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Executive Summary

Diabetes affects more than 34 million U.S. adults. The direct medical costs for treating this condition approach $240 million annually; 1 in 4 health care dollars are spent on people with diabetes. Virtually all people with type 2 diabetes mellitus (T2DM) have comorbid health conditions. Heart failure (HF) is among the most common comorbidities affecting people with diabetes. Given the frequency with which these conditions co-occur, there is considerable interest in ensuring that optimal care is available for patients with T2DM+HF. This interest stems from long-standing observations that an unfavorable combination of system-, clinician- and patient-level factors often results in care that falls short of meeting patient needs. These complex challenges offer important opportunities to identify approaches to improve care delivery for people with T2DM+HF.

Against this backdrop, the National Committee for Quality Assurance sought expert input to explore strategies to drive improvements in the quality of care for patients with T2DM+HF. In June 2020, NCQA convened a diverse panel of clinicians—the Diabetes and Heart Failure Roundtable—to discuss the challenges of managing patients with T2DM+HF.

When presented with a hypothetical patient with T2DM and a new diagnosis of early HF, roundtable panelists were initially asked to envision a scenario in which factors that often hinder optimal care delivery—cost, access, geography, reimbursement—played no role in determining how the patient was evaluated and subsequently managed. Panelists were asked to discuss barriers that hinder delivery of ideal care for patients with T2DM+HF, and were then asked to suggest strategies to address these barriers.

Panelists agreed on a core set of elements that characterize ideal care for patients with T2DM and newly diagnosed HF:

- Comprehensive evaluation at presentation.
- Access to specialists if needed.
- Seamless care coordination among primary care clinicians, specialists and patients.
- Co-location and availability of shared physical or virtual care.
- Integration of pharmacists into the care team.
- Optimal patient education.
- Maximized use of nonphysician health care professionals (e.g., nurse practitioners, physician assistants).
- Ability to leverage information from community-based resources.
- Availability of financial and other patient navigation supports.

Panelists also described a wide array of barriers that hinder access to the core elements of ideal care delivery:

- Lack of access to specialists.
- Lack of care coordination.
- Insufficient access to information.
- Clinician-level factors (e.g., inadequate knowledge, reluctance to go outside comfort zone).
- Misalignment of current quality metrics and payment policies with ideal care.
- Failure to optimize health care professionals’ existing knowledge, skills and abilities.
- Patient-level factors (e.g., out-of-pocket costs, health literacy, transportation).
Panelists offered approaches to improve care for patients with T2DM+HF and overcome the challenges of far-reaching and entrenched barriers through a mix of short- and long-term strategies in four categories:

1. **PRACTICE**
   - Improve communication and access to information.
   - Promote better processes of care.
   - Enhance patient empowerment.

2. **POLICIES**
   - Craft incentives that improve care delivery and promote collaboration.
   - Encourage policies that recognize and reimburse pharmacists and other key members of multidisciplinary care teams.

3. **TECHNOLOGY**
   - Optimize existing technology to promote better communication among members of the care team.
   - Encourage development and implementation of interoperable information technologies that facilitate sharing of patient data across clinicians and care settings.

4. **KNOWLEDGE**
   - Improve physician knowledge, education and training.
   - Broaden the pyramid of professionals who can provide care.

Summarizing the work that needs to be done to improve care delivery for patients with T2DM+HF, one roundtable participant advised, “Think big, think small and think about the patient.” This advice recognizes that the challenges associated with delivering optimal patient care need to be addressed on multiple levels, while maintaining a focus on individual patient needs and circumstances. The ability to meet these challenges is relevant for patients and their clinicians, but it is also important for policy makers, payers, patient advocacy groups and other stakeholders with an interest in delivering high-quality care and improving health outcomes for people with T2DM+HF.

Successful efforts to mitigate or remove barriers to optimal care delivery will require stakeholders to think about patients as they align priorities and collaborate on achieving common goals. Their efforts will have the most impact if they are supported by forward-thinking policies that incentivize physicians to work in teams that are evaluated by quality metrics reflecting outstanding care coordination and patient-centered care planning. The figure on the next page synthesizes the discussion findings and recommendations and illustrates breaking through barriers to improve care for patients with T2DM+HF and achieve ideal care delivery.
### Ideal Care Delivery for Patients With Diabetes and Heart Failure
- Comprehensive evaluation
- Access to specialists
- Seamless care coordination
- Co-location
- Integration of pharmacists
- Optimal patient education
- Team-based care and use of nonphysician health care professionals
- Leverage community-based resources
- Financial and other patient navigation supports

### Barriers to Ideal Care Delivery for Patients With Diabetes and Heart Failure
- Lack of care coordination
- Insufficient access to specialists and information
- Quality metric limitations
- Misalignment of current payment policies
- Failure to optimize professionals’ existing knowledge, skills and abilities
- Clinician reluctance to go outside comfort zone
- Patient priorities, health literacy and economic vulnerability

### Strategies to Improve Care Delivery for Patients With Diabetes and Heart Failure

**Practice**
- Improve communication and access to information
- Target improvements in the process of care
- Empower patients

**Policies**
- Create incentives to improve care delivery and coordination

**Technology**
- Optimize existing technology

**Knowledge**
- Improve physician knowledge, education and training
- Broaden the pyramid of professionals who can provide care
Introduction: The Importance of Optimizing Care for Patients With Type 2 Diabetes and Heart Failure

In the United States, type 2 diabetes mellitus (T2DM) is a highly prevalent chronic health condition. A 2020 report from the Centers for Disease Control and Prevention (CDC) indicated that 13% of U.S. adults have diabetes, a figure representing 34.1 million Americans age 18 and older, with T2DM accounting for 90%–95% of cases.1 Diabetes has a profound impact on patients’ quality of life, driven in large part by the vascular complications that can occur in patients whose diabetes is not well controlled.2 The high prevalence of diabetes also drives cost. The American Diabetes Association (ADA) estimated that direct medical expenditures for treating people with diabetes topped $237 million in 2017 and that 1 in 4 health care dollars in the U.S. is spent on people with diabetes, primarily among diabetic people age 65 and older.3 This includes costs associated with diabetes treatment as well as resources directed at other health conditions, many stemming from diabetes.

