

BY JANINE OVERCASH, PHD, GNP-BC, FAANP;
SANDRA ABELS, BSN, RN; H. PAIGE ERDELJAC, PHARM.D, BCACP;
SUSAN FUGETT, LISW-S, OSW-C; BRITTANY KNAUSS, PT, DPT;
ELIZABETH KRESS, CNP; CARI UTENDORF, PT, DPT, MBA, CLT-LANA;
AND ANNE M. NOONAN, MD, MBBCHBAO, MSC, MRCPI

Geriatric Oncology Ambulatory Care Clinics

Cancer is a common comorbidity often associated with aging. Older patients can have specific needs such as caregiver concerns, transportation challenges, limited social support, and other problems that can impact cancer diagnosis and treatment. The role of the geriatric oncology ambulatory care clinic is important to the care of the older person in that it assembles a multidisciplinary team of oncology professionals specialized in aging and who work together to conduct comprehensive geriatric assessment and develop a cancer management plan. These clinics work to promote clinical and social science research and create learning opportunities for healthcare professionals. Development of this type of clinic requires operational planning with facility administrators and continued leadership support. These clinics may care for all types of malignancies. Selection of professionals to make up the multidisciplinary team is important and should be based on the problems associated with aging, such as functional, psychosocial, emotional, pharmacological, and cancer concerns. The comprehensive geriatric assessment should be constructed to assess core domains of emotional, functional, and cognitive concerns. Geriatric oncology ambulatory care clinics are critical to the science and management of the older person with cancer and require ongoing organizational planning and cultivation.

Geriatric oncology ambulatory care clinics work to promote clinical and social science research and create learning opportunities for health professionals. Development of this type of clinic requires operational planning with facility administrators and continued leadership support. Geriatric oncology ambulatory care clinics may care for all types of malignancies.

With the median age of diagnosis at 66 years, cancer is considered a disease of aging.¹ Approximately 23 percent of people aged 65 years and over have three or more diagnoses,² which can impact cancer treatment.³ Caregiver concerns,⁴ transportation challenges,⁵ and lack of social support⁶ complicate cancer diagnosis and treatment for older people. To meet the unique needs of this patient population, some cancer programs have developed and implemented geriatric oncology ambulatory care clinics dedicated to the needs of the older person. This article:

1. Provides a definition of the geriatric oncology ambulatory care clinic.
2. Addresses benefits and challenges of developing and maintaining this type of clinic.
3. Provides information on the multidisciplinary team and the comprehensive geriatric assessment.

Geriatric oncology ambulatory care clinics are a rich source of recruitment for clinical trials and other types of much needed research dedicated to the care of the older patient.

The Role of the Geriatric Oncology Ambulatory Care Clinic

Seniors often do not receive adequate cancer management. In particular, adjuvant chemotherapy options for those who may be high risk for recurrence and are otherwise reasonable treatment candidates are not always available.⁷ Rather than looking solely at age, geriatric oncology ambulatory care clinics make cancer treatment decisions based on:

- “Fitness” for treatment⁸
- Existence of comorbidity⁹
- Life expectancy¹⁰
- Functional capability.¹¹

Advocating for cancer treatment decisions based on individual health can help patients and families navigate the best options.

Promotion of research in geriatric oncology is another role of geriatric oncology ambulatory care clinics and these multidisciplinary teams. Often, older patients are excluded from oncology clinical trials based on age, inaccurate perceptions of treatment tolerance, changes in drug metabolism, and age bias.¹² Geriatric oncology ambulatory care clinics, particularly at academic medical centers, are positioned to offer clinical research to older patients that is vital to contributing to the science of cancer treatment. Geriatric oncology ambulatory care clinics are a rich source of recruitment for clinical trials and other types of much needed research dedicated to the care of the older patient. When immersed

in caring for older patients with cancer, deficits and gaps in current knowledge are illuminated, inspiring relevant proposals that drive the science of geriatric oncology.

Bottom line: geriatric oncology ambulatory care clinics are a prominent voice in the advocacy, care, and cancer management of the older person.

