Development of a Comprehensive Physician Note within the Electronic Medical Record (EMR) to Ensure Clinical Documentation of Essential Data

Jennifer Chang, CCRP, MA, Data Manager
Connie Jackson, CCRP, MHA, Quality Improvement Coordinator
Shannon McClenten, BSBM, Division Administrator

Blood and Marrow Transplantation Program
Accurate and timely clinical documentation is the cornerstone for data collection and reporting.

Oftentimes physician notes lack effective documentation, resulting in...
  – Data ambiguity
  – Missing information
  – Inaccurate reporting
SOLUTION

EMR Comprehensive Physician Note

- The CHLA Blood and Marrow Transplantation Program has developed a comprehensive PowerNote within the EMR tailored to capture BMT specific data
  - Integration of customized tools and forms to assist in physician documentation of essential data.
Comprehensive Physician Note

**PowerNote**
- Designed to match clinical workflow of the BMT Program
- Equipped with prompts, screens, dropdowns, for automatic capture of essential data required for completion of Case Report Forms
- Prompts allow swift and accurate documentation

**PowerForm**
- Customized templates used to ensure documentation of required disease-specific and transplant data, eliminating duplicate data entry by physicians.
  - BMT SMART FORM
  - ENGRAFTMENT FORM
Assessment
Pre-Transplant:
- Transplant Diagnosis: ALL
- Disease Status: CR2 MRD Neg; H/O iamp21 Mutation
Pre-BMT Clearance
Review of the patient history, physical examination, vital organs assessment and laboratory data have determined the suitability of this individual to receive a Bone Marrow Transplantation.

BMT Complications
GVHD: Prophylaxis Tacrolimus, Acute GVHD Skin stage (Stage: 2, 5/12/15: Fluocinonide+Protopic+Almond oil 5/27: Basiliximab), Acute GVHD Liver stage Stage: 0, Stage: 4, pending confirmation by scoping, Acute GVHD Grade Grade: 3.

Post Transplant
S/P type of transplant: Cord blood followed by haploidentical Transplant diagnosis: JMML
Days Post Transplant:
- Bone marrow transplant status (10/08/14) +205 days
- Bone marrow transplant status (01/21/15) +100 days
Genetically modified T-cell infusion given on 2/16/15.
BMA 2/26 completed. No evidence of malignancy..
• Customized templates used to document required patient transplant data.

• Information can be imported to sequential physician progress notes, eliminating documentation of the same information from note to note.

• Unlimited number of customized SmartForms can be created for data capture

• Data can be reviewed and edited prior to upload into physician note.
### History and Physical

**Patient:** Sample, Sample  
**MRN:** 000000  
**FIN:**  
**Age:** 13 years  
**Sex:** Female  
**DOB:** 00/00/0000  
**Associated Diagnoses:** None  
**Author:** McFarren (Attending) MD, Alicia

### Visit Information

**BMT SmartForm:** 10/16/14 09:56  
**Patient Identification**  
- Transplant Diagnosis: ALL  
- Race: White  
- Transplant Number: BMT # 1  
**Date of BMT 1:** 02/03/2015 (-11 days)

### Recipient Information

**HSV:** Positive  
**CMV:** Positive  
**HLA:**  
- A-DNA 0101*0201  
- B-DNA 0801*1501  
- C-DNA 0303*0701  
- DRB1-DNA 1301*XX  
- DRB3-DNA 0101*0202  
- DQB1-DNA 0603*XX  
**Blood Group:** A Positive  
**Sex:** Female  
**Conditioning Height:** 157.48  
**Conditioning Weight:** 77.5  
**Conditioning BSA:** 1.84  
**Conditioning IBW:** 46.14  
**Conditioning ABSA:** 1.6  
**Conditioning AIBW:** 58.69  
**Processing:** None

### Name of Person(s) Consenting:

- **Mother:**  
- **Father:**  
**Relationship:** Legal Guardian  
**NMDP #:** 000-000-0

### Conditioning Regimen

- Campath 1H 32 MG/M2/Total Dose  
- TB1 1350 cGy/Total Dose  
- VP-16 1500 MG/M2/Total Dose

### GVHD Prophylaxis

- Tacrolimus  
- Methotrexate 5 MG/M2 on Days +3, +6, +11

### Study/ Treatment Enrollments

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<th>Enrollment ID</th>
<th>Status</th>
<th>Start Date</th>
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<td>Standard of Care: Consented</td>
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</tbody>
</table>
**BMT Engraftment Status**

- **Date of ANC Engraftment**
- **Days Post Transplant**

**Platelet Engraftment**

**Engraftment Comment**

**FISH**

- **FISH Chimerism Sent**
- **Percent Donor**

**FISH Comment**

**STR**

- **STR Chimerism Sent**
- **Whole Fraction**

- **CD3+ %**
- **CD14+ %**
- **CD56+ %**

- **CD4+ %**
- **CD15+ %**
- **CD16+ %**

- **CD8+ %**
- **CD19+ %**
- **CD33+ %**

- **Sample**
  - Bone Marrow
  - Peripheral Blood
  - Other.
Engraftment

Date of ANC Engraftment: 02/08/2015
(+18)

Date of Platelet Engraftment: >20k 02/05/2015

Days Post Transplant (>20k) + 15 days

Date of Platelet Engraftment: >50k 02/05/2015

Days Post Transplant (>50k) + 15 days

Status

03/06/2015 14:02

STR Chimerism Sent 03/06/2015

STR Percent Donor 100%

Sample Bone Marrow

(Unauth) (Unauth) (Unauth)
RESULTS

• Physician Notes comprehensive, clear and useful for data collection
• Real-time access to EMR physician note
• Data discrepancies promptly addressed
CONCLUSION

- Quality of Data contained in the EMR physician note is dependent on accurate clinical documentation
- Use of customized tools within the EMR note can assure accurate documentation of required clinical data
- The availability of essential data in real time ensures timely completion of case report forms.
Questions