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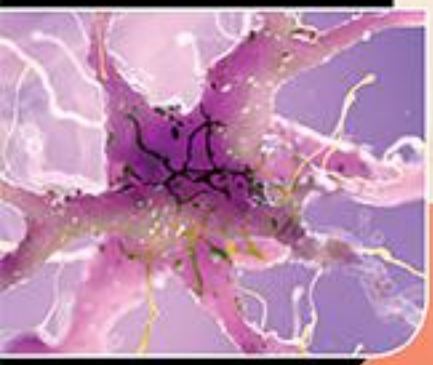
CURRENT Diagnosis & Treatment



Geriatrics

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CURRENT
Diagnosis & Treatment
Geriatrics

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Geriatrics

Third Edition

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Contents

Section V. Special Populations and Health Policies for an Aging Society

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Preface

Current Diagnosis and Treatment: Geriatrics, 3rd edition, is written for clinicians who provide care to older persons. In the context of a rapidly aging population, clinicians are continually adapting their practice to meet the needs of their older patients. *Current Diagnosis and Treatment: Geriatrics* provides a framework for using a person's functional and cognitive status, prognosis, and social context to guide diagnosis and treatment of medical conditions. In this edition, authors apply the **principles of geriatric medicine** in different **care settings** to address **common conditions and diseases** and **manage common symptoms and concerns** encountered by clinicians in the care of older persons.

In the first section, **Principles of Geriatric Care**, the authors examine how the care of older persons differs from the more disease- or organ-focused care geared toward younger persons. The introductory chapter describes the theoretical framework of geriatric care. Each subsequent chapter provides an in-depth review of fundamental components of care, including an overview of geriatric assessment and individual chapters that provide detailed information about each component of geriatric assessment. This section also includes a discussion of the intersection between geriatrics and palliative care and includes new content about caregiving, legal issues and conservatorship. This section ends with the application of evidence-based care to older adults.

Care Settings, the second section, presents the different health care system settings in which clinicians provide care to older adults. Beginning with an overview of ambulatory care and transitions of care between settings, the section focuses on the cornerstones of care for older adults in the clinic setting, in the emergency department, in the hospital, in residential and assisted living care, in nursing homes and rehabilitation facilities, and in home care settings. Also included are special situations, such as addressing the needs of older patients in the perioperative period and using technology, such as telemedicine, to enhance geriatric care.

In the third section, **Common Conditions in Geriatrics**, authors discuss approaches to managing medical conditions and diseases in older adults, applying and integrating the current knowledge base to guide decision making. Some of the clinical challenges included are evaluating delirium, cerebrovascular disease, and chronic lung disease; managing gastrointestinal disease and common skin disorders; and a new chapter on HIV and AIDS in older persons.

The **Common Clinical Scenarios in Geriatrics** section addresses some of the common symptoms and unique concerns encountered in clinical practice with older persons. Some of the common symptoms included are sleep disorders, chronic pain, lower urinary tract symptoms, and constipation. This section also includes new content on concerns such as driving safety and the use of marijuana in older persons.

The final section is **Broadening Clinical Practice**, which guides clinicians in treating vulnerable subpopulations of older persons (eg, those who are LGBTQ, those with low health literacy, those in the criminal justice system, and those who are homeless). This section also includes new content about the unique needs of older travelers and older immigrants. The section ends with a broader look at how clinical systems are responding to the aging population and strategies for all of us to advocate for more age-friendly health systems.

We thank our authors for their contributions to the third edition of *Current Diagnosis and Treatment: Geriatrics*, and we look forward to advancing the care of older persons together.

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Most importantly, we thank our spectacular editorial project manager, Bryony Mearns, PhD. Over the course of a year, Dr. Mearns's leadership was instrumental in assisting our team of editors and authors toward completion of this book. She did this one step at a time, with great expertise, kindness, and skill. We were fortunate to have Bryony as our partner on this journey.

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CURRENT
Diagnosis & Treatment
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Transforming the Care of Older Persons

1

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Populations are aging worldwide. This demographic shift will dominate the health care landscape of the 21st century. As the number of older persons continues to grow, it becomes increasingly important to know how to help everyone age well, preserving independence, dignity, and purpose. As health care providers, we all have a responsibility to learn the unique aspects of medical care for older persons that will maximize their health and well-being, as defined and redefined by each individual as they age.

Many scientific discoveries, educational advances, and health system innovations have led to improvements in medical and social care for older persons. Such advances guide us today in caring for those with chronic illness, as well as their caregivers. For example, we now have best practices in managing polypharmacy, transitions across health care settings, and falls. We are increasingly aware of the impact of loneliness, iatrogenesis, and caregiver burden. Advances also guide us in optimizing the health and well-being of older persons in good health through health promotion activities. Furthermore, we have become knowledgeable about ways to avoid the hazards of medical care. For example, models such as the acute care for elders (ACE) hospital units are designed to increase mobility in the hospital and prevent delirium so that more older persons can return directly home after a hospital stay.

Yet, there remains much to be done to improve the health and well-being of older persons. Currently, there are fewer than 7000 US geriatricians, and there remain many gaps between science, practice, and what is important to patients. Across the globe, the World Health Organization has designated 10 priorities for a decade of actions on healthy aging, including supporting innovation, collecting data, promoting research, aligning health care systems, combating ageism, and developing age-friendly cities and communities. The field of geriatrics aims to support these actions and bridge the gaps, helping clinicians incorporate the fundamental principles of geriatric medicine into their care of older persons. In this chapter, we describe guiding principles and clinical practice frameworks to assist all clinicians who care for older persons across the world in home care, ambulatory, hospital, long-term care, and end-of-life settings.

GUIDING PRINCIPLES

Three principles guide the care of older persons.

A. Complexity, Multimorbidity, and Physiologic Reserve

A holistic, interprofessional, team-based approach is necessary in caring for older persons with complex psychosocial circumstances and multiple medical conditions. In addition, older persons have lower physiologic reserve in each organ system when compared with younger adults, placing them at risk for more rapid decline when faced with acute or chronic illness. Some examples include decreases in muscle mass and strength, bone density, exercise capacity, respiratory function, thirst and nutrition, and ability to mount effective immune responses. For these reasons, older persons are often more vulnerable to periods of bedrest and inactivity, external temperature fluctuations, and complications from common infectious diseases. Although preventive measures, such as vaccinations, may be beneficial, decreased physiologic reserve may also impair older persons' ability to mount an effective immune response to vaccines. These processes can also delay or impair recovery from serious illnesses such as hip fractures or pneumonia. As a result, older persons are prone to developing complex geriatric syndromes, such as delirium and falls.

B. The Importance of Cognition & Function

In older persons, cognitive and physical function are often more accurate predictors of health, morbidity, mortality, and health care utilization than individual diseases or

chronologic age. Cognitive status includes executive function, memory, orientation, and visual-spatial ability. Functional status includes the ability to perform activities of daily living (ADLs) and instrumental activities of daily living (IADLs). Cognitive impairment places older persons at risk for functional decline, medication errors, and environmental hazards, and creates a significant stress on caregivers. Functional impairment itself also strongly affects health outcomes. Losing the ability to transfer or walk in the hospital, for example, increases the likelihood of nursing home placement and death after discharge. Thus, assessments of cognitive and functional status are critical to providing comprehensive health care, and they are critical to an accurate prognosis and planning for family and social supports to optimize aging for each older person. By detecting changes early on, we can offer strategies to preserve physical function and optimize quality of life.

C. The Role of Goals & Prognosis in Clinical Decision Making

An effective clinical encounter with an older person relies heavily on an understanding of an older person's goals of care and likely prognosis. This individualized approach informs diagnostic and therapeutic plans in order to maximize benefit and minimize harm for each older person. Some older persons may prioritize decreasing pain and symptoms. Some may prioritize independent physical function. Others wish to remain close with, yet not burden, their loved ones. In addition, for older persons with a limited life expectancy, some interventions would only cause burden and not yield the desired benefit within their lifetime. Considering prognosis in the context of each patient's goals of care represents an appropriate starting place for individualized clinical decisions and treatment plans.

FOR CLINICIANS: THE GERIATRIC 5M'S FRAMEWORK

The three guiding principles above must be applied at the clinician, community, and health care system levels. For example, the Geriatric 5M's Framework aids clinicians in incorporating the guiding principles into clinical practice: (1) **Mind:** The first "M" reminds us to assess for delirium, dementia, depression, and ways to maintain mental activity, when appropriate. (2) **Mobility:** The second "M" prompts us to ask whether an older person requires assistance with ADLs and IADLs, requires ambulation aids for home or community mobility, or has fallen. (3) **Medications:** The third "M" asks us to critically examine every medication and the medication list as a whole to eliminate medications that cause more burden and harm than benefit. (4) **Multimorbidity:** The fourth "M" guides us to consider the impact of therapeutics on the whole person to avoid the situation where an intervention targeting one condition inadvertently worsens several other conditions. (5) **Matters Most:** The final "M" gives us a place to start, and end, every medical decision and encounter by aligning all actions according to what is most important to the older person.

FOR COMMUNITIES: EMBRACING OLDER PERSONS

Optimizing aging also occurs within the broader context of an older person's family, friends, and community. The social network of an older person's life plays a significant role in each individual's well-being, influences preferences, and provides resources and support in times of need. In managing a complex therapeutic plan at home (eg, one that involves multiple medications or dressing changes), effective therapy may hinge on the helping hands of family or friends. In addition, the well-being of older adults with chronic illness is often contingent upon adequate care and support for caregivers who often suffer from caregiver burden, stress, and health effects of their own. Even in the absence of chronic medical illness, loneliness is associated with poor outcomes, such as functional decline and death. An older person's health and survival may depend on routine contact with a social network. Thus, the best health care for older persons is inseparable from a thorough consideration of their social context.

FOR HEALTH CARE SYSTEMS: CARING FOR OLDER PERSONS

Health care systems caring for older persons are challenged by conflicting clinical principles, care models, and financial incentives. As a result, older persons often experience new symptoms and conditions that represent adverse effects from being cared for and moved across multiple care settings. During times of transition, such as from emergency department to hospital to nursing home, the older person is particularly at risk for poor outcomes from incomplete medication reconciliation processes or inadequate hand-off communication. Additional potential harms include pressure ulcers as a result of waiting an excessive amount of time on gurneys or immobility in hospital beds and falls related to hazards such as intravenous tubing and medical devices in an unfamiliar environment without one's sensory aids, such as eyeglasses or hearing aids. Health care systems increasingly have

a responsibility to implement evidence-based best practice care models to protect older persons from harm in times of illness.

As we age, interaction with the health care system often becomes a bigger part of our lives. Unfortunately, suffering among older persons and their caregivers remains too common and is often not addressed by our current health care systems. For example, the typical medical encounter designed for younger persons with an acute illness is often insufficient for an older person with multiple medical and social complexities. Now is the time to embrace guiding principles and frameworks of geriatric medicine to transform our health care systems to optimize the health of our aging society.

