



TECHNICAL NOTES
for the Cancer Surgery Volume Report

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Pennsylvania Health Care Cost Containment Council

Report Period: State Fiscal Year 2017

July 1, 2016 – June 30, 2017 Data

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Technical Notes

Cancer Surgery Volume Report

METHODOLOGY

This document serves as a supplement to the PHC4 *Cancer Surgery Volume Report*, which presents information about the number of cancer-related surgeries performed at Pennsylvania hospitals. Included within this set of technical notes are descriptions of the criteria and definitions (codes) used for case selection and report display.

Study period

The report includes data from state fiscal year 2017: July 1, 2016 through June 30, 2017.

Measure reported: number of cancer surgeries

The primary measure displayed in this report is the number of cancer-related surgeries performed on adult patients (age 18 years and older) at individual hospitals in Pennsylvania. Hospital surgical volume is reported separately for eleven types of cancers including bladder, brain, breast, colon, esophageal, liver, lung, pancreatic, prostate, rectal, and stomach cancer. Statewide totals are also provided.

Selection of cancers for this report

The eleven cancers included in this report were chosen because of strong evidence in the scientific literature* showing a relationship between patient outcomes and hospital volume for these cancer surgeries specifically.

Data collection and verification

The data for the *Cancer Surgery Volume Report*, obtained from the UB-04 (Uniform Billing) form, was submitted electronically to the Pennsylvania Health Care Cost Containment Council by Pennsylvania general acute care (GAC) and specialty GAC hospitals. Federal hospitals were not included. The data included demographic information, hospital charges, and diagnosis and procedure codes (ICD-10-CM/PCS and CPT-4).

Facilities submitted data to the Council on a quarterly basis (within 90 days from the last day of each quarter). Upon receipt of the data, verification was performed to assure data were submitted in a readable format, and extensive quality assurance checks were completed. Error reports for UB-04 data were then generated and returned to each facility with an opportunity to correct any problems. Data accuracy and completeness were ultimately the responsibility of each individual hospital.

Study populations and inclusion criteria

All records meeting the definition criteria listed in Appendix Table A were included in the volume counts. The study populations for each of the eleven cancer surgery categories included all usable adult (age 18 years and older) inpatient discharge records (and outpatient records for breast cancer surgeries) from all Pennsylvania GAC and specialty GAC hospitals operational during the study period (exceptions are noted in Appendix Tables A and B). Individual patients who underwent more than one type of cancer surgery during their hospitalization were counted in each respective cancer category.

* Described in detail by the California HealthCare Foundation. 2015. "Safety in Numbers: Cancer Surgeries in California Hospitals." Available at <https://www.chcf.org/wp-content/uploads/2017/12/PDF-SafetyCancerSurgeriesHospitals.pdf>

APPENDIX

TABLE A
Definitions for Cancer Surgeries

Requirements for including a record in the volume count:

- Record was from a GAC/SGAC hospital
- Time period: July 1, 2016 through June 30, 2017
- Patient age was 18 years or older
- Code requirements*
 - Record was not in Major Diagnostic Category 14 – Pregnancy, Childbirth and the Puerperium
 - Record was not in Major Diagnostic Category 15 – Newborns and Other Neonates with Conditions
 - Record had at least one ICD-10-CM diagnosis code and at least one ICD-10-PCS procedure code (or CPT-4 code for outpatient breast cancer surgeries) for a specific cancer surgery type, as outlined below. Codes were listed in any position within the patient record.

List of codes, by cancer type:**Bladder**

Diagnosis: C670, C671, C672, C673, C674, C675, C676, C677, C678, C679, D090

Procedure: 0TBB0ZZ, 0TBB3ZZ, 0TBB4ZZ, 0TBC0ZZ, 0TBC3ZZ, 0TBC4ZZ, 0TTB0ZZ, 0TTB4ZZ, 0TTB7ZZ, 0TTB8ZZ, 0TTC0ZZ, 0TTC4ZZ, 0TTC7ZZ, 0TTC8ZZ

Brain

Diagnosis: C710, C711, C712, C713, C714, C715, C716, C717, C718, C719, C7931

Procedure: 00500ZZ, 00503ZZ, 00504ZZ, 00570ZZ, 00573ZZ, 00574ZZ, 005B0ZZ, 005B3ZZ, 005B4ZZ, 005C0ZZ, 005C3ZZ, 005C4ZZ, 005D0ZZ, 005D3ZZ, 005D4ZZ, 00B00ZZ, 00B03ZZ, 00B04ZZ, 00B60ZZ, 00B63ZZ, 00B64ZZ, 00B70ZZ, 00B73ZZ, 00B74ZZ, 00BB0ZZ, 00BB3ZZ, 00BB4ZZ, 00BC0ZZ, 00BC3ZZ, 00BC4ZZ, 00BD0ZZ, 00BD3ZZ, 00BD4ZZ, 00T70ZZ, 00T73ZZ, 00T74ZZ

