

Pregnancy Screening Before Chemotherapy Administration

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Introduction/Problem

According to the American Society of Clinical Oncology (ASCO) Chemotherapy Administration Safety Standards, a documented pregnancy screening before chemotherapy administration is recommended for patients with childbearing potential. At BIDMC Cancer Center, we do not have a standard way or policy for pregnancy screening before chemotherapy administration. Currently, our patients are educated on the importance of pregnancy screening during the initial visit with their provider along with being verbally screened. However, there could be cases in which the patient may be pregnant without their knowledge. Adminstrating chemotherapy to patients during pregnancy has potential to be teratogenic.

Our target population: Women <= 40 years starting a new chemo (either as a new patient or switching regimen).

Aim/Goal

Our initial goal was to assess our baseline performance of pregnancy screening for patients with childbearing potential within ten days of starting their first chemotherapy.

- Inclusion criteria: Women with solid malignancies who are starting IV antineoplastic immunotherapy/biotherapy, cytotoxic chemotherapy, or targeted therapy at an outpatient clinic in BIDMC Boston.
- Exclusion criteria: History of hysterectomy, oophorectomy or salpingectomy. Patients only receiving oral chemo, hormonal therapy, other modality of cancer treatments such as XRT/Surgery. Patients enrolled in clinical trials. Patients starting chemo treatments as inpatient.

Upon reviewing our initial data and the results of interviews with our providers, we currently aim to improve the rate of documented pregnancy screening by 50% by June 2022. Our end goal, as we monitor the data, is to reach maximum compliance.

The Team

- Poorva Bindal MD, Brian T. Halbert MD, Jonathan W. Wischhusen MD, Hematology/Oncology Fellowship Program
- Melis Celman MHA, Quality Improvement Project Manager, BIDMC Cancer Center
- Katarina Oleszkiewicz, Program Coordinator, BIDMC Cancer Center
- Sharon Renzi RN, Nurse Coordinator, Medical Oncology
- Aya Sato-DiLorenzo BSN, RN, OCN, BMTCN, Quality Improvement Nurse Specialist, BIDMC Cancer Center
- Meghan E. Shea MD, Medical Director, Quality Improvement Director, Medical Oncology, BIDMC Cancer Center
- Jessica A. Zerillo MD, Director of Quality, BIDMC Cancer Center, Senior Medical Director of Patient Safety, BIDMC

Methods/Interventions

- Gathered pregnancy screening data from the period between 1/1/21 and 3/31/21
- Performed chart reviews to establish pregnancy screening baseline
- Prepared structured interview scripts for conducting interviews with clinical teams
- Conducted interviews with oncology providers and nurses to gather qualitative data about the best practices and barriers to screening
- Established a new lab order set that includes urine HCG screening for Initial visits, and added urine HCG screening to Solid Tumors and Heme Malignancy order sets to make pregnancy screening more convenient for providers

