

# Collaborative Rooming: An Innovative Pilot Project to Overcome Primary Care Challenges

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## ABSTRACT

**Background:** Primary care physicians are overburdened with growing complexities and increasing expectations for primary care visits. To meet expectations, primary care physicians must multitask during visits and spend extra hours in the office for charting, billing, and documentation. This impacts the physician's quality of life and may affect the quality of patient care. Many of the administrative tasks performed by physicians could, alternatively, be performed by nonphysician staff, leading to the adoption of team-based collaborative models.

**Methods:** Mayo Clinic Health System piloted a team-based collaborative model in a small physician practice in Osseo, Wisconsin, where staff could be trained quickly and efficiently. The model used medical assistants/licensed practical nurses (MA/LPN) to partner with primary care physicians during a patient visit. The LPN/MA, under physician supervision, ordered and monitored pending orders/labs, coordinated patient care, provided after-visit educational needs, and communicated other urgent messages to team members.

**Results:** After 6 months, a comparison of pre- and posttrial data showed improved staff and patient satisfaction, decreased physician administrative work, and no cost-effectiveness improvement. Screening of medical conditions in the elderly improved, but no change was noted with chronic disease metrics.

**Discussion/Conclusions:** Data showed improved staff and patient satisfaction, decreased physician clerical burden, increased appointment slots, mixed clinical outcomes, and did not demonstrate cost-effectiveness. The authors recommend that similar models be conducted in large settings to see if these results are reproducible.

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## BACKGROUND

Physicians spend a considerable amount of time providing care outside of office visits for patients with chronic illnesses.<sup>1</sup> For every hour physicians provide direct clinical face time to patients, nearly 2 additional hours are spent in the electronic medical record (EMR) on desk work within the clinic day. Outside office hours, physicians spend another 1 to 2 hours of personal time each night completing/finishing computer and other clerical work.<sup>2-4</sup>

An EMR enhances the ability of physicians to complete information about patients, monitor patient outcomes, and participate in new payment models that shift the focus from volume to value-based quality care.<sup>5,6</sup> But interacting with an EMR system during office visits can be distracting and impair communication with patients, which may affect patient care. Primary care physicians spend more time working in the EMR than face-to-face time with patients in clinic visits.<sup>7</sup> They are rated as having less effective communication when they spend more time looking

at the computer and when there are more periods of silence in the consultation. More research is needed to determine effective ways primary care physicians can verbally engage patients while simultaneously managing data in the EMR and to demonstrate if such “multi-tasking” is even possible.<sup>8-11</sup>

To overcome these challenges, innovative team-based collaborative models are emerging in various settings. Primary care physicians are shifting from independent to shared responsibility

by transferring some EMR tasks to other team members, such as LPN/MAs.<sup>12-14</sup> In team-based primary care models, MAs also have reported a higher workload with greater job satisfaction under team-based primary care.<sup>15</sup>

In this pilot project, primary care physicians worked collaboratively with MA/LPNs during the visit, which helped the physicians spend more time with the patient while the MA/LPN assisted with EMR tasks and coordination of care, making work joyful for the physician and MA/LPN while improving patient satisfaction.

## METHODS

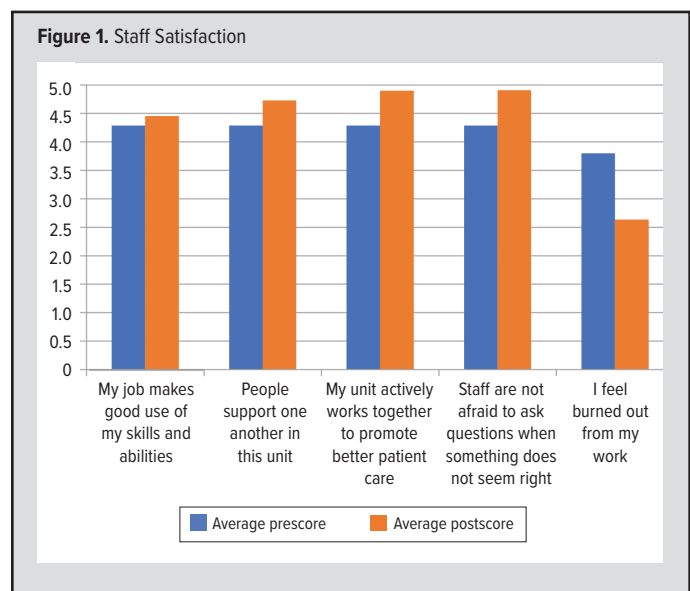
From July 2019 through March 2020, Mayo Clinic Health System launched an innovative pilot project based on a team-based collaborative model in a rural primary care practice in Osseo, Wisconsin. The project was initiated to explore the cost-effectiveness of a model designed to decrease the burden on primary care physicians while improving access, physician satisfaction, and clinical outcomes. A total of 3 physicians and 5 LPN/MAs participated in the project. Before the pilot, each physician had been assigned 1 LPN/MA, but during the pilot, each physician was assigned an extra 0.5 LPN/MA to raise the ratio to 1.5 LPN/MA:1 physician. Physicians and LPN/MAs were trained, educated, and given expectations about the new workflow before the project implementation. Routine daily huddle and weekly meetings were designed for effective communication among team members.

