BY REV. DIANE BALDWIN, RN OCN, CBCN, AND
MEREDITH JONES, MS, BSN, RN

Developing an Acuity Tool to Optimize Nurse Navigation Caseloads

On July 1, 2016, the University of South Alabama Mitchell Cancer Institute, along with the 189 selected oncology practices and 14 commercial payer groups, committed to practice transformation through participation in the Center for Medicare and Medicaid Innovation's oncology care model (OCM). The OCM is the Centers for Medicare & Medicaid Services' first new payment and delivery model in oncology. Also known as an alternative payment model, the OCM was developed to provide practices and payers an avenue to transform the care of oncology patients, by requiring higher quality care and enhanced services, while focusing on efficiency, effectiveness, and cost savings. According to CMS, the "OCM encourages participating practices to improve care and lower costs through an episode-based payment model that financially incentivizes high-quality, coordinated care."[1] Ultimately, the OCM strives for all participants to meet the three goals set forth for the model: better care, smarter spending, and healthier people.[1]

Implementing an OCM Task Force

A hallmark of OCM participation is the list of program requirements that each practice must fulfill to remain in the model. From

> Also known as an alternative payment model, the OCM was developed to provide practices and payers an avenue to transform the care of oncology patients, by requiring higher quality care and enhanced services, while focusing on efficiency, effectiveness, and cost savings.

the start of the OCM, it was evident that one individual—or even several staff working together—would not be able to carry the burden of accomplishing the OCM requirements alone. As Mitchell Cancer Institute quickly realized, successful program transformation and eventual shared savings would require the efforts

University of South Alabama Mitchell Cancer Institute, Mobile, Ala.

of a team, with each member contributing his or her own talents and skills. This led to the formation of Mitchell Cancer Institute's OCM Task Force. Composed of representatives from administration, finance, nursing, navigation, quality, pharmacy, clinical applications, cancer control, and clinical revenue integrity, Mitchell Cancer Institute's OCM Task Force has guided our practice through the ever-evolving iterations of the OCM practice requirements. This team is responsible for ensuring that OCM program information and updates are relayed to and understood by both the OCM Task Force members and the practice. The OCM Task force also monitors and interprets the feedback report data from CMS and then brainstorms and implements transformational initiatives based on our site-specific data.

Before the start of the model, the OCM Task Force assessed Mitchell Cancer Institute's readiness to fulfill OCM requirements and identified two requirements and one eligibility criterion that were anticipated to be difficult to implement:

1. The OCM program requirement to provide the core functions of patient navigation.
2. The OCM program requirement to create a care plan that contains the 13 components in the Institute of Medicine's care management plan.[2]
3. The complex OCM oral therapy eligibility criteria and the level of difficulty involved in obtaining the data necessary to determine patient eligibility (i.e., prescription fill dates).

Although Mitchell Cancer Institute had previously established lay and financial navigation services, to provide the more comprehensive navigation services required by the OCM, the Task Force determined that the addition of a clinical component, or nurse navigation program, would be necessary to fulfill unmet clinical needs. As a result, shortly after the start of the OCM, Mitchell Cancer Institute hired two extensively trained oncology nurse navigators and a navigation manager to provide program oversight and clinical support.

Although the initial cost of Mitchell Cancer Institute's nurse navigation program was covered by the OCM's $160 monthly enhanced oncology services (MEOS) payment, billable monthly for each patient on a 6-month episode in the model, the MEOS payments would not be enough to cover expansion of the program. The reality is that nurse navigation services are costly and are generally not reimbursable. To sustain and expand a nurse navigation program long term without relying on short-term funding from outside sources, the Task Force recognized that Mitchell Cancer Institute must be able to optimize the use of available resources and quantify the value of its nurse navigation program through standardization and metrics data collection.

Growing Need for Oncology Nurse Navigators

As the complexity of cancer care delivery has increased with each new therapy and treatment approved to market, the need for oncology nurse navigators has grown exponentially. The "silver tsunami," also known as the quicklyb aging Baby Boomer population, will soon inundate the healthcare system. An estimated 72.1 million patients will be age 64 or older by 2030. Predictions of 26.1 million cancer survivors by 2040[3] speak to the advancement and efficacy of today's cancer therapies; though this is very good news, these numbers promise to challenge already strained healthcare systems, especially those providing oncology care services.[4]

As research advances bring rising numbers of new treatment modalities, chemotherapeutic agents, immunological agents, and combination therapies, the majority of these newer anticancer drugs are oral agents. Although oral therapies can be taken at home, potentially eliminating the need to travel long distances to a physician's office or infusion suite, many of the oral oncolytics potentially have significant side effects that require patient monitoring at the same or higher level as intravenous therapies. For this reason, most of the oral agents have special requirements, such as regular laboratory testing and the need to be taken on a specific schedule. With the absence of constant monitoring of drug administration by healthcare professionals, patients may easily feel overwhelmed or underestimate the side effects of oral cancer therapies, ultimately leading to increased stress, the potential for incorrect medication administration, noncompliance, and/or a delay in recognizing and seeking treatment of serious side effects. The issues surrounding the oral therapies create a laborious and burdensome challenge for healthcare professionals given that the medication management is driven by the patient.

