

Inpatient-BMT Electronic Ordering

The Problem

Inpatient Bone Marrow Transplant (BMT) orders do not use the computerized order entry systems (OMS and POE) for electronic provider order entry.

The lack of electronic ordering in this scenario does not comply with best practice standards and was recently cited as a finding by FACT (Foundation for the Accreditation of Cellular Therapy). The inconsistency in care leads to a gap in the overall safety systems provided to all other patients receiving standard chemotherapy as well as non-chemotherapy order entry for routine inpatients. If our manual processes being used in the paper world fail, the institution may be at risk from a patient safety, regulatory, patient satisfaction and financial standpoint.

Aim/Goal

Convert all BMT orders to computerized formats including OMS and POE by the end of February 2014.

The Team

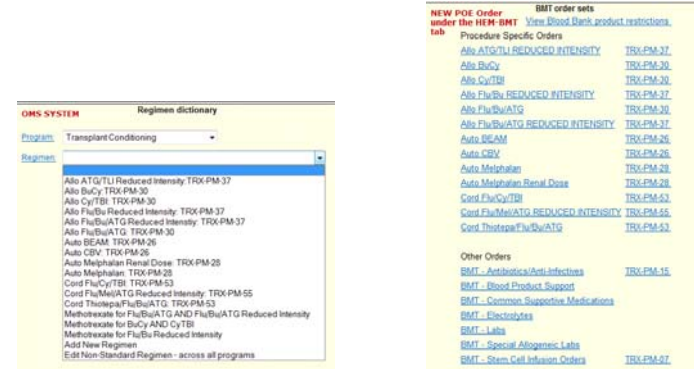
Under the direction of the OMS Steering Committee who sponsored and prioritized the project (Aug 2013), The BMT Workgroup was developed. Members include: Roz Coss RN, BMT Coordinator; Patty DiGiacomo-MacDonald RN, OMS Coordinator; John Gersh IS Programmer/Developer; Jean Hurley, IS Manager; Robin Joyce MD, Physician leader for OMS; David Mangan PharmD., Manager of Pharmacy Operations; Stephan Maynard RPH, Pharmacy IT; Loi Nguyen RPH, OMS Coordinator; Margie Reilly PharmD., OMS Project Manager; Tatiana Vicente RN, Nursing BMT Educator; Zaven Norigian PharmD, Pharmacy, Hem-Onc Clinical Coordinator and Ad hoc member: Sean Corbett RPH, Pharmacy.

The Interventions

- Standardization of non-chemotherapy order sets for POE
- Design/Build/Testing of new functionality in OMS to allow for clinical needs of BMT order-sets
- BMT order sets created and tested in OMS and POE
- Communication/Training of changes to all staff members involved in the workflow of inpatient BMT orders

The Results/Progress to Date

All BMT order templates are now electronic. See OMS Regimen Dictionary picture
The new electronic order-set templates are now available for BMT in OMS and POE.
New OMS functions have been built, tested and implemented.
Go live BMT 2/24/14.



Comparison Table

| System abilities | Paper Orders | OMS standard | OMS w/new functions specific for BMT |
|--|------------------------------|--------------------------|--|
| Ability to electronically create a chemotherapy order that includes: <ul style="list-style-type: none"> • Electronic order is reviewed/signed by program leader or designee • Reference links available • Co-signature required for order written by fellows • 2 RN validation of order for sign-off and double check • Automatic dose calculations • Automatic days of treatment to calendar date (i.e. Day 1 = 5/1/14) • View of all medications available in OMR/POE (inpatient) | Not available Only Manual | Automatic | Automatic |
| Calculate and counts days using negative values | Manual | Not available | Automated |
| Use and calculate start date from Day 0 (day of transplant infusion) | Manual | Not available | Automated |
| Allow different weight: adjusted/Adjusted to be used | Manual calculations | For all drugs in regimen | Per individual medication |
| Approval of Methotrexate doses post-transplant | Verbal discussion | None | Electronic authorization & documentation |
| Automated calculation of Busulfan based on Area under the curve (AUC) | No | No | Yes |
| Allow links from orders to Standard Operating Procedures | No | Yes | Yes but also in POE BMT orders |

Lessons Learned

- Assessing and addressing critical resource needs must be done early to avoid disruptions to the anticipated time line.
- Standardization of orders with agreement from clinical staff is essential to allow for efficient entry of regimen templates and sign off of orders.

Next Steps/What Should Happen Next

- A problem log will be managed during the go live of the order-sets in BMT with follow up on resolutions.
- OMS team to continue to provide support and training on BMT ordering.
- Workgroup will continue to meet until outstanding issues are resolved, then less frequently.
- Workgroup to reassess priority of “nice to have” functionality changes.
- QA process of order-set review will continue with current sign-off practices for electronic orders.

For more information, contact:

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