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SPECIAL ARTICLE

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Complexities of care: Common components of models of care in geriatrics

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Abstract

As people age, they are more likely to have an increasing number of medical diagnoses and medications, as well as healthcare providers who care for those conditions. Health professionals caring for older adults understand that medical issues are not the sole factors in the phenomenon of this "care complexity." Socioeconomic, cognitive, functional, and organizational factors play a significant role. Care complexity also affects family caregivers, providers, and healthcare systems and therefore society at large. The American Geriatrics Society (AGS) created a work group to review care to identify the most common components of existing healthcare models that address care complexity in older adults. This article, a product of that work group, defines care complexity in older adults, reviews healthcare models and those most common components within them and identifies potential gaps that require attention to reduce the burden of care complexity in older adults.

KEYWORDS

care complexity, complexity of care, geriatrics, models of care, older adults

INTRODUCTION

The aging of the population and the ability to extend life in the face of advanced chronic illness has created challenges for the U.S. healthcare system, which remains largely focused on providing care for acute illnesses. As people age, they are more likely to have an increasing number of medical diagnoses and medications, as well as

healthcare providers who care for those conditions. Health professionals caring for older adults understand that medical issues are not the sole factors in the phenomenon of "care complexity." Socioeconomic, race, ethnicity, cognitive, functional, and organizational factors play a significant role. Care complexity also affects family caregivers, providers, and healthcare systems. In turn, this affects society at large by placing demands on a stressed workforce and a significant financial burden on Medicaid, Medicare, and local health departments. In 2018, the American Geriatrics Society (AGS) Board of Directors charged the Clinical Practice and Models of Care Committee (CPMC) with creating a work group to investigate "care complexity in older adults" and to create a document that summarizes the role of existing healthcare models in addressing care complexity by reviewing models of care, along with any components in common, that have a positive impact on the care of older adults. It is important to note that the writing group was not charged with reviewing the literature to identify how well models had been diffused, whether or not this type of care is being reimbursed, or whether models would require engagement of a geriatrics health professional for successful implementation.

In contrast to the term "serious illness" used in palliative care,[1] the term "care complexity" is used in geriatrics in situations when an older adult's status is not necessarily "serious" in the short term with regard to remaining life expectancy. However, there may still be many layers of complexity that pose challenge and burden to the patient, caregiver(s), and healthcare team. Indeed, care management for many older adults can remain "complex" for many years; therefore, the term "chronically complex" more completely describes the challenges of this population over time compared with "serious illness," which is more limited. Hence, this is an important difference in the definitions and approach between palliative care and geriatrics. Geriatrics has another important distinction—the physiology of aging and the interplay with disease are different in older adults than in other populations. Providers must continually estimate this effect and factor the impact of aging into an already complex care situation (medical, cognitive, functional, and psychosocial). Models of care by geriatrics health professionals typically address these many layers of complexity and, therefore, tend to be better equipped to serve older adults with complex care needs. Ideally, healthcare professionals with specialized training in geriatrics would lead clinical implementation of these models but given the shortage of professionals with such certification, there are ongoing efforts to study how to provide the existing workforce with sufficient geriatrics expertise to implement changes in how care is delivered in systems.[2–5] The AGS has long advocated for improvement and change in the care of older adults with complex care needs through numerous publications in this Journal, as well as through actions taken by AGS committees. A sampling of these efforts include the creation of model practice on the management of older adults with multimorbidity,[6] as well as advice on managing multiple medications through repeated updates to the AGS Beers Criteria® for Potentially Inappropriate Medication Use in Older Adults (Beers Criteria) with suggestions for deprescribing.[7] The AGS participation in the American Board of Internal Medicine Foundation Choosing Wisely Campaign has generated specific advice to providers about certain tests and treatments that are often unnecessary for older adults.[8] AGS has also prepared position statements on improved care of older adults by promoting a multicultural and open-minded perspective.[9–12] Geriatrics educators teach and model the use of the comprehensive geriatric assessment to identify those older adults with functional, cognitive, social, or economic impairments and to help create an individualized patient care plan to address those needs.[13,14]

This article defines care complexity in older adults, summarizes the factors that contribute to care complexity, and reviews 18 existing models of care and their common components that address these complex needs associated with caring for older people. Finally, the article identifies potential gaps that require attention to reduce the burden of care complexity in older adults.

Key points

- Older adult patients have an increasing number of medical diagnoses and medications coupled with non-medical factors like socioeconomic, cognitive, functional, and organizational statuses, creating a "care complexity" phenomenon.
- Models of care address this complexity through specific components of care that the author workgroup identified and compared across models to see which were more prevalent.

Why does this paper matter?

Identifying core components of geriatric models of cares simplifies the process of implementing and maintaining them in current models and their potential inclusion in future models.

