Essential Clinical Dataset – ECD

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GDV - ANIA – Fall Conference 2020

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Nursing Documentation Burden

- Defined as the need to document unnecessary data elements
- Increases as new data elements are added, and unnecessary elements are not identified and removed.
- Contributes to decreased time with patients
- Further adds to clinician stress and burnout
"ONC is focused on working with CMS to **minimize clinician documentation burden**, increasing the usability of electronic health records, and promoting interoperability of health IT."

The **standardization of nursing documentation** in a way that is **evidence-based, standardized across settings**, and allows for the **reuse of data elements** will be critical for continuity of care across the interdisciplinary care team.

Currently, variation in the length, content, and value of data collected in nursing assessment is significant and often unnecessary.

**Rebecca Freeman, PhD, RN, PMP**  
Former CNO Office of the National Coordinator for HIT
Ongoing Industry Initiatives

- CMS - **Patients Over Paperwork**
- Joint Commission – **Project Refresh** reducing the number of elements of performance
- ANA and ONC partnership to reduce nursing documentation burden
- HL7 – **Reducing Clinician Burden**
- ONC – published report on **Strategy on Reducing Regulatory and Administrative Burden Relating to the Use of Health IT and EHRs**
- ANIA – position paper – **The Six Domains of Burden: A Conceptual Framework to Address the Burden of Documentation in the EHR**
International Agenda item

• The Joint Position Statement between the Canadian Nurses Association (CNA) and the Canadian Nursing Informatics Association (CNIA) published in March 2017 recognizes the need for “a standardized approach to nursing documentation in all clinical practice settings across Canada”.

• Australian Nursing Informatics Position Paper August 6, 2017 Element 7:
  • “Nurse informaticians insist on the adoption of nationally agreed nursing data standards…..for improved data integration, information sharing, performance monitoring, data analytics, patient safety and quality.”
ECD Collaborative – Why?

• Most organizations have over-designed their EHRs resulting in a lot of “noise” and non-value added data elements

• Era of EHR Optimization due to the Burden of Documentation

• There is not an established standard for the essential clinical data that needs to be documented in an EHR

• Anticipated Outcomes of the Collaborative:
  • Organizations will use the ECD as the foundation for EHR optimization
  • ECD can establish a national (international) standard that is EHR agnostic
ECD Collaborative Members

Formed June 2016

190+ Facilities   25,000+ Beds
Three-pronged approach

Evidence Based Practice

- Review of literature for content, not process or workflow

Regulatory: CMS, TJC, DNV, MU 1-3

- United States, Federal Regulatory, not state or global

Practice Based Evidence

- Environmental scans of 12 clients’ production data for frequency of data element and utilization metrics

Final ECD
Adult ECD Timeline: Admission History & Intake

ECD Program Kickoff:
- Charter
- Membership

8 hr. Regulatory Educational Session

Regulatory requirements review by Collaborative for all workflows

Data Extraction for Practice Based Evidence:
- Admission History and Intake from 12 Collaborative PROD domains

- June 2016
  - Initial Webex meeting with Collaborative:
    - Methodology Overview
    - Literature Review "starter" articles provided

- July 19, 2016
  - Collaborative Report out Regulatory requirements for all workflows

- July 28, 2016
  - Literature Review for evidence synthesis

- Aug. 2016
  - Sept → Oct

- Nov. 2016
  - Dec ’16 → Apr ’17

- March 2017
  - Collaborative Admission History & intake content validation – Initial review
Adult ECD Timeline: Admission History & Intake

- **Comparative Analysis**
  - Across Collaborative Clients

- **ECD V#1 Defined:**

- **Admission History ECD:**
  - Collaborative review and sign off

- **First 2 clients LIVE in PRODUCTION:**

- **Mar → May 2017:**
  - Collaborative validation of Individual Admission Dataset

- **May → Jun 2017:**

- **Jun → Jul 2017:**
  - ECD V#1 Defined:

- **Jul 6, 2017:**

- **Aug → Nov 2017:**
  - Early Adopters begin ECD analysis against current process to determine Facility ECD

- **Nov 2017:**
  - First 2 clients LIVE in PRODUCTION
## Baseline Variation – Adult Admission History Intake Assessment

