INNOVATION AND IMPROVEMENT:
Interval Examination

Interval Examination: Establishment of a Hospitalist-Staffed Discharge Clinic

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KEY WORDS: care transitions; hospitalist; hospital outpatient clinic; patient discharge.
J Gen Intern Med 27(10):1377–82
DOI: 10.1007/s11606-012-2150-1

THE STATUS QUO

Until recently, post-hospitalization care in our large faculty practice was scattered. Patients—particularly those cared for by residents or part-time faculty—rarely saw their own primary care physician (PCP) after discharge. More often, patients followed up with a nurse practitioner or resident whom they had not seen before. Making matters worse, complete discharge summaries were available erratically. Combine discontinuity with incomplete documentation, add the challenge of unearthing pending tests, abnormal results, and updated medications, and you had a near-perfect recipe for suboptimal post-discharge care.

On the inpatient side, waiting ten minutes on hold to speak to a scheduler, only to hear that the first available appointment was in 3 weeks, easily disrupted my busy days as a hospitalist. Limited primary care access was not a new problem, especially in a clinic with a large contingent of residents, but the stakes were growing higher, as the hospital's high readmission rates threatened imminent financial penalties.

In the meantime, our hospitalist group had grown so large that most PCPs no longer personally knew their hospitalist colleagues. Growth in the field of hospitalism has been well documented.[1] With expansion have come the challenges. Most hospitalists, including those in our group, enter hospitalist medicine directly from residency. As a result, they have little experience dealing with the chaos that often ensues (for both patients and their outpatient physicians) after hospital discharge.[2] Improving communication and enhancing connections between our growing hospitalist group and the large faculty primary care practice was essential to improving patient care.

Primary care at Beth Israel–Deaconess Medical Center (BIDMC) has long been a hotbed of innovation, hearkening back to the founding of the first academic general medicine practice at the Beth Israel Hospital in 1971 by Tom Delbanco.[3] When the opportunity to connect our hospitalist group with the primary care group in an innovative collaboration to improve care transitions presented itself, I was intrigued. I had previously conducted a small project targeting the discharge process on the hospitalist non-teaching service. So when the Post-Discharge Clinic (PDC) was established by BIDMC Healthcare Associates (HCA) in October 2009, I became its leader.

Our experience over the ensuing three years highlights the challenges and opportunities that face similar clinics and general internists on both sides of the hospitalist–ambulatory aisle. Like all new models of care, the PDC was forced to confront both extrinsic and intrinsic forces that were not always aligned for success. Not surprisingly, our group sometimes felt squeezed between the disparate expectations of the hospital and the primary care group. But even within our own group of PDC providers, we discovered that the complicated nature of our dual responsibilities could create unexpected internal conflicts. These pressures provide a framework for reviewing the first few years of the PDC.

THE BIDMC POST-DISCHARGE CLINIC

Here is how the PDC works. We staff five 4-hour sessions per week. Dedicated hospitalists provide staffing in month-long blocks, during which they have no regular inpatient responsibilities. Patients occasionally make appointments for themselves after hospitalization. More often, they are scheduled by the inpatient teams, using a dedicated hospital service that makes outpatient appointments for patients prior to discharge. Based upon a scheduling algorithm, patients are preferentially scheduled with their PCP and see a hospitalist only if no appointment is available within 2 weeks. The PDC sees only patients affiliated with the hospital-based primary care practice, and sees a large proportion of patients with resident or part-time faculty PCPs. Visits are 40 minutes and focus on reviewing the hospitalization, medication reconciliation and outstanding tests. Most patients are seen only once and are scheduled for follow-up with their regular provider at the end of the visit. Additional PDC responsibilities involve establishing

Received October 17, 2011
Revised March 2, 2012
Accepted June 15, 2012
Published online July 19, 2012

home health services and, on occasion, admitting patients who are not doing well at home to skilled nursing facilities.

In addition to the post-discharge patients, we also see patients discharged from the emergency room. These patients are allocated 30 minute slots, and they are scheduled via a nurse outreach phone call within 48 hours of a BIDMC ED visit. Patients seen in other emergency rooms may also make their own PDC appointments.

EXTERNAL PRESSURES

External forces that have influenced the PDC's success include: primary care doctor acceptance, patient and provider scheduling, financial viability for the clinic, and questions of program assessment.

Primary Care Physician Perceptions

Our acceptance by PCPs has been cautiously welcoming. On introducing the PDC at a faculty meeting, I was greeted with a mix of skepticism and enthusiasm. The lively discussion included strong and sometimes critical remarks from a few PCPs who felt most strongly about the need for primary care continuity.