DEFINING COMPLEXITY OF CARE

Although complexity of care lacks an established definition, patients with complex care needs typically face challenges in several domains. *Patients with complex care needs often have multiple chronic conditions; physical frailty and disability; and cognitive, psychiatric, social, and financial issues. As a result of these overlapping impediments to good health, they are also more likely to be high utilizers of healthcare resources*. Although younger adult patients may meet these criteria, patients with complex care needs are disproportionately older and may also have multiple geriatric syndromes.

Although this article is not specifically focused on care models developed to support people living with dementia, it is important to note that this patient population and their caregivers have particularly complex care needs given the progressive nature of cognitive and functional impairments, behavioral symptoms, and the prolonged course of this disease. There are an estimated 5.8 million people living with Alzheimer's disease, the most common cause of dementia, in the United States. By 2025, the number is expected to climb to 7.2 million; by 2060, 13.8 million.[15] Caregiving for people with dementia is uniquely challenging and associated with high rates of stress and depression.[15] Informal caregivers for people living with dementia (i.e., mostly friends and family) provided an estimated 18.6 billion hours of unpaid caregiving in 2020, which is approximated to be worth $244 billion.[15] Caregivers are not systematically identified or supported in the healthcare system. Moreover, the typical primary care appointment is too short to discuss dementia, prognosis, behavioral and psychological symptoms, and long-term planning. Although dementia was not a focus of this article, models that specifically address dementia-related care issues are noted.

A patient's story

Ms. H is an 85-year-old retired retail clerk with Parkinson disease, moderate dementia, anxiety, hypertension, spinal stenosis, and macular degeneration. She lived independently until a few months ago, when she moved in with her daughter because she needed help with activities of daily living. Ms. H is most concerned about chronic low back pain. Her daughter is concerned about the pain as well as her mother's worsening gait, recurrent falls, increasingly clouded cognition, and a complex regimen of 10 different drugs (including opioids and benzodiazepines) that require administration multiple times each day. Ms. H has been followed by a primary care physician, neurologist, physiatrist, and ophthalmologist. She also receives physical and speech therapy. She often has several medical appointments in a week.

Ms. H has multiple, disabling medical problems; a complicated medication regimen that carries high risk of adverse effects; poor mobility and functional status; and cognitive and sensory impairment. Her doctors and therapists are in different healthcare systems, which makes it difficult for them to communicate and coordinate care. She and her daughter have a fixed income and little social support. Although Ms. H has a Medicare Part D prescription plan, the expense of nonprescription medications, durable medical supplies (e.g., continence products), and copayments is a financial burden. As a sole caregiver, Ms. H's daughter experiences fatigue and psychological distress. She has limited health literacy and often feels that health professionals do not explain things clearly or listen to her. Ms. H and her daughter have adequate housing and access to nutritious food and health care, but they lack access to community supports, such as home health aides to help with toileting, bathing, and dressing. Like Ms. H, many older adults have complex health needs due to a convergence of medical, social, psychological, environmental, and health system factors.

DEVELOPMENT AND METHODS

The AGS Board of Directors charged the CPMC to develop a paper identifying the common elements of successful geriatrics models of care. The CPMC, which develops and disseminates best practices to ensure that every older American receives high-quality, person-centered care, convened a work group to identify geriatrics models of care and to review each to identify any elements in common.

The CPMC Chair and Vice Chair and the AGS Executive Committee reviewed the paper and made recommendations in February 2021. The Executive Committee approved the paper in October 2021. Following submission to JAGS, the paper was revised by the work group and reviewed by the Executive Committee of AGS in February 2022.

Models of care selection process

The work group defined a “model of care” as an evidence-based intervention in care that was intended to improve the health care of older adults and then compiled a list of the elements of the care models that were selected for review.

In May 2018, the list of successful geriatrics models and draft list of elements being proposed for more

intensive review were presented at a symposium at the AGS Annual Scientific Meeting in Orlando, FL. Feedback shared by attendees during the 90-minute session was compiled and reviewed by the work group to refine the list of models and elements to analyze for this article. One limitation of this approach was that the resulting list is not exhaustive as to all successful models of care that address the complex care needs of older adults. The work group believes that the identified models are diverse enough to identify common themes and approaches that are embedded in many geriatrics care models.

Literature review

Two distinct literature review strategies were used: a structured PubMed literature search and a search for primary websites of the selected models of care. The primary websites for the selected models of care were identified via an online search engine. Through these primary websites, as well as any associated literature that was referenced on the websites, we obtained the general description of the model and extrapolated the presence of components of interest. We also used the book *Geriatrics Models of Care*[16] as a supplementary reference for background on some models of care.

We then performed a PubMed literature search to identify evidence for success of the identified models of care, using articles that described the primary aims and implementation of the models that we had identified. We also reviewed secondary outcomes in evaluating the relative success of the models. One significant limitation is that we did not review the evidence to determine if underrepresented, disproportionately affected, and understudied populations had been included nor did we determine if models had been tested in underserved communities.

