

The Impact of Revised Discharge Instructions on Patient Satisfaction

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Heather Markey Waniga, RN, MSN¹, Travis Gerke, ScD²,
Alena Shoemaker, MD^{1,3}, Derek Bourgoine, MHA¹,
and Pracha Eamranond, MD, MPH^{1,4}

Abstract

Introduction: The impact of discharge instructions on a patient's experience is not fully understood. This research explored whether nurse- and physician-generated discharge instructions had a positive effect on patient perceptions regarding their discharge experience. **Methods:** We compared Press Ganey discharge-related patient satisfaction scores for the year prior to and the year subsequent to implementing revised discharge instructions for all patients admitted to a 180-bed community-based hospital. **Results:** Following the implementation of our revised discharge instructions, patient satisfaction significantly improved (84.7% vs 83%, $P < .01$). Patients responded that they felt ready for discharge (86.6% vs 84.9%, $P = .01$) and were satisfied with instructions for home care (87.8% vs 85.3%, $P < .01$). **Discussion:** This study finds that a novel discharge instruction set produced by both the nursing and physician staff may improve patient perceptions with the discharge process.

Keywords

patient satisfaction, discharge, discharge instructions, patient education, physician-generated discharge instructions

Introduction

The period of discharge from the hospital is one of the most vulnerable and complex times for a patient during their journey through the health-care continuum. Approximately 19% of patients have an adverse event postdischarge (1). Patients often experience anxiety, uncertainty, or a lack of understanding regarding discharge instructions, which may produce unnecessary telephone calls, contribute to hospital readmission rates, and impact the overall perception of the hospital experience. Unfortunately, the quality of discharge instructions can vary between the providers responsible for producing and educating patients about their hospitalization and postdischarge care.

Enhancing and standardizing provider-patient communication is a key factor in improving a patient's ability to comprehend discharge instructions and can ultimately improve the patient experience (2,3). Attesting to the importance of discharge instructions to improve the patient experience, the Centers for Medicare and Medicaid Services distributed guidelines to facilitate the standardization of instruction categories for patients prior to discharge (4). A variety of modalities exist to help patients understand discharge instructions, including videos, postdischarge telephone calls, and disease-specific education (5-7). Furthermore, written information explaining the postdischarge plan of care including symptom

management, follow-up recommendations, and medication use improves patients' ability to understand and comply with discharge instructions (8).

It is becoming a common practice for hospitals to evaluate a patient's satisfaction with their discharge process following a hospitalization (9). The Press Ganey Inpatient Survey was first developed in 1987 and then revised in 1997 to improve the accuracy of representation of a patient's experience (10). In 2007, 11 questions were removed from the standard question set to create a shorter patient survey that could still provide a highly reliable quality improvement tool. The revised survey consists of 10 reliable subscales (11), which include the domains of admission, room, meals, nurses, tests and treatments, visitors and family, physicians,

¹ Lawrence General Hospital, Lawrence, MA, USA

² Department of Cancer Epidemiology, Moffitt Cancer Center, Tampa, FL, USA

³ Greater Lawrence Family Health Center, Lawrence, MA, USA

⁴ Brigham and Women's Hospital, Harvard Medical School, Boston, MA, USA

Corresponding Author:

Heather Markey Waniga, RN, MSN, Lawrence General Hospital, 1 General Street, Lawrence, MA 01842, USA.

Email: heather.markey@lawrencegeneral.org



discharge, extent felt ready for discharge, speed of the discharge process, instructions about care at home, help arranging home care services, overall rating of the discharge process, personal issues, and overall assessment.

Patients' ratings of discharge instructions are positively correlated with overall satisfaction (11,12). However, patient ratings of discharge instructions at our hospital have not been improving in recent years. A discharge process analysis revealed that discharge instructions were generated and discussed with the patient primarily by nursing staff. We sought to determine whether revising patient instructions by directly incorporating both nursing and physician inputs might lead to improved patient satisfaction upon discharge from the hospital stay.

