Transitions of Care Model Inclusive of Unplanned Care Improves the Patient Experience

J Brent Myers, MD, MPH, Jon Cox, MHS, PA-C, Stephanie Teague, EMT-P, and Eric Beck, DO, MPH

Abstract
A major emphasis in health care is creating an experience whereby patients receive the right care at the right time from the right provider in the right setting at the right cost. Over the past several decades, there has been considerable effort in the area of medical management, with prior authorization, gatekeeper utilization management regimens, and other techniques designed to guide patients and caregivers into desired treatment pathways. Alternatively, the concept of demand management may be employed to achieve these desired outcomes by giving patients meaningful, expanded choices beyond traditional acute-care settings. The implementation of a novel, patient-centered, unplanned care delivery model is described along with illustrative case studies.

Keywords
transitions of care, unplanned care, home care, readmission prevention, tertiary prevention

Introduction
The health-care system in the United States is rapidly changing, with a shift to value-based purchasing that includes an emphasis on the patient experience (1). Prior to this current transformation, there was considerable effort in the area of medical management, with implementation of prior authorization, gatekeeper regimens designed to guide patients and caregivers into desired treatment pathways. These systems often focused on planned care provided during customary business hours in traditional venues such as hospitals, clinics, and other fixed facilities (2). It is clear, however, that patients access health care in the off-hours, often without prior appointments or authorization. Indeed, up to 8% of the US population accesses the health-care system via 9-1-1/ emergency medical services (EMS) each year, and the number of visits to emergency departments is increasing (3). We describe a patient care program centered on demand management, understanding that the patient experience will be enhanced by a robust ability to respond to unscheduled requests 24 hours a day, 7 days a week. Unplanned care can be defined as the unanticipated, unscheduled, or on-demand clinical services patients require even when healthy and well managed or as a result of suboptimal self-management, poor adherence, or challenges with access to care (4). Unplanned care has traditionally been delivered by primary care providers, urgent care centers, workplace clinics, home health, hospice, postacute facility clinicians on call, and, most commonly, the emergency department. This unplanned care activity is offered by an interprofessional team of healthcare providers with the type of provider chosen for each request guided by an evidence-based, physician-supervised system. With the ability to not only identify the patient’s need but also to restore or implement the appropriate care plan, this unplanned care service provides value to all stakeholders, improving the patient experience while avoiding unnecessary utilization of higher cost alternatives, such as emergency departments.

Method
Evolution Health is a multistate, integrated medical practice specializing in the care of complex patients in the home and alternative settings. A novel approach to patient-centered care is described along with illustrative case studies.
care is offered during transitional care, longitudinal care, and advanced illness management for populations. These populations are established based on local needs and may be defined by geography, history of utilization of a specific hospital or clinic system, membership in an insurance plan, or other means as is clinically appropriate. This is accomplished by an interprofessional team of outpatient service providers, including pharmacists, nurses, paramedics, physician assistants (PAs), advanced practice nurses, physicians, and others. Each team member is encouraged to work at the top of their license providing care in the patient’s “home,” whether that be a private residence, assisted living facility, skill nursing facility, or other location. These team members strive to create an informed patient population with access to meaningful choices for care, inclusive of both traditional and nontraditional practice settings. This treatment regimen is referred to as “Mobile Integrated Healthcare Practice” (5). This delivery model does not disrupt preexisting or effective relationships with primary care, specialists, or other providers but rather links unplanned care needs with meaningful alternatives that return patients to their planned care—self-care and primary care providers.

