Bridging the Discharge Data Gap: National Harmonization and Education Efforts

NAACCR Annual Conference
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Why Discharge Data?

- Hospital Discharge Data and claims data are rich sources of information
- Hospital Discharge Data could provide Cancer Registries with enhanced information for:
  - Cancer Surveillance Reporting
  - Congressional Reporting Requirements
- Coordination at national level could harmonize reporting requirements to public health agencies
Hospital Discharge Data

- There are 48 states with Hospital Discharge Data systems (HDDs) which contain an abstract generally from the UB-04 standardized hospital claim form; there are about 9 states with All-Payer Claims Data files.
- Discharge data are in wide use by health services researchers, economists, and medical professionals for understanding the cost and quality of hospital care.
- HDDs have been linked successfully with automobile crash data, American Hospital Association Annual Survey data, environmental tracking data, and many other types of health related databases.
Strengths and Weakness

- Discharge data is a full census of all discharges from participating acute care hospitals in the state (VA hospitals excluded in some states)
- Contains good procedure coding and minimally a primary and secondary diagnosis code using ICD-9-CM codes (most have 9 or more diagnosis codes)
- Present on Admission for each diagnosis now in use across most states
- Some systems have SSNs, others use alternative identifiers, some have no patient ID
- Does not contain tumor staging found in registries
Strengths and Weakness

- Discharge data provides both length of stay and hospital charges
- All-Payer Claims Data has inpatient and outpatient services and actual payments as well as charges
- Both have detailed payer information, but only discharge data contains cases where payment was made by the patient
Background

- CDC contracted with the National Association of Health Data Organizations (NAHDO) to:
  - Complete a gap analysis in discharge and cancer registry data with a focus on improving the linkage of these data systems
  - Review potential questions that could be answered with a combined data file
- CDC shared this work with the NAACCR Interoperability Ad Hoc Committee and the NAACCR Discharge Data Workgroup was formed
- NAACCR Discharge Data Workgroup reviewed the CDC/NAHDO work, gathered information about cancer registries’ current access and use of HDDs, developed recommendations, and prioritized activities to address several issues identified
RECOMMENDATIONS FROM GAP ANALYSIS
Physician Identifiers: Workgroup, Format Change, and Joint Statement

**Issue**
- Both data sets capture multiple physician fields
- Definitions and field length differ between the two data sets

**Recommendations**
- Formation of work group to work on standardizing physician related fields across the data sets (definitions, number of identifiers collected and length of the fields)
- Issue a joint statement to CMS about the need for a unique and stable physician identifier
Patient Identifiers- Demographic Data Elements: Joint Statement

- **Issues**
  - Both systems rely on SSN to identify patient - concern for future ability to capture SSN
  - A mix of other patient demographics captured (e.g.; DOB, name, gender, medical record number) raise privacy concerns

- **Recommendations**
  - Issue a joint statement on the need for reliable patient identifiers and on the importance of unique patient fields
  - Explain how public data bases protect patient confidentiality and privacy through a series of methods
Demographics: Format Changes

- **SSN**
  - Align collection practices - NAACCR should consider increasing field length to 19 (X12N, a standard for insurance transaction data)
  - Both data systems to consider adding new field for future secondary unique patient identifier

- **Name**
  - Align collection practices – HDDs should align with cancer by changing the format to a field length of 40
  - Monitor Healthcare Information Technology Standards Panel (HITSP) demographic model standards
Address, Email and Cell Phones: Format Changes

- **Patient address**
  - Improves linkages and increasingly used for geo-coding analysis
  - Recommend HDDs collect address fields to align with cancer. If prohibited by law, leave blank.