MODELS OF CARE SERVING OLDER ADULTS WITH COMPLEX CARE NEEDS

Acute Care for Elders unit

The Acute Care for Elders (ACE) unit is a specific and separate inpatient unit that serves geriatric patients admitted to acute hospital wards. It combines four components—a specialized and prepared environment, early discharge planning, medical care review, and an interdisciplinary team (IDT) plan of care—to lessen functional decline for hospitalized older adults.[17] ACE units have been shown to reduce cost, length of stay, readmission rates, delirium, and polypharmacy.[18] A separate study showed ACE units met hospital quality indicators and reduced costs by reducing length of stay and readmission rates.[19] Admission to an ACE unit versus standard of care led to improvement in activities of daily living and reduced frequency of discharge to long-term care facilities.[20]

AGS CoCare®—HELP, the Hospital Elder Life Program

AGS CoCare®: HELP—formerly known as the Hospital Elder Life Program (HELP) and created by Dr. Sharon Inouye—is a comprehensive care program for hospitalized older patients, designed to prevent delirium and functional decline.[5] This evidence-based model of care is designed to prevent delirium by using a multicomponent intervention with six standardized protocols that address specific risk factors for delirium: cognitive impairment, sleep deprivation, immobility, visual impairment, hearing impairment, and dehydration. It significantly lowers incidence of delirium among these patients.[21] Additional studies have shown that, in addition to lower rates of delirium, patients experience reductions in cognitive decline, functional impairment, and rate of in-hospital falls.[22,23] While it started in the acute hospital, HELP is now widely disseminated and has been successfully replicated on medical units, surgical units, and in skilled nursing facilities.

AGS CoCare® Ortho

AGS CoCare® Ortho is a comprehensive geriatric fracture co-management curriculum and toolkit that allows orthopedic surgeons to incorporate geriatrics care expeditiously after an older adult enters the hospital for a hip fracture. An online portal is available to provide tools, resources, education, and support for hospitals across the country to adopt this model.[4] The benefits of adopting this approach include reductions in time to surgery, length of stay, readmission, complications, ICU admissions, and inpatient mortality.[24,25]

Better Outcomes for Older Adults Through Safe Transitions

The Better Outcomes for Older Adults Through Safe Transitions (BOOST) model is a quality initiative project developed by the Society for Hospitalist Medicine with the intention to optimize the hospital discharge process

and improve communication among healthcare providers. It targets hospitalized adults preparing for hospital discharge and transition of care. Implementation of this model includes tools for assessing risk of readmission, preparation for the transition of care, and a structured approach for medicine reconciliation.[26] In a randomized controlled trial, BOOST was shown to lower the 30-day readmission rate.[27]

Bridge model

The Bridge model is a relationship-based and patient-centered approach to intervening with patients during discharge from acute hospital care. It serves adult patients with complex chronic health and social needs. It is driven by master's-level social workers who engage patients by getting to know their strengths and preferences through a needs assessment, integration of psychotherapeutic methods, and a standard approach to hospital-community-aging services network collaboration. The Bridge model has been shown to decrease readmission rates.[28,29]

Care Transitions Intervention

The Care Transitions Intervention (CTI) model targets older community-dwelling patients who are admitted to the hospital with complex care needs. An advance practice nurse serves as a "transition coach" to lead the four pillars of transitional care: medication self-management, use of dynamic patient-centered personal health records, timely follow-up with specialists and primary physicians, and knowledge of red flags.[30] This approach led to lower readmission rates and lower mean hospital costs in a randomized controlled trial.[31]

Collaborative Care

The Collaborative Care model focuses on delivering mental health care in an integrated format with primary care. In this model, mental health problems are approached in a similar manner as other chronic health problems.[32,33] The primary care provider leads the team and collaborates with a behavioral healthcare manager and psychiatrist. A patient-centered approach is used, with specific goals that are tracked by the collaborative care team with dynamic changes in plan made if goals are not met. Several studies have demonstrated improved mental health outcomes with this model.

Comprehensive Geriatric Assessment with and without Geriatric Evaluation and Management

Comprehensive Geriatric Assessment (CGA) provides IDT assessment of patients to create a comprehensive care plan with emphasis on geriatric syndromes. The IDT is typically composed of a physician, social worker, dietitian, nurse, physical therapist, occupational therapist, pharmacist, and mental health professional, although other disciplines may be included.[34] Patients with complex medical conditions may be referred from other specialties. The CGA varies in form and can be a one-time assessment or assessments may be ongoing. Results of studies on CGA have been mixed, with the most definitive evidence to support decreased adverse drug events for patients in a Geriatric Evaluation and Management (GEM) for 1 year.[35] (GEM is defined as an integrated team of geriatric physicians, nurses, and social workers [and other professionals, if needed] who assess and manage the healthcare problems in inpatient units or outpatient clinics.) Data for CGA alone do not support significant improvements in mortality, medical costs, and other outcomes. However, when incorporated into a geriatrics team with control of management decisions, a process known as GEM, it has shown superior results compared to one-time CGA alone.[36]

