Automating Care Management Operations

How Intelligent Automation Improves Staff Productivity and Hospital Unit Economics

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OVERVIEW

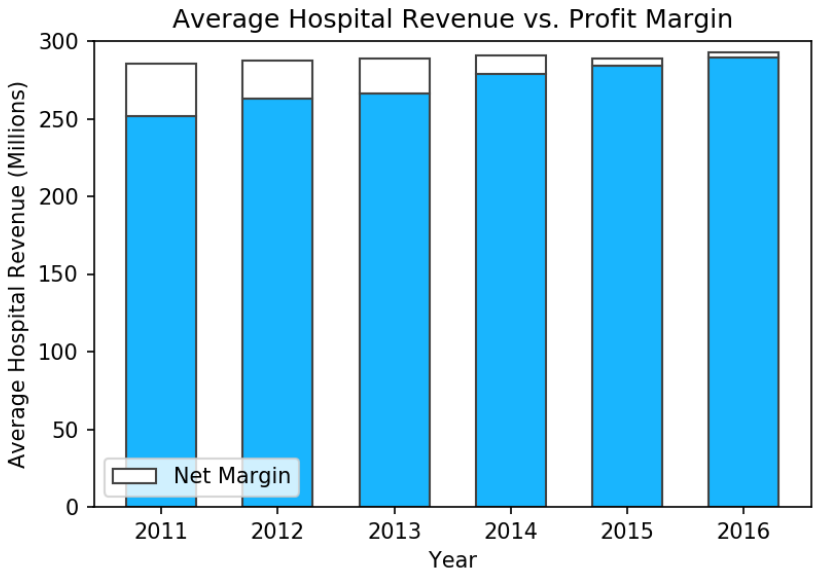
This white paper presents challenges with traditional care management protocols and how Memora Health has helped health care organizations scale care management using analytics and artificial intelligence.

PART I Care Management in the Status Quo

Care management is an evidence-based clinical service designed to address, on average, the high-risk patients that drive the majority of health care costs, including medical complications and readmissions. In 2017, health systems faced an average readmissions penalty of 0.73% of gross Medicare revenue, totaling $1.4M in expenses and a 42.2% lower operating profit per system[1]. Poor outcomes alone cost organizations an average of $10,000 per visit[2].

Health care organizations spend an average of $4.1 million dollars annually on care management, with the goal of controlling costs and improving outcomes[3]. These services, most often led by primary care professionals, are intended for patients with (A) chronic, high-cost conditions, such as heart failure[4], diabetes[5], chronic obstructive pulmonary disease[6], and cancer[7], or (B) acute conditions with high complication risk, such as pregnancy, pneumonia, urinary tract infections, and trauma, to intensively manage a patient's medical and social well-being.

Health care organizations are increasingly focused on delivering higher quality care and reducing financial penalties from poor outcomes, and demographic changes have increased both interest and necessity for scalable care management[8,9]. Ten thousand Americans will become eligible for Medicare enrollment each day until 2030[9]. As a result, transitional care full-time equivalent (FTE) salaries accounted for 15% of annual health organization budgets in 2017, up from 9% in 2016[10,11].



Care management services aim to comprehensively address the needs of a high-risk, high-spend population via one-on-one interactions, with the goal of changing behavior, decisions, and social conditions to improve health outcomes. This role spans several organizational titles:

Medical Assistants[12]

Medical assistants perform both administrative and clinical duties. They are often the primary liaison between the health care organization and the patient. This includes answering phone calls, updating medical records, scheduling appointments and laboratory services, coding and completing insurance paperwork, and handling both correspondence and billing with patients.

Nurse Navigators[13]

Nurse navigators focus on clinical aspects of transitional care management. Like medical assistants, they serve as liaisons between health care organizations and patients. Nurse navigators educate patients and family members about treatment plans, assess patients for psychosocial and socioeconomic distress, coordinate care with social workers, provide health education, and empower patients to assume responsibility of their care to the greatest extent possible.

Case Manager[14]

Case managers focus on the administrative aspects of transitional care management. Case managers monitor admission progress, confirm that patient information is shared effectively between all relevant providers and social services, and measure the quality and cost-effectiveness of interventions.

