


Improving the quality of care for patients with advanced epithelial ovarian cancer: Program components, implementation barriers, and recommendations

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The high lethality of ovarian cancer in the United States and associated complexities of the patient journey across the cancer care continuum warrant an assessment of current practices and barriers to quality care in the United States. The objectives of this study were to identify and assess key components in the provision of high-quality care delivery for patients with ovarian cancer, identify challenges in the implementation of best practices, and develop corresponding quality-related recommendations to guide multidisciplinary ovarian cancer programs and practices. This multiphase ovarian cancer quality-care initiative was guided by a multidisciplinary expert steering committee, including gynecologic oncologists, pathologists, a genetic counselor, a nurse navigator, social workers, and cancer center administrators. Key partnerships were also established. A collaborative approach was adopted to develop comprehensive recommendations by identifying ideal quality-of-care program components in advanced epithelial ovarian cancer management. The core program components included: care coordination and patient education, prevention and screening, diagnosis and initial management, treatment planning, disease surveillance, equity in care, and quality of life. Quality-directed recommendations were developed across 7 core program components, with a focus on ensuring high-quality ovarian cancer care delivery for patients through improved patient education and engagement by addressing unmet medical and supportive care needs. Implementation challenges were described, and key recommendations to overcome barriers were provided. The recommendations emerging from this initiative can serve as a comprehensive resource guide for multidisciplinary cancer practices, providers, and other stakeholders working to provide quality-directed cancer care for patients diagnosed with ovarian cancer and their families. **Cancer** 2022;128:654-664. © 2021 American Cancer Society. This article has been contributed to by US Government employees and their work is in the public domain in the USA.

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INTRODUCTION

Ovarian cancer is a biologically diverse disease with multiple histologic and molecular subtypes.¹⁻³ It is the leading cause of gynecologic cancer mortality in the United States and ranks fifth in cancer deaths among women.⁴ Despite declining incidence rates over the past 30 years in the United States,⁵ ovarian cancer remains a significant public health issue, with estimates of 21,410 incident cases and 13,770 deaths in 2021.⁴ Advanced-stage diagnosis is a particular challenge⁶

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driving a poor prognosis⁵ and a 5-year overall survival rate <50% for those diagnosed with epithelial ovarian cancer.⁵ Delivering guideline-concordant care is an important driver of improved patient survival.⁷⁻¹⁰

Emerging evidence supports routine genetic testing early in the cancer care continuum^{11,12} to identify biomarkers, guide treatment decisions, and identify at-risk family members who may benefit from prevention strategies.¹³ Genetic testing includes germline testing for *BRCA1*, *BRCA2*, and other ovarian cancer-susceptibility gene mutations and somatic testing for *BRCA1* and *BRCA2* pathogenic or likely pathogenic variants.^{13,14} Testing strategies are rapidly evolving, with new recommendations including expanded multiplex gene panels to test for both hereditary and somatic mutations; the use of novel molecular assays to measure homologous recombination deficiency (HRD) status in ovarian tumors; and sequencing of the *ATM*, *RAD51C*, *RAD51D*, *BRIPI*, *NBN*, *PALB2*, and *STK11* genes in the absence of germline targets.¹³ Gene mutations in the DNA mismatch-repair genes *MLH1*, *MSH2*, *MSH6*, *PMS2*, and *EPCAM* are associated with Lynch syndrome and, although less commonly associated with ovarian cancer, can influence treatment decisions and risk communication.¹³ Despite its importance, testing in many settings, including specialized centers, remains low¹⁵⁻¹⁷ and was estimated to be 34.3% in an evaluation within the National Cancer Institute's Surveillance, Epidemiology, and End Results program records.¹⁷ Improved surgical and survival outcomes have been documented when a gynecologic oncologist is involved in ovarian cancer care; however, such consultation is not always routine practice¹⁰ nor is the receipt of guideline-concordant care from diagnosis onward.^{7-10,18} Also critical to ovarian cancer care delivery are determination of surgical suitability, eligibility for targeted therapies, and pathologic evaluation,¹⁹ with care delivery ideally involving surgery and chemotherapy as initial therapy.¹³