Comorbidities are common—by some estimates, almost universal—in people with diabetes. A 2016 study showed that 97.5% of T2DM patients had at least one comorbid condition and 88.5% had two or more.4 The same study showed that 21.6% of people with diabetes have cardiovascular disease. The leading cause of death in the U.S., “cardiovascular disease” is an umbrella term for multiple disease processes, each with different presenting symptoms, diagnostic protocols and short- and long-term management strategies.5 Heart failure (HF) is one disease process. The CDC indicates that 6.5 million Americans have HF and that this condition contributes to 1 in 8 deaths in the U.S.6

T2DM and HF share many characteristics. The risk of developing both increases with age, obesity and physical inactivity, and people with these conditions often have high blood pressure and high cholesterol. Given their shared risk profiles, many patients have both T2DM and HF.
The American Heart Association (AHA) and the Heart Failure Society of America (HFSA) report that between 9% and 22% of people with diabetes have HF—four times higher than the general population. Similarly, between 25% and 40% of patients with HF have diabetes.

T2DM is a well-established risk factor for HF. As a result, physicians who manage patients with T2DM often encounter individuals with newly diagnosed HF. Results from a large study of diabetic patients free of cardiovascular disease showed that 14.1% of diabetic patients had a new diagnosis of HF over 5.5 years of follow-up. The number of patients with T2DM who are at risk of developing HF is increasing, not only because the prevalence of T2DM is increasing, but also because people are being diagnosed with T2DM at younger ages. People who develop diabetes earlier in life have less favorable cardiovascular profiles in middle and older age.

These trends underscore the need for appropriate management of patients with T2DM+HF.

Given the frequency with which T2DM and HF co-occur, it is not surprising that the ADA recognizes the importance of HF among people with diabetes and that ADA practice guidelines include recommendations for treating patients with both conditions. Likewise, guidelines from the American College of Cardiology (ACC) recognize T2DM as an important comorbidity among people with HF, and ACC guidelines also address how to care for patients with concurrent diabetes and HF. Despite the availability of practice guidelines for treatment of patients with comorbid T2DM+HF, persistent challenges associated with managing these patients are widely recognized. That the survival rate of patients with T2DM+HF is about half that of patients with HF alone suggests considerable room for improvement in how they are managed.

The challenges associated with treating HF and other comorbid illnesses among people with T2DM have been explored in detail. Patients with T2DM+HF frequently have multiple health care “touch points” that may include regular interactions with a primary care clinician, an endocrinologist and a cardiologist. These clinicians may focus on different aspects of patient care, and patient management efforts—including prescribing—may occur with little or no knowledge about actions recommended by other members of the patient’s care team.

In addition to the challenges associated with lack of care coordination, office visits may be short, a constraint that makes visits incompatible with the large number of activities—health maintenance, screening, education and treatment activities—that must occur. Clinicians also must stay up to date with changing practice guidelines from multiple medical societies; must learn about and effectively incorporate new treatments into routine patient care; must safely titrate and monitor numerous medications; and must overcome diverse challenges linked to their practice environments. The ADA, AHA and ACC all advocate for efforts to improve care for patients with T2DM+HF.

Against this backdrop, the National Committee for Quality Assurance sought expert input to explore strategies to drive improvements in the quality of care for patients with T2DM+HF. In June 2020, NCQA convened a diverse panel of clinicians—the Diabetes and Heart Failure Roundtable—for a discussion about the challenges of managing patients with T2DM+HF. This report summarizes the discussion and recommendations from that meeting.
Methods

Responding to concerns raised by professional societies and other stakeholders about the challenges of managing patients with T2DM+HF, NCQA organized the Diabetes and Heart Failure Roundtable, a one-day discussion to define optimal care for this patient population, identify barriers that inhibit access to ideal care and develop potential short- and long-term strategies that may improve the quality of health care delivery for these patients.

To ensure input from diverse clinical viewpoints, NCQA identified health professionals who represented a wide variety of disciplines and patient care settings. Roundtable panelists offered expertise in cardiology, endocrinology, pharmacy, family medicine and nephrology. Their perspectives also drew from patient care experience in urban and rural settings, specialty clinics, community-based family practices, academic medical centers and community hospitals. Refer to Acknowledgments for a list of roundtable panelists, their specialties and their institutional affiliations.

The treatment landscape for patients with T2DM+HF is complex. To ensure that roundtable panelists approached the conversation and meeting objectives from the same vantage point, they were given a “patient entry point” as a discussion framework: a hypothetical patient with T2DM who presents to the primary care clinician (PCC) with a diagnosis of early symptomatic HF. Panelists were asked to 1.) describe the “ideal” care for this patient; 2.) define barriers that inhibit access to or delivery of ideal care; and 3.) articulate short- and long-term strategies to improve care delivery for patients with T2DM+HF.

Originally planned as an in-person meeting in Washington, DC, in April, the roundtable was held virtually in June because of the COVID-19 pandemic. It was recorded, and this report is based on the meeting transcript and post-meeting discussion among NCQA staff.
When presented with a hypothetical patient with T2DM who presents to the PCC with a new diagnosis of early HF, roundtable panelists were first asked to envision a scenario in which factors that often hinder optimal care delivery—cost, access, geography, reimbursement—played no role in determining how the patient was evaluated and subsequently managed. They were then asked to articulate ideal care pathways for this patient.

Panelists emphasized that nuances of a case ultimately determine how a patient should be evaluated and managed. The decision to refer a patient to an endocrinologist or cardiologist is linked to a PCC’s comfort level managing patients with T2DM+HF, whether specialists are readily available for referral and factors related to the PCC’s practice setting. With regard to setting, integrated health systems often have established pathways for accessing specialist care, while standalone PCC practices frequently rely on informal referral networks that are built on personal relationships with specialists in their area.

Added to these considerations are patient-level factors that contribute to whether, and to whom, PCCs refer patients for specialty care: potential financial penalties to patients for using out-of-network physicians and patients’ willingness and ability to follow recommended care plans. Despite these caveats and practical considerations, roundtable panelists spoke at length about circumstances that would facilitate ideal care delivery for their T2DM+HF patients.

Table 1 summarizes key elements of their vision; details are provided in the sections below.