Then, as now, some PCPs see us as ideally suited to see patients after discharge, as a result of our familiarity with many inpatient issues, such as the inpatient medical record, the intricacies of hospital-acquired infections, and the use of new intravenous antibiotics and anticoagulants. We have close connections to our hospitalist colleagues and to the house staff who complete most discharge summaries.

However, others see hospitalists in the clinic as further encroaching on their doctor–patient relationship, already interrupted by the hospitalization. A representative email captures our initial reception:

> "I very much appreciate the presence of the hospitalists and the post d/c clinic, but feel that having my patients see yet another MD who does not know them after discharge complicates their care and distances me from the kind of involvement I seek. I will always add on a time to see a patient in a timely fashion after discharge if at all possible."

The structure and scheduling process for the clinic were initially designed to address these concerns and protect the primary care relationship, but we have altered them further to maintain this focus. First, we developed a scheduling algorithm that preferentially schedules patients with their regular outpatient providers, even if it means a slightly delayed appointment. We developed a mechanism to inform PCPs when patients were scheduled with us, to allow sufficient time for those appointments to be rescheduled. We forward our notes electronically to the primary care doctor and use email for more urgent issues. Few patients leave our clinic without a follow-up appointment with their primary care doctor or other member of their primary care team scheduled within the month. In addition, we follow-up on any tests that we order so as not to burden PCPs with that task.

Second, we focus PDC visits almost exclusively on issues related to the recent hospitalization. Medication reconciliation occurs at every visit to ensure that medication changes are justified and that interactions are accounted for; the clinic pharmacist is involved as needed. We review the hospitalization at a relaxed pace, given the freedom afforded us by the 40-minute visit. We steer the visit back to the hospitalization, and away from chronic outpatient issues, unless they need urgent attention. Finally, we involve the PCP in key clinical decisions, ranging from questions of anticoagulation to referrals to hospice care.

Although the most recent presentation to our primary care colleagues a year ago resulted in more inquiry than inquisition, it would be naive to deny that there remains scattered wariness of our motives.

Dynamic Scheduling

The clinic began with six weekly sessions, based on an estimate of inpatient volume and average clinic wait times for appointments that in retrospect over-estimated the expected patient volume for our clinic. In addition, we wanted our schedule to be flexible—to allow us to see a patient on short notice, or to schedule a patient for a repeat visit in 2 days. We also anticipated that we would initially see urgent care patients, with a gradually decreasing volume as the need for better post-discharge follow-up became more widely recognized. We squeezed those six sessions into available slots, ultimately seeing patients for a full day on Monday and Friday, on Thursday morning, and Tuesday afternoon.

This schedule proved mismatched to patient needs, in part because we over-estimated patient volume, but also because our very presence changed the practice around us. Perhaps goaded by the establishment of a clinic that tacitly pointed to problems in primary care access, PCPs worked harder than ever to see their own post-discharge patients. In addition, urgent care patients peaked on Monday morning and Friday afternoon, limiting our ability to see post-discharge patients at those times and reflecting a tension between the needs of inpatient and outpatient arenas. We eventually eliminated the Monday morning and Friday afternoon clinics, reduced our effort to five sessions weekly, and set aside 30-minute slots for patients recently seen in the emergency room, also at high risk for hospital admission. These changes better matched our schedule to our volume.

Patient Scheduling

Patients are scheduled in our clinic mainly through a hospital-based administrative service triggered by a computerized order placed by the inpatient team. This service is a convenience for inpatient teams, but in our case, it led to appointments scheduled without any patient input, and therefore to an alarmingly high no-show rate approaching 50 %.[4]

A brief review identified the most important reasons for appointment delinquency. One group of patients chronically missed outpatient appointments. They tended to heavily utilize the emergency room, with only a loose affiliation with the primary care practice as a whole. A second group appeared to miss their appointments because the appointments were scheduled too soon after discharge, often within 1–2 days, while patients were still in the active stage of recovery. This quick appointment was particularly limiting for disabled and elderly patients who relied on a local para-transit program that provides door-to door transportation, but only with 24-hour notice. Finally, some patients with missed appointments reappeared 2 days later in their primary provider's schedule, reflecting structural problems with our scheduling process.

We began systematically contacting patients 24 hours before their appointment and cancelling appointments that patients did not intend to keep. This helped, but required multiple attempted telephone calls. We shifted the reminder phone call to 48 hours before the appointment and used evening staff to call patients in the evening if they had not been reached. Notes summarizing these phone calls were emailed both to the discharge clinic doctor and the primary care doctor, providing the opportunity to reschedule patients with their primary care team.

