Team-Patient Model: Creating a Collaborative Approach to Patient Care and Communications at Beth Israel Deaconess Medical Center

Academy for Excellence in Healthcare IAP C-01 BIDMC

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Team-Patient Model

Collaborative Care at Beth Israel Deaconess Medical Center

At Beth Israel Deaconess Medical Center (BIDMC), staff of the 24-bed Farr 7 general medicine unit understood that patients were frustrated about not getting a consistent and cohesive message from their team of healthcare providers. Physician rounds were independently scheduled, as were nurse activities, and so patient appointments with both parties present occurred rarely. Patients and their families heard and saw different and/or repetitive messages, and the unit suffered from isolated roles and redundant work, which consumed time that could have been spent caring for patients.

In September 2013, an improvement team was established to evaluate rounds and, ideally, improve workflow of the rounds. The team found that:

- Nurses and physicians were together simultaneously in a patient's room less than 1% of the time.
- White boards, which could help to align staff when not communicating directly with patients, were updated to reflect the patient's current plan only 31% of the time.
- Patient plans were often developed without nursing input, or their input took place in a rushed manner during staff rounds.

One key finding by the team was that while collaboration on the unit was lacking, all the individual roles were meeting their respective objectives. The whole was not equal to the sum of its parts, which can occur in any setting when disparate groups are independently managed, forming cultural silos that over time get locked in place. The improvement team recognized they could, however, improve collaboration among physicians, nurses, residents, and sub-interns, and established two critical goals to enhance communications to patients and patient families: They wanted to increase the frequency at which nurses and physicians are in a patient's room together, and set a target of one collaborative visit per patient per day — a far cry from the disjointed schedules that resulted in patient rounds throughout the day (see *Process-Flow Analysis by Farr 7 Role*). They also sought to increase the frequency at which patients' whiteboards are updated to reflect the current plan of care, and set a target of daily whiteboard updates.

With those objectives in mind, the team redesigned and standardized the workflow of rounds for the unit, calling it *Team-Patient Model*. The original intent was that the model would be used with Farr 7 as an observation unit. When the objective for the unit was changed to keep Farr an inpatient unit, the team believed their model could work in that environment as well to improve the efficiency and effectiveness of daily staff rounds.

Beth Israel Deaconess Medical Center

- 649 licensed beds
- more than 50,000 inpatient discharges
- more than 55,000 emergency department visit
- more than one-half million outpatient visits
- $229.8 million annually in research funding

Process-Flow Analysis by Farr 7 Role
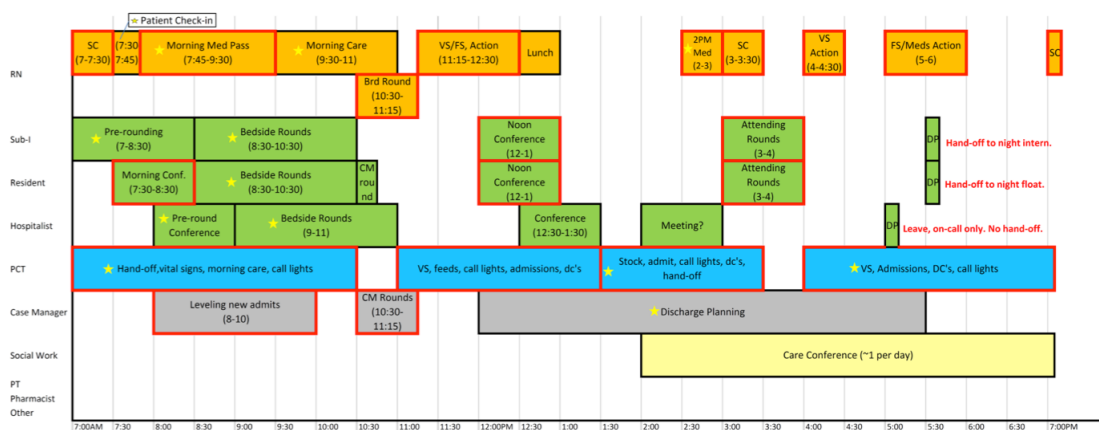
Source: Beth Israel Deaconess Medical Center

