The use of an embedded care manager ("ECM") to coordinate services within the complex health care delivery system is sharply increasing. The embedded case manager is an experienced registered nurse who practices within a designated physician practice as part of the collaborative care team. The scope of responsibilities of the embedded case manager includes comprehensive patient assessments, patient education, development of individualized care plans, facilitation of care across different care settings, and data gathering for ongoing research and evidence-based practice.

Health systems and health plans embarking on clinical integration or targeting improvements in disease-specific health outcomes see care management as a critical capability. Historically, the functions and responsibilities of a care manager have been as unique as the organizations that employ them (see Table 1). However, there have been overlaps or redundancies with the roles and responsibilities of the care manager and the patients they serve. As a result, patients experience confusion around who is the primary care manager responsible for guiding their care. The ECM serves as a central point of contact, thereby eliminating redundancy. The primary goal of an ECM is to effectively manage patients at high risk for health care complications and improve their quality of life. It is anticipated

ABSTRACT

Purpose/Objectives: The role of the professional case manager is changing rapidly. Health reform has called upon the industry to ensure that care is delivered in an efficient, effective, and high-quality and low cost manner. As a means to achieve this objective, health plans and health systems are moving the care manager out of a centralized location within their organizations to ‘embedding’ them into physician offices. This move enables the care manager to work alongside the primary care physicians and their high-risk patients. This article discusses the framework for designing and implementing an embedded care manager role into a physician practice. Key elements of the program are discussed.

Implications for Care Management: Historically care management has played a foundational role in improving the quality of care for individuals and populations via the efficient and effective use of resources. Now with the goals of health care reform, a successful transition from a volume-based to value-based reimbursement system requires primary care physicians to welcome care managers into their practices to improve patient care, quality, and costs through care coordination across health care settings and populations.

Primary Practice Settings: As patient-centered medical homes and integrated delivery systems formulate their plans for population health management, their efforts have included embedding a care manager in the primary practice setting. Having care managers embedded at the physician offices increases their ability to collaborate with the physician and their staff in the implementation and monitoring care plans for their patients.

Findings/Conclusions: Implementing an embedded care manager into an existing physician’s practice requires the following:

1. Physician champion(s)
2. Patient workflow redesigns
3. Multidisciplinary care teams that engage patients in their plans of care
4. Electronic health records with a robust data-reporting capability

Although the embedded care manager is a highly evolving role, physician groups are beginning to realize the benefits from their care management collaborations. Examples cited include improved outreach and coordination, patient adherence to care plans, and improved quality of life.

Key words: care manager, case management, embedded care manager, embedded case manager

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that ECM interventions will subsequently prevent unnecessary admissions, readmissions, and overutilization in a health care system, putting into practice the Institute of Healthcare Improvement’s Triple Aim, a framework that describes an approach to optimizing health system performance by simultaneously improving the patient experience of care, improving the health of populations, and reducing the per capita cost of health care (“The IHI Triple Aim,” 2013).

Care management is defined as “a collaborative process of assessment, planning, facilitation, care coordination, evaluation, and advocating for options and services to meet an individual’s health needs through communication and available resources to promote quality cost effective outcomes” (Case Management Society of America, 2010). Over the years, emphasis around disease management, population management, and complex care management has emerged. Fundamentally, the same tools and techniques used by care management are utilized for these programs. Disease management focuses on specific diseases, whereas population management focuses on large populations of patients that are stratified by risk. The ECM supports these patient populations in the outpatient setting.

**Characteristics of a Care Manager’s Role and Responsibilities**

These roles and responsibilities have been compiled from the industry care management experience, referencing of each industry’s care management job descriptions as well as research of industry references, such as Case Management Society of America and Essentials of Embedded Case Management.

**Examples of ECM Programs**

Aetna health plan piloted an ECM program in 2007 at 36 primary care practices. The concept of health coordination, evaluation, and advocating for options and services to meet an individual’s health needs through communication and available resources to promote quality cost effective outcomes” (Case Management Society of America, 2010). Over the years, emphasis around disease management, population management, and complex care management has emerged. Fundamentally, the same tools and techniques used by care management are utilized for these programs. Disease management focuses on specific diseases, whereas population management focuses on large populations of patients that are stratified by risk. The ECM supports these patient populations in the outpatient setting.