Under these circumstances, clinical nurse navigation programs are no longer optional luxuries afforded only by large institutions. Instead, these programs increasingly become the first—and sometimes only—navigation services implemented at cancer centers. To adequately coordinate the clinical care of a growing patient population, likely receiving multiple treatment modalities and medications while attempting to navigate a complex healthcare system, a clinically trained advocate with the experience and skills to anticipate needs, answer questions, and educate on diagnosis and/or treatment must be available to patients to guide them through their cancer journey. The nurse navigator is at the core of every patient's care and is responsible for coordinating clinical care, referring to ancillary services, and fostering communication

across the continuum. Although navigation services are not currently reimbursable outside of special programs and/or grant funding, most cancer centers have realized that the true value of adding nurse navigators to the oncology care team is manifested through the following:

- Reduction of clinical barriers to care.
- Increased access to care.
- Earlier identification and treatment of symptoms and side effects.
- Reduction of both emergency room (ER) visits and hospital admissions.

This realization signifies the commitment of these practices to quality-based patient care and further proves that the practice understands that the up-front investment in a nurse navigation program will reap far greater benefits down the road (in terms of both monetary and clinical outcomes measures) than the initial investment costs.

Survival in the Age of Value-Based Care

For OCM participants committed to practice transformation but needing funding (more than MEOS payments can provide) to support ongoing activities and program implementations, nurse navigation presents a difficult quandary. Most practices agree that nurse navigators add value to the healthcare team, but the addition of highly qualified oncology nurse navigators will most likely have an initial significant impact on the bottom line. Nurse navigation programmatic labor costs are high and, under most circumstances, these services are not reimbursable. The challenge is twofold. First, how do we quantify the value of navigation services, proving increased savings and eventual downstream revenue to both the inpatient and the outpatient settings? Second, how do we optimize utilization, workflow, and program management of current nurse navigation staff to obtain buy-in and support for adding additional FTE nurse navigators?

Historically, practices have struggled with quantifying the value of navigation services compared to the initial cost. Although nurse navigation–specific feedback from both healthcare teams and patients has been positive, few validated tools and/or measures are available to evaluate whether navigation services impact the quality or the value of the oncology care delivered. Without a nationally recognized set of nurse navigation metrics, each practice has independently determined its own set of metrics based on unique program needs and, not surprisingly, some practices have not yet determined a way to collect or measure nurse navigation–specific outcomes.

In 2016 the Academy of Oncology Nurse & Patient Navigators (AONN+) announced the development of 35 evidence-based national navigation metrics that focused on the AOweNN+ certification domains for navigation. The metrics included measures in the areas of patient experience, clinical outcomes, and business performance and return on investment. These proposed evidence-based metrics will allow practices to collectively demonstrate both the impact and value of navigation services (both lay and clinical), thus reinforcing the need for navigation services

and securing the program's role within the oncology care team. AONN+ proposed to develop a standardized metrics repository, allowing practices to easily report site-specific outcomes and potentially share data nationally. Historically missing from most nurse navigation workflows, this data collection, reporting, and analysis is a critical step that demonstrates the validity of navigation services for the practice decision makers.[5]

> Without a nationally recognized set of nurse navigation metrics, each practice has independently determined its own set of metrics based on unique program needs and, not surprisingly, some practices have not yet determined a way to collect or measure nurse navigation–specific outcomes.

Even with standardized metrics used across multiple sites, nurse navigation services are generally still limited to higher acuity patient populations, tumor sites, insurance groups, job duties, or other demographics, due to high labor costs and/or lack of qualified applicants to fill open positions. This limitation frequently results in larger caseloads, limited services, and less time available to document the much-needed quality metric data necessary for program validation.

