744	6,616,300	1.12	290	3,064,232	0.95	454	3,552,068	1.28
Maternal age groups									
<= 19	83	582,853	1.42	40	300,027	1.33	43	282,826	1.52
20-24	143	1,434,558	1.00	58	711,349	0.82	85	723,209	1.18
25-29	188	1,912,328	0.98	69	863,203	0.80	119	1,049,125	1.13
30-34	205	1,710,004	1.20	77	730,748	1.05	128	979,256	1.31
>=35	125	976,557	1.28	46	458,905	1.00	79	517,652	1.53
Maternal race/ethnicity									
Non-Hispanic white	397	3,691,360	1.08	57	884,598	0.64	340	2,806,762	1.21
Non-Hispanic black	193	1,250,247	1.54	123	896,460	1.37	70	353,787	1.98
Hispanic	112	1,237,104	0.91	83	968,028	0.86	29	269,076	1.08
Asian or Pacific	29	370,876	0.78	21	285,465	0.74	8	85,411	0.94
Other/Unknown	13	66,713	1.95	6	29,681	2.02	7	37,032	1.89
Birth weight (grams)									
<1500	74	107,931	6.86	27	54,736	4.93	47	53,195	8.84
1500-2499	173	413,636	4.18	80	220,643	3.63	93	192,993	4.82
2500-3999	447	5,452,417	0.82	169	2,555,052	0.66	278	2,897,365	0.96
>=4000	50	642,316	0.78	14	233,801	0.60	36	408,515	0.88
Gestational age (weeks)									
<37	229	703,093	3.26	81	364,182	2.22	148	338,911	4.37
>=37	456	5,774,076	0.79	167	2,613,585	0.64	289	3,160,491	0.91
Other/Unknown	59	139,131	4.24	42	86,465	4.86	17	52,666	3.23
Sex									
Female	329	3,226,307	1.02	133	1,494,595	0.89	196	1,731,712	1.13
Male	415	3,389,993	1.22	157	1,569,637	1.00	258	1,820,356	1.42
Number of major defects per child									
1	183	6,616,300	0.28	78	3,064,232	0.25	105	3,552,068	0.30
2	204	6,616,300	0.31	76	3,064,232	0.25	128	3,552,068	0.36
3	113	6,616,300	0.17	47	3,064,232	0.15	66	3,552,068	0.19
4	68	6,616,300	0.10	28	3,064,232	0.09	40	3,552,068	0.11
>=5	176	6,616,300	0.27	61	3,064,232	0.20	115	3,552,068	0.32

^a Children having omphalocele, with "BPA" code 756.70.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.12
Prevalence of gastroschisis^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	906	6,616,300	1.37	319	3,064,232	1.04	587	3,552,068	1.65
Maternal age groups									
<= 19	300	582,853	5.15	111	300,027	3.70	189	282,826	6.68
20-24	364	1,434,558	2.54	116	711,349	1.63	248	723,209	3.43
25-29	159	1,912,328	0.83	57	863,203	0.66	102	1,049,125	0.97
30-34	63	1,710,004	0.37	27	730,748	0.37	36	979,256	0.37
>=35	20	976,557	0.20	8	458,905	0.17	12	517,652	0.23
Maternal race/ethnicity									
Non-Hispanic white	508	3,691,360	1.38	55	884,598	0.62	453	2,806,762	1.61
Non-Hispanic black	146	1,250,247	1.17	88	896,460	0.98	58	353,787	1.64
Hispanic	228	1,237,104	1.84	168	968,028	1.74	60	269,076	2.23
Asian or Pacific	15	370,876	0.40	8	285,465	0.28	7	85,411	0.82
Other/Unknown	9	66,713	1.35	0	29,681	0.00	9	37,032	2.43
Birth weight (grams)									
<1500	55	107,931	5.10	18	54,736	3.29	37	53,195	6.96
1500-2499	441	413,636	10.66	161	220,643	7.30	280	192,993	14.51
2500-3999	404	5,452,417	0.74	135	2,555,052	0.53	269	2,897,365	0.93
>=4000	6	642,316	0.09	5	233,801	0.21	1	408,515	0.02
Gestational age (weeks)									
<37	389	703,093	5.53	142	364,182	3.90	247	338,911	7.29
>=37	438	5,774,076	0.76	133	2,613,585	0.51	305	3,160,491	0.97
Other/Unknown	79	139,131	5.68	44	86,465	5.09	35	52,666	6.65
Sex									
Female	435	3,226,307	1.35	157	1,494,595	1.05	278	1,731,712	1.61
Male	471	3,389,993	1.39	162	1,569,637	1.03	309	1,820,356	1.70
Number of major defects per child									
1	412	6,616,300	0.62	139	3,064,232	0.45	273	3,552,068	0.77
2	294	6,616,300	0.44	106	3,064,232	0.35	188	3,552,068	0.53
3	119	6,616,300	0.18	38	3,064,232	0.12	81	3,552,068	0.23
4	38	6,616,300	0.06	20	3,064,232	0.07	18	3,552,068	0.05
>=5	43	6,616,300	0.07	16	3,064,232	0.05	27	3,552,068	0.08

^a Children having gastroschisis, with "BPA" code 756.71.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.1.13
Prevalence of trisomy 21 (Down syndrome)^a by residence and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			New York City (NYC)			NYS excluding NYC		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	7,174	6,616,300	10.84	3,083	3,064,232	10.06	4,091	3,552,068	11.52
Maternal age groups									
<= 19	386	582,853	6.62	180	300,027	6.00	206	282,826	7.28
20-24	840	1,434,558	5.86	398	711,349	5.60	442	723,209	6.11
25-29	1,269	1,912,328	6.64	503	863,203	5.83	766	1,049,125	7.30
30-34	1,784	1,710,004	10.43	692	730,748	9.47	1,092	979,256	11.15
>=35	2,895	976,557	29.65	1,310	458,905	28.55	1,585	517,652	30.62
Maternal race/ethnicity									
Non-Hispanic white	4,171	3,691,360	11.30	888	884,598	10.04	3,283	2,806,762	11.70
Non-Hispanic black	1,221	1,250,247	9.77	885	896,460	9.87	336	353,787	9.50
Hispanic	1,384	1,237,104	11.19	1,032	968,028	10.66	352	269,076	13.08
Asian or Pacific	307	370,876	8.28	229	285,465	8.02	78	85,411	9.13
Other/Unknown	91	66,713	13.64	49	29,681	16.51	42	37,032	11.34
Birth weight (grams)									
<1500	281	107,931	26.04	127	54,736	23.20	154	53,195	28.95
1500-2499	1,283	413,636	31.02	599	220,643	27.15	684	192,993	35.44
2500-3999	5,363	5,452,417	9.84	2,248	2,555,052	8.80	3,115	2,897,365	10.75
>=4000	247	642,316	3.85	109	233,801	4.66	138	408,515	3.38
Gestational age (weeks)									
<37	1,552	703,093	22.07	689	364,182	18.92	863	338,911	25.46
>=37	5,115	5,774,076	8.86	2,044	2,613,585	7.82	3,071	3,160,491	9.72
Other/Unknown	507	139,131	36.44	350	86,465	40.48	157	52,666	29.81
Sex									
Female	3,420	3,226,307	10.60	1,531	1,494,595	10.24	1,889	1,731,712	10.91
Male	3,754	3,389,993	11.07	1,552	1,569,637	9.89	2,202	1,820,356	12.10
Number of major defects per child									
1	2,599	6,616,300	3.93	1,079	3,064,232	3.52	1,520	3,552,068	4.28
2	1,907	6,616,300	2.88	848	3,064,232	2.77	1,059	3,552,068	2.98
3	1,180	6,616,300	1.78	527	3,064,232	1.72	653	3,552,068	1.84
4	654	6,616,300	0.99	279	3,064,232	0.91	375	3,552,068	1.06
>=5	834	6,616,300	1.26	350	3,064,232	1.14	484	3,552,068	1.36

^a Children having trisomy 21 (Down syndrome), with "ICD-9-CM" code 758.0.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.1
Prevalence all selected defects^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	146,831	6,616,300	222	12,823	506,175	253	23,504	988,202	238	9,660	432,509	223	100,844	4,689,414	215
Maternal age groups															
<= 19	12,731	582,853	218	1,419	53,313	266	2,698	104,703	258	963	40,952	235	7,651	383,885	199
20-24	30,311	1,434,558	211	2,978	121,694	245	6,030	248,273	243	2,351	105,240	223	18,952	959,351	198
25-29	40,292	1,912,328	211	3,728	155,020	240	6,758	299,469	226	2,827	130,436	217	26,979	1,327,403	203
30-34	37,867	1,710,004	221	3,054	120,972	252	5,122	229,492	223	2,272	104,216	218	27,419	1,255,324	218
>=35	25,630	976,557	262	1,644	55,176	298	2,896	106,265	273	1,247	51,665	241	19,843	763,451	260
Maternal race/ethnicity															
Non-Hispanic white	86,193	3,691,360	233	10,367	414,980	250	20,237	839,777	241	8,651	386,107	224	46,938	2,050,496	229
Non-Hispanic black	26,878	1,250,247	215	1,746	62,356	280	2,191	91,922	238	515	24,191	213	22,426	1,071,778	209
Hispanic	25,404	1,237,104	205	405	14,151	286	599	29,727	202	239	9,872	242	24,161	1,183,354	204
Asian or Pacific	6,888	370,876	186	123	6,375	193	270	18,074	149	141	7,341	192	6,354	339,086	187
Other/Unknown	1,468	66,713	220	182	8,313	219	207	8,702	238	114	4,998	228	965	44,700	216
Birth weight (grams)															
<1500	9,804	107,931	908	860	8,922	964	1,574	14,795	1,064	512	6,017	851	6,858	78,197	877
1500-2499	19,594	413,636	474	1,656	28,678	577	2,887	53,272	542	1,112	22,668	491	13,939	309,018	451
2500-3999	104,376	5,452,417	191	9,014	411,071	219	16,567	799,368	207	7,004	349,920	200	71,791	3,892,058	184
>=4000	13,057	642,316	203	1,293	57,504	225	2,476	120,767	205	1,032	53,904	191	8,256	410,141	201
Gestational age (weeks)															
<37	28,126	703,093	400	2,539	50,380	504	4,484	93,055	482	1,759	39,762	442	19,344	519,896	372
>=37	108,257	5,774,076	187	9,921	449,470	221	18,269	877,392	208	7,584	386,662	196	72,483	4,060,552	179
Other/Unknown	10,448	139,131	751	363	6,325	574	751	17,755	423	317	6,085	521	9,017	108,966	828
Sex															
Female	57,826	3,226,307	179	4,943	246,982	200	9,074	482,086	188	3,686	210,700	175	40,123	2,286,539	175
Male	89,005	3,389,993	263	7,880	259,193	304	14,430	506,116	285	5,974	221,809	269	60,721	2,402,875	253
Number of major defects per child															
1	96,640	6,616,300	146	7,570	506,175	150	15,824	988,202	160	6,461	432,509	149	66,785	4,689,414	142
2	27,255	6,616,300	41	2,656	506,175	52	3,938	988,202	40	1,683	432,509	39	18,978	4,689,414	40
3	10,829	6,616,300	16	1,217	506,175	24	1,673	988,202	17	605	432,509	14	7,334	4,689,414	16
4	5,178	6,616,300	8	539	506,175	11	823	988,202	8	391	432,509	9	3,425	4,689,414	7
>=5	6,929	6,616,300	10	841	506,175	17	1,246	988,202	13	520	432,509	12	4,322	4,689,414	9

^a Children with any of the 45 defects recommended for inclusion by NBDPN.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.2
Prevalence of anencephaly^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	495	6,616,300	0.75	41	506,175	0.81	110	988,202	1.11	54	432,509	1.25	290	4,689,414	0.62
Maternal age groups															
<= 19	55	582,853	0.94	5	53,313	0.94	13	104,703	1.24	4	40,952	0.98	33	383,885	0.86
20-24	122	1,434,558	0.85	12	121,694	0.99	25	248,273	1.01	15	105,240	1.43	70	959,351	0.73
25-29	137	1,912,328	0.72	14	155,020	0.90	35	299,469	1.17	17	130,436	1.30	71	1,327,403	0.53
30-34	122	1,710,004	0.71	7	120,972	0.58	23	229,492	1.00	14	104,216	1.34	78	1,255,324	0.62
>=35	59	976,557	0.60	3	55,176	0.54	14	106,265	1.32	4	51,665	0.77	38	763,451	0.50
Maternal race/ethnicity															
Non-Hispanic white	297	3,691,360	0.80	31	414,980	0.75	95	839,777	1.13	46	386,107	1.19	125	2,050,496	0.61
Non-Hispanic black	79	1,250,247	0.63	4	62,356	0.64	8	91,922	0.87	3	24,191	1.24	64	1,071,778	0.60
Hispanic	90	1,237,104	0.73	5	14,151	3.53	4	29,727	1.35	2	9,872	2.03	79	1,183,354	0.67
Asian or Pacific	19	370,876	0.51	0	6,375	0.00	1	18,074	0.55	0	7,341	0.00	18	339,086	0.53
Other/Unknown	10	66,713	1.50	1	8,313	1.20	2	8,702	2.30	3	4,998	6.00	4	44,700	0.89
Birth weight (grams)															
<1500	177	107,931	16.40	19	8,922	21.30	45	14,795	30.42	25	6,017	41.55	88	78,197	11.25
1500-2499	180	413,636	4.35	15	28,678	5.23	43	53,272	8.07	17	22,668	7.50	105	309,018	3.40
2500-3999	132	5,452,417	0.24	7	411,071	0.17	22	799,368	0.28	11	349,920	0.31	92	3,892,058	0.24
>=4000	6	642,316	0.09	0	57,504	0.00	0	120,767	0.00	1	53,904	0.19	5	410,141	0.12
Gestational age (weeks)															
<37	226	703,093	3.21	21	50,380	4.17	62	93,055	6.66	29	39,762	7.29	114	519,896	2.19
>=37	240	5,774,076	0.42	17	449,470	0.38	42	877,392	0.48	24	386,662	0.62	157	4,060,552	0.39
Other/Unknown	29	139,131	2.08	3	6,325	4.74	6	17,755	3.38	1	6,085	1.64	19	108,966	1.74
Sex															
Female	281	3,226,307	0.87	31	246,982	1.26	71	482,086	1.47	32	210,700	1.52	147	2,286,539	0.64
Male	214	3,389,993	0.63	10	259,193	0.39	39	506,116	0.77	22	221,809	0.99	143	2,402,875	0.60
Number of major defects per child															
1	365	6,616,300	0.55	30	506,175	0.59	91	988,202	0.92	41	432,509	0.95	203	4,689,414	0.43
2	77	6,616,300	0.12	4	506,175	0.08	12	988,202	0.12	10	432,509	0.23	51	4,689,414	0.11
3	24	6,616,300	0.04	3	506,175	0.06	3	988,202	0.03	2	432,509	0.05	16	4,689,414	0.03
4	15	6,616,300	0.02	2	506,175	0.04	2	988,202	0.02	0	432,509	0.00	11	4,689,414	0.02
>=5	14	6,616,300	0.02	2	506,175	0.04	2	988,202	0.02	1	432,509	0.02	9	4,689,414	0.02