During the pilot, LPN/MAs reviewed health maintenance items (immunizations, preventive cancer screenings, overdue chronic disease follow up); verified and updated medications, pending medications for renewal, and pending visit orders (labs, follow-up appointment, consults, etc); entered screening test scores (asthma, depression, anxiety, etc), and added relevant instructions to the After Visit Summary document.

Additionally, LPN/MAs sent care coordination messages to allied health staff, including pharmacists, therapists, social workers, psychologists, and others who support the care of complex patients while the physician remained focused on the patient. The physician double-checked pending orders at end of the office visit to confirm their accuracy and make any adjustments. The time LPN/MAs spent with patients after the visit reinforced the physician's plan of care and confirmed any upcoming lab, radiology, or referring physician appointments. This component of the office visit allowed the physician to complete dictation, billing, and post-visit planning for the patient immediately following the office visit, while ensuring the patient's after visit care needs had been met by the LPN/MA team member. These LPN/MA tasks are distinctively different from a scribe doing EMR documentation during the clinical visit.

## RESULTS

This pilot project began on July 22, 2019, and was completed on March 25, 2020. The 3 physicians completed 3,752 visits during



this time. In mid-March 2020, significant changes in the clinic were implemented due to the effect of the first wave of COVID-19. The global pandemic halted the organization's ability to expand this project to other sites and led to its early termination.

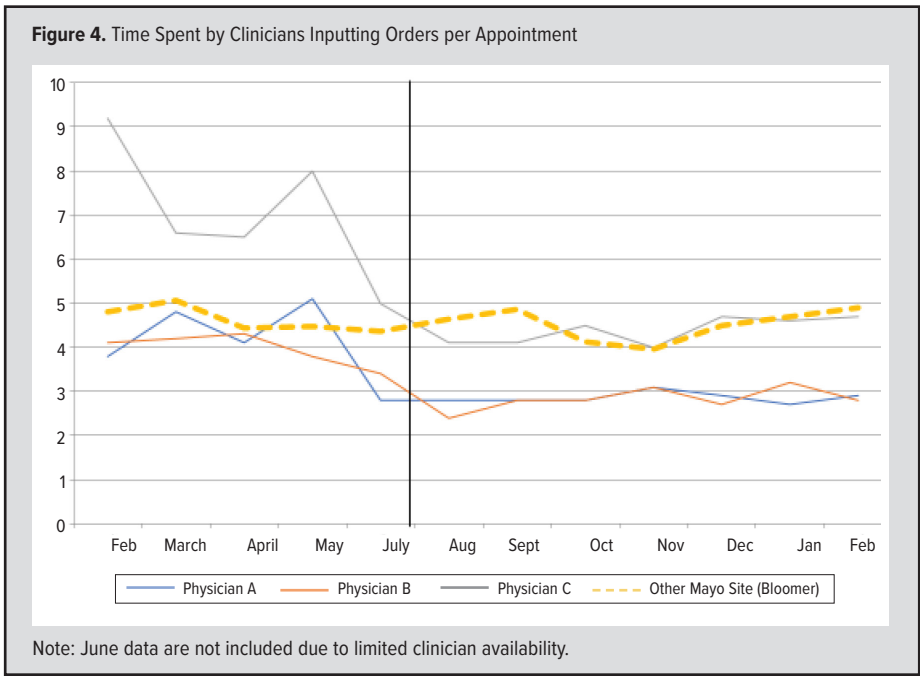
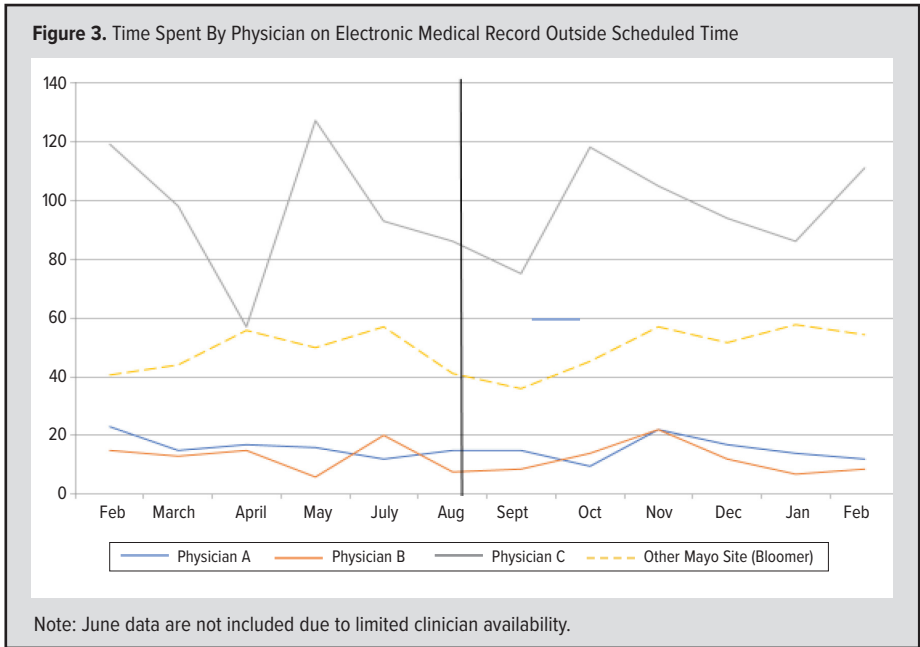
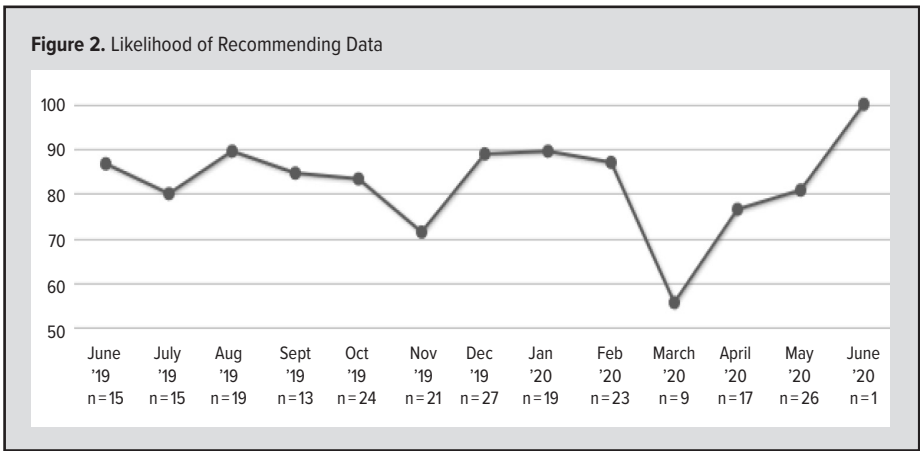
Data comparisons from the pre-pilot and pilot phases revealed that staff and patient satisfaction scores improved (Figure 1). The "likelihood to recommend the provider" is the organization's top box patient experience measure, and the data showed an improvement score during the pilot phase. It should be noted these data have a 2- to 3-month lag due to the collection and collation processes. (Figure 2).

