INNOVATION AND IMPROVEMENT

“Ms. B Changes Doctors”: Using a Comic and Patient Transition Packet to Engineer Patient-Oriented Clinic Handoffs (EPOCH)

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BACKGROUND: Few patient-centered interventions exist to improve year-end residency clinic handoffs.

AIM: Our purpose was to assess the impact of a patient-centered transition packet and comic on clinic handoff outcomes.

SETTING: The study was conducted at an academic medicine residency clinic.

PARTICIPANTS: Participants were patients undergoing resident clinic handoffs 2011–2013

PROGRAM DESCRIPTION: Two months before the 2012 handoff, patients received a “transition packet” incorporating patient-identified solutions (i.e., a new primary care provider (PCP) welcome letter with photo, certificate of recognition, and visit preparation tool). In 2013, a comic was incorporated to stress the importance of follow-up.

PROGRAM EVALUATION: Patients were interviewed by phone with response rates of 32 % in 2011, 43 % in 2012 and 36 % in 2013. Most patients who were interviewed were aware of the handoff post-packet (95 %). With the comic, more patients recalled receiving the packet (44 % 2012 vs. 64 % 2013, $p < 0.001$) and correctly identified their new PCP (77 % 2012 vs. 98 % 2013, $p < 0.001$). Among patients recalling the packet, most (70 % 2012; 65 % 2013) agreed it helped them establish rapport. Both years, fewer patients missed their first new PCP visit (43 % in 2011, 31 % in 2012 and 26 % in 2013, $p < 0.001$).

DISCUSSION: A patient-centered transition packet helped prepare patients for clinic handoffs. The comic was associated with increased packet recall and improved follow-up rates.

KEY WORDS: outpatient handoffs; sign-out; resident continuity clinic; year-end transfer; transitions of care; patient-centered care; patient safety. *J Gen Intern Med* 30(2):257–60

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INTRODUCTION

Annually, internal medicine (IM) residents graduate and hand-off many patients to another primary care provider (PCP) during the year-end clinic handoff.^{1,2} As a result of this hand-off, patients experience delayed care and poor outcomes, including missed test results, increased acute care utilization and missed screening opportunities.^{3,4} Patients will often miss visits during the handoff and not return for care.³ Obtaining the patient perspective has demonstrated that patients are not satisfied and face multiple barriers.^{5,6} Patients report frequent turnover, scheduling difficulties, problems with medication refills, missed test results, and difficulty establishing rapport with their new PCP.⁵ They are also frustrated when they are not notified about the handoff and have difficulty recalling their new PCP's name.^{5,6}

Although several studies in IM have demonstrated improved outcomes with clinic handoff interventions, few have focused on incorporating the patient perspective or assessing patient-centered outcomes to improve care.^{7–11} One intervention that educated departing residents on how to discuss the handoff with patients and employed a handoff notification letter increased patient satisfaction.¹¹ However, several intervention studies were not able to improve missed visits with the new PCP after the handoff, which may be due to patient factors.^{9,10} The Institute of Medicine and the Agency for Healthcare Research and Quality promote patient-centered care as a means of improving health care quality.^{12,13} Thus, incorporating patients' perspectives will be necessary to further improve clinic handoffs and create patient-centered care transitions.

In an earlier study, we interviewed patients undergoing clinic handoffs to solicit their suggestions for improvement.⁵ Patients reported that handoff notification, assistance with PCP identification, resident training in patient-centered hand-off techniques, and acknowledging patients for their role in resident education, help establishing rapport with their physician, and early visits with the new PCP after the handoff are important.⁵ The aim of this study was to incorporate these suggestions into a new patient-centered handoff process through a patient-centered transition packet and clinic handoff comic. After implementation, we sought to assess the impact

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of the patient-centered transition packet and comic on handoff outcomes.

SETTING AND PARTICIPANTS

This study occurred at a single, academic IM resident continuity clinic at the University of Chicago. Patients were recruited for this study from October 2011 to December 2013 after being listed as high risk on a sign-out by graduating residents in June 2011, 2012, and 2013. Residents were given suggested criteria to select high-risk patients.^{3,9,10} Approximately 30 IM residents per class have clinic at this site, supervised by faculty preceptors, consistent with Accreditation Council for Graduate Medical Education regulations.¹⁴ This study was approved by the University of Chicago Institutional Review Board.