Most uniquely, these providers are supported by a constantly staffed interprofessional practice at the Medical Command Centers (MCCs) of Evolution Health. The MCCs are both physical places and virtual clinical operations for patients and caregivers to be utilized via phone, telemedicine, and other cloud-based connections. Although patients normally contact the MCCs by phone, these centers are not simply traditional nurse advice lines; rather, they are full medical practices, complete with licensed providers (physicians, advanced practice providers, clinical pharmacists, nurses, and social workers, among others) capable of coordinating care, managing delivery logistics, prescribing medications, and triaging the acuity of a patient’s needs. This model allows for needs and time-appropriate resource matching for unplanned care needs, be they unexpected disruption in prescription medication availability or an acute change in the patient’s condition. Solutions include an immediate dispatch of EMS resources, urgent and nonurgent use of telemedicine, scheduled follow-up response, or an appointment from a member of the Evolution Health mobile integrated health (MIH) team, which are all available, 24 hours a day, 365 days a year. Navigating patients to an appropriately matched resource, or navigating the resource to the patient, offers a more optimal alternative to emergency department utilization and enhances the experience of care delivered by the system. The following case series of patients who consented to participate prior to hospital discharge in Evolution Health’s Transitional Care program, inclusive of education about and access to unplanned care services, illustrate the impact of this system design on the patient experience.

**Case Series: Patient 1**

The first patient is an 80-year-old female with a past medical history of congestive heart failure (CHF), chronic obstructive pulmonary disease (COPD), chronic renal insufficiency, and abdominal aortic aneurysm. The patient was discharged on a Friday afternoon at 4:30 PM. As the patient’s oxygen supplier closed at 5 PM, the patient was unable to get a new home oxygen concentrator. Prior to the initially scheduled MIH provider visit, the patient called into the MCC with a complaint of respiratory distress with SpO2 of 80%. The MCC immediately dispatched a specially credentialed local MIH paramedic. The paramedic completed an assessment and identified that the oxygen concentrator was dilapidated, and the nasal cannula tubing was over 20 ft long. The patient was placed on portable oxygen with a new nasal cannula, and albuterol/ipratropium was administered by nebulizer. The paramedic connected with the MCC and the on-duty MIH Physician Assistant (PA) was conferenced, via telemedicine, to perform a real-time comprehensive assessment and collaborate in additional care and disposition. Vitals signs normalized with the new shorter cannula and nebulizer treatment. The oxygen supplier was contacted who promised delivery that evening. The patient was supplied with oxygen tanks to bridge until her new concentrator arrived. The patient was given supportive care instructions with follow-up phone calls and a visit with the MIH PA the following morning.

The MIH PA visited the patient the next morning, and the patient reported that she had not received the new oxygen concentrator the previous night. The MIH PA contacted an Evolution Health Mobile Integrated Care Coordinator (MICC) who arranged for a different oxygen company to complete the Durable Medical Equipment, order since the original company was unable to complete the delivery within 48 hours. The MICC verified the new oxygen concentrator was delivered by early Saturday afternoon. The patient received follow-up calls from the office with a follow-up visit by the MIH PA in 1 week. The MIH Team was an integral part of a care plan that enabled the patient to successfully avoid hospital readmission for over 5 months.

**Patient 2**

The second patient is a 79-year-old female with a past medical history of COPD, CHF, and hypertension (HTN) who was admitted to the hospital twice in 1 month for pneumonia and COPD exacerbation. This patient was seen 24 hours after discharge by an MIH advanced practice nurse (APN). It was identified that the patient lacked family support, financial resources, and follow-up care. The patient was supplied with a nebulizer machine and an adequate supply of albuterol and ipratropium to bridge until she could go to the pharmacy. The MIH APN telephoned the patient’s primary care provider to arrange a follow-up appointment.
Home health services were ordered along with a social work consult. One week after hospital discharge, the patient telephoned the MCC because the home health agency identified an SpO2 of 82% with mild symptoms of respiratory distress. The MCC immediately dispatched a specially credentialed local MIH paramedic. The paramedic completed an assessment, albuterol/ipratropium were administered by nebulizer, and a 12-lead cardiogram was obtained showing no acute changes. The paramedic connected with the MCC and the on-duty MIH PA was conferenced via telemedicine to perform a real-time comprehensive assessment and collaborate in additional care and disposition. Vitals signs normalized with nebulizer treatment. Additionally, during the in-home assessment, the paramedic identified that the patient had not filled her antibiotics due to cost and had not been taking her maintenance medications as prescribed. The PA and on-duty clinical pharmacists coordinated a new, appropriate, and lower cost antibiotic prescription with a local pharmacy, where the paramedic was able to obtain and deliver the antibiotics to the patient. The clinical team counseled the patient on medication adherence and advised her the MCC was available at any time should she have concerns or questions. The MIH Team was an essential part of a care plan that allowed the patient to subsequently avoid complications or readmission for over 60 days.