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2 Overview of Geriatric Assessment

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INTRODUCTION

Geriatric assessment is a broad term that describes a clinical approach to older patients that goes beyond a traditional medical history and physical exam to include functional, psychological, and social domains that affect well-being and quality of life. As an organizational framework, a geriatric scaffold (Figure 2–1) can help a clinician visualize how these domains are often connecting and overlapping. The scaffold is organized into three main outcomes of the geriatric assessment: prognosis, goals of care, and functional status. Functional status encompasses the effects of the core elements of the geriatric patient's health, including medical, cognitive, psychological, social, and communications barriers. This chapter will outline the geriatric assessment via the scaffold, its three main outcomes, and the core elements that contribute. We will also address how the geriatric assessment may be influenced by the clinical site of care.

TEAMS AND CLINICAL SITES OF CARE

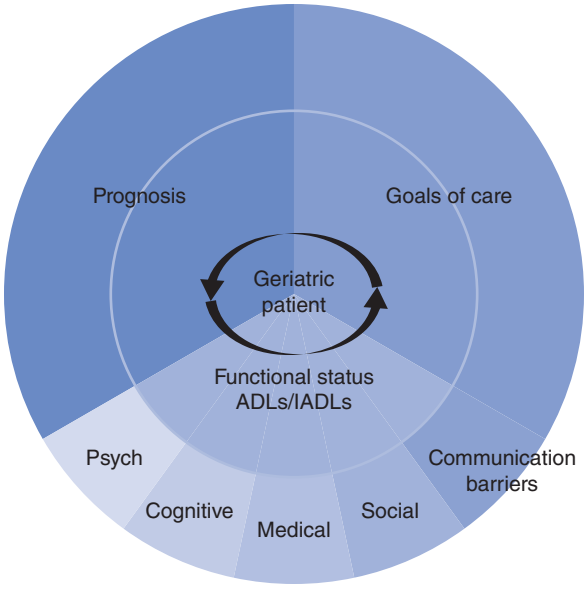
Although geriatric assessment may be comprehensive and involve multiple team members (eg, social workers, nurses, physicians, rehabilitation therapists, pharmacists), it may also involve just a single clinician and be much simpler in approach. In general, teams that use an *interprofessional* approach, in which multiple professions work together to develop a single comprehensive treatment plan for a patient, are most common in settings that serve primarily frail, complex patients, such as inpatient units, rehabilitation units, Program for All-Inclusive Care of the Elderly (PACE) sites, and long-term care facilities. In outpatient settings, teams are less likely to be formalized and, if present, are more likely to be virtual, asynchronous, and *multidisciplinary* (teams in which each discipline develops its own assessment and treatment plan) than interprofessional. (For more information, see Chapter 3, "The Interprofessional Team.")

Regardless of team composition, the setting and functional level of the patient population being served will determine what assessment tools are most appropriate. For example, long-term care settings are likely to focus on basic activities of daily living (ADLs), such as bathing, whereas outpatient teams are more likely to focus on higher levels of functioning, such as mobility and ability to prepare meals. In inpatient settings, the focus is on preventing deconditioning; providing medical support, such as nutrition; and planning discharge, including assessing rehabilitation potential and the best setting for discharge. Regardless of the team structure, site, and tools being used, many of the principles of geriatric assessment are the same.

PROGNOSIS

An older adult's prognosis is important in determining which interventions are likely to be beneficial or burdensome for that individual. In community-dwelling older persons, prognosis can be estimated initially by using life tables that consider the patient's age, gender, and general health. When an older patient's clinical situation is dominated by a single disease process, such as lung cancer metastatic to brain, prognosis may be better estimated with a disease-specific instrument. Even when disease-specific prognostic information is available, frequently the range of survival is wide. Moreover, prognosis generally worsens with age (especially age >90 years) and with the presence of serious age-related conditions, such as dementia, malnutrition, or functional impairment. See Chapter 4, "Goals of Care & Consideration of Prognosis," for a more comprehensive approach to prognostication in the older patient.

When an older person's life expectancy is >10 years, the appropriateness of tests and treatments is generally the same as for younger persons. When life expectancy is <10 years, and especially when it is much less, choices of tests and treatments should be made on the basis of their ability to improve



▲ **Figure 2–1.** Geriatric scaffold. ADLs, activities of daily living; IADLs, instrumental activities of daily living.

that particular patient's prognosis or quality of life in the context of that patient's life expectancy and goals of care. The relative benefits and harms of tests and treatments often change as prognosis worsens.

Palliative care services should be considered for any patient with a life-limiting illness, particularly when the prognosis is <1 year, symptom burden is high, and/or goals of care are uncertain. If the prognosis is 6 months or less, hospice should be considered, if consistent with the patient's goals of care.

PATIENT GOALS

Conducting goals of care discussions is a critical tool for all clinicians caring for older adults, especially frail older adults. Although patients vary in their values and preferences, it is reasonable to assume that most patients value living a long life free of incapacitating illness. For many older adults, not all goals are achievable and trade-offs need to be made (eg, between length and quality of life). Older persons may prioritize maintaining their independence or relieving pain or other symptoms over prolonging survival.

In assessing a patient's overarching goals of care, it is often more useful to ask about values and preferences rather than interventions lacking a context, such as asking, "Would you want pressors?" Once a clinician understands a patient's values in more detail, it is often easier to have discussions about personal goals within the context of the person's specific medical and social situation. For example, if a patient who has recurrent falls places high value on living at home, then a goal may be to make the home safer and adapt it to accommodate the person's disabilities or hire caregivers. Knowing a person's values also facilitates making patient-specific recommendations; for example, "I don't think dialysis will help you reach your stated goals because . . . ." Patients' values may influence clinical decisions, such as continuing life-prolonging treatments based on the desire to live to see the graduation or birth of a grandchild. Conversely, knowing values may prompt recommendations for additional care, including recommending that patients purchase continued physical therapy out of pocket when Medicare coverage has been exhausted. Patients' preferences often change over time. For example, some patients find living with a disability more acceptable than they would have before experiencing it. Tools such as the Serious Illness Conversation Guide (www.ariadnelabs.org/resources/), VitalTalk (www.vitaltalk.org), and goal attainment scaling can help clinicians improve their skills in conducting these discussions.

Every older person should be encouraged to designate a surrogate decision-maker, complete advance directives for both health care (eg, prepareforyourcare.org) and finances, and discuss their values and preferences with their surrogate and with their health care clinicians. Many states honor a form that is signed by both the patient and physician and serves as an order sheet for intervention preferences that is portable across different sites of care (eg, Physicians Orders for Life-Sustaining Treatment).

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FUNCTIONAL STATUS

Functional status can be viewed as a summary measure of the overall impact of health conditions in the context of a patient's physical and psychosocial environment on the ability to perform their ADLs and instrumental ADLs (IADLs) (Table 2–1).

Functional status is important for planning care, monitoring responses to therapy, and determining prognosis. Functional impairment is common in older adults and has many potential causes, including age-related physiologic and cognitive changes, disuse, disease, social factors, and the interplay between any of these. In the next sections, we outline the components that contribute to a patient's functional status, including medical, cognitive, psychological, social, and communication domains. Functional status should be assessed initially and periodically thereafter, particularly after hospitalization, severe illness, or the loss of a spouse or caregiver. Unexpected changes in functional status should prompt a comprehensive evaluation looking for contributing

Table 2–1. List of activities of daily living and instrumental activities of daily living.

Activities of Daily Living	Instrumental Activities of Daily Living
Bathing	Using the telephone
Dressing	Shopping
Toileting	Food preparation
Transfers	Housekeeping
Continence	Laundry
Feeding	Driving
	Taking medications
	Managing money

conditions. If no reversible cause of functional decline is found after a medical search or if it cannot be fully reversed, the clinician should focus on supportive services and, when necessary, placement in a different living setting. For more information about functional ability and assessment in older persons, refer to Chapter 5, "Functional Assessment & Functional Decline."

ADLs AND IADLs

In 2016, 8% of community-dwelling adults age 65 years and older reported difficulty in self-care, and another 15% reported difficulty in living independently according to the US Census Bureau. Loss of function in ADLs or IADLs often signals a worsening disease process or the combined impact of multiple chronic conditions. Level of ADL and IADL impairment can usually be determined by self-report or proxy report but should be corroborated when possible. When accurate functional information is essential for planning for any patient assistance, such as adaptive equipment or more caregiver help, direct observation by a physical or occupational therapist can be invaluable.

For highly functional independent older adults, standard functional screening measures will not capture subtle functional impairments. One technique that may be useful for these older adults is to identify and regularly query about a patient-identified target activity, such as playing bridge, golfing, or fishing, that the patient enjoys and regularly participates in (advanced ADLs). Although many of these activities reflect patient preferences that may change over time, if the patient begins to drop the activity, it may indicate an early impairment, such as dementia, incontinence, or worsening vision or hearing loss.

If possible, it is important to distinguish whether an ADL/IADL impairment is primarily due to cognitive decline, a physical disability, or cultural or family customs because this will help guide management, including rehabilitation, adaptive devices, and additional personal assistance.

MEDICAL DOMAIN

Falls and Strength, Balance, and Gait Impairment

Another important assessment is evaluating fall risk. Falls are the leading cause of nonfatal injuries and unintentional injury and death in older persons. Every older person should be asked about falls at least annually. Because strength, gait, and balance impairments commonly contribute to fall risk, it is important to evaluate each of these as well as other risk factors, including visual impairment, medications, and home safety.

Components of the strength and gait exam include observing whether the patient can get up from a chair without using hands, which tests quadriceps strength, and observing gait symmetry, stride length, step height, and width of stance. Balance can be tested by observing stability with eyes closed, with a sternal nudge, and with a 360-degree turn, and ability to maintain side-by-side, semi-tandem, and full-tandem stance for 10 seconds each. The Timed Up and Go test measures a person's ability to get up from a chair, walk 3 meters, return, and sit down. Although a variety of cutoff scores are used for this test, inability to complete the task in <15 seconds is generally considered abnormal, and longer times are associated with a greater risk of functional impairments and falls. Patients with an abnormal gait evaluation should be evaluated further for potentially reversible causes (see Chapter 6, "Falls & Mobility Impairment," and Chapter 67, "Syncope").

Guirguis-Blake JM, Michael YL, Perdue LA, et al. Interventions to prevent falls in older adults: updated evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2018;319(16):1705-1716.

Appropriate Medication Use

Although older persons may have many of the same medical problems as younger persons, including diabetes, heart failure, and chronic kidney disease, a higher percentage of older adults have multiple chronic conditions, which, in turn, results in more medications and therefore higher risks associated with adverse drug reactions and drug-drug interactions. The average older person takes four to five medications, and many older adults are prescribed medications by more than one clinician, which increases the risk for medication discrepancies and adverse drug events. Patients should be encouraged to bring all of their medications, including nonprescription drugs (the "brown bag assessment"), to every visit and review them with the primary care practitioner, pharmacist, or nurse. Regular pharmacy reviews, commercially available medication management programs, and electronic health records can help primary care providers monitor for potential inaccuracies and potential drug-drug interactions (see Chapter 14, "Principles of Prescribing &

Adherence"). Tools such as STOPP (Screening Tool of Older People's Prescriptions)/START (Screening Tool to Alert to Right Treatment) and the Beers Criteria can help guide clinicians in appropriate prescribing for older adults.