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**Examples of ECM Programs**

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### TABLE 1

**Sample Roles for Care Management**

<table>
<thead>
<tr>
<th>Health Plan Care Manager</th>
<th>Hospital Care Manager</th>
<th>Primary Care Provider or Office-Based Care Manager</th>
<th>Employer Health Care Manager</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negotiates case rates for nonparticipating health care provider services</td>
<td>Conducts concurrent admission review using Interqual or M&amp;R criteria</td>
<td>Verifies coverage and benefits with insurers</td>
<td>Verifies the medical reasons for employee absences</td>
</tr>
<tr>
<td>Recommends and approves coverage exceptions when appropriate</td>
<td>Promotes effective and efficient utilization of clinical services</td>
<td>Coordinates home services at point of hospital discharge</td>
<td>Conducts follow-up with employees with work absences due to poor health</td>
</tr>
<tr>
<td>Coordinates referrals to specialists</td>
<td>Serves as a patient advocate; performs patient education</td>
<td>Provides patient education</td>
<td>Provides work safety and health education</td>
</tr>
<tr>
<td>Arranges for health care services, such as disease management, home care, condition-specific testing</td>
<td>Completes an expanded assessment of patient and family needs</td>
<td>Provides postcare follow-up</td>
<td>Assists employees with chronic illnesses</td>
</tr>
<tr>
<td>Coordinates the delivery of covered services with community services</td>
<td>Facilitates interdisciplinary patient care rounds and/or conferences to identify treatment goals</td>
<td>Obtains preauthorization and/or referrals to other health care services or providers</td>
<td>Provides on-site wellness programs</td>
</tr>
<tr>
<td>Coordinates claims with other benefit plans</td>
<td>Directs and participates in the development of patient care protocols and policies</td>
<td>Conducts data reporting to identify gaps in care or services and conducts patient outreach to facilitate follow-up care or services</td>
<td>Assures employee access to employee assistance programs</td>
</tr>
<tr>
<td>Conducts telephonic outreach to a member before, during, and after specific health care interventions</td>
<td>Mobilizes resources to achieve expected clinical outcomes within the desired timeframe</td>
<td>Provides patient education sessions for various health conditions, for example, diabetes, CHF, and COPD</td>
<td>Collaborates with workers’ comp insurer on care plan and return-to-work efforts</td>
</tr>
</tbody>
</table>

*Note: CHF = congestive heart failure; COPD = chronic pulmonary obstructive disease; M&R = Milliman and Robertson.*
DESIGNING AND IMPLEMENTING AN ECM MODEL

A well-trained ECM who can assist patients in managing their health conditions, prioritize their health care needs, prevent complications through standardized care protocols, and navigate an increasingly complex health care system is invaluable to any health care organization. There are several CM models developed that are achieving the improved quality, cost, and patient experience. The programs include Care Transitions developed by Eric Coleman, Mary Naylor’s Transitional Care Model, and Steven Counsell’s Geriatric Resources for Assessment and Care of Elders (“GRACE”). Although a formal cost analysis was not conducted, the literature estimates a projected range in cost savings from a CM interventions to be $850–$103,000 per patient per year (Institute for Healthcare Improvement 2009). The successful implementation of the ECM model should include the following:

- **Design:** The first step toward integrating care management into an office is to develop and communicate the ECM’s job description within the practice setting. A job description for the ECM can be derived from the Case Management Society of America’s definition of care management. However, the ECM’s job description may need to be modified to reflect the role and responsibilities within a specific practice location.

Once developed, communicate this to the office team so everyone understands their roles and the likely patient workflow redesign that the office adopted to welcome the ECM as a new team member. For smaller practices, a centralized resource that can be utilized by multiple offices may be more cost-effective:

- **Professional development:** Provide specialized training to the ECM in educating, motivating, and coaching patients to include disease-specific protocols. Because an ECM supports the same clinical guidelines as clinicians, have them attend the same interdisciplinary workshops. Training should also include how to identify and access resources in the community. These

plan-sponsored ECMs at that time was revolutionary. Instead of health plan care managers communicating with physicians and patients by telephone, the health plan care manager was embedded in the physician offices, providing face-to-face interaction with the staff and patients. The patient management team included RNs, social workers, and/or behavioral health specialists (Hostetter, 2010). The model provided for more collaboration with the primary care providers: care managers developed care plans, monitored the ongoing symptoms of their patients, and coached them to self-manage their conditions. Through focused oversight, an ECM can enhance continuity of care, which ensures that patients are receiving the necessary testing and procedures. Their efforts result in improved health outcomes, reduction or avoidance of complications, and unnecessary hospitalizations.