^a Children having anencephaly, with "ICD-9-CM" code 740.0-740.1.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.3
Prevalence of spina bifida^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	2,068	6,616,300	3.13	207	506,175	4.09	354	988,202	3.58	151	432,509	3.49	1,356	4,689,414	2.89
Maternal age groups															
<= 19	209	582,853	3.59	22	53,313	4.13	38	104,703	3.63	13	40,952	3.17	136	383,885	3.54
20-24	535	1,434,558	3.73	64	121,694	5.26	101	248,273	4.07	43	105,240	4.09	327	959,351	3.41
25-29	590	1,912,328	3.09	57	155,020	3.68	100	299,469	3.34	46	130,436	3.53	387	1,327,403	2.92
30-34	481	1,710,004	2.81	48	120,972	3.97	76	229,492	3.31	36	104,216	3.45	321	1,255,324	2.56
>=35	253	976,557	2.59	16	55,176	2.90	39	106,265	3.67	13	51,665	2.52	185	763,451	2.42
Maternal race/ethnicity															
Non-Hispanic white	1,118	3,691,360	3.03	174	414,980	4.19	303	839,777	3.61	140	386,107	3.63	501	2,050,496	2.44
Non-Hispanic black	383	1,250,247	3.06	24	62,356	3.85	33	91,922	3.59	2	24,191	0.83	324	1,071,778	3.02
Hispanic	470	1,237,104	3.80	7	14,151	4.95	12	29,727	4.04	3	9,872	3.04	448	1,183,354	3.79
Asian or Pacific	75	370,876	2.02	0	6,375	0.00	1	18,074	0.55	2	7,341	2.72	72	339,086	2.12
Other/Unknown	22	66,713	3.30	2	8,313	2.41	5	8,702	5.75	4	4,998	8.00	11	44,700	2.46
Birth weight (grams)															
<1500	131	107,931	12.14	9	8,922	10.09	32	14,795	21.63	9	6,017	14.96	81	78,197	10.36
1500-2499	299	413,636	7.23	28	28,678	9.76	41	53,272	7.70	14	22,668	6.18	216	309,018	6.99
2500-3999	1,506	5,452,417	2.76	153	411,071	3.72	257	799,368	3.22	107	349,920	3.06	989	3,892,058	2.54
>=4000	132	642,316	2.06	17	57,504	2.96	24	120,767	1.99	21	53,904	3.90	70	410,141	1.71
Gestational age (weeks)															
<37	422	703,093	6.00	45	50,380	8.93	74	93,055	7.95	27	39,762	6.79	276	519,896	5.31
>=37	1,533	5,774,076	2.66	156	449,470	3.47	270	877,392	3.08	117	386,662	3.03	990	4,060,552	2.44
Other/Unknown	113	139,131	8.12	6	6,325	9.49	10	17,755	5.63	7	6,085	11.50	90	108,966	8.26
Sex															
Female	1,100	3,226,307	3.41	110	246,982	4.45	198	482,086	4.11	83	210,700	3.94	709	2,286,539	3.10
Male	968	3,389,993	2.86	97	259,193	3.74	156	506,116	3.08	68	221,809	3.07	647	2,402,875	2.69
Number of major defects per child															
1	701	6,616,300	1.06	54	506,175	1.07	118	988,202	1.19	60	432,509	1.39	469	4,689,414	1.00
2	572	6,616,300	0.86	56	506,175	1.11	103	988,202	1.04	46	432,509	1.06	367	4,689,414	0.78
3	332	6,616,300	0.50	36	506,175	0.71	71	988,202	0.72	16	432,509	0.37	209	4,689,414	0.45
4	184	6,616,300	0.28	27	506,175	0.53	26	988,202	0.26	10	432,509	0.23	121	4,689,414	0.26
>=5	279	6,616,300	0.42	34	506,175	0.67	36	988,202	0.36	19	432,509	0.44	190	4,689,414	0.41

^a Children having spina bifida, with "ICD-9-CM" code 741.0-741.9 without 740.0-740.10.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.4
Prevalence of transposition of the great arteries^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	2,746	6,616,300	4.15	292	506,175	5.77	464	988,202	4.70	175	432,509	4.05	1,815	4,689,414	3.87
Maternal age groups															
<= 19	230	582,853	3.95	31	53,313	5.81	45	104,703	4.30	14	40,952	3.42	140	383,885	3.65
20-24	580	1,434,558	4.04	59	121,694	4.85	117	248,273	4.71	43	105,240	4.09	361	959,351	3.76
25-29	773	1,912,328	4.04	89	155,020	5.74	118	299,469	3.94	57	130,436	4.37	509	1,327,403	3.83
30-34	698	1,710,004	4.08	71	120,972	5.87	124	229,492	5.40	41	104,216	3.93	462	1,255,324	3.68
>=35	465	976,557	4.76	42	55,176	7.61	60	106,265	5.65	20	51,665	3.87	343	763,451	4.49
Maternal race/ethnicity															
Non-Hispanic white	1,654	3,691,360	4.48	246	414,980	5.93	407	839,777	4.85	149	386,107	3.86	852	2,050,496	4.16
Non-Hispanic black	448	1,250,247	3.58	30	62,356	4.81	35	91,922	3.81	9	24,191	3.72	374	1,071,778	3.49
Hispanic	469	1,237,104	3.79	8	14,151	5.65	10	29,727	3.36	6	9,872	6.08	445	1,183,354	3.76
Asian or Pacific	137	370,876	3.69	2	6,375	3.14	8	18,074	4.43	5	7,341	6.81	122	339,086	3.60
Other/Unknown	38	66,713	5.70	6	8,313	7.22	4	8,702	4.60	6	4,998	12.00	22	44,700	4.92
Birth weight (grams)															
<1500	88	107,931	8.15	13	8,922	14.57	9	14,795	6.08	8	6,017	13.30	58	78,197	7.42
1500-2499	365	413,636	8.82	41	28,678	14.30	58	53,272	10.89	22	22,668	9.71	244	309,018	7.90
2500-3999	2,084	5,452,417	3.82	214	411,071	5.21	356	799,368	4.45	129	349,920	3.69	1,385	3,892,058	3.56
>=4000	209	642,316	3.25	24	57,504	4.17	41	120,767	3.40	16	53,904	2.97	128	410,141	3.12
Gestational age (weeks)															
<37	389	703,093	5.53	50	50,380	9.92	67	93,055	7.20	22	39,762	5.53	250	519,896	4.81
>=37	2,170	5,774,076	3.76	232	449,470	5.16	377	877,392	4.30	147	386,662	3.80	1,414	4,060,552	3.48
Other/Unknown	187	139,131	13.44	10	6,325	15.81	20	17,755	11.26	6	6,085	9.86	151	108,966	13.86
Sex															
Female	1,034	3,226,307	3.20	104	246,982	4.21	167	482,086	3.46	65	210,700	3.09	698	2,286,539	3.05
Male	1,712	3,389,993	5.05	188	259,193	7.25	297	506,116	5.87	110	221,809	4.96	1,117	2,402,875	4.65
Number of major defects per child															
1	329	6,616,300	0.50	28	506,175	0.55	58	988,202	0.59	21	432,509	0.49	222	4,689,414	0.47
2	535	6,616,300	0.81	48	506,175	0.95	82	988,202	0.83	32	432,509	0.74	373	4,689,414	0.80
3	553	6,616,300	0.84	59	506,175	1.17	91	988,202	0.92	38	432,509	0.88	365	4,689,414	0.78
4	415	6,616,300	0.63	37	506,175	0.73	72	988,202	0.73	24	432,509	0.55	282	4,689,414	0.60
>=5	914	6,616,300	1.38	120	506,175	2.37	161	988,202	1.63	60	432,509	1.39	573	4,689,414	1.22

^a Children having transposition of the great arteries, with "ICD-9-CM" code 745.10, .11, .12, .19.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.5
Prevalence of tetralogy of Fallot^a by geographic areas and descriptive characteristics.
New York Births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	2,967	6,616,300	4.48	242	506,175	4.78	450	988,202	4.55	161	432,509	3.72	2,114	4,689,414	4.51
Maternal age groups															
<= 19	259	582,853	4.44	16	53,313	3.00	46	104,703	4.39	19	40,952	4.64	178	383,885	4.64
20-24	619	1,434,558	4.31	64	121,694	5.26	101	248,273	4.07	36	105,240	3.42	418	959,351	4.36
25-29	804	1,912,328	4.20	75	155,020	4.84	123	299,469	4.11	49	130,436	3.76	557	1,327,403	4.20
30-34	730	1,710,004	4.27	52	120,972	4.30	119	229,492	5.19	33	104,216	3.17	526	1,255,324	4.19
>=35	555	976,557	5.68	35	55,176	6.34	61	106,265	5.74	24	51,665	4.65	435	763,451	5.70
Maternal race/ethnicity															
Non-Hispanic white	1,623	3,691,360	4.40	194	414,980	4.67	386	839,777	4.60	140	386,107	3.63	903	2,050,496	4.40
Non-Hispanic black	604	1,250,247	4.83	35	62,356	5.61	46	91,922	5.00	10	24,191	4.13	513	1,071,778	4.79
Hispanic	507	1,237,104	4.10	8	14,151	5.65	7	29,727	2.35	5	9,872	5.06	487	1,183,354	4.12
Asian or Pacific	200	370,876	5.39	2	6,375	3.14	6	18,074	3.32	3	7,341	4.09	189	339,086	5.57
Other/Unknown	33	66,713	4.95	3	8,313	3.61	5	8,702	5.75	3	4,998	6.00	22	44,700	4.92
Birth weight (grams)															
<1500	154	107,931	14.27	10	8,922	11.21	26	14,795	17.57	8	6,017	13.30	110	78,197	14.07
1500-2499	591	413,636	14.29	48	28,678	16.74	87	53,272	16.33	28	22,668	12.35	428	309,018	13.85
2500-3999	2,075	5,452,417	3.81	172	411,071	4.18	314	799,368	3.93	113	349,920	3.23	1,476	3,892,058	3.79
>=4000	147	642,316	2.29	12	57,504	2.09	23	120,767	1.90	12	53,904	2.23	100	410,141	2.44
Gestational age (weeks)															
<37	568	703,093	8.08	44	50,380	8.73	96	93,055	10.32	28	39,762	7.04	400	519,896	7.69
>=37	2,201	5,774,076	3.81	192	449,470	4.27	339	877,392	3.86	128	386,662	3.31	1,542	4,060,552	3.80
Other/Unknown	198	139,131	14.23	6	6,325	9.49	15	17,755	8.45	5	6,085	8.22	172	108,966	15.78
Sex															
Female	1,292	3,226,307	4.00	104	246,982	4.21	190	482,086	3.94	72	210,700	3.42	926	2,286,539	4.05
Male	1,675	3,389,993	4.94	138	259,193	5.32	260	506,116	5.14	89	221,809	4.01	1,188	2,402,875	4.94
Number of major defects per child															
1	778	6,616,300	1.18	58	506,175	1.15	116	988,202	1.17	42	432,509	0.97	562	4,689,414	1.20
2	688	6,616,300	1.04	48	506,175	0.95	95	988,202	0.96	35	432,509	0.81	510	4,689,414	1.09
3	514	6,616,300	0.78	37	506,175	0.73	72	988,202	0.73	26	432,509	0.60	379	4,689,414	0.81
4	346	6,616,300	0.52	31	506,175	0.61	55	988,202	0.56	18	432,509	0.42	242	4,689,414	0.52
>=5	641	6,616,300	0.97	68	506,175	1.34	112	988,202	1.13	40	432,509	0.92	421	4,689,414	0.90

^a Children having tetralogy of Fallot, with "ICD-9-CM" code 745.2.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.6
Prevalence of hypoplastic left heart syndrome^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	1,391	6,616,300	2.10	140	506,175	2.77	248	988,202	2.51	102	432,509	2.36	901	4,689,414	1.92
Maternal age groups															
<= 19	115	582,853	1.97	13	53,313	2.44	27	104,703	2.58	7	40,952	1.71	68	383,885	1.77
20-24	283	1,434,558	1.97	37	121,694	3.04	64	248,273	2.58	25	105,240	2.38	157	959,351	1.64
25-29	395	1,912,328	2.07	42	155,020	2.71	66	299,469	2.20	33	130,436	2.53	254	1,327,403	1.91
30-34	379	1,710,004	2.22	37	120,972	3.06	69	229,492	3.01	24	104,216	2.30	249	1,255,324	1.98
>=35	219	976,557	2.24	11	55,176	1.99	22	106,265	2.07	13	51,665	2.52	173	763,451	2.27
Maternal race/ethnicity															
Non-Hispanic white	808	3,691,360	2.19	112	414,980	2.70	198	839,777	2.36	92	386,107	2.38	406	2,050,496	1.98
Non-Hispanic black	292	1,250,247	2.34	25	62,356	4.01	34	91,922	3.70	6	24,191	2.48	227	1,071,778	2.12
Hispanic	237	1,237,104	1.92	0	14,151	0.00	10	29,727	3.36	1	9,872	1.01	226	1,183,354	1.91
Asian or Pacific	37	370,876	1.00	1	6,375	1.57	2	18,074	1.11	2	7,341	2.72	32	339,086	0.94
Other/Unknown	17	66,713	2.55	2	8,313	2.41	4	8,702	4.60	1	4,998	2.00	10	44,700	2.24
Birth weight (grams)															
<1500	43	107,931	3.98	5	8,922	5.60	12	14,795	8.11	2	6,017	3.32	24	78,197	3.07
1500-2499	213	413,636	5.15	26	28,678	9.07	36	53,272	6.76	13	22,668	5.73	138	309,018	4.47
2500-3999	1,050	5,452,417	1.93	100	411,071	2.43	188	799,368	2.35	77	349,920	2.20	685	3,892,058	1.76
>=4000	85	642,316	1.32	9	57,504	1.57	12	120,767	0.99	10	53,904	1.86	54	410,141	1.32
Gestational age (weeks)															
<37	225	703,093	3.20	23	50,380	4.57	45	93,055	4.84	13	39,762	3.27	144	519,896	2.77
>=37	1,051	5,774,076	1.82	114	449,470	2.54	189	877,392	2.15	86	386,662	2.22	662	4,060,552	1.63
Other/Unknown	115	139,131	8.27	3	6,325	4.74	14	17,755	7.89	3	6,085	4.93	95	108,966	8.72
Sex															
Female	572	3,226,307	1.77	58	246,982	2.35	111	482,086	2.30	45	210,700	2.14	358	2,286,539	1.57
Male	819	3,389,993	2.42	82	259,193	3.16	137	506,116	2.71	57	221,809	2.57	543	2,402,875	2.26
Number of major defects per child															
1	398	6,616,300	0.60	42	506,175	0.83	58	988,202	0.59	28	432,509	0.65	270	4,689,414	0.58
2	301	6,616,300	0.45	35	506,175	0.69	66	988,202	0.67	18	432,509	0.42	182	4,689,414	0.39
3	235	6,616,300	0.36	21	506,175	0.41	53	988,202	0.54	13	432,509	0.30	148	4,689,414	0.32
4	151	6,616,300	0.23	14	506,175	0.28	18	988,202	0.18	7	432,509	0.16	112	4,689,414	0.24
>=5	306	6,616,300	0.46	28	506,175	0.55	53	988,202	0.54	36	432,509	0.83	189	4,689,414	0.40