Eden Alternative

The Eden Alternative model seeks to implement cultural change in nursing home settings. Ten core principles guide this model. Patient-centered and guided care is highly important, as is creating an atmosphere of compassion and caring. Several studies have demonstrated benefits in behavioral disturbance, staff turnover, and general attitude of staff and patients.[37]

Geriatric Resources for Assessment and Care of Elders

In this model, a patient-centered Geriatric Resources for Assessment and Care of Elders (GRACE) support team consists of an advanced practice nurse and a licensed master's-level social worker. The goal of the GRACE intervention is to improve functional status, decrease emergency department visits not resulting in hospitalization, and decrease overall cost of care in community-dwelling older adults.[38] In a randomized controlled trial of GRACE, decreased costs were found in year three for a high-risk group of older adults.[39]

Since the initial trial, GRACE has been replicated in other settings and has demonstrated reduction in emergency department visits, 30-day readmissions, and hospitalizations.[40]

Guided Care

The Guided Care model serves older adults with complex health needs (based on hierarchical condition category score) by assigning a guided care nurse (GCN). The intent of the model is to improve quality of care and efficiency of resources used by these patients. The GCN conducts an initial home visit and assesses the patient using standardized instruments. Then, the GCN collaborates with the primary physician throughout the intervention period to continually conduct assessments.[41] Use of this model resulted in a lower rate of home healthcare use, and patients reported a better quality of long-term care. It did not show any differences in hospital admission or 30-day readmission.[42]

Home-Based Primary Care

The Home-Based Primary Care (HBPC) model targets homebound older adults with multiple chronic diseases in the ambulatory setting (home-based care). The main goal of HBPC is to provide long-term primary care and help at-risk patients to stay home and live independently and to avoid unwanted emergency department visits and hospital admissions. One study showed lower costs of care than projected costs and lower hospitalization rates than during a period without the program.[43] Another study, focused on high-risk veteran patients, demonstrated 15% net cost savings compared with usual care as well as significant reductions in hospital admissions, readmissions after discharge, and use of emergency departments.[44]

HOMEMEDS

HOMEMEDS is designed for agencies that provide home care for patients, and it specifically targets polypharmacy and appropriate medication use. A pharmacist works in conjunction with a patient's nurse or care manager to review medications with a particular focus on therapeutic duplication, cardiovascular medications and adverse effects, psychotropic medications, and NSAIDs. Data indicate an improvement in medication use, particularly in reducing redundant medications.[45]

Hospital at Home

In the Hospital at Home model, patient evaluation and management services that are usually performed in the acute inpatient hospital setting are provided in a patient's home. This model provides care for medically suitable older patients for specific medical conditions such as community-acquired pneumonia or exacerbation of heart failure or chronic obstructive lung disease.[46] Measured successful outcomes of this model include shortened length of stay, high patient and caregiver satisfaction scores, lower delirium incidence, and lower cost of care.[47]

Outpatient Geriatric Assessment

While the outpatient geriatric assessment is more of an approach to care than a model, it is a vital component of the comprehensive care provided by geriatricians and their teams. This model targets higher-risk outpatient older adults and provides them a comprehensive assessment and plan that targets geriatric-specific medical, social, and functional needs. Studies have focused in different ways on identifying these higher-risk outpatient older adults. One study, which looked at outpatient older adults who screened positive for falls, urinary incontinence, depression, or functional limitations, found that an outpatient geriatric assessment coupled with an intervention to help the primary care physician and patient adhere to the recommendations led to improvements in function and health-related quality of life.[48] Another, which focused on outpatient older adults deemed high-risk for hospital admission, found that an assessment followed by outpatient interdisciplinary care led to patients maintaining more functional independence and also decreased their use of home health services.[49]

Patient-Centered Medical Home

The Patient-Centered Medical Home (PCMH) model relies on primary care providers to coordinate care with an aim to centralize patient care. The primary care provider is responsible for ensuring patients have access to and receive appropriate care. Other domains required to become a PCMH include optimizing the electronic health record, creating a safe work environment, practicing accountability, and creating networks with outside providers.[50] A primary practice may become accredited as a PCMH through several different agencies. Thus far, evidence regarding the benefit of this model is inconclusive,