Koronkowski MJ, Semla TP, Schmader KE, Hanlon JT. Recent literature update on medication risk in older adults, 2015-2016. *J Am Geriatr Soc.* 2017;65(7):1401-1405.

Merel SE, Paauw DS. Common drug side effects and drug-drug interactions in elderly adults in primary care. *J Am Geriatr Soc.* 2017;65(7):1578-1585.

Nutrition

See Chapter 13, "Defining Adequate Nutrition." Nutritional problems among older adults include obesity, undernutrition, and specific vitamin and nutrient deficiencies. Loss of 5% of body weight in 1 month or 10% of body weight over 6 months is associated with increased morbidity and mortality and should trigger further evaluation. Evaluation includes consideration of oral health issues (eg, loss of dentures), medical issues (eg, dementia or malignancy), and social issues (eg, loss of transportation), and potentially, goals of care.

Increasingly, obesity is becoming a problem in older adults and is associated with multiple morbid conditions, including diabetes, osteoarthritis, poor mobility, and obstructive sleep apnea. Traditionally, obesity in the older adult is defined as a body mass index (BMI) of ≥30 kg/m^2. However, there is increasing evidence that using a lower BMI cutoff for obesity in certain ethnicities, including Asian, Hispanic, Latino, and Native Americans, may be a more accurate reflection of risk than using the traditional BMI cutoff of 30.

Preventive Services

Preventive services include counseling on healthy behaviors, screening to detect asymptomatic disease, and vaccinations. Specific preventive interventions for an individual patient should be based on evidence-based guidelines, the patient's estimated life expectancy, and the patient's values and goals. The US Preventive Services Task Force has an interactive website with specific recommendations based on the patient's age, gender, tobacco use, and sexual activity (http://epss.ahrq.gov/PDA/about.jsp) (see Chapter 20, "Prevention & Health Promotion").

Incontinence

Incontinence in older adults is common but often goes unmentioned by patients. Women are twice as likely as older men to be incontinent; overall, approximately 6% to 14% of older women experience incontinence daily. Ask a simple question, such as, "Is inability to control your urine a problem for you?" or "Do you have to wear pads, diapers, or briefs because of urine leakage?" Positive answers should be followed up with a more complete assessment, as determined by the patient's goals and preferences. For example, different patients may prefer behavioral interventions, medication, surgery, or pads to manage their incontinence (see Chapter 10, "Urinary Incontinence"). Incontinence may contribute to falls, especially nocturnal incontinence when poor lighting combined with existing visual impairment may magnify the risk.

COGNITIVE DOMAIN AND DEMENTIA

The cognitive domain evaluation aims to differentiate normal versus abnormal brain aging. In normal brain aging, reaction time, mental processing speeds, name and word retrieval, and multitasking may become slower or more difficult but may still be considered normal age-related cognitive decline. In contrast, more severe impairment raises the suspicion for mild cognitive impairment or dementia, which are common in older adults but, in early stages, are commonly missed by primary care practitioners. Screening for dementia in primary care has not been proven to improve outcomes. However, early detection of Alzheimer disease and related disorders may help to identify potentially treatable contributors (which are uncommon) and to involve the patient in advance care planning for health care and finances. The Mini-Cog, a three-item recall and clock drawing activity, is a brief screen that is sensitive for detecting dementia. Patients who fail the Mini-Cog should be followed up with a more in-depth mental status examination, such as the Montreal Cognitive Assessment (MOCA), or more extensive neuropsychological examinations along with evaluating for decline in functional status. The Mini-Mental Status Exam (MMSE) may be useful in screening for more advanced cognitive impairment but is generally less sensitive for detecting mild cognitive impairment. The Rowland Universal Dementia Assessment Scale (RUDAS) is another cognitive assessment tool designed to minimize the effects of cultural or language diversity. Cognitive impairments that are severe enough to interfere with a patient's prior level of function raise the concern for dementia.

It is important to note that the clinical site of care in which an individual is being assessed (eg, inpatient vs outpatient) should be considered. Cognitive impairment in hospitalized patient evaluations should be interpreted cautiously to distinguish dementia from delirium. The Confusion Assessment Method (CAM) is a useful tool to screen for delirium in emergency departments, hospitals, and nursing home settings.

Patients who are diagnosed with dementia or related disorders should also have further assessment of whether or not they have advance directives, decision-making capacity, and processes in place for managing and protecting their finances

(see Chapter 9, "Cognitive Impairment & Dementia," and Chapter 60, "Confusion").

Lin JS, O'Connor E, Rossom RC, Perdue LA, Eckstrom E. Screening for cognitive impairment in older adults: an evidence update for the U.S. Preventive Services Task Force. *Ann Intern Med.* 2013;159(9):601-612.

McMinn J, Steel C, Bowman A. Investigation and management of unintentional weight loss in older adults. *BMJ.* 2011;342:d1732.

PSYCHOLOGICAL DOMAIN AND DEPRESSION

Many older adults find old age to be a time of fulfillment and happiness. However, personal losses, illness, and other challenges may contribute to sadness, grief, anxiety, or depression. Therefore, questions about mood should be part of every geriatric assessment. Although major depression is no more common in older adults than in younger populations, depressive symptoms are more common in older adults. In ill and hospitalized older patients, the prevalence of depression may exceed 25%. The Patient Health Questionnaire (PHQ)-2 is a sensitive screening tool for depression. Positive responses should be followed up with more extensive screens (eg, the PHQ-9), and if positive, a comprehensive interview should be conducted (see Chapter 12, "Depression & Other Mental Health Issues").

US Preventive Services Task Force (USPSTF); Siu AL, Bibbins-Domingo K, et al. Screening for depression in adults: US Preventive Service Task Force recommendations. *JAMA.* 2016;315:380-387.

COMMUNICATION BARRIERS

Vision Impairment

The prevalence of cataract, age-related macular degeneration, glaucoma, and need for corrective lenses increases with advancing age. Given this and the inability of most primary care physician's offices to perform high-quality, comprehensive eye examinations, periodic examinations should be performed by an optometrist or ophthalmologist, particularly for those who have diabetes or are at high risk of glaucoma, such as African Americans.

Vision screening in the primary care setting, with a Snellen eye chart for far vision and a Jaeger card for near vision, may provide valuable on-the-spot information for the practitioner. A vision screening question such as, "Do you have difficulty driving, watching television, reading, or doing any of your daily activities because of your eyesight, even while wearing glasses?" is helpful but may not be sensitive enough to replace a formal vision assessment (see Chapter 7, "Managing Vision Impairment").

For individuals with balance problems and fall risk factors, bifocal lenses should be discouraged because they make depth perception more difficult, particularly when navigating steps or stairs, and increase risk of falls.

Hearing Impairment

More than 33% of individuals older than 65 years and 50% of those older than 85 years have some hearing loss. Hearing loss is associated with social and emotional isolation, clinical depression, accelerated cognitive decline, and limited activity.

The optimal screening method for hearing loss in older adults has yet to be determined. The whispered voice test is easy to perform, but if positive, formal follow-up testing is necessary; sensitivities and specificities range from 70% to 100%. Handheld audiometry with the Welch-Allyn audioscope can increase the accuracy of screening if performed in a quiet environment. The US Screening and Prevention Task Force recommends using screening questions about hearing loss in older adults. Structured questionnaires such as the Hearing Handicap Inventory for Elderly–Screening are most useful for assessing the degree to which hearing loss interferes with functioning (see Chapter 8, "Managing Hearing Impairment"). Technology is advancing rapidly for people with hearing loss, including smartphone apps and lower-cost alternatives to standard hearing amplification.

Goman AM, Lin FR. Prevalence of hearing loss by severity in the United States. *Am J Public Health.* 2016;106(10):1820-1822.

SOCIAL DOMAIN

Caregiver Support

Providing primary care for a frail older adult requires that attention be paid to family caregivers as well as to the patient, because the health and well-being of the patient and caregivers are intricately linked. High levels of functional dependence place an enormous burden on a caregiver. Burnout, depression, and poor self-care are possible consequences of high caregiver loads. Asking the caregiver about stress, burnout, anger, and guilt is often instructive. The Modified Caregiver Strain Inventory is a 13-item validated tool used to assess severity of caregiver strain. The index targets financial, physical, psychological, and social aspects of strain. For the stressed caregiver, a social worker can often identify helpful resources such as caregiver support groups, respite programs, adult daycare, and hired home health aides.

Financial, Environmental, and Social Resources

Old age can be a time of reduced social and financial resources. Older persons are at particular risk of social isolation and poverty. Screening questions about social contacts

and financial resources are often helpful in guiding providers in designing realistic treatment and social service planning. Every older person should be encouraged to engage in advance financial planning when completing medical advance directives.

Assessment of the patient's environment should include asking about the ability to access needed community resources (eg, banking, grocery, pharmacy) either themselves or via proxy, the safety of their home, their level of social interaction, driving and driving safety, potentially unsafe practices (eg, tobacco use, high-risk sex) and the appropriateness of their environment for their level of function. When the safety of the home is in question, a home safety assessment by a home health care agency is appropriate.

Abuse

Clues to the possibility of elder abuse include observation of behavioral changes in the presence of the caregiver, delays between injuries and seeking treatment, inconsistencies between an observed injury and an associated explanation, lack of appropriate clothing or hygiene, and unfilled prescriptions. A simple question—"Does anyone hurt you?"—is a reasonable initial screen (see Chapter 19, "Detecting, Assessing, & Responding to Elder Mistreatment"). If abuse is suspected, older adults should have the opportunity to be interviewed alone. Direct questioning about abuse and neglect may be useful, particularly under circumstances of high caregiver load.

Burnes D, Henderson CR Jr, Sheppard C, et al. Prevalence of financial fraud and scams among older adults in the United States: a systematic review and meta-analysis. *Am J Public Health*. 2017;107(8):1295.

Rosay AB, Mulford CF. Prevalence estimates and correlates of elder abuse in the United States: the National Intimate Partner and Sexual Violence Survey. *J Elder Abuse Negl*. 2017;29(1):1-14.

Thornton M, Travis SS. Analysis of the reliability of the modified caregiver strain index. *J Gerontol B Psychol Sci Soc Sci*. 2003;58:S127-S132.

GERIATRIC ASSESSMENT IN PRIMARY CARE

A number of strategies can help make the process of geriatric assessment more efficient for busy primary care practices, such as using previsit screening questionnaires, using nonphysician personnel to help perform standard geriatric assessments, and having standardized protocols for following up on positive results. A number of well-designed previsit questionnaires for older adults are available (see websites below). The Medicare Annual Wellness Visit also can facilitate the performance of many of these assessments in a separate visit that does not need to also address the patient's ongoing medical problems.

USEFUL WEBSITES

Agency for Healthcare Research and Quality. Search for recommendations. http://epss.ahrq.gov/ePSS/search.jsp. Accessed March 4, 2020.