Given the high disease burden, the toxicity associated with treatment, the heterogeneous nature of the malignancy, and the complexities of treatment planning, receiving high-quality care remains challenging across the ovarian cancer care continuum. These challenges emphasize the importance of a multidisciplinary team approach to care delivery in this disease site; therefore, it is vital to evaluate current practices and identify recommendations for defining the key areas of quality care to help guide multidisciplinary ovarian cancer practices. In 2019, the Association of Community Cancer Centers (ACCC) launched a multiphase, stakeholder-driven initiative to improve care for patients diagnosed with ovarian cancer in the United States

that included 3 primary components: 1) development and administration of a workshop application survey to identify the needs of patients diagnosed with ovarian cancer across several cancer programs; 2) recruitment for and execution of quality-improvement initiatives with 3 selected ACCC member programs on topics specific to ovarian cancer care delivery, spanning diagnosis through survivorship; and 3) dissemination of findings through a curated, comprehensive resource library hosted by the ACCC and dedicated to patient-specific and provider-specific ovarian cancer educational resources. As part of an evidence-based approach, key components in the provision of high-quality care delivery for patients with ovarian cancer, including malignancies arising in the ovaries, peritoneum, and fallopian tubes, were identified, and recommendations that could serve as a comprehensive yet succinct resource for multidisciplinary ovarian cancer practices and providers in the United States were developed.

METHODS

The ovarian cancer quality-care initiative was guided by a multidisciplinary expert steering committee that included gynecologic oncologists, pathologists, a genetic counselor, a nurse navigator, social workers, and cancer center administrators across the United States. Furthermore, key partnerships were established with the Society of Gynecologic Oncology, the National Society of Genetic Counselors, and the Association for Molecular Pathology. Patient advocacy was represented through a partnership with the Ovarian Cancer Research Alliance. This multidisciplinary expert group provided recommendations based on available evidence in structural improvements that can improve the quality of care for patients with ovarian cancer.

Details of the quality-improvement projects, including design, implementation, and site-specific results and the associated impact, have been published.²⁰ In summary, genetic counseling and testing, the availability of and/or enrollment in clinical trials, and multidisciplinary team care were identified as key areas for quality improvement. At each of the 3 participating sites, key stakeholders were identified, and goals were established and executed through staged project design and review at months 1, 3, and 6. Furthermore, an ovarian cancer quality-care document was developed using a collaborative approach informed by the expert steering committee and real-world inputs from multidisciplinary teams, physician champions, and quality-improvement workshop participants. The steering committee drafted quality-directed components, implementation barriers, and comprehensive recommendations for the ideal management of advanced epithelial

ovarian cancer aimed at providing evidence-based guidance and best practices to ovarian cancer programs in the United States. Multiple teleconferences and reviews were conducted to search for published standards, articles, and guidelines. A PubMed literature search was conducted to identify articles published dating back 10 years from the search date that included the search terms *ovarian cancer*, *quality*, and *care*. In addition, oncology professional association websites, such as the American Society of Clinical Oncology, the National Comprehensive Cancer Network, and the Centers for Medicare and Medicaid Services, were searched for Merit-Based Incentive Payment System Programs/Quality Payment Program-type quality metrics specifically for ovarian cancer and/or gynecologic oncology diagnoses. The quality document was discussed in depth during steering committee meetings, which included in-person and virtual sessions, and subsequently was approved. This review article addresses the core components in ovarian cancer care, including care coordination and patient education, prevention and screening, diagnosis and initial management, treatment planning, disease surveillance, equity in care, and quality of life (QoL). Implementation challenges and system-level recommendations for addressing each challenge are described. This document is intended for broad dissemination as a quality-directed program resource spanning the ovarian cancer care continuum.

RESULTS

The steering committee developed and endorsed quality recommendations targeting 7 key components of ovarian cancer care delivery: care coordination and patient education, prevention and screening, diagnosis and initial management, treatment planning, disease surveillance, equity in care, and QoL (Table 1).

Care Coordination and Patient Education

Effective care coordination across the cancer care continuum has important ramifications for patient health outcomes.^{21,22} These include facilitating patient education on various facets of ovarian cancer care delivery, including the importance of genetic testing and shared decision-making, especially when new and complex treatments are involved and patients have limited or no prior experience with ovarian cancer care.²³ Patients with ovarian cancer report the so-called *little big things* (scheduling, wait times, pharmacy, transportation, parking, finances, insurance, and discharge) and a lack of care coordination as significant burdens, and they report human contact as a comfort.²⁴ All patients should: 1) receive education on

ovarian cancer, staging, prognosis, possible treatment side effects, and response expectations before therapy initiation by a multidisciplinary cancer care team member; 2) participate in shared decision-making concerning their comprehensive cancer care plan; 3) have access to multidisciplinary cancer care team members who can answer questions and assess and address possible barriers to treatment success, including financial, housing, transportation, and treatment costs and prediagnosis comorbidities; and 4) have ongoing access to a multidisciplinary cancer care team member who can answer questions regarding emotional, psychosocial, and/or spiritual care concerns and needs.

