

# Surrogate EHR Environment (SEE) Tool

Mike Tushan, Project Manager  
John Baker, Software Architect  
Lantana Consulting Group

Long Term and Post Acute Care



Health IT Summit ■ [ahima.org/ltpacsummit](http://ahima.org/ltpacsummit)

**#LTPAC13**

# LTPAC: Left out of the party

- Meaningful Use creates incentives for acute care and eligible providers to adopt electronic health records and to share information
- LTPAC patients and providers interact with both groups, share the care of a patient population with heavy need of coordination
- Are not part of today's exchange networks

# Tooling for LTPAC providers

- Simple editor for clinical documents
  - Access, import, capture, and send patient health information
  - Generates an LTPAC Summary document
    - Start with imported note or blank template
    - Add/change data and narrative
  - Uses Health Level Seven Clinical Document Architecture (HL7 CDA), the standard required by Meaningful Use for exchange documents
- Accessible and usable
  - Requires Internet access and Web browser
  - Simple user interface, short learning curve
  - Integrates into your workflow

# View, filter, and search for documents

The screenshot shows a web browser window with the address bar at localhost:8000/#. The page title is "SEE Tool [John Baker]". On the left, there is a "Documents" sidebar with a filter icon and a list of filter options: "All", "Recent", "Drafts", "Final", "Sent", and "Shared with me". Below the list are buttons for "+ New Document", "Check for received files", and "Remove all documents". The main content area features a search bar with the text "Search by patient name, document title, or author" and a "Clear" button. Below the search bar is a table with the following columns: Patient, Title, State, Date Created, Last Modified, and Author. The table contains four rows of document entries.

Patient	Title	State	Date Created	Last Modified	Author
Bob Sleven	LONG TERM CARE TRANSFER SUMMARY	Draft	5/3/2013	5/3/2013	john.baker
Bob Sleven	LONG TERM CARE TRANSFER SUMMARY	Final	5/3/2013	5/3/2013	john.baker
Harry Sleven	LONG TERM CARE TRANSFER SUMMARY	Draft	5/3/2013	5/3/2013	john.baker
Sally Smithers	LONG TERM CARE TRANSFER SUMMARY	Draft	5/3/2013	5/3/2013	john.baker

# Import data from CCD documents

The screenshot displays the SEE Tool web application interface. At the top, the browser address bar shows 'localhost:8000/#'. The application header includes 'SEE Tool [John Baker]'. Below the header, there are two document tabs: 'Bob Steven DRAFT LONG TERM CARE TRANSFER SUMMARY' and 'Bob Steven FINAL LONG TERM CARE TRANSFER SUMMARY [5/3/2013]'. A left-hand navigation menu lists various document sections, with 'ADVANCE DIRECTIVES' highlighted. The main content area is titled 'Bob Steven / Long Term Care Transfer Summary Document' and features a section for 'ADVANCE DIRECTIVES'. This section includes a 'Copy From' dropdown menu and a list of documents, with 'Bob Steven FINAL LONG TERM CARE TRANSFER SUMMARY [5/3/2013]' selected. Below this, there is a 'Free Text Narrative' section with a rich text editor and a 'Directives' section. At the bottom, there are sections for 'Advance Directives Data Entry' and 'Healthcare Agents and Contacts'.

# Add/Edit patient demographics, vitals

### Edit Patient

First Name	Last Name
<input type="text" value="Bob"/>	<input type="text" value="Sleven"/>
Phone	Alt. Phone
<input type="text" value="908-756-5647"/>	<input type="text"/>
Pager	Email
<input type="text"/>	<input type="text"/>
Address	City
<input type="text"/>	<input type="text"/>
State	Postal Code
<input type="text"/>	<input type="text"/>
Country	
<input type="text" value="US"/>	
Birth Date	Gender
<input type="text"/>	<input type="text"/>
Marital Status	Ethnicity
<input type="text"/>	<input type="text"/>

### Edit Vitals

Date Recorded	<input type="text" value="05/02/2013 09:02 AM"/>
Height	<input type="text" value="6'2"/> <input type="text" value="74"/> in
Weight	<input type="text" value="250"/> <input type="text" value="lb"/>
BMI	<input type="text" value="32.09"/> kg/m <sup>2</sup> <input type="button" value="Calculate"/>
Systolic BP	<input type="text" value="120"/> mm[Hg]
Diastolic BP	<input type="text" value="85"/> mm[Hg]
Heart Rhythm	<input type="text" value="regular rhythm"/>
Heart Rate	<input type="text" value="68"/> /min
Respiratory Rate	<input type="text"/> /min
O2 Sat	<input type="text"/> %
Temperature	<input type="text" value="98"/> °F

