

Redesigning Primary Health Care Teams for Population Health and Quality Improvement

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Executive Summary

Over a 3-year period, Penobscot Community Health Care, a federally qualified health center in Maine, implemented a primary care transformation initiative that redesigned its care teams and their workflows. Under this “Delegate Model,” Penobscot’ physicians assign tasks that they used to perform to trained care team medical assistants (CTMAs). The goal of delegation was to reduce the physicians’ administrative burden, boost clinic capacity, and better support prevention and chronic disease management.

This project summary describes team structure and roles under the Delegate Model, use of standing orders, core responsibilities of CTMAs, costs of training and implementation, and implementation challenges.

Introduction

Primary care providers are under pressure to improve quality, efficiency, and patient experience. Yet, mounting expectations for what a single primary care visit will accomplish are in inverse proportion to the time allotted for each visit. Therefore, patients may not receive all the preventive or chronic disease management services needed, and providers feel burdened by these increasing expectations.

In response to this challenge, many organizations are implementing condition-specific quality improvement initiatives (e.g., diabetes management, colorectal cancer screening). Such initiatives, however, do not meet the needs of patients with multiple conditions. Further, new initiatives often add to providers’ already overburdened schedules and responsibilities. For example, providers reported that a new initiative to improve health coaching for obese patients added stress and tension to their already overwhelmed team.¹ Another challenge posed is sustaining condition-specific quality improvement initiatives after grant funding ends.

Many attempts have been made to redesign the primary care workforce to help it respond to these challenges. These redesigns target one or more of a broad set of objectives and apply a wide range of team design principles.² For example, the underlying principles of the primary care medical home have been translated into many different types of team designs, deployed in pursuit of multiple and divergent objectives, and implemented in widely differing contexts.³

In light of the many variations in primary care redesign, research is needed that specifies the features of redesigns attempted by delivery systems and carefully documents their implementation and observed outcomes. In keeping with this need, this brief reports on implementation of a primary care redesign by Penobscot Community Health Care, the largest and most comprehensive federally qualified health center (FQHC) in Maine, and the second largest of the 100 FQHCs in New England. When the redesign was launched, Penobscot served nearly 62,000 patients, had about 318,000 visits, and had \$54.6 million in annual grants and patient revenues.

The project aimed to improve efficiency and reduce provider and team burnout by spreading a redesign based on previous attempts to enhance the medical assistant role^{4,5} Penobscot referred to this new approach as the Delegate Model and worked to spread it across the organization's nine primary care practice sites.

The Delegate Model is a primary care team redesign to improve provider support, encourage staff to work to the full extent of their licenses and training, and, ultimately, improve efficiency of care, based on an enhanced medical assistant role.^{4,5} The initial goals of the Delegate Model were to enhance patient access, increase panel size, and improve quality of care. These goals rested on accumulating experience with task delegation in primary care and knowledge about its likely benefits. For example, Altschuler and colleagues modeled the impact of task delegation and found that it helped physicians increase their panel size.⁶ During implementation, Penobscot's leaders realized that quality improvement was a more attainable outcome and most important to providers being asked to participate in the project.

The Delegate Model enhances the role of medical assistants by delegating tasks related to preventive and chronic care services to them. Between April 2014 and June 2016, Penobscot implemented the Delegate Model in six practices, with 12 of about 40 eligible providers participating.

Penobscot created eight care teams. Implementation of teams was phased, with the first team beginning in April 2014; the most recent began in January 2016. One team had to be relaunched due to two staff departures from the team: a care team medical assistant (CTMA) leaving the organization and one provider opting out of working in the Delegate Model. Of the eight teams launched, five were still operating as of June 2016.

Delegate Model Team Structure and Roles

At Penobscot, medical assistants traditionally supported the providers at a 1:1 ratio. Their tasks included escorting the patient to the exam room and updating medications, allergies, and patient history. The medical assistants were also responsible for administering preventive screenings, including those for depression and cancer. Finally, the medical assistants were responsible for checking patients' immunization status, blood pressure, and pulmonary function.

Instead of the traditional dyads, where a physician or other provider (e.g., nurse practitioner) works with a single medical assistant, Penobscot's Delegate Model creates teams consisting of two providers, two medical assistants performing their traditional roles, and a CTMA, who works with both providers.