Development of a Geriatric Oncology Ambulatory Care Clinic

Geriatric oncology ambulatory care clinics are often found within the Department of Medical Oncology at large National Cancer Institute comprehensive cancer centers because of the availability of resources, such as multidisciplinary team members, routes of referral, and oncology innovations cultivated in academic medical centers that help increase patient survival.¹³ Geriatric oncology ambulatory care clinics can be designed specifically with a focus on a particular diagnosis, such as breast cancer or hematological malignancies, or to address the needs of patients over the age of 65 years who have any diagnosis of cancer. The design of a geriatric oncology ambulatory care clinic depends on the available team members, the type of facility, and the extent of administrative support.

A key to the development and sustainability of the geriatric oncology ambulatory care clinic is to engage in adequate project planning that can ensure a stable foundation of administrative support.¹⁴ Obtaining administrative approval for a clinic schedule that includes fewer patients and longer encounter times can help ensure that decision makers are aware of and agree to the increased resources required to address the complex needs of the older patient.¹⁵ Though administrators should understand that this type of clinic may not be considered economically profitable, other benefits, such as targeting seniors who can tolerate cancer treatment,¹⁶ predicting toxicity,¹⁷ predicting functional decline,¹⁸ and predicting survival,¹⁹ can be realized. Financial reimbursement often does not account for the extended amount of encounter time required to conduct a comprehensive geriatric assessment. In long-term care, geriatric oncology ambulatory care clinics can be cost-effective²⁰; however, in other ambulatory settings, cost effectiveness of these clinics has not been clearly shown.²¹ In general geriatrics, multidisciplinary teams can be cost neutral when addressing patients who are at high risk for rehospitalization.²²

Depending on the size of the facility and the capacity of the geriatric oncology ambulatory care clinic, the first step in developing and implementing this type of clinic is to determine the number of new patients and return visits that can be managed during a clinic day. It is important to identify scheduling procedures that outline how the patients will be routed to the geriatric oncology ambulatory care clinic. Some scheduling possibilities include:

- All those aged 70 years and over who come into the facility
- Patients aged 70 years and over with a specific cancer diagnosis
- All patients who have apparent comorbidity or merit determination of “fitness” for cancer treatment decisions.

Some geriatric oncology ambulatory care clinics may only schedule patients who have been referred as a geriatric consultation. Others may manage all patient care over the course of cancer treatment.

Initially, it may be reasonable to start with only a few patients on the schedule to determine whether the clinic operates as anticipated. It is also necessary to determine the extent that clinical interactions among the multidisciplinary team are functional and productive, whether the medical records allow for the necessary geriatric oncology information, and that other functions of a newly established clinic actually work before hosting a full schedule of patients. A plan for growth after the clinic has been functional for a period of time should be made.

Once the geriatric oncology ambulatory care clinic is well established, the next step is to increase visibility by conducting local, national, and international presentations. The multidisciplinary team members that staff these clinics are experts in geriatric oncology and should be active in all types of national professional organizations. For example, the International Society for Geriatric Oncology (siog.org) is an interdisciplinary organization that promotes geriatric oncology research, education, advocacy, and clinical practice and adds to worldwide interest in geriatric oncology. Many discipline-specific oncology organizations often welcome geriatric-related content at national conferences. It is important that geriatric oncology ambulatory care clinics represent clinical innovations and research opportunities to promote geriatric oncology interest across disciplines. Another interdisciplinary research group focused on cancer and aging is the Cancer and Aging Research Group (mycarg.org), a good source of networking among professionals who work with older patients.

Multidisciplinary Teams in the Geriatric Oncology Ambulatory Care Clinic

Effective healthcare teams require attention to communication, awareness of professional boundaries, and respect among individuals.²³ Nurturing and recognizing the importance of effective working relationships is vital to team-based patient care.²⁴ Mutual decision making, recognition of strengths and limitations among individuals, and awareness of each role contribute to an effective team.²⁴ Successful geriatric oncology ambulatory care clinics staffed by an effective healthcare team enjoy greater clinic efficiency²⁵ and improved patient satisfaction.²⁶