Nurse and Lay Navigators Working in Concert

Lay navigation, a coordinated system of care delivery utilizing non-clinically trained professionals, was developed by Harold P. Freeman, MD, and is often used as a solution to reducing disparities and barriers to accessing healthcare in underserved populations. Dr. Freeman first introduced the idea of lay navigation in 1990 at Harlem Hospital Center for underserved breast cancer patients.[6] From 1995 to 2000, Dr. Freeman studied the utilization of his lay navigation program, noting a considerable improvement in early stage diagnosis and survival rates of breast cancer patients treated at Harlem Hospital Center.[6] Since the idea of lay navigation was first introduced in 1990, these programs have existed as functioning components of the oncology healthcare team and can be found in many cancer centers worldwide, often as a supplement to nurse navigation programs.

Since then, lay navigators have proven to decrease barriers to care and reduce overall costs. In 2012, Mitchell Cancer Institute opted to implement a lay navigation program through participation in the University of Alabama at Birmingham Patient Care Connect Program. The Patient Care Connect Program, including two academic medical centers and 10 community cancer centers across the southeastern United States, was an observational study of 12,428 patients conducted from 2012 to 2015. Its goal was

Mitchell Cancer Institute Quality and Navigation Nurses (L to R): Troy Bland, Diane Baldwin, Mary Wyatt, Meredith Jones.

. . . .

"to deploy a workforce of lay navigators who will provide patients with information about the process of cancer treatment, help patients make informed choices about their care, provide emotional and problem-solving support, assist with overcoming common barriers to cancer treatment, and encourage patients to make wise use of healthcare resources."[7] The Patient Care Connect Program successfully demonstrated a reduction in mean total costs, emergency room visits, hospitalizations, and intensive care unit admissions across the participating sites.[8]

The addition of lay navigators to existing nurse navigation teams, with intent to offload much of the nonclinical functions from nurse navigators, and address the crucial—and sometimes more burdensome—nonclinical gaps of care often overlooked by clinical providers. Integration of lay navigation services aimed to provide holistic care for patients' broad spectrum of needs. Unlike others in the Patient Care Connect Program, Mitchell Cancer Institute lacked a clinical nurse navigation program during that time. Therefore, Mitchell Cancer Institute participated in the Patient Care Connect Program primarily to determine whether a less-expensive lay navigation program could equate to the more expensive nurse navigation program, while successfully addressing the majority of patient needs in a cost-effective, budget-friendly manner. Contrary to the overall Patient Care Connect Program data for all sites, Mitchell Cancer Institute site-specific data indicated that the 4-year study averages of overall mean costs, hospitalizations, ER visits, and intensive care unit admissions were higher for lay navigated patients when compared to non-navigated patients. A suspected reason for these outcomes was that the metrics being measured were clinical. Logically, without a complementary clinical nurse navigation program, the lay navigation program would not have much effect on clinical metrics, such as ER visits and hospitalizations, or phases of care, such as diagnosis and treatment, that require clinical intervention and symptom management. Therefore, the data supported the

need for a nurse navigation program at Mitchell Cancer Institute to:

- Work in collaboration with lay navigators
- Support providers, staff, and patients
- Ensure that patients' needs were being met clinically and psychosocially throughout the continuum of care.

Today, as part of the OCM practice transformation initiative, Mitchell Cancer Institute's navigation program includes both nurse and lay navigators. The lay navigators support patients by removing barriers to care, assistance with transportation services, spiritual services, financial needs, and related nonclinical services. They also provide education and support on advance care planning, community resources, and support groups. This collaboration allows our nurse navigators to focus solely on clinical issues (i.e., diagnosis, treatment plans, chemotherapy, symptom management, oral oncolytic management), whereas our lay navigators provide nonclinical social support. Together they work collaboratively in delivering a multidisciplinary, holistic, and comprehensive cancer care experience for patients.

Nurse Navigation Caseload Management

Although Mitchell Cancer Institute's nurse navigators have a narrow focus, they maintain a caseload of between 175 to 225 patients each, with new patients requiring nurse navigation services every day. The average patient requires nurse navigation for 6 to 12 months. To ensure manageable caseloads and justify the need for future expansion of nurse navigation services, we must use risk stratification to define appropriate caseload volumes and determine how best to allocate nurse navigation time and resources among those existing caseloads. The ability to risk stratify patients requires (1) a standardized method of classifying patients according to a set of predetermined criteria and (2) assessment of all patients according to the chosen method. Acuity tools have been used in healthcare for decades. They provide a simple way to risk stratify patients and have proven successful as a means of determining staffing needs, improving patient care, and controlling costs. Most existing acuity tools score patients on a scale of specific attributes. For nurse navigation programs, utilizing the right acuity tool can not only be useful in determining caseloads and aiding in more efficient caseload management, but it can harness the patient acuity data into a score that can be used for comparison in varied types of research studies.