TABLE 1: Elements of Ideal Care for Patients with Type 2 Diabetes and Newly Diagnosed Heart Failure

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Comprehensive Evaluation at Presentation
Panelists agreed that ideal care for patients with T2DM+HF begins with a comprehensive evaluation: a thorough patient history, a detailed medication inventory, patient input on treatment goals and results of relevant recent assessments. With this information, appropriate tests should be ordered and an evidence-based care plan that includes patient preferences and priorities should be defined.

The care plan should not only reflect the patient’s physiologic needs regarding T2DM+HF, but should also consider the impact of other health conditions that may be present, as well as social determinants of health (SDOH) that may affect the patient’s ability or willingness to embrace and adhere to a care plan. Panelists agreed that care planning should initially focus on improving symptoms as quickly as possible, and focus on reducing morbidity and mortality once this has been achieved.

Access to Specialists if They Are Needed
There was considerable discussion about the importance of access to specialist care, and general agreement that many factors—a PCC’s experience and comfort level managing T2DM+HF patients, geography and the availability of specialist care—play a role in determining whether such care is sought. Yet the panelists agreed that the ability of patients to access specialists with expertise in endocrinology and cardiology is a critically important aspect of ideal care for patients with T2DM+HF. This is supported by research showing that among Medicare beneficiaries with complex chronic conditions, access to specialist care in the previous year was associated with a 15.9% lower preventable hospitalization rate and a 16.6% lower mortality rate. In rural areas, access can be greatly facilitated by the ongoing evolution and roll-out of telehealth and similar technologies that break down long-standing barriers between patients and the specialists they need. A growing body of research has shown the benefits of these technologies for management of both T2DM and HF.

Seamless Care Coordination Among Primary Care Clinicians, Specialists and Patients
The importance of care coordination for patients with T2DM+HF was a central theme throughout the roundtable discussion. Panelists emphasized that because these patients often have complex risk factor profiles and take multiple medications, there is a critical need for all members of the care team to be aware of, and work toward together, attainable goals shared by the clinicians and the patient. Clearly defined roles and responsibilities about specific aspects of a patient’s care plan (e.g., glucose management, HF management, management of risk factors such as lipids and blood pressure) must be established. Studies of medically complex patients, including those with T2DM+HF, indicate that investment in care coordination between primary care and specialists may improve patient experiences with care coordination and ultimately have a positive impact on care and outcomes. Implicit in seamless care coordination is the ability of all members of the care team to access patient health information, including results of laboratory tests. The importance to care coordination of information transfer, patient monitoring systems and tools that allow patients to connect with their doctors has been described.

In rural areas, access can be greatly facilitated by the ongoing evolution and roll-out of telehealth and similar technologies that break down long-standing barriers between patients and the specialists they need. A growing body of research has shown the benefits of these technologies for management of both T2DM and HF.
Co-location and Availability of Shared Physical or Virtual Spaces
The ability of all members of the care team to either work in the same physical location or have access to technical infrastructure that facilitates creation of shared virtual spaces can optimize patient care by enhancing care coordination, communication and access to services. Co-location of multiple care team members would also help patients reduce the number of visits needed to manage their T2DM+HF, thereby minimizing patient burden and facilitating compliance with care planning. Although patients and clinicians who live in rural areas are less likely to encounter co-location of health care services, roundtable panelists indicated that the growing use of telehealth technologies encourages clinicians to rethink shared spaces as they relate to care coordination.

Integration of Pharmacists Into the Care Team
In an ideal T2DM+HF care setting, pharmacists are fully engaged members of the care team who assist with medication monitoring, medication reconciliation, patient education and minimizing risk of drug-drug interactions. Pharmacists are available to PCCs and specialists and, like other members of the care team, have access to all patient information. They play a key role in patient counseling and education on medication management, side effects and the interplay between medication regimens and diet and lifestyle habits. Pharmacists also help address issues related to how SDOH may impact patients’ medication adherence or safety.

In an ideal care setting for patients with T2DM+HF, pharmacists are available for brief consultations, collaborate with the care team in long-term care planning and contribute to clinician education about new drugs and the suitability of new products for individual patients. A large body of research supports this vision. A recent Cochrane review highlighted the potential for pharmacists to have a favorable impact on diverse HF outcomes, including both all-cause and HF hospital readmissions. Similarly, a review of 43 pharmacist interventions for T2DM showed that these interventions were not only effective in reducing hemoglobin A1c, but that some also had a favorable impact on systolic blood pressure and triglycerides.

Optimal Patient Education
Patients with T2DM+HF often have demanding therapeutic regimens that involve multiple medications, lifestyle modifications and frequent office visits with PCCs and specialists where medications are initiated, titrated, replaced or supplemented with new products. Patients hear terms they might not understand. They might have to take a variety of medications several times a day, regularly monitor glucose and blood pressure and follow special diets or weight loss and exercise regimens.
Roundtable panelists emphasized that to be fully compliant with these regimens, patients with T2DM+HF require a high degree of health literacy to understand and successfully implement them. They need high-quality, standardized education programs delivered by professionals with the training to address their needs. Panelists’ emphasis on patient education echoes existing calls from the AHA and the ADA to improve the health literacy and skills mastery needed for optimal self-care.31,32,33

Maximized Use of Nonphysician Health Care Professionals
In an ideal care delivery setting, nurse practitioners (NP), physician assistants (PA), health educators and medical assistants (MA) engage in higher levels of patient care, help coordinate care and deliver patient education for people with T2DM+HF. There is ample evidence that these professionals can play key roles in management of T2DM+HF,34,35 and roundtable panelists were enthusiastic about the promise of channeling their knowledge and skills directly into patient care. For example, in addition to providing direct care, NPs and PAs working in both primary care and specialty settings could support implementation and monitoring of care plans in collaboration with their patients.

Ability to Leverage Information From Community-Based Services
In addition to physicians, nurses and “traditional” members of a patient’s health care team, patients often interact with other health professionals regularly, and information from these professionals could provide unique insights into aspects of patient care that are difficult to gauge from office-based encounters.

In an ideal care delivery setting, a patient’s traditional health care team has access to and leverages information from community-based members of the team, including community health workers, home care aides and home health nurses who support the patient in their home. The ability of community health workers to help manage chronic diseases, enhance patient-provider communication and monitor adherence to treatment plans is well established,36 and roundtable panelists viewed the knowledge and perspective of these and other community-based professionals as an untapped resource that could be leveraged to enhance care for patients with T2DM+HF.