Breast

Diagnosis: C50011, C50012, C50019, C50021, C50022, C50029, C50111, C50112, C50119, C50121, C50122, C50129, C50211, C50212, C50219, C50221, C50222, C50229, C50311, C50312, C50319, C50321, C50322, C50329, C50411, C50412, C50419, C50421, C50422, C50429, C50511, C50512, C50519, C50521, C50522, C50529, C50611, C50612, C50619, C50621, C50622, C50629, C50811, C50812, C50819, C50821, C50822, C50829, C50911, C50912, C50919, C50921, C50922, C50929, D0500, D0501, D0502, D0510, D0511, D0512, D0580, D0581, D0582, D0590, D0591, D0592

Procedure (inpatient, ICD-10-PCS): 0HBT0ZZ, 0HBT3ZZ, 0HBT7ZZ, 0HBT8ZZ, 0HBTXZZ, 0HBU0ZZ, 0HBU3ZZ, 0HBU7ZZ, 0HBU8ZZ, 0HBUXZZ, 0HBV0ZZ, 0HBV3ZZ, 0HBV7ZZ, 0HBV8ZZ, 0HBVXZZ, 0HTT0ZZ, 0HTU0ZZ, 0HTV0ZZ

Procedure (outpatient, CPT-4): 19125, 19301, 19302, 19303, 19304, 19305, 19306, 19307

Colon

Diagnosis: C180, C181, C182, C183, C184, C185, C186, C187, C188, C189, C49A4, D010

Procedure: 0DBE0ZZ, 0DBE3ZZ, 0DBE4ZZ, 0DBE7ZZ, 0DBE8ZZ, 0DBF0ZZ, 0DBF3ZZ, 0DBF4ZZ, 0DBF7ZZ, 0DBF8ZZ, 0DBG0ZZ, 0DBG3ZZ, 0DBG4ZZ, 0DBG7ZZ, 0DBG8ZZ, 0DBH0ZZ, 0DBH3ZZ, 0DBH4ZZ, 0DBH7ZZ, 0DBH8ZZ, 0DBK0ZZ, 0DBK3ZZ, 0DBK4ZZ, 0DBK7ZZ, 0DBK8ZZ, 0DBL0ZZ, 0DBL3ZZ, 0DBL4ZZ, 0DBL7ZZ, 0DBL8ZZ, 0DBM0ZZ, 0DBM3ZZ, 0DBM4ZZ, 0DBM7ZZ, 0DBM8ZZ, 0DBN0ZZ, 0DBN3ZZ, 0DBN4ZZ, 0DBN7ZZ, 0DBN8ZZ, 0DTE0ZZ, 0DTE4ZZ, 0DTE7ZZ, 0DTE8ZZ, 0DTF0ZZ, 0DTF4ZZ, 0DTF7ZZ, 0DTF8ZZ, 0DTG0ZZ, 0DTG4ZZ, 0DTG7ZZ, 0DTG8ZZ, 0DTH0ZZ, 0DTH4ZZ, 0DTH7ZZ, 0DTH8ZZ, 0DTK0ZZ, 0DTK4ZZ, 0DTK7ZZ, 0DTK8ZZ, 0DTL0ZZ, 0DTL4ZZ, 0DTL7ZZ, 0DTL8ZZ, 0DTM0ZZ, 0DTM4ZZ, 0DTM7ZZ, 0DTM8ZZ, 0DTN0ZZ, 0DTN4ZZ, 0DTN7ZZ, 0DTN8ZZ

* Modified from criteria (based on ICD-9-CM codes) used by the California Office of Statewide Health Planning and Development and the California HealthCare Foundation; see Office of Statewide Health Planning and Development, 2016, "OSHPD Technical Note for Calculating Volume of Cancer Surgeries in California Hospitals." Available at <https://www.oshpd.ca.gov/documents/HID/CancerSurgery/TechnicalNotes2013-14.pdf>.