- **Patient email address & Patient cell phone number**
  - Both need further study
Marital status/living arrangements: Workgroup

- Coding and reporting varies across providers and states
- Need for two separate fields identified
- For marital status both data sets to align with the HITSP standard
- Living arrangement
  - Form a work group to define definitions/field for both data sets
  - Explore Canadian standard for living arrangement
  - Develop statement on benefit to public health
  - Propose standard to Designated Standard Maintenance Organizations (DSMOs)
Race and Ethnicity: Outreach and Education

- Cancer planning to use national census standards which align with HDDs
- Collection varies significantly across provider, HDDs and Cancer Registries
- Recommend additional data element to capture how the fields were coded (e.g.; self reported, observation, reported by other)
- Continued outreach and education about importance
Date of Diagnosis: Education

- Important to cancer registries, not captured by the HDDs
- HDDs typically collect the Present on Admission (POA) indicator that indicates if a certain diagnosis, like cancer, was present at the time of admission.
- Recommendation to keep the current fields as is in both data sets
- Cancer should take advantage of POA field - education will need to be provided to the cancer community
Facility Identifier: Education and Joint Statement

- Powerful field for linking and matching health care records
- A facility can have more than one National Provider Identifier (NPI)
- Most HDDs maintain a provider directory that may not align with that of the state cancer registry, which assigns their own number to facilities
- Opportunities for cross education of registry staff about how HDDs assign facility numbers
- Issue joint statement to CMS regarding the importance of a unique identifier for providers
Training and Education

- **Cause of Death**
  - NAACCR requires ICD-10 for cause of death. HDDs do not collect (some link to death certificate)
  - Recommend exploring education opportunities and resources within National Center for Health Statistics (NCHS) and the National Association for Public Health Statistics and Information Systems (NAPHSIS) (may be training resources and tools available to improve the coding)

- **Patient Discharge Status**
  - HDDs collect, NAACCR does not collect
  - NAACCR should consider using the same as HDDs, may provide additional information for analysis
No Recommended Action Planned

- **Patient Gender**
  - Cancer has more gender categories than HDDs - biologic gender may influence some cancers
  - Patient preference is recorded in registries, from the medical record documentation
  - Interest in adding sexuality preference
  - No action at this time

- **Occupation and Industry Codes**
  - Cancer registries capture this field, HDDs do not
  - Validity and utility is marginal as currently reported
  - Interventions for improving this field were considered low priority
  - National Uniform Billing Committee (NUBC) is reviewing the business case for including these fields in the core HDD standard.
  - No action at this time
Source of Payment Typology

- Need to analyze care by payer categories for both Cancer and HDDs
- Cancer currently collects a Source of Payment data element
- HDDs collect a source of payment variable using either:
  - Existing ANSI X12 data variable (Claim Filing Indicator)
  - A proprietary state value set, or
  - Source of Payment Typology - A standard value set maintained by PHDSC. It is recognized in the UB-04 specifications manual and reportable in all versions of the X12 standard.
- Both HDDs and Cancer should be made aware of the Source of Payment Typology and consider moving towards collection of the standard values
NAACCR Discharge Data Workgroup

ACTIVITIES
Data Access Issues

- NAHDO worked with individual state cancer registries that expressed issues with accessing HDDs
- NAHDO helped bridge the relationship between the State HDDs and Cancer Registries
- Some states still have access issues
Educational Webinars

- Developed 3 educational webinars:
  - Source of Payment Typology: A New National Standard
  - A Pathway to Success: Data Integration
  - Enhancement of Cancer Registry Databases with Two Key Hospital Discharge Data Elements: Present on Admission and Discharge Status

- Webinars were recorded and posted on the NAACCR website
Interoperability Webinars

Source of Payment Typology: A New National Standard

As part of the NAACCR Semantic – Discharge Data Small Group and CDC NPCR work with the National Association of Health Data Organizations (NAHDO), a webinar presentation will be held on Wednesday, December 7th at 3pm ET. On this webinar, NAHDO’s Standards Consultant, Bob Davis, will provide an overview on the Source of Payment Typology code set developed by the Public Health Data Standards Consortium (PHDSC) including why it was created, how it was developed and some lessons learned from states that have implemented the code set. Several experts from the (PHDSC) will be available to answer questions.