Diversity among professions can enhance the complexity of team functionality,²⁷ and often training is required. Training enhances the functional ability of a variety of healthcare teams, such as trauma teams working in resuscitation, operating rooms, and intensive care;²⁸ labor and delivery settings;²⁹ and research teams.³⁰ In geriatrics, team training is important and essential. The John A. Hartford Foundation offers a program, Geriatric Interdisciplinary Team Training, to inspire effective team care.²³ Learn more at: consultgeri.org/education-training/e-learning-resources/gitt-2.0. As always, team training is an ongoing process, particularly when many professionals are contributing to a comprehensive geriatric assessment.³¹

Oncologists and primary care providers (PCPs) must coordinate the healthcare management of the older cancer patient.³² Many PCPs prefer a shared model of oncology survivorship care,³³ and report that they fail to receive regular updates from oncologists and are unsure of who will continue to manage various comorbidities.³⁴ Geriatric oncology ambulatory care clinics must be vigilant in sharing geriatric assessments, management interventions, and oncology data with PCPs. It is important to identify, among providers and the patient and family, who will manage various diagnoses. Clarity for the patient in knowing which provider is responsible for each diagnosis can reduce some of the stress associated with interacting with many healthcare facilities and physicians. It is also important to establish the importance of ongoing health maintenance and management of nonmalignant comorbidities, because patients often become overwhelmed with cancer care and cancel other visits.

It is important to define the type of team specific to the geriatric oncology ambulatory care clinic, the different team members involved, and how they function.

Geriatric oncology ambulatory care clinic leadership must be effective in the roles of negotiator, educator, community ambassador, and clinician. The team leader should act as an educator of geriatrics and gerontology by demonstrating effective care to groom existing professionals and students. Geriatric oncology ambulatory care clinics can be a fertile classroom for experiential learning, and full advantage should be taken to perpetuate geriatric-specific care.

Construction of a Multidisciplinary Team

The multidisciplinary team includes a variety of professionals who work together to address multiple health concerns, comorbid conditions, and quality of life of older people.³⁵ In 2006 the American Geriatrics Society recommended that multiple professionals should work as a team to address the complex needs of the older person.³⁶ The term *interdisciplinary team* was used in geriatrics in the 1970s through the early 2000s to indicate a team of various professionals who worked together on a single purpose to synthesize ideas that contribute to the care of the older person.³⁷ Over the years, the term *multidisciplinary team* was used to suggest that professionals from different disciplines could contribute separate knowledge and recommendations to achieve optimal patient care. It is important to define the type of team specific to the geriatric oncology ambulatory care clinic, the different team members involved, and how they function. A

multidisciplinary cancer care team often includes a social worker, dietitian, physical therapist, nurse, nurse practitioner, medical oncologist, and pharmacist.³⁸

The medical oncologist has a wide array of responsibilities in this team. Often, the physician leads the geriatric oncology ambulatory care clinic by establishing the patient base, networking for referrals, providing patient care, and managing the multidisciplinary team. Research and submission of publications are necessary to provide much needed professional “spotlight” on geriatric oncology. Geriatric oncology medical care integrates all patient data for consideration to provide recommendations that address the malignancy and maintain maximum functional capacity of the older person.

The role of the nurse is often that of educator, clinician, and advocate who translates between geriatric and oncology.³⁹ Geriatric nurses commonly coordinate phone calls and follow-up visits and assist with scheduling referrals. During the clinic, nurses often help organize the flow of providers entering and exiting examination rooms, which can reduce unnecessary wait times. Nurses provide patient education and ongoing support to navigate the unfamiliar terrain of oncology, including complicated cancer medications, frequent oncology visits, and regular symptom management. The role of the geriatric nurse also includes teaching geriatric principles to patients, students, and other professionals.⁴⁰ Nurses must continue to be included in geriatric-related discovery and evidence-based projects to promote care management and research in older people diagnosed with cancer.⁴¹

General geriatric oncology management is part of the role of the adult and geriatric nurse practitioner (NP). Many NPs contribute to the comprehensive geriatric examination, perform a history and physical, and provide survivorship care among other aspects of oncology and geriatric management. Depending on the type of facility, the extent of practice varies in that some NPs provide all the survivorship care independently and others work within a team.⁴² Nurse practitioners have the knowledge and training to recognize and manage various geriatric syndromes, assess for frailty, and use best practice to care for the older cancer patient.⁴³ The NP has a responsibility to generate clinical research and evidence-based practice projects that contribute to the science of geriatric oncology.