**Patient 3**

The third patient is an 83-year-old male with a past medical history of atrial fibrillation, CHF, and HTN. This patient had 2 hospitalizations in the last 6 months both for CHF exacerbation. The patient was seen in his home 48 hours after discharge by an MIH PA who initiated 30 days of 24/7 transitional care coverage. Twelve days after hospital discharge, the patient telephoned the MCC complaining of mild epigastric-type pain radiating to the chest and dizziness. The MIH paramedic was dispatched to assess the patient. The paramedic completed an assessment and obtained a 12-lead cardiogram that showed atrial fibrillation at a rate of 67 without acute changes, and vital signs were at baseline. The paramedic connected via telemedicine to perform a real-time comprehensive assessment and collaborate in additional care and disposition. The PA and paramedic were able to identify that the patient was having diarrhea as were others who had similar food the previous day. Stat laboratory test results were obtained by the mobile laboratory. The patient was treated symptomatically with over-the-counter (OTC) antacids, antiemetics, and proton pump inhibitors prescribed by telephone to his local pharmacy. The patient was provided education and medication adjustments related to his CHF diuretic treatment and early signs of dehydration. The patient was given supportive care instructions with follow-up phone calls and a visit with the PA the following morning. Due to the interventions of the MIH team, the patient avoided an emergency department visit for this episode of illness and remained at home for 2 weeks. The patient was readmitted 28 days after the original discharge.

**Patient 4**

The fourth patient is a 55-year-old female with a past medical history of multiple sclerosis, hypertension, hyperlipidemia, and coronary artery disease (CAD) who was admitted for ST-segment elevation myocardial infarction with cardiac stent to placement in the left anterior descending (LAD). Prior to the initial postdischarge provider visit, the patient called into the MCC stating that she could not afford her anticoagulant prescription. The patient had been without her anticoagulant for 48 hours. The patient called her cardiologist’s office but did not make contact as it was the weekend. The MIH PA was able to call the referring hospital and obtain contact information for the cardiologist from the answering service. With the approval from the cardiologist, the MIH PA successfully switched the patient from a cost-prohibitive medication to an insurance-covered medication. The MIH PA spoke with a pharmacist who had prescription waiting for the patient within 30 minutes of call. The MIH Team was an integral part of a care plan that allowed the patient to subsequently avoid hospital readmission for over 90 days.

**Conclusion**

A patient-centered, unplanned care treatment strategy may significantly improve the patient’s health-care experience while reducing unnecessary utilization of higher cost, inpatient health-care resources. This particular case series includes only Medicare patients discharged from a single health-care system; we are in the process, however, of deploying this strategy for Medicare patients more broadly as part of a population health strategy as well as for a Medicaid expansion population. As these programs mature, we look forward to sharing our experiences with these groups as well.

Further study is required to determine the magnitude of improved satisfaction, cost-effectiveness, and other outcomes compared to other, more traditional delivery models. Preliminary experience with an unplanned care delivery model, as a component of a transitions of care initiative, shows great promise in improving the quality, experience, value, and outcomes for patients.

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Author Biographies
J Brent Myers is an EMS and Emergency Physician by background and serves as the Chief Medical Officer for Evolution Health.

Jon Cox serves as a practicing Mobile Integrated Physicians Assistant and as Director of Clinical Operations for Nevada Outpatient Services, a practice managed by Evolution Health. He works to continually improve the care for patients in transition, including behavioral health patients, while focusing on provider satisfaction and outcomes measurement.

Stephanie Teague serves as a practicing Mobile Integrated Paramedic, specializing in the facilitation of comprehensive unplanned care as part of an interprofessional team.

Eric Beck is an EMS and Emergency Physician by background and serves as the Chief Executive Officer for Evolution Health.