Discharge Planner[15]

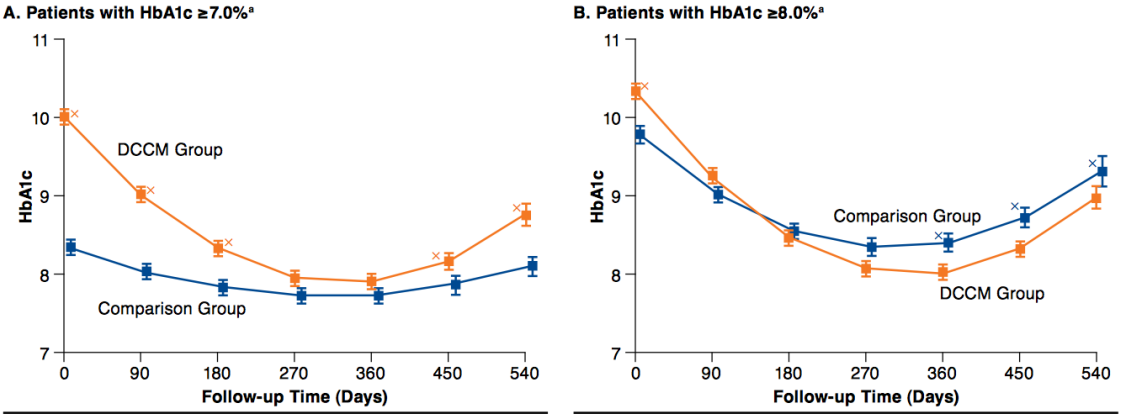
Discharge planners craft and coordinate a patient discharge plan in collaboration with the patient's health care team during hospitalization, emergency department visits, and clinic visits. This includes determining the best course of action for a patient following an episode of care, delivering a discharge summary to patients and their insurer, and coordinating transitions between hospitals and skilled nursing facilities, home care, and/or hospice.

Health Care Social Worker[16]

Health care social workers provide patients and family members with psychosocial support to cope with acute, chronic, or terminal illness. Social workers often provide patient education and counseling, address socioeconomic barriers to managing illness, and advise family caregivers.

Care Management Outcomes

Transitional care management programs have reduced readmissions by 30% and improved clinical outcomes[17,18]. For example, patients with Type II diabetes enrolled in a collaborative care program (orange) showed larger reductions in HbA1c relative to patients receiving the standard of care (blue)[19].



Care management programs have further shown improvements in depression management and blood pressure control relative to the standard of care[20].

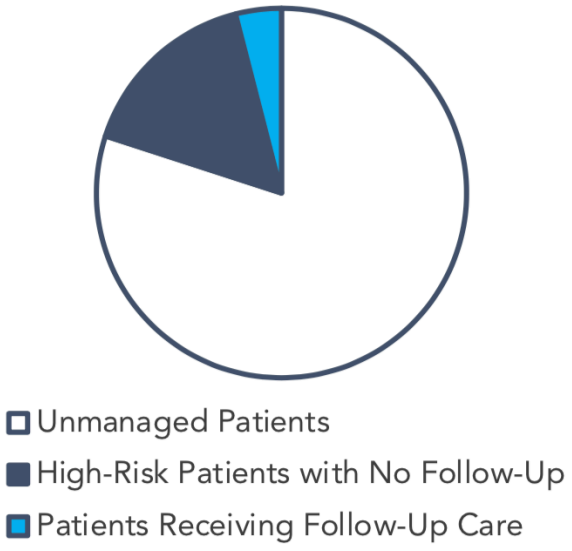
A systematic review found that, among care management initiatives, those that were most effective involved nurse care coordinators who conducted frequent interactions with patients, had ongoing follow-up with monitoring of disease status, and applied behavior change principles in their methods of engagement. These include, but are not limited to, intensive one-on-one health coaching and education sessions between patients and care managers, financial and/or social incentives for patients to pursue a desired change in behavior, such as smoking cessation, exercise, or diet, and regularly spaced tracking of biometric data such as blood glucose, blood pressure, and weight[21].