Donna Clarke, nurse manager, says the plan was to apply the model to the entire unit, but they realized they would need to begin slowly. They conducted collaborative rounds with just one patient, using the model for the duration of a single patient's admission. When the one patient was discharged, they would pick another patient and start again, tweaking and improving their process as they went along. Soon the problem was not the lack of a solution or effectiveness of the model, but how to expand the model to more patients.

"We were doing our process [improvements] on one patient at time," says Sandra Sanchez, resource nurse (i.e., patient-flow manager). "And we were totally stumped on how to operationalize this to more than one patient, never mind all patients." That problem led them to contact and send a team to the Academy for Excellence in Healthcare (AEH) at The Ohio State University (OSU), with whom BIDMC's business transformation staff had developed a relationship. The team consisted of:
- Lauge Sokol-Hessner, MD and team leader
- Donna Clarke, RN and team leader
- Alice Lee, VP business transformation
- Roy Sriwattanakomen, MD
- Daniel Ricotta, MD
- Sarah Moravick, MBA
- Kimberly Eng
- Kim Sulmonte, RN
- Sandra Sanchez, RN

"The way that we had redesigned rounds was so drastically different from the way it had always been done," adds Sanchez. "We were having a hard time figuring out how to get people to buy in. How do we operationalize it so that it would physically work? We just couldn't get past those questions." The team jumped at the opportunity to get an outside perspective from AEH staff.

In the spring of 2014, the crossfunctional team from Farr 7 attended lean training on the campus of OSU (see *Farr 7 Project Timeline*). The group learned about various lean principles and tools — such as A3s, PDCA (plan, do, check, adjust), 3P (production preparation process), and value-stream mapping — that could help them to implement collaborative rounds on a wider basis. Training lasted approximately five days. OSU trainers included AEH faculty Margaret Pennington, Alan Deutschendorf, and Ken Robinette.

For some on the Farr 7 team, the OSU AEH program was a lean refresher course. For others, the lean training was a completely new perspective on their world, and it began to open eyes. "And that was sort of part of what we were struggling with, getting everybody on our team to even believe that this could actually work," says Sanchez.

"I do think that participating in the program and peeling off the layers of what we were working on definitely broke down some barriers," adds Clarke. Helping residents to better see the model's potential was a big step in operationalizing the new approach for rounds. BIDMC is a teaching hospital of Harvard Medical Center, and the Farr 7 unit, which opened 2011, has four residents, who rotate out every three weeks. Applying the Team-Patient Model one patient at a time had minimal impact on only a few residents, and even those who bought into the idea did little to affect acceptance by the next group of incoming residents.

The training and advice from OSU helped align the entire Farr 7 team, as well as enable the team to understand their project better and their limitations. For example, the scope for Team-Patient Model was probably initially too large, says Sanchez, and they learned how to adjust their A3 process to make it more manageable and expandable.

