



## VITAL STATISTICS SURVEILLANCE SYSTEM (VITAL STATS)

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**State Web Site:**

<http://chfs.ky.gov/dph/vital/vitalstats.htm>

**National Web Site:**

<http://www.cdc.gov/nchs/nvss.htm>

## Sources of Information for the Database

Information in the vital statistics system is based upon birth, death, stillbirth, marriage, and divorce certificates collected and maintained by the Office of Vital Statistics (OVS). Almost 99% of birth records are reported electronically from birthing facilities via the Electronic Birth Registration System (EBRS). On July 1, 2010 the office implemented an Electronic Death Registration System (EDRS). As of July 1, 2013 over 45% of all death certificates were reported electronically through the EDRS. The remainder of birth records, death records, stillbirths, marriages, and divorce certificates are reported on paper, and keyed to the OVS electronic data systems. KRS 213.016 mandates the establishment of the OVS. Various other sections of KRS 213 mandate what certificate data are to be collected and how they are to be managed by OVS. KRS 213.141 prescribes fees that are to be paid for certified copies of certificates or records and for searches of records when copies are not made. KRS 213.141 section (3) further mandates that these fees are to be used to support the costs of administering the system of vital statistics.

## Description of the Data Collected

For births (and stillbirths), the system collects identifying information on the newborn and parents; demographic data such as address, age, race, and Hispanic origin of the parents; mother's previous pregnancy history; circumstances of the birth such as plurality, birth weight, obstetric procedures, and abnormal conditions of the newborn; and medical risk factors, such as tobacco and alcohol use during pregnancy (and cause of fetal death in the case of stillbirths). Data are collected on all births that occur in Kentucky or that occur to a Kentucky resident out-of-state. For deaths, the system collects identifying information on the decedent; demographic data such as address, age, sex, race, and occupation; circumstances of the death, such as date and place; the underlying cause of death, and up to three supplemental or contributing causes of death. For marriages and divorces, the system collects identifying information on the husband and wife, and the date and county of the event on all marriages and divorces that occur in Kentucky.

## Strengths of the Data

Registration of vital events is required by law, thus assuring that virtually 100% of events that occur in the state are reported. The system is fully population-based rather than relying on a sampling strategy. Electronic data have been maintained in a reasonably consistent format since 1977, and tabulated statistical data on births and deaths are available going back to 1911. Collection protocols and formats are similar among states, so the data are comparable.

## Specific Uses of Information

- Provide data used to estimate population statistics by age, race, gender, and place of residence
- Provide birth and death statistics for a variety of purposes and programs of government, business, and other organizations
- Provide data to assess the health status of the population, e.g., birth weight, infant mortality, and leading causes of death by both government agencies and other healthcare researchers
- Provide denominators for the calculation of rates and ratios of health events
- Provide data to the National Center for Health Statistics (NCHS) for incorporation into the National Vital Statistics System

### Data Limitations

In general, there are three main limitations to the vital statistics data.

**Incompleteness of residence data:** Each state registers vital events that occur within its jurisdiction. In order to collect data on vital events that occur to its residents in other states, the state of residence must depend upon the state of occurrence to transmit these records, known as in-transfers, back to the state of residence. Even though numerous attempts are made to collect these records, OVS rarely receives 100% of them from the other states. Consequently, the total number of records in OVS's files is usually less than nationally published statistics for Kentucky. However, the difference is ordinarily less than one percent of the total number of events.

**Timeliness:** Due primarily to the time spent waiting for other states to transmit in-transfer records, plus the time spent to complete a final edit of the data, there is currently a delay of as much as three to five years in establishing a "complete" annual database. Additionally, due to budget cuts which eliminated several staffing positions, OVS no longer has the resources required to produce the numerous tables in the *Annual Vital Statistics Report*. The last year for which these reports were available was 2005.

**Accessibility:** The data are housed on a mainframe system and SQL server requiring special software, such as SAS or Business Objects, to access the data. In addition, the arcane structure of the files and the coding conventions usually require a user to develop considerable familiarity with the data before useful analyses can be made. So far, funds have not been made available to develop an online query system. In addition, marriage and divorce data are often incomplete because the collection method relies on submissions from **county clerk** offices in the county where the marriage license was issued and divorce certificate submissions from the **circuit county clerk** that granted the divorce decree.

### System Evaluation

The data are subject to computerized edit checks when entered. Corrections and amendments are made to the database on an on-going basis. The NCHS requires the state to maintain an error rate of no more than 2% for birth and death data. In addition, the Vital Statistics Branch conducts a final check of the files prior to establishing the official annual database. Any anomalies are checked against the actual certificates.

## Data Set Availability

No identifiable birth (>50,000 records annually), death (>40,000 records annually), or stillbirth data sets are available to the public. However, for a cost, these data can be made available to research organizations pending approval from the Cabinet's Institutional Review Board. De-identified, aggregate data sets can be made available to the public, the smallest geographic unit of analysis varying among data sets and stratification. All data is generated in either an Excel workbook or text file for release. Data can be transferred to the end user through file transfer protocol, FTP, or burned to a password protected disc and mailed with instructions for password retrieval. The vital statistics data contact can supply further information regarding instructions for requesting the data. National data are available on the NCHS web site.

## Data Release Policy

Although under review, the current data release policy states that all numerators less than 5 be suppressed if the denominator is less than 1,000 for all data sets. Aggregate years of data (3-5 years) can be released for highly stratified data, in order to accommodate for low cell counts for specific cause or variable(s). All data requests are reviewed and approved prior to release under the discretion of the State Registrar.

## Data Publications

*Kentucky Annual Vital Statistics Reports* from 1997-2005 are available on the Kentucky public health web site <http://chfs.ky.gov/dph/vital/vitalstats.htm>. Although this manuscript is no longer being published, tables can be requested for release as long as the data requested meets the data release policy.

## Suggested Data Citation

Kentucky Department for Public Health (KDPH). *Birth (or Death or Marriage or Divorce) Certificate Files*. Frankfort, Kentucky: Cabinet for Health and Family Services [data year].

## Contributing Authors

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