DUKE PRIMARY CARE:
A CARE TEAM REDESIGN CASE STUDY

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Introduction

What if one key to improving the quality and delivery of health care in the United States is held by frontline clinical support workers? This question lay at the heart of the Care Team Redesign (CTR) Initiative, a multiyear effort to transform workforce practices and the delivery of care in four high-performing primary care systems.

The U.S. health care system is plagued by high costs that too often yield middling patient care outcomes. Some attempts at solving this problem have focused on taking a team-based approach to delivering care. Such an approach provides more support to overburdened doctors and nurses, while improving the management of patient data.

However, there have been few efforts that really focus on the most common support staff members in primary care teams — medical assistants (MAs). Launched by the Hitachi Foundation in 2014, the Care Team Redesign Initiative sought to change that. It challenged each of the four primary care systems to develop career ladders for their MAs and find new tasks and roles for them within the care team. The sites each took a different approach to this challenge, but all fundamentally shifted roles and responsibilities on their care team, with the goals of improving patient care and increasing efficiency.

As part of the CTR Initiative, Duke Primary Care in North Carolina was one of the four health care systems that each received a $200,000 grant from the Hitachi Foundation. Each organization also received technical assistance from the Healthforce Center and the Center for Excellence in Primary Care, both at the University of California, San Francisco.

After the Hitachi Foundation closed in 2016, the Care Team Redesign project continued through a collaboration involving the Good Companies, Good Jobs Initiative at the MIT Sloan School of Management and the Good Companies, Good Jobs Initiative at the Aspen Institute. A third-party evaluation of the results was subsequently conducted by a team of academic researchers, led by Jennifer Craft Morgan of Georgia State University's Gerontology Institute. This case study describes the changes Duke Primary Care made and the outcomes that resulted.

Duke Primary Care

Duke Primary Care (DPC) is a wholly owned subsidiary of the Duke University Health System. Duke University Health System offers a full network of health services and encompasses three highly regarded hospitals (Duke University Hospital, Durham Regional Hospital, and Duke Raleigh Hospital), physician practices, home hospice care, and various support services at locations across North Carolina. DPC consists of 32 primary care practices and seven urgent care centers that provide

comprehensive primary care services including preventive care, chronic illness care, children's health care and well-child visits, family planning and gynecological care, and urgent care. All medical assistants employed by DPC are certified by an accrediting body and will subsequently be referred to as CMAs.

How the Care Team Redesign Project Got Started

In 2014, DPC began an enterprise-wide Transforming Primary Care Collaborative (TPCC). The Collaborative aims to improve efficiency, improve patient experience, improve staff and provider experience, and enhance DPC's capacity for population health. Redesigning and enhancing the role of CMAs was identified as critical for achieving the Collaborative's aims. Key stakeholders within DPC view the Collaborative and its embedded Care Team Redesign project as central in preparing for the move to value-based care and the opportunity for "shared savings." TPCC and the Care Team Redesign project are also seen as helping DPC maintain and expand the Patient-Centered Medical Home (PCMH) certification across its clinics. (See PCMH attributes box on p. 3.)

How It Works

The goal of the Care Team Redesign project at DPC is to train existing CMAs to function in a new role known as encounter specialists. Encounter specialists are responsible for managing a patient visit from start to finish. Their patient care tasks include key PCMH components such as effective self-management support. An optimally prepared encounter specialist would plan for the visit (e.g., call patient to discuss goals and adjust scheduling needs), proactively review the patient's medical record to identify gaps in patient care prior to scheduled visits (e.g., population health protocols, panel management tasks), assist providers with documentation during the visit (e.g., scribing history, diagnoses, and notes), provide brief health coaching for self-management at the end of the visit, and ensure that any needed follow-up care is scheduled after the visit. To account for new responsibilities, DPC has developed a career ladder for CMAs to recognize the adoption of and competency in new skills. CMAs can now be promoted to CMA 2 and CMA 3 positions with corresponding increases in pay.

