



National Program of Cancer Registries Data Completeness and Quality Audits

Cancer Data Registry of Idaho (CDRI)

Diagnosis Year 2004

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Administers the NPCR-Data Completeness and Quality Audits (DCQA) project for CDC

Contract Number: 200-2006-19096

NPCR and the States

The Centers for Disease Control and Prevention (CDC) provides funding and technical assistance to the National Program of Cancer Registries (NPCR) registries to:

- Develop statewide population-based cancer registries
- Improve registry operations
- Monitor completeness, timeliness, and accuracy of the data

Purpose of the Audit

To assess completeness and quality of data collected by population-based NPCR-funded cancer registries

Cancer Data Registry of Idaho

Onsite Audit

Auditors

Brenda Lange, CTR
Project Manager

Kathy Tinney, CTR
Quality Assurance Specialist

Date

07/09/2007–07/20/2007

Confidentiality and Security

- All activities are performed under strict confidentiality statutes.
- All DCQA staff signed confidentiality agreements.
- Data were used only for the purpose of the audit.
- Upon completion of all audit-related activities, data are disposed of according to the Cancer Data Registry of Idaho statement of disposition.

Methodology

Data Sources:

In January 2007, CDRI submitted:

- A master extract file of the 2004 Idaho resident cases

4,962 Eligible Cases

- A master hospital list with the number of 2004 analytic cases reported by each hospital in Idaho (except VA and military)

15 Eligible Hospitals

Audit Sampling Methodology

- **Probabilities Proportional to Size**

Probability of selecting a hospital is proportional to its caseload

- **Hospital Sampling**

9 hospitals with 1 alternate

- **Random Case Sampling/Hospital**

33 cases(records)/hospital

Audit Sampling Methodology: CDRI

- Hospitals were ranked, according to caseload, into 3 groups:

Load	# of Hospitals	# of Cases
High	4	348 – 1154
Medium	3	70 – 303
Low	2	39 - 62

Casefinding Process

- Identify reportable cases according to caseload groups:
 - Low: 6 months
 - Medium: 4 months
 - High: 3 months
- Compare with extract file:
 - Potentially missed cases
 - Confirmed missed cases

Casefinding Sources

- Pathology reports
- Non-gynecology cytology reports
- Medical Record Disease Index (MRDI)
- Radiation therapy clinic logs
- Surgical and same-day-surgery logbooks
- Outpatient clinic records
- Nuclear medicine logs
- Any other source

Case Completeness Rate

$$\text{Completeness Rate (\%)} = 100 - (\text{Missed Cases}^*/\text{Total Cases Identified}) \times 100$$

Completeness Rate for CDRI: 99.1%

$$100 - (10/1080) \times 100 = 99.1\%$$

*After reconciliation

Quality Assurance Process

Compare reabstracted values with CDRI values:

- Flag discrepancies
- Reconciliation by CDRI
- Final errors

Data Reviewed (21 data elements)

Demographics	Tumor		Surgery
DOB	Primary Site	Subsite	Surgery Date
Race	Laterality	Histology	Surg Prim Site
Sex	Behavior	Grade	Reg LN Surg
	Date of DX	Seq No	Surg Oth Reg/Dist
	CS Extension	CS LN	
	CS Mets at DX	CS SSF1	
	CS SSF3	Derived SS2000	