The CTMA handles desktop management and previsit planning for the provider to relieve the administrative burden on the provider and promote population health. All team members are located together, and the team shares accountability for both providers' panels. Patients continue to see their providers of choice, but all providers cover for each other during leaves of absence or for unscheduled visits when needed. All three team members are supported by standing orders, which are described below.

Use of Standing Orders and Core Responsibilities of Care Team Medical Assistant

The roles and responsibilities of the CTMA are largely defined by standing orders. Standing orders support the CTMA in focusing on the activities of prevention, referrals, and patient followup as part of population health management. U.S. Preventive Services Task Force level A and B evidence were put in effect through standing orders for the CTMA to execute. Preventive care standing orders covered reviewing the need for a number of cancer screenings and immunizations, such as breast cancer, cervical cancer, and shingles. Standing orders were also created for chronic disease management and for routine referrals by CTMAs to other members of the care team. For example, standing orders covered referrals to care management, pharmacy, social work, and nutritionists.

Assigning these tasks to medical assistants was a major departure from standard practices at Penobscot. Traditionally, providers at Penobscot had made referrals on their own, including routine referrals to pharmacists, licensed clinical social workers, care managers, and physical therapists. This section provides information on the key tasks of the CTMA.ⁱ

To further support providers, the CTMA role was expanded beyond population health and previsit planning to include provider desktop management. This responsibility included such tasks as prioritizing abnormal labs in providers' inboxes for their review.

With a focus on prevention and population health, the CTMA:

- Uses a registry to identify patients overdue for chronic disease care and preventive care.
- Orders overdue care for patients based on applicable standing orders.
- Calls patients who are overdue on preventive screenings and uses motivational interviewing techniques to encourage patients to come in.

For advance previsit planning (1 to 2 weeks ahead of patient's scheduled visit), the CTMA:

- Updates and resolves medications such as antibiotics for acute or short term conditions identified in the medical record.
- Follows up on previous orders and consults with providers outside Penobscot.
- Documents data from new patient records and specialist reports.
- Orders overdue or upcoming care, using motivational interviewing to discuss services due with patients.

For provider desktop management, the CTMA:

- Prioritizes labs and test results.
- Updates previous medical, social, and surgical history from consults, emergency department, and hospital reports.

ⁱ Examples of standing orders Penobscot used are available upon request from Natalie Truesdell at ntruesdell@jsi.com.

- Enters data in discrete and appropriate fields.
- Ensures followup if appropriate.
- Orders additional testing per standing orders.
- Helps providers organize and prioritize messages on their desktops by using flags so that providers can respond to messages more efficiently.

Delegate Model Implementation

Implementation of the Delegate Model was led by Penobscot's Vice President of Quality Improvement and its Chief Medical Officer. Throughout the rest of this document, we refer to these two individuals as the quality improvement leads. Leadership at this level was important for communicating goals and encouraging buy-in across the organization.

For the first phase in implementation of a redesigned team, the quality improvement lead provided 30 hours of medical assistant training, delivered in increments of 2 to 4 hours a week for several weeks. During the second phase, this same person observed and supervised the medical assistants onsite.

Training included disease-specific modules on hypertension, chronic heart failure, asthma, and diabetes; discussion of the U.S. Preventives Task Force preventive care guidelines; and information on immunizations. Further training included education on the roles of each care team member and how to support providers in desktop management.

Initially, only medical assistants who were to take on the CTMA role were trained. Eventually, all medical assistants on the team were trained, leading to universal understanding of the CTMA's role and responsibilities. This comprehensive approach to training established flexibility for future sharing of CTMAs and coverage during leaves of absence.

In addition to training, implementation included team coaching by the quality improvement lead. At the outset, Penobscot did not know how much coaching teams would need; typically, coaching continued for at least 6 months, depending on a team's ability to adapt. Coaching included biweekly meetings with the entire team, including providers and all medical assistants involved with the project, the practice director, and other supporting team members.

During the coaching meetings, the team discussed workflows and addressed challenges and problems together. The meetings were also an opportunity to discuss quality data reports, such as performance on immunizations, chronic disease management, and cycle time; the data showed teams how their work affected efficiency and patient care.