<table>
<thead>
<tr>
<th>Client</th>
<th># of Electronic Forms</th>
<th># of Sections</th>
<th># of Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>#1</td>
<td>4</td>
<td>36</td>
<td>318</td>
</tr>
<tr>
<td>#2</td>
<td>5</td>
<td>23</td>
<td>230</td>
</tr>
<tr>
<td>#3</td>
<td>3</td>
<td>26</td>
<td>280</td>
</tr>
<tr>
<td>#4</td>
<td>2</td>
<td>29</td>
<td>278</td>
</tr>
<tr>
<td>#5</td>
<td>2</td>
<td>25</td>
<td>208</td>
</tr>
<tr>
<td>#6</td>
<td>13</td>
<td>57</td>
<td>986</td>
</tr>
<tr>
<td>#7</td>
<td>4</td>
<td>51</td>
<td>371</td>
</tr>
<tr>
<td>#8</td>
<td>6</td>
<td>22</td>
<td>265</td>
</tr>
<tr>
<td>#9</td>
<td>1</td>
<td>21</td>
<td>194</td>
</tr>
<tr>
<td>#10</td>
<td>8</td>
<td>66</td>
<td>530</td>
</tr>
<tr>
<td>#11</td>
<td>2</td>
<td>29</td>
<td>299</td>
</tr>
</tbody>
</table>
## Cross Map - Admission History questions

<table>
<thead>
<tr>
<th>Category</th>
<th>Question</th>
<th>Client 1</th>
<th>Client 2</th>
<th>Client 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Chief complaint</td>
<td>Reason for visit history</td>
<td>Patient's Chief Complaint</td>
<td>Reason for Visit</td>
</tr>
<tr>
<td>General</td>
<td>Arrival date/time</td>
<td>Arrival date/time</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Arrived from</td>
<td>Arrived from</td>
<td>Admitted From</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Mode of arrival</td>
<td>Transportation to unit</td>
<td>Mode of Arrival</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Admit from another facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Recent admission</td>
<td>Readmission review</td>
<td>Hospital inpatient last 30 days</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Admission info given by</td>
<td>Admission info from</td>
<td>Information Provided by</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Accompanied by relationship</td>
<td>Accompanied by</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Accompanied by name</td>
<td>Name of Person with Patient</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Preferred language patient</td>
<td>Preferred language</td>
<td>Pref. Language to Discuss Healthcare Info</td>
<td>Preferred Language for Health Care Info</td>
</tr>
<tr>
<td>General</td>
<td>Preferred mode of communication</td>
<td>Preferred method of communication</td>
<td></td>
<td>Preferred Communication Mode</td>
</tr>
<tr>
<td>General</td>
<td>Emergency contact name</td>
<td>Emergency contacts</td>
<td>Emergency Contact 1</td>
<td>Contact Person Name and Number</td>
</tr>
<tr>
<td>General</td>
<td>Emergency contact relationship</td>
<td>Emergency Contact 1 Relationship</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Emergency contact number</td>
<td>Emergency Contact 1 Phone</td>
<td></td>
<td>Contact Person Name and Number</td>
</tr>
<tr>
<td>General</td>
<td>Primary caregiver name</td>
<td>Name/Number of family notified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Primary caregiver number</td>
<td>Name/Number of family notified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Notify family/caregiver of admission</td>
<td>Notify family of admission to hospital</td>
<td>Requested Notification of Family/Rep</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Notify PCP of admission</td>
<td>Notify your MD of admission to hospital</td>
<td>Requested Notification of PCP</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>PCP contact information</td>
<td>Name/Number of MD notified</td>
<td>Family Physician</td>
<td></td>
</tr>
<tr>
<td>General</td>
<td>Interpreter needed</td>
<td>Interpreter/Translator name, if used</td>
<td>Communication Need - Language</td>
<td>Interpreter Required</td>
</tr>
<tr>
<td>General</td>
<td>Interpreter information</td>
<td>Interpreter/Translator name, if used</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Frequency and utilization algorithm

