

Background

- Alberta Cancer Registry (ACR) holds a legal mandate to record and maintain Cancer cases since 1942.
- ACR receives notifications for cancer patients independently from laboratories, physicians and vital statistics offices as mandated by the Regional Health Authorities Act - Cancer Registry Regulation (Surveillance & Reporting, 2014; Province of Alberta, 2009)
- The quality of ACR data is of utmost importance as it is used to support the planning, treatment and research programs in Alberta and providing data to enable comparison across jurisdictions.
- ACR has received gold certification from NAACCR since 2002 incidence data indicating 95% or higher overall case ascertainment.
- There have been some speculations around the under reporting of certain cancers. To validate this hypothesis, hospital discharge data (using the Discharge Abstract Database) was reviewed for possible missed cases by the ACR.
- This poster explores two aspects related to the hypothesis:
 - 1) Evaluate impact of Hospital discharge data linkage on completeness of case ascertainment in the ACR
 - 2) Explore reasons for under reporting
- Number of invasive cases by Cancer sites of interest in Alberta for years 2018-2020 are as follows:

Site	2018-2020	2018	2019	2020
Lung	7236	2465	2418	2353
Hematology	6984	2260	2467	2257
Urinary	2290	796	800	694
Colorectal	5872	2048	2005	1819
Male Genital	8204	2718	2912	2574
Other Digestive	5683	1858	1933	1892

Table 1

Method

- The data sources used for the review were:
 1. Alberta Cancer registry (ACR) data which is provincial population based registry data
 2. Discharge Abstract Data (DAD), which is maintained by Canadian Institute of Health Information(CIHI).
- SAS 9.4 was used to analyze the data.
- Inclusion criteria were as follows:
 - 1) Uli (health insurance number) is not missing
 - 2)Diagnosis Type: Most responsible
Preadmit comorbidity
Secondary diagnosis
 - 3) ICD10/ICDO codes for each Cancer site of interest
 - 4) Year of Admission:2018-2020
- ICD10 codes and their corresponding ICDO codes for each site of interest as re follows

Site	ICD10 codes	ICDO codes
Lung	C34	C34
Hematology	C81-C86, C88, C90-C96,D45,D46,D47	959,965-972,976,980-994,973,974,975,995-999
Urinary	C64,C65,C66,C68	C64,C65,C66,C68
Colorectal	C18,C19,C20	C18,C19,C20
Male Genital	C60,C61,C62,C63	C60,C61,C62,C63
Other Digestive	C15-C17,C21-C26	C15-C17,C21-C26

Table2

**Urinary cases exclude bladder; Solid tumor exclude hematology morphologies

- Unique lifetime identifier(Uli) per a patient is used as a key to link cases from DAD data to ACR data.
- If the case was in DAD pull data only then, it was sent to Alberta Cancer registry coders to review if they could be added to ACR data with the following eligibility criteria
 - 1) Reportable condition
 - 2) Patient living in Alberta at the time of diagnosis
- For this poster we have focused on the impact of DAD review for invasive (/3) cases only

Results

- The number and percent of cases added as per the DAD review 2018-2020

Site	Other years	2018-2020	2018	2019	2020
Lung	34	182(2.5%)	66(2.7%)	41(1.7%)	75(3.2%)
Hematology	60	167(2.4%)	57(2.5%)	51(2.1%)	59(2.6%)
Urinary	42	106(4.6%)	44(5.5%)	41(5.1%)	21(3.0%)
Colorectal	3	55(0.9%)	28(1.4%)	5(0.2%)	22(1.2%)
Male Genital	26	61(0.7%)	25(0.9%)	23(0.8%)	13(0.5%)
Other Digestive	26	137(2.4%)	48(2.6%)	44(2.3%)	45(2.4%)
Overall	191	708(1.9%)	268(2.2%)	205(1.6%)	235(2.0%)

Table 3

- Diagnostic confirmation by Cancer for cases added by DAD review 2018-2020

Site	Highest reported Diagnostic Confirmation	Frequency(%)
Lung	Radiology	161(88%)
Hematology	Histology	99(59%)
Urinary	Radiology	80(75%)
Colorectal	Radiology	36(65%)
Male Genital	Laboratory	30(49%)
Other Digestive	Radiology	117(85%)

Table 4

**Numbers above include preliminary data. Slight changes may occur as coding is completed.

Discussion and Conclusion

- Proposed reasons for under reporting:
 - Cancer cases seen outside Cancer care facilities or diagnosed by Radiology require active reporting.
- Some cases added through DAD review may be found by other sources eventually.
- Overall the impact of DAD review in case ascertainment was small (< 2%) for malignant cancers
- However, for certain sites like Urinary reviews are more productive (4.6%) and should be carried out routinely
- Over time we could see a greater impact as patients do not always show up in hospitals until years after they have been diagnosed.

Acknowledgements

The Author acknowledges the Manager, Analyst, Registrar and other staff at Alberta Cancer Registry for their feedback and support.