Results/Progress to Date

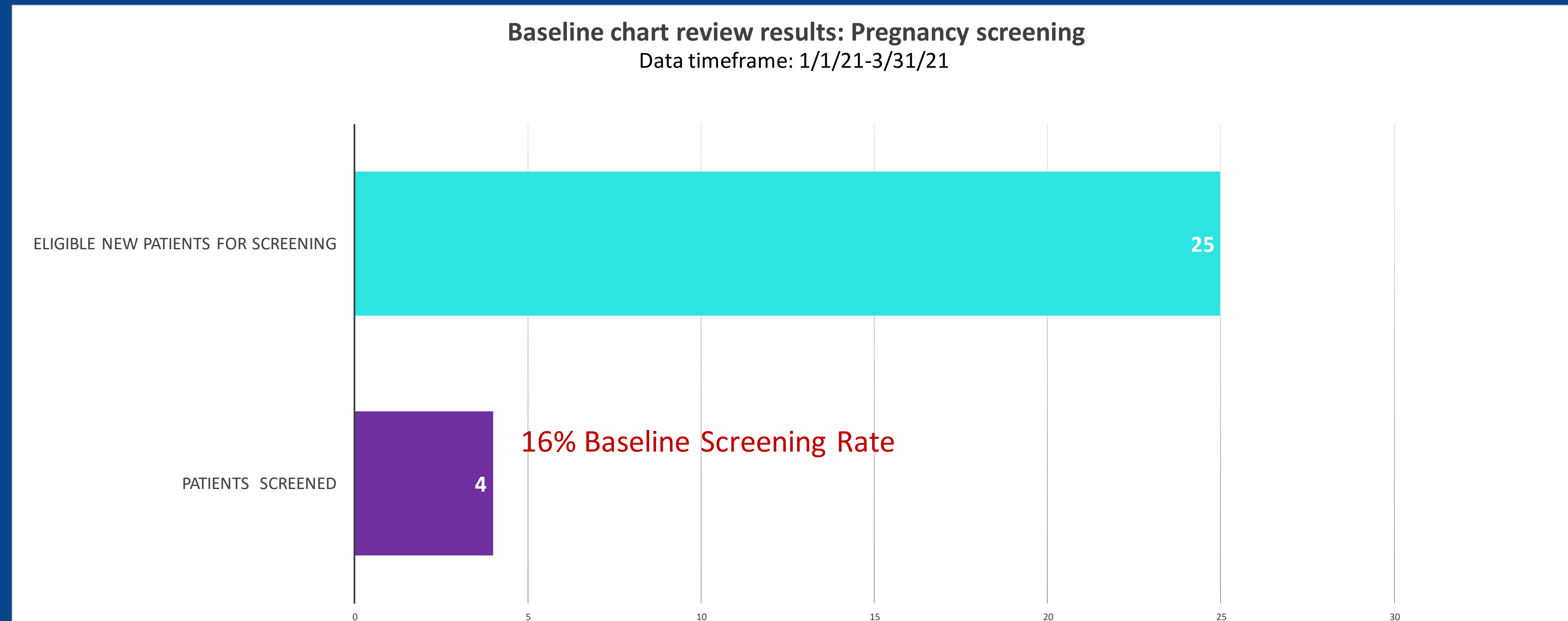
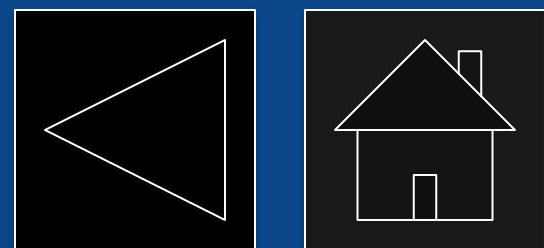


Figure1. Baseline data: Women <= 40 years who started a new chemo (either as new patient or switched regimen) in the period of 1/1/21- 3/31/21 and had HCG screening within 10 days of chemo treatment.

