Mayo Red Cedar: New Model of Nursing

Christine Sinsky, MD and Thomas Sinsky, MD

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Summary

The "New Model of Nursing" primary care pilot, begun in 2008 at Red Cedar Medical Center (RCMC) in response to physician dissatisfaction with long work hours and sluggish workflows, has resulted in productivity/access gains of 30% and quality metrics that exceed Mayo Health System averages. A 2:1 nurse to physician staffing allows the nurses to assume responsibility for many tasks previously performed by the physician, including pre-visit planning, inbox management, prevention services, and aspects of chronic illness care.

Background

RCMC is a 38 physician multi-specialty clinic within the Mayo Clinic Health System, providing care for 40,000 patients in Menomonee, WI. On campus is a hospital, ER, urgent care center and clinic. Primary care physicians take call, see their own patients at the hospital, provide outpatient care and perform outpatient orthopedic and dermatologic procedures.

Care Team Structure

The core team is a two nurses (one LPN, one RN) one physician teamlet. The nurses' station is immediately across the hall from the physician's office for line of sight communication. The scheduler and receptionists are in the front, away from the core team. The team is supported by a Nurse Advice Line, staffed by RNs who triage calls, authorize prescription renewals by protocol, and support the physicians while on call. (The NAL receives 6500 calls per month, 2000 of these are for prescription renewals.)

The extended team also includes a diabetic educator, an administrator who manages the diabetic registry, and a coumadin clinic. Runners keep rooms supplied, taking this burden off of nurses.

Time

The practice sees 20-25 patients per day in two 3.25 hour sessions (8:45-12:00 and 1:15 to 4:30). The physician does most of his dictations the next day, generally requiring about 75 minutes to complete. He also spends another hour at the end of each day writing letters, returning phone calls and responding to results. His nurses filter the inbox messages, meaning he seldom had more than 2-4 messages pending at any time.

Care Team Functions

Pre-visit planning: The RN and LPN function in essentially the same roles. The nurses perform chart review a week before the patients' appointments, reviewing the patient's diagnoses and medications the nurses order standard lab by protocol. They also order any additional tests the physician dictated in previous note.

The nurse then dictates a letter to the patient using standard templates. With a few words the nurse can compose a customized letter that reminds the patient of their appointment, requests they come in a few days ahead for lab, instructs patients about fasting, if needed tells them when to take their seizure medication relative to the lab draw, indicates location options for lab, as appropriate asks patients to complete an asthma control test and review an enclosed list of medications, which is enclosed. She may also direct that a colonoscopy brochure be included. A clerk types and assembles the letter; this is not a nursing function. The nurses found that sending the letter 7-10 d ahead is best. Any longer and the patient sets it aside and forgets about it.

Technology and Policy Work-arounds

This is a mixed innovation. Technology and policy implementations have resulted in a change in process from post-visit planning by the physician (5 sec/pt, customized plan with high likelihood of including all tests desired) to pre-visit planning by the nurse or care coordinator (5 min/pt, extensive review of the previous note, protocolized plan, fraught with possibility of missing any additional tests the physician may have wanted, as they could be overlooked by the nurse when she is reviewing the last note.)

Dr. Eitrheim would prefer to do planning at the previous visit, as he previously did, taking a few seconds to check off future labs on a printed form and to be given to the receptionist to enter. With the EHR implementation and his organization's interpretation of Meaningful Use guidelines future lab, x-rays or consults ordered during an encounter must be entered by the physician, although future lab, x-ray or consults ordered outside of an encounter can be entered by the nurse. So now the orders are addressed outside of the encounter.

Order entry is a labor intensive process. If done by the physician at the end of the previous visit it takes 3-4 minutes per patient and is not compatible with maintaining patient flow, access and capacity. Thus it is now done by the nurse outside of an encounter the week before the appointment.

The process is clunky. We observed that it took 24 clicks to order an A1c, for example. The nurse is signed in as herself, and is administratively and electronically linked to her doctor, but when she orders a test, she must again choose her name from a list, and then choose the physician's name. She must also select the test and the diagnosis code. It takes about 5 minute per patient for her to review the chart, go through the order entry process, and compose the letter. She also must send a list of those patients needing pre-visit labs to the front desk workers who then link the lab with the upcoming appointment.