Functional impairment is a common comorbidity. Approximately 50 percent of older cancer patients have at least one deficit in activities of daily living,⁴⁴ and 74 percent have at least one deficit in instrumental activities of daily living.^{45,46} Poor functional status is a predictor of falls and other problems that can impact independence.⁴⁷ Maintaining physical activity establishes better lower extremity function, which can help maintain independence.⁴⁸ Many older cancer patients will benefit from physical therapy to enhance gait, improve balance, and increase confidence in physical activity. The physical therapist evaluates the older cancer patient and contributes to the comprehensive geriatric assessment by providing helpful data for plans of care.

Polypharmacy (a term with many definitions) is a common issue for older adults with cancer. Older cancer patients are at a particularly higher risk of taking a potentially inappropriate

medication due to their cancer treatment plus treatment for their other comorbidities. Using tools such as the Beer’s criteria and the STOPP/START criteria, pharmacists can quickly identify potentially inappropriate medications in this population.⁴⁹ Pharmacists also evaluate all medications (prescription, over-the-counter, and herbal/natural supplements) for compliance, review actual and potential drug interactions necessary in cancer treatment, and assess for possible inability to afford medications, which could impact how older patients take their medications. Patient interviews by pharmacists can help the multidisciplinary team understand how the patient is actually administering the medication, the extent to which the medications are tolerated, and other concerns important to geriatric care. Pharmacists play a major role as patient educator and medication advisor to the medical oncologist and the other members of the multidisciplinary care team.

The nucleus of the geriatric oncology ambulatory care clinic is the social worker. Social workers are helpful for all older cancer patients and families but especially for those seniors who are considered vulnerable or frail and/or those who require assistance in the home.⁵⁰ Approximately 40 percent of referrals as a result of a comprehensive geriatric assessment are to social workers when this team member is included on the multidisciplinary cancer care team.⁵¹ Social workers provide psychosocial support to patients and families at the difficult time of cancer diagnosis and treatment and help with coordination of resources in the home such as home care, transportation, meals, and more. Helping patients and families understand Medicare health benefits is also a large part of a social worker’s role. Social workers focus on the maintenance of independence for seniors so that they can remain in the community.⁵²

The Comprehensive Geriatric Assessment

This assessment is designed to investigate domains of health outside the boundaries of a typical history and physical examination in order to identify small problems that can be addressed before independence or health is challenged.⁵³ A comprehensive geriatric assessment helps:

- Discover untreated comorbidities that may impact cancer treatment⁵⁴
- Predict survival in early stage colorectal patients⁵⁵
- Predict treatment-related toxicity⁵⁶
- Enhance quality of life.⁵⁷

Comprehensive geriatric assessments provide a gauge of “fitness” for surgery and adjuvant chemotherapy treatment, which are critical elements of medical and healthcare decision making.⁷ Identifying frailty tends to be more sensitive when using a comprehensive geriatric assessment compared to general clinical judgment.⁵⁷ Early identification or the general prediction of frailty can motivate preemptive options, such as physical therapy and other interventions that may delay the onset of dependence.⁵⁸

Generally, the core domains of a comprehensive geriatric assessment are functional, emotional, and cognitive. Functional assessment using self-report instruments, such as the Activities

of Daily Living Scale and Instrumental Activities of Daily Living Scales, is frequently included as part of clinical examination. Performance evaluations are instruments that provide empirical data on a specific function, such as gait and balance, using the Timed Up & Go, grip strength, or Berg Balance Scale. Performance evaluations compared to self-report instruments are helpful because a clinician can review gait in seconds or grip in pounds to determine how a person may function outside of the clinic.

Emotional status is often measured using the Geriatric Depression Scale,⁵⁹ the Hamilton Depression Scale,⁶⁰ or Beck's Depression Inventory.⁶¹ Cognitive screen often includes the MiniCog,⁶² the Mini-Mental State Examination,⁶³ or the Clock Drawing Test.⁶⁴ Any instruments can be selected for inclusion in the comprehensive geriatric assessment. Some geriatric oncology ambulatory care clinics use the Mini Nutritional Assessment,⁶⁵ a comorbidity index such as the Charlson Comorbidity Index,⁶⁶ a numerical pain rating scale,⁶⁷ or any other valid and reliable clinical instruments. The John A. Hartford Foundation has a website housing all types of assessment instruments that can be used in clinical practice and included in a comprehensive geriatric assessment. Video demonstrations are available for many of the assessment instruments to ensure that they are administered and interpreted correctly. Learn more at: consultgeri.org/tools/try-this-series.