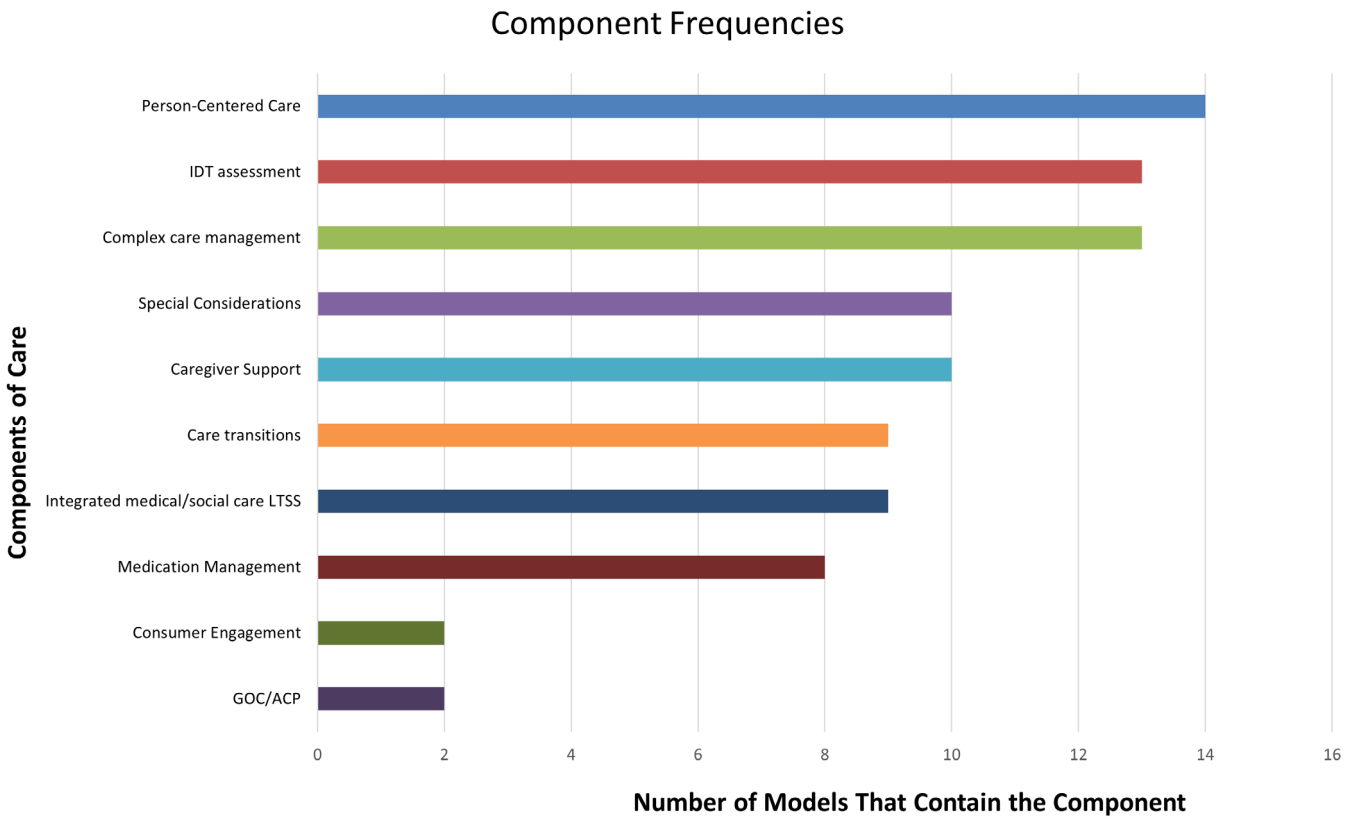

FIGURE 1 Frequency of components of care in 18 geriatrics models of care. GOC/ACP, goals of care/advance care planning; IDT, interdisciplinary team; LTSS, long-term services and support

with studies citing a need for greater structural change in the medical system to make the PCMH truly effective.[51]

Program for All-Inclusive Care of the Elderly

Program for All-Inclusive Care of the Elderly (PACE) aims to keep nursing home-eligible patients living in the community as long as possible. PACE programs are fully capitated and operate out of "day health centers" and include an IDT that provides coordination of care and effective communication to provide services necessary to care for complex patients in the community.[52] Patients in PACE have been demonstrated to have lower rates of nursing home admission and hospitalization.[53,54] As of 2022, PACE has been widely disseminated in the United States and is now serving older adults in 30 states.

Transitional Care Model

Transitional Care Model (TCM) is designed to improve the process of comprehensive discharge planning for community-dwelling older adults admitted to the acute hospital with complex care needs. It focuses on coordinating early discharge planning with the IDT by an appointed transitional care nurse (TCN). The TCN collaborates with the patient, caregiver, physician, primary nurse, and other healthcare team members. In randomized controlled trials, this approach led to lower readmission rates and costs; lower charges for healthcare services after discharge; and improved satisfaction among patients, caregivers, and providers.[55–57]

COMMON ELEMENTS IDENTIFIED ACROSS MODELS OF CARE

As stated earlier, the charge of this project was to review a representative sample of geriatrics models of care and identify common components that are effectively serving the needs of older adults with complex care needs. We have described and quantified the number of components of these models (Figure 1), as well as the number of models that use each component (Figure 2).