# Add free text narrative to any section

The screenshot shows the SEE Tool web interface. The browser address bar shows 'localhost:8000/#'. The page title is 'SEE Tool [John Baker]'. The document is titled 'Bob Steven / Long Term Care Transfer Summary Document' and is in 'DRAFT' status. The left sidebar contains a 'CONTENTS' menu with various sections, with 'VITAL SIGNS' highlighted. The main content area has a 'VITAL SIGNS' section with a 'Copy From' button and a 'Narrative' section. The 'Narrative' section includes a 'Free Text Narrative' editor with a rich text toolbar and a text area containing the following text: 'The vitals signs were taken by the nuresse and the patient cooperated well. There was some problems with the equipment though as the machine would not work correctly, but we finally got it working.' Below the editor is a 'Path: p' field. To the right of the narrative editor is a table of vital signs data. Below the narrative section is a 'Vital Signs Data Entry' section with a 'Vitals Add' button and a table of vital signs data.

**Bob Steven / Long Term Care Transfer Summary Document**

**VITAL SIGNS**

Copy From ▾

**Narrative**

**Free Text Narrative:**

**B** **I** **U** Font Size ▾ | **B** **I** **U** **↵** **↶** **↷**

The vitals signs were taken by the nuresse and the patient cooperated well. There was some problems with the equipment though as the machine would not work correctly, but we finally got it working.

Path: p

Time	Height	Weight	BMI	BP	Heart Rate	Heart Rhythm	Resp Rate	O2 Sat	Temp
5/2/2013 9:02:00 AM	74 in	250 lb	32.09	120/85	68	regular rhythm			98 °F

**Vital Signs Data Entry**

Vitals **Add**

Time	Height	Weight	BMI	BP	Heart Rate	Heart Rhythm	Resp Rate	O2 Sat	Temp
				mm[Hg]	/min		/min	%	
5/2/2013 9:02:00 AM	74 in	250 lb	32.09	120 / 85	68	regular rhythm			98 °F

# Connecting LTPAC: Incremental Approach

1. Get the data flowing, get the data flowing, get the data flowing.
2. Incrementally add structure, where cost effective to do so.

Quality Reporting

Decision Support

Clinical Applications

Meaningful Use!

IHE MEDQUEST HOSPITAL  
DISCHARGE SUMMARY

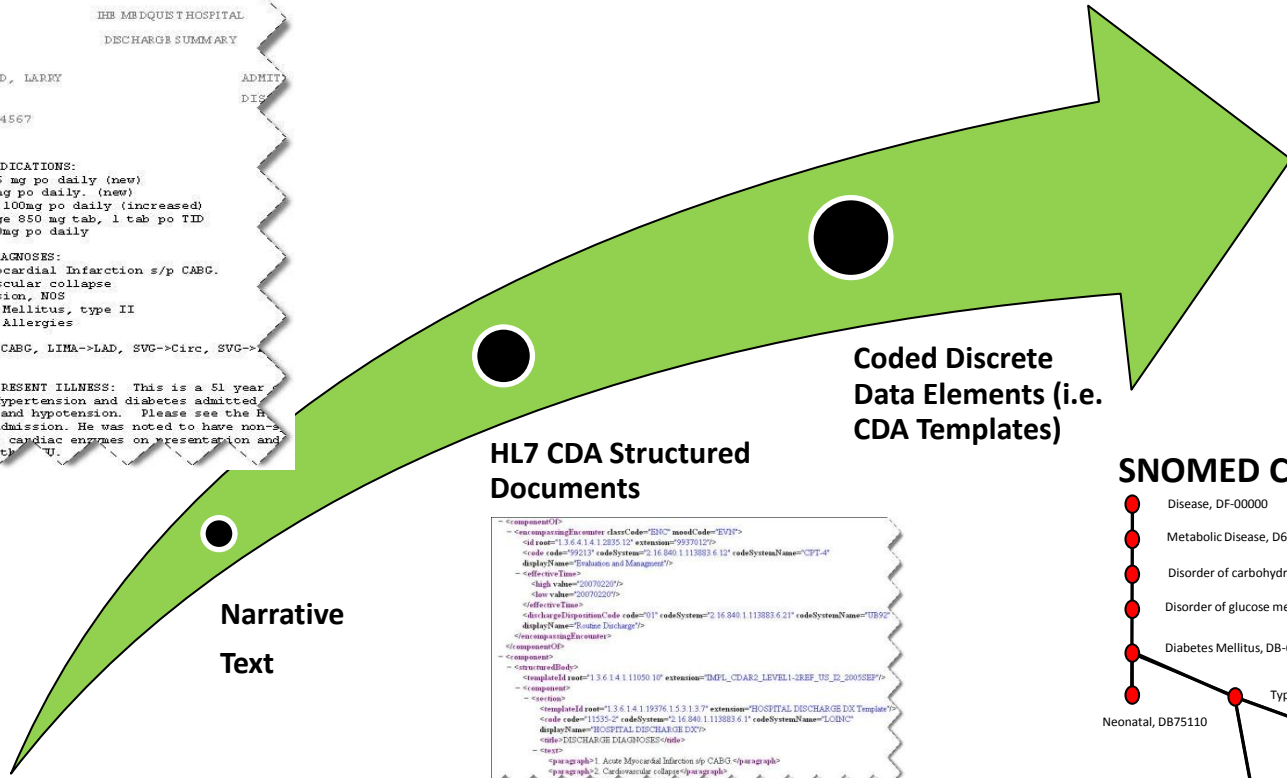
PATIENT: DOGOOD, LARRY ADMITTED:  
MR#: A1234567 DISCHARGE:  
ACCOUNT #: 1234567