Limited physician time to address the nonmedical needs of patients, such as psychosocial supportive care,^{25,26} is often challenging, including identifying and uniformly advising patients and caregivers of available local, regional, and/or online resources and ensuring that all cancer center resources are equally available to all patients with cancer, including those diagnosed with gynecologic cancer. Ideally, patient navigation services should be available and should encompass the provision of individualized assistance to patients, families, and caregivers to meet medical needs, help overcome health care system barriers, and facilitate timely access to quality health and psychosocial care from the initial consult/evaluation/prediagnosis through all phases of the cancer experience.^{27,28} Figure 1 illustrates the core characteristics and functional competencies of such services.^{27,29}

Prevention and Screening

Routine screening for individuals at an average or high risk of ovarian cancer is not currently recommended because the risks outweigh the benefits.^{13,30} Regarding prevention or risk reduction, 2 key components are identified. First, opportunistic salpingectomy at the time of hysterectomy, other pelvic surgery, or in lieu of tubal ligation in individuals at an average risk of ovarian cancer is recommended; and risk-reducing salpingo-oophorectomy is recommended for patients at increased genetic risk of ovarian cancer (family history; *BRCA1*, *BRCA2*, and other inherited mutations) at the completion of childbearing or at an age determined by family history or specific mutations and before menopause. For high-risk patients aged 30 to 35 years who do not elect to undergo risk-reducing salpingo-oophorectomy, transvaginal ultrasound with cancer antigen 125 may be considered.¹³ A pathologic examination protocol that uses *sectioning and extensive examination of the fimbriated end*^{31,32} of the grossly normal fallopian tubes and

TABLE 1. Implementation Barriers and Key Recommendations for the Provision of High-Quality Ovarian Cancer Care Delivery

Domain	Implementation Barriers	Key Recommendations
1. Care coordination and patient education	a. Limited physician time to address nonmedical needs of patients with ovarian cancer	a. Identifying and uniformly advising patients and caregivers of available local, regional, and/or online resources b. Ensuring all cancer center resources are equally available to all patients with cancer, including those diagnosed with gynecologic cancer c. Incorporating dedicated patient navigation (clinical or lay) services that are specific to caring for this population and that promote patient participation in shared decision-making
2. Prevention and screening	a. Low rate of prophylactic and risk-reducing surgery	a. Identifying local champions within health systems for ovarian cancer risk reduction b. Continuing education of gynecologists, surgeons, pathologists, and oncologists on the role of risk-reducing surgery c. Thorough pathologic evaluation (SEE-FIM) of specimens after risk-reducing surgery to detect occult tubal carcinomas and precursor lesions
3. Diagnosis and initial management	a. Lack of access to specialists accompanied by fragmented and siloed care across hospital departments	a. Identifying a local/regional gynecologic oncologist, where necessary, for referrals b. Identifying ways to overcome patient-level barriers (gas cards and bus vouchers to alleviate inequities) c. Ensuring complete pathologic evaluation, including accurate diagnosis and harvest of sufficient tumor tissue for potential molecular testing, before treatment initiation d. Engaging patient navigators to ensure timely referrals and assistance with overcoming barriers to evaluation e. Bridging cancer center support to ensure resources are equally available to all patients with cancer f. Engaging a gynecologic cancer patient advocate within the health system to liaise with the cancer center and ensure that services are available for patients with gynecologic cancer
Evaluation	a. Limited number of gynecologic oncologists with expertise to adequately evaluate and manage newly diagnosed ovarian cancers b. Limited access to gynecologic oncologist because of transportation barriers c. Limited access to genetic counseling and oncofertility services	a. Centralizing surgical expertise within health systems and regions and considering a new ovarian cancer diagnosis as an urgent new diagnosis with flexibility within the system to add on surgery and chemotherapy and with formal processes for urgent referrals, telemedicine options for gynecologic oncology consultations, and provider education b. Incentivizing and standardizing gynecologic oncology referrals by medical or surgical oncologists before treatment initiation c. Engaging and using patient navigators to ensure referrals to gynecologic oncologists d. Centralizing genetic counseling services within health systems and regions to ensure access for patients with newly diagnosed ovarian cancer e. Providing alternate care delivery, including telemedicine and group genetic counseling f. Employing <i>checklists</i> or other reminder systems to ensure all patients are referred to and receive genetic testing and/or counseling g. Identifying a local champion for oncofertility or providing appropriate educational materials
4. Treatment planning General	a. Limited availability of clinical trials for patients with ovarian cancer b. Inadequate enrollment of elderly patients and those from historically underrepresented racial and ethnic groups c. Cancer center support for clinical trials that may not cross departments and extend to gynecology d. Patient reluctance to participate in clinical trials	a. Identifying local champions to introduce and accrue patients to clinical trials b. Ensuring all physicians and team members are up to date on clinical trial availability c. Engaging research staff in clinical discussions (such as tumor boards) to encourage cross-talk between clinical and research staff to optimize the identification of eligible patients d. Ensuring organizational support for all cancer clinical trials regardless of cancer type e. Engaging patient navigators across visits and encouraging provider recommendations of clinical trials
Standard therapy (frontline adjuvant or primary systemic chemotherapy, other targeted therapy) and maintenance therapy	a. Low rate of PARP inhibitor prescription b. Financial toxicity associated with oral chemotherapy	a. Educating patients and physicians on the benefits of targeted agents and PARP inhibitors with or without bevacizumab and their appropriate place in therapy b. Engaging financial navigators during diagnosis to assist with prior authorizations, copays, and other out-of-pocket costs associated with oral anticancer agents

