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Payment and Care for Hematopoietic Cell Transplantation Patients: Toward a Specialized Medical Home for Complex Care Patients

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A B S T R A C T

Patient-centered medical home models are fundamental to the advanced alternative payment models defined in the Medicare Access and Children's Health Insurance Plan Reauthorization Act (MACRA). The patient-centered medical home is a model of healthcare delivery supported by alternative payment mechanisms and designed to promote coordinated medical care that is simultaneously patient-centric and population-oriented. This transformative care model requires shifting reimbursement to include a per-patient payment intended to cover services not previously reimbursed such as disease management over time. Payment is linked to quality measures, including proportion of care delivered according to predefined pathways and demonstrated impact on outcomes. Some medical homes also include opportunities for shared savings by reducing overall costs of care. Recent proposals have suggested expanding the medical home model to specialized populations with complex needs because primary care teams may not have the facilities or the requisite expertise for their unique needs. An example of a successful care model that may provide valuable lessons for those creating specialty medical home models already exists in many hematopoietic cell transplantation (HCT) centers that deliver multidisciplinary, coordinated, and highly specialized care. The integration of care delivery in HCT centers has been driven by the specialty care their patients require and by the payment methodology preferred by the commercial payers, which has included bundling of both inpatient and outpatient care in the peritransplant interval. Commercial payers identify qualified HCT centers based on accreditation status and comparative performance, enabled in part by center-level comparative performance data available within a national outcomes database mandated by the Stem Cell Therapeutic and Research Act of 2005. Standardization across centers has been facilitated via voluntary accreditation implemented by Foundation for the Accreditation of Cell Therapy. Payers have built on these community-established programs and use public outcomes and program accreditation as standards necessary for inclusion in specialty care networks and contracts. Although HCT centers have not been described as medical homes, most HCT providers have already developed the structures that address critical requirements of MACRA for medical homes.

INTRODUCTION

The American healthcare system is undergoing a radical transformation from solo practitioner and stand-alone provider sites toward new care delivery and compensation processes that encourage or mandate integrated care delivery

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and measurement-driven patient care [1-8]. One of the mechanisms used to realize the benefit of systems integration is the development of the patient-centered medical home through which an individual's comprehensive healthcare needs are managed under the direction of a designated healthcare professional [9-11]. The medical home was initially conceived with a primary care emphasis and was intended to promote coordinated inpatient and outpatient care by multiple providers across a defined population using mechanisms like clinical pathways [12-19]. Medical home attributes include accessibility and comprehensive coordinated care that is compassionate, culturally sensitive, and patient- and family-centric. Provider teams are physician led, but team-based care delivery is encouraged and designed based on the specific patient needs.

The operational definitions of medical homes continue to evolve. The Centers for Medicare & Medicaid Services (CMS) formally added bundled payment for care management to its medical home attribute list in its 2006 proposed rule [20-23]. Others have also developed guidelines or definitions for medical homes, including the CMS and the Agency for Healthcare Research and Quality and accreditation agencies such as the Accreditation for Ambulatory Health Care, National Committee for Quality Assurance Patient Centered Medical Home, and The Joint Commission Designation Utilization Review Accreditation Commission. Despite the advent of regulatory and accreditation definitions and given the demands of Medicare Access and Children's Health Insurance Plan Reauthorization Act (MACRA) for episode-based integrated care delivery, the term "medical home" remains in common usage, focusing on the original proposed attributes.

Payment systems have evolved as well. Historically, medical care has been remunerated on a fee-for-service model based on utilization of units of service, also known as resource-based compensation. In contrast, medical homes are moving away from this payment mechanism to emphasize quality of outcomes achieved rather than volume of services provided [24-29]. Many important medical home services, such as ongoing patient counseling and management, telemedicine and remote monitoring, and care coordination, are reimbursed poorly (if at all) under the traditional fee-for-service approach. Quality care for disease management necessitates patients receive some or all of these services. Use of a bundled care payment to cover all components of treatment for a specific condition or episode of care facilitates integration of comprehensive care services, making this payment approach common for medical home services, especially when coupled with incentives to improve outcomes and reduce resource utilization [24-29].

Under MACRA bundled payment models may apply to procedures where resource utilization is often predictable and reproducible for different types of patients, such as surgical procedures, especially when comorbidities do not significantly impact resource utilization or complication rates. Bundled payments are more challenging for chronic disease management where variations in comorbidities and acuity of care results in more heterogeneous care needs. In response, specialized medical homes for patients with cancer and other complex conditions have been proposed, sometimes with comanagement of patient care with primary care providers [30-35]. These models vary widely, even within specific disease categories. Different models for an oncology medical home have been proposed, based on wide variability in how care is delivered across the cancer spectrum. For example, models for solid tumor care may be mainly outpatient-focused, whereas hematologic malignancy–focused models require a continuum of inpatient and outpatient services.

The Center for Medicare and Medicaid Innovation has created an oncology care model in which many private oncology practices and academic centers with hematopoietic cell transplantation (HCT) participate. The oncology care model strives to mimic many attributes of the medical home. Care in the oncology care model centers around a 6-month episode of care that begins with the first administration of outpatient chemotherapy, inclusive of subsequent inpatient care costs. Cancer care is to be administered according to nationally published guidelines, coordinated with 24-hour accessibility to providers. Outcomes such as patient measures, practice measures, and claims measure are tracked, assessed, and shared with other practices, facilitated by mandated use of an electronic medical record. HCT treatment is to be included, but the technical details of this remain unclear, both for participants with and without HCT programs. One of the limitations of this oncology care model is that it does not address the impact of comorbidities on outcomes or the long-term needs of survivors. A per-member per-month payment is additive, calculated based on comparison with historical claims per cancer diagnosis. However, methodology to do this for the first year of risk, which will be the second year of the program, has not been formulated because of limited data on cancer staging and molecular phenotyping in available claims data because the *International Classification of Diseases, Tenth Revision* (ICD-10) has not historically coded for cancer staging and molecular phenotyping.

HCT AS A MODEL FOR A CARE MANAGEMENT SYSTEM FOR COMPLEX PATIENTS

Given the principles of the national medical home model as typically suited for the primary care patient, it is worthwhile to consider HCT as a model for other complex patients requiring resources beyond those typically delivered in a primary care setting that need to be administer in an integrated delivery system. Many structures necessary for an effective medical home model already exist in the HCT setting, rendering it a useful example for the national re-engineering of healthcare. HCT patients, like other patients with rare and complex diseases, create challenges for primary care models because these patients need specialized resources that exceed the scope of services provided in primary care settings.

HCT centers have needed to provide coordinated care delivery with team-based care to meet the complexity and diversity of transplant patient care needs [36-41]. This complexity is a multifactorial product dependent on the diseases treated with HCT, the heterogeneous responses to the therapies applied, and the commonly existing comorbidities, some of which are pre-existing and others resulting from cancer therapy. As a result, HCT centers have developed integrated care delivery teams that oversee the care of the patient over an extended period of time covering both inpatient and ambulatory settings. The HCT field has developed organizational structures that facilitate standardized care where possible and that emphasize quality management practices that encourage the evolution of increasingly effective efficient practices [39-43]. HCT centers have integrated rehabilitation services like physical therapy as well as mental healthcare into their clinical operations. Because caregiver support is essential to a successful HCT outcome, centers emphasize education and well-being of both patients and family members.