CARING FOR OLDER PATIENTS WITH CANCER

Learning from Existing Effective Practices

Care provision for older patients with cancer can be complex due to comorbidities, frailty, poor support systems, and myriad other factors. The three cases within provide key considerations as to how to provide the high-quality care for these patients.
USING DATA AND PRACTICE EXPERIENCE TO CREATE A PATIENT-COMPLETED GERIATRIC ASSESSMENT TOOL

Drawing on the model outlined by City of Hope, an Age-Friendly Health System, any center can create repositories for geriatric assessment tools and standardized documentation.

City of Hope is a National Cancer Institute (NCI)-Designated Comprehensive Cancer Center with community clinical network operations. At City of Hope, the Geriatric Assessment (GA) tool was created and validated by Hurria and colleagues to identify vulnerabilities not included in the routine oncology assessment. The GA is a biopsychosocial tool used in the clinic setting for older adults with cancer who should receive, at a minimum, an assessment of function, falls, comorbidities, cognition, nutrition, and depression. To further validate the GA, the Geriatric Assessment Intervention (GAIN) trial was conducted at City of Hope between 2015 and 2019. During this trial, a dedicated multidisciplinary team (including an oncologist, nurse practitioner [NP], physical therapist, occupational therapist, nutritionist, social worker, and pharmacist) was provided with education in geriatric oncology. An outcome of this randomized controlled trial and a similar trial, the GAP 70+, resulted in a decrease in grade 3 or greater chemotherapy-related toxicities. GAIN also found an increase in the completion of advanced directives.

The results of these trials provided evidence of the benefits of GA-driven interventions, which assisted in propelling the integration of research into practice. With this information, the first step toward implementation into daily care was engagement of support from City of Hope medical and nursing leadership to create an NP-led clinic for the assessment of geriatric patients beginning systemic oncology treatment. We incorporated what we learned from the trial to create a sustainable model of care. When the GAIN study was underway, grant

MEET THE FACULTY

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Leana Cabrera Chien is a nurse practitioner at the City of Hope Center for Cancer and Aging in Duarte, California. She joined the oncology team in 2016, when she started her journey as a collaborating investigator on clinical trials in programs with an aim to assess and treat older adults with cancer. She currently serves as the Advanced Practice Provider Council Chair for her institution and is a Lead Practitioner in the nurse practitioner-led geriatric oncology Aging Wellness Consult Clinic.
support was available to assemble and establish a multidisciplinary team; however, after the study was completed, we no longer had dedicated funding from the grant for the multidisciplinary team's work. To transition the study data to clinical practice, we asked the multidisciplinary providers from the study team to provide education and information to their respective specialty teams. For example, our study physical and occupational therapy team provided specialized training for the care of older adults with cancer to all of the rehabilitation team members. The study team members also created education for all nursing staff in the specific outpatient clinics that supported the initial launch of the NP-led clinic in late 2019. This evidence-based training in high-quality care of older adults has contributed to the success of our NP-led consult clinic and our Age-Friendly Health System designation.

**BEST PRACTICES FOR SELECTING AND MANAGING TOOLS**

To create a sustainable clinic, the nursing staff must be included in all aspects of clinic procedures, including the integration of the tools used for
The Practical Geriatric Assessment [contains] all recommended components of a geriatric assessment that can be completed within an estimated 10 to 25 minutes.

### PRACTICAL GERIATRIC ASSESSMENT (PGA) DOMAINS AND MEASURES

#### Function
- Activities of daily living and instrumental activities of daily living
- Falls
- Gait speed (4-meter walk test)

#### Social Activities
- Single item on health-impacting social activities

#### Nutrition
- Weight loss in the past 3 months

#### Social Support
- Medical Outcomes Study Social Support Survey

#### Psychological
- Patient-Reported Outcomes Measurement Information System (PROMIS) Anxiety Short Form
- Geriatric Depression Scale (GDS-5)

#### Comorbidity
- OARS Comorbidity Scale
- Single item on hearing
- Single item on vision

#### Cognition
- Mini-Cog®

#### Risk of Chemotherapy Toxicity
- CARG Chemo-Toxicity Calculator

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Geriatric assessments. During their training on geriatric assessment tools, the nursing staff in the outpatient clinics recommended placing the geriatric assessment tools into a tab in the “Rooming” section of the electronic health record (EHR) so they could be easily viewed and accessed. This tab was named “Geriatrics,” and the included screening tools (Figure 1)—fall risk and functional screenings, the Timed Up & Go (TUG) test, and the Short Physical Performance Battery (SPPB)—could all be completed by the nursing staff during intake. Additional tools included under the Geriatrics tab but used only for certain older adults with cancer included: the Vulnerable Elders Survey (VES 13), which is tailored to older adults who have higher levels of vulnerability; the Fulmer SPICES tool, which is an acronym to help identify common syndromes—sleep disorders, problems with eating or feeding, incontinence, confusion, evidence of falls, and skin breakdown; and the Blessed Orientation-Memory Concentration Test (BOMC) cognitive assessment tool, which is a condensed form of a larger 26-question instrument, the Information-Memory-Concentration Mental Status Test (IMCMST).