TABLE 1. *Continued*

Domain	Implementation Barriers	Key Recommendations
5. Disease surveillance	a. Historical overuse of imaging for post-treatment cancer surveillance	a. Educating physicians, team members, and patients on the risks and benefits of false-positive imaging b. Using quality metrics for physicians that involve the use of evidence-based surveillance
6. Equity in care	a. Limited access to health insurance and care for nonmajority racial and ethnic groups and implicit bias among health care providers	a. Ensuring peer or nursing navigation for all patients with ovarian cancer b. Establishing institutional policies to reduce implicit bias c. Measuring quality metrics by self-described race with the goal of reducing racial health inequities
7. Quality of life	a. Patient reluctance to discuss these 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	a. Identifying and uniformly advising cancer care team members and patients of available local, regional, and/or online resources b. Partnering with patient advocacy partners to create and curate patient and provider resources (also identified in the Survivorship Care Plan) c. Identifying specific timepoints during a patient's care to discuss advanced directives and goals of care

Abbreviations: PARP, poly(adenosine diphosphate-ribose) polymerase; SEE-FIM, sectioning and extensive examination of the fimbriated end.

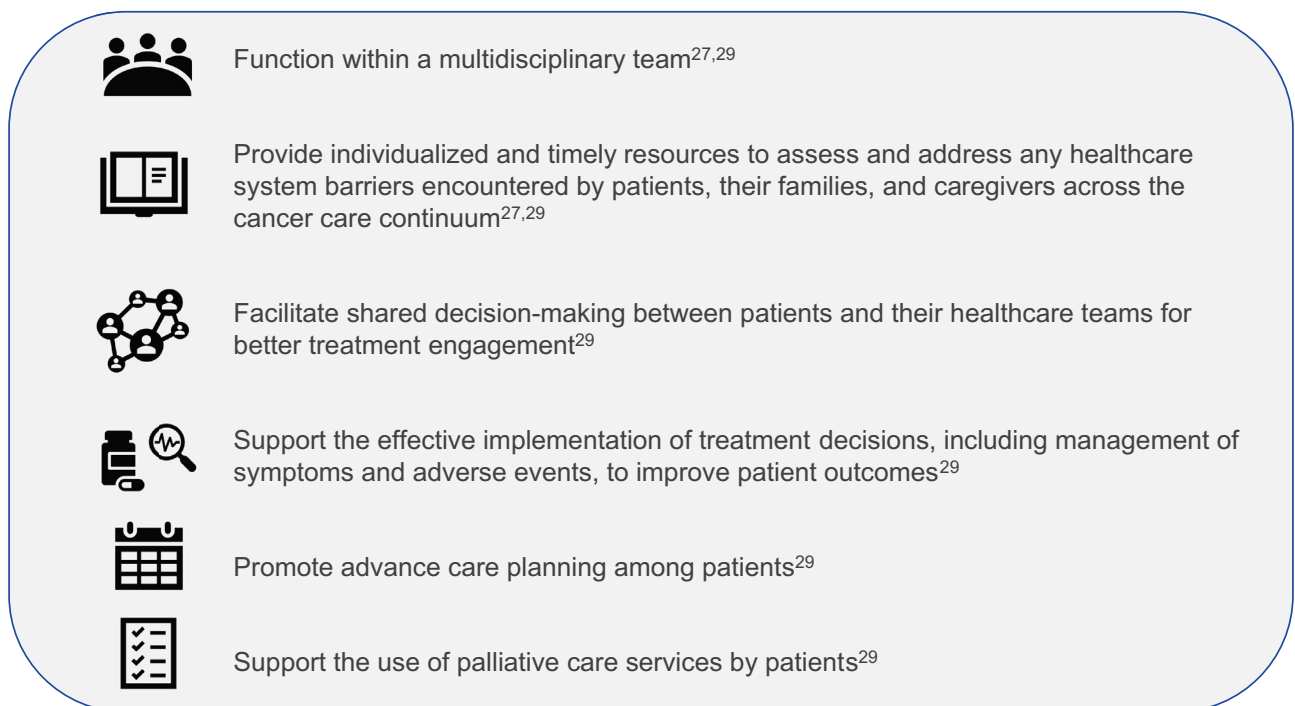


Figure 1. Core characteristics and functional competencies involved in patient navigation in the oncology care setting are illustrated (see Oncology Nursing Society; Association of Oncology Social Work; National Association of Social Workers. Oncology Nursing Society, the Association of Oncology Social Work, and the National Association of Social Workers joint position on the role of oncology nursing and oncology social work in patient navigation. *Oncol Nurs Forum*. 2010;37:251-252²⁷; and Oncology Nursing Society. 2017 Oncology Nurse Navigator Core Competencies.²⁹ https://www.ons.org/sites/default/files/2017-05/2017_Oncology_Nurse_Navigator_Compentencies.pdf).

ovaries in patients with such mutations to identify occult tubal cancer and precancers designated as *serous tubal intraepithelial carcinomas* has been endorsed.^{2,33,34}

The relation between serous tubal intraepithelial carcinoma lesions and high-grade serous and endometrioid cancers is supported by the ubiquitous presence of