DISCHARGE MEDICATIONS:  
1. ECASA 325 mg po daily (new)  
2. Zocor 40mg po daily. (new)  
3. Atenolol 100mg po daily (increased)  
4. Glucophage 850 mg tab, 1 tab po TID  
5. Zyrtec 10mg po daily

DISCHARGE DIAGNOSES:  
1. Acute Myocardial Infarction s/p CABG.  
2. Cardiovascular collapse  
3. Hypertension, NOS  
4. Diabetes Mellitus, type II  
5. Seasonal Allergies

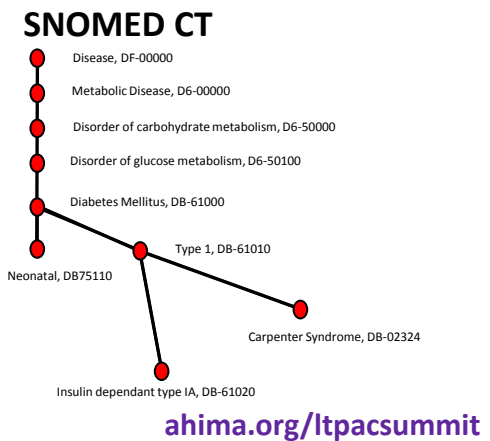
PROCEDURE: CABG, LIHA->LAD, SVG->Circ, SVG->Circ  
2/26/07.

HISTORY OF PRESENT ILLNESS: This is a 51 year old male with a history of Hypertension and diabetes admitted with chest pain, and hypotension. Please see the History of Present Illness details of admission. He was noted to have non-ST segment elevation and positive cardiac enzymes on presentation and admission to the CCU.



### HL7 CDA Structured Documents

```
<component>  
  <componentOf>  
    <component>  
      <templateId root="3.6.1.4.1.19378.1.5.3.1.3.7" extension="HOSPITAL DISCHARGE DX Template"/>  
      <code code="11555-2" codeSystem="2.16.840.1.113883.6.1" codeSystemName="LOINC" display="Hospital Discharge DX" code="DISCHARGE DIAGNOSES-Code" />  
      <type type="Code" />  
      <text>  
        <paragraph>1. Acute Myocardial Infarction s/p CABG </paragraph>  
        <paragraph>2. Cardiovascular collapse </paragraph>  
        <paragraph>3. Hypertension, NOS </paragraph>  
        <paragraph>4. Diabetes Mellitus, type II </paragraph>  
        <paragraph>5. Seasonal Allergies </paragraph>  
      </text>  
    </component>  
  </componentOf>  
</component>
```





# SEE Tool connects LTPAC

- Available under open source and commercial license
- [information@lantanagroup.com](mailto:information@lantanagroup.com)