

© Copyright by

Joshua Blackwell

May, 2017

IMPACT OF USING THE ELETRONIC HEALTH RECORD TO IMPROVE THE RATE OF DISCHARGE
COUNSELING IN A QUATERNARY ACADEMIC MEDICAL CENTER

by

JOSHUA BLACKWELL

A thesis submitted in partial fulfillment of
the requirement for the degree of

MASTER OF SCIENCE

IN

Pharmacy Leadership and Administration

University of Houston
College of Pharmacy

May 2017

To the Faculty of the University of Houston, College of Pharmacy:

The members of the committee appointed to examine the thesis of **Joshua Blackwell** find it satisfactory and recommend that it be accepted on **8th day of May 2017**.

David Wallace, PharmD – *Committee Co-Chair*

Divya Varkey, PharmD, MS – *Committee Co-Chair*

Ramsi Bethany Taylor, PharmD – *Committee Member*

Kimberly Putney, PharmD, MPH – *Committee Member*

F. Lamar Pritchard, PhD – *Dean of the College of Pharmacy*

Joshua Blackwell, PharmD
PGY2 Health System Pharmacy Administration Resident
CHI St. Luke's Health Baylor St. Luke's Medical Center
Houston, TX
joshuaablackwell@gmail.com

Divya Abraham Varkey, PharmD, MS
Associate Clinical Professor & Director of The Houston Program
University of Houston College of Pharmacy
Houston, TX
davarkey@uh.edu

Ramsi Bethany Taylor, PharmD
Clinical Pharmacist II, Professional Development and Policy Management
CHI St. Luke's Health Baylor St. Luke's Medical Center
Houston, TX
rbethany@stlukeshealth.org

Kimberly Putney, PharmD, MPH
Manager, Clinical Pharmacy, Policy, Research and Education
CHI St. Luke's Health Baylor St. Luke's Medical Center
Houston, TX
kputney@stlukeshealth.org

David Wallace, PharmD
Corresponding Author
Associate Clinical Professor
University of Houston College of Pharmacy
Houston, TX
dwallace@uh.edu

IMPACT OF USING THE ELETRONIC HEALTH RECORD TO IMPROVE THE RATE OF DISCHARGE
COUNSELING IN A QUATERNARY ACADEMIC MEDICAL CENTER

by

JOSHUA BLACKWELL

An abstract of thesis submitted in partial fulfillment of
the requirement for the degree of

MASTER OF SCIENCE

IN

Pharmacy Leadership and Administration

University of Houston
College of Pharmacy

May 2017

Abstract

Purpose. The impact of an electronic health record consult order used to increase the pharmacist-provided discharge counseling capture rate in a large, teaching institution are described.

Methods. A quasi-experimental quality improvement study was conducted in a large, academic medical center and included adult patients discharged from a nursing unit primarily treating heart failure. Patients were divided into two groups: control group (January 3 to April 2, 2016) – pre-implementation of consult order and intervention group (January 1 to April 1, 2017) – post implementation of consult order. During the intervention period, the nursing staff would enter a consult order notifying the pharmacist at least 24 hours prior to the patient's anticipated discharge date. The pharmacist prioritizes provision of discharge counseling to patients based on timing of discharge, if the patient is high risk for early readmission based on the LACE index score and if the patient continues or initiates anticoagulants or antibiotics. The number of discharge counseling sessions, consult orders entered and addressed, readmission rates and additional clinical interventions discovered during discharge counseling were evaluated to assess the impact of the consult order on the pharmacist-provided discharge counseling capture rate.

Results. The study included 816 patients with 404 in the control group and 412 in the intervention group. The rate of pharmacists performing discharge counseling significantly increased between the control and intervention groups, 4.7% to 39.8% respectively ($p < 0.0001$). Within the intervention group, the nursing staff entered a consult order for 146 patients and pharmacists addressed 74% of the consults. Sixty-one additional clinical interventions were discovered through discharge counseling including anticoagulation adjustments and therapy duplications. The consult order did not significantly reduce the 30-day readmission rate between the two groups ($p = 0.825$).