In 2023, the American Society of Clinical Oncology (ASCO) geriatric oncology guidelines were updated, recommending that the Practical Geriatric Assessment (PGA) be done for all patients receiving systemic treatment (Figure 2). The PGA is a streamlined assessment containing all recommended components of a geriatric assessment that can be completed within an estimated 10 to 25 minutes.
### Practical Geriatric Assessment

To be completed by the patient or caregiver

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Patient DOB:</th>
<th>Date Being Completed:</th>
</tr>
</thead>
</table>

**1.** How many times have you fallen in the last 6 months? _____

**2.** Does your health limit you in walking one block?
- [ ] Not limited at all
- [ ] Limited a little
- [ ] Limited a lot

**3.** Does your health now limit you in climbing one flight of stairs?
- [ ] Not limited at all
- [ ] Limited a little
- [ ] Limited a lot

**4.** Can you get to places out of walking distance...
- [ ] Without help (drive your own car, or travel alone on buses or taxis);
- [ ] With some help (need someone to help you or go with you when traveling); or
- [ ] Are you unable to travel unless emergency arrangements are made for a specialized vehicle like an ambulance?

**5.** Can you go shopping for groceries or clothes (assuming you have transportation)...
- [ ] Without help (taking care of all shopping needs yourself, assuming you had transportation);
- [ ] With some help (need someone to go with you on shopping trips); or
- [ ] Are you completely unable to do any shopping?

**6.** Can you prepare your own meals...
- [ ] Without help (plan and cook all meals yourself);
- [ ] With some help (can prepare somethings but unable to cook full meals yourself); or
- [ ] Are you completely unable to prepare any meals?

**7.** Can you do your housework...
- [ ] Without help (can clean floors, etc.);
- [ ] With some help (can do light housework but need help with heavy work); or
- [ ] Are you completely unable to do any housework?
All components can be completed by the patient at home except for the gait speed and the cognition sections, which can be captured during intake by the nursing staff or completed by an NP or the oncologist. The clinician portion can be completed in approximately 5 minutes, which was noted in oncologist feedback to the ASCO guideline team to be faster than other geriatric assessment tools. The PGA uses personalized precision medicine to guide the clinician regarding implementation of geriatric assessment-driven recommendations and interventions prior to a patient receiving systemic treatment. In conjunction with the PGA, the Cancer and Aging Research Group (CARG) Chemo-Toxicity Calculator provides risk assessment with a graded risk of chemotherapy toxicities of low, medium, and high. These assessments assist in patient communication, care coordination, and therapeutic decision-making to reduce the risk of grade 3 or greater treatment-related toxicities for older adults with cancer. Considering the risk of decline in older patients with cancer, this risk may be mitigated by geriatric assessment–guided interventions.

BEST PRACTICES FOR INCORPORATION OF TECHNOLOGY

The geriatric assessment data is captured in the EHR, allowing a secure questionnaire to be sent to the patient via the patient portal, which can then be completed from home when convenient. City of Hope also has implemented a televideo option, which provides personalized quality care to patients in areas that may have limited access to members of the multidisciplinary team or decreased access to resources, such as transportation. Similarly to the traditional or in-person clinic, the GA tool is sent to the patient for a televideo visit prior to the initial visit. If the patient is not familiar with using the televideo technology, an option is provided for our volunteers to contact the patient to review and provide step-by-step instructions to connect to televideo. We found that the majority of older adults are willing to use technology if they have the proper resources and tools to be successful. Once the patient has completed the GA, the results are instantly available in the EHR to be reviewed by the clinician prior to the initial clinic visit. The results of the GA inform recommendations for the multidisciplinary team and any personalized educational interventions for the patients and caregivers.