Esophagus**Diagnosis:** C153, C154, C155, C158, C159, C160, C49A1, D001

Procedure: 0D11076, 0D11079, 0D1107A, 0D1107B, 0D110J6, 0D110J9, 0D110JA, 0D110JB, 0D110K6, 0D110K9, 0D110KA, 0D110KB, 0D110Z6, 0D110Z9, 0D110ZA, 0D110ZB, 0D11476, 0D11479, 0D1147A, 0D1147B, 0D114J6, 0D114J9, 0D114JA, 0D114JB, 0D114K6, 0D114K9, 0D114KA, 0D114KB, 0D114Z6, 0D114Z9, 0D114ZA, 0D114ZB, 0D11879, 0D1187A, 0D1187B, 0D118J9, 0D118JA, 0D118JB, 0D118K9, 0D118KA, 0D118KB, 0D118Z9, 0D118ZA, 0D118ZB, 0D12076, 0D12079, 0D1207A, 0D1207B, 0D120J6, 0D120J9, 0D120JA, 0D120JB, 0D120K6, 0D120K9, 0D120KA, 0D120KB, 0D120Z6, 0D120Z9, 0D120ZA, 0D120ZB, 0D12476, 0D12479, 0D1247A, 0D1247B, 0D124J6, 0D124J9, 0D124JA, 0D124JB, 0D124K6, 0D124K9, 0D124KA, 0D124KB, 0D124Z6, 0D124Z9, 0D124ZA, 0D124ZB, 0D12876, 0D12879, 0D1287A, 0D1287B, 0D128J6, 0D128J9, 0D128JA, 0D128JB, 0D128K6, 0D128K9, 0D128KA, 0D128KB, 0D128Z6, 0D128Z9, 0D128ZA, 0D128ZB, 0D13076, 0D13079, 0D1307A, 0D1307B, 0D130J6, 0D130J9, 0D130JA, 0D130JB, 0D130K6, 0D130K9, 0D130KA, 0D130KB, 0D130Z6, 0D130Z9, 0D130ZA, 0D130ZB, 0D13476, 0D13479, 0D1347A, 0D1347B, 0D134J6, 0D134J9, 0D134JA, 0D134JB, 0D134K6, 0D134K9, 0D134KA, 0D134KB, 0D134Z6, 0D134Z9, 0D134ZA, 0D134ZB, 0D13876, 0D13879, 0D1387A, 0D1387B, 0D138J6, 0D138J9, 0D138JA, 0D138JB, 0D138K6, 0D138K9, 0D138KA, 0D138KB, 0D138Z6, 0D138Z9, 0D138ZA, 0D138ZB, 0D15076, 0D15079, 0D1507A, 0D1507B, 0D150J6, 0D150J9, 0D150JA, 0D150JB, 0D150K6, 0D150K9, 0D150KA, 0D150KB, 0D150Z6, 0D150Z9, 0D150ZA, 0D150ZB, 0D15476, 0D15479, 0D1547A, 0D1547B, 0D154J6, 0D154J9, 0D154JA, 0D154JB, 0D154K6, 0D154K9, 0D154KA, 0D154KB, 0D154Z6, 0D154Z9, 0D154ZA, 0D154ZB, 0D15876, 0D15879, 0D1587A, 0D1587B, 0D158J6, 0D158J9, 0D158JA, 0D158JB, 0D158K6, 0D158K9, 0D158KA, 0D158KB, 0D158Z6, 0D158Z9, 0D158ZA, 0D158ZB, 0DB10ZZ, 0DB13ZZ, 0DB17ZZ, 0DB20ZZ, 0DB23ZZ, 0DB27ZZ, 0DB30ZZ, 0DB33ZZ, 0DB37ZZ, 0DB40ZZ, 0DB43ZZ, 0DB44ZZ, 0DB47ZZ, 0DB50ZZ, 0DB53ZZ, 0DB57ZZ, 0DT10ZZ, 0DT14ZZ, 0DT17ZZ, 0DT18ZZ, 0DT20ZZ, 0DT24ZZ, 0DT27ZZ, 0DT28ZZ, 0DT30ZZ, 0DT34ZZ, 0DT37ZZ, 0DT38ZZ, 0DT40ZZ, 0DT44ZZ, 0DT47ZZ, 0DT48ZZ, 0DT50ZZ, 0DT54ZZ, 0DT57ZZ, 0DT58ZZ, 0DX60Z5, 0DX64Z5, 0DX80Z5, 0DX84Z5, 0DXE0Z5, 0DXE4Z5

Liver**Diagnosis:** C220, C221, C222, C223, C224, C227, C228, C229, C23, C240, C241, C248, C249, C787, C7B02, D015

Procedure: 0FB00ZZ, 0FB03ZZ, 0FB04ZZ, 0FB10ZZ, 0FB13ZZ, 0FB14ZZ, 0FB20ZZ, 0FB23ZZ, 0FB24ZZ, 0FT10ZZ, 0FT14ZZ, 0FT20ZZ, 0FT24ZZ

Lung**Diagnosis:** C3410, C3411, C3412, C342, C3430, C3431, C3432, C3480, C3481, C3482, C3490, C3491, C3492, D0220, D0221, D0222