Conclusion. An electronic health record consult order to alert pharmacists of patients' anticipated discharge was associated with a significant improvement in the pharmacists-provided discharge counseling rate, including patients at high-risk for 30-day readmission.

Background

Approximately 20% of patients experience an adverse event within three weeks of discharge, of which 48% adverse drug events could have been prevented during the patient's hospitalization.¹ Furthermore, adverse drug events can prolong length of stay, escalate costs by \$1800 per admission and increase the odds of mortality.² Within Medicare patients, 19.6% are readmitted within 30 days and 34% are readmitted within 90 days, which can equate to over \$17 billion per year for unplanned hospital readmissions. In 2009, nearly 63% of Medicare patients were re-hospitalized or died within a year post discharge.³ As a result, the Centers of Medicare and Medicaid Services (CMS) decrease payments to hospitals with high rates of 30-day readmissions and publicly reports these readmission rates as a quality indicator. In order to improve the quality of patient care within institutions, a pharmacist-provided discharge counseling service has demonstrated several benefits including decreasing readmission rates, improving patient outcomes, and ultimately being used as a cost-saving mechanism for the hospital.⁴⁻¹¹ Discharge counseling has also been shown to improve patient's medication adherence post discharge.¹¹

Although the benefits of discharge counseling are well documented, there can be several barriers to pharmacist providing discharge counseling within the discharge planning process. Barriers of pharmacists performing discharge counseling may include discharge prescriptions not ordered or written in a timely manner, other workflow priorities such as training new pharmacists or covering additional units due to staffing gaps and language barriers which require translators. As weekends and evenings tend to have a fewer resources available, patients discharged during these time periods may not have pharmacists available to focus on

discharge counseling due to more urgent patient needs. Additional barriers to discharge counseling identified include the unawareness of the pharmacists' role within the discharge planning process, the timeliness of pharmacist notification of patients' discharge time, changing in patient prognosis resulting in prolonged discharge date, and time constraints and workload of healthcare professionals.^{12, 13}

CHI St. Luke's Health Baylor St. Luke's Medical Center (BSLMC) is an 850-licensed bed quaternary academic medical center with 24,575 admissions and has an average length of stay of 6.7 days.¹⁴ Current discharge planning practices within the institution include decentralized pharmacists attending multidisciplinary discharge rounds to discuss patients' status including expected discharge date. Pharmacists are expected to prioritize and counsel the following patients: patients with a LACE index score ≥ 9 or patients being discharged home on new antibiotics, antifungals, anticoagulants or high alert medications such as insulin. The LACE index score ranges from 1-19 and uses specific parameters (length of stay, patient's acuity on admission, comorbidities and emergency department visits within the last six months) to identify patients at high risk for readmissions or death within thirty days.¹⁵⁻¹⁷ After completing discharge counseling, the pharmacist documents within the clinical intervention section of electronic health record (EHR) and categorizes the intervention as brief discharge counseling or complex discharge counseling. Brief discharge counseling is defined as a session requiring fifteen minutes or less and/or having less than five medications to counsel the patient. A complex discharge counseling session requires more than fifteen minutes and/or having more than five medications to counsel the patient. Based on a previous departmental quality improvement project, pharmacists counseled 15-20% of patients discharged from the

institution; however, there were several barriers identified within the discharge planning process.

Although the decentralized pharmacists attend morning discharge rounds, this model does not provide the pharmacist full awareness of the patients being discharged or sufficient time to plan for the delivery of discharge counseling into their workflow. Furthermore, discharges are sporadic and discharge rounds may not include all patients scheduled to leave the hospital. Prior to this study, interdisciplinary communication was not always efficient or consistent throughout the discharge planning process. As a means to remove these barriers, this study aims to assess the impact of using the EHR to notify pharmacists 24-48 hours prior to patient discharge to increase the current capture rate of patients receiving discharge counseling.