^a Children having hypoplastic left heart syndrome, with "ICD-9-CM" code 746.7.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.7
Prevalence of cleft palate without cleft lip^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	3,897	6,616,300	5.89	359	506,175	7.09	795	988,202	8.04	308	432,509	7.12	2,435	4,689,414	5.19
Maternal age groups															
<= 19	331	582,853	5.68	34	53,313	6.38	80	104,703	7.64	36	40,952	8.79	181	383,885	4.72
20-24	816	1,434,558	5.69	88	121,694	7.23	193	248,273	7.77	90	105,240	8.55	445	959,351	4.64
25-29	1,082	1,912,328	5.66	102	155,020	6.58	232	299,469	7.75	77	130,436	5.90	671	1,327,403	5.06
30-34	1,042	1,710,004	6.09	97	120,972	8.02	177	229,492	7.71	65	104,216	6.24	703	1,255,324	5.60
>=35	626	976,557	6.41	38	55,176	6.89	113	106,265	10.63	40	51,665	7.74	435	763,451	5.70
Maternal race/ethnicity															
Non-Hispanic white	2,422	3,691,360	6.56	312	414,980	7.52	698	839,777	8.31	277	386,107	7.17	1,135	2,050,496	5.54
Non-Hispanic black	526	1,250,247	4.21	26	62,356	4.17	56	91,922	6.09	13	24,191	5.37	431	1,071,778	4.02
Hispanic	684	1,237,104	5.53	11	14,151	7.77	25	29,727	8.41	9	9,872	9.12	639	1,183,354	5.40
Asian or Pacific	220	370,876	5.93	7	6,375	10.98	9	18,074	4.98	2	7,341	2.72	202	339,086	5.96
Other/Unknown	45	66,713	6.75	3	8,313	3.61	7	8,702	8.04	7	4,998	14.01	28	44,700	6.26
Birth weight (grams)															
<1500	156	107,931	14.45	15	8,922	16.81	34	14,795	22.98	11	6,017	18.28	96	78,197	12.28
1500-2499	580	413,636	14.02	52	28,678	18.13	99	53,272	18.58	31	22,668	13.68	398	309,018	12.88
2500-3999	2,908	5,452,417	5.33	266	411,071	6.47	602	799,368	7.53	241	349,920	6.89	1,799	3,892,058	4.62
>=4000	253	642,316	3.94	26	57,504	4.52	60	120,767	4.97	25	53,904	4.64	142	410,141	3.46
Gestational age (weeks)															
<37	593	703,093	8.43	52	50,380	10.32	111	93,055	11.93	39	39,762	9.81	391	519,896	7.52
>=37	3,070	5,774,076	5.32	291	449,470	6.47	661	877,392	7.53	260	386,662	6.72	1,858	4,060,552	4.58
Other/Unknown	234	139,131	16.82	16	6,325	25.30	23	17,755	12.95	9	6,085	14.79	186	108,966	17.07
Sex															
Female	2,167	3,226,307	6.72	191	246,982	7.73	458	482,086	9.50	164	210,700	7.78	1,354	2,286,539	5.92
Male	1,730	3,389,993	5.10	168	259,193	6.48	337	506,116	6.66	144	221,809	6.49	1,081	2,402,875	4.50
Number of major defects per child															
1	1,862	6,616,300	2.81	159	506,175	3.14	369	988,202	3.73	152	432,509	3.51	1,182	4,689,414	2.52
2	689	6,616,300	1.04	61	506,175	1.21	137	988,202	1.39	61	432,509	1.41	430	4,689,414	0.92
3	478	6,616,300	0.72	44	506,175	0.87	106	988,202	1.07	35	432,509	0.81	293	4,689,414	0.62
4	294	6,616,300	0.44	35	506,175	0.69	64	988,202	0.65	25	432,509	0.58	170	4,689,414	0.36
>=5	574	6,616,300	0.87	60	506,175	1.19	119	988,202	1.20	35	432,509	0.81	360	4,689,414	0.77

^a Children having cleft palate without cleft lip, with "ICD-9-CM" code 749.0.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.8
Prevalence of cleft lip with and without cleft palate^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	4,881	6,616,300	7.38	482	506,175	9.52	979	988,202	9.91	407	432,509	9.41	3,013	4,689,414	6.43
Maternal age groups															
<= 19	471	582,853	8.08	53	53,313	9.94	135	104,703	12.89	47	40,952	11.48	236	383,885	6.15
20-24	1,083	1,434,558	7.55	108	121,694	8.87	255	248,273	10.27	109	105,240	10.36	611	959,351	6.37
25-29	1,421	1,912,328	7.43	155	155,020	10.00	280	299,469	9.35	116	130,436	8.89	870	1,327,403	6.55
30-34	1,185	1,710,004	6.93	112	120,972	9.26	202	229,492	8.80	97	104,216	9.31	774	1,255,324	6.17
>=35	721	976,557	7.38	54	55,176	9.79	107	106,265	10.07	38	51,665	7.36	522	763,451	6.84
Maternal race/ethnicity															
Non-Hispanic white	3,092	3,691,360	8.38	414	414,980	9.98	873	839,777	10.40	384	386,107	9.95	1,421	2,050,496	6.93
Non-Hispanic black	594	1,250,247	4.75	44	62,356	7.06	54	91,922	5.87	8	24,191	3.31	488	1,071,778	4.55
Hispanic	840	1,237,104	6.79	10	14,151	7.07	28	29,727	9.42	2	9,872	2.03	800	1,183,354	6.76
Asian or Pacific	295	370,876	7.95	4	6,375	6.27	13	18,074	7.19	8	7,341	10.90	270	339,086	7.96
Other/Unknown	60	66,713	8.99	10	8,313	12.03	11	8,702	12.64	5	4,998	10.00	34	44,700	7.61
Birth weight (grams)															
<1500	177	107,931	16.40	19	8,922	21.30	29	14,795	19.60	15	6,017	24.93	114	78,197	14.58
1500-2499	619	413,636	14.96	62	28,678	21.62	97	53,272	18.21	45	22,668	19.85	415	309,018	13.43
2500-3999	3,698	5,452,417	6.78	363	411,071	8.83	749	799,368	9.37	300	349,920	8.57	2,286	3,892,058	5.87
>=4000	387	642,316	6.03	38	57,504	6.61	104	120,767	8.61	47	53,904	8.72	198	410,141	4.83
Gestational age (weeks)															
<37	685	703,093	9.74	68	50,380	13.50	138	93,055	14.83	67	39,762	16.85	412	519,896	7.92
>=37	3,908	5,774,076	6.77	407	449,470	9.06	804	877,392	9.16	333	386,662	8.61	2,364	4,060,552	5.82
Other/Unknown	288	139,131	20.70	7	6,325	11.07	37	17,755	20.84	7	6,085	11.50	237	108,966	21.75
Sex															
Female	1,884	3,226,307	5.84	168	246,982	6.80	343	482,086	7.11	141	210,700	6.69	1,232	2,286,539	5.39
Male	2,997	3,389,993	8.84	314	259,193	12.11	636	506,116	12.57	266	221,809	11.99	1,781	2,402,875	7.41
Number of major defects per child															
1	2,668	6,616,300	4.03	232	506,175	4.58	571	988,202	5.78	252	432,509	5.83	1,613	4,689,414	3.44
2	1,014	6,616,300	1.53	107	506,175	2.11	205	988,202	2.07	71	432,509	1.64	631	4,689,414	1.35
3	490	6,616,300	0.74	50	506,175	0.99	85	988,202	0.86	35	432,509	0.81	320	4,689,414	0.68
4	228	6,616,300	0.34	27	506,175	0.53	34	988,202	0.34	19	432,509	0.44	148	4,689,414	0.32
>=5	481	6,616,300	0.73	66	506,175	1.30	84	988,202	0.85	30	432,509	0.69	301	4,689,414	0.64

^a Children having cleft lip with and without cleft palate, with "ICD-9-CM" code 749.1, 749.2.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.9
Prevalence of hypospadias and epispadias^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	20,714	3,389,993	61.10	1,920	259,193	74.08	3,634	506,116	71.80	1,518	221,809	68.44	13,642	2,402,875	56.77
Maternal age groups															
<= 19	1,757	298,546	58.85	196	27,316	71.75	423	53,594	78.93	147	21,055	69.82	991	196,581	50.41
20-24	4,287	735,427	58.29	479	62,242	76.96	933	127,429	73.22	360	54,000	66.67	2,515	491,756	51.14
25-29	5,961	978,455	60.92	610	79,312	76.91	1,060	153,171	69.20	466	66,871	69.69	3,825	679,101	56.32
30-34	5,438	877,038	62.00	448	62,084	72.16	801	117,478	68.18	361	53,455	67.53	3,828	644,021	59.44
>=35	3,271	500,527	65.35	187	28,239	66.22	417	54,444	76.59	184	26,428	69.62	2,483	391,416	63.44
Maternal race/ethnicity															
Non-Hispanic white	13,938	1,895,927	73.52	1,656	212,769	77.83	3,174	430,284	73.77	1,382	198,001	69.80	7,726	1,054,873	73.24
Non-Hispanic black	3,343	636,279	52.54	193	31,680	60.92	325	46,782	69.47	73	12,286	59.42	2,752	545,531	50.45
Hispanic	2,553	631,303	40.44	39	7,284	53.54	84	15,219	55.19	35	5,076	68.95	2,395	603,724	39.67
Asian or Pacific	715	192,340	37.17	14	3,296	42.48	31	9,385	33.03	11	3,842	28.63	659	175,817	37.48
Other/Unknown	165	34,144	48.33	18	4,164	43.23	20	4,446	44.98	17	2,604	65.28	110	22,930	47.97
Birth weight (grams)															
<1500	863	54,723	157.70	76	4,570	166.30	136	7,759	175.28	43	3,112	138.18	608	39,282	154.78
1500-2499	2,341	192,210	121.79	204	13,353	152.78	348	24,728	140.73	133	10,758	123.63	1,656	143,371	115.51
2500-3999	15,595	2,734,208	57.04	1,426	204,515	69.73	2,729	397,042	68.73	1,175	173,836	67.59	10,265	1,958,815	52.40
>=4000	1,915	408,852	46.84	214	36,755	58.22	421	76,587	54.97	167	34,103	48.97	1,113	261,407	42.58
Gestational age (weeks)															
<37	3,064	373,848	81.96	274	27,044	101.32	504	50,518	99.77	201	21,523	93.39	2,085	274,763	75.88
>=37	16,640	2,943,534	56.53	1,617	228,893	70.64	3,029	446,397	67.85	1,275	197,057	64.70	10,719	2,071,187	51.75
Other/Unknown	1,010	72,611	139.10	29	3,256	89.07	101	9,201	109.77	42	3,229	130.07	838	56,925	147.21
Number of major defects per child															
1	16,900	3,389,993	49.85	1,419	259,193	54.75	3,075	506,116	60.76	1,282	221,809	57.80	11,124	2,402,875	46.30
2	2,438	3,389,993	7.19	298	259,193	11.50	354	506,116	6.99	159	221,809	7.17	1,627	2,402,875	6.77
3	654	3,389,993	1.93	96	259,193	3.70	86	506,116	1.70	42	221,809	1.89	430	2,402,875	1.79
4	292	3,389,993	0.86	42	259,193	1.62	45	506,116	0.89	19	221,809	0.86	186	2,402,875	0.77
>=5	430	3,389,993	1.27	65	259,193	2.51	74	506,116	1.46	16	221,809	0.72	275	2,402,875	1.14

^a Children having hypospadias and epispadias, with "ICD-9-CM" code 752.61, 752.62.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.10
Prevalence of upper limb deficiencies^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	1,824	6,616,300	2.76	205	506,175	4.05	357	988,202	3.61	156	432,509	3.61	1,106	4,689,414	2.36
Maternal age groups															
<= 19	183	582,853	3.14	18	53,313	3.38	43	104,703	4.11	14	40,952	3.42	108	383,885	2.81
20-24	427	1,434,558	2.98	49	121,694	4.03	92	248,273	3.71	38	105,240	3.61	248	959,351	2.59
25-29	523	1,912,328	2.73	76	155,020	4.90	108	299,469	3.61	38	130,436	2.91	301	1,327,403	2.27
30-34	430	1,710,004	2.51	43	120,972	3.55	75	229,492	3.27	48	104,216	4.61	264	1,255,324	2.10
>=35	261	976,557	2.67	19	55,176	3.44	39	106,265	3.67	18	51,665	3.48	185	763,451	2.42
Maternal race/ethnicity															
Non-Hispanic white	1,141	3,691,360	3.09	169	414,980	4.07	309	839,777	3.68	139	386,107	3.60	524	2,050,496	2.56
Non-Hispanic black	323	1,250,247	2.58	22	62,356	3.53	35	91,922	3.81	10	24,191	4.13	256	1,071,778	2.39
Hispanic	290	1,237,104	2.34	9	14,151	6.36	5	29,727	1.68	4	9,872	4.05	272	1,183,354	2.30
Asian or Pacific	52	370,876	1.40	2	6,375	3.14	4	18,074	2.21	3	7,341	4.09	43	339,086	1.27
Other/Unknown	18	66,713	2.70	3	8,313	3.61	4	8,702	4.60	0	4,998	0.00	11	44,700	2.46
Birth weight (grams)															
<1500	104	107,931	9.64	5	8,922	5.60	24	14,795	16.22	9	6,017	14.96	66	78,197	8.44
1500-2499	348	413,636	8.41	43	28,678	14.99	56	53,272	10.51	31	22,668	13.68	218	309,018	7.05
2500-3999	1,285	5,452,417	2.36	150	411,071	3.65	259	799,368	3.24	102	349,920	2.92	774	3,892,058	1.99
>=4000	87	642,316	1.35	7	57,504	1.22	18	120,767	1.49	14	53,904	2.60	48	410,141	1.17
Gestational age (weeks)															
<37	342	703,093	4.86	33	50,380	6.55	73	93,055	7.84	26	39,762	6.54	210	519,896	4.04
>=37	1,396	5,774,076	2.42	162	449,470	3.60	275	877,392	3.13	124	386,662	3.21	835	4,060,552	2.06
Other/Unknown	86	139,131	6.18	10	6,325	15.81	9	17,755	5.07	6	6,085	9.86	61	108,966	5.60
Sex															
Female	857	3,226,307	2.66	85	246,982	3.44	174	482,086	3.61	74	210,700	3.51	524	2,286,539	2.29
Male	967	3,389,993	2.85	120	259,193	4.63	183	506,116	3.62	82	221,809	3.70	582	2,402,875	2.42
Number of major defects per child															
1	690	6,616,300	1.04	63	506,175	1.24	140	988,202	1.42	66	432,509	1.53	421	4,689,414	0.90
2	369	6,616,300	0.56	43	506,175	0.85	58	988,202	0.59	31	432,509	0.72	237	4,689,414	0.51
3	197	6,616,300	0.30	21	506,175	0.41	41	988,202	0.41	11	432,509	0.25	124	4,689,414	0.26
4	149	6,616,300	0.23	23	506,175	0.45	29	988,202	0.29	15	432,509	0.35	82	4,689,414	0.17
>=5	419	6,616,300	0.63	55	506,175	1.09	89	988,202	0.90	33	432,509	0.76	242	4,689,414	0.52

^a Children having upper limb deficiencies, with "ICD-9-CM" code 755.20 -755.29.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.11
Prevalence of lower limb deficiencies^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	1,074	6,616,300	1.62	99	506,175	1.96	168	988,202	1.70	75	432,509	1.73	732	4,689,414	1.56
Maternal age groups															
<= 19	114	582,853	1.96	12	53,313	2.25	22	104,703	2.10	8	40,952	1.95	72	383,885	1.88
20-24	255	1,434,558	1.78	23	121,694	1.89	48	248,273	1.93	17	105,240	1.62	167	959,351	1.74
25-29	300	1,912,328	1.57	28	155,020	1.81	47	299,469	1.57	21	130,436	1.61	204	1,327,403	1.54
30-34	267	1,710,004	1.56	25	120,972	2.07	40	229,492	1.74	22	104,216	2.11	180	1,255,324	1.43
>=35	138	976,557	1.41	11	55,176	1.99	11	106,265	1.04	7	51,665	1.35	109	763,451	1.43
Maternal race/ethnicity															
Non-Hispanic white	575	3,691,360	1.56	77	414,980	1.86	144	839,777	1.71	65	386,107	1.68	289	2,050,496	1.41
Non-Hispanic black	258	1,250,247	2.06	14	62,356	2.25	16	91,922	1.74	5	24,191	2.07	223	1,071,778	2.08
Hispanic	184	1,237,104	1.49	5	14,151	3.53	6	29,727	2.02	2	9,872	2.03	171	1,183,354	1.45
Asian or Pacific	39	370,876	1.05	0	6,375	0.00	1	18,074	0.55	2	7,341	2.72	36	339,086	1.06
Other/Unknown	18	66,713	2.70	3	8,313	3.61	1	8,702	1.15	1	4,998	2.00	13	44,700	2.91
Birth weight (grams)															
<1500	70	107,931	6.49	6	8,922	6.72	10	14,795	6.76	6	6,017	9.97	48	78,197	6.14
1500-2499	192	413,636	4.64	19	28,678	6.63	26	53,272	4.88	12	22,668	5.29	135	309,018	4.37
2500-3999	750	5,452,417	1.38	71	411,071	1.73	121	799,368	1.51	54	349,920	1.54	504	3,892,058	1.29
>=4000	62	642,316	0.97	3	57,504	0.52	11	120,767	0.91	3	53,904	0.56	45	410,141	1.10
Gestational age (weeks)															
<37	216	703,093	3.07	19	50,380	3.77	33	93,055	3.55	16	39,762	4.02	148	519,896	2.85
>=37	812	5,774,076	1.41	79	449,470	1.76	133	877,392	1.52	57	386,662	1.47	543	4,060,552	1.34
Other/Unknown	46	139,131	3.31	1	6,325	1.58	2	17,755	1.13	2	6,085	3.29	41	108,966	3.76
Sex															
Female	489	3,226,307	1.52	48	246,982	1.94	79	482,086	1.64	32	210,700	1.52	330	2,286,539	1.44
Male	585	3,389,993	1.73	51	259,193	1.97	89	506,116	1.76	43	221,809	1.94	402	2,402,875	1.67
Number of major defects per child															
1	332	6,616,300	0.50	20	506,175	0.40	44	988,202	0.45	23	432,509	0.53	245	4,689,414	0.52
2	216	6,616,300	0.33	15	506,175	0.30	31	988,202	0.31	15	432,509	0.35	155	4,689,414	0.33
3	150	6,616,300	0.23	12	506,175	0.24	31	988,202	0.31	10	432,509	0.23	97	4,689,414	0.21
4	100	6,616,300	0.15	12	506,175	0.24	21	988,202	0.21	6	432,509	0.14	61	4,689,414	0.13
>=5	276	6,616,300	0.42	40	506,175	0.79	41	988,202	0.41	21	432,509	0.49	174	4,689,414	0.37

