ASSOCIATION OF CANCER CARE CENTERS

Enhancing Ovarian Cancer Care: A Self-Assessment Tool for Quality Improvement

Ovarian cancer is the fifth leading cause of overall cancer deaths among women[1,2] with fewer than 45% of patients surviving 5 years beyond diagnosis.[3] Surgical cytoreduction and adjuvant chemotherapy are the mainstay of treatment, but most patients will eventually experience recurrence.[1] To improve upon the poor prognosis associated with ovarian cancer, several diagnostic and therapeutic advances have emerged in recent years. Evidence supports genetic testing for all newly diagnosed patients, as certain treatment options and benefits can be individualized based on these results. Maintenance therapy with various drugs including targeted therapies is becoming more widely used, and immunotherapies are currently being investigated in clinical trials. Unfortunately, not all patients with ovarian cancer can access state-of-the-art cancer care.

Due to the high degree of nuance required to treat ovarian cancer, a systematic approach to patient identification, evaluation, diagnosis, and treatment is necessary to maximize clinical outcomes.[4] In 2022, **Temkin et al published a manuscript** (hereafter referred to as the quality document) detailing the elements of a high-quality ovarian cancer care program.[5]

As shown in Figure 1, the 7 specific domains necessary for guideline-concordant ovarian cancer care are:

- Care coordination and patient education
- Prevention and screening
- Diagnosis and initial management
- Treatment planning
- Disease surveillance
- Equity in care
- Quality of life.

Guideline-Concordant Care in Ovarian Cancer

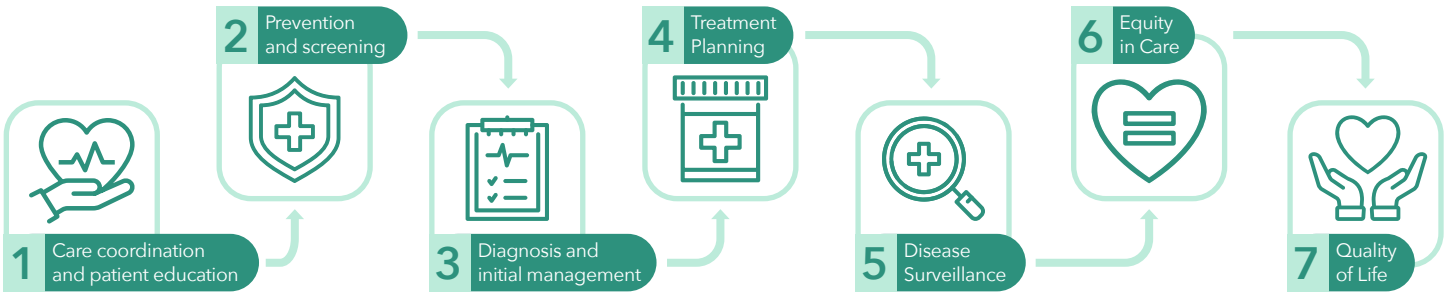
In a recent analysis of Surveillance, Epidemiology, and End Results data,[4,6] a study of over 90,000 cases of ovarian cancer showed only **50% to 60%** of patients receive guideline-concordant care.

To empower cancer programs to self-identify barriers to guideline-concordant care, the Association of Cancer Care Centers (ACCC) implemented a series of quality improvement initiatives in community and academic cancer centers across the US.[6] For the second phase of this initiative, the quality document was used to assist 4 cancer programs with improvement projects.[6] Additionally, the quality document inspired the creation of a quality self-assessment tool that was piloted for use at a fifth location. This article highlights the key findings from the improvement projects and introduces the self-assessment tool that is designed to help health care providers enhance the quality of care delivered to people with ovarian cancer.

Methods

Sites applied during an open application period advertised via email to all ACCC members. The 4 participating sites were selected by the steering committee after expert review of each application using a standardized rubric. All participating ovarian cancer programs worked with the ACCC team to perform a

Figure 1. The 7 Domains of Quality Ovarian Cancer Care



baseline self-assessment in which current practice was compared to guideline-concordant care as outlined in the quality document.[5] The Plan-Do-Study-Act (PDSA) framework was employed to provide overall structure, accountability, and a 6-month timeline for each quality improvement project. After establishing baseline data for the proposed problem statement, each site was directed to implement prospective data collection in a series of three 2-month PDSA cycles. At each 2-month time point, data were collected, implementation barriers were discussed, and overall progress towards the proposed solution was observed.

Results with descriptive statistics were reported as frequency/proportion (categorical variables) or mean/median (continuous variables) with no statistical hypothesis testing. All research efforts had oversight from the ACCC institutional review board (IRB) and the IRB from local sites when appropriate.