Methods

Patient Selection

A quasi-experimental quality improvement study design was used to determine the impact of implementing a EHR discharge counseling consult order in a large academic medical center, patients were divided into two groups: control group (January 3 to April 2, 2016) – pre-implementation of consult order and intervention group (January 1 to April 1, 2017) – post implementation of consult order. Per the inclusion criteria, the cohort included adult patients categorized as inpatient and discharged on the specified nursing unit primarily servicing cardiovascular disease states such as heart failure exacerbation, COPD/asthma and diabetes. This nursing unit was chosen for the pilot because they had consistent discharge rounds primarily servicing heart failure patient population. Patients less than 18 years of age, classified

as outpatient or observation and discharged from other nursing units were excluded from the study.

Discharge Counseling Process

The discharge planning process was adjusted to reduce barriers and to assist pharmacists in providing patient discharge counseling (Figure 1). In the control group, pharmacists would attend multidisciplinary discharge rounds which include nursing, nutrition, case management and social work to discuss barriers to patients' discharge. Upon completion of discharge rounds, the pharmacists would perform discharge counseling focusing on those patients with a LACE index score ≥ 9 and/or receiving new antibiotics or new anticoagulants. Once patient discharge counseling was completed, the pharmacist would document the counseling within the clinical intervention portion of the EHR, which is only seen by the pharmacy department.

In the intervention group pharmacists still attended discharge rounds; however, the nursing staff would place a consult order for pharmacists to perform discharge counseling at least 24 hours prior to the patient's anticipated discharge date as part of the process. If the nurse found the patient anticipated discharge date needed to be changed, the nurse contacted the pharmacist and adjusted the consult order. The pharmacist addressed the consult order by placing the patient in a specified electronic patient list, accessible to all pharmacists, and performing discharge counseling based on the anticipated date of discharge and LACE index score. Upon completion of the discharge counseling, the pharmacist would enter a progress note within the patient's profile in the EHR indicating recommendations and the overall patient counseling. In comparison to the clinical intervention tool solely used and viewed by

pharmacists, the progress note is available for all healthcare professionals to view and use to further the care of patients. The progress note was copied into the internal pharmacy clinical intervention system within the electronic health record and the pharmacist added subsequent clinical interventions, such as duplication of therapy, anticoagulation monitoring and choice of agent, as appropriate.

Data Collection

A retrospective electronic medical record review was conducted to obtain the following information for each patient: LACE index score, length of stay, disposition, information regarding the consult order, discharge counseling completed, discharge subtype and 30-day readmission. Although published literature identifies patients with a LACE index score ≥ 10 having a high risk for readmission, our study defined a high-risk patient as one with a LACE score ≥ 9 . Patient disposition included home or home-health, skilled nursing (SNF) or long term care facilities (LTAC), against medical advice leaves, homeless and patient deaths. If the patient was expected to be discharged to an LTAC or SNF where medications are provided to the patient by a healthcare professional, pharmacists were not expected to provide discharge counseling. Information regarding consult order included the reason consult order was missed such as disposition or if the consult order was placed same day of discharge.

Outcome Measures

The composite primary endpoint included the rate per week of pharmacist-provided discharge counseling during the interventional study period and the rate per week of consult orders entered by nursing and addressed by pharmacists. Secondary endpoints include 30-day

readmission rates as well as the number of clinical interventions documented through the discharge counseling process.

Statistical Analysis

Statistical analysis was performed using SPSS statistical software, version 24 [International Business Machines Corporation (IBM), Armonk, NY]. Categorical variables were compared using the Pearson Chi-Square Test and continuous variables were compared using the student independent t-test. The Mann-Whitney *U* test was used for length of stay as the data was not normally distributed. Statistical analyses were performed using two-tailed tests. The priori level of significance was 0.05. All outcomes were dichotomous and thus compared between patients in the control and intervention groups using the Pearson Chi-Square test. Hazard ratios and 95% confidence intervals were calculated to quantify the association between the intervention and the outcome of 30-day readmissions.

Results

A total of 404 patients in the control group and 412 patients in the intervention group were included in the study. The two groups had similar baseline characteristics including average LACE index score, gender and age; however, average length of stay was higher in the control group compared in the intervention group ($p=0.013$). Overall, the study was comprised of 49.5% female, the mean age was 66 and the average length of stay was 6.8 days. Also between both groups, 84.7% of patients were discharged home, 47.2% of patients were Caucasian/White and 41.4% African American/Black (Table 1).