Data Accuracy Rate

Data Accuracy Rate (%) =

$100 - (\text{Discrepancies} / \text{Total Data Elements Reviewed}) \times 100$

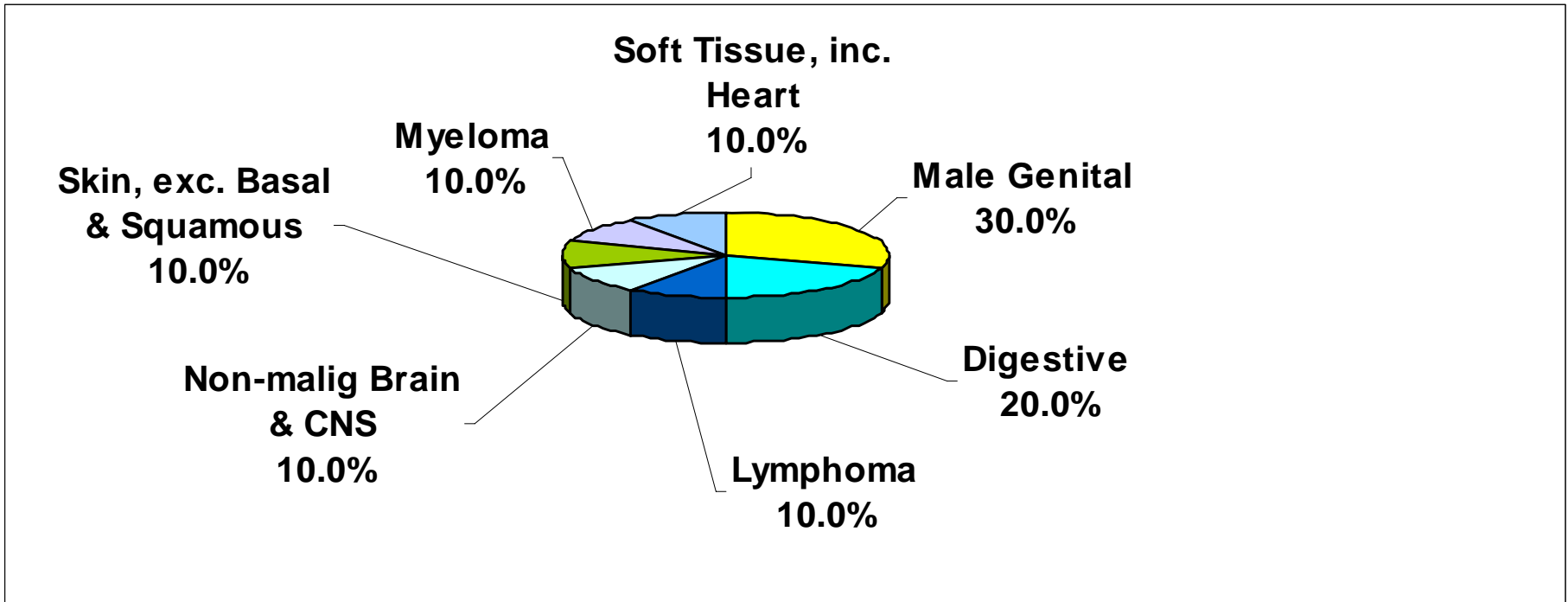