To address timing, we asked the administrative service that schedules patient appointments to schedule patients 4–8 days after discharge, instead of the original 1–3 days after discharge. In addition, we stopped allowing residents and hospitalists to make appointments until discharge was imminent (expected within 24 hours), to allow improved estimates of appropriate timing for follow-up.

These efforts have had modest success, with a decrease in no-show rate to approximately 15 %, but have also resulted in a high same-day cancellation rate. The best chance to reduce this rate further would be to encourage more patient involvement in appointment scheduling, or to provide a transportation subsidy. Addressing transportation needs might offer the best approach, as this issue often seemed a major barrier for patients scheduled to attend appointments within 1–3 days of discharge, which may be the ideal time to find medication discrepancies, assess patient symptoms, and check laboratory values for some patients.

Financial Pressures

We have not yet tested our financial model, and cannot claim that it can pay for itself. However, to the degree that payment models are moving to minimize readmissions, the revenue that the PDC generates directly is likely less important than the costs saved by avoiding re-admissions. In Massachusetts and at the BIDMC in particular, this is a motivating factor, as we are at the vanguard of health care reform. BIDMC is moving into multiple capitated contracts with managed care companies, and we are one of the 32 Medicare Pioneer Accountable Care Organizations (ACOs). This economic rationale will ultimately need empiric support, and it drives the research agenda for the clinic. We hope to determine if we have had any effect on readmission rates and their associated costs and penalties in the near future.

Program Assessment

As with any new program, the initial efforts at measurement have focused on the most proximal process measures. These include measurement of the no-show rate and assessment of patient volume. We have also assessed PDC provider and support staff satisfaction in the initial stages of this new model. More recently, to ensure that we were meeting our goal of timely post-discharge access, we evaluated the time between discharge and follow-up in our clinic, and a comparison of our billing and test-ordering practices relative to the HCA PCPs as a whole. The ultimate goal, given the current financial environment, will be to measure the effect on readmissions and preventable adverse events.

INTERNAL FORCES

In addition to grappling with these external forces, our group has simultaneously dealt with its own internal tugs of war. The experience of the clinic hospitalists has been shaped by issues of expansion of practice scope, absence of clear career path and training options, and camaraderie.

Expansion of Practice Scope

Inpatient and outpatient care differ. Equipment differences in each setting are minor compared to the clinical challenges that hospitalists with little outpatient experience may face. The interwoven circle of primary care physician and social and family caregivers can be difficult to navigate as a new and temporary member of the team. Although all primary care physicians face an increasingly complex population of patients, the PDC is obviously utilized by those who have required hospitalization and thus are among the sickest in our practice. PDC patients take an average of 12 medications, and poor health literacy often slows understanding of follow-up instructions. In addition, the pace and flexibility of inpatient care differs dramatically

from the structured nature of outpatient sessions. Getting re-accustomed to the pace of the clinic and the process for keeping track of follow-up tests and other key steps in completing essential outpatient tasks can be slow.

To address these complexities, PDC clinicians developed protocols and templates, essentially implementing a post-discharge appointment checklist.[5,6] (Appendix). This ensures that we appropriately identify and address test results still outstanding at discharge, fully reconcile medications, and assess the patient trajectory after discharge. We developed and use an assessment tool to review our clinic documentation to monitor whether our notes accorded with the standardized checklist, and found almost 100 % compliance. We developed a peer orientation process and document our processes online on an internal hospitalist portal. We have monthly meetings to share experiences. These meetings reduce stress and simultaneously provide an informal setting for process improvement.

The challenges of transitional care are quite different from those faced by urgent care physicians. The role of "transitionalist" truly stretches our clinical skills, as the palette of diagnoses in outpatient care sometimes seems to have precious little overlap with the hospital ward. During my first week in clinic, I tried, in vain, to remove a deer tick from a sensitive location. In subsequent months, I performed my first pelvic exam and wet mount in many years. I diagnosed pityriasis rosea and impetigo. I have seen countless upper respiratory infections and undoubtedly have given too many antibiotics. In taking on a broader scope of practice, we find ourselves becoming more integrated in the practice by developing networks of contacts to use for orthopedic, dermatologic or gynecologic questions rarely encountered on the inpatient wards. However, training and educational opportunities are not obvious for those of us pursuing these split careers.