^a Children having lower limb deficiencies, with "ICD-9-CM" code 755.30 -755.39.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.12
Prevalence of omphalocele^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	744	6,616,300	1.12	84	506,175	1.66	136	988,202	1.38	65	432,509	1.50	459	4,689,414	0.98
Maternal age groups															
<= 19	83	582,853	1.42	12	53,313	2.25	19	104,703	1.81	6	40,952	1.47	46	383,885	1.20
20-24	143	1,434,558	1.00	15	121,694	1.23	25	248,273	1.01	21	105,240	2.00	82	959,351	0.85
25-29	188	1,912,328	0.98	23	155,020	1.48	34	299,469	1.14	21	130,436	1.61	110	1,327,403	0.83
30-34	205	1,710,004	1.20	22	120,972	1.82	36	229,492	1.57	10	104,216	0.96	137	1,255,324	1.09
>=35	125	976,557	1.28	12	55,176	2.17	22	106,265	2.07	7	51,665	1.35	84	763,451	1.10
Maternal race/ethnicity															
Non-Hispanic white	397	3,691,360	1.08	67	414,980	1.61	107	839,777	1.27	56	386,107	1.45	167	2,050,496	0.81
Non-Hispanic black	193	1,250,247	1.54	13	62,356	2.08	22	91,922	2.39	5	24,191	2.07	153	1,071,778	1.43
Hispanic	112	1,237,104	0.91	2	14,151	1.41	4	29,727	1.35	1	9,872	1.01	105	1,183,354	0.89
Asian or Pacific	29	370,876	0.78	2	6,375	3.14	2	18,074	1.11	1	7,341	1.36	24	339,086	0.71
Other/Unknown	13	66,713	1.95	0	8,313	0.00	1	8,702	1.15	2	4,998	4.00	10	44,700	2.24
Birth weight (grams)															
<1500	74	107,931	6.86	11	8,922	12.33	18	14,795	12.17	8	6,017	13.30	37	78,197	4.73
1500-2499	173	413,636	4.18	10	28,678	3.49	26	53,272	4.88	20	22,668	8.82	117	309,018	3.79
2500-3999	447	5,452,417	0.82	61	411,071	1.48	76	799,368	0.95	32	349,920	0.91	278	3,892,058	0.71
>=4000	50	642,316	0.78	2	57,504	0.35	16	120,767	1.32	5	53,904	0.93	27	410,141	0.66
Gestational age (weeks)															
<37	229	703,093	3.26	25	50,380	4.96	39	93,055	4.19	27	39,762	6.79	138	519,896	2.65
>=37	456	5,774,076	0.79	55	449,470	1.22	92	877,392	1.05	37	386,662	0.96	272	4,060,552	0.67
Other/Unknown	59	139,131	4.24	4	6,325	6.32	5	17,755	2.82	1	6,085	1.64	49	108,966	4.50
Sex															
Female	329	3,226,307	1.02	31	246,982	1.26	62	482,086	1.29	31	210,700	1.47	205	2,286,539	0.90
Male	415	3,389,993	1.22	53	259,193	2.04	74	506,116	1.46	34	221,809	1.53	254	2,402,875	1.06
Number of major defects per child															
1	183	6,616,300	0.28	23	506,175	0.45	31	988,202	0.31	11	432,509	0.25	118	4,689,414	0.25
2	204	6,616,300	0.31	18	506,175	0.36	37	988,202	0.37	24	432,509	0.55	125	4,689,414	0.27
3	113	6,616,300	0.17	17	506,175	0.34	18	988,202	0.18	5	432,509	0.12	73	4,689,414	0.16
4	68	6,616,300	0.10	7	506,175	0.14	15	988,202	0.15	5	432,509	0.12	41	4,689,414	0.09
>=5	176	6,616,300	0.27	19	506,175	0.38	35	988,202	0.35	20	432,509	0.46	102	4,689,414	0.22

^a Children having omphalocele, with "BPA" code 756.70.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.13
Prevalence of gastroschisis^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	906	6,616,300	1.37	113	506,175	2.23	216	988,202	2.19	90	432,509	2.08	487	4,689,414	1.04
Maternal age groups															
<= 19	300	582,853	5.15	33	53,313	6.19	76	104,703	7.26	32	40,952	7.81	159	383,885	4.14
20-24	364	1,434,558	2.54	50	121,694	4.11	95	248,273	3.83	41	105,240	3.90	178	959,351	1.86
25-29	159	1,912,328	0.83	16	155,020	1.03	35	299,469	1.17	14	130,436	1.07	94	1,327,403	0.71
30-34	63	1,710,004	0.37	12	120,972	0.99	10	229,492	0.44	3	104,216	0.29	38	1,255,324	0.30
>=35	20	976,557	0.20	2	55,176	0.36	0	106,265	0.00	0	51,665	0.00	18	763,451	0.24
Maternal race/ethnicity															
Non-Hispanic white	508	3,691,360	1.38	87	414,980	2.10	186	839,777	2.21	87	386,107	2.25	148	2,050,496	0.72
Non-Hispanic black	146	1,250,247	1.17	18	62,356	2.89	21	91,922	2.28	1	24,191	0.41	106	1,071,778	0.99
Hispanic	228	1,237,104	1.84	4	14,151	2.83	6	29,727	2.02	1	9,872	1.01	217	1,183,354	1.83
Asian or Pacific	15	370,876	0.40	0	6,375	0.00	2	18,074	1.11	1	7,341	1.36	12	339,086	0.35
Other/Unknown	9	66,713	1.35	4	8,313	4.81	1	8,702	1.15	0	4,998	0.00	4	44,700	0.89
Birth weight (grams)															
<1500	55	107,931	5.10	10	8,922	11.21	12	14,795	8.11	4	6,017	6.65	29	78,197	3.71
1500-2499	441	413,636	10.66	65	28,678	22.67	97	53,272	18.21	46	22,668	20.29	233	309,018	7.54
2500-3999	404	5,452,417	0.74	38	411,071	0.92	106	799,368	1.33	40	349,920	1.14	220	3,892,058	0.57
>=4000	6	642,316	0.09	0	57,504	0.00	1	120,767	0.08	0	53,904	0.00	5	410,141	0.12
Gestational age (weeks)															
<37	389	703,093	5.53	44	50,380	8.73	100	93,055	10.75	34	39,762	8.55	211	519,896	4.06
>=37	438	5,774,076	0.76	63	449,470	1.40	103	877,392	1.17	49	386,662	1.27	223	4,060,552	0.55
Other/Unknown	79	139,131	5.68	6	6,325	9.49	13	17,755	7.32	7	6,085	11.50	53	108,966	4.86
Sex															
Female	435	3,226,307	1.35	51	246,982	2.06	92	482,086	1.91	48	210,700	2.28	244	2,286,539	1.07
Male	471	3,389,993	1.39	62	259,193	2.39	124	506,116	2.45	42	221,809	1.89	243	2,402,875	1.01
Number of major defects per child															
1	412	6,616,300	0.62	44	506,175	0.87	115	988,202	1.16	48	432,509	1.11	205	4,689,414	0.44
2	294	6,616,300	0.44	31	506,175	0.61	67	988,202	0.68	26	432,509	0.60	170	4,689,414	0.36
3	119	6,616,300	0.18	21	506,175	0.41	24	988,202	0.24	13	432,509	0.30	61	4,689,414	0.13
4	38	6,616,300	0.06	5	506,175	0.10	4	988,202	0.04	1	432,509	0.02	28	4,689,414	0.06
>=5	43	6,616,300	0.07	12	506,175	0.24	6	988,202	0.06	2	432,509	0.05	23	4,689,414	0.05

^a Children having gastroschisis, with "BPA" code 756.71.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 1.2.14
Prevalence of trisomy 21 (Down syndrome)^a by geographic areas and descriptive characteristics.
New York births, 1983-2007

Characteristics	New York State (NYS)			Western New York ^b			Central New York ^c			Northeastern New York ^d			Downstate New York ^e		
	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g	Cases	LB ^f	Prev ^g
Total	7,174	6,616,300	10.84	669	506,175	13.22	1,135	988,202	11.49	441	432,509	10.20	4,929	4,689,414	10.51
Maternal age groups															
<= 19	386	582,853	6.62	41	53,313	7.69	81	104,703	7.74	27	40,952	6.59	237	383,885	6.17
20-24	840	1,434,558	5.86	84	121,694	6.90	170	248,273	6.85	49	105,240	4.66	537	959,351	5.60
25-29	1,269	1,912,328	6.64	130	155,020	8.39	223	299,469	7.45	89	130,436	6.82	827	1,327,403	6.23
30-34	1,784	1,710,004	10.43	178	120,972	14.71	263	229,492	11.46	113	104,216	10.84	1,230	1,255,324	9.80
>=35	2,895	976,557	29.65	236	55,176	42.77	398	106,265	37.45	163	51,665	31.55	2,098	763,451	27.48
Maternal race/ethnicity															
Non-Hispanic white	4,171	3,691,360	11.30	577	414,980	13.90	1,006	839,777	11.98	394	386,107	10.20	2,194	2,050,496	10.70
Non-Hispanic black	1,221	1,250,247	9.77	60	62,356	9.62	74	91,922	8.05	20	24,191	8.27	1,067	1,071,778	9.96
Hispanic	1,384	1,237,104	11.19	21	14,151	14.84	25	29,727	8.41	13	9,872	13.17	1,325	1,183,354	11.20
Asian or Pacific	307	370,876	8.28	6	6,375	9.41	19	18,074	10.51	8	7,341	10.90	274	339,086	8.08
Other/Unknown	91	66,713	13.64	5	8,313	6.01	11	8,702	12.64	6	4,998	12.00	69	44,700	15.44
Birth weight (grams)															
<1500	281	107,931	26.04	19	8,922	21.30	60	14,795	40.55	11	6,017	18.28	191	78,197	24.43
1500-2499	1,283	413,636	31.02	118	28,678	41.15	191	53,272	35.85	63	22,668	27.79	911	309,018	29.48
2500-3999	5,363	5,452,417	9.84	514	411,071	12.50	841	799,368	10.52	348	349,920	9.95	3,660	3,892,058	9.40
>=4000	247	642,316	3.85	18	57,504	3.13	43	120,767	3.56	19	53,904	3.52	167	410,141	4.07
Gestational age (weeks)															
<37	1,552	703,093	22.07	142	50,380	28.19	265	93,055	28.48	85	39,762	21.38	1,060	519,896	20.39
>=37	5,115	5,774,076	8.86	504	449,470	11.21	825	877,392	9.40	340	386,662	8.79	3,446	4,060,552	8.49
Other/Unknown	507	139,131	36.44	23	6,325	36.36	45	17,755	25.35	16	6,085	26.29	423	108,966	38.82
Sex															
Female	3,420	3,226,307	10.60	301	246,982	12.19	523	482,086	10.85	204	210,700	9.68	2,392	2,286,539	10.46
Male	3,754	3,389,993	11.07	368	259,193	14.20	612	506,116	12.09	237	221,809	10.68	2,537	2,402,875	10.56
Number of major defects per child															
1	2,599	6,616,300	3.93	202	506,175	3.99	431	988,202	4.36	159	432,509	3.68	1,807	4,689,414	3.85
2	1,907	6,616,300	2.88	174	506,175	3.44	256	988,202	2.59	111	432,509	2.57	1,366	4,689,414	2.91
3	1,180	6,616,300	1.78	136	506,175	2.69	163	988,202	1.65	65	432,509	1.50	816	4,689,414	1.74
4	654	6,616,300	0.99	55	506,175	1.09	120	988,202	1.21	57	432,509	1.32	422	4,689,414	0.90
>=5	834	6,616,300	1.26	102	506,175	2.02	165	988,202	1.67	49	432,509	1.13	518	4,689,414	1.10

^a Children having trisomy 21 (Down syndrome), with "ICD-9-CM" code 758.0.

^b Western New York region includes counties: Allegany, Cattaraugus, Chautauqua, Erie, Genesee, Niagara, Orleans, and Wyoming.

^c Central New York region includes counties: Chemung, Livingston, Monroe, Ontario, Schuyler, Seneca, Steuben, Wayne, Yates, Cayuga, Cortland, Herkimer, Jefferson, Lewis, Madison, Oneida, Onondaga, Oswego, St Lawrence, Tompkins, Broome, Chenango, and Tioga.

^d Northeastern New York region includes counties: Albany, Clinton, Columbia, Delaware, Essex, Franklin, Fulton, Greene, Hamilton, Montgomery, Otsego, Rensselaer, Saratoga, Schenectady, Schoharie, Warren, and Washington.

^e Downstate New York region includes counties: Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster, Westchester, Bronx, Kings, New York, Queens, Richmond, Nassau, and Suffolk.