Redesigning the model of care. At the start of the grant period, DPC's model of care had each provider working with one CMA. Today, 24 providers in 11 practices have moved toward a model of care with a higher CMA to provider ratio. This has allowed these providers to delegate more patient management tasks to CMAs. Two of these practices have reached a "critical mass" where they can see clinic-wide impact on care team practices. On days when providers are in the clinic and the clinic is fully staffed with CMAs, these providers are using the two MA encounter specialist model, where CMAs take every other patient through the full encounter and function as scribes within the encounter. Because these CMAs are well-trained and the providers are using master templates that CMAs are trained on for scribing, CMAs in these clinics can interchangeably support the providers who use the encounter specialist model. This allows for the model workflow to continue even when one CMA is out of the office or a provider's schedule varies. The model of care achieved at the clinics that have a "critical mass" of providers using the model is largely how DPC envisioned it from the start of the project. The uptake of the model is not as widespread as was originally envisioned. This is due largely to the difficulty of identifying and moving well-qualified CMAs into the CMA 3 role.

The Collaborative is continuing to build supports for the care team. A few of the model practices are also using LPNs as panel managers to "scrub" the inboxes of providers. "Scrubbing" inboxes involves responding to patients' emails when possible, removing duplicate emails (e.g., electronic health record alerts that repeat) and collaborating on messages/phone calls that require provider attention. The goal is to move toward a system that avoids batching of work at the end of a clinical session. DPC is also implementing structured, regular meetings between providers and CMAs, which they call "dyad huddles." Most providers and CMAs have a dyad huddle each day, typically before they start seeing patients. The provider and the CMA discuss patients whom they will see during the day and talk about any issues that they anticipate during patient visits. The Transforming Primary Care Collaborative has recently also introduced population health nurses in some practices to round out the care team and focus on providing annual wellness visits, chronic care management, and care transitions. In a related project designed to improve the care of patients with depression, DPC employs six depression care managers (linked to a supervising psychiatrist and a pain management specialist) who are available to patients telephonically across the practices.

Health System Characteristics and Other Implementation Context

The implementation team. The Care Team Redesign grant from the Hitachi Foundation funded a small part of a much larger initiative at Duke Primary Care: the Transforming Primary Care Collaborative, or TPCC. The Care Team Redesign grant provided resources to hire two nurse educators to oversee CMA orientation and skill training labs. This implementation has been well supported as a result of the grant being positioned within the larger Collaborative. Since the TPCC was already in progress prior to the receipt of the Hitachi grant, the team brings lean management and quality improvement/change experience and a history of working well together to the project.

Variation in MA skills and MA recruitment challenges. CMAs employed by DPC have varying levels of skills, depending on where they received their training and past job experience. For example, sometimes CMAs have come from a health care setting where they may not have been using particular skills and are out of practice. Other CMAs are new graduates and lack hands-on experience. DPC has invested resources in

Patient-Centered Medical Home (PCMH)

The patient-centered medical home model represents a change in the way primary health care is delivered in the U.S. The five core attributes of the PCMH as defined by the U.S. Agency for Healthcare Research and Quality are:

1. Patient-Centered: The PCMH supports patients in learning to manage their care based on their own preferences and ensures that patients, families, and caregivers are fully included in the development of care plans.
2. Comprehensive Care: The PCMH offers whole-person care from a team of providers that is accountable for addressing most of the patient's physical and behavioral/mental health needs, including not only acute and chronic care but also prevention and wellness.
3. Coordinated Care: The PCMH ensures that care is organized across all elements of the health care system, from specialty care and hospitals to home health care and community services.
4. Accessible Services: The PCMH provides shorter waiting times for urgent issues, improved in-person hours, 24/7 electronic or telephone access, and communication through health information technology.
5. Committed to Quality and Safety: The PCMH is committed to quality, quality improvement, and the use of data and decision-support tools to assist patients and families in making informed decisions about their health.