PROGRAM DESCRIPTION

In 2011, we sent patients a handoff notification letter with the name of their old and new physician. However, to design a more patient-centered clinic handoff, we created a patient transition packet incorporating several patient-identified solutions. This packet included a goodbye letter from the departing resident that stated the resident's future plans. A welcome letter was added from the new resident with their picture, their name spelled phonetically, and personal information (i.e., hobbies) to help improve patient identification of their new PCP. The personal information was included to promote personal sharing, which patients suggested helped them establish rapport with their new physician.⁵ To acknowledge patients' roles in resident education, patients were sent a certificate of teaching recognition. A visit preparation tool to improve communication with the new PCP and help patients prepare for their first visit was created. The tool was formatted as a worksheet to prompt patients to discuss medication refills, outstanding test results, pressing questions and important personal information to promote personal sharing with their new PCP. Lastly, important information about the clinic was added to help educate patients on how to call the clinic to have ongoing clinical needs addressed. Prior to implementation, the transition packet was sent to five patient champions who volunteered to provide feedback by phone so the packet could be revised.

Resident information for the letters (i.e., hobbies) was collected from the residents by the investigators, and this information was electronically populated into the packets by clinic staff. After residents reviewed and revised their patient panel lists generated by clinic staff to ensure accuracy, clinic staff mailed the packets to all handoff patients in May 2012.

In 2013, a patient comic was created to draw attention to the packet, and to educate patients about the importance of going to their first appointment with their new PCP. The cartoon was

called, "Ms. B Changes Doctors." After drafting a script, we partnered with a comic artist (MKC) to create the patient comic (Fig. 1 & [online appendix](#)). Feedback on the comic was obtained from patient champions by telephone and incorporated. This comic was added to the transition packet in May 2013 and sent to all handoff patients using the same process. A postcard reminding patients to call the clinic for an appointment with their new PCP with two of the comic panels was mailed to the high-risk handoff patients in July 2013.

In addition to the transition packet and comic, we trained residents on patient-centered handoff techniques. Specifically, in 2012 and 2013, we adapted our resident education sessions with junior residents who would be assuming care of handoff patients to include patient-centered handoff strategies and patient perspectives.^{15,16} This was accomplished through an interactive video depicting a patient's experience with a poor clinic handoff and a pocket card listing patient-centered techniques to assume care.¹⁶ This education was only delivered to second-year residents who assume care of all the high-risk handoff patients.

PROGRAM EVALUATION

Sign-outs were collected in 2011, 2012 and 2013 to record the names and medical record numbers of high-risk handoff patients identified by residents.^{3,9,10} Departing residents and residents assuming care gave consent for their patients to be contacted to participate in interviews. High-risk patients were contacted by a trained research assistant by telephone and invited to participate during the post-handoff period (October 2011–December 2013). Patients were contacted at least two times to participate. Consent was obtained to record the conversation. Interviews were recorded and professionally transcribed using digital telephone audio recording.

Patients were interviewed using a semi-structured interview script adapted from our earlier work to ascertain the impact of the packet.⁵ Patients were asked to comment on the packet and

Figure 1. "Ms. B Changes Doctors" comic title panel. A patient comic, "Ms. B Changes Doctors," was created to educate patients about the year-end clinic handoff (full comic is in the [online appendix](#)). Comics were sent with a patient-centered transition packet several months before the transition.

comic, and on how helpful they were. Some interview questions were open-ended and others asked patients to rate their level of agreement to statements using a five-point Likert-type scale. Patients were also asked to name their old and new PCP, whether they were aware of the transition, and if they recalled receiving components of the packet and the comic. Patient outcomes (number of patients missing their first visit with their new PCP) were determined by performing chart review. Likert-type scale questions and outcomes were summarized descriptively, and compared using chi square tests and non-parametric tests of trend where appropriate, using STATA.¹⁷ A non-experimental time series design was used, as the 2011 cohort of patients (who did not receive the packet) served as a historical control group.

There were 323 high-risk handoff patients identified in 2011, 264 in 2012, and 293 in 2013. Interviews were conducted with 103 patients in 2011 (32 %, 103/323), 113 in 2012 (43 %, 113/264) and 106 in 2013 (36 %, 106/293). The majority of patients could not be reached (58 %, 186/323 in 2011; 37 %, 98/264 in 2012; and 35 %, 104/293 in 2013) and few patients declined to participate (5 %, 17/323 in 2011; 8 %, 21/264 in 2012; and 6 %, 18/293 in 2013). The majority of patients interviewed after the packet were aware of the handoff, and this increased with the comic (Table 1). This question was not asked in 2011 (pre-packet). Half of the patients interviewed in 2012 recalled receiving any part of the packet; however, this increased with the comic in 2013 (Table 1). The number of patients able to correctly identify their PCP increased significantly after the comic was added and there was a significant decrease in the percentage of the number of patients who missed the first visit with their new physician from pre-packet to post-packet (Table 1). There was no change in patient satisfaction (Table 1).