Accuracy Rate for **CDRI: 98.0%**

$100 - (114 / 5699) \times 100 = 98.0\%$

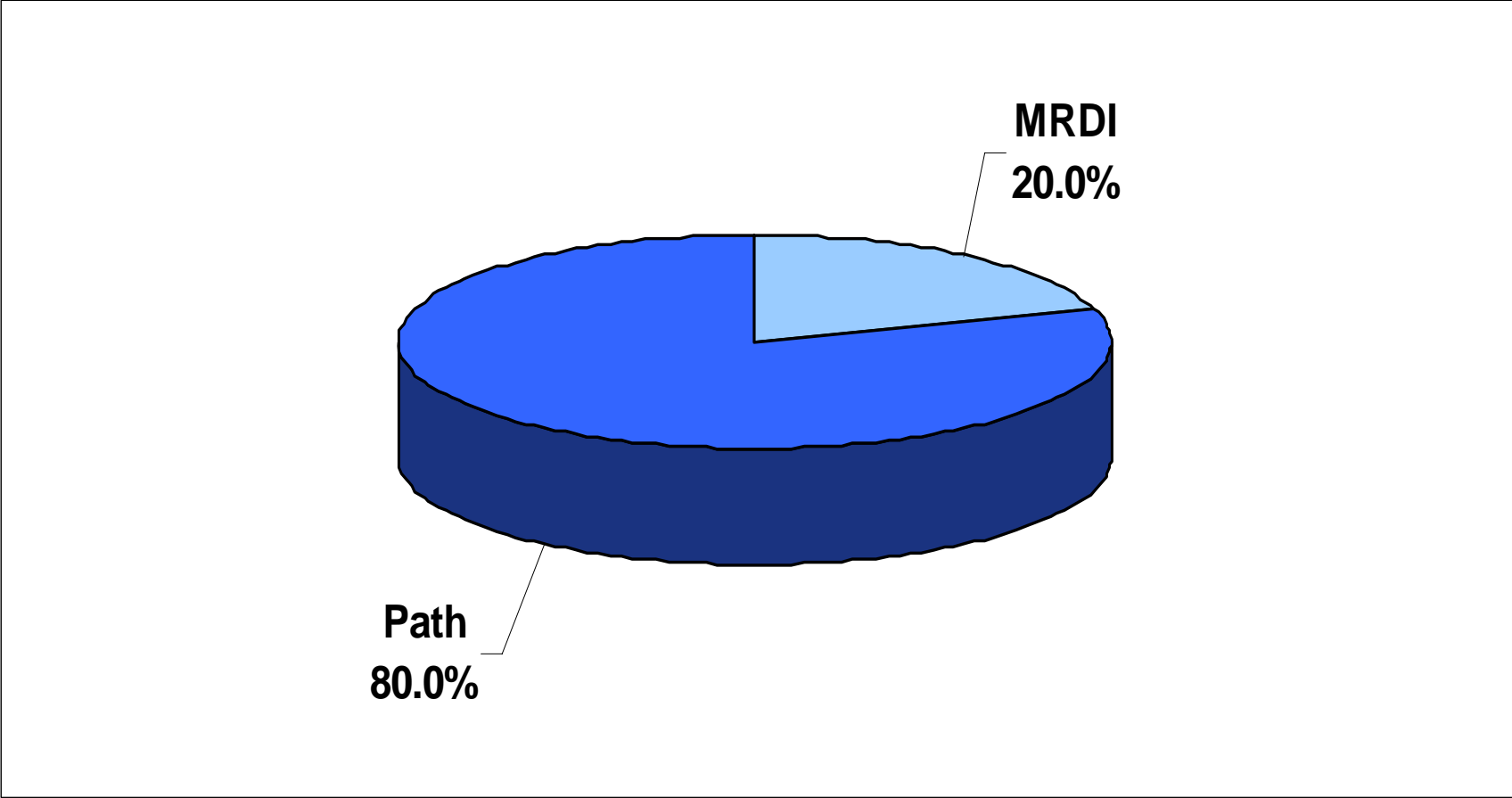
Results I:

Case Completeness

Proportion of Missed Cases by Site Group



Proportion of Missed Cases by Casefinding Source



Completeness Rates, by Caseload Category

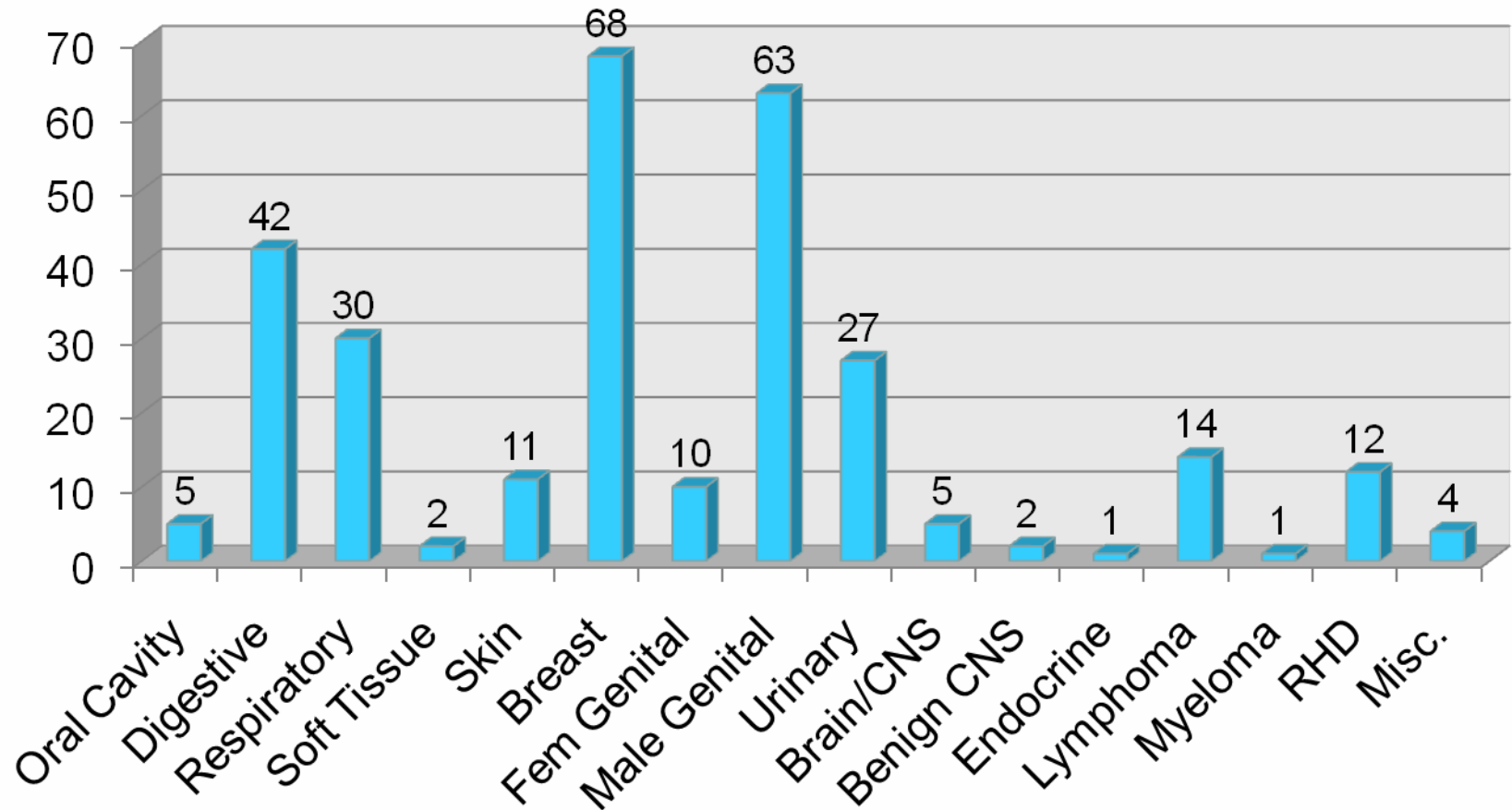
Caseload	No. Missed	% Completeness
High	5	99.3
Medium	3	98.9
Low	2	97.7
Total	10	99.1

Results II:

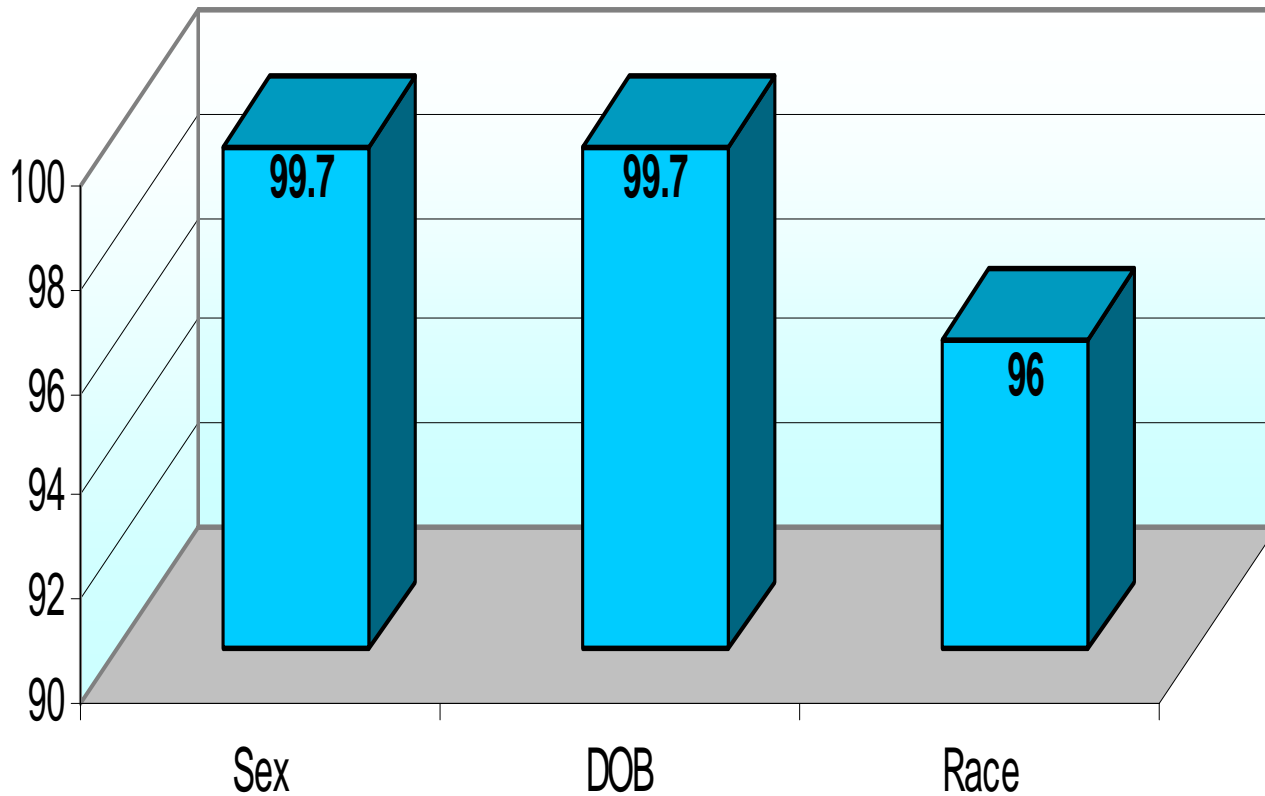
Data Accuracy

Number of Records Reabstracted, by Body System