American College of Physicians. Annual wellness visit. https://www.acponline.org/practice-resources/business-resources/payment/medicare-payment-and-regulations-resources/how-to-bill-medicares-annual-wellness-visit-awv. Accessed March 4, 2020.

Centers for Disease Control and Prevention. http://www.cdc.gov/mmwr/PDF/wk/mm753-Immunization.pdf

Centers for Medicare and Medicaid Services. Annual wellness visit. https://www.cms.gov/Outreach-and-Education/Medicare-Learning-Network-MLN/MLNProducts/MLN-Publications-Items/CMS1246474.html. Accessed March 4, 2020.

Social Security Administration. Life expectancy tables. http://www.ssa.gov/OACT/STATS/table4c6.html. Accessed March 4, 2020.

UCLA GeroNet. Healthcare office forms. http://geronet.ucla.edu/centers/acove/office_forms.htm https://www.uclahealth.org/geriatrics/workfiles/education/clinical-skills/handouts/PVQ.pdf

US Preventive Services Task Force. Home page. http://www.uspreventiveservicestaskforce.org/. Accessed March 4, 2020.

3 The Interprofessional Team

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INTRODUCTION

Nationally and worldwide, interprofessional teamwork is increasingly recognized as a means to address the challenges of the current health care system. Patients with complex problems and diverse needs require the expertise and collaboration of different health professionals. In the United States, a series of landmark Institute of Medicine reports recommended interprofessional collaboration and training of all health care professionals in teamwork as a key mechanism to increase health care safety and quality. Additional factors driving the need for effective teamwork include patient expectations; a primary care workforce shortage; a renewed focus on creating health care systems that demonstrate efficiency, lower cost, and improved outcomes; and national policy changes that incentivize the creation of interprofessional collaborative models. For example, the passage of the Patient Protection and Affordable Care Act (ACA) has led to the development of accountable care organizations with a focus on improving population health through interprofessional teamwork.

Older adults, with their increased prevalence of multiple chronic conditions, functional decline, geriatric syndromes, and terminal illness, are high utilizers of the health care system and its teams. The American Geriatrics Society has developed two position statements that underscore the benefits of interprofessional team care for older adults, and endorses interprofessional team training for all professions. This chapter defines the multiple types of interprofessional work in health care, describes practice-based interprofessional geriatrics innovations in the United States, reviews the evidence for interprofessional collaboration in the care of older adults, provides resources for building interprofessional skills and teams, and discusses barriers and future steps to improve interprofessional teamwork in geriatrics.

Mion L, Odegard PS, Resnick B, et al. Interdisciplinary care for older adults with complex needs: American Geriatrics Society position statement. *J Am Geriatr Soc*. 2009;57(10):1917.

Partnership for Health in Aging Workgroup on Interdisciplinary Team Training. Position Statement on interdisciplinary team training in geriatrics: an essential component of quality healthcare for older adults. *J Am Geriatr Soc*. 2014:62(5):961-965.

KEY DEFINITIONS AND CONCEPTS

The teamwork literature consists of a wide array of terms, often used interchangeably, to describe this phenomenon, including interdisciplinary, multidisciplinary, and interprofessional. In addition to this terminology uncertainty, different authors describing "teams" and "teamwork" often employ very different conceptualizations related to team composition, function, and outcome. A first distinction to clarify is discipline versus profession. "Discipline" refers to various fields of study, such as economics, anthropology, and medicine, whereas a "profession" typically refers to fields with licensing and/or regulatory requirements. Although the terms *interdisciplinary* and *multidisciplinary* have been prevalent for at least the past 40 years in US health care, including in geriatrics, scholars increasingly contend that applying these terms in a health care setting is conceptually incorrect, as the notion of "interprofessional" collaboration more accurately describes the various health care professionals who work together to deliver services. A second distinction to clarify is interprofessional versus intraprofessional. Interprofessional collaboration refers to different types of health care professionals (eg, dentistry, nursing, medicine, pharmacy) working together, whereas intraprofessional collaboration refers to persons representing different specialties within the *same* profession working together. Intraprofessional collaboration examples include surgeons and cardiologists working

together, or gerontological nurse practitioners working with clinical nurse specialists in geriatrics. We focus on interprofessional work in this chapter in light of the prevalence and effectiveness of interprofessional teams in the care of older adults.

In addition to acknowledging the different professions involved, it is important to distinguish the types of interprofessional practice that exist in health care. Reeves and colleagues proposed a framework that differentiates four types of interprofessional practice (teamwork, collaboration, coordination, and networking) based on a number of factors that address a shared identity, roles, and level of interdependence and integration, among others. Interprofessional *teamwork* is a "tighter," more integrated type of work where members share a team identity, have clarity of roles, and work in an integrated and interdependent manner to provide care to patients. Examples of interprofessional teamwork include geriatrics teams, intensive care teams, and emergency department teams. This is a different arrangement to interprofessional *collaboration*, which is a "looser" type of work where membership is more fluid and shared membership less important. Examples of this type of work can occur in primary care and general medical settings where key team members might not be in the same physical location. Like collaboration, interprofessional *coordination* has less emphasis on a shared identity, but integration and interdependence are even less critical. *Networking* entails the most informal type of work. Examples include groups of professionals who share information of common interest but who are not necessarily providing joint patient care. When using these terms—teamwork, collaboration, coordination, and networking—independently without the interprofessional association, there is more focus on the activities rather than the individuals who are involved in the activities.

Finally, it is important to distinguish interprofessional education (IPE) from interprofessional practice. *IPE* is an activity that occurs when members (including students) of two or more health care professions engage in learning with, from, and about each other to improve interprofessional teamwork and the delivery of care. *Interprofessional practice* occurs when "multiple health care workers from different professional backgrounds provide comprehensive health services by working with patients, their families, caregivers, and communities to deliver the highest quality of care across settings." The National Center for Interprofessional Practice and Education in the United States is merging these two concepts into a working definition of *interprofessional practice and education* (the "new IPE"). The new IPE is a means to create a shared space between IPE and interprofessional practice that stresses the importance of education to improve health, create support systems, and test different models of practices.

Reeves S, Lewin S, Espin S, et al. *Interprofessional Teamwork for Health and Social Care*. London, United Kingdom: Blackwell-Wiley; 2010.

World Health Organization. *Framework for Action on Interprofessional Education and Collaborative Practice*. Geneva, Switzerland: WHO Press; 2010.

INTERPROFESSIONAL TEAM INNOVATIONS IN GERIATRICS

In the United States, the care of older adults has been a major impetus for innovations in interprofessional practice and education. Accordingly, there are many geriatric models of care where teamwork is fundamental (Table 3–1). These teams vary widely with respect to their goals, procedures, setting, number and type of professionals, and membership stability.

The Department of Veterans Affairs developed the earliest training initiatives, Interdisciplinary Team Training in Geriatrics, in the 1970s. This was followed by the creation of three programs administered by the Health Resources and Services Administration (HRSA) of the US Department of Health and Human Services. First, the Geriatric Education Centers (GECs), founded in the 1980s, supported collaboration between health professions schools and health care clinics, facilities, and systems to provide training in geriatrics and

Table 3–1. Examples of team care in geriatrics.

Disease specific	Dementia Diabetes Falls prevention Heart failure Post-stroke
Program specific	Annual wellness visits Geriatric assessment/consultative clinics Geriatric Resources for Assessment and Care of Elders (GRACE) Hospice Medical-legal partnership for seniors Palliative care Program of All-Inclusive Care for the Elderly (PACE) Transitional care
Site specific	Acute care for the elder (ACE) units Adult day health centers Emergency department Home care Long-term care nursing homes Short-term rehabilitation

team care to four or more professions. Second, the Geriatric Academic Career Awards (GACAs), which originated in the 1990s, support the career development of junior faculty to become academic geriatricians and to provide clinical geriatrics training to interprofessional teams. Third, in 2015, HRSA replaced the GECs with Geriatric Workforce Enhancement Programs (GWEPs) to promote the development of an interprofessional geriatric workforce through integration of geriatrics with primary care, promotion of patient and family engagement, and collaboration with community partners to address the gaps in older adult health care.

Beyond the support of the federal government, the John A. Hartford Foundation has significantly supported the development of team training and models of care for older adults. In 1997, the Hartford Geriatric Interdisciplinary Team Training (GITT) initiative funded eight institutions to develop innovative models of formal team training, resulting in a repository of teaching materials and a collectively produced curriculum and implementation guide described further in the section "Resources and Tools for Teamwork." In 2000, Hartford funded the Geriatric Interdisciplinary Teams in Practice initiative that supported the design and testing of models of interprofessional team care of older adults with chronic illnesses. Five models that transformed team care in everyday practice and demonstrated positive impact on patient outcomes and cost include: (1) the Care Transitions intervention, developed at the University of Colorado Health Sciences Center, which used a transition coach to work with patients and family caregivers on self-management skills to promote safer transitions from hospital to home; (2) the Care Management Plus model, developed by Intermountain Health Care and Oregon Health and Science University, which used a care manager and an electronic information technology system to improve communication among health care clinicians; (3) the Senior Health and Wellness Clinic model, developed by PeaceHealth Oregon Region, which provided comprehensive geriatric primary care with a focus on chronic care management; (4) the Virtual Integrated Practice model, developed at Rush University Medical Center, which improved working relationships and communication among interprofessional members by using e-mail, voicemail, and electronic medical record; and (5) the Senior Resource Team model, developed by the Group Health Cooperative Puget Sound, which embedded a geriatric consulting team in a primary care practice. Among these five models, the Care Transitions and the Care Management Plus models have demonstrated widespread dissemination.

Geriatrics has led other innovations in team-based models of care supported by Medicare and Medicaid funding. In the ambulatory care setting, the Program of All-Inclusive Care for the Elderly (PACE) is a capitated, joint Medicare-Medicaid program that provides comprehensive, team-based care for frail, nursing-home-eligible older adults living in the community. In the inpatient setting, the acute care for elders (ACE) unit provides hospitalized older adults with an interprofessional team that aims to preserve function and to avoid unnecessary procedures and medications. As of 2019, there are 126 PACE programs in 31 states and an estimated 200 ACE units nationally. Both the PACE and ACE models have been shown to improve patient outcomes while reducing costs. Since 2013, the Centers for Medicare and Medicaid Services have recognized interprofessional teamwork and reimbursed the efforts of innovative interprofessional models of care, including annual wellness visits, transitional care management, chronic care management, dementia care, and advance care planning activities.

Coleman EA, Parry C, Chalmers S, Min SJ. The care transitions intervention: results of a randomized controlled trial. *Arch Intern Med*. 2006;166(17):1822-1828.

Fox MT, Persaud M, Maimets I, et al. Effectiveness of an acute geriatric unit care using acute care for elders components: a systematic review and meta-analysis. *J Am Geriatr Soc*. 2012: 60(12):2237-2245.

Hirth V, Baskins J, Dever-Bumba M. Program of all-inclusive care (PACE): past, present, and future. *J Am Med Dir Assoc*. 2009; 10(3):155-160.