When initiating comprehensive geriatric assessment, start with only a few instruments. It is important to become proficient with administering the scales and understand how to plan for the necessary clinic time. Integrating the comprehensive geriatric assessment instruments into the clinical encounter requires some practice to adopt a certain amount of finesse when asking difficult questions. Interpreting the results of each comprehensive geriatric assessment screen tool is very important. It is necessary to understand the cut-point for each tool and when the results warrant further investigation.

The comprehensive geriatric assessment is not a diagnostic battery of assessment instruments but rather a screening tool used as a first step when understanding the health of an older person. A positive finding on a comprehensive geriatric assessment screening instrument requires more diagnostic testing and, therefore, it is important to proactively anticipate the ability to manage the problem internally or through referral. It may be questionable to screen for a health limitation in which no avenue for further management exists.

Consider whether others should be present in the exam room when administering a comprehensive geriatric assessment. A positive finding on the comprehensive geriatric assessment instruments can highlight a vulnerability of which the patient may not wish others to be aware. Cognition screening can be sensitive; family members may be aware of cognition changes in the patient and want to offer protection.

Closing Thoughts

Development, implementation, and maintenance of successful geriatric oncology ambulatory care clinics require a great amount of planning and ongoing cultivation. The clinics can be constructed to meet the needs of a variety of older cancer patient populations.

Careful consideration must be given to the development of the multidisciplinary team that will staff this clinic, the creation of a comprehensive geriatric assessment, and the general procedures required for clinic operation. Geriatric oncology ambulatory care clinics are critical to the science and management of the older person with cancer, as well as the education of professionals and students interested in the care of the older person diagnosed with cancer. 

Janine Overcash, PhD, GNP-BC, FAANP, FAAN is clinical associate professor, the College of Nursing, and. Sandra Abels, BSN, RN, is clinical nurse; H. Paige Erdeljac, PharmD, BCACP, is specialty practice pharmacist; Susan Fugett, LISW-S, OSW-C, is a clinical social worker; Brittany Knauss, PT, DPT, is rehab team member; Elizabeth Kress, MSN, CNP, is certified nurse practitioner; Cari Utendorf, PT, DPT, MBA, CLT-LANA, is rehab team leader; and Anne M. Noonan, MBBChBAO, MSc, MRCPI, is assistant professor, Department of Internal Medicine, Division of Medical Oncology, The James Cancer Hospital, Stephanie Spielman Comprehensive Breast Center, The Ohio State University, Columbus, Ohio.

References

1. Howlader N, Noone AM, Krapcho M, et al, eds. *SEER Cancer Statistics Review, 1975–2014*. Bethesda, MD: National Cancer Institute; 2017.
2. Kirshenbom D, Ben-Zaken Z, Albilya N, Niyibizi E, Bala M. Older age, comorbid illnesses, and injury severity affect immediate outcome in elderly trauma patients. *J Emerg Trauma Shock*. 2017;10(3):146–150.
3. Yamano T, Yamauchi S, Kimura K, et al, and the Japanese Study Group for Postoperative Follow-up of Colorectal Cancer. Influence of age and comorbidity on prognosis and application of adjuvant chemotherapy in elderly Japanese patients with colorectal cancer: a retrospective multicentre study. *Eur J Cancer*. 2017;81:90–101.
4. Sercekus P, Besen DB, Gunusen NP, Edeer AD. Experiences of family caregivers of cancer patients receiving chemotherapy. *Asian Pac J Cancer Prev*. 2014;15:5063–5069.
5. Palmer NR, Weaver KE, Hauser SP, et al. Disparities in barriers to follow-up care between African American and white breast cancer survivors. *Support Care Cancer*. 2015;23:3201–3209.
6. Kroenke CH, Michael YL, Poole EM, et al. Postdiagnosis social networks and breast cancer mortality in the After Breast Cancer Pooling Project. *Cancer*. 2017;123:1228–1237.
7. Okonji DO, Sinha R, Phillips I, Fatz D, Ring A. Comprehensive geriatric assessment in 326 older women with early breast cancer. *Br J Cancer*. 2017;117:925–931.
8. Hurria A, Siccion EP. Assessing the “fit” older patient for chemotherapy. *Oncology (Williston Park)*. 2014;28:594, 596, 598–599.
9. Klepin HD, Pitcher BN, Ballman KV, et al. Comorbidity, chemotherapy toxicity, and outcomes among older women receiving adjuvant chemotherapy for breast cancer on a clinical trial: CALGB 49907 and CALGB 361004 (alliance). *J Oncol Pract*. 2014;10(5):e285–292.
10. National Comprehensive Cancer Network. *Clinical Practice Guidelines in Oncology: Older Adult Oncology, version 2*; Washington, D.C.; 2017.
11. Hurria A, Wildes T, Blair SL, et al. Senior adult oncology, version 2. 2014: clinical practice guidelines in oncology. *J Natl Compr Canc Netw*. 2014;12:82–126.

