How to Simplify Audit Preparation:

CREATION AND MAINTENANCE OF DIGITAL CIBMTR DATA CHARTS

JILL EVANS BSN, RN, CHTC
KATHY JODARSKI BSN, RN, CHTC
21-FEB-2018
Our journey to digital charts...

- Historically, CHW has created and maintained paper data charts for source documentation of CIBMTR forms.
- But...these took up a lot of space in a shared department office...
- We were tasked with emptying out that space in late 2015.
Why digital data charts?

We know source documentation is an important part of CIBMTR data chart maintenance, but we needed a new plan...

- Paper charts take up a lot of space...space we no longer had.
- Paper charts also require a lot of physical resources to create and maintain...
  - Folders
  - Paper
  - Labels
  - BMT coordinator time and energy

We created digital charts as a cost effective, efficient alternative.
How did we do it?

We started by looking at the CIBMTR forms, securing space on a protected, shared drive, and away we went...

- We purchased Adobe Acrobat Standard in order to convert records from the EHR to PDFs that could be saved directly to our digital folders.
- Charts were created that mirrored the format of the CIBMTR forms.
What do they look like?
<table>
<thead>
<tr>
<th>Name</th>
<th>Date modified</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pre-TED</td>
<td>1/29/2018 2:42 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>2. Day 100</td>
<td>10/30/2017 11:39 PM</td>
<td>File folder</td>
</tr>
<tr>
<td>TT CIBMTR Face Sheet</td>
<td>1/8/2018 10:37 AM</td>
<td>Adobe Acrobat D...</td>
</tr>
</tbody>
</table>
**Children’s Hospital of Wisconsin**

**ENCOUNTER**
- **Patient Class:** Inpatient
- **Hospital Service:** Bone Marrow Transplant
- **Admitting Provider:** David A. Margolis, MD
- **Attending Provider:** Smythe, Benson, MD
- **Admit Diagnosis:** ALL
- **Unit:** CHW EAST 05
- **Bed:** E0539-A
- **Referring:** Smythe, Benson, MD

**PATIENT**
- **Name:** TESTPATIENT, THOMAS
- **DOB:** 12/12/2012 (5 yrs)
- **Sex:** M
- **Address:** 1234 N HAMILTON AVE
- **City:** MILWAUKEE, WI 53226
- **Primary Care Provider:** Richard Branson, MD
- **Primary Phone:** 414-266-2000

**EMERGENCY CONTACT**
- **Contact Name:** Testpatient, Jane
- **Relation to Patient:** Mother
- **Legal Guardian:** No
- **Home Phone:** (414) 867-5309
- **Work Phone:** (414) 867-3309

**GUARANTOR**
- **Guarantor:** JOHN TESTPATIENT
- **DOB:** 12/12/2012
- **Sex:** M
- **Address:** 1234 N HAMILTON AVE
- **City:** MILWAUKEE, WI 53226
- **Relation to Patient:** Father
- **Guarantor ID:** 12003400
- **Home Phone:** 414-867-5309
- **Work Phone:**

**GUARANTOR EMPLOYER**
- **Employer:**
- **Status:** FULL-TIME

**COVERAGE**

**PRIMARY INSURANCE**
- **Payer:** OPTUM
- **Group Number:** 2461804
- **Subscriber Name:** TESTPATIENT, JOHN
- **Subscriber ID:** JT104321456
- **Pat. Rel. to Subscriber:** Child
- **Plan:** TRANSPLANT NETWORK
- **Insurance Type:** INDEMNITY
- **Subscriber DOB:** 2/19/1984

**SECONDARY INSURANCE**
- **Payer:**
- **Group Number:**
- **Subscriber Name:**
- **Subscriber ID:**
- **Pat. Rel. to Subscriber:**
- **Plan:**
- **Insurance Type:**
- **Subscriber DOB:**
Patient: TESTPATIENT, THOMAS
SPECIMEN(S): A. PERIPHERAL SMEAR HEME
Date of Procedure: 07/16/2016
Received Date: 07/16/2016
Primary MD: Benson Smythe, MD

CLINICAL INFORMATION

PERIPHERAL BLOOD DATA

WBC 466,000
Sees 8%; Bands 14%; Lymphs 16%; Monos 14%; Eos 0%; Basos 0%;
Macs 0%; Myelos 0%; Pro 0%; Blasts 74%
MCH/MCT 16.7/31.4
Platelets 113,000
NRBC's 0/100 WBC's

PERIPHERAL SMEAR

Red cells are markedly decreased in number and show slight
anisopoikilocytosis.
White cells are markedly increased in number and represented predominantly by
blasts (representing 74%). Blasts are variable in size, have coarse chromatin
pattern, high nuclear to cytoplasmic ratio and generally inconspicuous
nucleoli.
Occasional blasts have 1-2 minute but conspicuous nucleoli. A rare
neutrophil
is noted. Platelets are mildly decreased in number and show generally normal
morphology. A number of smudge cells is also present.

ASPIRATE INTERPRETATION

Not applicable.

DIAGNOSIS

Peripheral blood smear:
T lymphoblastic leukemia (see note).

NOTE

Preliminary results of the corresponding flow cytometry analysis showed a
large
population of blasts (93%) positive for the T-cell markers CD4, CD8 and CD7.
CD5, CD34 and CD56 are negative. IdT and MPO are also negative. Recommend
correlation with final results of flow cytometry (see Chartmaxx) and
cytogenetics.

Dr. Benson Smythe notified with the diagnosis.

CROSS REFERENCES: None.

Electronically signed Jul 16, 2016
GABRIELA GHEORGHE MD
Hematopathologist
Electronically signed Jul 19, 2016
Is it really cost effective?

**Paper Charts:**
- $2.12 per folder x 620 patient folders since inception = $ 1314.40
- $29.25 per box of paper_labels
- File cabinets for storage
- Cost per month of offsite storage of old charts

**Digital Charts:**
- One time cost of $300 for Adobe Acrobat XI Standard
- Space on protected, shared drive – we use approximately 5 GB of data for over 600 charts and about 7000 files
Is it timely?

In a word…YES.

- We are able to “print” almost instantly from the medical record to the digital chart and source document in real time.

- We use the features available in Adobe to highlight text and bring attention to exactly what we are trying to source document in each section.

**This process has been validated by our BMT Quality Manager.**
But what about all the paper charts?

- We dismantled and scanned records from approximately 620 paper charts into digital charts on a protected, shared drive accessible only to our BMT team.
  - These charts represented all live patients from inception of our program in 1980 through 2015.
- In doing this, we emptied 5 large file cabinets - enough space to remodel the department office and add a coffee bar.
Questions?
Thank You

Our Team

- Katherine Worzalla - BMT Quality Manager
- Dr. David Margolis - Program Director
- Dr. Julie Talano
- Dr. Monica Thakar
- Dr. Rachel Phelan
- Dr. Sid Rao
- Lynnette Andersen APNP
- Andrea Bobke APNP
- Miranda Gries APNP
- Heather Seager BSN, RN
- Bo Buchman BSN, RN