The study outcomes are summarized in Tables 2 and 3. The consult order within the EHR notifying pharmacists of patients' anticipated discharge significantly increased the

pharmacist-provided discharge counseling capture rate, including in patients with a high-risk of readmission. However, the impact on the intervention on 30-day readmission was not found to be statistically significant. The nursing staff entered consult orders for pharmacy to perform discharge counseling on 35.4% of patients in the intervention group and 74% of these consults were addressed. Out of the 252 high-risk patients in the intervention group, 34.9% of patients received a consult order with pharmacists addressing 78.4% of these orders.

When analyzing consultation complexity, 50.9% of pharmacist-provided discharge counseling took at least 30 minutes per patient. Through discharge counseling, pharmacists discovered 48 anticoagulation concerns such as unaddressed drug-drug interactions, over- or under-dosing and omissions. Additionally, pharmacists intervened on 13 medication therapy duplications on 10 patients during discharge counseling.

Discussion

The study evaluated the impact of using an EHR consult order to improve the pharmacist-provided discharge counseling capture rate. The consult order was associated with significant improvement of pharmacists providing discharge counseling, including patients at high-risk of readmission. However, the study found no significant reduction in all-cause readmissions.

Studies have shown more errors occur at discharge than admission (3.3 errors per patient versus 0.5 errors per patient, respectively), due to inadvertent loss of information and poor interdisciplinary communication.^{9, 10} Errors during transitions in care may lead to sentinel events and cause significant financial burden on both the hospital and the patient.^{2, 3} However, the integration of a pharmacist into the discharge planning process has demonstrated to have

positive effects on patient outcomes such as a reduction in all-cause 30-day readmission rates, medication adherence, prevention of adverse drug events, length of stay and mortality.⁵⁻¹⁰ Although the department recognizes these outcomes and the importance of improving transitions of care, pharmacists continued to experience several barriers identified in previous studies such as timeliness of notification of patients discharged and workload priorities.¹¹⁻¹² To our knowledge, this study is the first to evaluate the role an EHR consult order has in improving a pharmacist-provided discharge counseling capture rate.

This study had several limitations. Failure to observe statistical significance with 30-day readmissions may have been due to the relatively small sample size (Type II error), specifically in the intervention group. The short post-intervention period also makes the study vulnerable to regression to the mean (i.e., the observed effect of the intervention may have been falsely elevated due to the heightened awareness of discharge counseling but would have decreased had the study period continued). During both study periods, restructuring within the organization occurred which added to the workload of the pharmacy and nursing staff, though it was more pronounced during the post-intervention period. Pharmacists were responsible for providing clinical services and responding to emergent needs on 3-4 floors as compared to the anticipated 1-2 floors, which caused delay in completing consult orders. Similarly, the nursing staff also faced an increase in the nurse to patient ratio. While education regarding the consult order was provided to nursing staff on the unit, nurses who float between floors may not have been trained on the process which decreased the utilization of the consult order. Furthermore, the use of a pharmacy student during a few weeks within the intervention period may have biased the

observed results. However, this student only accounted for two of the four weeks where 100% of consults for high-risk patients were addressed.

Although the consult order had favorable results, there are concerns with sustainability of this intervention in the upheavals of healthcare. As drug expenditures continue to rise and productivity metrics continue to shift, hospital leaders are required to strategically utilize current labor resources while optimizing patient care. Nursing and pharmacy departments continue to adjust as resources are limited by consolidating positions; however, this causes more time-sensitive matters to be prioritized over discharge counseling or entering consult orders. The labor consolidation may explain the fluctuations within the pharmacist-provided discharge counseling (Figures 2-5). As patients may have more complex needs and drug regimens, almost 70% of pharmacist-provided discharge counseling lasted more than fifteen minutes for each patient which does not include the time for documentation. A current strategy pharmacy is pursuing to overcome some of the describe barriers is working with nursing to provide education to all nurses regarding the consult order and will expand the pilot cautiously to ensure process continuity.