Methods

Overview

The data in this study represent our hospital's Press Ganey Inpatient Survey responses from September 20, 2011, to September 20, 2013. No responses were excluded. The study was undertaken at a 180-bed community-based hospital in Massachusetts, serving a predominantly Latino population. The study focused on data from the "Discharge" section of the Press Ganey Inpatient Survey. The responses of Hospital Consumer Assessment of Healthcare Providers and Systems were not included in this study as they were not readily available for the entire study period.

The Press Ganey Inpatient Survey is sent to all adult inpatients after discharge, excluding psychiatric patients. The response rate at the study hospital is 30%. The survey is sent in either English or Spanish, based on the patient's preferred language, which is indicated at the time of admission. If a patient indicates Spanish, he or she will receive the survey in Spanish. Patients indicating other languages other than Spanish receive the survey in English.

Intervention

The tool used to provide discharge instructions to patients upon discharge is comprised of both a nursing and a physician education tool, which is referred to as the transition record.

Several revisions of the nursing and physician transition record were based on the input from a multidisciplinary team and our patient and family advisory council. The goal of this team was to create an informative patient-centered tool that highlights components of the discharge instructions (see Supplement Appendix A and B). The transition record took several months to develop and was used in a pilot study on a medical-surgical floor for a few months prior to hospital-wide implementation. Once implemented, the discharge instructions are reviewed by the floor nurse and physician for every patient being discharged from the hospital. The transition record was available in both English and Spanish and was developed for reading at the fifth grade level, similar to other hospital documents prepared for patients.

Design

Patient satisfaction scores obtained from the Press Ganey database were compared from 1 year before to 1 year after implementation of the revised discharge instructions. There were approximately 1600 to 1900 patients per year, with sample size varying depending on the survey question (see Tables 1 and 2).

Each question on the Inpatient Survey asks the patient to rate their satisfaction, on a scale of 1 to 5 (1 being very poor, 5 being very good). Descriptive statistics are utilized to present the data, which often include a frequency of each rating, mean score for each item, and percentile ranking. Our study utilized aggregate percentile rankings to facilitate statistical comparison and analysis. We chose to evaluate only 1 year of data since other interventions were also implemented subsequently in an effort for continuous improvement of the hospital. We felt that the effect of the change in the transition record would be diluted in subsequent years, given our concurrent implementation of other interventions within this time period such as implementing an electronic discharge process. The postintervention period started the day after the revised discharge instructions were implemented.

The research team reviewed these items and hypothesized that the satisfaction scores relating to questions 1, 3, and 5 would be significantly improved by the revamped discharge process. The number of patients requiring home care was disproportionately low, and therefore, item number 4 was omitted. Once data were obtained for the year before and year after, as well as quarterly, to monitor for time trends, the data were analyzed using basic statistical comparison models including *t* tests and analysis of variance to determine whether there was a statistically significant improvement in patient satisfaction scores on the target items.

Results

Our analyses indicated that patient satisfaction scores for the overall discharge process improved postimplementation of the revised transition record (see Table 1 and Figure 1). Significant differences between pre- and posttransition record implementation included satisfaction with discharge overall (84.7% vs 83.0%, $P < .01$), extent patients felt ready for discharge (86.6% vs 84.9%, $P = .01$), and satisfaction with instructions for home care (87.8% vs 85.3%, $P < .01$). No significant differences were found between pre- or post-measures of satisfaction with nurses and physicians. Satisfaction scores did rise significantly from the second to fourth quarter following implementation (see Table 2 and Figure 2). The discharge instructions are positively associated with improved patient satisfaction.

Discussion

Our study found that revised discharge instructions are positively correlated with improved patient satisfaction upon discharge. Prior to conducting the study, we

Table 1. Aggregate % Press Ganey Scores the Year Before and the Year After Implementation of Revised Transition Record.