Supplemental information from these professionals could include observations on the patient’s diet, mental health, social well-being and medication adherence, as well as their ability to adhere to the care plan. Sharing this information electronically and making it accessible by all members of the care team would provide a more complete perspective on the patient’s progress, thereby facilitating adjustments to the care plan that reflect real-world circumstances.

Availability of Financial and Other Patient Navigation Supports
Patients with T2DM+HF frequently need to arrange many office visits to PCCs and specialists and make multiple trips to the pharmacy to fill an array of prescriptions. Roundtable panelists pointed out that each encounter is associated with a co-payment or co-insurance obligation and that sicker patients tend to have more out-of-pocket costs because they see more doctors and fill more prescriptions. Patient navigator programs have been shown to improve processes of care among people with chronic disease, and financial navigation is becoming more common for health conditions for which high out-of-pocket medication costs often hinder adherence to treatment.37,38

Roundtable panelists envisioned a patient care pathway in which economically vulnerable patients have access to financial navigators who help them identify cost saving programs and other financial supports that reduce out-of-pocket costs of medication and office visits. Navigators could also help patients manage visit schedules and help them connect with community-based services to supplement their care plans. One panelist described an externally funded successful navigator program that helped patients transition from hospital to home to promote favorable post-discharge outcomes.

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Barriers to Ideal Care Delivery for Patients With Diabetes and Heart Failure

Roundtable panelists identified numerous barriers that hinder delivery of ideal care for patients with T2DM+HF. Some are linked to resource constraints imposed by the geographic setting in which patients receive care; others stem from practical issues involving effective communication among clinicians and access to health information. Additional barriers to optimizing care are tied to federal and state policies on licensure and scope of practice, as well as to coverage services provided by nonphysician health care professionals under current reimbursement policies.

Roundtable participants emphasized that in many cases, the structural or insurance barriers that hamper delivery of optimal care for patients with T2DM+HF are multiplied by patient-level factors such as health literacy, financial insecurity and other SDOH. Panelists also stressed that many barriers that hinder ideal care delivery are closely tied to the PCC’s practice environment.

Table 2 summarizes barriers to optimal care delivery for patients with T2DM+HF that were explored in depth during the roundtable discussion.
Lack of access to specialists

• Difficult to access specialist care in some areas

Lack of care coordination

• Patients see multiple clinicians
• Difficulty with clinician-to-clinician communication
• Patients take multiple prescription medications
• Unclear who “owns” specific aspects of patient management
• Team-based care is hard to implement

Insufficient access to information

• In many settings, medical records are incomplete and do not include all patient information from primary and specialist care visits
• Medication history/reconciliation is often unavailable or absent
• PCCs and specialists do not exchange information effectively

Clinician-level factors

• Inadequate knowledge of updated practice guidelines, treatment targets, new therapies
• Tendency to avoid the potential for “stepping on toes”
• Hesitation about modifying drug regimens prescribed by another clinician
• Limited interest in aspects of the care plan that are outside their area of expertise
• Reluctance to go outside comfort zone
• Lag time for incorporation of new therapies into routine practice

Misalignment of current quality metrics and payment policies with ideal care

• Reimbursement is not tied to quality or coordination
• Some quality metrics fail to incentivize ideal processes of care
• Patient navigators are effective but are not reimbursed

Failure to optimize health care professionals’ existing knowledge, skills and abilities

• Pharmacists, NPs, PAs, MAs, community health workers, dietitians, home care/health workers and other health professionals are not used optimally or reimbursed for their services

Patient-level factors

• Out-of-pocket costs for multiple office visits and medication refills pile up
• Low health literacy hinders adherence to care plans
• Transportation, economic vulnerability and other SDOH are not considered and/or not addressed in care planning

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Lack of Access to Specialists

Access to specialists such as cardiologists and endocrinologists depends on many factors, including whether patients can afford specialty care, an available specialist’s scope of practice, the availability of telehealth and specialist location (which can in turn be influenced by economic and other factors). Regional differences in the availability of specialists in the U.S. are well-documented, as are differences in specialist distribution between urban and rural areas.
In rural areas, PCCs are often responsible for managing most or all aspects of care for their patients with T2DM+HF, reserving referrals to cardiologists and endocrinologists for the most challenging cases. This practice pattern is driven largely by the paucity of specialists in rural areas and the corresponding difficulty securing specialist consults when they are needed. Roundtable panelists indicated that from a practical point of view, the combination of large numbers of diabetic patients and the small number of endocrinologists in rural areas renders these specialists unable to handle the responsibility for routine management of the glucose-related aspects of patient care for diabetic patients.

Roundtable panelists also emphasized the extreme burdens—in terms of time and cost—that specialist visits place on patients who live in rural areas. For some patients, a visit to a cardiologist for an HF consultation could mean a very long drive, lost wages and other out-of-pocket expenses.

**Lack of Care Coordination**

Lack of coordination in all aspects of care delivery for patients with T2DM+HF was a common thread throughout the roundtable discussion, and it was raised repeatedly as a barrier that fuels the inability of clinicians to deliver ideal care to their patients. Panelists raised several inter-related challenges that create negative synergy with respect to ideal care delivery and patient outcomes.

**Patients See Multiple Clinicians**

The large number of health care professionals that a patient with T2DM+HF may need or choose to see creates obvious challenges to care coordination. The number tends to increase as their T2DM+HF progresses, if they experience an acute health event such as a heart attack or injurious fall or if they develop additional chronic conditions that require medical or surgical intervention. Even routine care for T2DM+HF patients can mean seeing a diverse and vast array of clinicians and other health professionals; this range generally increases as patients age, when even more specialized care is needed.

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Difficulty With Clinician-to-Clinician Communication
Roundtable panelists described how poor communication among members of the patient’s care team inhibits care coordination, especially outside integrated health care settings. They described how members of large, decentralized care teams spend considerable amounts of time on the phone attempting to reach other team members to discuss a mutual patient. Panelists emphasized the inefficiency of these efforts, and how these inefficiencies underscore the many ambiguities about who is responsible for specific aspects of a T2DM+HF patient’s care, treatment targets and medications. Panelists stated that there often is no one responsible for ensuring open and functioning lines of communication, and no standardized pathway for communication.