12. Walston J, Robinson TN, Zieman S, et al. Integrating frailty research into the medical specialties—report from a U13 conference. *J Am Geriatr Soc*. 2017;65(10):2134–2139.
13. Wolfson JA, Sun CL, Wyatt LP, Hurria A, Bhatia S. Impact of care at comprehensive cancer centers on outcome: results from a population-based study. *Cancer*. 2015;121:3885–3893.
14. Overcash J. Integrating geriatrics into oncology ambulatory care clinics. *Clin J Oncol Nurs*. 2015;19(4):e80–e86.
15. Chapman AE, Swartz K, Schoppe J, Arenson C. Development of a comprehensive multidisciplinary geriatric oncology center, the Thomas Jefferson University experience. *J Geriatr Oncol*. 2014;5(2):164–170.
16. Antonio M, Saldaña J, Carmona-Bayonas A, et al. Geriatric assessment predicts survival and competing mortality in elderly patients with early colorectal cancer: can it help in adjuvant therapy decision-making? *Oncologist*. 2017;22:934–943.
17. Hurria A, Togawa K, Mohile SG, et al. Predicting chemotherapy toxicity in older adults with cancer: a prospective multicenter study. *J Clin Oncol*. 2011;29:3457–3465.
18. Kenis C, Decoster L, Bastin J, et al. Functional decline in older patients with cancer receiving chemotherapy: a multicenter prospective study. *J Geriatr Oncol*. 2017;8(3):196–205.
19. Antonio M, Saldaña J, Carmona-Bayonas A, et al. Geriatric assessment predicts survival and competing mortality in elderly patients with early colorectal cancer: can it help in adjuvant therapy decision-making? *Oncologist*. 2017;22:934–943.
20. Blewett LA, Johnson K, McCarthy T, Lackner T, Brandt B. Improving geriatric transitional care through inter-professional care teams. *J Eval Clin Pract*. 2010;16:57–63.
21. Ke KM, Blazeby JM, Strong S, Carroll FE, Ness AR, Hollingworth W. Are multidisciplinary teams in secondary care cost-effective? A systematic review of the literature. *Cost Eff Resour Alloc*. 2013;11:1–12.
22. Counsell SR, Callahan CM, Tu W, Stump TE, Arling GW. Cost analysis of the Geriatric Resources for Assessment and Care of Elders care management intervention. *J Am Geriatr Soc*. 2009;57:1420–1426.
23. Fulmer T, Flaherty E, Hyer K. The Geriatric Interdisciplinary Team Training (GITT) program. *Gerontol Geriatr Educ*. 2003;24(2):3–12.
24. van Schaik, SM, O'Brien BC, Almeida SA, Adler SR. Perceptions of interprofessional teamwork in low-acuity settings: a qualitative analysis. *Med Educ*. 2014;48:583–592.
25. Helbert M, Brand T. Significance of a case-management-led, multidisciplinary team approach in the treatment of prostate cancer. *J Clin Oncol*. 2012;30(Suppl):81.
26. Gomez CL, Dawson NA, Dvorak RL, et al. Multidisciplinary breast clinic: impact on patient satisfaction, timeliness, and guideline concordant care. *J Clin Oncol*. 2014;32(Suppl):124.
27. Gillespie BM, Chaboyer W, Longbottom P, Wallis M. The impact of organisational and individual factors on team communication in surgery: a qualitative study. *Int J Nurs Stud*. 2010;47:732–741.
28. Murphy M, Curtis K, McCloughen A. What is the impact of multidisciplinary team simulation training on team performance and efficiency of patient care? An integrative review. *Australas Emerg Nurs J*. 2016;19:44–53.
29. Daniels K, Auguste T. Moving forward in patient safety: multidisciplinary team training. *Semin Perinatol*. 2013;37(3):146–150.