#### Client frequency
8 of 12 facilities included the question

<table>
<thead>
<tr>
<th>Client Frequency</th>
<th>Utilization Average</th>
<th>Question</th>
<th>Client 1</th>
<th>Client 1 DTA Utilization</th>
<th>Client 2</th>
<th>Client 2 DTA Utilization</th>
<th>Client 3</th>
<th>Client 3 DTA Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>88%</td>
<td>Chief complaint</td>
<td>Reason</td>
<td>88%</td>
<td>Patient’s</td>
<td>82%</td>
<td>Reason</td>
<td>91%</td>
</tr>
<tr>
<td>4</td>
<td>66%</td>
<td>Arrival date/time</td>
<td>Arrival</td>
<td>86%</td>
<td>Admitted</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>85%</td>
<td>Arrived from</td>
<td>Arrived</td>
<td>84%</td>
<td>Admitted</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>74%</td>
<td>Mode of arrival</td>
<td>Transport</td>
<td>81%</td>
<td>Mode of</td>
<td>72%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>22%</td>
<td>Admit from another facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>81%</td>
<td>Recent admission</td>
<td>Readmit</td>
<td>96%</td>
<td>Hospital</td>
<td>100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>74%</td>
<td>Admission info given by</td>
<td>Admission</td>
<td>81%</td>
<td>Informa</td>
<td>26%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>75%</td>
<td>Accompanied by relationship</td>
<td>Accompan</td>
<td>74%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>20%</td>
<td>Accompanied by name</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Name of</td>
<td>27%</td>
</tr>
<tr>
<td>12</td>
<td>73%</td>
<td>Preferred language patient</td>
<td>Preferred</td>
<td>98%</td>
<td>Pref. Lan</td>
<td>100%</td>
<td>Preferred</td>
<td>99%</td>
</tr>
<tr>
<td>9</td>
<td>44%</td>
<td>Preferred mode of communication</td>
<td>Preferred</td>
<td>17%</td>
<td></td>
<td></td>
<td>Preferred</td>
<td>97%</td>
</tr>
<tr>
<td>11</td>
<td>47%</td>
<td>Emergency contact name</td>
<td>Emergen</td>
<td>80%</td>
<td>Emergen</td>
<td>92%</td>
<td>Contact F</td>
<td>78%</td>
</tr>
<tr>
<td>8</td>
<td>36%</td>
<td>Emergency contact relationship</td>
<td>Emergen</td>
<td>88%</td>
<td>Emergen</td>
<td>88%</td>
<td>Contact F</td>
<td>78%</td>
</tr>
<tr>
<td>10</td>
<td>42%</td>
<td>Emergency contact number</td>
<td>Emergen</td>
<td>88%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3%</td>
<td>Primary caregiver name</td>
<td>Name/Nu</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>3%</td>
<td>Primary caregiver number</td>
<td>Name/Nu</td>
<td>3%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>51%</td>
<td>Notify family/caregiver of admission</td>
<td>Notify</td>
<td>51%</td>
<td>Requests</td>
<td>99%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>61%</td>
<td>Notify PCP of admission</td>
<td>Notify y</td>
<td>48%</td>
<td>Request</td>
<td>99%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>16%</td>
<td>PCP contact information</td>
<td>Name/Nu</td>
<td>3%</td>
<td>Family P</td>
<td>70%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>25%</td>
<td>Interpreter needed</td>
<td>Interpre</td>
<td>17%</td>
<td>Commun</td>
<td>1%</td>
<td>Interpre</td>
<td>99%</td>
</tr>
<tr>
<td>7</td>
<td>3%</td>
<td>Interpreter information</td>
<td>Interpre</td>
<td>17%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

>60% avg. charting of that question
## General Information

### Preferred Language

- English
- Spanish
- Arabic
- Bosnian
- Chinese
- Creole
- Danish
- Dutch
- Filipino
- French
- Gaelic
- German
- Greek
- Hebrew
- Hindi
- Hungarian
- Indonesian
- Irish
- Italian
- Japanese
- Korean
- Latvian
- Malay
- Multiple Languages
- Norwegian
- Persian
- Polish
- Portuguese
- Romanian
- Russian
- Somali
- Russian
- Sign Languages
- Sudanese
- Swedish
- Thai
- Turkish
- Ukrainian
- Vietnamese
- Other