Stock R, Mahoney ER, Reese D, Cesario L. Developing a senior healthcare practice using the chronic care model: effect on physical function and health-related quality of life. *J Am Geriatr Soc*. 2008; 56(7):1342-1348.

Wieland D, Kinosian B, Stallard E, Boland R. Does Medicaid pay more to a program of all-inclusive care for the elderly (PACE) than for fee-for-service long term care? *J Gerontol A Biol Sci Med Sci*. 2013;68(1):47-55.

EVIDENCE FOR INTERPROFESSIONAL TEAMS IN THE CARE OF OLDER ADULTS

Substantial research shows benefits of geriatric interprofessional team care for specific diseases and geriatric syndromes, across models of care, and in settings from acute care and skilled nursing facilities to rehabilitation and outpatient clinics. Team-based models of care, such as PACE and the Geriatric Resources for Assessment and Care of Elders (GRACE), have demonstrated improved quality of care and reduced utilization of services. Team care has reduced morbidity and mortality after a stroke and shown improvement in behavioral and psychological symptoms without a significant increase in medications among patients with Alzheimer disease. Team-based approaches reduce the prevalence of delirium and the incidence of falls and related injuries. Interprofessional teams also improve medication adherence and reduce adverse drug reactions.

Although there is promising evidence on interprofessional teamwork in specific areas of health care, overall results are mixed regarding the ability of interprofessional teams to reduce health services utilization and costs. Boult and colleagues offer possible explanations for the difficulty in demonstrating these reductions in older adults with

multimorbidity, which include unavoidable exacerbations requiring acute care in patients with multiple chronic conditions and not knowing which patients benefit most from team care or what aspects of team care reduce utilization and costs. Moreover, quality team care may also increase utilization by high-risk patients by recognizing and addressing gaps in care that improve quality of life. Finally, clinical trial duration may be too short to capture the cost savings "downstream" that could offset the initial and operating costs of a team-based model.

Tsakitzidis and colleagues expand the outcomes of interprofessional teams that should be evaluated beyond collaboration and costs, to outcomes that are impactful at the patient level. Patient-level outcome indicators include pain, fall incidence, quality of life, independence for daily life activities, and depression and agitated behavior. When organizing and studying interprofessional collaboration and/or IPE, patient-level outcome indicators are important aspects that should be considered in addition to health services utilization and cost.

In addition to the emerging evidence on teamwork, there exists a deep and intuitive logic for why effective teamwork is necessary: patients frequently have conditions that have multiple causes and require multiple treatments from a range of health care professionals with different skills and expertise. As it is unusual for one profession to deliver a complete episode of care in isolation, good-quality care depends on professions working together in interprofessional teams. In general, when a team works "well," it does so because every member has a role. Every member not only knows and executes his or her own role with great skill and creativity, but also knows the responsibilities and activities of every other role on the team and understands the personal nuances and skills that each individual brings to his or her role. As has been shown in military training and the aviation industry, when everyone on the team understands each person's role, teamwork contributes to reducing waste, better coordination, enhanced safety, and high-quality outcomes.

Boult C, Reider L, Leff B, et al. The effect of guided care teams on the use of health services: results from a cluster-randomized controlled trial. *Arch Intern Med*. 2011;171(5):460-466.

Callahan CM, Boustani MA, Unverzagt FW, et al. Effectiveness of collaborative care for older adults with Alzheimer disease in primary care: a randomized controlled trial. *JAMA*. 2006;295(18):2148-2157.

Counsell SR, Callahan CM, Clark DO, et al. Geriatric care management for low-income seniors: a randomized controlled trial. *JAMA*. 2007;298(22):2623-2633.

Farrell TW, Luptak MK, Supiano KP, Pacala JT, Lisser R. State of the science: interprofessional approaches to aging, dementia, and mental health. *J Am Geriatr Soc*. 2018;66:S40-S47.

Tsakitzidis G, Timmermans O, Callewaert N, et al. Outcome indicators on interprofessional collaboration interventions for elderly. *Int J Integr Care*. 2016;16(2):5.

RESOURCES AND TOOLS FOR TEAMWORK

IPE and team training have received increasing recognition in recent years. In 2016, the Interprofessional Education Collaborative (IPEC), which consists of 15 national health professions education associations, updated the core competencies for interprofessional collaborative practice as a means of providing a framework to move IPE forward and achieving the Quadruple Aims of health care, which are improving the health of populations, enhancing experience of care for individuals, reducing cost of health care, and attaining joy at work. The competency domains identified were:

- Values/ethics for interprofessional practice
- Roles/responsibilities for collaborative practice
- Interprofessional communication practices
- Interprofessional teamwork and team-based practice

The competencies identify behaviors that reflect underlying attitudes, knowledge, and values essential for effective, patient-centered teamwork. The domains provide a guide for individual learning and practice improvement, for curriculum and program development, and for setting accreditation and licensing standards for schools and professionals alike.

Salas and colleagues detail principles for team training, which include using teamwork competencies to focus the training content to align with desired outcomes and local resources; concentrating on teamwork and excluding individual-level tasks; providing hands-on practice in as authentic an environment as possible; providing detailed, timely feedback by team skills experts; evaluating knowledge, behaviors, and patient-level outcomes; and sustaining teamwork through continued coaching, incentives, and performance evaluations.

Salas and colleagues also provide practical guidelines and tips for improving teamwork based on their framework of communication, coordination, and cooperation. An overarching theme is the creation of an environment that encourages open discussion and input from all members. This includes ensuring time for members to jointly reflect upon their team performance and to give "process feedback" that is descriptive and specific. Team members should also reflect upon their own and other members' behaviors, while both eliciting and providing constructive feedback along with ideas for improvement. Additionally, health care teams may improve their teamwork by focusing explicitly on creating a culture of inclusiveness and psychological safety, in which each individual feels valued and able to speak up without fear of judgment or punishment.

Two well-developed team training programs offer online practical guidelines and tools for teamwork. The Geriatric Interdisciplinary Team Training 2.0 (GITT 2.0) program

is now part of an array of geriatrics educational materials offered through the ConsultGeri of the Hartford Institute for Geriatric Nursing. Unlike the first GITT, which was a paper-based curriculum with cases and videos, GITT 2.0 is a web-based curriculum that includes updated cases with videos and focuses on improving patient and caregiver-centered quality outcomes through interprofessional collaboration. Although designed for trainees, the content is relevant to practicing interprofessional members. A set of six complementary Interprofessional Education and Practice (IPEP) eBooks offer tools with guided interactive activities to teach the core domains of interprofessional competencies. The TeamSTEPPS program, developed by the Department of Defense, is not geriatrics specific but presents an evidence-based teamwork training system for health professionals. Like the GITT 2.0, it offers a curriculum and implementation guide accessible online, but the materials are more extensive and contain slide sets with speaker notes, handouts, videos, and assessment and evaluation tools. The training system provides detailed guidance on its three-step process that includes a local needs assessment, planning and training, and sustainment. Practical communication tools and strategies are a prominent part of the curriculum. TeamSTEPPS also offers webinars and in-person training sessions nationwide for master trainers.

The Health Professions Accreditor Collaborative (HPAC), founded in 2014, created a platform to share information on a board range of interprofessional topics, to formalize interactions among accreditors, and to problem solve emerging challenges in the health system. To meet the urgent needs for interprofessional collaboration necessary for quality and cost-effective care, the HPAC implemented a multiyear and multiphase process endorsed by 24 health care professional training programs to create a guide on the development, implementation, and evaluation of quality IPE.

A key resource for educators, clinicians, and administrators to bridge the gap between health professions education and health care delivery in the United States is the National Center for Interprofessional Practice and Education (The NEXUS), created by a public-private partnership. The NEXUS informs, connects, and engages educators and clinicians to advance the Quadruple Aims, and its website contains discussion boards and a digital library of diverse resources.

See Table 3–2 for a list of resources and tools discussed in this section.

Health Professions Accreditors Collaborative. *Guidance on Developing Quality Interprofessional Education for the Health Professions*. Chicago, IL: Health Professions Accreditors Collaborative; 2019.

Interprofessional Education Collaborative. *Core Competencies for Interprofessional Collaborative Practice: 2016 Update*. Washington, DC: Interprofessional Education Collaborative; 2016.

Table 3–2. Resources and tools for teamwork.

Geriatric Interdisciplinary Team Training 2.0 (GITT 2.0)	https://consultgeri.org/gitt-2.0-toolkit
Health Professions Accreditor Collaborative (HPAC)	https://healthprofessionsaccreditors.org/
Interprofessional Education and Practice (IPEP) eBooks	https://consultgeri.org/education-training/e-learning-resources/interprofessional-education-and-practice-ipep-ebooks
Interprofessional Education Collaborative (IPEC)	https://www.ipecollaborative.org/
National Center for Interprofessional Practice and Education (NEXUS)	https://nexusipe.org/
TeamSTEPPS	https://www.ahrq.gov/teamstepps/index.html

Salas E, Almeida SA, Salisbury M, et al. What are the critical success factors for team training in health care? *Jt Comm J Qual Patient Saf*. 2009;35(8):398-405.

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The National Center for Interprofessional Practice and Education. https://nexusipe.org. Accessed April 11, 2019.

BARRIERS TO THE ADVANCEMENT OF TEAMWORK

While data support the benefits of interprofessional teamwork for patients and health professionals, most practicing professionals have received minimal or no relevant training, and efforts to increase interprofessional teamwork often meet attitudinal, educational, and fiscal barriers. One challenge relates to the medical profession's history of unchallenged authority and attitudes toward teams. Physician attitudes toward teamwork, in general, are particularly problematic. Reasons may include medical training that rewards autonomy and individual efforts, lack of perceived value added by teamwork, and perceived losses of power, time, and money. With a paucity of role models and strong cultural influences, it is not surprising that medical trainees have rated lower agreement on the benefits of teamwork compared with nursing, pharmacy, and social work students.

Additional barriers to improving interprofessional teamwork are systems and infrastructure based. First, despite the ubiquity of health care teams, widespread formal teamwork education of practicing clinicians has lagged in the United States. Consequently, because teams in practice do not use principles of teamwork, minimal ongoing team training

occurs. Second, few incentives exist for implementing or improving IPE and practice as there are currently limited reimbursement opportunities for the implementation of innovative and collaborative educational programs or for team services provided by practicing health professionals. In addition, few medical and health professional schools or medical practices recognize teamwork skills for the purposes of individual advancement or promotion. Third, logistical barriers are a prevalent problem that often centers on finding time for teaching or participating in teamwork. At the preprofessional level, hindrances include conflicting academic calendars and locations of training sites, while tension in the practice setting centers on balancing release time for team training with staffing needs of hospitals and clinics for patient care. Finally, the current infrastructure does not support clinical workflow to facilitate communication and accountability among clinicians ascertaining and communicating patients' health priorities and concerns.

Boyd C, Smith CD, Masoudi FA, et al. Decision making for older adults with multiple chronic conditions: executive summary for the American Geriatrics Society guiding principles on the care for older adults with multimorbidity. *J Am Geriatr Soc.* 2019;65:665-674.

