A cancer diagnosis is devastating and complex. Patients can feel overwhelmed by emotions, information, decisions, symptoms, and the time they spend addressing these. Although infertility after treatment is a commonly covered topic, cancer and pregnancy are not typically thought of as occurring simultaneously. Currently, the incidence of concurrent pregnancy and cancer is low (ranging from 0.1%–0.2%); however, because later onset of cancer in life overlaps with the increased rate of delayed childbearing, this range is anticipated to increase (Esposito, Tenconi, Preti, Groppali, & Principi, 2016; Finer & Zolna, 2014; Matthews & Hamilton, 2014). Women of childbearing potential (WOCBP) should be screened and tested for pregnancy before the commencement of chemotherapy. Gustafson et al. (2018) shared the results of a National Comprehensive Cancer Network (NCCN) Best Practices Committee survey which revealed that, among 23 NCCN member institutions, a significant percentage did not have a pregnancy screening and testing policy (30%). A detailed review of six NCCN member institution policies showed notable variation. Because of an unusual patient-related scenario and to better support consistent and safe practice, the Seattle Cancer Care Alliance addressed standardization of guidelines and policies regarding testing for pregnancy prior to chemotherapy administration.

The authors’ institution experienced an uncommon event in which a patient who was thought to be incapable of pregnancy underwent chemotherapy while actually pregnant. Unfortunately, this discovery was not made until postpartum. This provided a profound opportunity to revisit the institutional approach to fertility assessment and pregnancy prevention during active treatment. Prior to this, pregnancy and contraception concerns were addressed with patients on a per-case basis, but, similar to many peer institutions, standardization of this process was lacking. The event spurred an organization-wide effort to develop and pilot a pregnancy testing policy and corresponding workflow within the breast cancer treatment service line. The aim was to learn from this preliminary pilot pregnancy testing policy and eventually scale this work up to each service line. This article highlights some aspects of the policy development, implementation, and effect on nursing practice.

Policy Development
An interprofessional task force to establish the pilot pregnancy testing policy included experts in reproductive endocrinology, lawyers, oncologists, nurses, pharmacists, and administrators who regularly met to create a working draft of a pregnancy testing policy. Research has yet to determine the most effective pregnancy testing schedule for WOCBP with cancer (Gustafson et al., 2018). The task force concluded that patients most likely had the least amount of knowledge about simultaneous cancer and pregnancy before their initial visit and, therefore, this visit...
was deemed the most appropriate time for patient education and pregnancy testing. As such, the institutional policy states that pregnancy testing is required of WOCBP before treatments that could potentially harm the developing fetus, such as diagnostic tests and procedures, radiation therapy, chemotherapy, biotherapy, or therapeutic nuclear medicine treatment. In addition, the task force defined WOCBP using the following three criteria: (a) aged 10–55 years, (b) have not had chemotherapy at the institution in the past year, and (c) had no pregnancy testing result available within the past 72 hours.

**Policy Implementation**

Disease-specific cancer treatments differ, creating a variety of clinical workflows. To mitigate this, the authors launched a pilot within the breast clinic to fine tune department-specific workflows and use stakeholder feedback and data to refine pregnancy testing processes before additional implementation. Incorporation of a standardized pregnancy testing workflow is expected to have a minimal effect on patients and providers. First, an electronic health record (EHR) alert was created to order a serum human chorionic gonadotropin (hCG) test when IV chemotherapy was ordered for patients meeting WOCBP criteria. A pregnancy test must be ordered by the provider, or the rationale for not testing must be documented to proceed in the EHR for WOCBP who meet testing criteria. A hard stop was programmed into the alert that requires the infusion nurse to check serum hCG results prior to the administration of chemotherapy. Pregnancy test results or reason for test deferment were made readily accessible in the patient’s vital signs list within the EHR. Workflow designs account for unplanned events to minimize delays in infusion, such as a one-hour turnaround time for pregnancy test results. All breast providers and nursing staff received pregnancy testing policy education materials and training prior to launching the pilot.

**Patient Communication**

Patient–provider communication is part of successful patient-centered care (Epstein & Street, 2007). An opportunity to partner with patients is missed when patient education and communication are lacking. Britton (2017) stated that a common theme among WOCBP with cancer was their uncertainty surrounding fertility and contraception during cancer treatment. They also expressed that they had unmet contraceptive needs. Patients need to be educated about forms of effective contraception because WOCBP can remain fertile during cancer treatment (Patel & Schwarz, 2012). Patient education and discussion of pregnancy are a component of the pregnancy testing policy. Oncology nurses and pharmacists who are part of the chemotherapy education work group developed the patient education materials and discussion guidelines. This education is of primary importance because studies show that patients are more satisfied when they collaborate with their providers in making informed decisions about reproductive health and contraception (Dehendorf, Grumbach, Schmittdiel, & Steinauer, 2017).

**Implications for Practice**

The complexity of concurrent pregnancy and cancer treatments require the attention and expertise of oncology providers. The lack of consistent guidelines and policies challenges providers to protect their patients. Nurses need to vigilantly consider their patients who meet WOCBP criteria. Nursing practice implications are detailed in Figure 1.

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**Figure 1. Nursing Implications for Pregnancy Testing and Cancer Treatment**

**Patient Refusal**

Patients have the right to refuse pregnancy testing as part of their autonomy. Nurses can assess for patient educational needs or conflict between patient preferences and care goals that may contribute to a patient’s decision to refuse testing. Patient conflict generally reveals unmet needs.

**Minor Patients**

Nurses need to be aware of institutional policies and laws within their state of practice that indicate the privacy and rights of minor patients when obtaining a pregnancy test or sharing the results.

**Patient History**

Given the variety of patient reproductive health backgrounds and histories, nurses need to practice awareness in communication and collaborative deliberation when educating their patients about contraception and treatment options.

**Pregnancy Status Check Prior to Infusion**

An infusion RN is the last barrier to unknowingly treating a pregnant patient with cancer with chemotherapy. Infusion RNs should check the pregnancy status of female patients in the electronic health record before each chemotherapy infusion.

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"A pregnancy test must be ordered by the provider, or the rationale for not testing must be documented."
that could potentially harm a developing fetus. Nurses play a pivotal role in helping to educate patients about the risks of becoming pregnant and the use of contraception while in active cancer treatment.

Barbara Jagels, RN, MHA, CPHQ, is the vice president of quality, safety, and value and the chief quality officer, Leila Amin, OTR/L, MSc OT, MSc, is a quality program manager of community and network sites, and Annika Gustafson, MHA, BSN, RN, is a clinical quality analyst, all at the Seattle Cancer Care Alliance in Washington. Jagels can be reached at bjagels@seattlecca.org, with copy to CJONEditor@ons.org.

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**REFERENCES**