There is clearly a visible benefit of outpatient communication and follow-up to measure and improve outcomes between visits; however, clinicians are limited by time in the number of patients they can reach per day manually, and these logistical efforts by clinical staff come at the expense of time for face-to-face patient care.

Limitations of Traditional Care Management

Traditional modalities for care management have certain limitations. They are labor and capital intensive, often depending heavily on nursing staff to deliver all communication to patients. Most care management outpatient communication is telephonic or call-center based, requiring large fixed costs in terms of labor and infrastructure, and repetitive, time-consuming, and algorithmic follow-up and patient triage[20].

Transitional care FTEs, paid an average annual salary of $63,741, currently spend approximately 50% of their time on manual chart review and management, learning each patient's medical history among dozens of physician notes, and then deciding the best way to follow up under tight timelines[11,22]. Of the 20% of patients that FTEs follow-up with, only 18% of them (~4% overall) answer phone calls[23].

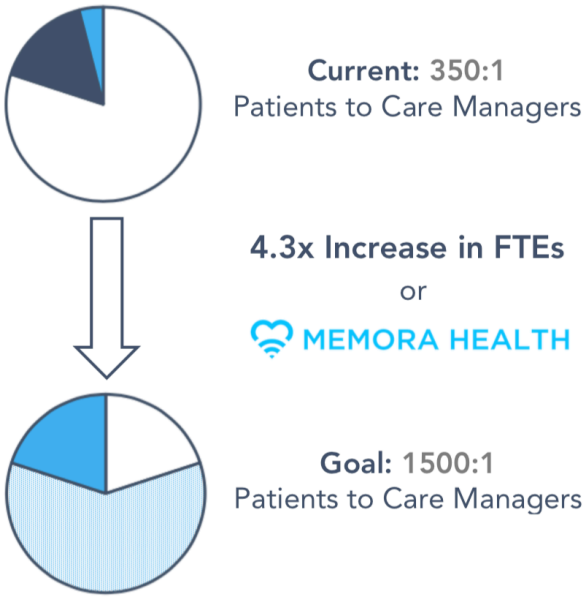


Each FTE spends on average 150 minutes per patient per year delivering care management services over the phone[24]. Given an average panel size of 350 patients per FTE per year, each FTE spends 875 hours, or nearly 22 weeks of a 40-hour work week, communicating with patients over the phone per year[25]. 31% of that time on the phone is spent answering administrative, non-clinical questions that could otherwise be automated, according to Memora Health's clinical data[26].

In order for transitional care FTEs to reach all patients that need care management services, they would need to expand their panels from 350 patients to 1,500 patients[3].

Changes in health care reimbursements towards outcomes-based contracts along with heightened patient expectations and autonomy require a subsequent shift in how health care organizations conduct their care management operations[27,28]. Despite the need for and success of comprehensive patient follow-up, high labor costs and slow manual processing of patients has made it difficult for a majority of hospitals to adopt traditional care management measures under constrained budgets.

Each care transition FTE spends 875 hours–nearly 22 full work weeks–communicating with patients over the phone per year.



To increase return on investment in care management services, health care organizations should seek to automate and scale manual, repetitive tasks, which would both increase the total number of patients that can receive care management services and relieve time from clinical staff to focus on patients that need more intensive interventions.

PART II Methods of Leveraging Automation

How can health care organizations reduce operating costs without compromising quality of care? We believe that the current outpatient communication and task management process–the process of delivering instructions, reminders, and information, collecting follow-up information and patient-reported outcomes, and managing different needs for different patients–is highly inefficient and something that can effectively be unbundled and scaled with software.

The care management protocol of the future will rely on a virtual component to augment the reach and productivity of clinical and administrative staff, making possible the following:

1. Truly Personalized Care

Replace the traditional telephonic model of care management with an automated SMS deployment that integrates and analyzes both clinical patient data and each patient's responses to follow-up questions to guide them in the most individualized way possible.