The implementation process required engagement of practice and organizationwide senior leadership, flexibility for teams to adapt to workflows that suited their needs best, and physical space accommodations to co-locate teams.

In shifting to the Delegate Model, all members of the practice, providers, and administrative team members needed to understand the CTMA role and not use CTMAs as "floats" or replacements for other medical assistants who were on leave or out for the day. Staff were taught to rely on CTMAs for the specific functions on which they were trained, not for general support.

Requirements that the CTMAs not be used as a float or a secretary to other medical assistants helped ensure fidelity to the new team structure. However, teams did vary in their reliance on other Delegate Model implementation components, such as which standing orders to use and how much to rotate medical assistants into the CTMA role. Finally, providers had varying levels of comfort and interest in having CTMAs manage their desktops. Each provider decided on the extent to which CTMAs carried out this task.

Costs of Training and Implementation

The direct costs to implement the Delegate Model consisted of training (trainer and trainee time), onsite technical assistance and supervision for a 1- to 4-week period, and additional labor costs for the CTMA. The cost analysis included a total direct cost analysis and cost per Delegate Model team analysis. The cost analysis was then expanded to take into account medical assistant turnover (e.g., leaving Penobscot, transitioning to a different site within Penobscot, extended leaves of absence, and promotions).

- Approximately 30 hours of CTMA training were needed for the Delegate Model. This 30 hours of training represented, on average, completion of 12 training modules, or an average of 2.5 hours per module. Applying Penobscot's medical assistant hourly wage, fringe benefits, and indirect costs (\$28.78), this equated to \$9,928 in total training costs for participating medical assistants over the course of the study, or \$1,191/team launch.ⁱⁱ
- The quality improvement lead trainer spent approximately 4 hours a week on training and technical assistance, equating to approximately \$22,847 annually in wage, fringe, and indirect costs (assuming 48 work weeks per year). This amount included time to develop the curriculum, modify it over time, conduct training, and conduct onsite technical assistance and supervision. The per team cost was \$2,856.
- Turnover of medical assistants was identified as an ongoing challenge. Including the costs of training medical assistants who did not participate in the model yields higher total training costs. Based on the calculation of fully loaded medical assistant labor cost per hour and number of hours per training module received, an additional \$13,723 in medical assistant training costs were incurred. Total medical assistant training costs of both participating and nonparticipating medical assistants were \$23,691 or \$2,961/team.
- Total training costs per Delegate Model team were approximately \$4,047 if only participating medical assistants were included, and approximately \$5,812 per Delegate Model team if costs of training medical assistants who ended up not participating were included.
- Each team incurred the salary of a full-time CTMA, at an average fully loaded labor cost of \$55,258/year. Table 1 shows the total cost per team for the Delegate Model.

ⁱⁱ One of eight teams was relaunched, so the costs were calculated as total costs divided by nine team launches for a per team launch cost.

Table 1. Estimated Year One Implementation Costs per Delegate Model Team

Without Medical Assistant Turnover	
Trainer Costs	\$ 2,856
Medical Assistant Training Costs	\$ 1,191
Medical Assistant Salary (minus time spent in training)	\$54,394
Total Estimated Costs per Team Year One Without Medical Assistant Turnover	\$58,441
With Medical Assistant Turnover	
Trainer Costs	\$ 2,856
Medical Assistant Training Costs	\$ 2,956
Medical Assistant Salary (minus time spent in training)	\$54,394
Total Estimated Costs per Team Year One With Medical Assistant Turnover	\$60,206

Our cost estimate for sustaining the Delegate Model beyond the year in which it was implemented included the ongoing cost of the salaried CTMA. There was a continuing cost of training new medical assistants due to turnover. Additional costs included time spent in meetings promoting the model and providing information and training on the model to non-medical assistant staff (e.g., providers and other practice leadership). As the Delegate Model becomes more established within Penobscot, it is likely that less time will need to be devoted to familiarizing medical and administrative staff with its purpose and attributes; thus, costs will diminish for these activities.