30. Ameredes BT, Hellmich MR, Cestone CM, et al. The multidisciplinary translational team (MTT) model for training and development of translational research investigators. *Clin Transl Sci*. 2015;8:533–541.
31. Aberg AC, Ehrenberg A. Inpatient geriatric care in Sweden: important factors from an inter-disciplinary team perspective. *Arch Gerontol Geriatr*. 2017;72:113–120.
32. Klabunde CN, Ambs A, Keating NL, et al. The role of primary care physicians in cancer care. *J Gen Intern Med*. 2009;24:1029–1036.
33. Cheung WY, Aziz N, Noone AM, et al. Physician preferences and attitudes regarding different models of cancer survivorship care: a comparison of primary care providers and oncologists. *J Cancer Surviv*. 2013;7:343–354.
34. Easley J, Miedema B, O'Brien MA, et al, and the Canadian Team to Improve Community-Based Cancer Care Along the Continuum. The role of family physicians in cancer care: perspectives of primary and specialty care providers. *Curr Oncol*. 2017;24(2):75–80.
35. Puts MTE, Sattar S, Kulik M, et al. A randomized phase II trial of geriatric assessment and management for older cancer patients. *Support Care Cancer*. 2017;26(1):109–117.
36. Mion L, Odegard PS, Resnick B, Segal-Galan F, and the Geriatrics Interdisciplinary Advisory Group, American Geriatrics Society. Interdisciplinary care for older adults with complex needs: American Geriatrics Society position statement. *J Am Geriatr Soc*. 2006;54:849–852.
37. Blachman NL, Blaum CS. Integrating care across disciplines. *Clin Geriatr Med*. 2016;32:373–383.
38. Monfardini S, Aapro MS, Bennett JM, et al. Organization of the clinical activity of geriatric oncology: report of a SIOG (International Society of Geriatric Oncology) task force. *Crit Rev Oncol Hematol*. 2007;62:62–73.
39. Kagan SH. The future of gero-oncology nursing. *Semin Oncol Nurs*. 2016;32:65–76.
40. Bond SM, Bryant AL, Puts M. The evolution of gero-oncology nursing. *Semin Oncol Nurs*. 2016;32:3–15.
41. Van Cleave JH, Kenis C, Sattar S, Jabloo VG, Ayala AP, Puts M. A research agenda for gero-oncology nursing. *Semin Oncol Nurs*. 2016;32:55–64.
42. Kennedy-Malone L, Penny J, Fleming ME. Clinical practice characteristics of gerontological nurse practitioners: a national study. *J Am Acad Nurse Pract*. 2008;20:17–27.
43. Morgan B, Tarbi E. The role of the advanced practice nurse in geriatric oncology care. *Semin Oncol Nurs*. 2016;32:33–43.
44. Katz S, Downs TD, Cash HR, Grotz RC. Progress in development of the index of ADL. *Gerontologist*. 1970;10:20–30.
45. Jonna S, Chiang L, Liu J, Carroll MB, Flood K, Wildes TM. Geriatric assessment factors are associated with mortality after hospitalization in older adults with cancer. *Support Care Cancer*. 2016;24:4807–4813.
46. Lawton M, Brody EM. Assessment of older people: self-maintaining and instrumental activities of daily living. *Gerontologist*. 1969;9(3):179–186.
47. Zhang X, Sun M, Liu S, et al. Risk factors for falls in older patients with cancer. *BMJ Support Palliat Care*. 2017;8(1):34–37.
48. Laddu DR, Wertheim BC, Garcia DO, et al. Associations between self-reported physical activity and physical performance measures over time in postmenopausal women: the Women's Health Initiative. *J Am Geriatr Soc*. 2017;65:2176–2181.
49. Bisson T, Newsam CJ. Short-duration, high-intensity bouts of physical therapy to increase self-efficacy, confidence, and function in an individual with incomplete spinal cord injury: a case report. *Physiother Theory Pract*. 2017;33(11):1–8.