TP53 mutations and their typical location within the fimbriated end of the fallopian tube.^{32,35-37} The implementation of prophylactic and risk-reducing surgery remains a challenge.³⁸⁻⁴¹ Identifying local champions within health systems for ovarian cancer risk reduction and engaging with gynecologists, nongynecologic surgeons, pathologists, and primary care providers on the role of risk-reducing surgery are recommended.

Diagnosis and Initial Management

The peritoneal spread of ovarian cancer typically results in an insidious onset of symptoms, with the ultimate diagnosis made typically as late-stage disease. Before treatment initiation, recommendations for initial workup will ideally include: 1) evaluation by a gynecologic oncologist; 2) tumor marker assessment (cancer antigen 125, carcinoembryonic antigen, and/or cancer antigen 19-9), as clinically indicated before therapy initiation; 3) complete pathologic evaluation; 4) decision for and timing of surgery determined by a gynecologic oncologist; 5) nutrition analysis and referral; 6) emotional distress/support screening, psychosocial needs referral, and/or spiritual care referral; and 7) referral to a concurrent, supportive oncologist/palliative care specialist when appropriate. Challenges include a lack of access to specialists and fragmented and siloed care across hospital departments in which psychosocial support and related services may not be extended to patients with gynecologic cancer.²² Identifying a local/regional gynecologic oncologist for referrals; identifying and engaging with gynecologic cancer patient advocates within the health system to liaise with the cancer center and ensure that services, such as social work support, are available for patients to help overcome patient-level barriers (eg, gas cards and bus vouchers to alleviate inequities); engaging patient navigators/patient advocates to ensure timely referrals and assistance with overcoming barriers to evaluation; and bridging cancer center support with national nonprofit support programs to ensure resources are equally available to all cancer patients are recommended.

For patients undergoing surgical management as their initial intervention, the evaluation should include: 1) comprehensive surgical staging that incorporates International Federation of Gynecology and Obstetrics or American Joint Committee on Cancer (eighth edition) guidelines and includes an accurate pathologic diagnosis with histologic subtype characterization for all patients undergoing initial surgery for presumed early stage disease,⁴² 2) harvesting of sufficient treatment-naïve tumor tissue for biomarker testing during diagnostic biopsy in patients undergoing neoadjuvant chemotherapy, 3)