Workshops

A multidisciplinary workshop was held at each of the 4 cancer programs selected to work with ACCC to implement a 6-month quality improvement initiative. The quality document[5] was provided to all sites for review ahead of the event. Workshops were conducted onsite for 1 program and virtually for 3 programs; they were attended by at least 2 ACCC representatives and 6 to 17 members of the multidisciplinary team at each institution. Multidisciplinary team members consisted of various cancer care professionals including gynecologic oncologists, medical oncologists, pathologists, advanced practice providers, gynecologic oncology nurses, information technology professionals, epidemiologists, cancer center managers, cancer center directors, research directors, project managers, and study coordinators.

During each workshop, a self-assessment was conducted to highlight care domains with the greatest need for improvement as indicated by the quality document. In-depth discussions were then facilitated to identify specific problem statements (Table 1), to design actionable solutions, and to establish data benchmarks to measure improvement over time. In addition, each site named the person(s) responsible for each key task and the exact timeline for completion.

Quality Self-Assessment Tool

Based on feedback received from the first 4 cancer programs, the quality document was not easy to use during the quality improvement workshops. Although the information contained within the document was perceived as valuable, excerpts from the full-text manuscript were not ideal for guiding real-time quality improvement discussions. Based on these insights, ACCC decided to create a condensed version of the information contained within the quality document to highlight key takeaways and inspire actionable solutions. The aim was to streamline the information in the quality document into a user-friendly tool for quality improvement. The resulting self-assessment tool was thus developed and then piloted for feasibility at a fifth cancer program (selected from the initial pool of applicants).

The quality self-assessment tool addressed each of the 7 domains essential for high-quality ovarian cancer care as outlined in the original quality document (Figure 1).[5] For each domain, 2 to 7 recommendations were listed. Multidisciplinary teams evaluated each recommendation from 1 (unsatisfactory) to 4 (good), generating a domain-specific sub-score. The tool included a macro-enabled spreadsheet that made necessary calculations and provided an overall score, domain-specific sub-scores, and a list of key recommendations that received low ratings.

Results

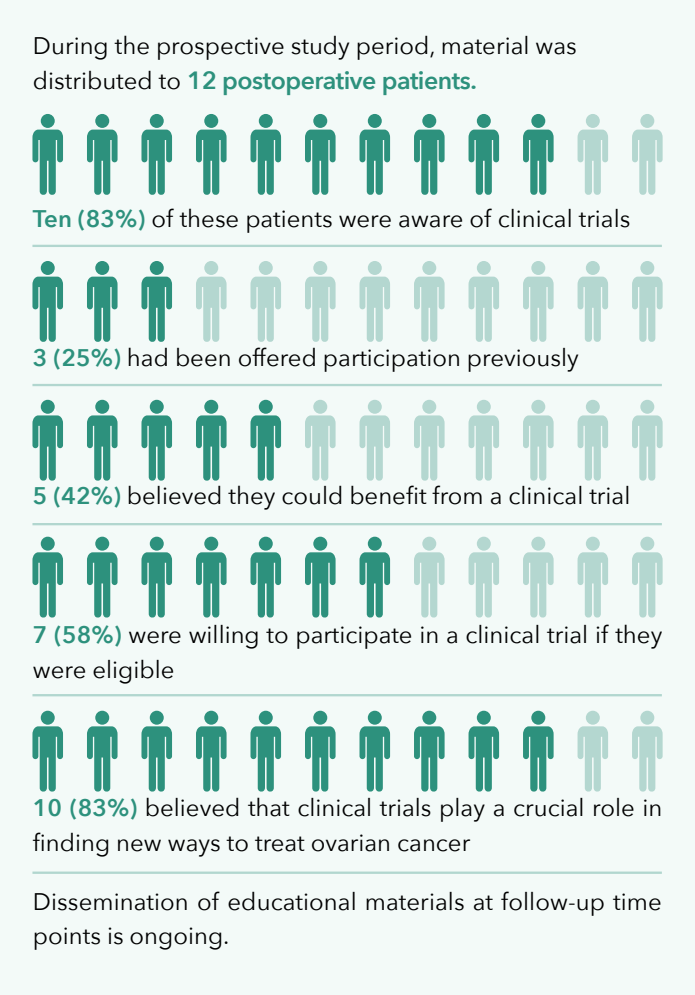
A high-level overview of select problem statements is provided in Table 1, and the full list is included in the online supplement. Common concerns expressed about the delivery of ovarian cancer care included fragmented/disorganized administration of genetic/molecular testing and inadequate identification of potential candidates for clinical trials. Many of the issues identified are exacerbated by a suboptimal process of care delivery. In the absence of a streamlined patient care pathway, genetic/molecular testing and clinical trial screening/enrollment can be delayed or simply never completed.

