

An Introduction to the Commonwealth Institute of Kentucky's Health Claims Data

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1. Background

Kentucky Health Facility and Services (KHFS) data includes information on inpatient and outpatient encounters from Kentucky hospitals and facilities. The data is organized into two separate files: inpatient and outpatient data files. Both patient and facility information is included in the data files. Patient information includes place of residence (county and zip code), demographics, admission (type, source, and LOS) and discharge (year, quarter, and status), diagnoses and procedures, and costs. Facility information includes name, location (county and zip code), class, category, and control (See: <https://www.chfs.ky.gov/agencies/ohda/Pages/hfsd.aspx>).

2. Data availability and documentation

Both inpatient and outpatient data are available for public use. Details about public use datasets, purchasing procedures, and the latest data reporting manuals are available at this <https://www.chfs.ky.gov/agencies/ohda/Pages/hfsd.aspx>.

3. Annual Claims Data Reports

The Kentucky Cabinet for Health and Family Services publishes individual annual reports for cardiac catheterizations, inpatient hospitalizations, and emergency department encounters using the Health Facility and Services Data. Each year claims data reports are available in the [drop-down box in the right column](#).

4. Commonwealth Institute of Kentucky (CIK) Kentucky Health Claims Data

4.1. Years of Data

The CIK purchased the Kentucky Health Facility and Services Data from 2015 to 2021.

4.2. Data Format

The database includes data files in multiple formats, namely,

- Text (for 2015 to 2020),
- CSV (for 2021), and

- SPSS (for 2015 to 2020).

4.3. Components of the Data

For each year, there are two data files: an inpatient data file and an outpatient data file. The fields in the data files are described and their components are provided below.

- Record ID (a Unique De-identified Encounter ID, not Patient ID)
- Patient Demographic Information:
 - Patient Sex
 - Age Groups
 - Patient Ethnicity
 - Hispanic or Latino Ethnicity
 - Non-Hispanic or Latino Ethnicity
 - Patient Race
 - American Indian or Alaska Native
 - Asian
 - Black or African American
 - Native Hawaiian or Pacific Islander
 - White
 - Other
- Patient Geographic Information:
 - State
 - County FIPS
 - 5-Digit Zip Code
- Facility Information:
 - Name
 - County FIPS
 - City
 - 5-Digit Zip Code
 - Class (Medicare Classification)
 - Urban PPS
 - CAH or Rural PPS
 - OP
 - Category (Bed Size)
 - Under 1,000
 - 1,000 to 2,999
 - 3,000 to 5,999
 - 6,000 to 9,999
 - Over 9,999
 - Control (Ownership)

- For-Profit
- Non-Profit
- Government
- District (Kentucky Area Development District, ADD)
- KHA_Release (Facility Records Available in KHA Datasets)
- Facility Type (KHA Membership Type)
- System (System Name if Part of a Health Care System)
- Service Marker:
 - Emergency Department (Y/N)
 - Observation Care (Y/N)
 - Surgery (Y/N)
- Admission Information:
 - Facility ID
 - Admission Type
 - Emergency
 - Urgent
 - Elective
 - Newborn
 - Trauma Center
 - Information Not Available
 - Rehabilitation
 - Admission Source for Newborn Cases
 - Normal Birth
 - Premature Birth
 - Sick Baby
 - Extramural Birth
 - Born Inside the Hospital
 - Born Outside the Hospital
 - Information Not Available
 - Admission Source for Non-Newborn Cases
 - Facility Does Not Collect
 - Non-Health Care Facility by Order of a Physician Clinic
 - Transfer from Hospital (Different Facility)
 - Transfer from SNF/ICF
 - Transfer from Another HC Facility
 - Emergency Room
 - Court/Law Enforcement
 - Information Not Available
 - Transfer from Another Home Health Agency
 - Readmission to Same Home Health Agency

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Transfer from Ambulatory Surgery Center