Adapted from: www.pcmh.ahrq.gov/page/defining-pcmh

training and education to ensure that all CMAs are able to operate at the top of their license. This meant enriching the orientation for medical assistants and markedly expanding the on-the-job learning opportunities specifically targeting CMAs. Unlike some other health systems, new CMA hires at DPC are required to be certified prior to qualifying for a job. Despite this requirement, the educational preparation of these new hires is still quite variable, and DPC finds it difficult to recruit CMAs prepared adequately for the encounter specialist role. As an HR representative put it,

> *There is a big gap. . . . We're constantly running them, approximately 28 vacancies on any given day, just in CMA positions. So, we have a significant need, it is a pain point, it's preventing us from continuing to spread the encounter specialist model, but there are an awful lot of candidates that we don't ever make offers to and aren't interested in making offers to. So, there is a big gap between the preparation they're getting in the schools and what we feel like we need as an employer.*

Cost challenges in primary care. DPC serves as an entry point for patients into the Duke Health System. There is interest in managing costs in the primary care practices through enhancing the role of CMAs, increasing provider productivity, and increasing the ratio of CMAs to providers. The Collaborative understands that as payment models change to increasing proportions of value-based payments, primary care will be essential to meeting benchmarks for population health.

Improved patient experience and staff work culture. Duke University Health System — including Duke Primary Care — faces substantial competition from other large health systems in the area, including UNC REX Healthcare and WakeMed Health & Hospitals. DPC is intent on delivering high-quality care in a setting that provides the optimal patient experience and believes this new model will facilitate both of those objectives while contributing to improved patient retention and improved outcomes. Expansion of the CMA role as a valued member of the care team and giving CMAs the opportunity to have greater patient interactions is consistent with DPC's value of "caring for our patients, their loved ones and each other." Furthermore, DPC expects that creating a career ladder will differentiate the organization in the market for workers and improve its status as an employer of choice.

Variation in physician hours. DPC is also experiencing a trend in its provider workforce toward reducing work hours. Providers who work based on an employment model in DPC's primary clinics are often choosing to work less than full time — a trend that is likely the result of an aging workforce and, among younger physicians, an increasing focus on work-life balance. Providers' part-time status can lead to difficulties in scheduling CMA shifts. At this point, CMAs are typically hired for full-time positions and paired with one physician. When physicians work less than full-time, it can complicate the ability of DPC to make adjustments to the CMA/physician ratio. This also creates access issues for patients and can impact the financial performance of a practice.

Supportive infrastructure and HR policies. DPC administrators have invested in the Transforming Primary Care Collaborative as a way to meet system-wide goals of improving primary care in ways that reflect the PCMH ideal model and that perform well under changing payment models that are focused on prevention and population

health. The heavy focus on CMA role transformation was spurred largely by the opportunity presented by the Hitachi Foundation grant, which provided a focus on CMAs and instigated system-wide HR change to accommodate the revised CMA career ladder. In addition to the newly institutionalized career ladder, the DPC human resources structure is supportive of career advancement, with a robust performance review system, employee-specific development plans, MA ladder coaching, leadership development training, competency-based orientation, and educational infrastructure for learning (e.g., learning labs).

Implementation Strategies at DPC

Improving clinical skills. As described above, CMAs employed at DPC have variation in their training and skills, and a goal of the Care Team Redesign project is to establish standardized basic skills training protocols for incumbent workers and execute competency-based orientation for new hires. It was determined early on that clinical skills were a clear focus area, and much of the Hitachi Foundation grant went to supporting this need. DPC took steps to ensure high participation rates in this training. For example, the system now holds workshops for CMAs on-site at times that are convenient to attend (e.g., lunch hour). One or two CMA 2 or 3s at each model practice are designated as staff champions. In their capacity as coaches within their own clinic, these CMAs work with other CMAs to make sure that they understand and are implementing the skills acquired through the new training. This skills acquisition is supported part-time by a lead MA (a CMA 3) who is an established encounter specialist within a practice and full-time by two RN educators who run skills labs and continuing education out of a practice space that is no longer seeing patients.

Introducing new skills systematically. DPC is systematically introducing new responsibilities for CMAs into its model. These responsibilities include calling patients before a scheduled visit, assisting providers with documentation during the visit, providing brief health coaching at the end of the visit, and ensuring that any needed follow-up care was completed after the visit. For example, CMAs call patients prior to their appointment to briefly discuss the patient's reason for making the appointment. The pre-visit phone calls allow the MA and the physician to be better prepared for the patient's visit because they know what they will need for the visit (e.g., injections, vaccines, blood work). Both CMAs and providers reported that the new pre-visit phone call allows their days to run much more smoothly.