CASE STUDY: IMPROVING ANXIETY, MANAGING BLADDER CANCER IN AN OLDER ADULT

Mr. E is an 83-year-old male diagnosed with stage IV bladder cancer (urothelial carcinoma). Because he lives in a rural community more than 100 miles from the clinic regarding implementation of geriatric assessment-driven recommendations and interventions prior to a patient receiving systemic treatment. In conjunction with the PGA, the Cancer and Aging Research Group (CARG) Chemo-Toxicity Calculator provides risk assessment with a graded risk of chemotherapy toxicities of low, medium, and high. These assessments assist in patient communication, care coordination, and therapeutic decision-making to reduce the risk of grade 3 or greater treatment-related toxicities for older adults with cancer. Considering the risk of decline in older patients with cancer, this risk may be mitigated by geriatric assessment–guided interventions.

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the clinic, his visits were completed with the NP via televideo. The GA was sent to the patient via the patient portal, and the NP received the results via the EHR. The self-completed GA identified functional deficits, multiple comorbidities, polypharmacy, and a history of depression and anxiety prior to the initial visit. The initial televideo visit included an assessment by the NP for cognitive impairment, and the patient screened negative. He had no unintentional weight loss and expressed feeling supported by his family.

The NP reviewed the results of the GA with the patient via televideo, and GA-guided personalized recommendations with educational handouts were provided. The patient’s functional status revealed deficits in activities of daily living (ADLs) and instrumental activities of daily living (IADLs). In addition, the patient self-reported a fall within the past 6 months. Based on this assessment, the NP recommended both physical and occupational therapy. The NP emphasized the importance of continuing to see his primary care physician to manage comorbidities. The pharmacist conducted a polypharmacy review of drug-drug interactions and a review of the American Geriatrics Society Beers Criteria® of possible inappropriate medications, and any interactions were reviewed with the patient. The NP reviewed the initial assessment of depression and anxiety, and the patient was given relaxation techniques to decrease anxiety, as well as a recommendation to see the social worker for further resources and psychosocial support.

Although this patient initially did not have a nutritional deficit, weight loss was noticed during his treatment. A nutritional consultation was immediately ordered to aid in maintaining his weight by incorporating nutritional recommendations into his diet.

The patient was seen by the NP, physical therapist, occupational therapist, social worker, and nutritionist. After working with the multidisciplinary team, the patient showed improvements. Both physical and occupational therapy, which included education about the proper use of a walker, improved ADLs and IADLs, and decreased the risk of additional falls. The social worker provided resources and implemented techniques and interventions to decrease and manage his anxiety. His depression successfully decreased with a combination of medication and psychosocial support. During visits with the social worker, additional needs were uncovered, including financial and caregiver assistance, and addressed with local community resources including home health care services. His advance directives were also reviewed and placed on file in the EHR. These interventions provided tailored care, which assisted in fostering communication with the patient and multidisciplinary team to optimize treatment. As a result, the patient was able to continue life-saving systemic cancer therapy with minimal side effects and maintain his quality of life and independence.

REFERENCES
Moffitt Cancer Center is a National Cancer Institute (NCI) Comprehensive Cancer Center, with Magnet Designation. The center, which is located in the southeastern United States, on the Florida Gulf Coast, provides both inpatient and outpatient adult oncology care. Moffitt Cancer Center participate in the first Age-Friendly Health System Cohort, becoming the first center in Florida and the first NCI Comprehensive Cancer Center to be designated as “Committed to Care Excellence for Older Adults.”

The Senior Adult Oncology Program (SAOP) at Moffitt, founded in the early 1990s by Lodovico Balducci, MD, quickly became the first oncology clinic solely dedicated to patients with cancer aged 70 and older. The provider team has four medical oncologists and four geriatric oncology nurse practitioners. The Senior Adult Program Tumor Board includes four geriatric oncology nurses, a dietitian, a pharmacist, a social worker, and geriatric-trained unlicensed personnel (UAP), such as a medical assistant or patient care technician. In addition to cancer care, this team addresses the medical and functional issues that often accompany the management of cancer in this age group.

**SCREENING WITH THE SAOP-3**

Tailoring treatment using a geriatric assessment is recognized as best practice, and domains can be captured with geriatric screening instruments. The Institute for Healthcare Improvement (IHI) has identified four essential elements of an Age-Friendly Health System, known as the “4 M’s” (Figure 1).

- **What Matters:** Know and align care with each older adult’s specific health outcome goals and care across care settings.
- **Medication:** Use age-friendly medications that do not interfere with “What Matters,” “Mobility,” or “Mentation,” on and across settings of care.
- **Mentation:** Prevent, identify, treat, and manage dementia, depression, and delirium across care settings.
- **Mobility:** Ensure that older adults move safely every day in order to maintain function and do “What Matters.”