cytoreductive surgery for patients with advanced-stage disease who are deemed fit to undergo surgery with a high likelihood of successful resection to <1 cm of residual disease, 4) genetic risk evaluation and testing coordination (germline mutation testing, somatic mutation testing, HRD testing, and additional testing) for all patients, and 5) a fertility-preservation discussion with care team member(s) or referral to a reproductive endocrinology and infertility/oncofertility service before surgery, if relevant. The limited availability of gynecologic oncologists who have the expertise to adequately evaluate and manage newly diagnosed ovarian cancer is a challenge.^{43,44} Health systems should ensure that organizational support for all clinical cancer care, including navigation and advocacy, extends to all disease sites, providing opportunities for expedited care. Additional recommendations include centralizing surgical expertise within health systems and regions; consideration of a new ovarian cancer diagnosis as an urgent diagnosis with flexibility within the system to add on consultation, surgery, chemotherapy, and formal processes for urgent referrals; telemedicine options for gynecologic oncology consultations when in-person visits are not available or feasible; and education of physicians, providers, and hospital administration on both the signs and symptoms of ovarian cancer and the importance of timely and expedited treatment initiation. Access to a gynecologic oncologist for evaluation tends to be most limited for patients living in rural regions where transportation barriers are high.⁴⁴ Incentivizing and standardizing gynecologic oncology referrals should be considered to optimize the chances that all patients with ovarian cancer are appropriately evaluated. Engaging and using health system-based oncology patient navigators and advocates can facilitate and ensure appropriate referrals to gynecologic oncologists and their care teams. Other challenges include the limited availability of genetic counseling^{45,46} and oncofertility services.^{47,48} Recommendations include centralizing genetic counseling services within health systems and regions to ensure access for patients with newly diagnosed ovarian cancer; alternative care delivery, including telemedicine and group genetic counseling; electronic medical record *checklists* or other reminder systems to ensure that all patients and their family members are referred to and receive genetic testing and/or counseling; and the identification of a local champion for oncofertility or provision of appropriate educational materials.

Treatment Planning

After an ovarian cancer diagnosis, treatment must be individualized based on the patient's performance status, care

goals, and germline and somatic genetic testing results. Components of a general treatment plan include: 1) a multidisciplinary review of the treatment plan for consensus recommendations; 2) evaluation for clinical trials in the upfront and recurrent settings to be considered first; 3) a care plan, compliant with the 13 components in the Institute of Medicine's Care Management Plan (Table 2),²² provided to patients before receiving the first therapeutic modality; and 4) early integration of supportive and palliative care services. The limited availability of clinical trials for patients with ovarian cancer and the inadequate enrollment of elderly patients and those from historically under-represented racial and ethnic groups pose challenges.⁴⁹⁻⁵¹ To improve clinical trials enrollment with a health care system, identifying and incentivizing local champions to introduce and accrue patients to clinical trials, ensuring that all physicians and team members are up to date on clinical trial availability, and engaging research staff in clinical discussions, such as tumor boards, to encourage cross-talk between clinical and research staff to optimize the identification of eligible patients are recommended. Another challenge is that cancer center support for clinical trials may not cross departments and extend to gynecologic oncology divisions—perhaps a feature of the cancer center administrative structure that unintentionally influences resource allocation decisions, including clinical trial support, toward nongynecologic disease sites. Patients may be reluctant to participate in clinical trials⁵²; however, physician involvement is a key determinant of patient enrollment in clinical trials. Organizational and physician factors can be optimized to facilitate patient enrollment.⁵³ Health care systems can ensure that physicians have access to support staff to help screen and enroll patients as well as to set expectations for minimum accrual. The engagement of patient navigators familiar with clinical trial availability can also improve enrollment.⁵⁴⁻⁵⁷

Select patients with early stage or low-grade cancers may not require chemotherapy, and surgery alone with follow-up evaluation may suffice as primary treatment.¹³ However, for most patients with ovarian cancer, initial treatment involves systemic chemotherapy and often includes other targeted therapy as standard and maintenance therapies.¹³ The initiation of frontline adjuvant or primary systemic chemotherapy within 42 days after cytoreduction is recommended for all eligible patients, with $\geq 80\%$ of patients receiving a National Comprehensive Cancer Network-recommended treatment regimen for advanced epithelial ovarian cancer, including the administration of carboplatin/paclitaxel with or without bevacizumab, followed by consideration of maintenance therapy

TABLE 2. Components of a Cancer Care Plan to be Developed in Collaboration With Patients^a