During the pilot phase, time spent in the EMR by the 3 physicians outside scheduled office time (8 AM to 5 PM) was reduced when compared to Mayo Clinic Health System (MCHS)-Bloomer, which has a similar clinician base, panel size per clinician, and rural population as MCHS-Osseo (same geographical region) (Figure 3). Additional metrics of time spent in order entry per appointment were reduced during the pilot phase. This metric also was benchmarked against the MCHS-Bloomer practice (Figure 4).

During the pilot, quality metrics showed mixed results. Colon and breast cancer prevention metrics improved slightly, no changes were noted in overall chronic disease scores, and a decrease was observed in depression screening (See Appendix). For this pilot to remain financially neutral and offset the cost of an additional 0.5 full time equivalent LPN/MA per physician, each physician would need to add 2 office visits per day, but this target was not met during the 6-month pilot.

## DISCUSSION

Time spent on EMR and administrative tasks has been identified as a major contributor to primary care physician burnout. Studies have demonstrated that these responsibilities can be del-



egated to other staff members in a collaborative fashion that not only increase job satisfaction among clinicians but also improve the patient experience.

The pilot project's metrics showed improved staff and patient satisfaction and decreased physician clerical burden. The study by Sheridan et al of the experience of MAs in a team-based primary care model similarly reported increased job satisfaction but also an increased workload.<sup>14</sup> Our pilot project showed improved screening for breast and colon cancer but no change in chronic disease metrics, likely because of the project's premature closing, which reduced the time available for clinical improvements to occur.

During the project, physicians who spent less time in the EMR during office visits improved their face-to-face interaction with patients—results similar to those shown by team-based models from Intermountain Healthcare and Misra-Hebert et al.<sup>15,16</sup> However, although Intermountain Healthcare's project demonstrated a 20% increase in patient visits,<sup>15</sup> our pilot did not demonstrate an increase in the number of patient visits per day.

The cost of additional MA training and lack of reimbursement for nonbillable services by MAs is a major limiting factor of these models.<sup>13</sup> Future studies should attempt to demonstrate how the higher personnel cost of the collaborative model can be offset by reduced staff turnover and higher revenues from increased visits.

**CONCLUSIONS**

Overall, our pilot project demonstrated mixed results in terms of success. More collective efforts are needed by medical communities to innovate, test, and measure the team-based models of care like the collaborative rooming model described. Team-based care supports high-quality care for patients and improves staff and patient satisfaction. Further research is required to better understand and develop collaborative models to improve patient, staff, and clinician satisfaction while

delivering high-quality, patient-centered care, and more research is needed to improve the cost-effectiveness of these innovative team-based models.

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**Appendix:** Available at [wmjonline.org](http://wmjonline.org).

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