A similar institutional policy about the after visit summary has created challenges for the team. Nurses are not allowed to print this and review with the patient, so it often does not get done.

Visit

During rooming the nurse performs medication reconciliation, identifies the chief complaint, completes a PHQ 9 at annual exams for patients with a history of depression, completes the diabetic foot exam, schedules colonoscopy, and administers immunizations. She asks each patient about smoking status and can refer the patient to a free smoking cessation clinic. They may also counsel patients on the value of exercise and provide pedometers.

The nurse prepares a "paper chart" for each patient with charge ticket, pre-ordered lab results and the physician's last note. This saves much time for the physician. A printer in each exam room saves each member of the team time.

The RN also has her own schedule and will see some patients for blood pressure follow up. She reviews each case with the physician, who may direct change in medication. These are billed as 99211 and result in $4000 of additional revenue in this practice.

Nurse Practitioners

MCRC employs 14 NPs. The urgent care clinic is physically adjacent to the ER and is staffed exclusively by NPs. These NPs also rotate into the outpatient clinic where they see their own panel of patients without direct supervision. The main difference in practice responsibilities between the NPs and MDs is that the MDs take call and may do more procedures.

Change Management

The New Model of Nursing Care was supported by a grant from MCHS through its Adaptive Design grants, intended to allow front line workers to determine how to do their work better. Dr. Eitrheim and his nurses used this funding to attend an Institute for Healthcare Improvement conference to gain new ideas and guide their model development.

There is a clinical transformation team for the entire Mayo Clinic Health System. Within Red Cedar Medical Center there is also a nurse-physician clinical efficiency team. The local efficiency team began planning for the New Model of Nursing Care with a survey of physicians and employees asking "Tell us 3 things you are doing that someone else could do." This guided the interventions. There is a weekly meeting of the clinical efficiency team and administrative leaders plus, as needed, marketing and QI representatives, and occasionally a diabetic educator).

Outcomes

Visits per day have increased by 23% and RVUs have increased from 3888 wRVUs/year in 2007 before the pilot to 5092 in 2010. The physician is happy because he spends less time on dictation and can focus the visit on the patient's chief complaint. The nurses report feeling less overwhelmed ("we now get a lunch every day") and they are doing more interesting work. They enjoy working with the same physician on a daily basis and getting to know the patients personally over time. Patient wait times have decreased and they are receiving more education, more time with nursing staff, and a more focused time with their physician.

Dreams

Dr. Eitrheim would like to further decrease the time he spends on documentation, and would love to have a mike recording of the visit for liability defense and billing audits, and then make only a few succinct notes in the chart that would help he and others advance the care. He would also like relief from order entry as a physician task. "Sometimes we participate in 'civil disobedience', such as allowing the nurse to do order entry for an MRI during the encounter" in order to keep the flow of patient care going. The nurses dream of a back button in their EHR, and a world without so many forms.

Spread

This pilot, undertaken with the approval and support of the MCHS, has been successful, resulting in improved financial, clinical and satisfaction data compared with historical data, and compared with other practices in the system. The model has been financially

self supporting from the outset. Administrators calculated that the cost of the additional nurse would be covered by an additional 619 wRVU in productivity. Dr. Eitrheim's productivity has increased from 3888 wRVUs/year in 2007 before the pilot to 5092 in 2010, with added revenue exceeding the cost by 100%.

While the pilot began with two physicians and will soon include a third, the administration is reluctant to hire two nurses for every physician, and is rolling out a modified version of the pre-visit planning, with a single RN care coordinator performing pre-visit planning for 8 physicians.

Interestingly the 2 nurse: 1 doctor model has spread more elsewhere. Dr. Eitrheim presented this model to a neighboring group, Allina group in Minneapolis, where it has been more adopted as one of its pilots, and further extended to include scribing.

Conclusion

With the New Model of Nursing Dr. Eitrheim and his staff have moved away from a physician centric model of care, where every element is performed by the physician, to a team-based model of care, where the nurses play a robust role. At the same time, well intentioned federal and institutional policies reinforce the physician-centricity of care, and impeded full implementation. Institutional policies that are set without regard to the costs of implementation can hinder teams from meeting their full intentions and become cause for civil disobedience. None the less by staffing up to two nurses per physician, Dr. Eitrheim has been able to increase his productivity, access, quality metrics and work-life satisfaction.