^f Total number of live births

^g Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.1
Prevalence of all selected defects^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	146,831	6,616,300	222	26,672	1,291,884	206	28,468	1,447,683	197	30,259	1,351,739	224	29,452	1,275,634	231	31,980	1,249,360	256
Maternal age groups																		
<= 19	12,731	582,853	218	2,644	130,625	202	2,524	133,479	189	2,789	125,656	222	2,428	104,857	232	2,346	88,236	266
20-24	30,311	1,434,558	211	6,701	332,297	202	6,083	323,989	188	5,753	269,553	213	5,479	255,316	215	6,295	253,403	248
25-29	40,292	1,912,328	211	8,478	425,198	199	8,660	455,415	190	8,060	379,909	212	7,235	327,192	221	7,859	324,614	242
30-34	37,867	1,710,004	221	6,087	287,049	212	7,257	364,348	199	8,292	371,064	223	7,981	353,010	226	8,250	334,533	247
>=35	25,630	976,557	262	2,762	116,715	237	3,944	170,452	231	5,365	205,557	261	6,329	235,259	269	7,230	248,574	291
Maternal race/ethnicity																		
Non-Hispanic white	86,193	3,691,360	233	18,079	808,673	224	18,186	845,997	215	17,583	740,840	237	16,035	671,214	239	16,310	624,636	261
Non-Hispanic black	26,878	1,250,247	215	4,492	251,421	179	4,931	290,339	170	5,603	260,822	215	5,915	235,814	251	5,937	211,851	280
Hispanic	25,404	1,237,104	205	3,231	182,072	177	4,179	237,595	176	5,370	261,924	205	5,587	266,885	209	7,037	288,628	244
Asian or Pacific	6,888	370,876	186	602	37,157	162	927	61,921	150	1,454	75,847	192	1,644	88,159	186	2,261	107,792	210
Other/Unknown	1,468	66,713	220	268	12,561	213	245	11,831	207	249	12,306	202	271	13,562	200	435	16,453	264
Birth weight (grams)																		
<1500	9,804	107,931	908	1,371	20,006	685	1,761	24,950	706	2,063	22,365	922	2,127	20,263	1,050	2,482	20,347	1,220
1500-2499	19,594	413,636	474	3,291	76,244	432	3,922	90,205	435	4,238	83,594	507	3,993	80,073	499	4,150	83,520	497
2500-3999	104,376	5,452,417	191	19,673	1,069,615	184	20,190	1,184,186	170	21,208	1,108,815	191	20,618	1,049,456	196	22,687	1,040,345	218
>=4000	13,057	642,316	203	2,337	126,019	185	2,595	148,342	175	2,750	136,965	201	2,714	125,842	216	2,661	105,148	253
Gestational age (weeks)																		
<37	28,126	703,093	400	4,423	125,704	352	5,304	152,509	348	6,150	141,786	434	6,527	138,256	472	5,722	144,838	395
>=37	108,257	5,774,076	187	22,249	1,166,180	191	23,164	1,295,174	179	22,525	1,149,764	196	21,612	1,086,731	199	18,707	1,076,227	174
Other/Unknown	10,448	139,131	751	-	-	-	-	-	-	1,584	60,189	263	1,313	50,647	259	7,551	28,295	2,669
Sex																		
Female	57,826	3,226,307	179	10,707	629,552	170	11,227	705,976	159	11,925	660,220	181	11,441	621,768	184	12,526	608,791	206
Male	89,005	3,389,993	263	15,965	662,332	241	17,241	741,707	232	18,334	691,519	265	18,011	653,866	275	19,454	640,569	304
Residence																		
NYC	63,807	3,064,232	208	10,300	571,837	180	11,532	660,428	175	13,501	626,749	215	13,452	597,374	225	15,022	607,844	247
NYS excluding NYC	83,024	3,552,068	234	16,372	720,047	227	16,936	787,255	215	16,758	724,990	231	16,000	678,260	236	16,958	641,516	264
Geographic Areas																		
Central New York	23,504	988,202	238	5,422	217,264	250	5,010	227,032	221	4,462	196,719	227	4,281	177,800	241	4,329	169,387	256
Downstate New York	100,844	4,689,414	215	16,764	868,298	193	18,851	1,007,974	187	21,207	965,600	220	20,820	927,876	224	23,202	919,666	252
Northeastern New York	9,660	432,509	223	2,056	93,364	220	2,061	97,606	211	1,951	86,799	225	1,674	78,184	214	1,918	76,556	251
Western New York	12,823	506,175	253	2,430	112,958	215	2,546	115,071	221	2,639	102,621	257	2,677	91,774	292	2,531	83,751	302

^a Children with any of the 45 defects recommended for inclusion by NBDPN.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.2
Prevalence of anencephaly^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	495	6,616,300	0.75	178	1,291,884	1.38	119	1,447,683	0.82	87	1,351,739	0.64	53	6,378,170	0.08	53	1,275,634	0.42
Maternal age groups																		
<= 19	55	582,853	0.94	16	130,625	1.22	14	133,479	1.05	13	125,656	1.03	40	1,275,634	0.31	7	104,857	0.67
20-24	122	1,434,558	0.85	50	332,297	1.50	26	323,989	0.80	18	269,553	0.67	7	1,275,634	0.05	16	255,316	0.63
25-29	137	1,912,328	0.72	49	425,198	1.15	39	455,415	0.86	19	379,909	0.50	3	1,275,634	0.02	14	327,192	0.43
30-34	122	1,710,004	0.71	49	287,049	1.71	27	364,348	0.74	24	371,064	0.65	1	1,275,634	0.01	10	353,010	0.28
>=35	59	976,557	0.60	14	116,715	1.20	13	170,452	0.76	13	205,557	0.63	2	1,275,634	0.02	6	235,259	0.26
Maternal race/ethnicity																		
Non-Hispanic white	297	3,691,360	0.80	117	808,673	1.45	74	845,997	0.87	48	740,840	0.65	7	104,857	0.67	28	671,214	0.42
Non-Hispanic black	79	1,250,247	0.63	26	251,421	1.03	18	290,339	0.62	13	260,822	0.50	16	255,316	0.63	11	235,814	0.47
Hispanic	90	1,237,104	0.73	25	182,072	1.37	23	237,595	0.97	18	261,924	0.69	14	327,192	0.43	11	266,885	0.41
Asian or Pacific	19	370,876	0.51	4	37,157	1.08	4	61,921	0.65	6	75,847	0.79	10	353,010	0.28	2	88,159	0.23
Other/Unknown	10	66,713	1.50	6	12,561	4.78	0	11,831	0.00	2	12,306	1.63	6	235,259	0.26	1	13,562	0.74
Birth weight (grams)																		
<1500	177	107,931	16.40	64	20,006	31.99	49	24,950	19.64	32	22,365	14.31	28	671,214	0.42	14	20,263	6.91
1500-2499	180	413,636	4.35	58	76,244	7.61	42	90,205	4.66	36	83,594	4.31	11	266,885	0.41	27	80,073	3.37
2500-3999	132	5,452,417	0.24	53	1,069,615	0.50	28	1,184,186	0.24	18	1,108,815	0.16	11	235,814	0.47	12	1,049,456	0.11
>=4000	6	642,316	0.09	3	126,019	0.24	0	148,342	0.00	1	136,965	0.07	2	88,159	0.23	0	125,842	0.00
Gestational age (weeks)																		
<37	226	703,093	3.21	89	125,704	7.08	55	152,509	3.61	44	141,786	3.10	1	13,562	0.74	22	138,256	1.59
>=37	240	5,774,076	0.42	89	1,166,180	0.76	64	1,295,174	0.49	36	1,149,764	0.31	14	20,263	6.91	25	1,086,731	0.23
Other/Unknown	29	139,131	2.08	0	0		0	0		7	60,189	1.16	27	80,073	3.37	6	50,647	1.18
Sex																		
Female	281	3,226,307	0.87	100	629,552	1.59	74	705,976	1.05	53	660,220	0.80	12	1,049,456	0.11	24	621,768	0.39
Male	214	3,389,993	0.63	78	662,332	1.18	45	741,707	0.61	34	691,519	0.49	0	125,842	0.00	29	653,866	0.44
Residence																		
NYC	189	3,064,232	0.62	64	571,837	1.12	44	660,428	0.67	34	626,749	0.54	22	138,256	1.59	24	597,374	0.40
NYS excluding NYC	306	3,552,068	0.86	114	720,047	1.58	75	787,255	0.95	53	724,990	0.73	25	1,086,731	0.23	29	678,260	0.43
Geographic Areas																		
Central New York	110	988,202	1.11	41	217,264	1.89	32	227,032	1.41	15	196,719	0.76	6	50,647	1.18	13	177,800	0.73
Downstate New York	290	4,689,414	0.62	98	868,298	1.13	69	1,007,974	0.68	50	965,600	0.52	24	621,768	0.39	32	927,876	0.34
Northeastern New York	54	432,509	1.25	23	93,364	2.46	9	97,606	0.92	14	86,799	1.61	29	653,866	0.44	4	78,184	0.51
Western New York	41	506,175	0.81	16	112,958	1.42	9	115,071	0.78	8	102,621	0.78	24	597,374	0.40	4	91,774	0.44

^a Children having anencephaly, with "ICD-9-CM" code 740.0-740.1.
^b Total number of live births
^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.3
Prevalence of spina bifida^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	2,068	6,616,300	3.13	594	1,291,884	4.60	510	1,447,683	3.52	413	1,351,739	3.06	285	1,275,634	2.23	266	1,249,360	2.13
Maternal age groups																		
<= 19	209	582,853	3.59	64	130,625	4.90	46	133,479	3.45	50	125,656	3.98	26	104,857	2.48	23	88,236	2.61
20-24	535	1,434,558	3.73	166	332,297	5.00	149	323,989	4.60	98	269,553	3.64	65	255,316	2.55	57	253,403	2.25
25-29	590	1,912,328	3.09	186	425,198	4.37	133	455,415	2.92	117	379,909	3.08	81	327,192	2.48	73	324,614	2.25
30-34	481	1,710,004	2.81	131	287,049	4.56	127	364,348	3.49	100	371,064	2.69	68	353,010	1.93	55	334,533	1.64
>=35	253	976,557	2.59	47	116,715	4.03	55	170,452	3.23	48	205,557	2.34	45	235,259	1.91	58	248,574	2.33
Maternal race/ethnicity																		
Non-Hispanic white	1,118	3,691,360	3.03	374	808,673	4.62	282	845,997	3.33	194	740,840	2.62	137	671,214	2.04	131	624,636	2.10
Non-Hispanic black	383	1,250,247	3.06	100	251,421	3.98	107	290,339	3.69	68	260,822	2.61	61	235,814	2.59	47	211,851	2.22
Hispanic	470	1,237,104	3.80	100	182,072	5.49	103	237,595	4.34	130	261,924	4.96	72	266,885	2.70	65	288,628	2.25
Asian or Pacific	75	370,876	2.02	14	37,157	3.77	14	61,921	2.26	17	75,847	2.24	12	88,159	1.36	18	107,792	1.67
Other/Unknown	22	66,713	3.30	6	12,561	4.78	4	11,831	3.38	4	12,306	3.25	3	13,562	2.21	5	16,453	3.04
Birth weight (grams)																		
<1500	131	107,931	12.14	46	20,006	22.99	28	24,950	11.22	22	22,365	9.84	17	20,263	8.39	18	20,347	8.85
1500-2499	299	413,636	7.23	77	76,244	10.10	76	90,205	8.43	54	83,594	6.46	52	80,073	6.49	40	83,520	4.79
2500-3999	1,506	5,452,417	2.76	427	1,069,615	3.99	377	1,184,186	3.18	308	1,108,815	2.78	204	1,049,456	1.94	190	1,040,345	1.83
>=4000	132	642,316	2.06	44	126,019	3.49	29	148,342	1.95	29	136,965	2.12	12	125,842	0.95	18	105,148	1.71
Gestational age (weeks)																		
<37	422	703,093	6.00	123	125,704	9.78	94	152,509	6.16	80	141,786	5.64	75	138,256	5.42	50	144,838	3.45
>=37	1,533	5,774,076	2.66	471	1,166,180	4.04	416	1,295,174	3.21	303	1,149,764	2.64	195	1,086,731	1.79	148	1,076,227	1.38
Other/Unknown	113	139,131	8.12	0	0		0	0		30	60,189	4.98	15	50,647	2.96	68	28,295	24.03
Sex																		
Female	1,100	3,226,307	3.41	331	629,552	5.26	274	705,976	3.88	220	660,220	3.33	136	621,768	2.19	139	608,791	2.28
Male	968	3,389,993	2.86	263	662,332	3.97	236	741,707	3.18	193	691,519	2.79	149	653,866	2.28	127	640,569	1.98
Residence																		
NYC	916	3,064,232	2.99	255	571,837	4.46	229	660,428	3.47	200	626,749	3.19	125	597,374	2.09	107	607,844	1.76
NYS excluding NYC	1,152	3,552,068	3.24	339	720,047	4.71	281	787,255	3.57	213	724,990	2.94	160	678,260	2.36	159	641,516	2.48
Geographic Areas																		
Central New York	354	988,202	3.58	119	217,264	5.48	86	227,032	3.79	74	196,719	3.76	38	177,800	2.14	37	169,387	2.18
Downstate New York	1,356	4,689,414	2.89	372	868,298	4.28	338	1,007,974	3.35	271	965,600	2.81	191	927,876	2.06	184	919,666	2.00
Northeastern New York	151	432,509	3.49	46	93,364	4.93	40	97,606	4.10	32	86,799	3.69	12	78,184	1.53	21	76,556	2.74
Western New York	207	506,175	4.09	57	112,958	5.05	46	115,071	4.00	36	102,621	3.51	44	91,774	4.79	24	83,751	2.87

^a Children having spina bifida without anencephaly, with "ICD-9-CM" code 741.0-741.9 without 740.0-740.10.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.4
Prevalence of transposition of the great arteries^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	2,746	6,616,300	4.15	528	1,291,884	4.09	580	1,447,683	4.01	584	1,351,739	4.32	511	1,275,634	4.01	543	1,249,360	4.35
Maternal age groups																		
<= 19	230	582,853	3.95	38	130,625	2.91	55	133,479	4.12	65	125,656	5.17	37	104,857	3.53	35	88,236	3.97
20-24	580	1,434,558	4.04	148	332,297	4.45	129	323,989	3.98	102	269,553	3.78	93	255,316	3.64	108	253,403	4.26
25-29	773	1,912,328	4.04	171	425,198	4.02	175	455,415	3.84	148	379,909	3.90	134	327,192	4.10	145	324,614	4.47
30-34	698	1,710,004	4.08	116	287,049	4.04	143	364,348	3.92	166	371,064	4.47	137	353,010	3.88	136	334,533	4.07
>=35	465	976,557	4.76	55	116,715	4.71	78	170,452	4.58	103	205,557	5.01	110	235,259	4.68	119	248,574	4.79
Maternal race/ethnicity																		
Non-Hispanic white	1,654	3,691,360	4.48	376	808,673	4.65	353	845,997	4.17	345	740,840	4.66	293	671,214	4.37	287	624,636	4.59
Non-Hispanic black	448	1,250,247	3.58	66	251,421	2.63	98	290,339	3.38	104	260,822	3.99	83	235,814	3.52	97	211,851	4.58
Hispanic	469	1,237,104	3.79	68	182,072	3.73	94	237,595	3.96	104	261,924	3.97	83	266,885	3.11	120	288,628	4.16
Asian or Pacific	137	370,876	3.69	11	37,157	2.96	27	61,921	4.36	23	75,847	3.03	45	88,159	5.10	31	107,792	2.88
Other/Unknown	38	66,713	5.70	7	12,561	5.57	8	11,831	6.76	8	12,306	6.50	7	13,562	5.16	8	16,453	4.86
Birth weight (grams)																		
<1500	88	107,931	8.15	11	20,006	5.50	18	24,950	7.21	19	22,365	8.50	13	20,263	6.42	27	20,347	13.27
1500-2499	365	413,636	8.82	59	76,244	7.74	78	90,205	8.65	82	83,594	9.81	67	80,073	8.37	79	83,520	9.46
2500-3999	2,084	5,452,417	3.82	412	1,069,615	3.85	438	1,184,186	3.70	427	1,108,815	3.85	401	1,049,456	3.82	406	1,040,345	3.90
>=4000	209	642,316	3.25	46	126,019	3.65	46	148,342	3.10	56	136,965	4.09	30	125,842	2.38	31	105,148	2.95
Gestational age (weeks)																		
<37	389	703,093	5.53	66	125,704	5.25	82	152,509	5.38	93	141,786	6.56	64	138,256	4.63	84	144,838	5.80
>=37	2,170	5,774,076	3.76	462	1,166,180	3.96	498	1,295,174	3.85	467	1,149,764	4.06	419	1,086,731	3.86	324	1,076,227	3.01
Other/Unknown	187	139,131	13.44	0	0		0	0		24	60,189	3.99	28	50,647	5.53	135	28,295	47.71
Sex																		
Female	1,034	3,226,307	3.20	185	629,552	2.94	204	705,976	2.89	230	660,220	3.48	194	621,768	3.12	221	608,791	3.63
Male	1,712	3,389,993	5.05	343	662,332	5.18	376	741,707	5.07	354	691,519	5.12	317	653,866	4.85	322	640,569	5.03
Residence																		
NYC	1,137	3,064,232	3.71	193	571,837	3.38	250	660,428	3.79	250	626,749	3.99	217	597,374	3.63	227	607,844	3.73
NYS excluding NYC	1,609	3,552,068	4.53	335	720,047	4.65	330	787,255	4.19	334	724,990	4.61	294	678,260	4.33	316	641,516	4.93
Geographic Areas																		
Central New York	464	988,202	4.70	105	217,264	4.83	102	227,032	4.49	87	196,719	4.42	81	177,800	4.56	89	169,387	5.25
Downstate New York	1,815	4,689,414	3.87	312	868,298	3.59	381	1,007,974	3.78	408	965,600	4.23	345	927,876	3.72	369	919,666	4.01
Northeastern New York	175	432,509	4.05	47	93,364	5.03	32	97,606	3.28	34	86,799	3.92	29	78,184	3.71	33	76,556	4.31
Western New York	292	506,175	5.77	64	112,958	5.67	65	115,071	5.65	55	102,621	5.36	56	91,774	6.10	52	83,751	6.21