We noted that models with similar primary objectives tended to share certain common components. We also noted patterns in the frequency of components based on where the care was being delivered. Each model used

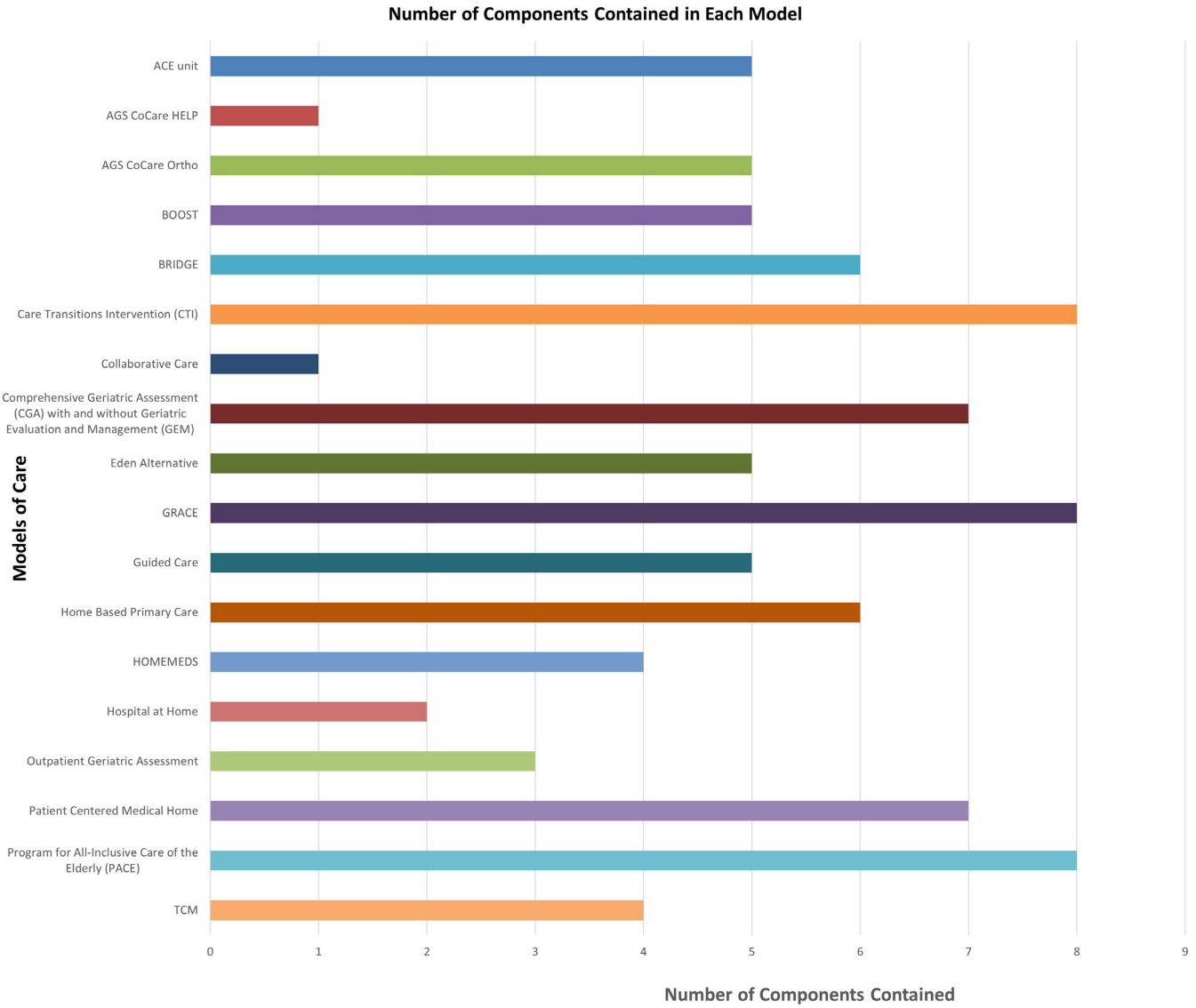

FIGURE 2 Number of components of care in geriatrics models of care. ACE, Acute Care for the Elderly; BOOST, Better Outcomes for Older Adults Through Safe Transitions; CTI, Caregiver Training Initiative; GRACE, Geriatric Resources for Assessment and Care of Elders; HELP, Hospital Elder Life Program; TCM, Transition Care Model

1 to 10 components of care, with the median model integrating 5 of the components.

The three most common components were person-centered care, IDT assessments, and complex care management. Person-centered care, which was in 14 of the models, was defined by the work group as an individualized care plan that reflects an individual's unique preferences and empowers patients to actively participate in their care. Given the heterogeneity of the geriatric population, person-centered care is essential to all patient care plans and was prioritized by these models. IDT assessments and complex care management were in 13 of the models. The IDT assessment is a component that uses significant resources by combining the input of healthcare professionals from diverse fields to assess a patient. While not all older adults require IDT assessment, complex patients benefit greatly from this collaboration between team members. While some components benefit all older adults, IDT assessments should be prioritized for patients who are frailer and more complex. Complex care management was also present in those models that had the care transition component.