Camaraderie Within the Clinic

Another source of internal pressure arises from our position as strangers in a strange land. We sometimes feel out of place, whether sitting at lunch with our hospitalist colleagues, recounting outpatient war stories, or looking for a quiet place to dictate notes in the ambulatory clinic, where none of us have our own office.

My fellow hospitalists have varying opinions of our dual role. Some are dismayed and label us "traditionalists", comparing us to the increasingly rare primary care doctors who also care for their patients in the hospital. More frequently, however, they question why we would possibly want to take on this outpatient world, full of short-term disability forms and chronic narcotic prescriptions. This was the world that many of them were glad to cast aside after residency. They have difficulty seeing the potential benefits to patients and to us as hospitalists. Having left outpatient medicine behind without regret, most hospitalists see little in our hybrid lives to envy, our relatively light outpatient schedule notwithstanding.

In the clinic itself, it is not always easy to find a comfortable home. The clinic schedule demands that we move from one location to another on different days. This makes it difficult for us to establish relationships with support staff, who are fixed by location. We also do not participate extensively in the outpatient curriculum or in team meetings dedicated to difficult patients or new clinical developments. Indeed, our very efforts to avoid overlap with the primary care mission serve to isolate us from our outpatient colleagues and the staff members who support them.

Our solution to this has been geographic consolidation within the clinic to minimize different support staff. To accomplish this, our clinic sessions occur in one of the localized subdivisions, which has a dedicated support staff, within the large clinic. This has enabled us to establish relationships with a smaller group of support staff, as well as familiarity with a smaller number of different room layouts. This in turn has led to improved efficiency for our clinic. We have also developed informal networks of outpatient colleagues who will provide advice and consultation on challenging clinical issues. In addition, staffing the clinic with physicians who are interested in transitions of care, or who maintain an interest in outpatient medicine, has been crucial to the clinic's success.

ANCILLARY BENEFITS

If our experience is at all generalizable, hospitalists who seek to staff a PDC will clearly face external and internal challenges in its first several years. Despite these obvious challenges, the PDC has yielded benefits to us as physicians and to the institution as a whole.

Our outpatient work has helped to shape our perspective on our inpatient responsibilities, with our inpatient work driven by increased awareness of the complications of discharge and the need for better discharge planning. I cancel and stagger appointments to streamline post-discharge care. I arrange for medication reconciliation in the clinic for patients with complicated medication regimens. I contact PCPs on a far more regular basis, and ask my resident teams to do so as well, especially for doctors outside of our system.

My patient interactions have changed, as have my teaching pearls on rounds. I ask, "Who helps you at home? How do you take your medications at home?" Before discharge, I ask, "What are you worried might happen after discharge?" and "Do you feel ready to go home?" I speak at length with the elderly patients who insist on going home, and refuse the recommended inpatient rehabilitation stay. In addition, I try to imbue my residents with this perspective, encouraging them to inquire, "When do you think she should follow up?" and "Did you check with her daughter about her concerns?"

In addition, work in the clinic has allowed me to develop expertise in post-discharge and transitional care for high-risk patients, which will prove instrumental as hospitals move increasingly into risk bearing contracts with both private insurers and Medicare. I helped design and serve as the medical director of a pilot transitional care program, just funded for expansion by a five million dollar Innovations Grant through the Center for Medicare and Medicaid Innovation. In addition, as the practice transitions to a medical home model, I will likely help develop care management systems for the highest risk patients. This collaboration with the practice around high-risk patients would have been impossible without my experience in the clinic.

The clinic also provides a platform for educational endeavors, including an innovative 'Transitions in Care' elective for residents, developed in 2012 by my PDC colleague Anita Vanka. With support from a Rabkin Fellowship in Medical Education, she developed a unique 2-week intensive immersion into post-discharge care. Six participating residents spent 2 weeks with didactic lectures and post-acute care experiences; visiting post-acute care facilities, performing home visits with VNA nurses, and seeing patients in the PDC. They also performed root cause analyses on their own readmissions throughout residency. The elective will be offered to residents again next year, and certain elements, including the root cause analysis, may be incorporated into the didactic curriculum for all residents.

Finally, we are well situated to mentor medical residents about career choice, for house officers generally have to balance advice from PCPs or hospitalists, but rarely have the chance to speak with anyone who works in both venues. More of these educational opportunities will arise as hospitalists embrace the challenges of teaching about better transitions of care and the complementary roles played by inpatient and outpatient providers.

BACK TO THE FUTURE?