### Sensory Deficits

- Blind, left eye
- Blind, right eye
- Hearing deficit, left ear
- Hearing deficit, right ear
- Normed
- Sensation/Touch deficit
- Speech deficit
- Uncorrected visual impairment
- Other

### Sensory Compensatory Devices

- Contacts
- Glasses
- Hearing aid, left ear
- Hearing aid, right ear
- Hearing aids, bilateral
- Communication board
- Other

### Items At Bedside

- Contacts
- Glasses
- Hearing aid, left ear
- Hearing aid, right ear
- Hearing aids, bilateral
- Communication board
- Other

### Chief Complaint

- Other

### Preferred Name

- Other

### Mode of Arrival on Unit

- Ambulatory
- Bed
- Gurney
After

Removed **13** sections and **167** distinct questions
Key Findings and Considerations

- Senior Nursing Leaders (CNOs) must be involved
  - this is not just an IT or Informatics exercise
- Nursing Shared Governance councils were best suited for the review of the ECD
- Challenged the “because we have always done it”
  - Asked WHY five times
    - “Did the information NEED to be collected on admission?”
    - “If yes, did the RN have to collect?“
    - “If yes: part of ECD, If NO: what role/department should be collecting it?”
- Policy was driving practice with no relevant reason or evidence
- Local critical thinking and judgement applied when reviewing ECD
  - What is needed for the local patient population or regulations
- The process was just as valuable as the outcome
Implementation Outcomes
Adult Admission History ECD Results – 15 Clients

Total Questions (DTAs) Pre versus Post ECD
Results Across 10 Early Adopters

Baseline vs. 30 days post ECD

**Total Questions:**
Reduced an average of **100 Questions**

**Total Time:** *(h:mm:ss)*
Reduced an average of **0:2:21 minutes**

**Total Clicks:**
Reduced an average of **37 clicks**
Scope and Scale of ECD

Active Collaboratives

- Adult
  - Admission History Intake
  - Physical Assessment – Med-Surg
  - Physical Assessment – Critical Care

- Pediatric
  - Admission History Intake
  - Physical Assessment

- Abbreviated Intake
  - 23 Hr. OBS
  - Pre-Op/Pre-Procedure

- Behavioral Health
  - Admission History Intake

- Women’s Health & OB
  - Admission History Intake

Methodology and Approach

- Able to be Replicated
- Validation of the approach
Maintain the Gain

- Document all decisions
- Evaluate new requests using the guidelines
- Continuously monitor the documentation data
- Frequently review regulatory requirements

This is the NEW WAY

- Create a strategy and culture for enhancements and future development
- Use Guiding Principles to make future decision
- Change Control process as well as Organizational Change Management
How to Maintain the Gain

All requests are submitted to an informatics governance for review against initial guidelines and Cerner model recommendations.

How many additions since implementing the Admission History ECD?

**Baptist Health Jacksonville**
- 1 addition
- Go-Live: 9/30/18

**Northern Light Health**
- 0 additions
- Go-Live: 4/10/18

**BayCare Health System**
- 1 addition
- Go-Live: 11/15/17
Metrics - for baseline and post implementation

Qualitative

• Staff Surveys Developed
  • Admission: RN
  • Physical Assessment: RN and other care team providers
• Available for all clients to administer surveys pre & post

Quantitative

• # of Distinct Questions
• Average Active Time
• Average Clicks
• Single Sign %
• Average % of Total questions Charted per Sign
• Average # of questions Charted per Sign
• The Number of Conditional questions
• Number of Required questions Cost Savings *(calculated from reduction is time)*
The Northern Light Health (NLH) Journey
Northern Light Health:

12,000 employees
1,400 providers

System Medical Group
• Primary, Specialty, and Urgent Care across Maine

Home Care & Hospice
• Aroostook House of Comfort (Presque Isle)
• Offices in Presque Isle, Houlton, Bangor, Ellsworth, Waterville, South Portland

Medical Transport & Emergency Care
• Air and Ground

Continuing Care
• Waterville (Lakewood),
• Bangor (4 locations)
• Presque Isle

Other Organizations
• Beacon Health
• Northern Light Foundation
• Laboratory
• Pharmacy
• Work Health
• Work Force
Validating the Admission History ECD