The four next most common components were special considerations, caregiver support, care transitions, and integrated medical and social care via long-term support systems; these were each used in 9 to 10 of the 18 models. Safe and effective care transitions was the primary objective of four models (Bridge model, CTI, BOOST, and TCM) that were evaluated, although five other models addressed care transitions as well. The work group

defined "special considerations" as any service or product specifically designed to improve care primarily due to complexity of care needs. These could be unique provisions for a more specific setting or population of care, such as specialty care, office-based care, hospital care, SNF care, and home-based care. Examples of special considerations that were noted during the model analysis include physicians within the PACE model who are on site at day centers or specific care coordinators like in the Bridge Model. Similar to complex care management above, special considerations were noted in all the care transitions models. The work group defined the "integrated medical and social care via long-term support system" component as providing a support system to all people with disabilities and chronic conditions to live more independently by assisting with personal and healthcare needs. This component was noted more frequently in the models that targeted patients at home or transitioning to home rather than acutely hospitalized patients. Caregiver support is important across settings of care and is fairly frequently incorporated. In frail, complex populations, caregivers are essential; models prioritizing reduction in hospitalizations and keeping patients at home should consider incorporating caregiver support.

The next most frequently observed component of care was medication management (8 of 18 models). Like caregiver support above, medication management was observed across all settings of care. Notably, some programs with IDT assessment did not have medication management, which we defined as an explicit mention of monitoring medication use with a dedicated technique (e.g., an automated device or coordinated oversight) or use of a consultant pharmacist. It is possible that some programs included a pharmacist in the IDT while others did not. Given the incidence of polypharmacy and harm from medications, medication management is a component of care that should be incorporated more frequently.

The two least common components were advanced care planning and consumer engagement (2 of 18 models). The program noted with specific goals of care and advance care planning use was GRACE (an outpatient program). This program aims to decrease emergency room visits, which may contribute to the emphasis on advance care planning. With the increasing awareness of palliative care and the importance of advance care planning, we expect more models to incorporate this component in the future. Consumer engagement was defined as any infrastructure and expertise made available through the model to support patient and family engagement. This component may be challenging, especially with older patients or those with dementia. With advances in technology and more emphasis on individualized care, we expect the frequency of this component may also increase in the future.

Several care models address the needs of older adults with dementia (like Ms. H) and incorporate certain components that were essential to addressing the care complexity of this population. All of the models listed here have components that enhance the care of older adults with dementia. Some have particular emphasis and focus on the cognitively impaired, including ACE units, AGS CoCare®-HELP, CGA, Eden Alternative, Home-Based Primary Care Outpatient Geriatric Assessment, PACE, and TCM. Model components that particularly address the needs of the cognitively impaired include person-centered care, IDT assessments, integrated medical and social care, medication management, caregiver support, and advance care planning.

All the studied components of care are valuable in providing high-quality care to vulnerable older populations. The setting of care and objectives of the model of care may dictate which components should be emphasized. Restrictions in resources may also contribute to the frequency of component use in different models. Further study on the effectiveness of individual components in the context of specific model goals would be beneficial in helping prioritize which components to include in different care models.

DISCUSSION

While each model of care differs, all 18 have been shown to improve quality of care for older adults with complex care needs. Many have also been shown to reduce the cost of care for these individuals. Each model of care, while focused on the care of older adults, has a unique combination of components effectively serving the needs of different subgroups of older adults with complex care needs.

The models highlight that complexity reflects a range of when older adults become "complex"; some older adults have tenuous social support and require multiple team members beginning early on in their disease process, while others become complex at entry into different parts of the healthcare continuum. Still others become at-risk because a caregiver becomes sick or is unable to continue providing the previous level of care which makes these targeted models more useful.

The models examined have many components that align with one or more of the Age-Friendly Health System (AFHS) Initiatives of The John A. Hartford Foundation, Inc. (JAHF) and the Institute for Healthcare Improvement (IHI). The AFHS framework encompasses 4Ms—What **M**atters, **M**edication, **M**entation, and **M**obility—which are the core issues that should drive decision making in the care of older adults with the goal of

improving quality care for older adults. The AFHS initiative is focused on adoption of the 4Ms by health systems to create more effective patient care.[2]

Another important aspect of care complexity is the necessary existence of "trade-offs" by the patient, family, and providers. Even when care delivery is well planned and delivered, the need to choose a path often arises. This might include safety versus autonomy, or risk versus benefit. Older adults likely have preferences about comfort versus functional versus curative goals of care. These models are generally well designed to anticipate and accommodate these trade-offs. Situations without an "easy solution" still require that action be taken and care provided.