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**MEET THE FACULTY**

Dr. Cassandra Vonnes has been a nurse practitioner for 30 years, the last 10 of which have been in oncology. Her previous experiences include teaching at the University of South Florida and recognition as a Hartford Distinguished Educator Geriatric Nursing. She serves on the national Nurse Leadership Board of AARP and on the Aging Policy Committee of the American Geriatric Society, who recognized Dr. Vonnes as a Fellow in 2023.

Under Dr. Vonnes’ leadership, Moffitt Cancer Center was the first hospital in Florida and the first cancer center in the US to be recognized as an Age-Friendly Health System Committed to Care Excellence for the Older Adult. She has presented both nationally and internationally on fall and injury prevention, delirium, and geriatric assessment. Dr. Vonnes is the host of the podcast GAPNA CHAT that features leaders in Geriatric Health Care. The Gerontological Advanced Practice Nurses Association awarded her the Excellence in Leadership 2022 Award, and she received the Oncology Nursing Society’s Excellence in Care of the Older Adult with Cancer Award in 2019.
Each patient new to the SAOP is screened with the SAOP-35 and the Timed Up and Go (TUG) test, and each patient is asked, “What matters most?” The “What matters most?” question began with a paper form created by the Patient Advisor Team for use as a pilot in one clinic. More recently, the question has been integrated into the electronic medical record (EMR) and is asked with each clinic encounter. Since implementation in 2019, more than 18,474 older adults have been engaged in “What matters most?” conversations in the Senior Adult Program.

The SAOP-3 Geriatric screening tool is a high-performing combination of self-reporting and in-person screenings that include the domains of the comprehensive geriatric assessment, such as depression screening with the Patient Health Questionnaire-2 (PHQ-2) and screening for cognitive impairment with the Mini-Cog. High-risk medications prompt a pharmacy consult for de-prescribing opportunities, as described in the 2023 Beers List.
The SAOP workflow diagram is represented in Figure 2.

**CASE STUDY: A PATIENT WITH BREAST CANCER, IMPAIRED COGNITION JUST WANTS TO BREATHE EASILY**

ML is an 82-year-old Black non-Hispanic woman. She is widowed and lives by herself in a first-floor apartment in a retirement community. She is a retired middle school teacher who does not drive. She goes to the community pool for water aerobics weekly.

ML has one daughter and one son, who live within a 1-hour drive. She has a living will, and she has designated her daughter as her health care proxy.

She has never smoked, and she does not use alcohol.

ML’s personal medical history includes hypothyroidism. She had a total mastectomy 20 years ago for breast cancer management. She stopped tamoxifen 10 years ago, per the direction of her physician. She has some osteopenia per her last DEXA scan 6 years ago. She had COVID in 2020 and

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**FIGURE 4. TIMED UP AND GO (TUG) MEDICAL RECORD**

<table>
<thead>
<tr>
<th>Able to Perform</th>
<th>Reason For Not Completing</th>
<th>Assistive Devices Used</th>
<th>Most Recent Fall</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>Patient Refused</td>
<td>No</td>
<td>No Results Found</td>
</tr>
<tr>
<td>No</td>
<td>Other</td>
<td>Cane, Crutches, Walker</td>
<td></td>
</tr>
</tbody>
</table>

**Timed Up and Go (TUG) Test**

Directions: Patient should wear their regular footwear and can use a walking aid if needed. Begin by having the patient sit back in a standard arm chair and identify a line 3 meters or 10 feet away on the floor. When I say "Go", I want you to:
1. Stand up from the chair (patient should not use arms)
2. Walk to the line on the floor at your normal pace
3. Turn
4. Walk back to the chair at your normal pace
5. Sit down again

Start timing on the word "Go" and stop timing when the patient is seated again correctly in the chair with their back resting on the back of the chair.

<table>
<thead>
<tr>
<th>1st Trial</th>
<th>13 sec</th>
</tr>
</thead>
<tbody>
<tr>
<td>2nd Trial</td>
<td>125 sec</td>
</tr>
<tr>
<td>3rd Trial</td>
<td>125 sec</td>
</tr>
</tbody>
</table>

Average of Trials: 13 sec

An older adult who takes > 12 seconds to complete the TUG is at high risk for falling.

TUG Greater Than 12 Seconds: Yes

Provider / Nurse Notified: No

Nonself MD, Phys (IT USE ONLY):

Did patient experience any symptoms during the TUG test? Yes

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Nurses are required to complete 6 hours of geriatric continuing education every 2 years, and, along with UAPs, they must complete yearly competency validation of TUG and Mini-Cog® screenings.
was hospitalized for 2 weeks, but she did not require mechanical ventilation.