Since Aetna introduced the concept of an ECM, other organizations have followed suit and experienced similar success. In 2008, Geisinger Health System of Danville, PA, placed its first ECM program in primary care practices. Since launching their program, “ProvenHealth Navigator,” avoidable hospital readmissions were reduced by 53%; hospitalizations decreased by 25%; and the length-of-stay for patients decreased by 23% (Hostetter, 2010).

Lutheran Medical Center in Brooklyn, NY, is an example of a hospital organization that adapted the concept of an ECM as a method to boost quality of care for their patients. They place an ECM in the emergency department to focus on identifying high-risk patients due to their chronic illnesses (Mullin, 2011). The care manager also evaluates the appropriateness of hospitalization and level of care. Through their efforts, they have reduced readmissions and provided alternatives to admission when appropriate (Mullin, 2011). Placing a care manager in the emergency department offers the patient early intervention by someone who can initiate plans of care for a high-risk patient who typically has a history of high utilization.

Patient-Centered Medical Homes (“PCMHs”) are also utilizing the support of an ECM to work alongside health care professionals. A PCMH is not simply a place of care but a model of primary care. The Taconic Independent Practice Association (“TIPA”) is a 4,000-physician member organization located in Fishkill, NY, that has also adopted the use of an ECM (“TIPA,” 2012). The goal of their pilot was to demonstrate that patient-centered, care-coordinated services as part of an advanced primary care model can deliver safe, effective, and efficient care to achieve the Triple Aim, which is defined by achieving improved health care, its cost, and experience. However, the challenge that TIPA (and other providers) faced was the implementation of a care manager in a fee-for-service marketplace. Health plans typically do not reimburse for care manager services within the primary care practice. As a result, TIPA sought funding from their payer community for an advanced primary care pilot. They reported that the health plan response was very positive, as they were willing to be part of an innovative approach with care management.
would include respite care, community meals-on-wheels programs, alternate housing options, home and health assessments, and long-term financial planning. This knowledge is invaluable to the ECM’s role. Patients will benefit through improvements in self-management and health outcomes, resulting in declines in emergency department and inpatient utilization.

- **Information technology (IT):** Develop an IT framework that supports collaboration with, and for, the care management of populations or multiple diseases. A data warehouse that can produce disease registries, balanced scorecards, and integrate with advancing EMR, telemedicine, and call centers will be key. This should provide access to key patient information that encourages best practices and facilitates communication between providers.

- **Scope of responsibilities:** The ECM Model works best when there are at least six physicians to support the expense of a care manager. This can depend on the criteria used to identify the patient population for whom the care manager will be responsible and is typically identified by either risk stratification or disease-specific criteria.

There are several factors that impact what a manageable patient caseload is for a care manager. An important one is access to an integrated IT platform.... Other factors that influence caseload are patient complexity, need for education and social intervention, the time intervals of CM interventions, caseload maturity, and the diverse care needs of the patient, and if there is a caseload sharing or team CMs. The caseload at Bon Secours Health System is cited at 125–150 Medicare patients. They have 5,000 commercial patients and 2%–3% of that population are followed by case managers. In addition, they manage all discharges from the hospital for 30–60 transitions of care. (Healthcare Intelligence Network, 2012)

On average, a care manager provides approximately four encounters per patient per year. This includes face-to-face visits, telephone calls, and joint meetings with a medical team member. As needed, the ECM should schedule home appointments with the patients, converse with physicians and specialists, contact outside agencies and companies for their patients, and/or arrange other services that will enhance the patient’s care and well-being. Roughly half of ECM encounters should involve providing patients or caregivers with connections to community programs. In many cases, ECMs are helping patients and caregivers deal with social and organizational needs, such as caregiver fatigue, medication assistance, health care coaching, and financial needs.

**Population Health Outcomes**

Tracking an individual’s progress toward achieving his or her health goals, while managing his or her chronic
conditions, should be an integral part of any ECM program. Patients and their significant others should be seen as true “partners in care” by identifying their personal goals, engaging in education, participating in strategies to facilitate compliance, and reporting health outcomes to their provider team. To achieve this, care management requires an EMR system that meets the specific documentation standards of a care manager model, which is rarely available in a physician’s office. Evaluate how this can be solved; the care manager needs to develop care plans, set health care reminders and tracking, as well as communicate across and between the entire health care team.

**Practice Leader**

Identify and appoint a strong practice leader to support the ECM model. The resource of a care manager embedded in a practice requires significant time and training to implement, and there must be a strong commitment on the part of a practice leader to see it through to completion and ongoing improvement.