A review of published oncology nurse navigation tools reveals the existence of a limited number of resources that vary in scope and purpose. In 2014, Lehigh Valley Health Network piloted an acuity scale in conjunction with a needs assessment to determine the need for navigation and the intensity of navigation required.[9] Although the tool included multiple physical, emotional, and psychosocial factors, it did not account for staging, treatment (including multiple modalities), and specific psychosocial assessments such as the Patient Health Questionnaire (PHQ) 2/9—all of which are important when evaluating the level of support that patients will need during their cancer journey. Vidant Cancer

Care shared a comprehensive tool that focused on determining the amount of time each navigator needs to spend with each patient.[10] Other oncology acuity tools also existed but were designed specifically for inpatient oncology care or were limited in the number of factors that determined acuity. Mitchell Cancer Institute did not evaluate those tools, because they did not specifically meet the needs of our outpatient setting or patient population.

We believed that Mitchell Cancer Institute needed an acuity tool composed of more specific patient factors than had been previously published, a tool specifically developed to deliver a much more comprehensive and accurate acuity of the patient. Recognizing that no tool existed with the generalized, yet flexible components we desired, Mitchell Cancer Institute began to develop a universal oncology nurse navigation acuity tool, designed not only to benefit Mitchell Cancer Institute's practice but to also allow for adaptation and use by other cancer programs. The oncology nurse navigation acuity tool took approximately one year to develop, and though the tool was a collaboration of many, the primary authors were Diane Baldwin, manager of Clinical Care Coordination, and Thomas Butler, MD, supportive care oncologist at Mitchell Cancer Institute.

An Acuity Tool with a Holistic View

Mitchell Cancer Institute's goal was to develop a tool that measured a patient's acuity through a holistic lens. As most oncology providers know, each patient's individual needs depend on a variety of factors. Often, these are factors that a time-constrained oncologist cannot address during a busy clinic schedule and, therefore, must rely on a navigation program to handle. Our task force examined the most common factors that determine a patient's need and level of nurse navigation services required. Ultimately, we identified 11 factors that directly impact the need and level for nurse navigation services. As seen in Table 1, page 22, these 11 factors can easily be grouped into three major categories:

1. Cancer diagnosis and treatment.
2. Other medical and physical factors.
3. Psychosocial and emotional well-being.

We then developed the Mitchell Cancer Institute oncology nurse navigation acuity tool, incorporating these 11 factors as the foundation of the tool, using a 0 to 4 scoring scale with 0 to 1 equaling low acuity, 2 equaling moderate acuity, and 3 to 4 equaling high acuity. Acuity level 2 was determined to be the acuity at which patients need an average amount of navigation services and was therefore used as the comparison acuity score when determining the placement of factors within the tool during development. Therefore, each factor was evaluated on whether it would increase or decrease the amount of navigation services needed in comparison to the average navigation services needed for an acuity level or score of 2. Based on results from the comparison, each factor was placed in one or more acuity levels, with some factors (such as the PHQ 2/9 and Eastern Cooperative Oncology Group score) landing in multiple acuity levels.

Each acuity level was assigned a group of guidelines to help our oncology nurse navigators (initially titled clinical care coordinators) to determine the level of navigation services and resources needed for each patient. Figure 1, page 23, is the Mitchell Cancer Institute oncology nurse navigation acuity tool, which includes the 11 factors and guidelines for each level of acuity.

....

> We believed that Mitchell Cancer Institute needed an acuity tool composed of more specific patient factors than had been previously published, a tool specifically developed to deliver a much more comprehensive and accurate acuity of the patient.

....

The use of 11 separate factors provides a holistic view of the patient, not a view based solely on a cancer diagnosis. Assigning acuity scores to patients based solely on clinical factors fails to consider other factors that greatly impact patients and that could be detrimental to the patient if not addressed. For example, two patients with the same type and stage of cancer, both receiving the same treatment, may present with different comorbidities and levels of family support, resulting in two very different acuity scores. Focusing solely on a patient's disease is also why patients often feel that they are just another number. The ultimate goal of our oncology nurse navigation acuity tool is to combat this "just another number" phenomenon, by providing patients with holistic, individualized care based on their specific needs.

Once the navigation manager assigns a patient to a nurse navigator's caseload, the navigator's first task is to assess the patient—both by chart review and in person. After reviewing all 11 factors, the nurse navigator assigns the patient an acuity score by determining where the *majority* of the patient's factors fall within the tool. If there are an equal number of factors in two different acuity scores, the higher score is initially assigned until further assessment is completed. The acuity score is reassessed when changes in treatment or staging occur, after hospitalizations, or when new or problematic factors arise that could result in a change in the patient's acuity score. The acuity score is not assessed more than once per month and should be reassessed at least once every 6 months to ensure that the score accurately represents the patient's current condition.