**Medications**
- Levothyroxine: 0.08 mg daily
- Omeprazole: 20 mg daily
- Calcium: 1,000 mg daily
- Baby aspirin daily
- Naproxen sodium as needed for pain

ML was complaining of shortness of breath, and her CT scan was suspicious for possible metastatic disease given her breast cancer history. Local testing identified ER-positive and HER2-negative advanced breast cancer. She was referred to the SAOP program for evaluation and treatment recommendations.

The primary registered nurse spoke with ML via phone and began her SAOP-3 screening, which is displayed in Figure 3. Her answers reflected her abilities to perform activities of daily living (ADL) and instrumental activities of daily living (IADL) that are supported by friends and family. Her responses to the psychosocial and quality-of-life–related questions echoed her somatic complaints that impact her perceptions and activities.

The registered nurse anticipated a need for a social work evaluation. During the medication review, the nurse identified that ML is taking baby aspirin for primary prevention of cardiovascular disease and a proton pump inhibitor for relief of acid reflux. ML entered a clinical pharmacy consult. Both consultations are placed in the EMR.

ML came to the clinic for her first in-person visit accompanied by her daughter. Upon arrival, ML’s daughter provided the team with a copy of her mother’s advance directive. The UAP took ML’s vital signs and instructed her in the TUG test. Scripting was created that provided a description of the test, noting that it “helps identify fall risk and basic functional ability and the results will help [the patient] make decisions about treatment.” ML’s average time was 13 seconds, displayed in Figure 4.

The UAP asked ML, “What matters most related to this visit and treatments?” ML answered, “Being able to breathe better and see my grandchildren.”

After ML was brought to the clinic exam room, the registered nurse introduced himself to ML and her daughter. He asked if it is alright if her daughter remained in the room for the consultation. ML answered yes (Figure 5).

The registered nurse began the Mini-Cog© by asking ML to repeat three words to him: river, nation, and finger. ML was informed that she would be asked to repeat those in a few minutes. Next, ML was given a circle and instructed to draw a clock, place the numbers in order, and set the clock hands to 10 past 11. After completing the task, ML was asked to recall the three words (Figure 6).
The electronic record scoring of the Mini-Cog© is displayed in Figure 7. ML’s daughter shared her surprise with the nurse that her mother demonstrated cognitive impairment on the Mini-Cog©. A plan for addressing the cognitive impairment was presented during the provider interaction during the same visit.

The pharmacist introduced herself to ML and her daughter. While reviewing ML’s medication and past medical history, several opportunities
For example, do your MAs or nurses mostly administer/use the tools with patients and then results are discussed by the AP or physician creating the treatment plan?

DATA CAPTURE
• How does the coordination with the EMR work?
• Who inputs data?
• Do you provide training across departments to interpret data, or does the EMR make it more obvious?
• Have you had any breakdowns in the geriatric assessment tool/EMR process that became learning moments?

EXAM PLES
• Are there specific case examples you can provide regarding the use of a geriatric assessment tool and the way that results have influenced therapy decisions or care planning for the patient?
• Are there examples you can provide of an AP-led initiative that has improved geriatric oncology patient care/outcomes at your center?
Cancer care for the older adult requires a multidisciplinary approach and the advanced practitioner is a foundational contact to lead this team.

Proposed labs to be ordered included basic metabolic profile to evaluate renal function on NSAIDs, thyroid stimulating hormone (TSH) because the AP is unsure if ML was adhering to the levothyroxine regimen, and vitamin D3 levels. An increase to at least 1,800 mg daily was recommended for ML’s calcium intake. Suggested fall prevention education and DEXA scan to evaluate recent bone density were also included.

Cancer care for the older adult requires a multidisciplinary approach and the advanced practitioner is a foundational contact to lead this team.

Regardless of a patient’s prognosis, the focus should be on the quality of their days lived and the treatment of each person with cancer, and not just the treatment of cancer itself. With the increasing numbers and needs of older adult patients, specialized geriatric oncology care can amplify shared decision-making with patients and families, while aligning treatment decisions with goals of care.