Components
1. Patient information
2. Diagnosis-related information, including tissue, biomarkers, and stage
3. Prognosis
4. Treatment goals (curative, life-prolonging, symptom control, palliative care)
5. Initial plan for treatment and proposed duration, including chemotherapy (drugs, doses, schedule), surgery, and radiation therapy
6. Expected response to treatment
7. Treatment benefits and harms, including toxicity management, and short-term and late effects of treatment
8. Quality of life and patients' likely experience with treatment
9. Responsible persons for specific aspects of a patient's care (eg, cancer care team, primary care/geriatrics care team, or other care teams)
10. Advanced care plans, including advanced directives and other legal documents
11. Estimated total and out-of-pocket costs of cancer treatment
12. Psychosocial health needs plan comprising psychological, nutritional, vocational, disability, legal, or financial concerns and their management
13. Survivorship plan comprising treatment, recommended follow-up activities, surveillance, and risk reduction, and health-promotion activities

^aInstitute of Medicine. Delivering High-Quality Cancer Care: Charting a New Course for a System in Crisis. The National Academies Press; 2013.²² Reproduced with permission from the National Academy of Sciences, Courtesy of the National Academies Press; Washington, DC.

with bevacizumab, a poly(adenosine diphosphate-ribose) polymerase (PARP) inhibitor, or a bevacizumab plus PARP inhibitor combination in selected patients who have a partial or complete response to frontline chemotherapy.¹³ If clinical trials are available, they should be offered. If the patient declines or the patient does not meet eligibility criteria, shared decision making based on their genetic testing results, somatic testing, tumor histology, medical comorbidities, and patient goals of care should determine maintenance therapy initiation.

Most patients with ovarian cancer will ultimately recur. Prognosis and treatment have been driven by the platinum-free interval. For patients who have a platinum-resistant recurrence (<6 months since the last platinum-based chemotherapy), single-agent chemotherapy with or without bevacizumab is recommended.⁵⁸ For patients with platinum-sensitive, recurrent disease, doublet platinum and other chemotherapy agents, with or without bevacizumab, are recommended.⁵⁹ PARP inhibitors should also be considered in the following settings for recurrent disease: 1) as maintenance treatment for platinum-sensitive, recurrent disease in patients who have at least a partial response to platinum-based chemotherapy; and 2) as a treatment option for patients who have deleterious germline and/or somatic *BRCA*-mutated

disease or evidence of HRD after from 2 to ≥ 3 lines of chemotherapy (based on the agent chosen).¹³ The efficacy of PARP inhibitor therapy in previously treated patients is currently unknown. Among eligible patients, more than one-half do not receive a PARP inhibitor maintenance prescription.⁶⁰ Educating patients and physicians about the available treatment options, associated side-effect profiles, and their appropriate place in therapy may lead to the increased use of available therapies. Engaging financial navigators during treatment to assist with prior authorizations, copays, and other out-of-pocket costs and to support patients with financial assistance application submissions may help alleviate the financial toxicity associated with chemotherapy, particularly oral agents, which often carry high out-of-pocket costs.⁶¹

Disease Surveillance

Posttreatment surveillance encompasses the detection of disease recurrence and late treatment side effects. Both oncology and primary care providers can ensure appropriate patient follow-up through a comprehensive history and physical examination with symptom review, education on signs or symptoms of recurrence, and other aspects, such as promotion of bone, brain, cardiovascular, and sexual health.^{62,63} Standardizing surveillance protocols that include a history and physical examination⁶³ with an assessment of tumor markers, if indicated (visits every 2–4 months for the first 2 years, every 3–6 months for next 3 years, and annually after 5 years), is recommended. Routine imaging is not recommended but should be prompted by the onset of disease-related symptoms or by an increase in a tumor marker. Computed tomography is recommended for imaging, with positron emission tomography reserved for specific circumstances. Survivorship care plans should be developed for patients with surgically resected ovarian cancer who are treated with curative intent. A challenge related to this recommendation is the historical overuse of routine imaging, including computed tomography scans, for posttreatment cancer surveillance in patients with ovarian and other gynecologic cancers, with implications of increased patient anxiety, risks of overtreatment, and increased health care costs despite limited impact on detecting disease recurrence and no improvement in overall survival.^{64–66} Recommendations to mitigate the overuse of imaging include educating physicians, team members, and patients on the risks and benefits of false-positive imaging and applying quality metrics for physicians that include adherence to evidence-based surveillance.