But Wait. . . Acuity is More Than Just a Number

An inherit weakness in most acuity tools is that the "score" assigned to the patient determines overall acuity. However, we know that our patients are more than just a number. Standardized tools often fail to identify important elements required to address individual patient needs. Often physical, emotional, and/or psy-

chosocial factors have significant impact on a patient's care and need for navigation services. No tool can—or will ever—capture every possible factor. Therefore, our oncology nurse navigation acuity tool includes a unique 12th factor—the nurse navigator's clinical assessment—to determine a patient's final acuity score.

Mitchell Cancer Institute's nurse navigators use the totaled score of the acuity tool's 11 factors as a guide to initially assess the acuity of the patient and then, by using clinical judgment, combine this score with their overall clinical assessment to assign a final acuity score. The 12th factor of assessing the patient holistically is essential to accurately:

• Risk stratify the patient
• Assign an acuity score with the highest level of accuracy
• Fulfill our aim of providing holistic, high-quality, individualized patient care.

Ultimately, our nurse navigators may elect to change the acuity level based on their assessment of the individual patient. For example, let us compare two sample patients, Amy and Rae, who score identically on the first 11 factors within the tool. Both Amy and Rae have early stage breast cancer and are now postmastectomy. They both have taken letrozole for a year, both are in survivorship, and both have no major comorbidities. After all 11 factors are assessed, the nurse navigator determines that Amy has an acuity score of 0 and will only need navigation services upon patient request. Rae is also initially assessed as an acuity score of 0, but the nurse navigator learns during her visit with Rae that Rae's husband has recently suffered a stroke. Rae has now taken a leave of absence from her full-time job to be her husband's caregiver. Her husband is on disability, which is the

only income they currently receive. Although Rae's PHQ depression screening was negative, she is experiencing a great deal of distress surrounding her husband's condition, her ability to eventually return to work, their financial stability, and the unknown of what the future holds.

Although Rae's cancer treatment and status are stable, she has significant stressors that, left unaddressed, can and will negatively affect her future treatment and care. The nurse navigator assigns Rae an acuity score of 2, because of the significant stress in her personal life. The nurse navigator will continue to keep in close contact with Rae and will reassess both her needs and acuity score as her personal situation continues to unfold. No matter how comprehensive or evidence based an acuity tool may be, we must always remember that no tool can completely replace the thorough assessment and clinical judgment of an experienced oncology nurse navigator. To provide exceptional quality-based care, we must always keep each individual patient at the center of any tool we create, any decision we make, and the care we provide.

Acuity Tool Validation: Initial Results

To determine the validity of the Mitchell Cancer Institute Oncology Nurse Navigation Acuity Tool, we retrospectively analyzed the nurse navigator documentation of a 247-patient caseload over the course of the first 6 months of 2017. All patients were assigned to the same nurse navigator's caseload (eliminating variability among nurse navigators), and each patient was assigned an acuity score using the oncology nurse navigation acuity tool. The nurse navigator tracked all patient visits, phone calls, referrals, and interventions, differentiating between stat interventions and

Table 1. The 11 Factors of the Mitchell Cancer Institute Oncology Nurse Navigation Acuity Tool		
Number	**Factor**	**Category**
1	Staging and diagnosis	Cancer diagnosis and treatment
2	Receiving multiple treatment modalities concurrently	Cancer diagnosis and treatment
3	Chemotherapy: multi-agent vs. single agent, vs. oral agents	Cancer diagnosis and treatment
4	Treatment status: new patient vs. active treatment, vs. survivorship, vs. end of life	Cancer diagnosis and treatment
5	Performance score: ECOG	Other medical and physical factors
6	Comorbidities	Other medical and physical factors
7	Hospitalizations	Other medical and physical factors
8	Colostomy, ileostomy, tracheostomy, feeding tube	Other medical and physical factors
9	Noncompliance with treatment	Other medical and physical factors
10	Family support	Psychosocial and emotional well-being
11	PHQ 2/9 depression screening	Psychosocial and emotional well-being