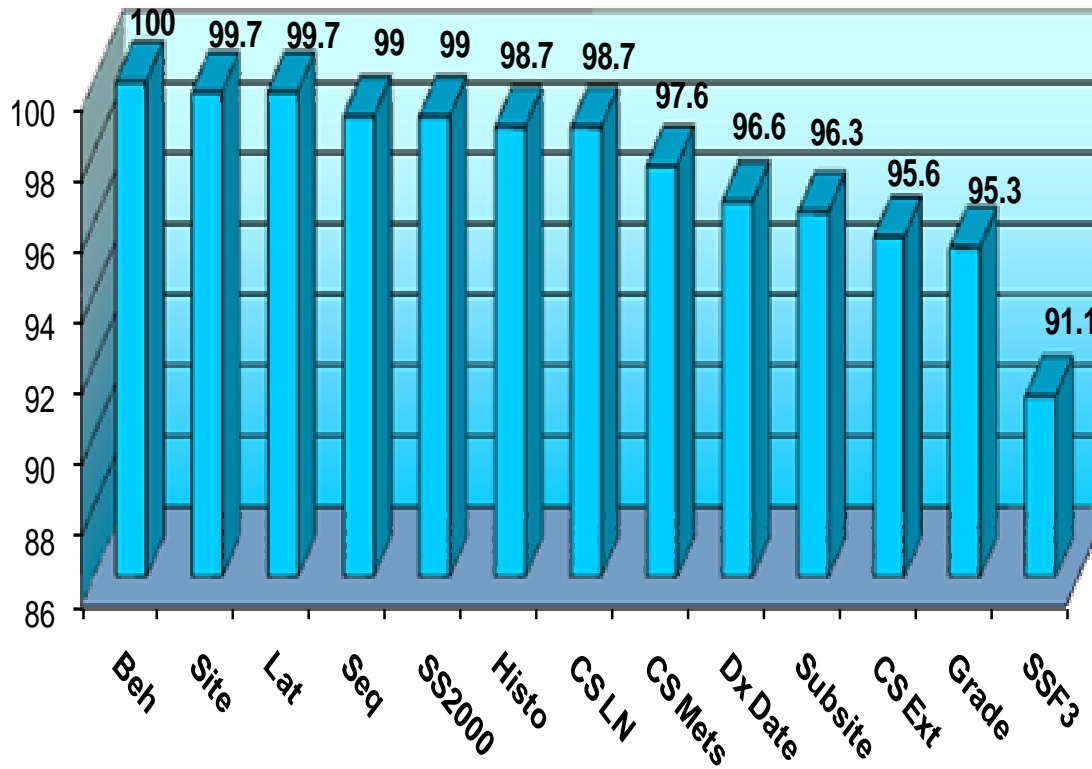
Records



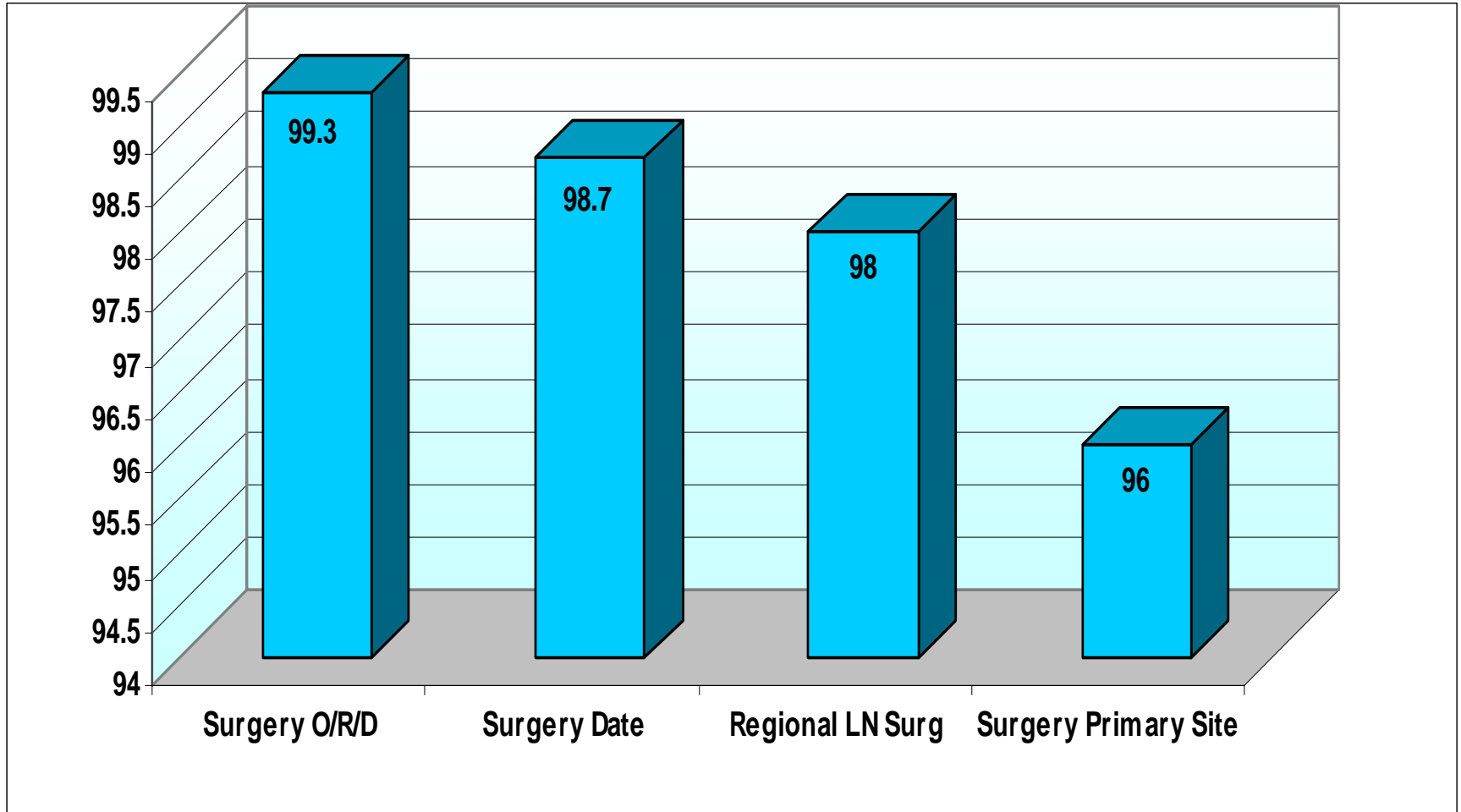
Accuracy Rates (%) for Demographic Elements