Effects of Delegate Model

Penobscot's leaders estimated that revenues from two additional visits per day per team (one per provider) would compensate for the cost of the CTMA's salary. Comparisons of Delegate Model providers and non-Delegate Model providers show that the expected productivity gain was not realized.

Still, the model may provide another type of benefit: patients are receiving additional services per visit. Further, there were indications that the Delegate Model had a positive effect on some quality measures. If Penobscot moves toward more pay-for-performance reimbursement, the Delegate Model may pay for itself through improved quality metrics; however, this expectation is speculative.

We could not estimate the effects of introducing the model on provider burnout because of inadequate response rates to a burnout survey. But anecdotal evidence from provider interviews suggests that the support of the CTMA reduced provider time after hours in desktop management and increased overall provider morale.

Implementation Challenges

CTMA training was provided in 2-hour blocks and was time consuming, taking several weeks or, when scheduling was challenging, months. In addition, it was difficult to find medical assistants to cover clinic duties for those assistants who were attending training. The difficulty of releasing medical assistants during training necessitated extending training over many months.

During implementation of the Delegate Model, some medical assistants left Penobscot because of relocation, promotion, medical leave, or termination. Each departure of a fully or partially trained medical assistant delayed the implementation and functioning of a Delegate Model team. To mitigate these challenges, Penobscot streamlined the training modules to contain a core set of concepts that a medical assistant could use to get started in the new role; the rest of the modules could then be provided over time.

Penobscot initially provided training only to medical assistants identified as part of the model but later trained all medical assistants, as well as their supervisors and practice directors, across the organization. This step led to greater understanding of the model and cross-coverage during leaves of absence.

Development of effective teams depended on careful selection of providers and medical assistants and required appropriate mentoring of medical assistants by providers. Team cohesion and trust took time to build, and turnover was a major disruption. Providers who mentored medical assistants facilitated team building and effectiveness.

Not all medical assistants wanted to take on the care team role, which involved more computer work and less time with patients. Some preferred escorting patients to rooms and taking patient histories and vitals; others, even if willing, did not have the attention to detail or computer skills needed to appropriately perform the CTMA functions. A few teams rotated the CTMA role so that all medical assistants had the opportunity to work with patients.

Sometimes reluctance of medical assistants to take on new tasks or work on a team prevented introduction of the model or posed a barrier to its success. Hence, interviewing medical assistants for aptitude and desire to take on these additional responsibilities proved to be a valuable contribution to effective implementation.

Providers were selected to participate based on their willingness to delegate responsibility to medical assistants, willingness to be part of a team, and openness to changing current workflows. Teams chosen typically included a highly productive provider open to change, as well as one new to Penobscot with fewer ingrained practice habits.

Some providers wanted a second medical assistant to act as a scribe or to be a secondary float when other medical assistants were absent. While flexibility was allowed during implementation, it became clear over time that the CTMA could not float and was required to focus on previsit planning and population health.

Organizational and structural conditions had an impact on implementation beyond the medical assistant training and team cohesion. Workflow changes for the CTMA did not occur in isolation. In making these changes, other workflows were identified as needing improvement. To support implementation and address new workflow concerns as they arose, the quality improvement lead facilitated biweekly implementation meetings for at least 6 months for each team.

Space for primary care was also a factor in planning for redesign. Penobscot found that team communications were hampered unless all the medical assistants could sit in the same work area. They redesigned the pod space to accommodate better medical assistant communication and ensure colocation in the work area of providers on the redesigned team.

Buy-in at all levels of the organization was important. As was anticipated at the outset, it was important for the practice manager and medical director to champion the model, and it was expected that not all physicians would be willing to try the Delegate Model. By design, quality improvement leads chose provider champions at each practice site willing to lead and share their experiences. Even with careful consideration and planning to educate all the medical directors, the implementation process was slowed or stalled when this buy-in was missing.

Discussion

The Delegate Model addressed two major quality improvement challenges: staff capacity and financial sustainability. Unfortunately, the expected increases in provider capacity did not emerge.

Due to staff turnover, implementation time and costs were higher than anticipated. Penobscot spent an estimated \$58,441 to employ and train the CTMA. In addition to these costs, productivity was reduced when a medical assistant or provider left.