Future studies are needed to assess the impact of using the EHR to improve the rate of pharmacist-provided discharge counseling. A consideration to improve interdisciplinary communication is the rate of provider views of pharmacist-entered progress notes; specifically, post-discharge notes used in ambulatory care settings. In order to determine the impact of an EHR consult order has on 30-day all-cause readmission rates, a longer study period in a powered study population is needed. As technology continues to advance healthcare practices,

studies using technology such as videoconferencing may be beneficial in regards to pharmacist-provided discharge counseling and transitions of care.

Conclusion

An EHR consult order to alert pharmacists of patients' anticipated discharge was associated with a significant improvement in the pharmacists-provided discharge counseling rate, including patients at high-risk for 30-day readmission.

References

1. Forster AJ, Murff HJ, Peterson JF, Gandhi TK, Bates BW, et. al. The incidence and severity of adverse events affecting patients after discharge from a hospital. *Ann Intern Med.* 2003;138:161-167.
2. Poudel DR, Acharya P, Ghimire S, Dhital R, and Bharati R. Burden of hospitalizations related to adverse drug events in the USA: a retrospective analysis from large inpatient database. *Pharmcoepidemiol Drug Saf.* 2017:1099-1557.
3. Jencks SF, Williams MV and Coleman EA. Rehospitalizations among patients in the medicare fee-for-service program. *N Engl J Med.* 2009;360:1418-28.
4. Kaboli P, Hoth A, McClimon B, and Schnipper J. Clinical Pharmacists and inpatient medical care. *Arch Intern Med Archives of Internal Medicine.* 2006;166(9):955-964.
5. Schnipper J, Kirwin J, Coutugno M, Wahlstrom S, Brown B, et. al. Role of pharmacist counseling in preventing adverse drug events after hospitalization. *Arch Intern Med Archives of Internal Medicine.* 2006;166(5):565-571.
6. Willford S and Johnson D. Impact of pharmacist counseling on medication knowledge and compliance. *Military Medicine.* 1995;160(11): 561-564.
7. Sarangarm, P., London, M., Snowden, S., Dilworth, T., Koselke, L., Sanchez, C., D'Angio, R., Ray, G. Impact of Pharmacist Discharge Medication Therapy Counseling and Disease State Education: Pharmacist Assisting at Routine Medical Discharge (Project PhARMD). *American Journal of Medical Quality.* 2012; 28(4), 292-300.
8. Zemaitis CT, Morris G, Cabie M, and Lee L. Reducing readmission at an academic medical center: results of a pharmacy-facilitated discharge counseling and medication reconciliation program. *Hosp Pharm.* 2016;51:468-473.
9. Still KL, Davis AK, Chilipko AA, Jenkoso A, and Norwood DK. Evaluation of a pharmacy-driven inpatient discharge counseling service: impact on 30-day readmission rates. *Consult Pharm.* 2013;28(12):775-85.
10. Walker PC, Bernstein ST, Tucker Jones JN, Piersma J, Kim HW, Regal RE, et al. Impact of a pharmacist-facilitated hospital discharge program: a quasi-experimental study. *Arch Intern Med.* 2009;169(21):2003-2010.
11. Walker SAN, Lo JK, Compani S, Ko E, Le MH, et. al. Identifying barriers to medication discharge counseling by pharmacists. *Can J Hosp Pharm.* 2014;67(3):203-12.
12. Leguelinel-Blache G, Dubois F, Bouvet S, Roux-Marson C, Arnaud F, Castelli C, et. al. Improving patient's primary medication adherence: the value of pharmaceutical counseling. *Medicine.* 94(41):e1805.
13. CHI St. Luke's Health Baylor St. Luke's Medical Center Data. FY2016.
14. Van Walraven C, Dhalla IA, Bell C, et. al. Derivation and validation of an index to predict early death or unplanned readmission after discharge from hospital to the community. *CMAJ.* 2010;182(6):551-557.