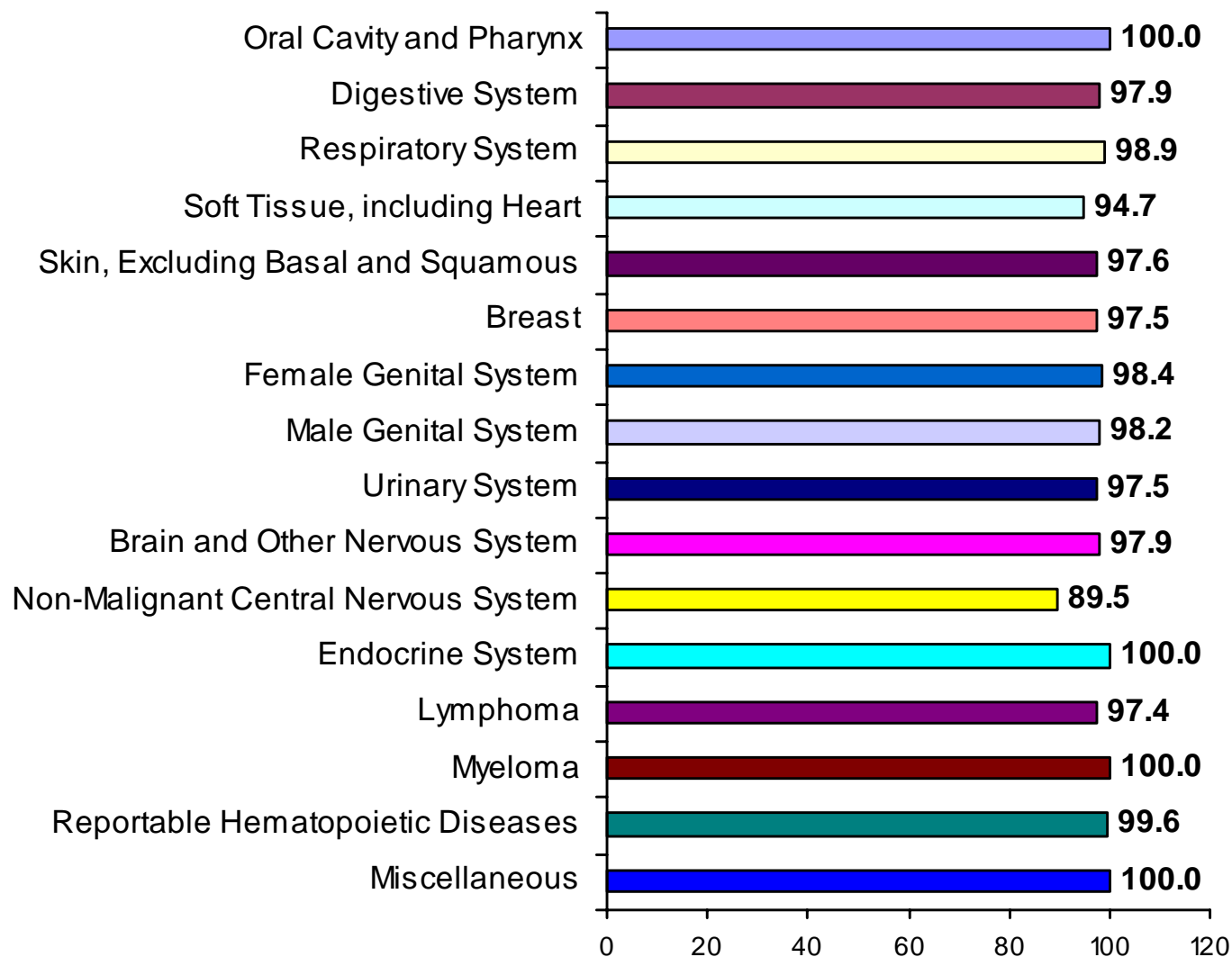
Accuracy Rates (%) for Tumor-Specific Elements