2. Real-Time Evaluation of Interventions

Automate monitoring and measurement of patient-reported outcomes (PROs) to gauge the effectiveness of different interventions, program notifications when certain thresholds for PROs are met or exceeded, and provide real-time feedback and encouragement to patients.

3. Lean Operational Efficiency

Treat care management like an inbox. Collect and process responses from patients, automatically categorize any action items into specific tasks, and complete them in chunks to reduce the cognitive load of task switching.

PART III Efficacy of Memora Health

The Memora Health platform supplements traditional care management initiatives by ***automating*** follow-up to all enrolled patients and automatically categorizes tasks for transitional care FTEs, which allows clinicians to allocate resources to patients who truly need support the most.

We believe that the best care management will always require a human element, and that automation can serve as a bridge between human caregivers and patients on the edges.

Memora Health software provides a quantitative breakdown of an existing care management workflow by analyzing the methods of communication that are currently in place. Examples include phone calls logged within health systems, discharge notes provided to patients, medical claims repositories, and pre-determine FAQ lists aggregated by specific departments within health systems. Natural language processing technology enables our software to identify the most common patient concerns, largest gaps in existing follow-up protocols, and the corresponding costs of current care management interventions. These insights are then used to implement an automated text message-based solution that fills existing follow up gaps, leverages care management personnel more efficiently, and reach more patients. Examples of text-message based interventions include appointment reminders, collection of HCAHPS and quality of care data, post-operative recovery instructions, and message prompts to collect patient-reported outcomes.

2.5

Hours Saved per Day per FTE

Approximately 70% of telephonic patient follow-up time is waiting for patients to answer or conducting administrative tasks, such as reminding patients about appointments and lab tests. Our analytics engine has been able to identify this efficiency and automate several routine tasks that care management teams engage in, saving each care management FTE 2.5 hours for every 8 hours, a 31% improvement in efficiency. This corresponds to an average of $76.61 worth of time saved per FTE per day.

6.5x

Patients Managed per FTE

Full time equivalents are able to comprehensively manage an average of 350 patients per year in the status quo, while reports indicate that FTEs ought to manage 1,500 patients per year for health systems to actively receive an ROI on care management efforts. By automating routine follow-up and eliminating several hours spent waiting for patients to answer the phone, Memora Health enables health systems to ensure each patient has at least one touch point with their care team following a clinical encounter. Memora Health enables care management teams to reach 6.5x their current volume, enabling health systems to maximize ROI from their care management team without overhauling the existing workflow.

$57

Saved per Managed Patient

Scaling the efficiency and reach of care management using quantitative insights and automation enables a reduction in management costs on a per patient basis. By reaching a larger volume of patients, reducing the length of each patient phone call, and replacing several phone-based touch points without a reduction in quality of care drives an average savings of $57.04 per patient discharged by a health system. While this accounts for the average annual discharge volume per health system (22,700 patients), higher volumes result in a greater reduction in per patient management costs.

PART IV Key Takeaways

Care management services aim to comprehensively address the needs of a high-risk, high-spend population via one-on-one interactions, with the goal of changing behavior, decisions, and social conditions to improve health outcomes. Health care organizations each spend on average $4.1 million dollars on care management systems annually. However, even with this spend, they are still only able to reach 20% of the patients that need care management services. To reach their entire panel, each transitional care FTE would need to quadruple his or her patient capacity.

Intelligent automation allows health care organizations to scale their existing care management toolbox to every patient that needs it while reducing operational expenses and opening time for staff to focus on the highest-risk, highest-cost patients; the ones who truly need additional touchpoints of care.

Memora Health has built the infrastructure for taking existing care management operations and identifying key opportunities for automation, maximizing the clinical value and time of existing staff members and driving the maximum ROI for healthcare organizations.

4.1M

Average cost of care management per health system

3.2%

Patients reached through current care management efforts

$57

Savings per patient via implementation of Memora Health's software suite

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About Memora Health

Memora Health is a San Francisco-based health care technology company helping health care organizations reduce overhead and scale patient follow-up efforts by analyzing existing patient follow-up initiatives and automating post-discharge instructions, reminders, health coaching, and collection of patient-reported outcomes via text message.

Learn what Memora Health can do for you

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