Figure 1. The Mitchell Cancer Institute Oncology Nurse Navigation Acuity Tool

Acuity Level	Guidelines and Considerations	Clinical Care Coordination Focus
0	• In survivorship and stable • Physician visits every 6–12 months • Active treatment has ended (other than aromatase inhibitors or tamoxifen) • Cancer in situ	• Meet with patient initially • Treatment/survivorship plan developed/updated and reviewed with patient • Provide initial education/clinical coordination/referrals and support • Provide patient with contact information for care coordinator • Follow-up provided as requested by patient
1	• Stage 1 • Single-agent chemotherapy • Starting surveillance/observation • Aromatase inhibitor or tamoxifen initially prescribed in past 6 months • Performance ECOG = 0–1 • PHQ 2 negative	• Meet with patient initially • Treatment plan developed/updated and reviewed with patient • Provide initial and ongoing education/clinical coordination/referrals and support • Provide patient with contact information for care coordinator • Monitor closely (at least every clinic visit) during the first 2 months and then as needed
2	• New cancer diagnosis • Stage 2 • Multi-agent chemotherapy • Oral chemotherapy • Performance ECOG = 1–2 • PHQ 9 score < 10	• Meet with patient initially • Treatment plan developed/updated and reviewed with patient • Provide initial and ongoing education/clinical coordination/referrals and support • Provide patient with contact information for care coordinator • Monitor closely (at least every clinic visit) during the first 4 months and then as needed
3	• Hospitalized in past 60 days • Receiving multiple treatment modalities concurrently (chemo, radiation, surgery) • Serious comorbidities • Head/neck/ gastrointestinal cancer diagnosis • Colostomy/ileostomy • Non-compliant with treatment • Performance ECOG = 2–3 • PHQ 9 score 10–20 • Stage 3 disease • Little or no family support	• Meet with patient initially • Treatment plan developed/updated and reviewed with patient • Provide initial and ongoing education/clinical coordination/referrals and support • Provide patient with contact information for care coordinator • Monitor closely (at least every clinic visit) during the first 6 months and then as needed • Maintain phone contact with patient as needed in between visits • Provide care coordination during transitions of care (hospital, home health, etc.)
4	• Stage 4 disease • Feeding tube • Tracheostomy • Frequent hospitalizations • Unstable and/or end-stage disease • Performance ECOG = 3–4 • PHQ 9 score > 20	• Meet with patient initially • Treatment plan developed/updated and reviewed with patient • Provide initial and ongoing education/clinical coordination/referrals and support • Provide patient with contact information for care coordinator • Monitor closely (at least every clinic visit) during the first 9 to 12 months and then as needed • Maintain phone contact with patient as needed in between visits • Provide care coordination during transitions of care (hospital, home health, hospice) • Provide end of life support to patient/family/caregivers as needed

clinical interventions. Stat interventions were defined as any intervention that directly prevented an ER visit or hospital admission. Clinical interventions were defined as any other intervention in which the nurse navigator clinically intervened in the care of the patient, resulting in a change of some kind for the patient (i.e., identification of a pertinent ordered lab from 3 weeks ago not drawn, brought to the attention of the clinical staff). The average monthly case mix by acuity level for the analyzed caseload was as follows:

- 2 percent low-acuity patients (score of 0 to 1)
- 69 percent medium-acuity patients (score of 2)
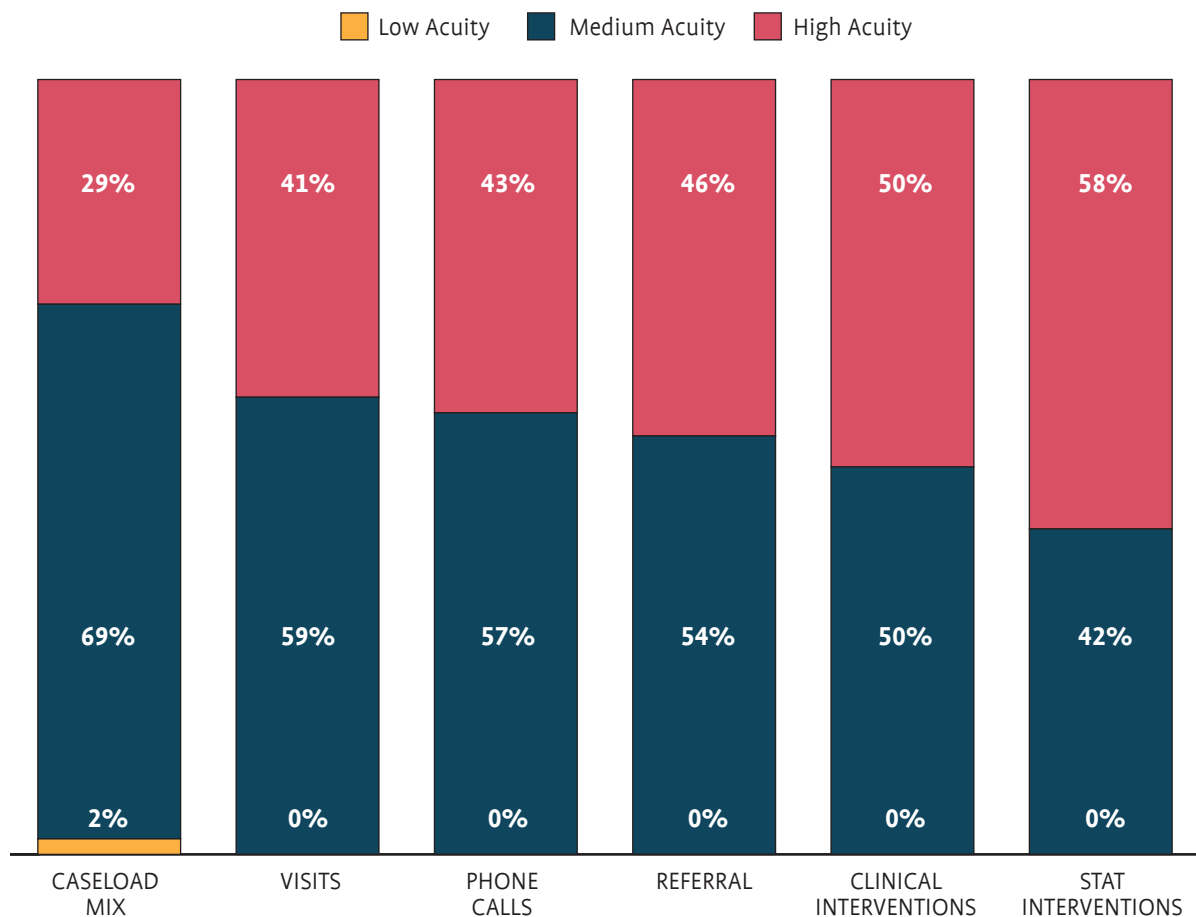- 29 percent high-acuity patients (score of 3 or 4).

When the percentages of visits, calls, referrals, and interventions by acuity level were compared to the overall case mix percentages, we found that the high-acuity patients (score of 3 to 4) used more resources per patient than those assigned low- or medium-acuity scores. For example, even though only 29 percent of the total patient case mix was assigned a high-acuity score (3 to 4), these patients produced:

- 41 percent of all visits
- 43 percent of all phone calls
- 46 percent of all referrals.

Further, the data showed that the 29 percent of high-acuity patients accounted for 58 percent of the total number of avoided ER visits and avoided hospitalizations (stat interventions), which is the greatest testament of the Mitchell Cancer Institute oncology nurse navigation acuity tool to date. Figure 2, below, shows nurse navigation caseload mix compared to interventions.

Based on the small sample of data analyzed to date, the oncology nurse navigation acuity tool has proven to be effective for Mitchell Cancer Institute in determining which level of patients need navigation and the level of various navigation services required. Development and standardized use of this tool has equipped our nurse navigators with the ability to gauge how often patients need to be seen and provides them with an easy way to effectively manage their time. For our navigation manager, the tool offers a reliably accurate view of each navigator's caseload, a view now based on acuity score rather than number of patients.

Figure 2. Nurse Navigation Caseload Mix Compared to Interventions

	Low Acuity	Medium Acuity	High Acuity
CASELOAD MIX	2%	69%	29%
VISITS	0%	59%	41%
PHONE CALLS	0%	57%	43%
REFERRAL	0%	54%	46%
CLINICAL INTERVENTIONS	0%	50%	50%
STAT INTERVENTIONS	0%	42%	58%

Caseloads are now adjusted when one navigator's caseload has a much higher acuity case mix than another. Assignment of caseload by number of patients alone is not a reliable method of caseload management. As our data have shown, the anticipated utilization of navigation services by a set number of patients may be quite different than the actual utilization of navigation services according to case mix acuity. This tool gives us the ability to visualize actual patient navigation resource utilization, a powerful set of data that reveals an accurate analysis of each caseload—information historically missing from navigation data collection. For administration, this tool:

- Offers a reliable analysis of Mitchell Cancer Institute's navigation services
- Provides a snapshot of how resources are being used
- Affords the ability to confidently make high-level practice decisions based on measurable data.

At Mitchell Cancer Institute, the tool has specifically aided in validating the need for expansion of nurse navigation services.