**Results**

The optimal CM results should include better health care, which greatly improves an individual’s experiences of care, as outcomes. With the CM focus on the overall health of a patient, they ultimately address underlying causes of poor health, which can include physical inactivity, behavioral risk factors, lack of preventive care, and poor nutrition. Finally, CM reduces costs through early identification and prevention of unnecessary, duplicate services, and avoidable hospitalizations. Examples of metrics for measurement are noted in Table 2.

**Future Research, Education, and Practice Addenda**

The American Nurses Association (ANA) has suggested that clear models and outcome measures are needed in the context of care coordination. The ANA has made the following recommendations (see Table 3) (“The Value of Nursing Care Coordination,” 2012).

**Lessons Learned**

What has been learned from the early adapters of an ECM model is the need for a well-executed implementation plan. Ensure that the ECM’s role and responsibilities have been clearly communicated to the team and allow the staff to participate in the redesign of their workflow and responsibilities. Most importantly, communicate to patients the added resource of a patient advocate in the addition of the care manager. Let patients know when and where to call so they can enlist the assistance and support of the ECM in managing their health care needs.

**Sustaining the ECM Model**

Once implemented, the ECM program must quickly ensure that patients living with complex conditions and/or disabilities in active courses of treatment avoid disruptions in their care. When designed and implemented correctly, the ECM model minimizes the potential for duplication of services, eliminates gaps and fragmentation in services provided, and ensures that care is provided to individuals as seamlessly as possible. The outcomes will result in...

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<th>TABLE 2</th>
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<tr>
<td><strong>Sample Metrics for CM Measurement</strong></td>
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<tr>
<td><strong>Financial Metrics</strong></td>
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<tr>
<td>Average savings per patient</td>
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<tr>
<td>Readmissions within 30 days</td>
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<tr>
<td>Reduction in ED visits</td>
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<tr>
<td>Referral patterns</td>
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<tr>
<td>MD visit within 96 hr of discharge</td>
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<td>Decrease in medication cost</td>
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<th><strong>TABLE 3</strong></th>
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<tr>
<td><strong>Recommendations from “The Value of Care Coordination,” 2012</strong></td>
</tr>
<tr>
<td><strong>Research</strong></td>
</tr>
<tr>
<td>Role definition, characteristics, and structure of effective care coordination</td>
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<td>Quality improvement measures</td>
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<td>Evidence-based role competencies</td>
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<td>Interprofessional research</td>
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Note: ED = emergency department; HEDIS, Healthcare Effectiveness Data and Information Set.
enhanced quality of care and patient satisfaction as the ECM role helps the patient remain in their usual residence. Factors that foster success with the ECM model include the following:

- **Care coordination:** This is an expertise that takes time, effort, and financial resources that are currently not adequately recognized by payers. The ECM model supports a physician practice’s move toward a PCMH. Solicit payer reimbursement as the model matures; payers may be willing to financially support the program, particularly if they see proof that it reduces costs (e.g., by avoiding readmissions) and/or improves outcomes.

- **Training and process redesign:** Provide opportunities to train existing caregivers to new roles with an emphasis on communication, coordination, collaboration, and accountability. Ensure adequate visit time for patients with the ECM. Allow ECMs to get to know their patients. They need to learn about the unique personality of each patient and their learning style and preferences, as well as those of their caregivers. Time and communication ensure that patients understand the situation at hand and their role, which results in better outcomes. Plan and/or redesign the workspace and patient visit schedule in such a way that it supports ECM visits, care planning, and patient education. Patients need more than just interaction with a medical assessment and/or messaging device. They need to see the ECM and physician evaluate and respond to the information they provide.

- **Protocols:** Revise the office practice patient protocols at least once a year to make sure that they conform to the latest clinical and patient management recommendations. Build care management strategies today, while understanding that the protocols and processes will continually evolve. Organizational change of this magnitude requires a cultural transformation and a clear mandate about the patient.

- **Improve care:** Continuous improvement should be an ongoing initiative. Some patients who improve as a result of the program may not need to remain in the program, particularly those who learn to manage their conditions effectively. Others may need the discipline of daily reporting to remain on track.

As seen in health care over the years, care management has played a pivotal role in facilitating quality, cost-effective care. As the demand for greater value for the consumer grows, so will the demand for care managers who can assist organizations to meet those objectives. The successful evolution from a volume-based to value-based reimbursement system will require organizations and individuals to embrace the changes required in this era of health care transformation.

**REFERENCES**


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