Transfer from Hospice/Under Hospice Plan or Enrolled in a Hospice Program

- Length of Stay
- o Discharge Information:
 - Discharge Year
 - Discharge Quarter
 - Discharge Status
 - 1 Discharged to Home or Self-care (Routine Discharge)
 - 2 Discharged/Transferred to a Short-term General Hospital for Inpatient Care
 - 3 Discharged/Transferred to Skilled Nursing Facility (SNF) with Medicare Certification
 - 4 Discharged/Transferred to a Facility That Provides Custodial or Supportive Care
 - 5 Discharged/Transferred to a Designated Cancer Center or Children's Hospital
 - 6 Discharged/Transferred to Home Under Care of Organized Home Health Service Organization in Anticipation of Covered Skilled Care
 - 7 Left Against Medical Advice or Discontinued Care
 - 8 Reserved for National Assignment
 - 9 Admitted as an Inpatient to This Hospital
 - 19 Reserved for National Assignment
 - 20 Expired
 - 21 Discharged/Transferred to Court/Law Enforcement
 - 22-29 Reserved for National Assignment
 - 30 Still Patient
 - 31-39 Reserved for National Assignment
 - 40 Expired at Home
 - 41 Expired in a Medical Facility (e.g., Hospital, SNF, ICF, or Free-Standing Hospice)
 - 42 Expired - Place Unknown
 - 43 Discharged/Transferred to a Federal Health Care Facility
 - 44-49 Reserved for National Assignment
 - Do Not Resuscitate (DNR)
 - Indicates a DNR Order Was Written at the Time or Within the 1st 24 Hours of Admission and Clearly Documented in the Patient Record (P1)
- o Diagnosis and Procedure Information
 - Up to 25 Diagnosis Codes (ICD-9 and ICD-10)
 - Major Diagnostic Category (MDC), *Not Available in Outpatient Data*
 - 0 Ungroupable
 - 1 Nervous System
 - 2 Eye
 - 3 Ear, Nose, Mouth, And Throat

- 4 Respiratory System
 - 5 Circulatory System
 - 6 Digestive System
 - 7 Hepatobiliary System and Pancreas
 - 8 Musculoskeletal System and Connective Tissue
 - 9 Skin, Subcutaneous Tissue, and Breast
 - 10 Endocrine, Nutritional, and Metabolic System
 - 11 Kidney and Urinary Tract
 - 12 Male Reproductive System
 - 13 Female Reproductive System
 - 14 Pregnancy, Childbirth, and Puerperium
 - 15 Newborn and Other Neonates (Perinatal Period)
 - 16 Blood and Blood Forming Organs and Immunological Disorders
 - 17 Myeloproliferative Diseases & Disorders (Poorly Differentiated Neoplasms)
 - 18 Infectious and Parasitic Diseases and Disorders
 - 19 Mental Diseases and Disorders
 - 20 Alcohol/Drug Use or Induced Mental Disorders
 - 21 Injuries, Poison, and Toxic Effect of Drugs
 - 22 Burns
 - 23 Factors Influencing Health Status
 - 24 Multiple Significant Trauma
 - 25 Human Immunodeficiency Virus (HIV) Infection
- Medicare Severity Diagnosis Related Group (MSDRG), *Not Available in Outpatient Data*
 - Present on Admission (dx_poa.1-25), *Not Available in Outpatient Data*
 - Up to 25 Procedures Codes, *Not Available in Outpatient Data*
 - Up to 128 CPT Procedure Codes, *Not Available in Inpatient Data*
- Insurance and Costs:
 - Primary Payer: Health Insurance Coverage Type and Plan (Public and Private)
 - Secondary Payer: Health Insurance Coverage Type and Plan (Public and Private)
 - Tertiary/other Payer: Health Insurance Coverage Type and Plan (Public and Private)
 - Total Charges

5. Limitations

- Unique patient IDs are not included in the data. Hence, patient-based longitudinal data cannot be constructed.
- Admission and discharge dates are not reported. Only the year and quarter of discharge are reported.
- Patients' exact age; instead, age groups are reported.

- Costs to the patient cannot be assessed because only total charges by the facility are reported.

6. Studies conducted using the KHFS Data

Larson, K. L., Huang, B., Chen, Q., Tucker, T., Schuh, M., Arnold, S. M., & Kolesar, J. M. (2020). EGFR testing and erlotinib use in non-small cell lung cancer patients in Kentucky. *PLoS One*, 15(8), e0237790.

Gallaway, M. S., Huang, B., Chen, Q., Tucker, T., McDowell, J., Durbin, E., & Tai, E. (2019). Identifying smoking status and smoking cessation using a data linkage between the Kentucky Cancer Registry and health claims data. *JCO clinical cancer informatics*, 3, 1-8.

Baldwin, L. A., Chen, Q., Tucker, T. C., White, C. G., Ore, R. N., & Huang, B. (2017). Ovarian cancer incidence corrected for oophorectomy. *Diagnostics*, 7(2), 19.