

A Time- and Resource-Efficient Method for Annually Auditing All Reporting Hospitals in Your State: the Inpatient & Outpatient Hospital Discharge Files

By

Dr. Martin A. Whiteside

Director, Office of Cancer Surveillance, TN Dept. of Health

Martin.Whiteside@tn.gov

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Healthcare Cost & Utilization Project

- ✧ HCUP, pronounced “H-Cup”
- ✧ Family of databases providing patient-level health care data since 1988; sponsored by Agency for Healthcare Research & Quality (AHRQ)
- ✧ Largest collection of longitudinal hospital care data in the US with all-payer, encounter-level information
- ✧ Databases enable research on a broad range of health policy issues, including cost and quality of health services, medical practice patterns, access to health care programs and outcomes of treatments

“H-Cup” Databases

- ⌘ National Inpatient Sample (NIS) with inpatient data from a national sample of over 1000 hospitals
- ⌘ Kids’ Inpatient Database (KID) is a nationwide sample of pediatric inpatient discharges
- ⌘ Nationwide Emergency Department Sample (NEDS), a database yielding national estimates of ED visits
- ⌘ **State Inpatient Databases (SID) contain the universe of inpatient discharge abstracts from participating states**
- ⌘ **State Ambulatory Surgery Databases (SASD) contain data from hospital-affiliated & sometimes freestanding ASTC**
- ⌘ **State Emergency Department Databases (SEDD) contain data from hospital-affiliated emergency departments from visits that do not result in hospitalizations**

Patient Casefinding

- Files provide patient-identifying information: SS#, date of birth, medical record number
- 18 potential diagnoses in ICD-9 coding
- Facility identifying information
- Facility-specific information from inpatient and outpatient HD files, 2009 DX year, were linked to an extract of cases received from the facility using SS#
- Electronic, fillable follow-back forms are prepared with patient-identifying information and uploaded to facility's WebPlus account
- A total of 7626 inpatients and 11943 outpatients were followed back, from which facility contacts identified 895 and 749 reportable cancer diagnoses, respectively

Inpatient Follow-Back Analysis

- ✎ Of the 895 inpatients identified as missed, we actually ended up with 898 evaluable observations, since 3 patients had multiple primaries
- ✎ Of the 898 observations: 821 cases were reported from hospitals, 4 cases were reported as DCOs, 29 were reported through labs, 4 reported from hospitals during death clearance follow-back, 12 reported from physician offices during death clearance follow-back, and 28 were never reported
- ✎ Of the 821 cases reported from hospital facilities, 573 (70% of reported cases) were reported from CoC-approved facilities whereas 248 were reported from non-CoC-approved facilities

Outpatient Follow-Back Analysis

- ✎ Of the 749 outpatients identified as missed, we actually ended up with 752 evaluable observations, since 3 patients had multiple primaries
- ✎ Of the 752 observations: 708 cases were reported from hospitals, 3 cases were reported as DCOs, 14 were reported through labs, 4 reported from physician offices during death clearance follow-back, and 23 were never reported
- ✎ Of the 708 cases reported from hospital facilities, 495 (70% of reported cases) were reported from CoC-approved facilities whereas 213 were reported from non-CoC-approved facilities

Inpatients			
Brain & Other NS	136	Corpus & Uterus, NOS	12
Lung	134	Oral Cavity & Pharynx	10
Blood	129	Esophagus	7
Colorectal	59	Bone & Joints	5
Unknown (C80)	43	Soft Tissue, incl. Heart	5
Prostate	39	Other Biliary	4
Breast	31	Thyroid	4
Other Endocrine, incl. Thymus	29	Small Intestine	3
Pancreas	29	Vulva	3
Kidney & Renal Pelvis	22	Gall Bladder	3
Ovary	18	Larynx	2
Lymph Nodes	16	Peritoneum & Retroperitoneum	2
Liver & Intrahepatic Bile Duct	16	Ureter	2
Skin	14	Other Male Genital	1
Cervix Uteri	14	Vagina	1
Urinary Bladder	13	Nose, Nasal Cavity & Middle Ear	1
Stomach	13	Anus	1

Outpatients			
Brain & Other NS	166	Ovary	10
Lung	61	Thyroid	9
Other Endocrine, incl. Thymus	56	Stomach	8
Prostate	52	Pancreas	8
Blood	50	Esophagus	6
Vulva	36	Small Intestine	5
Breast	35	Soft Tissue, incl. Heart	5
Skin	32	Corpus & Uterus, NOS	5
Urinary Bladder	21	Anus	3
Colorectal	20	Bone & Joints	3
Lymph Nodes	19	Other Biliary	2
Unknown (C80)	18	Nose, Nasal Cavity & Middle Ear	2
Kidney & Renal Pelvis	16	Larynx	2
Vagina	13	Peritoneum & Retroperitoneum	2
Cervix Uteri	13	Testis	2
Oral Cavity & Pharynx	13	Other & Ill-Defined Sites	1
Liver & Intrahepatic Bile Duct	11	Gall Bladder	1
		Pleura	1
		Eye & Orbit	1

Case Analysis

- ✎ For other endocrine, including thymus, the large majority of cases were pituitary tumors: 26 out of 29 total for inpatients; 54 out of 56 total for outpatients
- ✎ There was a very diverse array of tumor types missed, though missed brain tumors are the most commonly missed tumor for both outpatient and inpatient cases
- ✎ Female genital cancers were significantly more common in outpatient missed cases compared to inpatients: 49 cases versus 4, respectively
- ✎ Breast in situ (C50) and in situ female genitourinary cancers (C51-58) were significantly more common among missed outpatient cases: 47 for outpatients versus 4 for inpatients

Conclusion

- ❧ Hospital discharge files are useful means for capturing cases missed during routine casefinding at reporting facilities
- ❧ There is a very diverse array of tumor types missed, though missed brain tumors are the most commonly missed tumor for both outpatient and inpatient cases, and female genital cancers can be captured better using the outpatient HD file
- ❧ A total of 1529 total cases were reported by hospitals during the follow-back process, resulting in 1488 non-duplicated cases reported to the TN Cancer Registry. This represents approximately 4.5% of our total annual submission