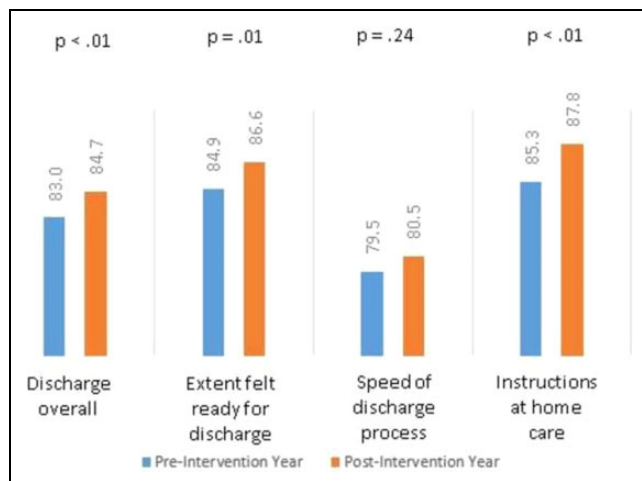
Questions	Year Before (September 2011-September 2012)			Year After (September 2012-September 2013)			T Statistic	P Value
	Mean	SD	N	Mean	SD	N		
Nurses kept you informed	87.8	18.6	1559	88.4	18.1	1783	-0.942050626	.346236631
Overall MD	85.5	18.3	1556	86.6	17.5	1797	-1.771320793	.076601484
Time MD spent with you	82.2	20.9	1534	83.2	20.5	1780	-1.38562142	.165958496
MD concern about questions/worries	85.3	19.7	1523	86.5	19.2	1762	-1.761591877	.078234086
MD kept you informed	84.1	21	1520	85.4	20.6	1760	-1.783593317	.074584812
Friendliness/courtesy of MD	88.3	18	1525	89.2	16.6	1767	-1.482786426	.138231903
Skill of MD	89.6	17.3	1486	90.4	16.4	1728	-1.338821462	.180727511
Discharge overall	83	18.7	1542	84.7	17.9	1774	-2.663440645	.007773305
Extent felt ready for discharge	84.9	19.9	1503	86.6	19	1742	-2.477826709	.013271001
Speed of discharge process	79.5	24.5	1513	80.5	24.1	1725	-1.167671615	.243027179
Instructions for home care	85.3	21.1	1437	87.8	18.5	1673	-3.485724316	.000498141
Overall assessment (of hospital)	88.4	16.7	1589	89.7	17.3	1850	-2.238415971	.025258606
Overall rating of care given	89.4	17.4	1559	90	18.1	1819	-0.980703973	.326809966

Abbreviations: SD, standard deviation; MD, Physician.

Table 2. Aggregate % Press Ganey Scores 4 Quarters Following Implementation.

Questions	October 2012 to December 2012			January 2013 to March 2013			April 2013 to June 2013			July 2013 to September 2013			ANOVA P Value
	Mean	SD	N	Mean	SD	N	Mean	SD	N	Mean	SD	N	
Nurses kept you informed	87.4	20	398	88.3	17.2	484	89.6	16.4	546	87.9	18.7	445	.027609203
Overall MD	85.9	18.4	400	85.6	18.3	484	88.3	15.2	549	86.2	17.5	454	.030708978
Time MD spent with you	81.9	21.6	400	83	21.2	476	84.4	18.8	545	83.1	20.3	449	.040086597
MD concern about questions/worries	86.1	19.8	395	85.3	20.1	470	88	17.7	539	85.9	18.7	447	.055332932
MD kept you informed	85.3	21	392	84.7	21	468	86.6	18.6	542	84.8	20.8	444	.064185045
Friendliness/courtesy of MD	88.3	17.4	397	88.1	17.1	472	90.9	14.7	541	88.8	17.1	445	.034666039
Skill of MD	89.7	17.8	390	89.5	16.4	459	92.1	14.4	532	89.7	16.7	435	.067877018
Discharge overall	82.6	20.9	405	84.5	16.4	473	86.9	15.3	542	84.7	18.4	444	.00266094
Extent felt ready for discharge	83.9	23.2	396	85.5	18.1	465	89.5	16	532	86.3	19.2	442	.000331894
Speed of discharge process	78.4	26.5	390	81	22.3	454	81.8	23.1	536	80.9	24.4	432	.40774385
Instructions for home care	86.6	20.6	374	87.1	18.7	441	89.6	15.9	527	88.6	18.5	417	.00085703
Overall assessment (of hospital)	88.3	18.3	414	89.7	17.4	503	91.1	16.5	564	89.6	15.9	460	.000497876
Overall rating of care given	88.5	19.6	406	90	18.1	494	91.4	17.2	558	90.3	16.1	452	.009378316

Abbreviations: ANOVA, analysis of variance; SD, standard deviation; MD, Physician.