^a Children having transposition of the great arteries, with "ICD-9-CM" code 745.10, .11, .12, .19.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.5
Prevalence of tetralogy of Fallot^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	2,967	6,616,300	4.48	556	1,291,884	4.30	646	1,447,683	4.46	619	1,351,739	4.58	556	1,275,634	4.36	590	1,249,360	4.72
Maternal age groups																		
<= 19	259	582,853	4.44	57	130,625	4.36	57	133,479	4.27	62	125,656	4.93	46	104,857	4.39	37	88,236	4.19
20-24	619	1,434,558	4.31	146	332,297	4.39	139	323,989	4.29	115	269,553	4.27	94	255,316	3.68	125	253,403	4.93
25-29	804	1,912,328	4.20	177	425,198	4.16	184	455,415	4.04	174	379,909	4.58	124	327,192	3.79	145	324,614	4.47
30-34	730	1,710,004	4.27	117	287,049	4.08	164	364,348	4.50	151	371,064	4.07	155	353,010	4.39	143	334,533	4.27
>=35	555	976,557	5.68	59	116,715	5.06	102	170,452	5.98	117	205,557	5.69	137	235,259	5.82	140	248,574	5.63
Maternal race/ethnicity																		
Non-Hispanic white	1,623	3,691,360	4.40	338	808,673	4.18	374	845,997	4.42	337	740,840	4.55	276	671,214	4.11	298	624,636	4.77
Non-Hispanic black	604	1,250,247	4.83	112	251,421	4.45	133	290,339	4.58	127	260,822	4.87	111	235,814	4.71	121	211,851	5.71
Hispanic	507	1,237,104	4.10	85	182,072	4.67	102	237,595	4.29	110	261,924	4.20	101	266,885	3.78	109	288,628	3.78
Asian or Pacific	200	370,876	5.39	17	37,157	4.58	32	61,921	5.17	38	75,847	5.01	56	88,159	6.35	57	107,792	5.29
Other/Unknown	33	66,713	4.95	4	12,561	3.18	5	11,831	4.23	7	12,306	5.69	12	13,562	8.85	5	16,453	3.04
Birth weight (grams)																		
<1500	154	107,931	14.27	20	20,006	10.00	28	24,950	11.22	35	22,365	15.65	37	20,263	18.26	34	20,347	16.71
1500-2499	591	413,636	14.29	97	76,244	12.72	150	90,205	16.63	139	83,594	16.63	89	80,073	11.11	116	83,520	13.89
2500-3999	2,075	5,452,417	3.81	413	1,069,615	3.86	433	1,184,186	3.66	412	1,108,815	3.72	401	1,049,456	3.82	416	1,040,345	4.00
>=4000	147	642,316	2.29	26	126,019	2.06	35	148,342	2.36	33	136,965	2.41	29	125,842	2.30	24	105,148	2.28
Gestational age (weeks)																		
<37	568	703,093	8.08	96	125,704	7.64	129	152,509	8.46	128	141,786	9.03	120	138,256	8.68	95	144,838	6.56
>=37	2,201	5,774,076	3.81	460	1,166,180	3.94	517	1,295,174	3.99	461	1,149,764	4.01	403	1,086,731	3.71	360	1,076,227	3.35
Other/Unknown	198	139,131	14.23	0	0		0	0		30	60,189	4.98	33	50,647	6.52	135	28,295	47.71
Sex																		
Female	1,292	3,226,307	4.00	252	629,552	4.00	274	705,976	3.88	289	660,220	4.38	242	621,768	3.89	235	608,791	3.86
Male	1,675	3,389,993	4.94	304	662,332	4.59	372	741,707	5.02	330	691,519	4.77	314	653,866	4.80	355	640,569	5.54
Residence																		
NYC	1,436	3,064,232	4.69	247	571,837	4.32	320	660,428	4.85	317	626,749	5.06	268	597,374	4.49	284	607,844	4.67
NYS excluding NYC	1,531	3,552,068	4.31	309	720,047	4.29	326	787,255	4.14	302	724,990	4.17	288	678,260	4.25	306	641,516	4.77
Geographic Areas																		
Central New York	450	988,202	4.55	102	217,264	4.69	90	227,032	3.96	81	196,719	4.12	83	177,800	4.67	94	169,387	5.55
Downstate New York	2,114	4,689,414	4.51	369	868,298	4.25	478	1,007,974	4.74	464	965,600	4.81	393	927,876	4.24	410	919,666	4.46
Northeastern New York	161	432,509	3.72	38	93,364	4.07	27	97,606	2.77	31	86,799	3.57	35	78,184	4.48	30	76,556	3.92
Western New York	242	506,175	4.78	47	112,958	4.16	51	115,071	4.43	43	102,621	4.19	45	91,774	4.90	56	83,751	6.69

^a Children having tetralogy of Fallot, with "ICD-9-CM" code 745.2.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.6
Prevalence of hypoplastic left heart syndrome^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	1,391	6,616,300	2.10	257	1,291,884	1.99	306	1,447,683	2.11	264	1,351,739	1.95	250	1,275,634	1.96	314	1,249,360	2.51
Maternal age groups																		
<= 19	115	582,853	1.97	22	130,625	1.68	26	133,479	1.95	25	125,656	1.99	12	104,857	1.14	30	88,236	3.40
20-24	283	1,434,558	1.97	60	332,297	1.81	54	323,989	1.67	45	269,553	1.67	52	255,316	2.04	72	253,403	2.84
25-29	395	1,912,328	2.07	81	425,198	1.90	98	455,415	2.15	73	379,909	1.92	64	327,192	1.96	79	324,614	2.43
30-34	379	1,710,004	2.22	62	287,049	2.16	97	364,348	2.66	80	371,064	2.16	73	353,010	2.07	67	334,533	2.00
>=35	219	976,557	2.24	32	116,715	2.74	31	170,452	1.82	41	205,557	1.99	49	235,259	2.08	66	248,574	2.66
Maternal race/ethnicity																		
Non-Hispanic white	808	3,691,360	2.19	177	808,673	2.19	183	845,997	2.16	147	740,840	1.98	130	671,214	1.94	171	624,636	2.74
Non-Hispanic black	292	1,250,247	2.34	44	251,421	1.75	77	290,339	2.65	61	260,822	2.34	47	235,814	1.99	63	211,851	2.97
Hispanic	237	1,237,104	1.92	26	182,072	1.43	37	237,595	1.56	46	261,924	1.76	64	266,885	2.40	64	288,628	2.22
Asian or Pacific	37	370,876	1.00	6	37,157	1.61	6	61,921	0.97	6	75,847	0.79	8	88,159	0.91	11	107,792	1.02
Other/Unknown	17	66,713	2.55	4	12,561	3.18	3	11,831	2.54	4	12,306	3.25	1	13,562	0.74	5	16,453	3.04
Birth weight (grams)																		
<1500	43	107,931	3.98	3	20,006	1.50	13	24,950	5.21	8	22,365	3.58	8	20,263	3.95	11	20,347	5.41
1500-2499	213	413,636	5.15	31	76,244	4.07	41	90,205	4.55	43	83,594	5.14	51	80,073	6.37	47	83,520	5.63
2500-3999	1,050	5,452,417	1.93	211	1,069,615	1.97	229	1,184,186	1.93	195	1,108,815	1.76	171	1,049,456	1.63	244	1,040,345	2.35
>=4000	85	642,316	1.32	12	126,019	0.95	23	148,342	1.55	18	136,965	1.31	20	125,842	1.59	12	105,148	1.14
Gestational age (weeks)																		
<37	225	703,093	3.20	33	125,704	2.63	49	152,509	3.21	47	141,786	3.31	51	138,256	3.69	45	144,838	3.11
>=37	1,051	5,774,076	1.82	224	1,166,180	1.92	257	1,295,174	1.98	204	1,149,764	1.77	190	1,086,731	1.75	176	1,076,227	1.64
Other/Unknown	115	139,131	8.27	0	0		0	0		13	60,189	2.16	9	50,647	1.78	93	28,295	32.87
Sex																		
Female	572	3,226,307	1.77	94	629,552	1.49	124	705,976	1.76	113	660,220	1.71	105	621,768	1.69	136	608,791	2.23
Male	819	3,389,993	2.42	163	662,332	2.46	182	741,707	2.45	151	691,519	2.18	145	653,866	2.22	178	640,569	2.78
Residence																		
NYC	554	3,064,232	1.81	80	571,837	1.40	128	660,428	1.94	113	626,749	1.80	100	597,374	1.67	133	607,844	2.19
NYS excluding NYC	837	3,552,068	2.36	177	720,047	2.46	178	787,255	2.26	151	724,990	2.08	150	678,260	2.21	181	641,516	2.82
Geographic Areas																		
Central New York	248	988,202	2.51	48	217,264	2.21	52	227,032	2.29	41	196,719	2.08	55	177,800	3.09	52	169,387	3.07
Downstate New York	901	4,689,414	1.92	154	868,298	1.77	205	1,007,974	2.03	174	965,600	1.80	157	927,876	1.69	211	919,666	2.29
Northeastern New York	102	432,509	2.36	25	93,364	2.68	21	97,606	2.15	20	86,799	2.30	11	78,184	1.41	25	76,556	3.27
Western New York	140	506,175	2.77	30	112,958	2.66	28	115,071	2.43	29	102,621	2.83	27	91,774	2.94	26	83,751	3.10

^a Children having hypoplastic left heart syndrome, with "ICD-9-CM" code 746.7.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.7
Prevalence of cleft palate without cleft lip^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	3,897	6,616,300	5.89	858	1,291,884	6.64	837	1,447,683	5.78	760	1,351,739	5.62	729	1,275,634	5.71	713	1,249,360	5.71
Maternal age groups																		
<= 19	331	582,853	5.68	98	130,625	7.50	68	133,479	5.09	54	125,656	4.30	59	104,857	5.63	52	88,236	5.89
20-24	816	1,434,558	5.69	223	332,297	6.71	169	323,989	5.22	170	269,553	6.31	136	255,316	5.33	118	253,403	4.66
25-29	1,082	1,912,328	5.66	261	425,198	6.14	281	455,415	6.17	173	379,909	4.55	176	327,192	5.38	191	324,614	5.88
30-34	1,042	1,710,004	6.09	187	287,049	6.51	208	364,348	5.71	229	371,064	6.17	210	353,010	5.95	208	334,533	6.22
>=35	626	976,557	6.41	89	116,715	7.63	111	170,452	6.51	134	205,557	6.52	148	235,259	6.29	144	248,574	5.79
Maternal race/ethnicity																		
Non-Hispanic white	2,422	3,691,360	6.56	573	808,673	7.09	564	845,997	6.67	452	740,840	6.10	450	671,214	6.70	383	624,636	6.13
Non-Hispanic black	526	1,250,247	4.21	125	251,421	4.97	111	290,339	3.82	105	260,822	4.03	86	235,814	3.65	99	211,851	4.67
Hispanic	684	1,237,104	5.53	126	182,072	6.92	124	237,595	5.22	140	261,924	5.35	145	266,885	5.43	149	288,628	5.16
Asian or Pacific	220	370,876	5.93	22	37,157	5.92	28	61,921	4.52	57	75,847	7.52	41	88,159	4.65	72	107,792	6.68
Other/Unknown	45	66,713	6.75	12	12,561	9.55	10	11,831	8.45	6	12,306	4.88	7	13,562	5.16	10	16,453	6.08
Birth weight (grams)																		
<1500	156	107,931	14.45	29	20,006	14.50	39	24,950	15.63	43	22,365	19.23	22	20,263	10.86	23	20,347	11.30
1500-2499	580	413,636	14.02	138	76,244	18.10	119	90,205	13.19	115	83,594	13.76	92	80,073	11.49	116	83,520	13.89
2500-3999	2,908	5,452,417	5.33	642	1,069,615	6.00	628	1,184,186	5.30	546	1,108,815	4.92	565	1,049,456	5.38	527	1,040,345	5.07
>=4000	253	642,316	3.94	49	126,019	3.89	51	148,342	3.44	56	136,965	4.09	50	125,842	3.97	47	105,148	4.47
Gestational age (weeks)																		
<37	593	703,093	8.43	126	125,704	10.02	126	152,509	8.26	121	141,786	8.53	120	138,256	8.68	100	144,838	6.90
>=37	3,070	5,774,076	5.32	732	1,166,180	6.28	711	1,295,174	5.49	594	1,149,764	5.17	581	1,086,731	5.35	452	1,076,227	4.20
Other/Unknown	234	139,131	16.82	0	0		0	0		45	60,189	7.48	28	50,647	5.53	161	28,295	56.90
Sex																		
Female	2,167	3,226,307	6.72	440	629,552	6.99	498	705,976	7.05	444	660,220	6.73	384	621,768	6.18	401	608,791	6.59
Male	1,730	3,389,993	5.10	418	662,332	6.31	339	741,707	4.57	316	691,519	4.57	345	653,866	5.28	312	640,569	4.87
Residence																		
NYC	1,480	3,064,232	4.83	320	571,837	5.60	283	660,428	4.29	320	626,749	5.11	282	597,374	4.72	275	607,844	4.52
NYS excluding NYC	2,417	3,552,068	6.80	538	720,047	7.47	554	787,255	7.04	440	724,990	6.07	447	678,260	6.59	438	641,516	6.83
Geographic Areas																		
Central New York	795	988,202	8.04	174	217,264	8.01	186	227,032	8.19	147	196,719	7.47	150	177,800	8.44	138	169,387	8.15
Downstate New York	2,435	4,689,414	5.19	521	868,298	6.00	494	1,007,974	4.90	499	965,600	5.17	466	927,876	5.02	455	919,666	4.95
Northeastern New York	308	432,509	7.12	75	93,364	8.03	68	97,606	6.97	58	86,799	6.68	51	78,184	6.52	56	76,556	7.31
Western New York	359	506,175	7.09	88	112,958	7.79	89	115,071	7.73	56	102,621	5.46	62	91,774	6.76	64	83,751	7.64