Farr 7 Project Timeline
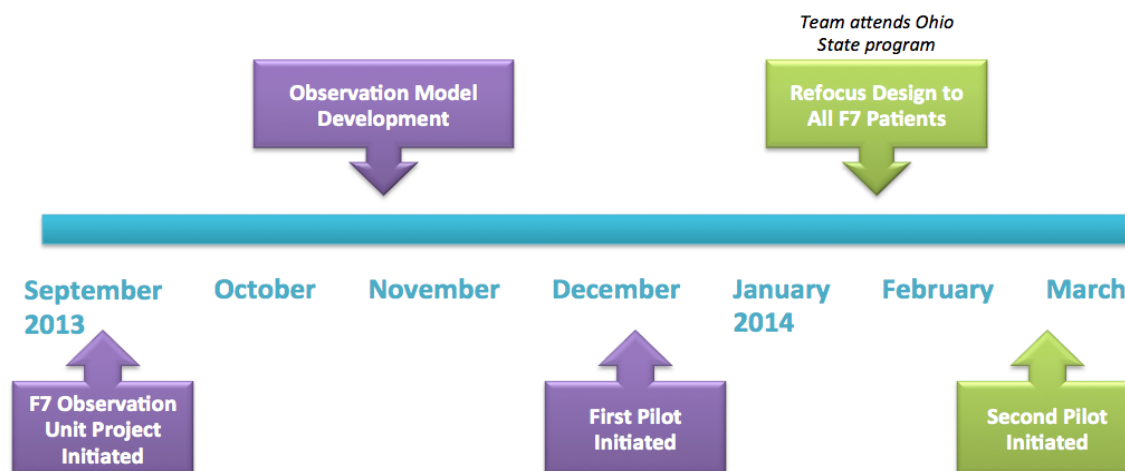
Source: Beth Israel Deaconess Medical Center

Operationalizing Team-Patient Model

Coming out of the OSU AEH training, the "plan" of PDCA was to go from one *patient* at a time to piloting the Team-Patient Model with one *resident* at a time. The resident would implement a collaborative round approach with all of his patients for two months. Sanchez acted as a coach for all involved in the pilot, especially helping those who were not part of the AEH training (nurses, three physicians, and four sub-interns) and unfamiliar with the new process that had been designed or the lean concepts behind it. She also led the rapid-improvement PDCA cycles every day. "Being able to adjust and mold things differently as we went was a big part of what we decided was needed when we came back [from AEH]," said Sanchez.

The PDCA cycles resulted in a workflow for standard rounds of:
- Sub-intern pre-round (7:30-8:30 am)
- Resource/resident scheduling huddle (8:00-8:05 am) — determine visit schedule for the morning
- Sub-intern/resident huddle (8:35-9:00 am) — draft appointment schedule, each patient 20 minutes
- Team appointments with patients (9:00-11:00 am)
- Case management round by resident (11:00-11:15 am).

Unlike the one-patient application of the model, the pilot worked with two to 10 patients per day (on average, the unit was seeing 24 patients per day). The Farr 7 team continued to apply, evaluate, and improve the model, eventually conducting 18 PDCA cycles with residents, nurses, and physicians to incrementally enhance the collaborative approach. A second resident was added to the Farr 7 model in May 2014.

Rapid Cycle Improvements and PDCA

The improvement team conducted 18 PDCA cycles with nurses and physicians.

Source: Beth Israel Deaconess Medical Center
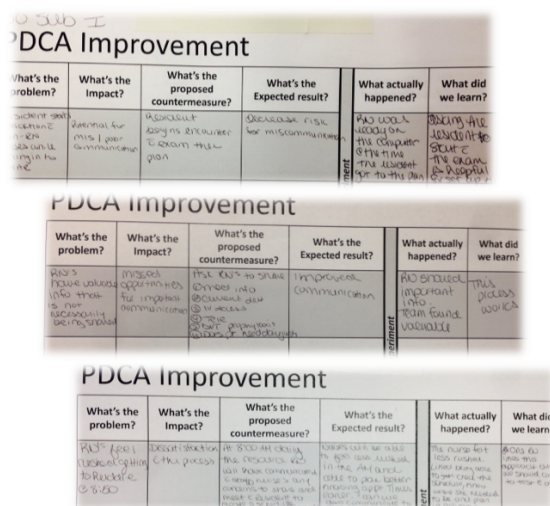
As a result of the new model with two residents, 88% of patients received at least one collaborative visit per day with their nurse and physician team, and their whiteboards reflected an updated plan of care. In addition, Farr 7 staff experienced an improved working environment: Nurses had the ability and opportunity to review issues with physicians, which in turn provided a greater sense of teamwork and improved access to needed information. They also had more face-to-face time with physicians and could ask questions and get patient issues clarified in a more structured manner. Residents completed their tasks earlier in the day (less need for late-in-the-day updates) and improved the consistency at which their orders were captured by staff. Overall there was a greater integration of nurses in patient care and improved patient "centeredness."