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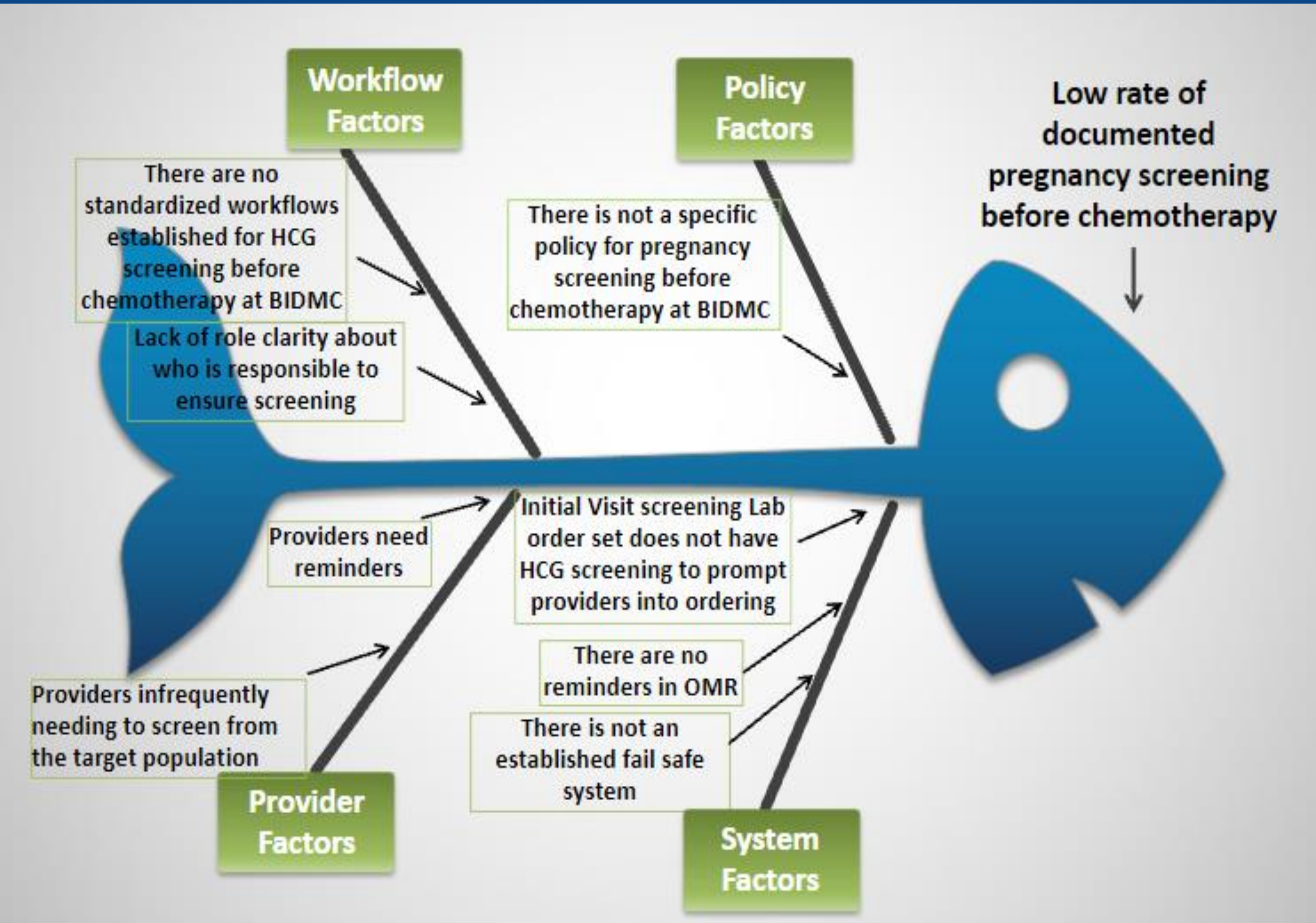


Figure 2. Fishbone Diagram: Low rate of documented HCG screening before Chemotherapy based on the Qualitative interviews. (Fishbone Diagram template credit: Abdel Latif Marini, MSN, CPHQ, CPPS).

Initial Treatment Start

- ☐ COVID-19 PCR - Not suspect - All other screening (nasal swab preferred)
- ☐ Hepatitis B Screening Panel (Includes Hepatitis B Surface Antigen, Hepatitis B Surface Antibody, Hepatitis B Core Antibody (Total))
- ☐ Hepatitis C Antibody
- ☐ HIV 1&2 Ab/Ag
Initial testing for p24 antigen, HIV 1&2 antibodies to establish HIV diagnosis (with reflex to confirmation if reactive). Separate tube REQUIRED. Addon NOT permitted.
- ☐ QuantiFERON-TB Gold
Samples are accepted Mon-Fri and should only be collected between the hours of 6 AM - 6 PM. Samples are not accepted on BIDMC holidays. This test requires a 4-tube collection kit. The 4-tube collection kit can be obtained by calling: 7-5456 if you are located on the East Campus or 4-3230 if you are located on the West Campus. Draw 1 mL of blood in each of the 4 tubes. The order of draw is Gray, Green, Gold, Purple. When mixing, keep tubes upright and shake tubes in a handshake like motion 10 times. Place tubes in the provided gold Quantiferon bag and send to the lab.
- ☐ HCG, urine

Figure 3. Intervention: We have created the **Initial Treatment Start** order set in Online Medical Records. It includes urine HCG to make it more convenient for providers to screen eligible patients before chemotherapy. The new Initial Treatment Start order set is expected to go live on November 1st, 2021.

Lessons Learned

- Based on the qualitative and quantitative data, there is a lack of standardization and no prompting in the provider's workflow.
- Without having a specific policy for pregnancy screening before chemotherapy, providers screen patients on ad hoc basis.

Next Steps

- Establish new workflows and standardize documented HCG screening prior to chemotherapy
- Educate staff about the importance of HCG screening prior to chemotherapy and establish new workflows that will include pathways for false positive results
- Conduct quarterly audits to ensure improved HCG screening adherence
- Establish HCG screening policy prior to the first dose of chemotherapy

For more information, contact:

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