Reading through this essay might evoke a feeling of déjà vu. Is this just a re-emergence of the traditional model of primary care doctors seeing their own patients in the hospital? In truth, despite a superficial resemblance to comprehensive primary care, this model differs in that we provide no longitudinal care. We deliver specialized outpatient care—more analogous to a specialty model, whether in cardiology or rheumatology, than to primary care itself. Our visits are focused on the hospitalization and its aftermath, and take advantage of our concentrated familiarity with inpatient conditions, medications, and systems.

If patients are better off seeing a physician who sees patients both in the hospital and in the clinic, is this evidence that hospitalism has failed? I look at this more positively. Our experience provides some suggestions for how to improve hospitalist medicine. Although not all hospitalists will work outside of the hospital, especially as the field of inpatient medicine becomes increasingly more specialized, hospitalists will provide more patient-centered care if they maintain a bi-directional view, both into and out of the hospital. My hope is that the lessons learned from this type of clinic may inform how hospitalist medicine and primary care develop and mature over the next decade.

FUTURE DIRECTIONS

Post hospitalization clinics are becoming more prevalent throughout the country, as there is growing recognition of the need for close outpatient follow-up, and primary care access is often limited.[7,8] An oft-quoted study found that of Medicare patients readmitted to the hospital, only 50 % had an outpatient bill in the 30 days before readmission.[9] Whether the association between poor primary care follow-up and readmission is causal is not yet clear.[10] The next step in validating the worth of the PDC model is to determine whether discharge clinics and close outpatient follow-up can actually reduce readmission rates.

Until this question and others like it are answered, the PDC model remains an object of faith rather than science. Nonetheless, this clinical experience can be transformative for the individuals who practice in it. Broader implementation of this approach will require continued support of the primary stakeholders and careful recognition of the unique niche that this type of "outpatient hospitalism" occupies. How it grows and develops in the next few years will ultimately dictate how successfully the post-discharge clinic joins the vanguard of health care reform and large-scale practice change nationwide.

Acknowledgements: *I would like to acknowledge the dedication of my fellow discharge clinic providers, Anita Vanka, MD, Diane McNally, MD, Ank Nijhawan, MD and Roger Yu, MD. In addition, I would like to acknowledge the support of Russell Phillips, MD and Joseph Li, MD for supporting the creation of the clinic. Finally, I would like to acknowledge Kenneth Mukamal, MD for his editorial assistance in preparing this manuscript. I received an honorarium from Quantia MD for an online webinar on post-discharge care.*

Conflict of Interest: *Lauren Doctoroff received an honorarium from Quantia MD for an online webinar on post discharge care.*

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REFERENCES

1. **Kuo YF, Sharma G, Freeman JL, Goodwin JS.** Growth in the care of older patients by hospitalists in the United States. N Engl J Med. 2009;360(11):1102–1112.

2. **Glasheen JJ, Misky GJ, Reid MB, Harrison RA, Sharpe B, Auerbach A.** Career satisfaction and burnout in academic hospital medicine. Arch Intern Med. 2011;171(8):782–785.
3. **Berarducci AA, Delbanco TL, Rabkin MT.** The teaching hospital and primary care. Closing down the clinics. N Engl J Med. 1975;292(12):615–620.
4. **Mackie S.** Becoming a physician. The value of DNKs. N Engl J Med. 2010;362(17):1561.
5. **Gawande A.** The checklist: if something so simple can transform intensive care, what else can it do? New Yorker Dec. 2007;10:86–101.
6. **Haynes AB, Weiser TG, Berry WR, et al.** A surgical safety checklist to reduce morbidity and mortality in a global population. N Engl J Med. 2009;360(5):491–499.
7. **Reuben DB.** Physicians in supporting roles in chronic disease care: the CareMore model. J Am Geriatr Soc. 2011;59(1):158–160.
8. **Feder JL.** Predictive modeling and team care for high-need patients at HealthCare Partners. Health Aff (Millwood). 2011;30(3):416–418.
9. **Jencks SF, Williams MV, Coleman EA.** Rehospitalizations among patients in the Medicare fee-for-service program. N Engl J Med. 2009;360(14):1418–1428.
10. **Misky GJ, Wald HL, Coleman EA.** Post-hospitalization transitions: Examining the effects of timing of primary care provider follow-up. J Hosp Med. 2010;5(7):392–397.

APPENDIX: POST-DISCHARGE VISIT TEMPLATE

PCP:
Dates of recent hospitalization:
Reason for hospitalization:
History:
ROS:
PMH:
Physical:
Assessment/Plan:
Medication reconciliation
Outstanding test assessment
Key Follow-up:
_ PCP
_ Subspecialist referral
_ Other