Multiple Prescription Medications
Among the critical challenges to coordinating care for T2DM+HF patients is effective medication management. Data from the National Center for Health Statistics indicate that 46% of all Americans have taken a prescription medication in the past 30 days. This figure rises to 85% among adults aged 60 and older—the population most likely to be impacted by T2DM+HF. Data indicate that prescription medication use in the U.S. is common, but do not indicate how many distinct medications people take. Among adults aged 45–64, 37.3% reported taking three or more prescription medications in the past month and 19.6% took five or more. The numbers are more notable for people 65 and older: 67.6% reported taking three or more medications in the past month and 40.9% took five or more.

Individuals with chronic conditions have particularly high utilization of prescription drugs, and the number of prescription medications taken by people with diabetes exceeds national averages. One study showed that people with newly diagnosed diabetes take an average of two medications; this rises to three medications a year after diagnosis. At five years after diagnosis, patients take an average of six, including one diabetes-related medication, four cardioprotective drugs and one other prescription medication. Data are consistent with long-standing concerns about the frequency of polypharmacy and its associated risks, fueling new calls for a national action plan to address this issue.

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Roundtable participants discussed polypharmacy at length, highlighting the dangers of drug-drug interactions, the need to carefully titrate medications, the lack of medication reconciliation across care settings and the ongoing challenge of understanding who on the patient’s care team is responsible for managing specific aspects of the medication regimen. Participants, especially PCCs, emphasized the need to be up to date with multiple practice guidelines, to learn about and incorporate new drugs into patient care and to treat to an increasingly large set of drug- and risk-factor-specific treatment targets—while also being aware of contraindications and emerging risks for adverse drug events. The absence of effective medication reconciliation and lack of reimbursement to health professionals with expertise in pharmacy and pharmacology add to the challenges.

Unclear who “Owns” Specific Aspects of Patient Management

In rural areas, PCCs often have overall responsibility for managing most or all care for their patients with T2DM+HF, including prescribing and managing medications for both conditions, as well as therapies for other comorbidities. In contrast, patients who have greater access to cardiologists and endocrinologists may see multiple clinicians regularly.

While roundtable panelists highlighted the value of access to specialist care for patients with T2DM+HF, they also pointed out that a key issue involving large, decentralized care teams is the lack of clarity about which physician is responsible for managing specific aspects of a patient’s care and medications.

For example, a PCC may refer a patient to a cardiologist after an HF diagnosis. Although the cardiologist may prescribe an HF medication at the end of the office visit, it is frequently unclear which clinician—the cardiologist or the PCC—will manage the medication after the patient fills the prescription for the first time. This is an important issue for patients with T2DM+HF because of the complexity of medication titration for some HF drugs and the risk of hypoglycemia and other side effects with certain diabetes medications. Panelists emphasized that long-standing “care silos” are incompatible with team-based care. They also pointed to the unfavorable impact of the tendency of many physicians to avoid the possibility of “stepping on toes” in settings where there is ambiguity about which clinician is responsible for managing aspects of the care plan, including medication management.

Team-Based Care is Hard to Implement

Panelists emphasized that fee-for-service reimbursement models are incompatible with team-based care because they are based on the contribution of an individual clinician rather than on the work of an integrated team. They pointed out that although guidelines from the major societies representing diabetes, cardiology and HF care professionals all recommend provision of team-based care, a multitude of barriers hinders implementation of these recommendations: scarcity of specialists, ambiguity about managing patient care, absence of shared spaces that facilitate patient-care team interactions, inability of the care team to access information, the need to develop and monitor care plans and payment models that do not support team-based care.

Insufficient Access to Information

Although a vast majority of U.S. hospitals and ambulatory care practices use electronic medical records (EMR), these systems do not guarantee that care team members can access a comprehensive record of a patient’s health information. Roundtable panelists who practiced outside integrated health systems indicated that lack of access to information and limited interoperability across health information systems hinders their ability to see test results, medication lists and care plans. Moreover, test results and medication adjustments ordered by one member of the care team may frequently be unavailable to all members, which can have an unfavorable impact on how PCCs and specialists approach patient management.

Panelists indicated that integrated health systems have been able to mitigate these problems through interoperable EMRs, many enhanced by clinical decision support and process-of-care functionality. Augmenting access to this information for patients with T2DM+HF is particularly important because of the large number of medications typically prescribed for these patients and the accompanying potential for adverse drug events.
Clinician-Level Factors
As noted earlier, one challenge to ideal care for T2DM+HF patients is a clinician reluctance to “step on toes” or “overstep” boundaries with another care team clinician. Another is clinician reluctance to modify drug regimens prescribed by other clinicians and difficulty resolving situations of potentially different or conflicting recommendations from specialists on the care team.

Panelists indicated that some clinicians have little interest in learning about or understanding their colleagues’ responsibilities and have limited understanding of elements of a care plan that are outside their area of expertise. Panelists also indicated that some clinicians are reluctant to go outside their comfort zone and incorporate new treatments into routine patient care. A deep understanding of these issues, however, is critical for delivering optimal care.

Misalignment of Current Quality Metrics and Payment Policies With Ideal Care
Roundtable participants discussed several issues that hinder delivery of ideal care for patients with T2DM+HF.

Reimbursement is not Tied to Quality or Coordination
Some existing policies are inhospitable to team-based care and care coordination. Panelists pointed out that because current policies do not provide reimbursement for the time spent coordinating care (including resolving communication issues), incentives do not align with delivery of optimal care. For example, physicians’ compensation is largely tied to relative value unit (RVU) targets, and only partially to quality or the extent to which they engage in team-based care.