Problem statements 1 and 2 raise issues related to clinical trial enrollment. A common issue encountered during the delivery of ovarian cancer care is that patients are often not approached about participation in clinical trials until several years after diagnosis (most likely at the time of recurrence and sometimes after the eligibility window has closed). The absence of a systematic process for staff to perform prescreening of individual patients for clinical trials leads to missed opportunities for enrollment.

One cancer center addressed this problem by implementing a laboratory intervention that set up automated monitoring of CA-125 results. During the prospective study period, 11 individuals experienced a CA-125 increase of greater than 20% from baseline. Of those, 7 were diagnosed with recurrence or disease progression. All 7 (100%) were assessed for clinical trial eligibility; 3 (43%) were eligible for a trial, and 2 (67%) of those patients were enrolled.

The staff further addressed this issue by tackling patient education about clinical trials. They developed and distributed educational materials at 3 strategic time points in the care continuum: following surgery, 1 month after chemotherapy, and at the first surveillance visit.

Figure 2. Clinical Trials Patient Education



To address problem statement 3, staff initiated a multilevel intervention to reduce perioperative morbidity and increase quality of life. The first solution employed a gynecologic oncology order set to be included in the electronic medical record (EMR) to prompt provider-led education. The divisions of gynecologic oncology and physical therapy were educated using the new order set. It was used for all 76 surgeries for patients with ovarian cancer during the study period; 17 (22%) of those patients with advanced ovarian cancer underwent cytoreductive surgery, and 9 (12%) had interval cytoreductive surgery. The team also created and provided a patient education document created by the physical therapy team for the clinical nursing staff.

The solution designed to address problem statement 4 involved a community paramedicine program to decrease nonessential emergency department (ED) visits. The community paramedicine program allowed for a trained professional to examine the patient at home, receive medical direction from an ED physician via video conferencing when necessary, and refer patients to an outpatient oncology center when appropriate. In the year prior to initiation, only 3 patients were referred to the community paramedicine program. In the year after implementing the initiative, 30 patient referrals were made (patient age: median, 62 years; range, 33-88 years). Of these, 16 patients (53%) were successfully treated at home or at the outpatient center. 14 patients (47%) were transported to the ED, and 5 (17%) were ultimately admitted with the following diagnoses: non-ST-elevation myocardial infarction, pulmonary embolism, pleural effusion, ureteral injury, small bowel obstruction, or sepsis. The use of the community paramedicine program avoided ED visits in over 50% of gynecologic oncology patients with postoperative and treatment-related concerns.

Table 1. Problem Statements at Selected Cancer Centers

1. We are not able to identify and enroll recurrent ovarian cancer patients in clinical trials in a timely manner.
2. We are not able to consistently provide education to patients with ovarian cancer about clinical trials.
3. Individuals with ovarian cancer are at high risk for perioperative morbidity and decreased quality of life. We are currently not optimizing patients' functional status.
4. Nonessential emergency department visits occur too frequently. We aim to provide an alternative for expedited, convenient, safe and cost-effective patient evaluation via phone triage and use of community paramedicine and an outpatient, referral-based oncology care unit.
5. Elements of care delivery for individuals with ovarian cancer include comprehensive genetic testing, timely receipt of treatment, receipt of next-generation sequencing and homologous recombination deficiency testing, and retrieval of malignant fluid at key clinical entry points. These are not optimally achieved; they could be improved by implementing a standardized and coordinated care pathway.

Table 2. Results from Quality Self-Assessment Tool Pilot Test

Domain 4. Treatment planning
Implementation Barrier: Limited availability of clinical trials for patients with ovarian cancer

Subdomain A
Identifying local champions to introduce and accrue patients to clinical trials

Proposed Solution: A local champion will lead monthly discussions at the Gynecologic Cancer Case Conference to review currently available clinical trials and potential eligibility.

Timeline: This solution will be implemented by January 31, 2024.

Measure: Process measure, complete or incomplete

Domain 5. Disease surveillance
Implementation barrier: Historical overuse of imaging for posttreatment cancer surveillance

Subdomain A
Educating physicians, team members, and patients on the risks and benefits of false-positive imaging

Proposed Solution: Provider education (from Gynecologic Oncologist) will be delivered to the Gynecologic Oncology Treatment Team. We will administer a short (3- to 5-question) knowledge assessment before and after education.