Expanding Team-Patient Model

In August, the Team-Patient Model was expanded to all four residents, meaning that essentially every patient on the unit was then operating under the new system for conducting rounds. Not only did the application of the model multiply by a factor of two, steps were being taken to help acquaint a new guard of residents to the approach — residents that had worked in the model were helping to bring new residents up to speed.

The team developed a training video, initially depicting an actual round as it occurred. But without a better understanding by incoming residents of what they were viewing and why, the video wasn't very effective. A second version was created and included a voiceover by Sanchez, who explains to viewers what was happening and, more important, why it was happening. In the video, a resident also explains the reasons behind the Team-Patient Model project and offers helpful hints as to what helped when he performed rounds in this manner.

"We hold feedback sessions once every resident cycle," notes Sanchez. "We get mixed feedback. There are always things that people think could be a little bit better, and a lot of them are system problems that we can't really fix. We can try to make the experience better for people, which is what we've focused a lot on doing. And we've gotten, I think, quite a bit of positive feedback."

Most important, though, is that the model is effective from the patient's perspective, boosting the level of collaborative communication and, at the same time, requiring less time during rounds to achieve improved communications: the time spent conducting rounds decreased on average per patient by 15 percent, while the face time with patients increased by 55 percent.

Challenges remain, though, and include managing the process with less sub-intern involvement, ensuring stability as residents rotate, and reducing the coaching load on Sanchez. "She's done a fabulous job coaching," said Clarke. "She's still doing it, and she's coaching other coaches…We wouldn't be where we are right now if she hadn't provided that."

After the initial training and a post-pilot followup session at AEH, which addressed leadership issues and developing leadership skills, team members met occasionally with coach Gary Butler, a faculty member at Ohio State's Fisher College of Business. Butler would walk the process with the team and offer "foundational" advice, said Sanchez, such as how to engage senior leadership in supporting the new model of care, especially given the breadth of the change that was underway. Sanchez says that Butler also reinforced what they already knew they needed: more and better data.

Sanchez says the team struggled for a few months determining what data they could collect, and "he really pushed at us with that. We got our data points, and we started collecting it. That was helpful."

During the pilot, Clarke said, the team would get together and discuss how they were doing, which encouraged them to consider what they could observe and support with data. The following are measures the team tracked during the period involving two residents:

- *Time spent on rounds per patient* — one resident spent 30% of appointment time in the room with the patient (approximately 6 minutes), and the other resident spent 60% of appointment time with the patient (approximately 12 minutes).
- *Difference between scheduled-appointment time and actual start time* — for both residents, approximately 30% of their appointments started within 5 minutes of the scheduled time.
- *Difference between scheduled appointment length and actual length* — 80% of appointments occurred within 10 minutes of the projected length; 55% occurred within 5 minutes of the projected length.

Maintaining specific timeframes is important to residents because they have educational activities that they must attend to throughout the day. Their time is allotted in a way so that if they have a higher census or a lighter census, they can determine how long specific appointments should be, allowing them to fit all their appointments into their scheduled timeframe.

The team continues to conduct rapid-cycle PDCA improvements on the model, such as addressing time-management constraints that were observed early in the implementation: Nurses were pressed to complete distribution of medications, communicate technical terms to patients, and go over admissions and followup appointments in the time allotted for the team round. Another challenge is distributing management and training for the effort.

"I think the big thing is sustaining [use of the model] and getting it to a point where we don't need coaches," says Sanchez. "The plan to do that is by having nurses facilitate these rounds, because the nurses are here always and the residents are here only for three weeks. The goal is to have the nurses be the coaches and the facilitators. I think to be able to do that, we need buy-in from the physicians when they're coming here that this is the way it's going to be."