CMAs trained as fully functioning encounter specialists take on advanced scribing roles within the encounter — documenting histories, visit notes, diagnoses, medications, and plans of care; they work directly with a physician who helps them develop documentation skills using collaboratively built templates. While this strategy has been slow-moving and has relied on a limited number of physician trainers, the method provides for standardization of training and valuable standardization across providers, who also learn and use a common system. This means that fully trained encounter specialists can potentially work with a variety of providers — thus reducing staffing barriers created by part-time providers. DPC has also recognized that the CMAs in this new role are at risk for increased stress and burnout. The organization is developing measures intended to help staff maintain their sense of well-being and resilience. Some of these strategies may include varying work schedules, building in alternating high-intensity and lower-intensity work periods, and providing greater support for tasks from other members of the care team.

Instituting a career ladder for CMAs. DPC had one level of CMAs in their primary care practices at the start of the grant period. As part of the Care Team Redesign project, DPC extended the career ladder formally across its entire system to include a Level 2 and Level 3 CMA position. CMA 1s are hired as certified/registered MAs and then must complete eight hours of classroom training. CMA 2s have an additional hour of classroom training as well as on-the-job training to address skill gaps and establish required competencies. CMA 3s have another eight hours of classroom training and at least eight hours of on-the-job training to support the accrual of encounter specialist/lead CMA skills.

Outcomes Achieved

Improving quality of care. DPC regularly provides its primary care practices with data on measures of quality of care. Staff at all levels reported that they were kept informed of the practice's performance and were aware of efforts to improve particular outcomes. Improving quality of care is clearly important to the organization, and the staff has experience in making changes to improve care.

In its own measurement of quality of care outcomes, DPC found a slight increase in patient satisfaction during the implementation of the Transforming Primary Care Collaborative. Although patient satisfaction was already very high, DPC was able to make modest and statistically significant improvements in overall patient satisfaction ($p<.05$). The organization also found evidence of an improvement in physician communication scores in the post-implementation period among champion providers (p-value=.0302) as well as the regular providers (p-value=.0220).

Restoring "joy of practice" and reducing physician burnout. DPC acknowledges that provider burnout is a major challenge in its primary care practices, as it is in primary care practices across the country. Increased administrative burden, increases in documentation related to electronic health records, and pressure to increase patient loads can contribute to long and rushed workdays. Restoring "joy of practice" means increasing direct patient care and reducing the burden of documentation for providers. Providers who have implemented the encounter specialist model report increased joy of practice and a substantial reduction in administrative work once CMAs are fully trained. When asked about whether his "joy of practice" was improved as a result of the model, one provider said:

> *So, if you have two well-trained encounter specialists, your quality of life as a physician is improved dramatically. It takes away a lot of the kind of rote aspects of documentation and dictation and order sets and finding out which pharmacy [to send prescriptions to]. All the minutiae that really doesn't require an M.D. degree to do [is removed]. . . . It's just it frees me up to be more of a doctor.*

Another provider who has two encounter specialists supporting his practice also reports a dramatically decreased administrative burden. He says of his work prior to implementation of the model:

I'm three-quarters time, and — and the way I operate, I figured it was probably taking me roughly 55 hours a week to do my job without scribes. You know, some people just — some people are faster. Some people are slower. But you know, you may or may not know, I've always had super-high patient satisfaction rates, kind of on the high end of the spectrum here.

After this quote, the interviewer verified that the physician estimated he was working 55 hours per week at .75 FTE. In the exchange, the physician stated that that was an accurate reflection of the situation. He reported that after full implementation of the model, he estimated a 20% reduction in his time spent on work. The interviewer did the rough math and asked the doctor if he meant that 42-44 hours is an accurate reflection of the time he spends, and the physician affirmed this number and summarized:

It's impressive. [The encounter specialists'] notes are excellent, better than my notes were, so I think the documentation is actually better than it was before, with the people I have right now. Most of the time, I don't have to do much tweaking.