Going Forward

As we enter this new age of value-based care, we must be mindful stewards of resource utilization and spending as we continue to strive for excellence in patient care delivery. We must constantly seek to "transform the norm" in oncology care, with a goal of exceptional quality, while always keeping the patient at the center of all we do. Navigation services are an essential part of this mission, but it is critical that we utilize our navigators to the best benefit of both our patients and our practices so that these programs and services are sustainable over time.

Mitchell Cancer Institute's oncology nurse navigation acuity tool is easy to learn and use. It allows managers to efficiently assign and distribute caseloads and provides improved visibility of detailed, comprehensive caseload information. The tool can also be adapted to any type or size of oncology practice, making it a powerful resource if used correctly, due to its low cost and capacity to generate needed data, simplicity, and adaptability. Our nurse navigation team has successfully used this tool to prioritize their time and ensure that resources are used by the patients needing them most and at the times when patients are most in need.

Navigation services have advanced significantly over the past two decades, but a great deal of work remains to ensure navigation program sustainability for years to come. Our hope is that Mitchell Cancer Institute's oncology navigation acuity tool will not only be used by other cancer programs to successfully risk stratify patients but also will spark conversation and collaboration focused on—and potentially be used as a model for—the development of a standardized acuity tool. Collaborative development of such a tool that is inexpensive, user friendly, and easily customizable to any oncology practice would allow for improved efficiency and smarter utilization of both staff and resources. With the forthcoming addition of standardized national evidence-based navigation metrics, oncology healthcare professionals will eventually have the means to measure and report standardized navigation outcomes. Ideally, use of a standardized acuity tool to easily collect and analyze data relevant to these upcoming navigation metrics will finally give oncology practices the concrete data critical to not only demonstrate the positive impact of navigation services on patient experience, clinical outcomes, and business performance but also to provide practices with the powerful ability to make sound, programmatic budgetary decisions based on performance data. Mitchell Cancer Institute believes that continuing to be innovative when needs arise, maintaining focus on cost-effectiveness, and optimizing use of readily available resources allows us to fight smarter and provide only the highest quality of services, while remaining competitive in today's value-based healthcare system. **OI**

Rev. Diane Baldwin, RN OCN, CBCN, is manager, Quality Assurance, and Meredith Jones, MS, BSN, RN, is director, Quality Management, USA Mitchell Cancer Institute, Mobile, Ala.

References

1. Center for Medicare and Medicaid Innovation, Centers for Medicare & Medicaid Services. Oncology care model. Available online at: innovation.cms.gov/initiatives/Oncology-Care. Last accessed December 20, 2017.

2. Centers for Medicare & Medicaid Services. Oncology care model: fact sheets. Available online at: cms.gov/Newsroom/MediaReleaseDatabase/Fact-sheets/2016-Fact-sheets-items/2016-06-29.html. Last accessed December 20, 2017.

3. Bluethmann SM, Mariotto AB, Rowland JH. Anticipating the "silver tsunami": prevalence trajectories and comorbidity burden among older cancer survivors in the United States. *Cancer Epidemiol Biomarkers Prev.* 2016;25(7):1029–1036.

4. Colby SL, Ortman JM. *Projections of the Size and Composition of the U.S. Population: 2014–2060 (P25-1143)*. United States Census Bureau, Population Projections Program; 2015.

5. Strusowski T, Sein E, Johnston D. Academy of Oncology Nurse & Patient Navigators announces standardized navigation metrics. Available online at: aonnonline.org/education/articles/10-aonn-announces-standardized-navigation-metrics. Last accessed December 20, 2017.

6. Freeman HP. Patient navigation: a community centered approach to reducing cancer mortality. *J Cancer Educ.* 2006;21(1, Suppl.):S11–S14.

7. University of Alabama at Birmingham. Patient care connect. Available online at: cancercenter.uab.edu/about-us/uab-health-system-cancer-community-network/patient-care-connect. Last accessed December 20, 2017.

8. Rocque GB, Pisu M, Jackson BE, et al. Resource use and Medicare costs during lay navigation for geriatric patients with cancer. *JAMA Oncol.* 2017;3(6):817–825.

9. Roman R, Beaupre L, Sevedge K, et al. Development and Utilization of an Acuity Scale for Oncology Patient Navigation. Paper presented at: Academy of Oncology Nurse & Patient Navigators Fifth Annual Navigation and Survivorship Conference; September 18, 2014; Orlando, Florida.

10. Koutlas JB. The Role of the Nurse Navigator in Quality Outcomes & Measurements. Paper presented at: Oncology Nurse Advisor Navigation Summit; June 15–17, 2017; Austin, Texas.