**Figure 1.** Mean discharge scores by year.

hypothesized that, of the available discharge domains, patients would rate readiness for discharge and home care instructions higher, while the speed of discharge would not be improved.

The revised process required slightly more nurse and physician time. The findings from our study support our hypothesis that an improved discharge process can impact patient satisfaction. The times involving discharge (discharge overall, extent felt ready for discharge, and instructions for home care) showed statistically significant improvements (see Table 1). Although other nondischarge-specific satisfaction items including “nurses or physicians keeping you informed” had higher mean scores after intervention, these ratings were nonsignificant. We also found that patient satisfaction scores did not improve in the first quarter. This finding could be related to an initial lack of buy in to the new discharge process. However, by the end of the

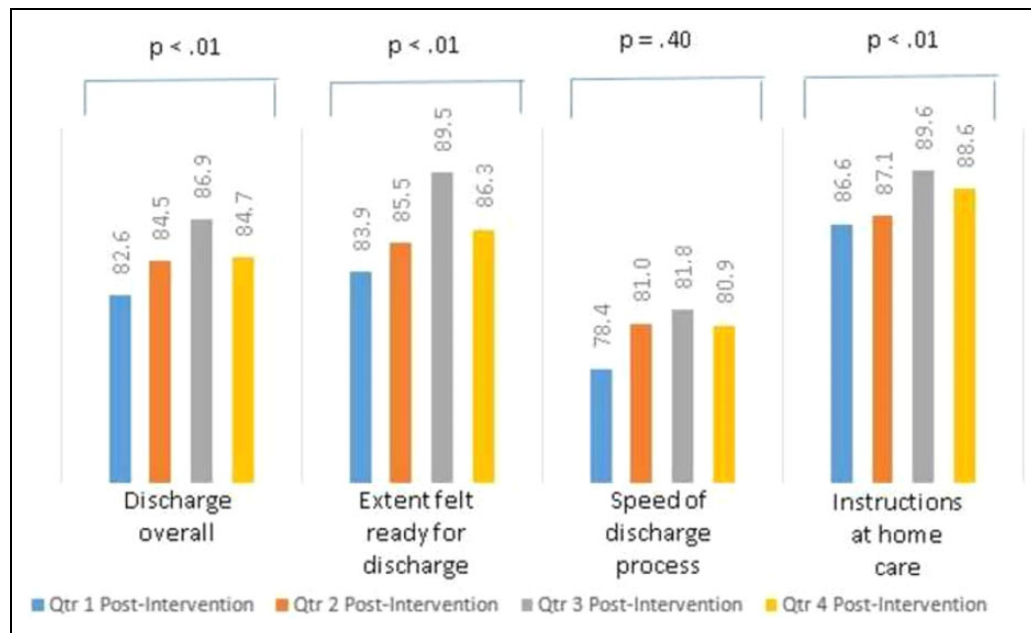


Figure 2. Mean discharge scores by quarter.

first quarter, the vast majority of physicians did end up adopting the transition record (>80%).

Limitations

There were several limitations to this study. Throughout the same year, we implemented the revised discharge instructions, and our facility was also implementing other interventions aimed at improving the patient experience. One intervention encompassed having a dedicated pharmacist performing medication reconciliation at the time of discharge for our medical home patients.

Furthermore, while this intervention focused on a small subset of high-risk patients (diabetes, heart failure, and/or chronic obstructive pulmonary disease), most of this population spoke only Spanish. Even though the survey was available in Spanish, this subset of patients was less likely to complete the Press Ganey survey. Therefore, our sample may not generalize to this population. This study was also limited by the fact that only 30% of patients returned the survey. This is consistent with the national average but is still very low. Therefore, we do not know whether these survey results represent the larger patient population admitted to our hospital.

