Tracking Cumulative Chemotherapy Doses at BIDMC

The Problem

- Tracking cumulative chemotherapy doses contributes to patient safety by giving providers information they can use to determine if their patients are close to receiving an unsafe amount of chemotherapy.
- Prior to this effort, in order to tabulate the total amount of chemotherapy that patients received, providers needed to reference every individual administration's record and manually calculate, which was time-consuming and error-prone.
- The Division of Hematology/Oncology at Beth Israel Deaconess Medical Center has applied for Quality Oncology Practice Initiative (QOPI) Certification, offered by the American Society of Clinical Oncologists (ASCO).
  - One requirement of this quality improvement effort is the ability to track cumulative doses of chemotherapy associated with cumulative toxicity risks.

Aim/Goal

Develop and implement a new function in the Oncology Management System (OMS) to display the cumulative doses of chemotherapy patients have received at BIDMC

The Team

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The Interventions

- The OMS Steering Committee built upon the existing OMS administration history in hopes of maximizing accuracy with minimal change to existing workflow.
- Oral and research medications were omitted since they are not ordered through OMS.
- A new screen was created in the OMS administration history that automatically tallied up doses of chemotherapy that were logged as "given" by nursing.
- During the design process, several rounds of quality assurance (QA) were performed on a test server to check the accuracy and completeness of the cumulative doses of chemotherapies and to inform design changes.

The Results/Progress to Date

- A new screen in the OMS administration history has been implemented which shows the cumulative chemotherapy doses for BIDMC patients.
- Detailed information about each administration is available by expanding every medication:

Cumulative Medication Administration History

**** The intent of this cumulative history is to provide cumulative dosing information for chemotherapies ordered through the Oncology Management System (OMS). Chemotherapy given at other institutions or preceding the OMS system will not be recorded here. Research medications, oral medications, and medications ordered on paper are not included. Please use caution in interpreting these results. ****

⊞ **Cytarabine: 12700 mg/m2**					**22930 mg**	
⊟ **IDArubicin:**	**36 mg/m2**				**69 mg**	
IDArubicin	12 mg/m2	06/06/10	Inpatient	IDArubicin **23 mg** IV Days 1, 2 and 3. (06/04/10, 06/05/10 and 06/06/10) (12 mg/m2) Give via slow IV Push	23 mg	given as ordered
IDArubicin	12 mg/m2	06/05/10	Inpatient	IDArubicin **23 mg** IV Days 1, 2 and 3. (06/04/10, 06/05/10 and 06/06/10) (12 mg/m2) Give via slow IV Push	23 mg	day 2 as ordered
IDArubicin	12 mg/m2	06/04/10	Inpatient	IDArubicin **23 mg** IV Days 1, 2 and 3. (06/04/10, 06/05/10 and 06/06/10) (12 mg/m2) Give via slow IV Push	23 mg	dose #1 given as ordered

- In the most recent QA review, over 200 inpatient and outpatient chemotherapy administrations were checked, 89% of administrations were properly logged, and the system accurately added up 100% of them.

Lessons Learned

- It is important for all of the disciplines which will be affected by a system change to work together, as potential problems may be uncovered and straightforward, practical solutions may be available.

Next Steps

- Further QA to assess the completeness of the dosing record and to identify the causes of any deficiencies.
- Address barriers that affect the ability to log all chemotherapy doses, such as the need to document administrations in multiple places ("double charting").
- Provider education regarding availability of cumulative chemotherapy dosing.
- Survey providers to evaluate patterns of utilization of this feature.
- Incorporate cumulative dose information into patient chemotherapy treatment summaries.

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