

## Vital Statistics Surveillance System (Vital Stats)



**Registrar:** Christina S. Stewart  
State Registrar  
Kentucky Department for Public Health  
Division of Epidemiology and Health Planning  
Office of Vital Statistics, Branch Manager  
(502) 564-4212 ext. 3200  
[Christina.Stewart@ky.gov](mailto:Christina.Stewart@ky.gov)

**Data Contact:** Claudia Valdivieso, MPH  
Epidemiologist  
Kentucky Department for Public Health  
Division of Epidemiology and Health Planning  
Office of Vital Statistics  
(502) 564-4212 ext. 3233  
[Claudia.Valdivieso@ky.gov](mailto:Claudia.Valdivieso@ky.gov)

Amah Martin, MPH  
Epidemiologist  
Kentucky Department for Public Health  
Division of Epidemiology and Health Planning  
Office of Vital Statistics  
(502) 564-4212 ext. 3234  
[Amah.Martin@ky.gov](mailto:Amah.Martin@ky.gov)

**State Web Site:** <https://chfs.ky.gov/agencies/dph/dehp/vsb/Pages/default.aspx>

**National Web Site:** <http://www.cdc.gov/nchs/nvss.htm>

### **Sources of Information for the Database**

The KRS 213.016 statute mandated the establishment of a vital statistics program in the Cabinet for Health and Family Services, Department for Public Health, which is entitled to maintain and operate as the only official system of vital statistics in the Commonwealth.

The information in the vital statistics system originates from birth, death, stillbirth, marriage, and divorce certificates, collected and maintained by the Office of Vital Statistics (OVS). Induced termination of pregnancy (ITOP) data is also maintained.

Currently, approximately 99% of the birth records are entered electronically from birthing facilities via the Kentucky Child Hearing Immunization Lab Data (KY-CHILD), most Stillbirth records are entered into KY-CHILD, and approximately 99% of all death certificates are reported electronically through the Kentucky Electronic Death Registration System (KY-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.

Several sections of KRS 213 mandate the collection and management of certificate data. KRS 213.141 prescribes fees for searches and searches resulting in certified copies of certificates. 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**

There are 57 fields of data included in the Kentucky Certificate of Live Birth, and 40 fields in the Kentucky Certificate of Stillbirth, for which data is collected. Overall, data collected includes demographic information from the newborn and parents, as well as medical and health information.

KY-CHILD collects identifying data for births (and stillbirths), for the newborn and parents. Demographic data such as address, age, race, and Hispanic origin of the parents. Medical data such as 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).

For deaths, there are 52 fields of data included in the Kentucky Certificate of Death. The data collected involves 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 causes, and contributing factors to death.

For marriages and divorces, the system collects identifying information on the two

Data are collected on all births and deaths that occur in Kentucky or that occur to a Kentucky resident out-of-state, conversely, marriage and divorce data are collected by occurrence in Kentucky, regardless of the place of residence. two parties involved (formerly husband and wife), and the date and county of the event on all marriages and divorces that occur in Kentucky.

Data are collected on all births and deaths that occur in Kentucky or that occur to a Kentucky resident out-of-state, conversely, marriage and divorce data are collected by occurrence in Kentucky, regardless of the place of residence, two parties involved (formerly husband and wife), and the date and county of the event on all marriages and divorces that occur in Kentucky.

### **Strengths of the Data**

There are multiple strengths associated with the vital statistics data as follow:

- OVS is the only agency that collects vital events (birth, death, stillbirth, marriage, and divorce) data, holding over 15 million unique and irreplaceable records.
- The records compiled in the OVS, contain extremely valuable health information that is used as a source for planning processes and public health program evaluation, and to determine key health measures in the state.
- OVS establishes written agreements with data users as needed, to provide data in regular basis. To date, OVS has over 25 active Memorandum of Understanding Agreements (MOU's).
- 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.
- Vital statistics data have been maintained in reasonably consistent formats since 1977. In addition, electronic collection protocols and formats are similar among states. Data collected overtime is for the most part, comparable within the state as well as across the country.
- Electronic data collection systems (KY-CHILD and KY-EDRS) have tremendously improved the quality of the vital statistics data that is stored in the OVS, since implementation in 2006 and 2010 (mandatory in 2015) respectively. Electronic data is available from 1990 and forward.
- Electronic births and deaths lists are available from 1911 and forward. Per KRS 213.131, OVS prepares lists that include all Kentucky births and deaths. The lists are subject to inspection by the public upon request. The information contained in those lists includes, for the births lists: person's name, mother's maiden name, date and county of birth; and for the death lists: name of deceased, date and county of death.