Timeline: Quarter 1 2024

Measure: Change in knowledge score post- vs pre-education

Domain 7. Quality of life
Implementation barrier: Patient reluctance to discuss quality of life issues with their clinician or other members of the health care team and a limited comfort level with these topics and/or lack of available resources from physicians and other team members

Subdomain B
Partnering with patient advocacy partners to create and curate patient and provider resources (also identified in the survivorship care plan).

Proposed Solution: Identify local patient advocacy partners and establish relationships.

Local Champion: E.P., J.V. (identifying), Full Gynecologic Oncology Team (reaching out to partners)

Timeline: Identify partners in quarter 1 of 2024, establish relationships in quarter 2 of 2024.

Measure: Process measure, complete or incomplete

Key Recommendation C
Identifying specific time points during a patient's care to discuss advanced directives and goals of care

Proposed Solution: Include advance directives in patient resource binder provided to each patient during the navigation visit at the first postoperative or chemotherapy visit.

Timeline: January 31, 2024

Measure: Process measure, complete or incomplete

Problem 5 statement highlights the need for patients with ovarian cancer to receive genetic testing, homologous recombination deficiency (HRD) scoring, or next-generation sequencing (NGS) early in the disease course and, ideally, prior to treatment initiation. Delayed or absent testing may limit the number of treatment options available to the patient, and it can disqualify many patients from being able to participate in clinical trials for ovarian cancer. Identified barriers to implementation of universal testing included insufficient amount of tumor in diagnostic tissue samples available for molecular testing, high clinic volume, and excessive turnaround time. Standardization of clinical pathways was suggested as a potential solution. More specifically, the workshop team specified the following 5 activities needed to remedy this issue at their institution.

- The clinical pathway will be developed in collaboration with the Epic (Epic Systems) EMR team and the gynecologic oncology team.
- The project team will develop and implement a plan to ensure that all relevant providers are trained to use the clinical pathway.
- The team will measure the implementation of the pathway and monitor its use.
- The team will ensure that providers are trained and educated on the clinical pathway.
- The clinical pathway will be developed in collaboration with the EPIC electronic medical records (EMR) team and the gynecologic oncology team.
- A plan will be developed and implemented to ensure all relevant providers are trained to use the clinical pathway.
- Measure the implementation of the pathway and monitor utilization.

Key Takeaways From Quality Improvement Projects

Staff at participating sites found that both patient education and abnormal laboratory monitoring were actionable steps that could address low clinical trial enrollment. Standardization of clinical pathways and introduction of custom order sets in the EMR were identified as valuable aspects of care delivery. Additionally, connecting oncology providers and staff members to physical therapists and professionals involved with the community paramedicine program were innovative approaches to improve ovarian cancer care delivery.

Discussion

Optimal care for patients with ovarian cancer requires systematic processes to ensure that all patients receive recommended testing, are considered for clinical trials, and receive guideline-concordant care in a timely manner.[4-7] Data benchmarking can help staff at cancer centers to understand current practices and measure initial and sustained improvements.[6] The 6-month PDSA cycle framework was useful for identifying opportunities for improvement, specifying actionable solutions, and designating responsibility and accountability. The implementation of the quality self-assessment tool has demonstrated significant potential in identifying gaps in care and facilitating meaningful solutions.

Key takeaways include:

- **Patient education:** The distribution of educational materials at critical points in the care continuum (after surgery, after chemotherapy, and during surveillance visits) has proven effective in increasing patient awareness and willingness to participate in clinical trials.
- **Perioperative morbidity and quality of life:** It is feasible to implement a gynecologic oncology order set in the EMR and deliver targeted education to both providers and patients with the goal of reducing perioperative morbidity and enhancing the quality of life for patients with ovarian cancer.
- **Community paramedicine program:** The introduction of a community paramedicine program to manage nonessential ED visits was associated with a significant reduction in unnecessary hospital admissions.
- **Standardization of clinical pathways:** The development and implementation of standardized clinical pathways for genetic testing, HRD scoring, and NGS testing ensure that patients receive timely and appropriate diagnostic evaluations to inform optimal treatment selection.

Conclusion

The use of the quality self-assessment tool may significantly impact patient outcomes by promoting guideline-concordant care. By systematically addressing barriers to high-quality care, the tool facilitates continuous quality improvement and encourages clinical decision-making that is aligned with the best available evidence. The positive feedback from the pilot study suggests that widespread adoption of the tool could lead to substantial improvements in ovarian cancer care across various health care settings. By enabling health care providers to systematically evaluate and enhance their practices, the ACCC ovarian cancer quality self-assessment tool supports the delivery of high-quality, evidence-based care. Future research should focus on further refining the tool and exploring its long-term impact on patient outcomes.

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