REFERENCES
7. Kear BM, Guck TP, McGaha AL. Timed Up and Go (TUG) test: Normative reference values for ages 20 to 59 years and relationships with physical and mental health risk factors. J Prim Care Community Health. 2017
Emergency department (ED) and urgent care visits, as well as hospitalizations, represent the costliest health care services for older patients with cancer. As the complexity of cancer care has increased and treatment settings have shifted more to outpatient centers, patients and caregivers are faced with increasing responsibility for managing their care. Value-based care models place an emphasis on fiscally sound quality programs of oncology care delivery. Therefore, opportunities to create formal processes and interdisciplinary workflows to reduce symptom severity were identified. It was hoped that these new processes would also decrease the number of visits to the ED and urgent care, as well as hospitalizations for older adults with cancer.

Tailored support based on frailty assessment and risk analysis for potential treatment-related toxicity has been shown to improve patient outcomes and reduce symptom severity. The American Society of Clinical Oncology (ASCO), the National Institutes of Health (NIH) and the National Cancer Institute (NCI), the Association of Community Cancer Centers (ACCC), the Gerontological Society of America (GSA), the Oncology Nursing Society (ONS), and the International Society of Geriatric Oncology (SIOG) all have established standards for frailty assessment, geriatric assessment, and assessment of the risks associated with antineoplastic therapies. Tailored care based on frailty and risk of treatment-related toxicity is intended to focus staff resources on those patients at greatest risk. Provision of tailored education for cancer treatment is essential to empowering patients and caregivers to manage their treatment and to reporting of adverse events (AEs) in a timely manner. Tailored patient education can even reduce symptom severity, as patients and their caregivers are better able to identify symptoms early and be proactive about initiating communication with their advanced practitioners (APs) and medical team. Reactive strategies for management of AEs do not allow for effective prevention and early mitigation of symptoms. Proactive engagement of the patient and their caregiver(s), prompt identification and mitigation of AEs, and tailored follow-up to reinforce learning can effectively reduce symptom severity and use of EDs, urgent care, or hospitals.

OPPORTUNITIES AND PROCESS
As a part of the Commission on Cancer (COC) accreditation process, a quality project was initiated...
in 2021 to explore the feasibility of frailty assessment and tailored education to reduce symptom severity in patients referred to the University of Arizona Cancer Center. An Interdisciplinary Steering Committee was convened, and several opportunities were identified as ways to meet the strategic goals of reducing visits to EDs and urgent cares, hospitalizations, and associated costs, thereby improving patient experiences and outcomes.

- Instruction and clarity could be provided to create and fine-tune workflow documentation.
- Education about frailty’s impact on costs, symptom burden, and outcomes could be provided to team members.
- The successfully implemented Oral Antineoplastic Therapies Program, which included a tailored symptom management algorithm, could be expanded to encompass these needs.
- Identification of those patients most at risk (frail, multi-morbidity) would allow for tailored support and the most efficient use of limited resources.

**Process**

- The Plan-Do-Study-Act (PDSA) methodology was used to guide this quality initiative using an iterative cyclic method, continuous data collection, and project adaptation based on analysis of each PDSA phase. Data collection and documentation tools were collected or developed by the AP project lead in collaboration with the steering committee members, who also created processes and process improvements for patient assessment and provision of overall care.

**FIGURE 1. TAILORED SYMPTOM ASSESSMENT AND MANAGEMENT ALGORITHM**

- All patients called by ONN within one week of start of treatment to assess adverse events (AE)
- Taking Meds and Keeping Appointments as Prescribed and no AEs
  - CARG - Low Risk
    - Call weekly x2, then at 60 days
    - Other follow-up as per referral from Disease Team OR start of new treatment
    - AE ≤ Grade 3
      - Reinforce plan for AE management/use of directions for OTC/RX meds
      - Reinforce keeping all appointments and When, How, and Who to call for any changes in symptoms
      - Enter Navigation Note
    - AE Grade ≥ 3
      - YES
        - Notify NC to work with provider team regarding side effect management/ determine need for provider visit
        - Follow-up call in 48 hours
        - If side effects resolved with supportive medications resume weekly follow-up calls x2, then at 60 days
        - Enter Navigation Note
      - NO
        - YES
          - Notify NC to work with provider team to determine need for same day provider visit to avoid ED/UC
          - If ED/USC or hospitalized, ONN to notify disease team, call patient in 24-72 hours following discharge, and will follow above algorithm if treatment is continued.