- Source of Payment Typology: A New National Standard Webinar Recording

A Pathway to Success: Data Integration

As part of the NAACCR Semantic – Discharge Data Small Group and CDC NPCR work with the National Association of Health Data Organizations (NAHDO), a webinar presentation will be held on Tuesday, December 13th at 4pm ET. This webinar will highlight the benefits/uses of linking cancer registry data with hospital discharge data and provide examples of these linkages (examples from Utah). In addition, the presenters will cover what needs to be in place for these linkages to occur; both the technical and data governance pieces. There will be time for questions and discussion at the end of the webinar.

- A Pathway to Success: Data Integration Webinar Recording

Enhancement of Cancer Registry Databases with Two Key Hospital Discharge Data Elements: POA and Discharge Status

As part of the NAACCR Semantic - Discharge Data Small Group and CDC NPCR work with the National Association of Health Data Organizations (NAHDO), a webinar presentation will be held on Friday December 16th at 3pm ET on the potential of enhancing cancer registry data with two key data elements from discharge data; Present On Admission (POA) and Discharge Status. The webinar will highlight how these elements are being collected and used by discharge data systems as well as a "hypothetical" use case of how cancer registries could utilize these elements for their purposes.

- Enhancement of Cancer Registry Databases with Two Key Hospital Discharge Data Elements: POA and Discharge Status Webinar Recording
- Enhancement of Cancer Registry Databases with Two Key Hospital Discharge Data Elements: POA and Discharge Status Webinar Slides

Data Elements of Interest

- Type of Bill
- Priority (Type) of Admission or Visit Point of Origin
- Condition Codes
- Value Codes
- Occurrence and Occurrence Span Codes
- Revenue Codes
- Principal Diagnosis Codes and Present on Admission Indicator
- Other Diagnosis Codes and Present on Admission Indicator
- External Cause of injury codes and present on admission indicator
Data Elements of Interest (con’t)

- Patient Reason for Visit
- Principal Procedure Code and Date
- Other Procedure Code and Data
- Preferred Language Spoken
- Source of Payment Typology
**Physician Data Elements**

- Compared definitions for physician information collected by NAACCR, FORDs, and HDDs

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<thead>
<tr>
<th>NAACCR Data Elements</th>
<th>HDDs Data Elements</th>
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<tr>
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<td>Physician - Follow Up</td>
<td>Other Operating Physician</td>
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<td>Physician - Managing</td>
<td>Rendering Provider</td>
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Patient Demographics

- NAHDO and NAACCR developed/signed a joint statement that addresses concerns about collecting uniform standard patient demographics
- Joint statement was posted on the NAHDO and NAACCR websites
Health care data agencies and cancer registries should review their data collection policies in light of the use cases for data linkage across data sources, sites of care, and over time. A common definition or definitions of Personal Health Information (PHI) needs to be articulated.

Public Health data systems must be safe and secure while being available for use to protect and promote the health of the populations they serve.

Working together NAHDO and NAACCR members should explore/endorse national standards and engage with other public health data systems to continue to promote the standard collection of data to enable further downstream analysis.

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National Association of Health Data Organizations

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Executive Director
North American Association of Central Cancer Registries
Primary Payer Typology

- NAHDO reviewed the crosswalk developed by the NAACCR Semantic Interoperability Workgroup
- NAHDO had a couple of suggested modifications for the crosswalk
- NAHDO requested to use the NAACCR crosswalk in the Public Health Data Standards Consortium guidance document being developed for Primary Payer Typology
- NAACCR Semantic Interoperability Workgroup is making final modifications to the crosswalk and will post on the NAACCR website
# Primary Payer Typology Crosswalk

## Crosswalk for Primary Payer Codes

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Next Steps

- NAACCR Semantic Interoperability Workgroup will review recommendations further and prioritize elements for harmonization.
- NAACCR Discharge Data Workgroup will identify several states to present their experience with accessing and using HDDs:
  - Will review the discharge data survey to identify states that have successfully accessed and linked with their HDDs.
  - Please let us know if your state is interested in sharing how HDDs are used within your registry.
Acknowledgements

- NAACCR Interoperability Ad Hoc Committee
- NAACCR Semantic Interoperability Workgroup
- NAACCR Discharge Data Workgroup