INNOVATION AND IMPROVEMENT

Frontline Account: Targeting Hot Spotters in an Internal Medicine Residency Clinic

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BACKGROUND

Mr. B had been in and out of hospitals and emergency departments 17 times in the previous year. Over the same period, he had made four visits to our internal medicine residency practice, only one of which was with his primary care physician. He was consumed on a daily basis with the pain of chronic pancreatitis, tethered to oxygen for severe chronic obstructive pulmonary disease (COPD), and unable to escape the urges of alcohol dependence. Demeaning labels adhered to his chart like barnacles on a boat: “drug seeking,” “manipulative,” “non-compliant.” These labels made me apprehensive about the patient I was to meet.

Mr. B’s story is typical of those heard in internal medicine residency practices across the country. Trainees commonly care for patients with more complex chronic illnesses and lower socioeconomic status than the average physician.¹ The unique challenges of this outpatient training environment may have a negative influence on residents’ attitudes towards careers in general internal medicine.² In recent years, there have been numerous calls for transformation of internal medicine resident practices, which is necessary to address the primary care workforce shortage.³

Over a meal in the winter of 2011, two general internal medicine (GIM) residents at Johns Hopkins Bayview Medical Center reflected on their first year as primary care physicians. They shared feelings of inadequacy in attempting to care for their most challenging patients, but also realized they had accomplished some small successes worth celebrating. They identified with the unconventional work of Dr. Jeffrey Brenner as profiled in Atul Gawande’s *New Yorker* article “The Hotspotters,”⁴ finding that both dogged persistence and breaking the boundaries of clinic walls were necessary to impact high-risk patients.

GIM residents trained in the institution’s geriatric house call program were able to break those boundaries; they were encouraged to do additional house calls for their continuity clinic patients. By calling or visiting their patients who inconsistently attended clinic visits, they came to understand the patients’ unique stories, which were far deeper than their problem lists. During a home visit, one resident discovered that her patient was missing appointments not because of a lack of transportation, as her patient previously stated, but because her obesity and immobility confined her to a second-story bedroom. The home visit was a pivotal moment that shifted the patient’s goals of care to weight loss and addressing her fear related to a prior fall on the staircase. Through motivational interviewing, frequent follow-up phone calls, and visiting nurse services, the patient lost 60 pounds, enabling her to walk down her stairs and attend a clinic appointment for the first time in two years. Was it possible to provide this much support to every patient?

BAYVIEW PATIENT CONNECTION

Inspired by Dr. Brenner’s “hotspotting” strategy, the two residents thought they might be able to target their efforts on a select group of patients who needed them the most. They reviewed utilization patterns for Medicaid-Managed Care Organization patients in the Johns Hopkins Bayview GIM practice, and found that 30 % of this group accounted for 82 %

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of inpatient admissions and ED visits. They set out to improve care for these high-utilizing patients with a program called the “Bayview Patient Connection (BPC).” While reducing unnecessary hospital admissions was a goal of BPC, the residents also wanted to empower their GIM and categorical colleagues to feel confident and skillful—rather than overwhelmed—in caring for challenging patients.

Drawing from their personal experiences and review of the literature, they designed the BPC intervention, which included: 1) structured home visits to understand the psychosocial context of each patient’s illness, 2) restructured scheduling for these patients to improve provider continuity, 3) resident training in motivational interviewing, 4) monthly multidisciplinary case conferences, and 5) collaboration with nurse case managers (NCM). They gathered a third GIM resident, three other categorical residents, and faculty champions to lead the program and apply for an institutional grant. They recruited other professionals to participate in the multidisciplinary case conferences and precept home visits as volunteers. Since categorical residents do not have training in home visits outside of BPC, the BPC home visits were focused on understanding patients’ lives rather than clinical evaluation. Program costs included a part-time NCM salary and lunches for the case conferences. In July 2011, each of the 15 incoming interns was paired with a single high-utilizing patient whom interns came to describe as their “hotspotters.” Mr. B was one of these patients.

A week after I read his story on paper, he greeted me and my preceptor at his door for our first home visit. Over coffee at the kitchen table, he opened up to me about his wife and sons committing suicide, his inability to cope, and his struggle with drugs and alcohol. He shared his experience of multiple admissions for chronic pancreatitis and detox, hearing “the white coats” talk from the hallway about his behavior. “I have never really moved on,” he said as tears welled up in his eyes and mine.