### **Data Limitations**

- Each state registers vital events that occur within its jurisdiction. Kentucky OVS relies on other states to collect data for its residents for events that occur out-of-state. The quality of the data received from out-of-state is not always comparable with the quality of data from within the state. An example, amendments to out-of-state data are not always received. At the moment, there are no standard procedures for reporting and handling out-of-state records among the states.
- OVS is not currently producing Annual Vital Statistics Reports. As the individual data requests are made, they are provided. The individual data requests makes the process of releasing data more time-consuming in some cases. Reduced staffing also affected the possibility of closing the years of data. To close years of data, staff are required to clean and processes several years of data to ensure overall quality of the data. For this reason, even though the years of data are very complete due to the efficient data collection systems, additional cleaning is required to officially close the data years. Birth data is open from year 2008 forward, death data from 2009 forward, stillbirth data from 2006 forward, and marriages and divorces from 2005 forward. Currently, OVS is actively working on solving these issues.
- Data on marriages and divorces are often incomplete because the collection method relies on submissions from those county clerk offices issuing marriage licenses, and divorce certificate submissions from the circuit county clerks granting divorce decree. OVS is studying the possibility of alternative systems to filling marriage and divorce records directly from county and circuit clerk offices.
- Due to the increasing numbers of data requesters with diverse uses of the vital statistics data, there is a need to develop an online query system to support customized queries of the vital statistics databases. This would provide the required data to the multiple users more efficiently. However, to date funds are not available towards that end.

### **Specific Uses of Information**

- Data to the National Center for Health Statistics (NCHS) for incorporation into the National Vital Statistics System.
- Data for grant applications, community health assessments, program strategic planning, private researches, statistics for the state, etc.
- Data to estimate population statistics by age, race, gender, and place of residence.
- Provide data to assess the health status of the population, e.g., birth weight, infant mortality, and leading causes of death to governments agencies, universities, as well as other healthcare researchers.
- Provide denominators for the calculation of rates and ratios of health events.

### **Users of Vital Statistics Data**

There are multiple and diverse users of the vital statistics data; to name a few:

- Centers for Disease Control and Prevention (CDC).
- Kentucky regional and local health departments.
- Health departments from other states, such as Tennessee, Ohio, and Indiana.
- Office of vital statistics and registrar offices from other states, such as Ohio.

## Vital Stats

---

- Internal requesters from the Cabinet for Health and Family Services, such as: Division of Maternal and Child Health, Division of Women’s Health, Office of Inspector General, Office of Health Equity, Department for Medicaid Services, and the same OVS, among many other requesters.
- Kentucky cabinets, such as the Kentucky Education & Workforce Development Kentucky Injury Prevention and Research Center (KIPRC) at the University of Kentucky.
- Kentucky State Data Center.
- Kentucky Cancer Registry.
- American Heart Association.
- Multiple universities from within and outside of Kentucky.
- Office of State Medical Examiner.
- REACH of Louisville.
- Hospitals, hospices, and other medical institutions.
- Funeral Homes.
- School systems in Kentucky.
- Students and other researchers and private requesters.
- Press and media in general.
- Public libraries and historical societies.
- Many others.

### **Process for Making a Data Request to the OVS and Data Availability**

No identifiable birth (>50,000 records annually), death (>40,000 records annually), or stillbirth data sets are available to the public. Any data requests made to OVS, requires an email to be sent to the epidemiologist (**ky.gov** email), which explains the purpose for the request and the type of data that is needed. After all clarifications are made regarding the request, the epidemiologist will prepare the data request. If necessary, an email will be forwarded to the state registrar or the Office of Legal Services for approval, to start processing the request. Once the data has being prepared, the epidemiologist will provide the data request. If necessary, the registrar or the Office of Legal Services will approve the release and distribution of the data. Data processing and preparation time may imply some costs. Data request processing is on an individual basis, and distributed accordingly, based on the type of data (whether or not it includes Personal Health Identifiers-PHIs) and the size of the file(s). De-identified, aggregate data sets are available to the public. The smallest geographic unit of analysis varies among data sets and stratification. All data is generated in either an Excel workbook or text file for release. The most common ways to distribute data are via email, encrypted files via email, transfer files through the state secure site MOVEitDMZ (mostly for big files with confidential data included), and password-protected files via CD (usually for non-confidential data). Some requestors will be required either to go through the processes of the Cabinet’s Institutional Review Board (IRB) approval, or to sign a Memorandum of Understanding (MOU) between OVS and the requester’s institution. Assistance will be provided to requestors in case of IRB.

### **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 Release Policy**

The current data release policy states that all numerators less than 5 are to be suppressed if the denominator is less than 1,000 for all data sets. OVS reserves the right, at the registrar's discretion, to suppress for denominators >1,000. 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 <https://chfs.ky.gov/agencies/dph/dehp/vsb/Pages/reports.aspx>. 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, 2018.

#### **Contributing Authors**

Christina S. Stewart, State Registrar, Kentucky Department for Public Health

Victoria Hubbard, MPH, Kentucky Department for Public Health

Claudia Valdivieso, MPH, MS, Kentucky Department for Public Health

Amah Martin, MPH, Kentucky Department for Public Health