Clarke agrees with Sanchez that getting more physician buy-in will be necessary. "For the most part they're very positive," she notes. "But we've had some attending physicians who just want to do it the traditional way, [which makes] it hard. They don't report to me. It's hard for us to make them do it our pilot way right now. That's another challenge that we have, because it does need to be the standard here… We can't have cycles of attending physicians coming through who just want to do their own thing."

Clarke adds that the vast majority of the many attending physicians on the Farr 7 unit have accepted the Team-Patient Model as it has developed. Sanchez adds that senior leadership visibility around the project also has increased, with a new physician sponsor joining a chief nursing officer as a sponsor. That level of leadership involvement will be necessary to move the Team-Patient Model beyond the Farr 7 unit and to other BIDMC departments.

Clarke and Sanchez say an integrated patient-care team with scheduled team-patient appointments and alignment among team members — the Team-Patient Model — streamlines the process for all individuals involved, and the numbers are proving that out. They also *believe* it can provide opportunities for improved medical education and, most importantly, improve the quality of patient care.

"At a high level, the thinking is that this is what's best for patients, and if it's what's best for patients, we will want it," says Clarke. "[Patients] are seeing their entire team present at the same time. They're getting information from the team in real-time. They have the ability to ask questions about their care or tests that might be pending right then."

"They don't have to tell their story two, three, four times in one day," adds Sanchez. "They're telling their story once, and there is less miscommunication from the patient to the team and among the team to the patient. Also, the nurse is much more well-informed about the medical plan, meaning later in the day if the patient has a question, forgot something, or their family comes in and has questions, the nurse is able to answer the question instead of having to get the doctors and stop [the doctors] from what they're doing… The other thing is their whiteboards at their bedsides are more completely filled out, which also is more informative."

Since the appointment rounds are scheduled consistently, it also offers patients the ability to ensure that family members are present, allowing relatives to schedule their time at the center and not be held captive. "They can know what time the round is going to happen, and they can anticipate it and be there instead of having to sit there all day waiting and wondering," says Sanchez.

The team is using an intern to interview patients and get their impressions of the Team-Patient Model — anecdotally, the model benefits patients. But to expand the model beyond Farr 7, Sanchez says more data will be needed to *substantiate* the impact to patients and patient care.

Discussions of expanding the model have begun with nurses in other BIDMC units. And others are interested in applying the Team-Patient Model, but quick to indicate unique issues related to their units that will need to be overcome. For example, collaborative rounds on the surgical floor would have to accommodate surgeons who may spend their entire day in the operating room. Clarke and Sanchez also recognize that more work on the model is necessary prior to expansion, and that modifications likely will be needed — i.e., more PDCA cycles and more improvements to Team-Patient Model effectiveness.

AEH Commentary

As the importance of patient-centered care becomes clearer to all involved, including to those responsible for funding hospitalizations, models for achieving such care become critically important. The Farr 7 team shows how organizational barriers to improvement in patient-centered care can be overcome through careful planning, communication, and numerous PDCA cycles of experiments that demonstrate the

efficacy of the improved process. The importance of developing and using data effectively also is made clear by this case study, and the coach's encouragement to use data proved to be a key element.

The Team-Patient Model also illustrates the importance of standardization in improving patient care. However, the standardization described in the case is not imposed from above. Rather it is standardized work, created by the caregivers doing the work, and improved by those caregivers with the help of a coach. In this way, the Farr 7 team embodies the essence of PDCA thinking — standardize to create an experimental setting, and then experiment to improve.

About AEH

The Academy for Excellence in Healthcare blends in-person class time with hands-on project work, interactive simulations, and recurrent coaching, all aimed at helping healthcare teams spark actionable change at their organization. At the heart of this program is a real-world workplace problem each participant team selects and commits to solving through five intensive days on campus, followed several weeks later by two days of project report-outs and lean leadership training. This project-based approach pays immediate dividends and lays the groundwork for transformational change.

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