Over the following months I saw him in the hospital more than in the clinic. Through repeated interactions between Mr. B, our nurse case manager, and myself, it became clear that he was abusing the opioids I was prescribing. I confronted him about this issue and learned the important lesson of saying “no” to a patient. With two case managers at my side we were able to get him into a methadone maintenance program. A few weeks later he called to thank me because he felt that our team had saved his life.

Ten out of the 15 BPC interns completed home visits with their “hotspotters,” despite the BPC patients being variably engaged and sometimes difficult to locate. The NCM provided a critical source of continuity and outreach by calling patients and visiting them in their homes, at times finding patients sleeping in their cars or panhandling on the

street. She built trust with disengaged patients, assisted residents in accessing resources, and tackled pivotal psychosocial issues together with patient and provider.

The residents leading BPC wanted to evaluate its impact on their training. They designed a semi-experimental study with 15 BPC intern-patient pairs as an intervention group and 23 junior and senior residents delivering “usual care” to matched high-utilizing Medicaid-MCO patients as a comparison group. They secured institutional review board (IRB) approval and an institutional small grant to hire a dedicated part-time NCM. At the end of the academic year, all residents were surveyed about their experience. Most interns thought that the intervention not only improved their ability to care for their high-utilizing patient (86 %), but also improved their ability to care for other patients on their panel not involved in the intervention (79 %). Every intern (100 %) who completed a home visit agreed that the experience was personally rewarding and permitted them to provide better care. BPC interns, compared to junior and senior residents delivering “usual care,” felt more strongly that they understood the role of a NCM (3.6 vs. 2.4 $p=0.01$) and could employ NCM help (3.5 vs. 2.3 $p=0.01$), as measured on a 5-point Likert scale. BPC interns also reported being better able to employ the help of social workers (3.7 vs. 3.0, $p=0.06$), to use systems to promote communication across specialties (3.0 vs. 2.7, $p=0.40$), and to access community resources (2.9 vs. 2.5, $p=0.28$), although these differences were not statistically significant between groups. BPC interns, during their first year in a new system, reported equal or greater confidence in systems-based practices compared to traditionally trained upper level residents.

The residents who worked on this project found it valuable for their leadership and career development. They presented findings at national meetings, attended primary care leadership conferences, and founded a chapter of Primary Care Progress (a nonprofit organization transforming care delivery and training) to engage the entire campus in innovation. Mr. B’s physician, now a senior resident who will become the program’s first ambulatory chief resident, is determined to shape the future of primary care:

When I reflect on my first conversation with Mr. B, I feel more strongly than ever that I need to do something to improve our current system of care. BPC allowed me the time and resources to understand how poorly the medical system had addressed his needs, and perhaps even harmed him, for so many years. My most important lesson from caring for Mr. B was that I am not a lone provider—I am part of a team.

KEY CHALLENGE AND NEXT STEPS

The most important challenge in the BPC experience has been the lack of a consistent multidisciplinary team.

Monthly case conferences involved participants based on availability, including the NCM, residents, faculty, social work, insurer-based case management, physical medicine and rehabilitation, pain management, nutrition, and whenever possible, the patient. While the multidisciplinary case conferences were intended to create a structure for longitudinal group problem-solving, they were often limited to a snapshot in time as most faculty and staff were unable to attend on a regular basis.

We are addressing this challenge through a unique opportunity afforded by a Center for Medicare and Medicaid Innovation (CMMI) grant to have consistent multidisciplinary teams care for our high-utilizing Medicaid patients. This system-wide initiative, the Johns Hopkins Community Health Partnership (J-CHiP),⁵ aims to reduce hospital utilization among high-risk patients. As part of this program, high-utilizing J-CHiP patients have a dedicated nurse case manager, community health worker, and behavioral health specialist. Resident leaders of BPC are excited to collaborate with faculty in planning for this campus-wide initiative. This resident-faculty collaboration has taken the lead in: 1) implementing the J-CHiP care delivery model in the resident practice and 2) developing a resident curriculum, based on the BPC framework, that complements J-CHiP's clinical model. All incoming interns are matched with a high-utilizing J-CHiP patient to develop skills in interprofessional collaboration with the J-CHiP team while providing enhanced primary care for their patient throughout their three years of residency. Many pieces of the original project, such as home visits and monthly multidisciplinary meetings, have been incorporated into the new resident curriculum. The process of resident engagement in designing and implementing BPC has transformed age-old frustrations with outpatient training into a sense of empowerment and personal investment in the future of primary care.

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