Among the eight teams that were established, four had providers leave, and almost all teams had one medical assistant rotate off the team during the study period. It took time to find and train replacement staff, and during these transitions, the teams could not carry out previsit planning and population health tasks.

Once they were hired and trained, new medical assistants needed time to develop trust and working relationships with providers. This loss in productivity was less documented and not planned for as Penobscot pursued transformation. Nonetheless, by increasing staff capacity through the addition of a half-time medical assistant per provider, the Delegate Model enabled the primary care team to make attention to population health more routine and effective.

Introduction of the model may ultimately bring financial benefits by preparing Penobscot to perform well under value-based compensation. Training provided medical assistants with skills they can apply to a range of preventive and chronic disease initiatives. The training of medical assistants, in tandem with a team approach to population health, improved overall primary care team functioning at Penobscot. By supporting improvements in quality across a range of clinical measures, the model may enhance an organization's ability to capture rewards for clinical performance.

Financial gains of value-based payment systems often do not accrue until after the practice has completed transformation. Penobscot's experience reflects the significant effort and upfront costs needed to implement a workforce redesign. To build the case for this transformation investment and related programs, primary care practices need more information on the costs of redesigning and training staff on new primary care workflows. They also need more certainty of the financial rewards to recover initial costs.

Redesign of care teams seems preferable to condition-specific quality improvement efforts, because redesign changes the underlying infrastructure of care and its workflows. At Penobscot, the CTMA implementation brought introspection, questions, and discussion of workflows across the organization's primary care delivery services. Discussions were held during team biweekly meetings and issues addressed through collaboration with the quality improvement lead.

It was important that a quality improvement lead was present to make senior-level decisions on changes proposed to organizational practice. She then worked to institute improvements, as appropriate, to other Penobscot practice sites.

Costs will be important to an organization considering implementation of the Delegate Model. Consideration of training and staff turnover costs should be more closely considered with any primary care transformation.

As organizations pursue primary care transformation, the Penobscot experience illustrates the new medical assistant roles, training, implementation, and “true” costs that are needed to put in place structures to pursue population health and quality improvement.

References

1. AuYoung M, Duru OK, Ponce NA, et al. Frontline experiences of a practice redesign to improve self-management of obesity in safety net clinics. *J Ambul Care Manage* 2015;38:153-63. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4356014/>. Accessed May 24, 2017.
2. Friedman A., Hahn KA, Etz R, et al., A typology of primary care workforce innovations in the United States since 2000. *Med Care* 2014;52(2):101-13.
3. Sinaiko AD, Landrum MB, Meyers DJ, et al. Synthesis of research on patient-centered medical homes brings systematic differences into relief. *Health Aff (Millwood)* 2017;36(3):500-8.
4. Eden S. Maximizing your medical assistant’s role. *Fam Pract Manag* 2016; 23(3):5-7. <http://www.aafp.org/fpm/2016/0500/p5.html>. Accessed May 24, 2017.
5. Naughton D, Adelman A, Bricker P, et al. Envisioning new roles for medical assistants: strategies from patient-centered medical homes. 2013 *Fam Pract. Manag.*;20(2):7-12. <http://www.aafp.org/fpm/2013/0300/p7.html>. Accessed May 24, 2017.
6. Altschuler J, Margolius D, Bodenheimer T, et al. Estimating a reasonable patient panel size for primary care physicians with team-based task delegation. *Ann Fam Med* 2012;10:396-400. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3438206/>. Accessed May 24, 2017.

Appendix. Medical Assistant Training Modules

The following is a list of topics Penobscot developed to train medical assistants on the Care Team Medical Assistant role. Some topics were combined to offer a total of 12 training modules.

- Addiction
- Antibiotic use
- Asthma
- Care management
- Choosing Wisely (patient education)
- Chronic disease management
- Competency checklist
- Congestive heart failure
- Controlled substances
- Desktop management
- Diabetes
- Documentation
- Forms
- Hypertension
- Labs
- Lyme disease
- Measuring blood pressure
- Medication reconciliation
- Pediatric immunizations
- Pediatrics
- Population management
- Scheduling
- Shared decisionmaking
- Teamwork
- Transformation
- U.S. Preventive Services Task Force recommendations
- Workflow