RVUs help determine what Medicare pays physicians for services in different areas of the country. Panelists indicated that policies are based on a fee-for-service health care model that utilizes RVU targets to incentivize clinicians away from the collaborative, coordinated care that is needed for patients with T2DM+HF. They pointed to Medicare regulations that prohibit reimbursement for some types of same-day evaluation/management visits—the types of visits that patients with co-located care teams would enjoy. However, CMS recognizes that this restriction does not always make sense and has indicated that it is considering this issue further for future policy making.51

Quality Metric Limitations
Panelists expressed concern about quality metrics used to assess clinician performance—observations that have been raised by other stakeholders. For example, research from the Congressional Budget Office indicates that public reporting programs and pay-for-performance initiatives have limited ability to measure and improve health care quality.52 One participant explained that although physicians can test patients’ blood glucose regularly and follow guidelines when titrating prescriptions, they cannot force patients to fill prescriptions or take medications once a prescription is filled, nor can they remove challenges imposed by out-of-pocket drug costs or other factors that hinder compliance with care plans. Patients who do not take their medications as prescribed and those who cannot afford their medications may have outcomes that inappropriately suggest poor quality of care on the part of the physician, even if the physician managed the patient properly.

Other roundtable participants questioned the utility of “all-cause hospitalization” as a quality metric for people with HF, given the complexity of these patients’ clinical profiles, social circumstances and self-care practices. They indicated that some entities make business decisions to opt out of accountable care organizations because the required metrics are neither attainable nor a reasonable reflection of quality.

Current Policies do not Support Adoption of Evidence-Based Strategies
Among the issues that roundtable participants raised concerning barriers to ideal care is the gap between strategies that have been shown to improve patient outcomes and the lack of policies that create incentives to adopt those strategies. One example of the disconnect between evidence-based practice and current reimbursement policy is a growing body of research supporting use of patient navigators for people with chronic conditions, including T2DM and HF.53,54,55

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Failure to Optimize Health Care Professionals’ Existing Knowledge, Skills and Abilities

Roundtable participants highlighted underutilization of certain segments of the health care workforce, emphasizing the lost opportunities to harness the capacity of these workers to benefit patients with T2DM+HF.

**Medical Assistants**

One roundtable participant described how an MA based in a primary care practice was trained to help coordinate care for patients with T2DM+HF. Although this likely contributes to better care delivery, the MA’s services are not billable. As a result, many practices cannot afford to allocate MA time to this critical function.

**Nurse Practitioners and Physician Assistants**

For patients with chronic conditions, a growing body of research indicates that NPs and PAs provide care that is comparable to physician care under certain circumstances.\(^\text{34,35,37}\) Research also shows that these professionals have taken on expanded roles in specialty care as well.\(^\text{58}\) Their potential for enhancing the care of patients with T2DM+HF was discussed at length; however, participants pointed to state-level differences in licensure and scope of practice, emphasizing that these issues result in geographic variability in services and supports NPs and PAs can offer. One roundtable participant indicated that NPs in their institution were already involved in many aspects of patient care; others indicated that NPs and PAs were limited in the services they can provide and when they can provide them. Participants also pointed out that reimbursement policies create insurmountable barriers to optimizing nonphysician clinicians, despite their high level of training and the potential they offer for delivering patient care.

**Community Health Workers and Home Care Service Providers**

Failure to optimize the health care workforce is not limited to workers with advanced training. Roundtable participants pointed out that community health and home care workers could be leveraged to a much greater extent if there were effective communication channels between them and the patient’s care team. For example, roundtable participants said that information on how patients manage their medications and their diet, and the role of the patient’s family and social support network, could provide important insights. But despite their access to patients’ homes and their interactions with family, friends and neighbors, community health workers and home care service providers do not typically interact with physicians, if at all. Roundtable panelists agreed that failure to access the insights of health care workers who deliver services in the home is a missed opportunity to enhance care coordination and planning.

🔗 Return to Table 2
Patient-Level Factors

Certain patient characteristics can also prevent achieving ideal care for people with T2DM+HF.

Health Literacy

Implicit in adhering to a treatment plan is the assumption that the patient’s level of health literacy enables them to understand what they need to do and how to do it. Roundtable participants emphasized that ideal self-management practices require a level of health literacy that is either challenging or absent for many patients—observations that have been voiced by professional societies.31,32 Each office visit requires a phone call and scheduling, and sometimes coordination with other visits or tests in a sequence dictated by the care plan.

Although self-management of T2DM+HF requires navigating multiple medications, many with different doses and administration schedules, panelists indicated that many patients simply do not understand what HF is, often confusing their condition with myocardial infarction. Panelists also emphasized that while it is difficult for most patients to grasp their level of risk, it is even more challenging for patients with T2DM+HF because of the unusually large number of cardiometabolic and renal risk factors that are often in play.

Patient Priorities

In recent years, there has been increasing emphasis on patient-centered care. Reflecting its importance, a research institute was established to facilitate research in patient-centered care and CMS established the “Meaningful Measures” and “Patients over Paperwork” initiatives in an attempt to situate patients at the center of care planning.59,60,61,62,63 Among the basic elements of patient-centered care delivery is ensuring that clinicians understand and honor patient priorities. However, defining and addressing patient priorities can be challenging because in many primary care settings, physicians have limited time with patients. Moreover, it is often necessary to focus on only one or two high-priority concerns during an office visit, leaving other issues for a future visit.

For patients with T2DM+HF, “patient-centered” care implies that some patients will choose to engage in more intense treatment and some will not. For example, patients with T2DM whose glucose is not well managed despite first- and second-line oral agents may not want to begin insulin if their doctor recommends it. They may instead choose to remain on oral agents even if their glucose is unlikely to reach guideline-targeted levels. Similarly, HF patients for whom a pacemaker is indicated may choose not to have it implanted. These and other patient-level priorities have an important place in care planning, and although some may be inconsistent with guideline-directed care, honoring patient preferences and priorities is nonetheless consistent with the ongoing movement toward patient-centered care.

Out-of-Pocket Costs

Having public or private insurance coverage does not guarantee that health care is affordable.64,65 Roundtable participants emphasized how people with commercial and Medicare insurance can still encounter barriers to treatment that are linked to out-of-pocket health care costs. Each office visit for primary care, endocrinology and cardiology can have an associated patient co-payment. HF patients can be especially hard hit because their medications need to be titrated slowly, a practical consideration that necessitates multiple office visits. Each prescription refill can also result in a co-pay or co-insurance. A patient who takes six medications that are each refilled monthly with a $15 co-pay and who has two physician office visits each month with $10 co-pays each will pay $110 out-of-pocket per month, or about $1,320 per year.