Leipzig, RM, Hyer K, Ek K, et al. Attitudes toward working on interdisciplinary health care teams: a comparison by discipline. *J Am Geriatr Soc*. 2002;50(6):1141-1148.

Young HM, Siegel EO, McCormick WC, Fulmer T, Harootyan LK, Dorr DA. Interdisciplinary collaboration in geriatrics: advancing health for older adults. *Nurs Outlook*. 2011;59(4):243-250.

FUTURE STEPS

As demonstrated by its historic and current state, interprofessional practice is essential to achieve the desired patient-centered outcomes of the aging population. Along with the development and dissemination of new interprofessional practice models, IPE and learning environments must be positioned to meet the challenges in developing future health care professionals. In order to transform the current standard of care, it is necessary for interprofessional practice and education to develop in tandem.

In the United States, the Centers for Medicare and Medicaid Services Innovation Center, established in 2010 as part of the ACA, tests models that improve care, lower costs, and better align payment systems to support patient-centered practices. The Innovation Center plays a critical role in implementing the Quality Payment Program, which Congress created as part of the Medicare Access and CHIP Reauthorization Act of 2015 (MACRA) to replace prior payment structures. In the Quality Payment Program, clinicians may earn incentive payments by participating to a sufficient extent in Advanced Alternative Payment Models (APMs). In Advanced APMs, clinicians accept some risk for their patients' quality and cost outcomes and must meet other specified criteria. Many of these models of care, such as Medicare Shared Savings Programs in Accountable Care Organizations (ACOs) and Comprehensive Primary Care Plus (CPC+) in Primary Care Transformation, developed through the Innovation Center, incorporate interprofessional care. These steps toward development, implementation, and testing of innovative interprofessional care models must continue in the future in order to truly transform the delivery of care to older adults.

Implementation and dissemination of innovative models of interprofessional practice and education will require continued culture evolution and investment of time and resources. Differences in professional identities and cultures must be reconciled, with the recognition that everyone, from early learners to seasoned professionals, harbors biases, stereotypes, and inadequate knowledge of other professions. Health system and academic leaders need to address the practical problems of differences in roles, priorities, service needs, structural barriers, schedules, and licensure and accreditation requirements among health professionals and students. Continued research will guide understanding of the most effective timing, teaching strategies, methods, settings, and assessment tools to develop team-ready professionals. Additionally, the impact of interprofessional practice and education on the Quadruple Aims, with a particular emphasis on patient-centered outcomes, must be demonstrated in order to ensure quality team-based health care is sustained. Professional and faculty development courses should train a cadre of health professionals who effectively teach and role model teamwork skills. Licensure, regulation, and accreditation are also powerful ways through which to promote interprofessional practice and education that advances patient-centered care of the older adult.

4 Goals of Care & Consideration of Prognosis

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GENERAL PRINCIPLES OF GOALS OF CARE DISCUSSIONS

Goals of care discussions provide a broad framework for decision making, helping align patients' underlying values and hopes with the realistic and achievable options for care given the current medical circumstances. This is no easy task, however, as patients and their family members may simultaneously express multiple goals for their health care, which may include maintenance of independence, prevention of illness, prolongation of life, relief of suffering, and maximization of time with family and friends. The relative importance placed on each goal may change over time as new information is shared with the patient or family, such as a new diagnosis or a worsening prognosis. These goals should serve as a guide from which patients and their physicians can develop specific plans for treatment when dealing with acute or chronic illnesses.

A PRACTICAL GUIDE TO GOALS OF CARE DISCUSSIONS

Goals of care can provide a guide for various decisions, including immediate decisions regarding life-sustaining treatments and decisions regarding preferences for preventive therapies such as cancer screening, and for the completion of advance directives. There is no one right way of having these discussions; however, the following outlines seven practical steps for having a discussion (see Table 4–1 for words to use, and Table 4–2 for words to avoid).

1. *Prepare:* Clinicians should establish an appropriate setting, one that is quiet with enough space for all participants to sit down. The clinician should identify appropriate participants, including extended family, other consultants, or team members, such as social work or chaplaincy. A facilitator should be identified in advance if more than one clinician or team member will be present. Also, ensure adequate time is set aside for the meeting and that interpreters are used if needed.
2. *Create structure:* At the start of the meeting, all participants should introduce themselves. The purpose of the meeting should be made explicit. Clinicians should also ask about patient and family preferences for information sharing and decision making.
3. *Explore understanding of medical situation and underlying values:* Effective decision making depends on both health care providers and patients having an understanding of the patient's illness and prognosis. Clinicians should determine what the patient and family members understand about the patient's illness and its expected natural course. Information should be given in small, easy-to-understand statements with frequent checks to assess for comprehension. This is also a time to explore what outcomes patients and families are hoping for and which ones they would want to avoid, as well as what is most important in their lives and what they would like most to accomplish. These discussions can elicit a variety of emotional reactions including anger, disbelief, relief, and shock. Always acknowledge patient emotions first, before you give more factual information.
4. *Define overarching goals:* Based on what was learned about the patient's and family's hopes and expectations, providers can explore or suggest overarching goals. This should also be a time to address hopes and goals that may be unreasonable or unrealistic given the current health state or future prognosis.
5. *Assist in making a decision based on the patient's beliefs and values:* Discuss how goals can be achieved by discussing treatment options consistent with the patient's goals of care. This should include the potential benefits, harms, and burdens associated with various therapies, and the likelihood that the proposed intervention will accomplish the goals that have been specified.

Table 4–1. Words that may be useful when discussing goals.

1	Prepare	"At our next visit, I would like to talk about your health and the ways we can go forward with your care. Is there someone who you think should be at this meeting?"
2	Create structure	"Some patients feel it is important to know all the details of their illness, prognosis, and treatment options; others don't and want others to make decisions for them. How do you feel?"
3	Explore understanding and values	"Tell me how things are going for you?" "What do you understand about your current health?" "Given what we know about your health and prognosis, what things are most important to you? What are your hopes? Fears?" "When you think about getting very sick, what worries you the most?"
4	Define overarching goals	"It seems to me that what is most important to you is that you remain comfortable and that we get you back to your home. Is that correct?"
5	Assist in making a decision	"Considering how important being pain free and remaining at home appears to be for you, I recommend that we…."
6	Plan for follow-up	"It sounds like you could use some more time to think about these issues and discuss them with your family. Can we talk more tomorrow afternoon?" "I am sure you will have lots of questions later. Here is how to reach me."
7	Document goals and decisions	"Considering your wishes, I think it would be important to document this in orders by using a physician order for life-sustaining treatment (POLST) form, which can help ensure that your preferences for end-of-life care are followed."

6. *Plan for follow-up:* Goals and preferences may change over time, so these discussions should be considered part of an ongoing process.
7. *Document goals and decisions:* This may include documentation in the chart, in advance directives, or if preferences for potentially life-prolonging therapies are clear, in state-authorized portable orders such as the physician orders for life-sustaining treatments (POLST). See Chapter 21, "Ethics & Informed Decision Making," for more information on advance care planning.

Table 4–2. Words to avoid when discussing goals.

Words to Avoid	Rationale
"There is nothing more we can do"	There is always something more that can be done, including symptomatic relief and provision of psychosocial support to patients and family members.
"We plan to withdraw care"	Care is never withdrawn. We always continue to care.
"Heroic measures"	Too vague of a term. Who would not want to be a hero?
"Your diagnosis is terminal"	Sounds cold (like the terminator), as if the patient is cut off from all options.
"Would you like us to do everything possible?"	"Everything possible" is too vague, and "everything possible" may include contradictory treatments. Hospice care and intensive care unit care may both be possible, for example.

IMPORTANCE OF SURROGATE DECISION MAKERS

One out of four older adults may require surrogates to make or help make medical treatment decisions before death. Physicians have a responsibility to help these surrogates make decisions consistent with the preferences, values, and goals for care of the patient. However, because of the often uncertain and unanticipated nature of medical illness, even if specific preferences have been laid out in advance directives, these directives may not address the decision at hand and may still require interpretation by the surrogate. Complicating matters further, older adults may desire that future decisions be made based on the wishes and interests of family members, not just their own stated preferences for care.

Involving surrogates in advance care planning discussions with the patient prior to incapacitation may help increase the chances that the wishes of a patient are known to the surrogate and may help lessen the burden of surrogate decision making. These discussions should focus on preparing surrogates for future decisions, including appointing a health care proxy to serve as a surrogate in the event of incapacity, clarifying and articulating a patient's values and preferences, and addressing how much leeway surrogates have in decision making.

PROGNOSTICATION

Prognostication can be divided into two parts. The first is the estimation of the patient's prognosis by the clinician. The second is communicating the prognosis to the patient and/or family. Studies have shown that older adults often care about their prognosis for remaining independent and cognitively intact as much as or more than their prognosis for survival. However, life and death predictions are often implied when individuals ask about "prognosis." Clinicians should ask patients to clarify the outcome they are concerned about.

Why Prognosis in Older Adults Is Important

Estimating and communicating prognosis are both key components in clinical decision making. Prognostication provides patients and families with information to determine realistic, achievable goals of care. It targets interventions to those likely to live long enough to realize the beneficial outcomes. It establishes patients' eligibility for care programs such as hospice or advance illness management programs. It also impacts decisions outside of the health care setting, including how individuals decide to spend time and their money.

A key part of decision making based on goals of care is the need for explicit consideration of the likely outcomes of possible medical interventions. Simply asking a patient's preferences for an intervention such as cardiopulmonary resuscitation (CPR) is rather meaningless unless there is consideration of likelihood that the intervention will produce a desirable outcome consistent with the individual's goals. Furthermore, if outcomes are not explicitly discussed, patients may hold on to erroneous ideas about the likelihood of particular outcomes. However, if misconceptions are corrected and outcomes are clearly discussed, patients may change their preferences for certain interventions to those more consistent with the underlying values. For example, patients are more likely to express a preference against CPR if they are informed of the likelihood of survival after an arrest.

There are three important concepts to remember when considering prognosis in the older adults. The first is that estimating prognosis in older adults is made more complicated in that they are more likely to have more than one chronic progressive illness that impacts life expectancy. In these individuals, it would be inadequate to focus on only one problem when estimating prognosis, as it would not take into account the interaction of their medical problems. The second is that most prognostic tools in younger patients are based on specific diseases; in the oldest old, however, functional limitations are greater predictors of mortality than chronic conditions. Most disease-specific prognostic tools do not adequately account for functional status. The third is that clinical decision making must take into account the likelihood that a patient will live long enough to survive to benefit from a proposed intervention. For example, preventative therapies, such as cancer screening, blood pressure management, and glycemic control, have all been shown to be effective in healthier, highly functional cohorts of older adults. Because the benefits of these treatments all require many years to accrue, frail older adults may not realize the benefit in the time they have left to live. They are, however, exposed to the risks and harms of the intervention, which often occur much earlier than the delayed benefits.