Other physicians echoed the sentiment that notes were better using the encounter specialists. They attribute this both to the standardization of the training of CMAs but also to the fact that they no longer have to wait until the end of the day to finalize the notes — at which point they may have forgotten details beyond the chief complaint.

Empowering CMAs within practices. CMAs were generally positive on the changes made and were feeling empowered by their new ability to be an integrated member of the care team. Many of the CMAs valued the learning, the fact that they felt as though they were living up to their potential, and the interdependence with the provider. As one CMA put it:

For me, it's a learning experience. Just learning individually about each patient. Their personal lives, but also learning a little more about the anatomy. A little bit more about medical terminology. Things that [I] hadn't even thought of, had never encountered. So for me, it makes it a lot more of a learning environment.

Another CMA spoke about how the change impacted her confidence in her work and gave her a way to more fully reach her potential:

For me, it feels different. I came from a clinic that was hospital-based, where they only let me do vital signs and put a patient in a room. This allows me to work at my full potential. Some people work at a high level, some people do not. I'm one of those ones that work. And I like to work independently. So the more you give me — I can take off and soar.

Increasing MA compensation and opportunity. The three-tier career ladder was approved by leadership in February 2016. The new job categories reward CMAs for completion of training, years of experience, and increases in responsibility. Approximately 90% of CMA 2 promotions resulted in a pay increase after salary leveling. CMA 3 is a lead CMA job category that includes encounter specialists, lead lab roles, and lead clinic roles. CMA 3s are required to lead an improvement process project and have significant experience in clinics.

So far, DPC has promoted 150 CMAs to CMA 2s and promoted 30 CMA 2s to CMA 3s (encounter specialists) with an average salary increase of 5%-6% for movement up each rung of the ladder.

Sustaining the Changes

The interventions that DPC has implemented as part of the Care Team Redesign grant from the Hitachi Foundation are viewed as lasting organizational changes by the TPCC leadership team, which continues to support their enhancement and spread across the organization.

Short-term investments, longer-term system-wide improvements. Senior leaders recognize the important role that primary care plays in referrals to acute care and specialty care but they also anticipate changes to the funding models that will place a premium on population health and successful care transitions. For this reason, it is important to reduce overall cost per patient in an incremental and attainable way. At this point, there are no additional revenue or patient panel size requirements placed on model practices that have been given additional staff to transform the care team. However, after the transformation has been fully implemented, staffing by providers to patient volume requirements will be revisited.

DPC is still in the process of finalizing team care redesign transformation (e.g., CMA, LPN, RN, provider, ancillary supports) and has made significant investments to implement these changes. The investments directly linked to CMA-focused team transformation efforts include: compensation tied to career ladder promotions, two nurse educators who staff the DPC Apex Training Center, an FTE for lead CMA training, and increased CMA staffing. Taking the long-term view, overall team changes will likely lead to increases in provider productivity, increased patient access, improved care management, reduced physician turnover, and improved panel management. The net result should be the combination of increased efficiencies and improved quality targeted by DPC.

Educational resources in place for DPC. DPC needed to put a more formal structure in place to ensure that both new hires and incumbent workers had adequate and standardized training for each of the three CMA levels. Adding a training center, with the addition of 2 FTE RN educators and an FTE for lead CMA training, was necessary to get the initiative off the ground. These costs have been worked into the DPC adminstrative budget and will be sustained to support primary care team development.

Lead roles for CMAs. To date, DPC is using one of its well-trained CMA 3 encounter specialists to support the training center in working directly with CMAs from practices on skills, problems, and CMA development for promotion on the CMA career ladder. Other CMA 3s are taking on champion roles within practices. DPC is looking at ways to support these “super” CMAs in efforts to support all CMAs. Because there is a greater need for additional encounter specialists in order to continue to spread the model throughout the system, DPC is looking at creative ways both to recruit directly into this position and to support CMAs in attaining this level. The three-tier career ladder has been fully institutionalized throughout the Duke University Health System. Several CMAs have attained CMA 3, the highest level, and have received the attendant wage increases, in addition to recent market adjustments made by DPC to keep CMA wages competitive and attract the best candidates.

The Care Team Redesign Evaluation Team

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