Accuracy Rates (%) for Surgery-Specific Elements



Element Accuracy Rate by Site Group



Element Accuracy Rates, by Site Group

Element Accuracy Rate	Site Group
Less than 95%	Soft Tissue, Including Heart Non-Malignant Central Nervous System
95% or more	Oral Cavity and Pharynx Digestive System Respiratory System Skin, Excluding Basal and Squamous Breast Female Genital System Male Genital System Urinary System Brain and Other Nervous System Endocrine System Lymphoma Myeloma Reportable Hematopoietic Diseases Miscellaneous

Accuracy Rates for Elements, by Hospital Caseload

Caseload	No. Elements	% Accuracy
High	2478 (2529)	98.0
Medium	1883 (1907)	98.7
Low	1224 (1263)	96.9
Total	5585 (5699)	98.0

Conclusion

- The overall case completeness rate was **99.1%** for all tumor sites.
- The overall data accuracy rate was **98.0%** for all data elements.

Issues of Accuracy by specific data elements:

- *Grade: 14 (12.3%) N: Breast 68 Urinary System 27*
57.0 %: Breast and Urinary System
- *CS Extension: 13 (11.4%) N:63*
38.5%: Male Genital System
- *Race: 12 (10.5%) N:42*
25.0%: Digestive System
- *RX Summary Surgery Primary Site: 12 (10.5%) N:68*
41.7%: Breast

N=Number of Records Reabstracted

Issues of Accuracy by specific data elements, cont'd:

- *Subsite: 11 (9.6%) N: 68*
54.5%: Breast
- *Date of Diagnosis: 10 (8.8%) N: 27*
30.0%: Urinary System
- *CS Metastasis: 7 (6.1%) N: 68*
42.9%: Breast
- *RX Summary Scope Reg Lymph Node Surgery: 6 (5.3%) N:68*
50.0%: Breast
- *CS SSF3: 5 (4.4%) N: 63*
100.0%: Male Genital System

Recommendations

Provide a review of abstracting practices, with a focus on:

- Reviewing all coding rules, with an emphasis on Grade
- Reviewing all medical record documents to assign Subsite
- Reviewing all dictated reports, particularly history and physical reports and pathology reports, especially when they pertain to assigning CS Extension and CS Metastasis



Thank you