Estimating Prognosis

The most common type of prognostication is simply using clinician judgment and experience. Prognostication based on clinician judgment is correlated with actual survival; however, it is subject to various shortcomings that limit prognostic accuracy. Clinicians are more likely to be optimistic and tend to overestimate patient survival by a factor of between three and five. Clinical predictions also tend to be more accurate for short-term prognosis than long-term prognosis. The length of doctor-patient relationships also appears to increase the physician's odds of making an erroneous prognostic prediction. Accuracy of clinician predictions may be improved by integrating clinical predictions with some other form of estimating prognosis such as life tables or prognostic indices.

Life tables estimate remaining life by comparing to national averages for individuals of similar age, sex, and race (see Chapter 20, "Prevention & Health Promotion," for an example of a life table). These estimates give information on median life expectancy, although the heterogeneity in health states and prognosis among older adults of the same age significantly decreases its value. Using clinical characteristics such as comorbidities and functional status to estimate whether a patient will live shorter or longer than the median life expectancy may help individualize prognostic estimates in the clinical setting.

Prognostic indices are a useful adjunctive in prognostication. Clinicians should select indices that predict mortality over a time frame equal to that time to benefit for the intervention. Clinicians should also select indices that have been tested in settings that resemble the patient's clinical situation, that have reasonable accuracy in predicting risk, and that use readily available data as their variables. A helpful repository of published geriatric prognostic indices can be found at www.ePrognosis.org. Prognostic indices are intended to supplement rather than replace the clinical judgment of clinicians based on their assessment of the patient's condition. When using any of these methods to estimate prognosis, it is important to know that it is not a one-time event. Rather, it is a process that involves periodic reassessment.

Non–Disease-Specific Prognosis

Many older adults do not die from a single disease; instead, they die from the interacting effects of multiple chronic conditions, functional impairment, and cognitive decline. Several non–disease-specific prognostic indices have been created in recognition of this fact. These indices were the subject of a systematic review. Here we list some of the highest-quality indices, commenting on their practical application in clinical settings.

- *Schonberg 5- and 9-year index for community-dwelling older adults:* This index was developed from a nationally representative survey of older adults. Included risk measures are general aspects of clinical care that most geriatric providers would have access to, including history of diabetes, cancer, independence in instrumental activities of daily living (IADLs), and mobility. The only exception is self-rated health. The 9-year time frame may be particularly useful for making long-term screening decisions.
- *Lee 4- and 10-year index for community-dwelling older adults:* Similar to the Schonberg index, this index was also developed from a national representative survey of older adults. Included risk measures are clinically accessible. Of note, the Lee and Schonberg indices have been combined into a single index on ePrognosis.org to help clinicians quickly get multiple prognostic estimates.
- *Walter 1-year index for hospitalized older adults:* This index was developed from the Acute Care for Elders data set from two hospitals in Cleveland, Ohio. All risk measures would be easy to locate in the patient's medical record, including admission creatinine and albumin and activities of daily living (ADL) disability at the time of discharge. For decisions about hospice eligibility at hospital discharge, the risk of death at 6 months crosses the 50% threshold in the highest-risk group.
- *Porock 6-month index for nursing home residents:* All risk measures are derived from the minimum data set and should be readily accessible to the clinician.

PROGNOSIS RELATED TO SPECIFIC DISEASES

Advanced Dementia

The long clinical course of advanced dementia makes estimating an accurate short-term prognosis difficult. Individuals with advanced disease may survive for long periods of time with severe functional and cognitive impairments. They are also at risk of sudden, life-threatening complications of advanced dementia, such as pneumonia and urinary tract infections. These complications can serve as a marker of a very poor short-term survival. In one prospective study of patients with advanced dementia residing in a nursing home, the 6-month mortality rates after the development of pneumonia, a febrile episode, or eating problems were 47%, 45%, and 39%, respectively. Short-term survival rates are similar for individuals with advanced dementia who are admitted to the hospital with either pneumonia or a hip fracture, with 6-month mortality rates exceeding 50%.

Several validated indices have been developed to predict survival in advanced dementia; however, their ability to predict the risk of death within 6 months is poor. An example of a mortality index that can be used in nursing home residents with advanced dementia is the Advanced Dementia Prognostic Tool (ADEPT), also found on ePrognosis.org. The ADEPT can help identify nursing home residents with advanced dementia who are at high risk of death within 6 months, although only marginally better than current hospice eligibility guidelines.

Congestive Heart Failure

The majority of deaths from advanced heart failure are preceded by a period of worsening symptoms, functional decline, and repeated hospitalizations as a result of progressive pump failure. Despite significant advances in the treatment of heart failure, the prognosis in patients who have been hospitalized for heart failure remains poor, with a 1-year mortality rate ranging from 20% to 47% after discharge. The prognosis only worsens for those with multiple hospitalizations. In one prospective study, the median survival times after the first, second, third, and fourth hospitalization were 2.4, 1.4, 1.0, and 0.6 years, respectively. Advanced age also worsens prognosis as the median survival decreases to 1 year for 85-year-olds after one hospitalization and to approximately 6 months after two hospitalizations.

Other indicators of a poor prognosis in heart failure include patient demographic factors, heart failure severity, comorbid diseases, physical examination findings, and laboratory values. Heart failure–specific prognostic indices often combine many of these factors to help identify patients who have a high short-term mortality. The Seattle Heart Failure Model is a well-validated index composed of 14 continuous and 10 categorical variables that provides accurate estimates on 1-, 2-, and 5-year mortality for community-dwelling heart failure patients, as well as mean life expectancy both before and after intervention. An online calculator is available at http://depts.washington.edu/shfm/. For hospitalized patients, providers can use the EFFECT Heart Failure Mortality Prediction tool, which can be found at http://www.ccort.ca/Research/CHFRiskModel.html.

Chronic Obstructive Pulmonary Disease

Severity of disease, comorbidities, and, to a lesser degree, acute exacerbations influence prognosis in chronic obstructive pulmonary disease (COPD). The most widely studied

Table 4–3. BODE index.

Variable	Points on BODE Index			
	0	1	2	3
FEV_1 (% predicted)	≥65	50–64	36–49	≤35
6-minute walk test (meters)	≥350	250–349	150–249	≤149
MMRC dyspnea scale	0–1	2	3	4
Body mass index	>21	≤21		

Higher BODE scores correlate with an increasing risk of death	
BODE Index Score	**Approximate 4-Year Survival**
0–2	80%
3–4	67%
4–6	57%
7–10	18%

FEV_1, forced expiratory volume in 1 second; MMRC, Modified Medical Research Council.

Data from Celli BR, Cote CG, Marin JM, et al. The body-mass index, airflow obstruction, dyspnea, and exercise capacity index in chronic obstructive pulmonary disease, *N Engl J Med* 2004 Mar 4;350(10):1005-1012.

mortality index in COPD is the BODE index (Table 4–3). It includes four variables known to influence mortality in COPD: weight (body mass index [BMI]), airway obstruction (forced expiratory volume at 1 second [FEV_1]), dyspnea (Medical Research Council dyspnea score), and exercise capacity (6-minute walk distance). The BODE index has been shown to be more accurate than mortality prediction based solely on FEV_1. However, the BODE index is not useful in predicting short-term life expectancy (in weeks to months).

Cancer

Prognosis for earlier stage cancer is primarily based on tumor type, disease burden, and aggressiveness suggested by clinical, imaging, laboratory, pathologic, and molecular characteristics. Tumor-specific factors tend to lose prognostic significance for patients with very advanced cancer. For these advanced cancers, patient-related factors, such as performance status and clinical symptoms, have increasing significance in regard to short-term mortality. Performance status has consistently been found to be a strong predictor of survival in cancer patients. Several different measures of performance status have been developed, including the Eastern Cooperative Oncology Group (ECOG) performance status and the Karnofsky performance status (KPS); however, these are crude measures of function compared to a geriatric assessment that includes evaluation of ADLs and IADLs. High-performance status score does not necessarily predict long survival, although low or decreasing performance status has been shown to be reliable in predicting a poor short-term prognosis. Symptoms that are associated with a poor short-term prognosis in advanced cancer include dyspnea, dysphagia, weight loss, xerostomia, anorexia, and cognitive impairment. The Palliative Prognostic Index (PPI) is an example of a tool that predicts the short-term survival of advanced cancer patients in the palliative care setting by combining functional status with presence of symptoms of edema, delirium, dyspnea at rest, and oral intake. Nomograms can be used to predict outcomes for a variety of different common cancers. A helpful repository of cancer nomograms can be found at https://www.mskcc.org/nomograms.

COMMUNICATING PROGNOSIS TO PATIENT OR SURROGATE

Communicating bad news, such as a poor prognosis, to a patient or a patient's family is one of the most difficult tasks in medicine. Most physicians are not trained in how to communicate about prognosis, most believe their training in prognostication is deficient, and the prognosis clinicians communicate to family tends to be overly optimistic. Yet, the majority of patients and families prefer to discuss prognosis with physicians, even in the face of uncertainty. The consequences of failing to communicate prognosis with patients and their surrogates are great. For instance, patients are more likely to receive aggressive end-of-life care and less likely to receive symptom-directed care when they have a poor understanding of their prognosis.

The SPIKES mnemonic is one way to help remember key steps in delivering bad news such as a poor prognosis (Table 4–4), similar to having a framework for goals of care discussions, as discussed earlier. Technical language should be avoided. For example, most individuals do not understand the term *median survival* when used by their physicians. Similarly, vague language such as "good" or "poor" chance of survival may also lead to misinterpretations. Combining

Table 4–4. The SPIKES mnemonic for delivering bad news.

S	Setting up the interview
P	Patient's Perception (assessing what they understand of their illness and prognosis)
I	Obtain the patient's Invitation (ask about the readiness to discuss prognostic information)
K	Give Knowledge and information (give prognosis in the context of the patient's illness)
E	Address the patient's Emotions with empathic response
S	Strategy and Summary (establish and summarize a clear care plan)

both qualitative and numeric language may improve comprehension of prognostic statements.

Exploring patient and surrogate understanding and personal beliefs about prognosis is imperative in these discussions. Few surrogates report basing their view of their loved one's prognosis solely on the physician's prognostic estimate. Rather, most attempt to balance the physician's judgment of prognosis with other factors, including (1) their own knowledge of the patient's intrinsic qualities and will to live; (2) their observations of the patient; (3) their belief in the power of their support and presence; and (4) optimism, intuition, and faith. Furthermore, even in the face of poor prognostic information, patients and surrogates remain optimistic and overestimate survival.

SUMMARY

Accurate prognostication allows clinicians to provide patients and families with realistic options for care given current medical circumstances and aids in determining which interventions offer little chance of benefit because of competing risks of morbidity and mortality. The use of structured approaches, such as SPIKES, is one way to ensure that this information is delivered in an effective and empathic manner. Prognostic information should be used along with consideration of other health priorities, such as maintaining independence, as part of shared decision making with older adults and their family members.

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USEFUL WEBSITES

EFFECT Heart Failure Mortality Prediction tool. http://www.ccort.ca/Research/CHFRiskModel.html. Accessed March 5, 2020.