- Taking Meds as Prescribed and Keeping Appointments but experiencing AEs
  - CARG - Intermediate Risk
    - Call weekly x2, then at 60 days
    - Other follow-up as per referral from Disease Team

- Not taking medications as prescribed OR Not Keeping Appointments
  - CARG - High Risk
    - Call weekly x4, then at 60 days
    - Other follow-up as per referral from Disease Team

- Recent ED/UC or Hospitalization

- AE ≤ Grade 3
- AE Grade ≥ 3

- Document AEs in Cerner using NCI tool
- Document notes in Cerner using ONN follow-up note type
- ONN to follow patient for 2 months after initiation of treatment using above algo rithm or as needed based on referral from Disease Team
- Pt may be referred to ONN if provider team concerned re: side effects and/or adherence concerns
- Work with Disease Team/ NC/Social Worker to assess need for earlier follow-up to reinforce plan of care

*Patients on a clinical trial or part of the HCCT program (transplant, CAR-T) will be managed by the Clinical Trial Teams or HCCT Team*
In addition to process creation, several tools and process or system optimizations were made. These included:

**Frailty Assessment**
- Geriatric-8 (G8)\(^2,3,7\) was adopted for use at baseline and at any point of disease progression with initiation of a new therapy. The screening questions on the G8 determine a patient’s food intake, body mass index (BMI), mobility status, presence of dementia or depression, number of medications, and a self-reported view of their own health status relative to others in the same age group. An online calculator allows completion of the scoring in less than 3 minutes.
- Multimorbidity Assessment tool was developed based on review of most common comorbidities associated with frailty in older adults with cancer.\(^8\)

**AE-related risk assessment, mitigation**
- The Cancer and Aging Research Group’s Chemo-Toxicity Calculator Score (CARG)\(^9\) was adopted for use prior to the initiation of any new therapy. The CARG score is a predictive model developed to identify older patients (older
than 65) at increased risk of severe (grade 3-5) chemotherapy toxicity.

- An adverse event management process was created using the Tailored Symptom Assessment and Mitigation Algorithm (Figure 1).
- Standard operating procedures (SOPs) were created for management of 10 symptoms that were previously identified by the Centers for Medicare & Medicaid Services (CMS) as eligible for only limited payment if occurring within 30 days of antineoplastic therapy.

- Staff education was provided across oncology care team members for standardized management of common AEs including how to use resources embedded in the electronic medical record (EMR).
- A tip sheet explaining the documentation workflow was created and provided to all oncology care team members.
- A Nurse Navigator Tracking Tool for collection of demographic information and clinical details was created and used in outcome analysis conducted by the AP Lead Investigator.
- Internal points of contact for referrals to subspecialties were established for urgent patient evaluation of comorbidities that may delay treatment or require co-management during therapy.
- Processes for communication among team members were formalized and included a new infrastructure for workflows to improve triage, in-basket tools, and referrals in the patient’s EMR portal. Instructions regarding increased use of the patient portal for enhanced communication were also provided.

![Figure 4: The percentage of patients on treatment who presented to the ED or were hospitalized](image)

![Figure 5: Symptoms or problems associated with ED, urgent care, and hospital visits Q3 2021-Q4 2022](image)
MEASURES OF SUCCESS
A total of 3,512 patients were screened by the new patient intake and navigation team for frailty between the third quarter of 2021 and the fourth quarter of 2022. Forty-seven percent of patients evaluated met criteria for frailty (G8-high) (Figure 2).

Twenty-nine percent of new patients evaluated proceeded to therapy (n = 1,034; 29.4%). Patients were screened for risk of treatment toxicity by the nurse navigator, pharmacist, APs, and physicians prior to treatment. Most patients who were starting treatment (66%; 669 of 983) were at intermediate or high risk for treatment toxicity. The highest CARG scores (the percentage of patients who scored in the intermediate-risk or high-risk groups) were among patients with a diagnosis of malignant heme, gastrointestinal/hepatobiliary, and head and neck cancers (Figure 3).

The number of patients presenting to the ED or who were admitted decreased overall during the implementation phase of the project. Forty-eight percent of patients who presented to the ED or admitted were on active treatment. Most patients self-referred to the ED/urgent care (62%), indicating a need to improve education on the after-hours and emergency process within the cancer center. The increase in ED admissions throughout the second and third quarters of 2022 might have been attributable to several factors including staff transitions, COVID surge, and no bed availability for direct admissions (Figure 4). Most patients (51%) who presented to the ED/urgent care or who were hospitalized had symptoms other than those listed by CMS, which might not have been related to their cancer diagnosis or treatment (Figure 5).

Staff transitions, turnover, and shortages, as well as limited inpatient bed availability for direct admissions when indicated and continued effects of the COVID pandemic, continue to present challenges for workflow optimization and consistent application of the tailored approach to care of older, frail adults with cancer.