Out-of-pocket costs are greater for patients who see specialists for other health conditions, as well as those who take more prescription medications or more medications that require careful titration or frequent monitoring. Many economically vulnerable patients, including large numbers of older adults on fixed incomes, cannot afford these costs—a reason why many patients split pills or do not fill prescriptions. This is also why many patients do not engage in recommended follow-up with their care team. Cost-related medication non/reduced adherence may be as high as 19% in U.S. adults with diabetes.66

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Roundtable participants offered ideas to improve care for patients with T2DM+HF; some suggestions addressed specific barriers to ideal care, others focused on promoting targeted innovations to drive improved care delivery into the future. Table 3 summarizes their ideas, which are discussed in detail in this chapter.
**TABLE 3: Strategies to Improve Care Delivery for Patients With T2DM+HF**

| Improve communication and access to information | • Establish shared physical or virtual spaces when possible  
• Clarify management roles |
| Promote better processes of care | • Create a checklist for specialist referral  
• Create checklists for NPs and PAs  
• Increase use of patient-reported outcomes |
| Craft incentives that improve care delivery and promote collaboration | • Incentivize physicians to work in teams  
• Include pharmacists as reimbursed members of care teams  
• Rethink quality metrics to reflect outstanding care coordination and planning |
| Optimize existing technology | • Increase availability and access of e-consults  
• Increase use of telehealth for appropriate patients  
• Expand or modify information systems to permit access to patient data by all members of the care team  
• Optimize EMRs so they facilitate dissemination of information and up to date, standardized algorithmic approaches to patient care |
| Broaden the pyramid of professionals who can provide care | • Include pharmacists as active members of the care team  
• Increase the roles of NPs, PAs and MAs in patient care and care coordination  
• Leverage the knowledge and experience of home health nurses, community health workers and other community-based health professionals  
• Consider developing certified heart failure specialists or increase heart-failure related training for Certified Diabetes Educators |
| Improve physician knowledge, education, and training | • Facilitate cross-training in diabetology, cardiology and nephrology  
• Focus on training medical students and residents in team-based care |
| Enhance and align inter-organizational collaborations | • Convene a summit with professional societies, policy makers and payers to discuss issues and identify shared goals and strategies to achieve them  
• NCQA can drive change by revisiting existing metrics and designing new ones that incentivize team-based care and care coordination  
• Harmonize clinical practice guidelines and facilitate the ability of physicians to adopt new practice and prescribing patterns  
• Establish new training programs and centers of excellence for T2DM+HF |
| Enhance patient empowerment | • Improve health and financial literacy  
• Reduce out-of-pocket costs for routine treatment  
• Provide financial navigation support for at-risk patients |
Improve Communication and Access to Information
Roundtable panelists emphasized that better communication among members of the care team is a basic need for improving care for patients with T2DM+HF. They pointed to the successes that co-located multidisciplinary care teams enjoy in medical centers with cardiometabolology or cardiorenal clinics. Shared spaces facilitate communication and information exchange for the care team and are convenient for patients, who can see multiple members of the care team in a single location. Roundtable panelists encouraged increased use of technology platforms that facilitate virtual care and communication if shared physical spaces are not feasible. Panelists strongly advocated for adoption of technologies that give all care team members timely access to laboratory findings, medication adjustments and other information that affects patient management. They also advocated for improved communication about care team members’ designated roles in patient care. These improvements could occur through utilization of shared physical or virtual spaces or by means of electronic information exchange.

Promote Better Processes of Care
Although roundtable panelists indicated that the complexity of patients with T2DM+HF often results in assessments and referrals being tailored to their needs, they also indicated that several relatively small improvements in the process of care could offer important benefits at a population level. Panelists suggested development and use of a checklist for PCCs to use early in the assessment process to help determine if referral to a specialist is needed. Additional checklists for use by PAs, NPs and community-based health workers could help guide them in management roles and during delivery of home-based services. Checklists for nonphysician health care professionals could facilitate delivery of high-quality care at the top of their license.

Roundtable participants also supported increased use of patient-reported outcomes to help guide care planning and to ensure that plans are consistent with patient priorities. Panelists agreed that the ability of all care team members to understand patient priorities is critical for care that meets patients’ needs and expectations. They also emphasized that guideline-based treatment targets may sometimes be inconsistent with patients’ priorities, which suggests the need to develop better ways to measure how well clinicians are treating to guidelines and how well their efforts reflect patient-directed treatment priorities.

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Roundtable panelists stressed that care pathways specific to the needs of patients with T2DM+HF must consider different health care settings. For example, how members of a patient’s care team interact in an integrated health system is very different from how they interact in rural areas or in less integrated urban settings. Participants emphasized that although care pathways depend largely on resources, geography and local circumstances, there is a pressing need to focus on improving implementation and “getting things to work better” in different settings. There was agreement that efforts to make small but high-value changes in the process of care for patients with T2DM+HF would likely yield measurable benefits at the population level—but processes and care pathways must be tailored to local circumstances.

Craft Incentives That Improve Care Delivery and Promote Collaboration
Roundtable participants emphasized the need to develop policies that are aligned with (and drive uptake of) care processes and pathways that encourage optimal care delivery for patients with T2DM+HF. Policies must address an array of issues and must be crafted in a manner suitable for the heterogeneous settings in which patients receive care. For example, new policies could incentivize teams of physicians to better manage and coordinate care. They could create new reimbursement structures for multidisciplinary teams that improve care delivery and coordination, while simultaneously deemphasizing the historical focus on individual physician visits and RVUs.

New policies could recognize the role pharmacists play in care planning and medication management by reimbursing their time as part of multidisciplinary care teams. If incorporated into care teams through new reimbursement policies, pharmacists could coordinate medication reconciliation, troubleshoot polypharmacy-related issues and deliver patient education. Policies could be a springboard for new conversations about how quality metrics can be amended to incentivize team-based care, rewarding effective teams for excellent coordination, care planning and meeting patient priorities rather than creating or perpetuating incentives that drive clinicians away from those goals.