50. Bouzereau V, Le Caer F, Guardiola E, et al. Experience of multidisciplinary assessment of elderly patients with cancer in a French general hospital during 1 year: a new model care study. *J Geriatr Oncol.* 2013;4:394–401.
51. Baitar A, Kenis C, Moor R, et al. Implementation of geriatric assessment-based recommendations in older patients with cancer: a multicentre prospective study. *J Geriatr Oncol.* 2015;6:401–410.
52. Rubin A, Parrish DE. Comparing social worker and non-social worker outcomes: a research review. *Soc Work.* 2012;57:309–320.
53. Mohile SG, Velarde C, Hurria A, et al. Geriatric assessment-guided care processes for older adults: a Delphi consensus of geriatric oncology experts. *J Natl Compr Canc Netw.* 2015;13:1120–1130.
54. Girones R, Torregrosa D, Diaz-Beveridge R. Comorbidity, disability and geriatric syndromes in elderly breast cancer survivors: results of a single-center experience. *Crit Rev Oncol Hematol.* 2010;73:236–245.
55. Antonio M, Saldaña J, Carmona-Bayonas A, et al. Geriatric assessment predicts survival and competing mortality in elderly patients with early colorectal cancer: can it help in adjuvant therapy decision-making? *Oncologist.* 2017;22:934–943.
56. Hamaker ME, Seynaeve C, Wymenga AN, et al. Baseline comprehensive geriatric assessment is associated with toxicity and survival in elderly metastatic breast cancer patients receiving single-agent chemotherapy: results from the OMEGA study of the Dutch Breast Cancer Trialists' Group. *Breast.* 2014;23:81–87.
57. Kirkhus L, Šaltyt Benth J, Rostoft S, et al. Geriatric assessment is superior to oncologists' clinical judgement in identifying frailty. *Br J Cancer.* 2017;117:470–477.
58. Kirkhus L, Šaltyt Benth J, Rostoft S, et al. Geriatric assessment is superior to oncologists' clinical judgement in identifying frailty. *Br J Cancer.* 2017;117:470–477.
59. Yesavage JA, Brink TL, Rose TL, et al. Development and validation of a geriatric depression screening scale: a preliminary report. *J Psychiatr Res.* 1982;17:37–49.
60. Strik JJ, Honig A, Lousberg R, Denollet J. Sensitivity and specificity of observer and self-report questionnaires in major and minor depression following myocardial infarction. *Psychosomatics.* 2001;42:423–428.
61. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry.* 1961;4:561–571.
62. Borson S, Scanlan J, Brush M, Vitaliano P, Dokmak A. The Mini-Cog: a cognitive "vital signs" measure for dementia screening in multi-lingual elderly. *Int J Geriatr Psychiatry.* 2000;15:1021–1027.
63. Folstein M, Folstein SE, McHugh PR. "Mini-Mental State": a practical method for grading the cognitive state of patients for the clinician. *J Psychiatr Res.* 1975;12(3):189–198.
64. Rouleau I, Salmon DP, Butters N, Kennedy C, McGuire K. Quantitative and qualitative analyses of clock drawings in Alzheimer's and Huntington's disease. *Brain Cogn.* 1992;18:70–87.
65. Vellas B, Guigoz Y, Baumgartner M, Garry PJ, Lauque S, Albaredo JL. Relationships between nutritional markers and the mini-nutritional assessment in 155 older persons. *J Am Geriatr Soc.* 2000;48:1300–1309.
66. Charlson ME, Pompei P, Ales KL, MacKenzie CR. A new method of classifying prognostic comorbidity in longitudinal studies: development and validation. *J Chronic Dis.* 1987;40:373–383.
67. McCaffery M, Beebe A. *Pain: Clinical Manual for Nursing Practice.* St Louis, MO: Mosby; 1989.