Procedure: 0B5C0ZZ, 0B5C3ZZ, 0B5C7ZZ, 0B5D0ZZ, 0B5D3ZZ, 0B5D7ZZ, 0B5F0ZZ, 0B5F3ZZ, 0B5F7ZZ, 0B5G0ZZ, 0B5G3ZZ, 0B5G7ZZ, 0B5H0ZZ, 0B5H3ZZ, 0B5H7ZZ, 0B5J0ZZ, 0B5J3ZZ, 0B5J7ZZ, 0B5K0ZZ, 0B5K3ZZ, 0B5K7ZZ, 0B5L0ZZ, 0B5L3ZZ, 0B5L7ZZ, 0B5M0ZZ, 0B5M3ZZ, 0B5M7ZZ, 0BBC0ZZ, 0BBC3ZZ, 0BBC4ZZ, 0BBC7ZZ, 0BBD0ZZ, 0BBD3ZZ, 0BBD4ZZ, 0BBD7ZZ, 0BBF0ZZ, 0BBF3ZZ, 0BBF4ZZ, 0BBF7ZZ, 0BBG0ZZ, 0BBG3ZZ, 0BBG4ZZ, 0BBG7ZZ, 0BBH0ZZ, 0BBH3ZZ, 0BBH4ZZ, 0BBH7ZZ, 0BBJ0ZZ, 0BBJ3ZZ, 0BBJ4ZZ, 0BBJ7ZZ, 0BBK0ZZ, 0BBK3ZZ, 0BBK4ZZ, 0BBK7ZZ, 0BBL0ZZ, 0BBL3ZZ, 0BBL4ZZ, 0BBL7ZZ, 0BBM0ZZ, 0BBM3ZZ, 0BBM7ZZ, 0BTC0ZZ, 0BTC4ZZ, 0BTD0ZZ, 0BTD4ZZ, 0BTF0ZZ, 0BTF4ZZ, 0BTG0ZZ, 0BTG4ZZ, 0BTH0ZZ, 0BTH4ZZ, 0BTJ0ZZ, 0BTJ4ZZ, 0BTK0ZZ, 0BTK4ZZ, 0BTL0ZZ, 0BTL4ZZ, 0BTM0ZZ, 0BTM4ZZ

Pancreas**Diagnosis:** C250, C251, C252, C253, C254, C257, C258, C259

Procedure: 0FBG0ZZ, 0FBG3ZZ, 0FBG4ZZ, 0FTG0ZZ, 0FTG4ZZ

Prostate**Diagnosis:** C61, D075

Procedure: 0VT00ZZ, 0VT04ZZ, 0VT07ZZ, 0VT08ZZ

Rectum**Diagnosis:** C19, C20, C49A5, D011, D012

Procedure: 0DBP0ZZ, 0DBP4ZZ, 0DTP0ZZ, 0DTP4ZZ, 0DTP7ZZ, 0DTP8ZZ

Stomach**Diagnosis:** C161, C162, C163, C164, C165, C166, C168, C169, C49A2, D002

Procedure: 0DB60Z3, 0DB60ZZ, 0DB63Z3, 0DB63ZZ, 0DB64Z3, 0DB67Z3, 0DB67ZZ, 0DB68Z3, 0DB70ZZ, 0DB73ZZ, 0DB77ZZ, 0DT60ZZ, 0DT64ZZ, 0DT67ZZ, 0DT68ZZ, 0DT70ZZ, 0DT74ZZ, 0DT77ZZ, 0DT78ZZ

TABLE B
Hospitals Not Reported

There were a total of 171 GAC/SGAC facilities in Pennsylvania during the study period. This report included usable records from all facilities except those listed below.

Hospital Name	Reason Hospital Not Reported
Facilities that closed/merged	
Palmerton	Merged with Blue Mt Gnadon Huetten on December 1, 2016
Children's hospitals	
Children's Hosp Phila	Children's hospital
Children's Hosp Pgh UPMC	Children's hospital
Shriners Children Phila	Children's hospital
St. Christopher's Children	Children's hospital
Facilities with no volume	
The following facilities had no (n= 0) records in all eleven cancer surgery categories within the study period.	
Advanced Surgical	No volume
Barix Clinics PA	No volume
Barnes-Kasson County	No volume
Bucktail	No volume
Conemaugh Meyersdale	No volume
Conemaugh Miners	No volume
Coordinated Health Ortho	No volume
Corry Memorial	No volume
Edgewood Surgical	No volume
Endless Mountains	No volume
Fulton County	No volume
Guthrie Towanda Memorial	No volume
OSS Orthopaedic	No volume
Penn Highlands Brookville	No volume
Physicians Care	No volume
Rothman Ortho Specialty	No volume
Troy Community	No volume
Wellspan Surgery & Rehab	No volume
Wills Eye	No volume