Risks are inherent in the care of chronically ill and complex older adults. These can be financial, personal, or measurable outcomes of "quality" care. In those situations, the question of who bears those risks arises. Certainly, the patient and family should be included in the discussion of risks. Full transparency and dialogue are necessary for a successful care partnership and decisions about risk. When planning healthcare delivery at a systems level, this concern for risks in implementing care models for care complexity is shared by an even wider net of stakeholders. For examples, decisions to avoid transfers to the hospital from a nursing home must include the understanding of shared risk between the older adult (patient), caregiver (or surrogate decision-maker if the older adult is cognitively impaired), primary care provider, and healthcare facility.

Ms. H and her daughter have benefited from several of the components described above. Ms. H began seeing a geriatrician, who works closely with Ms. H's daughter to implement a person-centered approach to care. Guided by the 4Ms framework, they have identified what matters most to Ms. H—palliation of her chronic low back pain and the ability to maintain functional independence in spite of her Parkinson's disease and dementia. Through judicious use of topical analgesia, acetaminophen, short-acting opioids, and epidural steroid injections—plus physical, occupational, and speech therapy—she has achieved improvement in her pain and maintained her ability to communicate, walk with a walker, and feed herself using weighted utensils. At each visit, the geriatrician reviews Ms. H's medications and engages in shared decision making with her daughter, prioritizing medicines that are most likely to help her achieve her goals and least likely to exacerbate her dementia, cause delirium, or increase her fall risk. A clinical pharmacist embedded in the geriatrician's clinic set up an online pharmacy service that packages Ms. H's medicines by time of day, alleviating caregiver stress and reducing the risk of medication errors. The geriatrician referred her to a neurologist, physiatrist, and ophthalmologist in the same healthcare system. These physicians use the electronic health record to communicate with each other and discuss decisions about Ms. H's care, balancing the inherent trade-offs of each intervention. A nurse care manager embedded in the geriatrician's practice has provided caregiver support for Ms. H's daughter, helped coordinate her complex care needs, and arranged for a home health aide through the county department of social services. Lastly, the geriatrician engages in ongoing conversations about advance care planning with Ms. H and her daughter, clarifying their preferences and goals as her conditions progress. Although life continues to be challenging for Ms. H and her daughter because of her complex health and social needs, these interventions have had a positive impact. Yet access to multidisciplinary teams with geriatric expertise who have the knowledge and skills to offer such services is not the norm at most primary care practices. Some of the models identified would be helpful to people living with dementia like Ms. H and to her daughter, especially those that provide ongoing support for the dyad, co-management with the primary care provider, and formal linkages to community-based organizations, such as GRACE and Guided Care.

It is important to note several limitations in this article. Although the workgroup evaluated the literature with appropriate search terms which was guided by the expertise of AGS members, this is not an exhaustive list of successful care models serving older adults with complex care needs. Specific examples of well-designed models with proven effectiveness that were not reviewed include: CAPABLE,[58] Indiana University Aging Brain Care,[59] INTERACT,[60] OPTIMISTIC,[61] Stanford Chronic Disease Self-Management,[62] Stepping On falls prevention,[63] and UCLA Alzheimer's and Dementia Care.[64,65]

We found great value in identifying and comparing the core components of these models through this project. Naming these core components has the potential to simplify the process of implementing and maintaining them in current models and their potential inclusion in future models. The models of care reviewed in this document have several aspects in common, including a person-centered approach, use of an IDT assessment, focus on care transitions and care management, and the integration of medical social care. The inclusion of an IDT has many advantages—it uses a wider range of skills, is often more accessible, and employs a more diverse set of health professionals so that costs (salaries) might allow health systems to expand benefits more widely than if relying strictly on a physician workforce. We recommend that the components drawn out in this review be incorporated into the development of *future models* that are focused on serving older adults with complex care needs.

Since many of these models are difficult to implement, we believe this article can also inform discussions around implementing components of the models in *existing structures* which is another avenue for enhancing the value of care for complex older adults. As noted above, we did not examine the evidence related to inclusion of underrepresented older adults or to determine if they had been tested in underserved communities. This, along with a review of other models through this framework, remains an area for additional exploration.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to report.

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Concept and design: Matthew K. McNabney, Ariel R. Green, Meg Burke, Stephanie T. Le, Dawn Butler, Audrey K. Chun, David P. Elliott, Ana Tuya Fulton, Kathryn Hyer, Belinda Setters, and Joseph W. Shega. *Analysis and interpretation of data*: Matthew K. McNabney, Meg Burke, and Stephanie T. Le. *Manuscript preparation*: Matthew K. McNabney, Ariel R. Green, Meg Burke, Stephanie T. Le, Dawn Butler, Audrey K. Chun, David P. Elliott, Ana Tuya Fulton, Kathryn Hyer, Belinda Setters, and Joseph W. Shega.

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