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5 Functional Assessment & Functional Decline

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THE DISABLEMENT PROCESS

Older persons consistently indicate that maintaining independence is their top priority. The capacity to complete a series of day-to-day actions and tasks with as little difficulty as possible, irrespective of having chronic illnesses, determines good health and quality of life and is an important element of successful aging. However, for almost everyone, aging brings functional challenges that can compromise independence. Chronic and acute conditions, which are increasingly common as people age, are the trigger points for the disablement process. These conditions cause the development of impairments in specific body systems, which then result in functional limitations, eventually culminating in disability (Figure 5–1). Disability is defined as difficulty or need for help doing activities in any domain of life (from personal care to hobbies) due to a health or physical problem. For example, diabetes (chronic condition) leads to peripheral neuropathy (impairment), which then leads to poor balance and mobility (functional limitation), which finally leads to an inability to bathe in the tub/shower (disability).

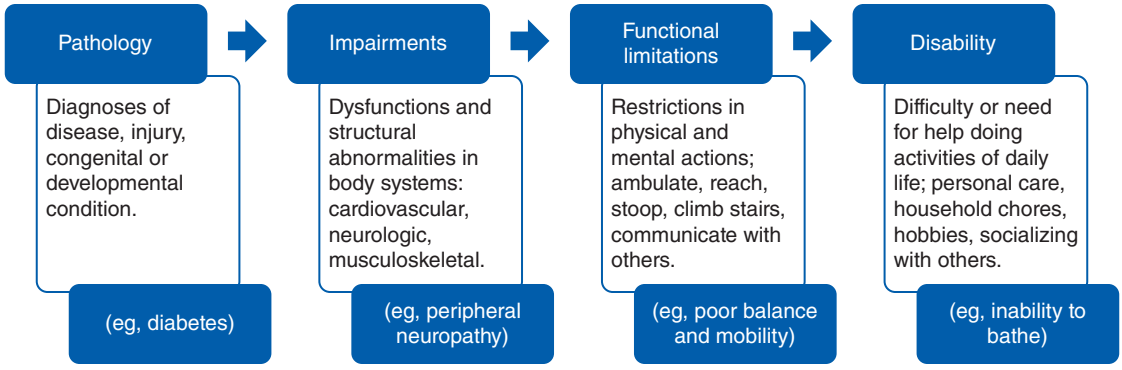
For chronic diseases such as diabetes and hypertension, the linkage to disability is indirect and often distant, spanning years to decades. For other chronic diseases, such as knee osteoarthritis and dementia, the linkage is more direct and less distant, spanning months to years. For acute diseases and injuries, such as infections and fall-related injuries, the linkage is often direct and happens suddenly.

This process leading to disability is always influenced by an individual's intrinsic factors (socioeconomic status, lifestyle, behavioral and psychological aspects) and environmental factors (access to medical care, medications and other therapeutic regimens, devices and structural modifications for accessibility). Although some risk factors are nonmodifiable, such as advanced age and female gender, most of them are potentially modifiable such as current smoking, excessive alcohol consumption, sedentary lifestyle, limited access to health care and social services, polypharmacy and the use of potentially inappropriate medications (eg, anticholinergic drugs and benzodiazepines), and challenges in home structure (eg, broken flooring and stairs without handrails).

Disability should not be considered a personal characteristic but instead a gap between personal capability and environmental demand. It is important to distinguish between intrinsic disability and actual disability. With intrinsic disability, one might be disabled without environmental modifications or adaptive equipment, but providing these modifications and assistance restores independence. With actual disability, one is disabled even with these modifications and assistance. This distinction notes the importance of detecting modifiable factors, especially those external to the individual, that influence the capacity of a person to keep their function. For example, persons with diabetes and peripheral neuropathy who have difficulty bathing could maintain their independence for a longer time if provided adequate access to health care assistance and if they receive physical rehabilitation and simple home modifications (eg, grab bars in the bathroom).

EPIDEMIOLOGY OF FUNCTIONAL DISABILITY

Among older people, disability in activities of daily living (ADLs) is common and highly morbid. Nearly one in three older adults in the United States, representing almost 17 million people, has difficulty performing or receives help with one or more basic ADLs. ADLs include tasks, such as bathing, toileting, dressing, eating, getting in/out of chairs, and walking across the room, that are essential for personal care and independence (Box 5–1). The prevalence increases to 50% or more among those 85 and older, making the problem even more significant as the oldest old people represent the fastest-growing segment of the population. The rates are also substantial for difficulty or need for help doing instrumental activities of daily living (IADLs) and walking one-quarter of a mile (Figure 5–2). IADLs comprise essential



▲ **Figure 5–1.** The disablement process.

Box 5–1. Activities of Daily Living

Basic Activities of Daily Living (ADLs)

Activity	Independent	Needs Help	Example of Needing Help
Dressing	☐	☐	Needs help with any item of clothing
Bathing	☐	☐	Needs help getting in or out of the tub
Toileting	☐	☐	Needs help transferring or cleaning
Transferring	☐	☐	Needs help moving from bed to chair
Grooming	☐	☐	Needs help with daily hygiene
Eating	☐	☐	Needs help getting food to the mouth

Instrumental Activities of Daily Living (IADLs)

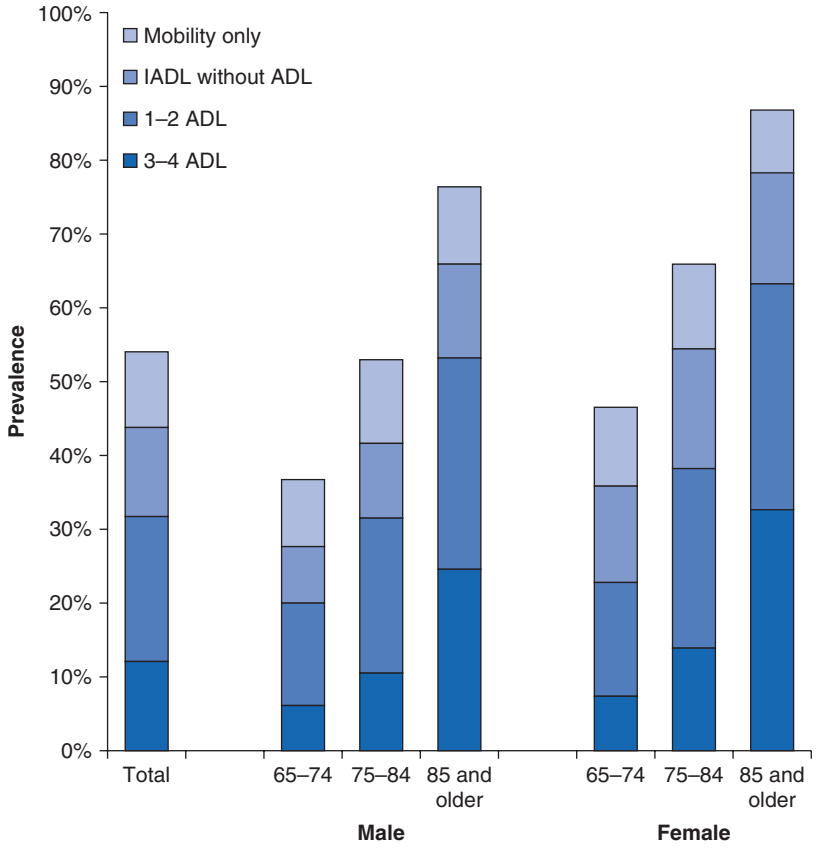
Activity	Independent	Needs Help	Example of Needing Help
Shopping	☐	☐	Needs to be accompanied
Housework	☐	☐	Does not perform any housekeeping
Transportation	☐	☐	Requires assistance for travel
Using the Telephone	☐	☐	Does not use the telephone
Managing Finances	☐	☐	Can't handle money day-to-day
Managing Medications	☐	☐	Requires medications are prepared

skills for an individual living independently in a community such as managing money, using the telephone, shopping, using transportation, preparing meals, and cleaning and maintaining the house (Box 5–1). Regardless of the type of activity assessed, the prevalence of disability is consistently higher among women than men (Figure 5–2).

Although disability in older adults is often thought to be progressive and permanent, more recent research has shown that many individuals who experience one episode of disability regain their independence, at least temporarily. Disability is a dynamic process, and episodes are often transient. Approximately one in three community-dwelling older adults who are independent in their ADLs will report at least one episode of needing help in any ADL during a 1-year follow-up. Among those who develop new ADL disability, 81% regain independence within 12 months of their initial disability episode. Even among those who experience 3 consecutive months of disability, 60% recover independence. While most older individuals experiencing new disability can be reassured that they will restore independence, those who recover from one episode are at high risk for recurrent disability.

Functional disability is often seen as a problem affecting people 65 years or older and especially the oldest old (≥85 years). However, it is also common in middle-aged adults. Nearly 15% of adults 55 to 64 years have difficulty performing at least one ADL, a group that includes people with longstanding impairments that are congenital or developed in young adulthood, as well as people with impairments that are newly acquired in middle age.

It is noteworthy that functional disability, even for brief episodes lasting 1 or 2 months, is strongly linked to multiple adverse health outcomes, such as depression, social isolation, hospitalization, poor quality of life, nursing home placement, further disability progression, and death. Compared to older adults with no ADL disability, those with ADL disability are five times more likely to be institutionalized and three times more likely to be deceased 2 years later. In addition, the yearly



▲ **Figure 5–2.** Prevalence of functional disability by age group and gender. Activities of daily living (ADL) disability refers to difficulty or need for help doing one or more of the following tasks: bathing, dressing, eating, getting in/out of chairs, walking, or using the toilet. Instrumental activities of daily living (IADL) disability refers to difficulty or need for help doing one or more of the following tasks: using the telephone, light housework, heavy housework, meal preparation, shopping, or managing money. Mobility-related disability refers to difficulty or need for help walking one-quarter of a mile.

cost in the United States of caring for older people with disability in the community ranges from $5531 for the least disabled to >$46,480 for the most disabled who need a home health aide full time. An estimated $450 billion in unpaid care is provided by family or informal caregivers assisting older persons in performing everyday self-care tasks. An additional $350 billion each year is spent on nursing home care for individuals unable to function independently. As the population ages, the costs associated with ADL disability will continue to climb. Moreover, even among people between 50 and 64 years of age, difficulty performing ADLs has important clinical implications indicating increased risk for hospitalization, nursing home admission, and death. Thus, the focus of health care should shift from illnesses management to preventing disability and restoring function. The focus on function is the key to promoting successful aging and maintaining older adults' independence as long as possible.

ASSESSMENT OF FUNCTIONAL STATUS

Functional status can be assessed by a self-report or proxy report, by physical performance tests, or by direct observation of task performance. These different methods provide complementary information. A practical screen starts with a simple observation of the older adult's transfers and ambulation during the medical appointment. In addition, simple questions may be asked during the medical interview, such as (1) "Do you need help taking a bath or shower?"; (2) "Is getting dressed difficult for you?"; and (3) "Do you need help taking your medications?" Clinicians should also think of function in terms of important activities necessary for personal care (ADLs) and for living independently in the community (IADLs). In older adults with evidence of cognitive impairment, it is essential to confirm self-reported ability to perform ADLs with a caregiver or other appropriate