^a Children having cleft palate without cleft lip, with "ICD-9-CM" code 749.0.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.8
Prevalence of cleft lip with and without cleft palate^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	4,881	6,616,300	7.38	1,001	1,291,884	7.75	1,103	1,447,683	7.62	963	1,351,739	7.12	918	1,275,634	7.20	896	1,249,360	7.17
Maternal age groups																		
<= 19	471	582,853	8.08	94	130,625	7.20	109	133,479	8.17	94	125,656	7.48	93	104,857	8.87	81	88,236	9.18
20-24	1,083	1,434,558	7.55	247	332,297	7.43	245	323,989	7.56	203	269,553	7.53	183	255,316	7.17	205	253,403	8.09
25-29	1,421	1,912,328	7.43	324	425,198	7.62	344	455,415	7.55	263	379,909	6.92	248	327,192	7.58	242	324,614	7.46
30-34	1,185	1,710,004	6.93	238	287,049	8.29	268	364,348	7.36	255	371,064	6.87	224	353,010	6.35	200	334,533	5.98
>=35	721	976,557	7.38	98	116,715	8.40	137	170,452	8.04	148	205,557	7.20	170	235,259	7.23	168	248,574	6.76
Maternal race/ethnicity																		
Non-Hispanic white	3,092	3,691,360	8.38	703	808,673	8.69	723	845,997	8.55	624	740,840	8.42	540	671,214	8.05	502	624,636	8.04
Non-Hispanic black	594	1,250,247	4.75	122	251,421	4.85	162	290,339	5.58	108	260,822	4.14	113	235,814	4.79	89	211,851	4.20
Hispanic	840	1,237,104	6.79	116	182,072	6.37	151	237,595	6.36	159	261,924	6.07	185	266,885	6.93	229	288,628	7.93
Asian or Pacific	295	370,876	7.95	44	37,157	11.84	58	61,921	9.37	66	75,847	8.70	62	88,159	7.03	65	107,792	6.03
Other/Unknown	60	66,713	8.99	16	12,561	12.74	9	11,831	7.61	6	12,306	4.88	18	13,562	13.27	11	16,453	6.69
Birth weight (grams)																		
<1500	177	107,931	16.40	44	20,006	21.99	50	24,950	20.04	19	22,365	8.50	32	20,263	15.79	32	20,347	15.73
1500-2499	619	413,636	14.96	112	76,244	14.69	154	90,205	17.07	133	83,594	15.91	104	80,073	12.99	116	83,520	13.89
2500-3999	3,698	5,452,417	6.78	757	1,069,615	7.08	802	1,184,186	6.77	738	1,108,815	6.66	704	1,049,456	6.71	697	1,040,345	6.70
>=4000	387	642,316	6.03	88	126,019	6.98	97	148,342	6.54	73	136,965	5.33	78	125,842	6.20	51	105,148	4.85
Gestational age (weeks)																		
<37	685	703,093	9.74	122	125,704	9.71	165	152,509	10.82	141	141,786	9.94	148	138,256	10.70	109	144,838	7.53
>=37	3,908	5,774,076	6.77	879	1,166,180	7.54	938	1,295,174	7.24	781	1,149,764	6.79	723	1,086,731	6.65	587	1,076,227	5.45
Other/Unknown	288	139,131	20.70	0	0		0	0		41	60,189	6.81	47	50,647	9.28	200	28,295	70.68
Sex																		
Female	1,884	3,226,307	5.84	381	629,552	6.05	433	705,976	6.13	365	660,220	5.53	338	621,768	5.44	367	608,791	6.03
Male	2,997	3,389,993	8.84	620	662,332	9.36	670	741,707	9.03	598	691,519	8.65	580	653,866	8.87	529	640,569	8.26
Residence																		
NYC	1,805	3,064,232	5.89	344	571,837	6.02	416	660,428	6.30	368	626,749	5.87	328	597,374	5.49	349	607,844	5.74
NYS excluding NYC	3,076	3,552,068	8.66	657	720,047	9.12	687	787,255	8.73	595	724,990	8.21	590	678,260	8.70	547	641,516	8.53
Geographic Areas																		
Central New York	979	988,202	9.91	216	217,264	9.94	212	227,032	9.34	182	196,719	9.25	189	177,800	10.63	180	169,387	10.63
Downstate New York	3,013	4,689,414	6.43	578	868,298	6.66	694	1,007,974	6.89	608	965,600	6.30	570	927,876	6.14	563	919,666	6.12
Northern New York	407	432,509	9.41	88	93,364	9.43	80	97,606	8.20	88	86,799	10.14	74	78,184	9.46	77	76,556	10.06
Western New York	482	506,175	9.52	119	112,958	10.53	117	115,071	10.17	85	102,621	8.28	85	91,774	9.26	76	83,751	9.07

^a Children having cleft lip with and without cleft palate, with "ICD-9-CM" code 749.1, 749.2.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.9
Prevalence of hypospadias and epispadias^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	20,714	3,389,993	61.10	4,390	662,332	66.28	4,727	741,707	63.73	4,296	691,519	62.12	3,788	653,866	57.93	3,513	640,569	54.84
Maternal age groups																		
<= 19	1,757	298,546	58.85	394	66,788	58.99	430	68,353	62.91	398	64,181	62.01	268	53,784	49.83	267	45,440	58.76
20-24	4,287	735,427	58.29	1,069	170,625	62.65	1,032	166,319	62.05	792	138,218	57.30	687	130,619	52.60	707	129,646	54.53
25-29	5,961	978,455	60.92	1,460	217,559	67.11	1,477	232,985	63.40	1,179	194,088	60.75	973	167,713	58.02	872	166,110	52.50
30-34	5,438	877,038	62.00	1,037	147,623	70.25	1,178	186,782	63.07	1,193	189,704	62.89	1,084	181,112	59.85	946	171,817	55.06
>=35	3,271	500,527	65.35	430	59,737	71.98	610	87,268	69.90	734	105,328	69.69	776	120,638	64.33	721	127,556	56.52
Maternal race/ethnicity																		
Non-Hispanic white	13,938	1,895,927	73.52	3,214	415,857	77.29	3,294	434,263	75.85	2,862	380,303	75.26	2,409	344,809	69.87	2,159	320,695	67.32
Non-Hispanic black	3,343	636,279	52.54	652	127,801	51.02	756	148,053	51.06	680	132,451	51.34	679	119,935	56.61	576	108,039	53.31
Hispanic	2,553	631,303	40.44	411	92,880	44.25	542	121,361	44.66	562	133,269	42.17	486	136,521	35.60	552	147,272	37.48
Asian or Pacific	715	192,340	37.17	79	19,378	40.77	102	31,974	31.90	170	39,259	43.30	185	45,629	40.54	179	56,100	31.91
Other/Unknown	165	34,144	48.33	34	6,416	52.99	33	6,056	54.49	22	6,237	35.27	29	6,972	41.60	47	8,463	55.54
Birth weight (grams)																		
<1500	863	54,723	157.70	107	10,122	105.71	166	12,729	130.41	192	11,395	168.50	200	10,300	194.18	198	10,177	194.56
1500-2499	2,341	192,210	121.79	442	35,490	124.54	516	41,689	123.77	496	38,756	127.98	449	37,355	120.20	438	38,920	112.54
2500-3999	15,595	2,734,208	57.04	3,398	535,768	63.42	3,589	593,284	60.49	3,180	554,500	57.35	2,806	526,514	53.29	2,622	524,142	50.03
>=4000	1,915	408,852	46.84	443	80,952	54.72	456	94,005	48.51	428	86,868	49.27	333	79,697	41.78	255	67,330	37.87
Gestational age (weeks)																		
<37	3,064	373,848	81.96	540	66,839	80.79	659	80,984	81.37	691	75,303	91.76	652	73,966	88.15	522	76,756	68.01
>=37	16,640	2,943,534	56.53	3,850	595,493	64.65	4,068	660,723	61.57	3,420	585,269	58.44	2,985	553,709	53.91	2,317	548,340	42.26
Other/Unknown	1,010	72,611	139.10	0	0		0	0		185	30,947	59.78	151	26,191	57.65	674	15,473	435.60
Residence																		
NYC	8,039	1,569,637	51.22	1,625	292,881	55.48	1,739	338,039	51.44	1,777	320,437	55.46	1,529	306,336	49.91	1,369	311,944	43.89
NYS excluding NYC	12,675	1,820,356	69.63	2,765	369,451	74.84	2,988	403,668	74.02	2,519	371,082	67.88	2,259	347,530	65.00	2,144	328,625	65.24
Geographic Areas																		
Central New York	3,634	506,116	71.80	805	111,487	72.21	888	116,413	76.28	659	100,452	65.60	639	90,954	70.26	643	86,810	74.07
Downstate New York	13,642	2,402,875	56.77	2,756	444,980	61.94	3,022	516,234	58.54	2,929	494,041	59.29	2,583	475,850	54.28	2,352	471,770	49.86
Northeastern New York	1,518	221,809	68.44	355	47,956	74.03	314	50,036	62.76	285	44,340	64.28	278	40,128	69.28	286	39,349	72.68
Western New York	1,920	259,193	74.08	474	57,909	81.85	503	59,024	85.22	423	52,686	80.29	288	46,934	61.36	232	42,640	54.41

^a Children having hypospadias and epispadias, with "ICD-9-CM" code 752.61, 752.62.

^b Total number of male live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.10
Prevalence of upper limb deficiencies^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	1,824	6,616,300	2.76	419	1,291,884	3.24	501	1,447,683	3.46	399	1,351,739	2.95	241	1,275,634	1.89	264	1,249,360	2.11
Maternal age groups																		
<= 19	183	582,853	3.14	36	130,625	2.76	54	133,479	4.05	43	125,656	3.42	24	104,857	2.29	26	88,236	2.95
20-24	427	1,434,558	2.98	97	332,297	2.92	122	323,989	3.77	91	269,553	3.38	50	255,316	1.96	67	253,403	2.64
25-29	523	1,912,328	2.73	135	425,198	3.18	153	455,415	3.36	97	379,909	2.55	68	327,192	2.08	70	324,614	2.16
30-34	430	1,710,004	2.51	105	287,049	3.66	105	364,348	2.88	106	371,064	2.86	64	353,010	1.81	50	334,533	1.49
>=35	261	976,557	2.67	46	116,715	3.94	67	170,452	3.93	62	205,557	3.02	35	235,259	1.49	51	248,574	2.05
Maternal race/ethnicity																		
Non-Hispanic white	1,141	3,691,360	3.09	273	808,673	3.38	317	845,997	3.75	252	740,840	3.40	142	671,214	2.12	157	624,636	2.51
Non-Hispanic black	323	1,250,247	2.58	86	251,421	3.42	100	290,339	3.44	57	260,822	2.19	39	235,814	1.65	41	211,851	1.94
Hispanic	290	1,237,104	2.34	45	182,072	2.47	74	237,595	3.11	72	261,924	2.75	48	266,885	1.80	51	288,628	1.77
Asian or Pacific	52	370,876	1.40	13	37,157	3.50	9	61,921	1.45	11	75,847	1.45	10	88,159	1.13	9	107,792	0.83
Other/Unknown	18	66,713	2.70	2	12,561	1.59	1	11,831	0.85	7	12,306	5.69	2	13,562	1.47	6	16,453	3.65
Birth weight (grams)																		
<1500	104	107,931	9.64	22	20,006	11.00	30	24,950	12.02	19	22,365	8.50	12	20,263	5.92	21	20,347	10.32
1500-2499	348	413,636	8.41	68	76,244	8.92	121	90,205	13.41	82	83,594	9.81	34	80,073	4.25	43	83,520	5.15
2500-3999	1,285	5,452,417	2.36	308	1,069,615	2.88	328	1,184,186	2.77	278	1,108,815	2.51	181	1,049,456	1.72	190	1,040,345	1.83
>=4000	87	642,316	1.35	21	126,019	1.67	22	148,342	1.48	20	136,965	1.46	14	125,842	1.11	10	105,148	0.95
Gestational age (weeks)																		
<37	342	703,093	4.86	66	125,704	5.25	104	152,509	6.82	76	141,786	5.36	50	138,256	3.62	46	144,838	3.18
>=37	1,396	5,774,076	2.42	353	1,166,180	3.03	397	1,295,174	3.07	300	1,149,764	2.61	182	1,086,731	1.67	164	1,076,227	1.52
Other/Unknown	86	139,131	6.18	0	0		0	0		23	60,189	3.82	9	50,647	1.78	54	28,295	19.08
Sex																		
Female	857	3,226,307	2.66	192	629,552	3.05	230	705,976	3.26	200	660,220	3.03	111	621,768	1.79	124	608,791	2.04
Male	967	3,389,993	2.85	227	662,332	3.43	271	741,707	3.65	199	691,519	2.88	130	653,866	1.99	140	640,569	2.19
Residence																		
NYC	700	3,064,232	2.28	165	571,837	2.89	209	660,428	3.16	147	626,749	2.35	87	597,374	1.46	92	607,844	1.51
NYS excluding NYC	1,124	3,552,068	3.16	254	720,047	3.53	292	787,255	3.71	252	724,990	3.48	154	678,260	2.27	172	641,516	2.68
Geographic Areas																		
Central New York	357	988,202	3.61	83	217,264	3.82	98	227,032	4.32	81	196,719	4.12	41	177,800	2.31	54	169,387	3.19
Downstate New York	1,106	4,689,414	2.36	254	868,298	2.93	315	1,007,974	3.13	242	965,600	2.51	142	927,876	1.53	153	919,666	1.66
Northeastern New York	156	432,509	3.61	36	93,364	3.86	38	97,606	3.89	33	86,799	3.80	25	78,184	3.20	24	76,556	3.14
Western New York	205	506,175	4.05	46	112,958	4.07	50	115,071	4.35	43	102,621	4.19	33	91,774	3.60	33	83,751	3.94

^a Children having upper limb deficiencies, with "ICD-9-CM" code 755.20 -755.29.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.11
Prevalence of lower limb deficiencies^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	1,074	6,616,300	1.62	271	1,291,884	2.10	255	1,447,683	1.76	247	1,351,739	1.83	170	1,275,634	1.33	131	1,249,360	1.05
Maternal age groups																		
<= 19	114	582,853	1.96	26	130,625	1.99	36	133,479	2.70	26	125,656	2.07	16	104,857	1.53	10	88,236	1.13
20-24	255	1,434,558	1.78	69	332,297	2.08	57	323,989	1.76	67	269,553	2.49	36	255,316	1.41	26	253,403	1.03
25-29	300	1,912,328	1.57	99	425,198	2.33	66	455,415	1.45	62	379,909	1.63	46	327,192	1.41	27	324,614	0.83
30-34	267	1,710,004	1.56	56	287,049	1.95	59	364,348	1.62	55	371,064	1.48	54	353,010	1.53	43	334,533	1.29
>=35	138	976,557	1.41	21	116,715	1.80	37	170,452	2.17	37	205,557	1.80	18	235,259	0.77	25	248,574	1.01
Maternal race/ethnicity																		
Non-Hispanic white	575	3,691,360	1.56	151	808,673	1.87	139	845,997	1.64	124	740,840	1.67	89	671,214	1.33	72	624,636	1.15
Non-Hispanic black	258	1,250,247	2.06	70	251,421	2.78	59	290,339	2.03	68	260,822	2.61	35	235,814	1.48	26	211,851	1.23
Hispanic	184	1,237,104	1.49	43	182,072	2.36	47	237,595	1.98	39	261,924	1.49	35	266,885	1.31	20	288,628	0.69
Asian or Pacific	39	370,876	1.05	5	37,157	1.35	6	61,921	0.97	9	75,847	1.19	8	88,159	0.91	11	107,792	1.02
Other/Unknown	18	66,713	2.70	2	12,561	1.59	4	11,831	3.38	7	12,306	5.69	3	13,562	2.21	2	16,453	1.22
Birth weight (grams)																		
<1500	70	107,931	6.49	18	20,006	9.00	18	24,950	7.21	13	22,365	5.81	13	20,263	6.42	8	20,347	3.93
1500-2499	192	413,636	4.64	42	76,244	5.51	42	90,205	4.66	51	83,594	6.10	35	80,073	4.37	22	83,520	2.63
2500-3999	750	5,452,417	1.38	196	1,069,615	1.83	178	1,184,186	1.50	166	1,108,815	1.50	112	1,049,456	1.07	98	1,040,345	0.94
>=4000	62	642,316	0.97	15	126,019	1.19	17	148,342	1.15	17	136,965	1.24	10	125,842	0.79	3	105,148	0.29
Gestational age (weeks)																		
<37	216	703,093	3.07	54	125,704	4.30	50	152,509	3.28	51	141,786	3.60	41	138,256	2.97	20	144,838	1.38
>=37	812	5,774,076	1.41	217	1,166,180	1.86	205	1,295,174	1.58	180	1,149,764	1.57	121	1,086,731	1.11	89	1,076,227	0.83
Other/Unknown	46	139,131	3.31	0	0		0	0		16	60,189	2.66	8	50,647	1.58	22	28,295	7.78
Sex																		
Female	489	3,226,307	1.52	129	629,552	2.05	115	705,976	1.63	106	660,220	1.61	76	621,768	1.22	63	608,791	1.03
Male	585	3,389,993	1.73	142	662,332	2.14	140	741,707	1.89	141	691,519	2.04	94	653,866	1.44	68	640,569	1.06
Residence																		
NYC	471	3,064,232	1.54	125	571,837	2.19	114	660,428	1.73	113	626,749	1.80	68	597,374	1.14	51	607,844	0.84
NYS excluding NYC	603	3,552,068	1.70	146	720,047	2.03	141	787,255	1.79	134	724,990	1.85	102	678,260	1.50	80	641,516	1.25
Geographic Areas																		
Central New York	168	988,202	1.70	36	217,264	1.66	44	227,032	1.94	39	196,719	1.98	31	177,800	1.74	18	169,387	1.06
Downstate New York	732	4,689,414	1.56	187	868,298	2.15	171	1,007,974	1.70	175	965,600	1.81	105	927,876	1.13	94	919,666	1.02
Northeastern New York	75	432,509	1.73	22	93,364	2.36	11	97,606	1.13	10	86,799	1.15	21	78,184	2.69	11	76,556	1.44
Western New York	99	506,175	1.96	26	112,958	2.30	29	115,071	2.52	23	102,621	2.24	13	91,774	1.42	8	83,751	0.96