NEXT STEPS
The final report for the Tailored Care Management Quality Initiative was submitted to the Cancer Committee in March 2023. Implementation of an infrastructure for frailty risk analysis and reduction in symptom severity for older patients with cancer to reduce ED/urgent care visits and hospitalizations was deemed successful. The next steps are to refine the processes in the identified areas. Highest-risk teams have moved to implement additional workflows to mitigate risk, including a per-surgical rehabilitation program for the hepatobiliary team.

CASE STUDY: PUTTING PROCESS INTO ACTION FOR AN OLDER PATIENT WITH MDS
Mr. R is a 76-year-old retired engineer newly diagnosed with high-risk myelodysplastic syndrome (MDS). He presented for his new-patient visit accompanied by his wife. As a part of the intake process, he was screened by the intake team and nurse navigator using the G8 and multimorbidity tool.

Mr. R indicated a moderately decreased appetite, which was reflected by a 2-kg weight loss in the past 3 months, and his BMI was 33. Because of these factors, his age, and the fact that he was taking more than 3 prescription drugs, his G8 score was 12. This places Mr. R at intermediate risk. He has a history of coronary artery disease, hypertension, hyperlipidemia, chronic obstructive pulmonary disease (COPD), and a 50-year pack-year history of tobacco use, all of which place him at increased risk.

He does not have a primary care physician but does...
see a cardiologist. As a part of the intake process, Mr. R and his wife were registered for the patient portal.

Due to the nature of acute leukemia, Mr. R underwent a rapid work-up by the physician and AP including a bone marrow biopsy, additional laboratory analysis, chest X-ray, and echocardiogram, confirming the diagnosis of high-risk MDS. The physician and AP saw Mr. R to discuss treatment with a hypomethylating agent and an oral BCL2 inhibitor. Mr. R's CARG score was calculated by the clinical pharmacist and nurse navigator as part of the treatment-planning process. His CARG score was 14, placing him at high risk of treatment toxicity.

Based on the Tailored Symptom Assessment and Mitigation Algorithm, Mr. R was contacted by the nurse navigator every 2 weeks with initiation of treatment. He was also seen by the AP for weekly visits with the initiation of treatment for labs evaluation and a physical exam. Two weeks after the start of treatment, he reported nausea, constipation, a rash, feeling lightheaded, and having a low-grade fever during his call with the navigator. He also sent a portal communication to the team. The navigator contacted the nurse coordinator and referred the messages to the AP, who arranged with the team to have the patient come for a same-day visit. During the AP visit, medication reconciliation and drug-drug interactions

A Step-Wise Approach to Strategy Implementation

For a smaller care team, it can be difficult to fulfill the wide array of needs for older, frail patients with cancer both in the center and at home in their communities. Here are some basic tips from throughout the three cases that might help improve overall patient care.

1. Meet as a multidisciplinary care team to select which geriatric assessment tools will be used during intake. Although there are several validated tools to choose from, a clinic does not need to use all of them. Think about what tools would be feasible to use consistently in your clinic setting.

2. Store all of the geriatric assessment tools in one area of the electronic medical record (EMR). If possible, creating a designated tab within the EMR for these assessments is very helpful.

3. Create a list of internal and external points of contact for referrals and subspecialities and store the list in a place that is accessible to all members of the care team.

4. Align care with each older adult’s specific health outcome goals by asking, “What matters most?” Document this information clearly and update it if it changes.

5. Involve a pharmacist to recommend only age-friendly medications that do not interfere with patient goals, mobility, or mental abilities. Discuss de-prescribing opportunities, as described in the 2023 Beers List. If you do not have a pharmacist on site, consider opportunities to collaborate with local or specialty pharmacists.

6. Enlist caregivers to assist with a patient’s oral medication adherence by proactively arranging prescriptions for the patient each week. Again, consider opportunities to collaborate with pharmacists in your practice or area to promote adherence to anti-cancer, supportive, and primary care medications.
were reviewed using the Lexicomp tools in the EMR to evaluate potential causes of his AEs. He was treated with supportive care; allopurinol was discontinued due to suspicion of it causing the rash, and he received a packed red blood cell transfusion for anemia. He was not neutropenic. A chest X-ray was repeated, noting probable bronchitis, which was treated with an antibiotic and a short course of prednisone. Arrangements were made to have Mr. R return the next day for continued close follow-up to avoid an ED admission. The patient and his wife were educated about symptom management for treatment of constipation and nausea, as well as ongoing management of bronchitis. He was again encouraged to stop smoking.

REFERENCES

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