Key:

- Essential Clinical Data or for state, local, or sentinel event tracking

- Collected by another health care provider or provides no value to the care of the patient during the admission process

- Move to a more appropriate section of the EHR

- Question on workflow or a process review required before making the final decision
Collaborative Category: General

Example:
- Legal Guardian – Collected by Registration
Key Findings and Considerations of the Validation Process

- Did not find any items other departments needed to take on
- Challenged the ‘because we have always done it’
- Critical thinking and judgement part of the analysis – its model not mandatory
- The process was just as valuable as the outcome
- Policy driving practice with no relevant reason or evidence
**NLH Results**

<table>
<thead>
<tr>
<th></th>
<th>Avg. # of PowerForms</th>
<th>Avg. # of Sections</th>
<th>Avg. # of DTAs</th>
</tr>
</thead>
<tbody>
<tr>
<td>NLH Pre-ECD Admission History</td>
<td>2</td>
<td>28</td>
<td>278</td>
</tr>
<tr>
<td>Admission ECD</td>
<td>1</td>
<td>8</td>
<td>39</td>
</tr>
<tr>
<td>NLH ECD Admission Hx</td>
<td>1</td>
<td>17</td>
<td>84</td>
</tr>
</tbody>
</table>

**A 70% Decrease in the Number of DTAs!**

Of Note:

- The section and DTA counts for the NLH ECD Admission History PowerForm included the Allergies Control, Problem & Diagnosis Control, Procedure Control and Social History Control.
- The Admission Workflow MPage was implemented earlier this year. With this conversion, those tools were removed decreasing further the number of sections and DTAs.
Reducing the Noise

Success in Reducing Noise is determined by:
1. An **increase** in the **average percentage** of DTA’s documented on
2. A **decrease** in the **number of DTAs** documented on per document signature.

**What is This Telling Me?**
The Admission ECD implemented by NLH successfully eliminated excessive noise and clutter from this workflow.
NLH – the Results at Month One

<table>
<thead>
<tr>
<th>Time in the EHR</th>
<th>Baseline</th>
<th>One Month Post-Go-Live</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4.10</td>
<td>2.38</td>
</tr>
</tbody>
</table>

36.8% Reduction

What is This Telling Me?
The amount of time required to complete the Admission History reduced in the first month following implementation by 37%.
What is This Telling Me?
The number of clicks required to complete the Admission History reduced in the first month following implementation by 38%.
The NLH Implementation

Go-live: April 10, 2018

“The new admission history is AMAZING”
It took half the time to do it”
Tiffany, ICU EMMC

“I like it, it is much shorter and you can do the admission in much less time”
Debbie Stubbs, BHH

“Documenting in the right place within the nursing workflow is just what nurses wanted”
AR Gould Hospital

“It only took ½ hour to do my admission, when it usually took an hour”
AR Gould Hospital

“Elimination of duplicate documentation is great”
AR Gould Hospital

“The nurses love it!”
Erika ANM P6 EMMC

“Cool Change! It’s Amazing!”
ICU EMMC

“I was amazed at how much easier it was and how it made perfect sense”
AR Gould Hospital

“Great Work! I LOVE IT”
Emily, Grant 5 EMMC

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Time to Complete the Admission History

What is This Telling Me?
The number of RNs able to complete the Admission History in 15 minutes or less increased by 28% post implementation.
I value the information in the Admission History PowerForm.

What is This Telling Me?

The number of RNs who agreed/strongly agreed that they valued the information contained within the Admission History ECD PowerForm increased by 23% post implementation.
I am satisfied with the Admission History PowerForm documentation process.

What is This Telling Me?

The number of RNs who agreed/strongly that they were satisfied with the Admission History Documentation Process increased by 23% post implementation.
The Admission History PowerForm process is not problematic or prone to error.

What is This Telling Me?

The number of RNs who agreed/strongly agreed that the Admission History Documentation process is not problematic or prone to error increased by 32% post implementation.
The process (Admission History PowerForm) is free of duplication.

What is This Telling Me?

The number of RNs who agreed/strongly that the Admission History Documentation process is free of duplication increased by 46% post implementation.
QUESTIONS