^a Children having lower limb deficiencies, with "ICD-9-CM" code 755.30 -755.39.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.12
Prevalence omphalocele^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	744	6,616,300	1.12	122	1,291,884	0.94	122	1,447,683	0.84	202	1,351,739	1.49	142	1,275,634	1.11	156	1,249,360	1.25
Maternal age groups																		
<= 19	83	582,853	1.42	14	130,625	1.07	15	133,479	1.12	27	125,656	2.15	20	104,857	1.91	7	88,236	0.79
20-24	143	1,434,558	1.00	25	332,297	0.75	23	323,989	0.71	38	269,553	1.41	24	255,316	0.94	33	253,403	1.30
25-29	188	1,912,328	0.98	38	425,198	0.89	38	455,415	0.83	41	379,909	1.08	31	327,192	0.95	40	324,614	1.23
30-34	205	1,710,004	1.20	33	287,049	1.15	31	364,348	0.85	59	371,064	1.59	40	353,010	1.13	42	334,533	1.26
>=35	125	976,557	1.28	12	116,715	1.03	15	170,452	0.88	37	205,557	1.80	27	235,259	1.15	34	248,574	1.37
Maternal race/ethnicity																		
Non-Hispanic white	397	3,691,360	1.08	81	808,673	1.00	74	845,997	0.87	100	740,840	1.35	75	671,214	1.12	67	624,636	1.07
Non-Hispanic black	193	1,250,247	1.54	24	251,421	0.95	29	290,339	1.00	62	260,822	2.38	32	235,814	1.36	46	211,851	2.17
Hispanic	112	1,237,104	0.91	14	182,072	0.77	11	237,595	0.46	29	261,924	1.11	28	266,885	1.05	30	288,628	1.04
Asian or Pacific	29	370,876	0.78	2	37,157	0.54	7	61,921	1.13	8	75,847	1.05	5	88,159	0.57	7	107,792	0.65
Other/Unknown	13	66,713	1.95	1	12,561	0.80	1	11,831	0.85	3	12,306	2.44	2	13,562	1.47	6	16,453	3.65
Birth weight (grams)																		
<1500	74	107,931	6.86	14	20,006	7.00	12	24,950	4.81	20	22,365	8.94	14	20,263	6.91	14	20,347	6.88
1500-2499	173	413,636	4.18	29	76,244	3.80	39	90,205	4.32	42	83,594	5.02	28	80,073	3.50	35	83,520	4.19
2500-3999	447	5,452,417	0.82	70	1,069,615	0.65	66	1,184,186	0.56	129	1,108,815	1.16	86	1,049,456	0.82	96	1,040,345	0.92
>=4000	50	642,316	0.78	9	126,019	0.71	5	148,342	0.34	11	136,965	0.80	14	125,842	1.11	11	105,148	1.05
Gestational age (weeks)																		
<37	229	703,093	3.26	42	125,704	3.34	41	152,509	2.69	52	141,786	3.67	46	138,256	3.33	48	144,838	3.31
>=37	456	5,774,076	0.79	80	1,166,180	0.69	81	1,295,174	0.63	138	1,149,764	1.20	87	1,086,731	0.80	70	1,076,227	0.65
Other/Unknown	59	139,131	4.24	0	0		0	0		12	60,189	1.99	9	50,647	1.78	38	28,295	13.43
Sex																		
Female	329	3,226,307	1.02	53	629,552	0.84	52	705,976	0.74	89	660,220	1.35	67	621,768	1.08	68	608,791	1.12
Male	415	3,389,993	1.22	69	662,332	1.04	70	741,707	0.94	113	691,519	1.63	75	653,866	1.15	88	640,569	1.37
Residence																		
NYC	290	3,064,232	0.95	43	571,837	0.75	37	660,428	0.56	96	626,749	1.53	44	597,374	0.74	70	607,844	1.15
NYS excluding NYC	454	3,552,068	1.28	79	720,047	1.10	85	787,255	1.08	106	724,990	1.46	98	678,260	1.44	86	641,516	1.34
Geographic Areas																		
Central New York	136	988,202	1.38	24	217,264	1.10	27	227,032	1.19	30	196,719	1.53	30	177,800	1.69	25	169,387	1.48
Downstate New York	459	4,689,414	0.98	77	868,298	0.89	63	1,007,974	0.63	140	965,600	1.45	74	927,876	0.80	105	919,666	1.14
Northeastern New York	65	432,509	1.50	7	93,364	0.75	17	97,606	1.74	12	86,799	1.38	18	78,184	2.30	11	76,556	1.44
Western New York	84	506,175	1.66	14	112,958	1.24	15	115,071	1.30	20	102,621	1.95	20	91,774	2.18	15	83,751	1.79

^a Children having omphalocele, with "BPA" code 756.70.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.13
Prevalence of gastroschisis^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	906	6,616,300	1.37	123	1,291,884	0.95	149	1,447,683	1.03	194	1,351,739	1.44	174	1,275,634	1.36	266	1,249,360	2.13
Maternal age groups																		
<= 19	300	582,853	5.15	31	130,625	2.37	49	133,479	3.67	76	125,656	6.05	65	104,857	6.20	79	88,236	8.95
20-24	364	1,434,558	2.54	59	332,297	1.78	50	323,989	1.54	64	269,553	2.37	70	255,316	2.74	121	253,403	4.78
25-29	159	1,912,328	0.83	23	425,198	0.54	36	455,415	0.79	37	379,909	0.97	25	327,192	0.76	38	324,614	1.17
30-34	63	1,710,004	0.37	7	287,049	0.24	11	364,348	0.30	16	371,064	0.43	10	353,010	0.28	19	334,533	0.57
>=35	20	976,557	0.20	3	116,715	0.26	3	170,452	0.18	1	205,557	0.05	4	235,259	0.17	9	248,574	0.36
Maternal race/ethnicity																		
Non-Hispanic white	508	3,691,360	1.38	83	808,673	1.03	76	845,997	0.90	118	740,840	1.59	93	671,214	1.39	138	624,636	2.21
Non-Hispanic black	146	1,250,247	1.17	13	251,421	0.52	30	290,339	1.03	21	260,822	0.81	36	235,814	1.53	46	211,851	2.17
Hispanic	228	1,237,104	1.84	21	182,072	1.15	41	237,595	1.73	52	261,924	1.99	44	266,885	1.65	70	288,628	2.43
Asian or Pacific	15	370,876	0.40	4	37,157	1.08	1	61,921	0.16	3	75,847	0.40	1	88,159	0.11	6	107,792	0.56
Other/Unknown	9	66,713	1.35	2	12,561	1.59	1	11,831	0.85	0	12,306	0.00	0	13,562	0.00	6	16,453	3.65
Birth weight (grams)																		
<1500	55	107,931	5.10	13	20,006	6.50	13	24,950	5.21	10	22,365	4.47	5	20,263	2.47	14	20,347	6.88
1500-2499	441	413,636	10.66	57	76,244	7.48	69	90,205	7.65	90	83,594	10.77	93	80,073	11.61	132	83,520	15.80
2500-3999	404	5,452,417	0.74	51	1,069,615	0.48	65	1,184,186	0.55	94	1,108,815	0.85	75	1,049,456	0.71	119	1,040,345	1.14
>=4000	6	642,316	0.09	2	126,019	0.16	2	148,342	0.13	0	136,965	0.00	1	125,842	0.08	1	105,148	0.10
Gestational age (weeks)																		
<37	389	703,093	5.53	44	125,704	3.50	67	152,509	4.39	90	141,786	6.35	88	138,256	6.37	100	144,838	6.90
>=37	438	5,774,076	0.76	79	1,166,180	0.68	82	1,295,174	0.63	86	1,149,764	0.75	80	1,086,731	0.74	111	1,076,227	1.03
Other/Unknown	79	139,131	5.68	0	0		0	0		18	60,189	2.99	6	50,647	1.18	55	28,295	19.44
Sex																		
Female	435	3,226,307	1.35	61	629,552	0.97	70	705,976	0.99	90	660,220	1.36	90	621,768	1.45	124	608,791	2.04
Male	471	3,389,993	1.39	62	662,332	0.94	79	741,707	1.07	104	691,519	1.50	84	653,866	1.28	142	640,569	2.22
Residence																		
NYC	319	3,064,232	1.04	38	571,837	0.66	66	660,428	1.00	61	626,749	0.97	69	597,374	1.16	85	607,844	1.40
NYS excluding NYC	587	3,552,068	1.65	85	720,047	1.18	83	787,255	1.05	133	724,990	1.83	105	678,260	1.55	181	641,516	2.82
Geographic Areas																		
Central New York	216	988,202	2.19	30	217,264	1.38	32	227,032	1.41	45	196,719	2.29	41	177,800	2.31	68	169,387	4.01
Downstate New York	487	4,689,414	1.04	66	868,298	0.76	93	1,007,974	0.92	99	965,600	1.03	98	927,876	1.06	131	919,666	1.42
Northeastern New York	90	432,509	2.08	10	93,364	1.07	10	97,606	1.02	21	86,799	2.42	17	78,184	2.17	32	76,556	4.18
Western New York	113	506,175	2.23	17	112,958	1.50	14	115,071	1.22	29	102,621	2.83	18	91,774	1.96	35	83,751	4.18

^a Children having gastroschisis, with "BPA" code 756.71.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births

Table 2.1.14
Prevalence of trisomy 21 (Down syndrome)^a by five-year period and descriptive characteristics.
New York births, 1983-2007

Characteristics	Total (1983-2007)			1983-1987			1988-1992			1993-1997			1998-2002			2003-2007		
	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c	Cases	LB ^b	Prev ^c
Total	7,174	6,616,300	10.84	1,353	1,291,884	10.47	1,444	1,447,683	9.97	1,417	1,351,739	10.48	1,414	1,275,634	11.08	1,546	1,249,360	12.37
Maternal age groups																		
<= 19	386	582,853	6.62	105	130,625	8.04	86	133,479	6.44	85	125,656	6.76	61	104,857	5.82	49	88,236	5.55
20-24	840	1,434,558	5.86	201	332,297	6.05	189	323,989	5.83	176	269,553	6.53	115	255,316	4.50	159	253,403	6.28
25-29	1,269	1,912,328	6.64	314	425,198	7.38	321	455,415	7.05	238	379,909	6.26	204	327,192	6.23	192	324,614	5.92
30-34	1,784	1,710,004	10.43	371	287,049	12.92	398	364,348	10.92	355	371,064	9.57	330	353,010	9.35	330	334,533	9.86
>=35	2,895	976,557	29.65	362	116,715	31.02	450	170,452	26.40	563	205,557	27.39	704	235,259	29.92	816	248,574	32.83
Maternal race/ethnicity																		
Non-Hispanic white	4,171	3,691,360	11.30	882	808,673	10.91	861	845,997	10.18	818	740,840	11.04	801	671,214	11.93	809	624,636	12.95
Non-Hispanic black	1,221	1,250,247	9.77	210	251,421	8.35	250	290,339	8.61	258	260,822	9.89	241	235,814	10.22	262	211,851	12.37
Hispanic	1,384	1,237,104	11.19	220	182,072	12.08	256	237,595	10.77	270	261,924	10.31	277	266,885	10.38	361	288,628	12.51
Asian or Pacific	307	370,876	8.28	28	37,157	7.54	65	61,921	10.50	57	75,847	7.52	76	88,159	8.62	81	107,792	7.51
Other/Unknown	91	66,713	13.64	13	12,561	10.35	12	11,831	10.14	14	12,306	11.38	19	13,562	14.01	33	16,453	20.06
Birth weight (grams)																		
<1500	281	107,931	26.04	45	20,006	22.49	59	24,950	23.65	63	22,365	28.17	50	20,263	24.68	64	20,347	31.45
1500-2499	1,283	413,636	31.02	215	76,244	28.20	271	90,205	30.04	256	83,594	30.62	260	80,073	32.47	281	83,520	33.65
2500-3999	5,363	5,452,417	9.84	1,037	1,069,615	9.70	1,068	1,184,186	9.02	1,038	1,108,815	9.36	1,060	1,049,456	10.10	1,160	1,040,345	11.15
>=4000	247	642,316	3.85	56	126,019	4.44	46	148,342	3.10	60	136,965	4.38	44	125,842	3.50	41	105,148	3.90
Gestational age (weeks)																		
<37	1,552	703,093	22.07	253	125,704	20.13	338	152,509	22.16	316	141,786	22.29	328	138,256	23.72	317	144,838	21.89
>=37	5,115	5,774,076	8.86	1,100	1,166,180	9.43	1,106	1,295,174	8.54	1,026	1,149,764	8.92	1,019	1,086,731	9.38	864	1,076,227	8.03
Other/Unknown	507	139,131	36.44	0	0		0	0		75	60,189	12.46	67	50,647	13.23	365	28,295	129.00
Sex																		
Female	3,420	3,226,307	10.60	621	629,552	9.86	694	705,976	9.83	690	660,220	10.45	675	621,768	10.86	740	608,791	12.16
Male	3,754	3,389,993	11.07	732	662,332	11.05	750	741,707	10.11	727	691,519	10.51	739	653,866	11.30	806	640,569	12.58
Residence																		
NYC	3,083	3,064,232	10.06	577	571,837	10.09	635	660,428	9.62	622	626,749	9.92	576	597,374	9.64	673	607,844	11.07
NYS excluding NYC	4,091	3,552,068	11.52	776	720,047	10.78	809	787,255	10.28	795	724,990	10.97	838	678,260	12.36	873	641,516	13.61
Geographic Areas																		
Central New York	1,135	988,202	11.49	220	217,264	10.13	232	227,032	10.22	212	196,719	10.78	241	177,800	13.55	230	169,387	13.58
Downstate New York	4,929	4,689,414	10.51	919	868,298	10.58	980	1,007,974	9.72	991	965,600	10.26	949	927,876	10.23	1,090	919,666	11.85
Northeastern New York	441	432,509	10.20	82	93,364	8.78	91	97,606	9.32	86	86,799	9.91	88	78,184	11.26	94	76,556	12.28
Western New York	669	506,175	13.22	132	112,958	11.69	141	115,071	12.25	128	102,621	12.47	136	91,774	14.82	132	83,751	15.76

^a Children having trisomy 21 (Down syndrome), with "ICD-9-CM" code 758.0.

^b Total number of live births

^c Prevalence: number of children with birth defects per 10,000 live births