Additionally, as our study was limited to our patient population at a community hospital in Massachusetts, these results may not generalize to other types of hospitals in areas outside the state. We also did not systematically involve family members or other patients' support, recognizing that they do constitute important resources for patients at the time of discharge. We wanted to focus specifically on the discharge instructions without combining other types of interventions. Finally, although the patient population served by the hospital traditionally has a low literacy rate, we could not meaningfully account for the effect this may have had on the patient experience.

Implications for Practice

Our research indicates that a standardized teaching tool targeting communication at discharge positively impacts patient satisfaction. The increased communication from nurses and physicians regarding reasons for admission, significance of tests done in the hospital, and importance of issues requiring follow-up after discharge may collectively help patients understand their care and improve their perception of the quality of care. While one reported downside of such increased communication is increased time required by health-care providers and patients, our data do not demonstrate that patients felt the discharge process took a longer amount of time.

In the future, studies could compare the impact different provider groups (Physician, Physician Assistant, and Nurse Practitioner) may have on the discharge process. The provider group, their experience (resident vs attending), and area of expertise (generalist vs specialist) may use various approaches and strategies when discharge instructions are provided. These differences may influence patient perceptions of both the information provided and the discharge experience, potentially impacting compliance with the instructions. The body of patient experience literature may also benefit from research that assesses how improved patient satisfaction relates to readmission rates, particularly for high-risk groups. Additional studies are needed to determine whether our results can be replicated in other types of hospitals across the country. This research may also “shed light” on the key factors involved with providing patients an optimal discharge process. Our study finds that discharge instructions optimized to educate the patient and/or family on key issues related to posthospitalization care are associated with improved patient satisfaction. Ensuring both nursing and physician staff play an active role in providing well-defined discharge instructions may improve the perception of care by patients.

Declaration of Conflicting Interests

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Supplemental Material

The online [appendices/data supplements/etc] are available at <http://jpx.sagepub.com/supplemental>

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Author Biographies

Heather Markey Waniga is the director of Hospitalist Program Operations at Lawrence General Hospital. Heather is a masters-prepared RN and certified Clinical Nurse Leader who is passionate about improving the quality and safety of patient care delivered by the care team at Lawrence General Hospital. Heather obtained her Bachelors Degree in Nursing at Endicott College and Masters Degree at Sacred Heart University. She is also an adjunct faculty member at Endicott College.

Travis Gerke, ScD, is an assistant member in the Department of Cancer Epidemiology at H. Lee Moffitt Cancer Center & Research Institute. His active line of research lies in integrative molecular cancer epidemiology, and is driven by concurrent interests in biostatistical methods development and computational biology. More broadly, Dr. Gerke collaborates as a methodologist on a variety of epidemiologic studies, which investigate various risk factors and health outcomes.

Alena Shoemaker is a family physician working in Lawrence, MA. Her clinical interests are in full spectrum primary care, obstetrics, and integrative medicine.

Derek Bourgoine currently works at Lawrence General Hospital as the Manager of Population Health Analytics. He has over 20 years of experience working as a team leader and programmer/analyst in the health care industry developing and implementing data warehouses, business intelligence (BI) tools, and analytical applications. Derek holds a Master's Degree in Health Care Administration from Clark University/UMASS Medical School in Worcester, MA and a Bachelor's Degree in Business Administration from the University of New Hampshire.

Pracha Eamranond is the senior vice president of Medical Affairs and Population Health at Lawrence General Hospital where he works to improve the experience of a largely underserved patient population in the Merrimack Valley in Massachusetts and Southern New Hampshire. Dr. Eamranond teaches at Harvard Medical School and sees patients as a hospitalist and primary care physician. Dr. Eamranond finished his internal medicine residency at Yale, and subsequently completed a research fellowship and Master's in Public Health at Harvard. In his leadership roles, he is responsible for developing interventions to provide patient-centered, evidence-based care as patients transition across the continuum of healthcare, including improving the patient experience across the network. As a whole, his above quality improvement, research, teaching, and clinical efforts are focused on improving the population health of disadvantaged populations.