Out of the patients who recalled the packet and responded, the majority of them agreed (70 %, 19/27 in 2012 and 65 %, 45/69 in 2013) that the information helped them build a relationship with their new physician and prepare for their first visit with their new physician (70 %, 18/26 in 2012 and 67 %, 46/69 in 2013). Of those who recalled the comic during the

interview and responded, 87 % (26/30) thought it was helpful and 60 % (18/30) agreed it helped prepare them for the transition.

Overall, patient comments were positive. When asked about the welcome letter, one patient commented, “it gives the patient the chance to see and know something about the new doctor...” Another patient reported it “made her look forward to her first appointment.” When asked about the certificate of recognition, one patient stated, “it was cute and acknowledged me and made me feel appreciated,” while another patient reported, “it’s on my wall!” One patient said the comic, “was cute and it stood out: it’s what made me call in and make an appointment.” One patient thought the visit tool was “informative and helped me ask certain questions”, while another thought it was a “great opportunity for the new PCP to learn about me right away.”

Implementation of the packets and comic was feasible and performed using the standard clinic infrastructure. The only additional cost compared to sending the handoff letter, was the cost of printing the comic in color (\$0.13 per comic or about \$400 total for approximately 3,000 patients).

DISCUSSION

Overall, the patient-centered packet and comic were helpful to clinic handoff patients. Compared to previous interventions, this packet moves beyond a simple notification letter and incorporates patient-identified suggestions. We also created a novel patient education tool, a comic, to improve patient understanding of the handoff process.

Despite the benefits of the packet and comic, many patients still did not remember them or receive them. It is challenging to contact our urban high-risk population, and their addresses may have been incorrect. It is also possible health literacy was a factor. Despite confirming patient panels with the residents, it is possible they were not entirely accurate. Further efforts to correct contact information and accurately identify resident

Table 1.. Clinic Handoff Outcomes Before and After the Patient-Centered Transition Packet and Comic

Measure	2011 pre-packet, n=103 (%)	2012 post-packet, n=113 (%)	2013 post-packet and comic n=107 (%)	p value*
Patient Outcomes from Chart Review				
Missed first visit with new PCP after the handoff	139/323 (43)**	82/264 (31)**	76/293 (26)**	< 0.001
Patient-Reported Outcomes After Clinic Handoff				
Correctly named PCP after the handoff	84 (82)	87 (77)	105 (98)	< 0.001
Satisfied with communication between old and new doctor	79/99 (80)***	58/78 (74)***	67/84 (80)***	0.96
Satisfied overall with the clinic handoff	62/99 (63)***	66/97 (68)***	62/92 (67)***	0.48
Impact of Comic on Patient-Reported Awareness & Packet Recall				
Aware of the handoff	—	102 (90)	106 (99)	0.004
Recalled receiving part of transition packet	—	50 (44)	69 (64)	0.003

Patient outcomes from chart review were determined by performing chart review on all high-risk handoff patients. Patient-reported outcomes were obtained from patient interviews with a subset of high-risk handoff patients who participated in interviews

**p values were obtained using chi-square test and chi-squared trend analysis of proportions to compare handoff outcomes in 2011, 2012 and 2013*

***This data was determined by chart review of all high-risk patients identified by residents. Thus denominators include all high-risk patients*

****Due to patient non-response to these questions, denominators do not include all patients interviewed*

patients would be helpful. Giving the packets out at the last visit as well as mailing them could help. Also, few patients used the visit preparation tool. In the future, having this available in the waiting room may help utilization. Although this was not identified as a problem in our interviews, which were with English-speaking patients only, interpreting the materials in different languages would be important.

Although we saw an improvement in PCP naming, we did not see an improvement in satisfaction. However, our levels of satisfaction were high overall and higher at baseline than reported in earlier studies.¹¹ The fact we already implemented education for residents and a handoff protocol prior to our interviews may be responsible. It is also likely improving patient-centeredness and increasing satisfaction further will require more care coordination, such as incorporating nurse visits or more telephone calls. Creating handoff visits with both the old and new PCP present may also be effective. Lastly, it is also possible that frequent turnover is responsible, and increasing patient satisfaction will require transitioning patients to a more permanent PCP.

There were several limitations of our study. First, non-response bias may have influenced our results. We also did not interview handoff patients who were not high risk. This was also a single institution study, and thus may not be generalizable. Lastly, we cannot account for differences in our patient cohorts. We believe our results are acceptable because our sample is representative of other resident clinics, and in an earlier study, theme saturation was achieved by interviewing similar numbers of patients.⁵

In summary, a patient-centered transition packet and comic were effective and easily implemented into a resident clinic handoff. Further efforts to make handoffs in the outpatient setting patient-centered are crucial and should integrate these findings.

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Conflicts of Interest: The authors declare that they do not have any conflicts of interest.

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