Optimize Existing Technology
Although roundtable participants indicated that existing health care technologies could be leveraged in many ways that would improve care delivery for patients with T2DM+HF, they also recognized that access to technologies depends on local circumstances and implementation differs by care setting. Panelists believed that increased availability of e-consults would help PCCs in rural and underserved areas access specialists for patient assessment and management. They also indicated that telemedicine should be used more often for ongoing patient management in situations where it is appropriate.
Panelists pointed to the critical importance of adopting health information systems, including health information exchanges, that permit all members of the care team to access patient health records, including all lab results, prescriptions and information that helps inform care planning and coordination. They placed special emphasis on the need to optimize EMRs to facilitate the spread of information across the care team, including physicians, pharmacists, PAs, NPs and health professionals who deliver care in the home. Ideally, these electronic systems would include standardized, algorithmic approaches to care that support clinical decision making at the point of care for all care team members.

**Broaden the Pyramid of Professionals who Can Provide Care**

A frequent topic of discussion during the roundtable meeting was the need to increase the number and types of health care professionals who deliver care to patients with T2DM+HF. As noted earlier, there was widespread agreement on including pharmacists in the care team because of the many medications that patients often take and the accompanying dangers of adverse events associated with polypharmacy. Pharmacists could perform medication reconciliation before the first patient visit, helping the PCC establish an informed starting point for patient assessment. They could also look at medication lists and patient formularies to anticipate coverage issues and provide an opportunity on prior authorization when it is needed. Panelists also indicated that giving NPs, PAs and MAs increased responsibility for handling certain aspects of routine patient care and care coordination, consistent with their training, would offer important benefits to patients with T2DM+HF.

These strategies would also free specialists to focus on the needs of more complex patients. Not only would shifts in responsibility result in patients being able to see a member of their health care team sooner, they would also contribute to greater job satisfaction among nonphysician health professionals, who would have more challenging work. One or more of these classes of health professionals could also serve as the “central” care coordinator across the team, filling a much-needed patient navigator role that is missing for most patients.

Roundtable panelists also noted that community health workers and other community-based health professionals could be leveraged to a much greater degree. They could gain insights on diet, social factors, mental health and other aspects of patient well-being that are challenging to assess in the office but are often apparent to health workers who deliver services in the home. They could be trained to engage with physicians to facilitate telehealth visits and could interact with pharmacists to troubleshoot medication management and other pharmacy-related concerns that become evident during home visits. Information gained and services delivered could be entered into an enhanced medical record that could yield a significantly more nuanced and informative patient profile.

An overhaul of how nonphysician health professionals function in both PCC and specialist settings could offer meaningful progress for many aspects of care delivery that are currently lacking for patients with T2DM+HF. These roles could be “protocolized,” with job functions informed by algorithms or prompts provided by physicians or EMR systems that could be accessed in offices and in the community via mobile devices. Roundtable participants also noted the need for trained professionals to fill gaps in patient education, which could be accomplished through expanded training for existing health professionals. For example, some participants suggested that a “certified heart failure educator” role would fill needs similar to those currently addressed by Certified Diabetes Educators. Alternatively, existing diabetes educators could develop expertise in HF education and deliver education under existing reimbursement models.

**Improve Physician Knowledge, Education, and Training**

Roundtable participants emphasized the importance of ensuring that specialists are not only up to date on developments in their own field, but also have a basic, shared knowledge base in diabetology and cardiology. This would allow specialists to work more effectively with a patient’s PCC and enhance the quality of interactions between specialists. Although participants considered ways to change existing practice patterns to encourage this type of cross-training and cross-disciplinary knowledge, most agreed that the most efficient way to change physician behavior is to focus on the future—to target medical students and trainees. Medical students can be trained to work effectively as teams and their academic and clinical evaluations reflect their skills in these processes of care. Panelists also suggested establishing new training programs that focus on the intersection of cardiology and endocrinology and on cardiorenal disease. Professional societies are positioned to lead the charge on developing and nurturing new programs.

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Conclusions

The high prevalence of T2DM and HF and the accompanying complexity and high cost of treating these health conditions demands attention. But a long-standing lack of care coordination, insufficient access to specialists and patient information, failure to optimize nonphysician health care professionals and ongoing misalignment of current policies with ideal care create barriers to ideal care to patients with T2DM+HF.

Ideal care for patients with T2DM+HF is characterized by a high degree of coordination, communication and information exchange among PCCs and specialists. Unimpeded access to specialists, inclusion of pharmacists on the care team, the ability to maximize PAs and NPs and superlative and supportive patient education offer meaningful opportunities to optimize care.

To address persistent challenges, targeted efforts are needed to improve communication and information exchange, optimize telehealth, update health professional training programs to include cross-training and team-based care and expand the scope of practice for nonphysician health professionals. These efforts will have the most impact if they are supported by forward-thinking policies that incentivize clinicians to work in teams that are evaluated by quality metrics reflecting outstanding care coordination and patient-centered care planning.

Enhance and Align Inter-Organizational Collaborations

There was broad agreement that professional societies, regulators and other stakeholders need to have targeted conversations about how to improve care for people with T2DM+HF, including the role that SDOH play in patient assessments and care planning. Panelists recommended convening a summit of constituencies to discuss these issues and emphasized the importance of having policymakers and payers in the same room if meaningful change is to occur.

Panelists suggested that NCQA could help drive changes in care delivery for patients with T2DM+HF by revisiting quality measures currently implemented in routine practice and revising them to align with coordinated, team-based care and support value-based payment models. Panelists also expressed the need to harmonize clinical practice guidelines across disciplines and facilitate the ability of specialists to access and adopt new guideline-based practices and prescribing patterns.

Roundtable participants also recommended establishing T2DM+HF “centers of excellence” that could train a new generation of physicians who specialize in caring for patients with both conditions. These centers would emphasize team-based care and provide a virtual entry point for e-consults from clinicians in distant areas under new collaboration models enabled by telehealth and the ongoing evolution in health technologies. They could define and update best practices and pathways as new evidence becomes available. Centers could be a keystone of new reimbursement models based on teams rather than on individual clinicians.

Enhance Patient Empowerment

Multiple prescriptions and office visits can also result in a complex web of medical expenses and financial barriers that could be alleviated through enhanced financial literacy and financial navigators. Roundtable participants agreed that there is a clear need for new tools and strategies that empower patients with T2DM+HF. These health conditions are characterized by demanding therapeutic regimens that would be easier for many patients to follow if they had access to programs and resources focused on improving health literacy.

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Acknowledgments

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