Equity in Care

Significant disparities exist in access to and receipt of guideline-adherent, high-quality ovarian cancer care among patients from historically under-represented racial and ethnic groups and those with lower socioeconomic status.^{67–69} Black and Hispanic patients are less likely to receive guideline-adherent care compared with White patients, with or without a gynecologic oncologist consultation^{5,67,68,70,71}; uninsured patients or those who are publicly insured are less likely to receive guideline-adherent care compared with those who have private insurance or managed care⁶⁸; Asian patients have a higher 5-year disease-specific survival rate compared with White patients⁷²; regional differences exist in ovarian cancer incidence between American Indian/Alaska Native women and White women in the same US geographic region⁷³; and Black and Hispanic patients are under-represented in ovarian cancer clinical trials compared with the incident US population.⁷⁴ These inequities in care delivery translate to an overall survival disadvantage for many patients from historically under-represented racial and ethnic groups as well as those with low socioeconomic status.^{8,68,70,75} With improvements in treatment, the survival advantage for non-Hispanic White patients with ovarian cancer has widened because access to guideline-adherent care increases the likelihood of improved outcomes.⁵ Limited access to health insurance and care for under-represented racial and ethnic groups^{67–69} and implicit racial bias among health care providers in the case of racially discordant interactions⁷⁶ continue to be challenges to equity in ovarian cancer care. Ensuring peer or nursing navigation for all patients with ovarian cancer, establishing institutional policies to reduce implicit bias, and measuring and stratifying quality metrics by self-described race, with the goal of reducing racial health inequities, are recommended.

Quality of Life

Health-related QoL is an important consideration for patients diagnosed with ovarian cancer because of the side effects of therapeutic interventions, including fatigue, bloating, pain, peripheral neuropathy after taxane-based chemotherapy, sexual dysfunction, and morbidity from disease-related symptoms.⁷⁷ Recommendations include referrals by oncologists and primary care providers to clinic-based or community-based exercise programs because higher health-related QoL (including physical functioning) is associated with overall survival⁷⁸; the inclusion of advanced directives in visits involving changes in the treatment plan; and caregiver support, including

meetings with caregivers or family members to provide details on diagnosis, treatment, and off-treatment transition. Patients may be reluctant or uncomfortable discussing these topics with their clinician or health care staff, and limited available resources pose a challenge.^{19,79,80} Identifying and uniformly advising cancer care team members and patients of available local, regional, and/or online resources; collaborating with patient advocacy partners to create and curate patient and provider resources (also identified in the Survivorship Care Plan); and identifying specific timepoints during a patient's care to discuss advanced directives and care goals can improve the QoL of patients with ovarian cancer.

DISCUSSION AND CONCLUSION

Through the initiative spearheaded by the multidisciplinary expert steering committee, core components were identified in the provision of high-quality care delivery for patients diagnosed with ovarian cancer, including care coordination and patient education, prevention and screening, diagnosis and initial management, treatment planning, disease surveillance, equity in care, and QoL. Informed by components and potential barriers to effective implementation, a comprehensive set of recommendations for high-quality advanced epithelial ovarian cancer management were compiled. Because limited numbers of gynecologic oncologists currently are trained and practice in the United States, strategies for sharing the care of these patients with other multidisciplinary team members must be identified locally to ensure that a full spectrum of cancer care is available for patients with ovarian cancer. Key concerns to ensure the provision of quality care for these patients include patient education and engagement on available treatment options; addressing the psychosocial support needs of patients, their families, and caregivers; and structural barriers within the health care system. Given the heterogeneity of ovarian cancer, with its multiple and varied tumor subtypes, and the evolving treatment management landscape, a single model cannot be used to describe ovarian cancer care delivery for patients across different settings.^{19,81} The recommendations provided by this task force can be used by cancer programs as a quality-directed resource spanning the ovarian cancer care continuum. Navigator-driven and person-centric programs are the need of the hour, with emphasis on critical aspects, such as multidisciplinary team-based care, access to clinical trials, and provision of ancillary services, including genetic counseling, supportive care, fertility preservation, and nutritional counseling, all of which can

significantly help improve the lives of patients affected by ovarian cancer.⁸² The recommendations provided by this task force thus will be widely disseminated through the ACCC community (<https://www.accc-cancer.org/projects/ovarian-cancer-quality-care/overview>; accessed February 25, 2021) of >28,000 health care professionals across all disciplines in oncology, along with the network of 21 state societies that are managed by the ACCC, the partner organizations, and the multidisciplinary steering committee involved in this initiative.

In conclusion, the recommendations for advanced epithelial ovarian cancer management provided here address the inadequacies of structural provisions independent of the effective patient-level guidelines commonly used. Our recommendations exceed the scope of current guidelines, highlighting areas of prevention, health equity, and implementation barriers, and provide key recommendations to address these barriers. These recommendations, along with the complementary article,²⁰ provide a useful resource to improve organizational support, can support data benchmarking for ovarian cancer or gynecologic oncology work by cancer programs, and, in doing so, can improve ovarian cancer care.

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