15. Wang H, Robinson RD, Johnson C, Zenarosa NR, Jayswal RD, et. al. Using the LACE index to predict hospital readmissions in congestive heart failure patients. *BMC Cardiovasc Disord.* 2014;14:97.
16. Grunier A, Dhalla IA, van Walraven C, Fischer HD, Camacho X, et. al. Unplanned readmissions after hospital discharge among patients identified as being at high risk for readmission using a validated predictive algorithm. *Open Med.* 2011;5(2):e104-11.

Table 1. Study Demographics

Property	Control Group (n=404)	Intervention Group (n=412)	p-value ^a
Mean ± SD age (range), yr	65 ± 16 (22-102)	67 ± 16 (20-99)	0.290
No. (%) female	199 (49.3)	205 (49.8)	0.886
Mean ± SD length of stay (range), yr	7.4 ± 7.3 (1-62)	6.2 ± 5.4 (1-56)	0.013 ^b
Mean ± SD LACE index score (range), yr	12 ± 5 (4-21)	12 ± 5 (3-21)	0.296
Ethnicities No. (%)			0.535
Caucasian/White	187 (46.3)	198 (48.1)	
African American/Black	164 (40.6)	174 (42.2)	
Asian	7 (1.7)	6 (1.5)	
Indian American/Alaskan Native	1 (0.2)	0	
Latino/Hispanic	0	0	
Other	45 (11.1)	34 (8.3)	
Disposition No. (%)			0.541
Home	344 (85.1)	347 (84.2)	
Skilled nursing facility or long term care facility	46 (11.4)	49 (11.9)	
Hospice	5 (1.2)	9 (2.2)	
Against medical advice	5 (1.2)	6 (1.5)	
Deceased	4 (1.0)	1 (0.2)	
Homeless	0	0	

^a Unless otherwise noted, Student's *t* test was used for continuous variables, and the Pearson chi-square test was used for categorical variables

^b Mann-Whitney test used

Table 2. Outcomes of Pharmacist-provided Discharge Counseling with or without EHR Consult Order

Outcome	Control Group (n=404)	Intervention Group (n=412)	p-value^a
Patients receiving pharmacist-discharge counseling			<0.0001
Number (%)	19 (4.7)	164 (39.8)	
Mean ± SD (range) patients discharge counseled per week	1.5 ± 1.9 (1-7)	12.6 ± 5.0 (1-21)	
Number (%) of consults ordered ^b	0	146 (35.4)	
Mean ± SD (range) of consults ordered per week ^b	0	11.2 ± 2.8	
Number (%) consults completed ^b	0	108 (74.0)	
Number (%) consults not completed due to disposition ^b	0	7 (4.8)	
Number (%) consults not completed due to delay in order entered (< 24 hours) ^b	0	28 (19.2)	
Number (%) consults not completed by pharmacy ^b	0	3 (2.1)	
Number of interventions from discharge counseling	19	226	<0.0001
Number (%) brief consultations	6 (31.6)	50 (22.1)	
Number (%) complex consultations	13 (68.4)	115 (50.9)	
Number (%) additional clinical interventions - anticoagulation ^b	0	48 (21.2)	
Number (%) additional clinical interventions - choice of agent/duplicate therapy ^b	0	13 (5.8)	
30-day readmissions			
Number (%)	61 (15.1)	62 (15.0)	0.984
Mean ± SD (range) per week	4.7 ± 2.2	4.8 ± 2.4	
Number (%) discharge counseled	3 (4.9)	24 (5.8)	

^a Unless otherwise noted, Student's *t* test was used for continuous variables, and the Pearson chi-square test was used for categorical variables

^b Outcome assessed for intervention group only

Table 3. Outcomes of Pharmacist-provided Discharge Counseling with or without EHR Consult Order in High-risk Patients

Outcome	Control Group (n=254)	Intervention Group (n=252)	p-value^a
Number (%) receiving pharmacist-discharge counseling	15 (5.9)	100 (39.7)	<0.0001
Mean ± SD (range) patients discharge counseled per week	1.2 ± 1.6 (0-5)	7.7 ± 4.3 (1-16)	
Number (%) of consults ordered ^b	0	88 (34.9)	
Mean ± SD (range) of consults ordered per week ^b	0	6.8 ± 2.4	
Number (%) consults completed ^b	0	69 (78.4)	
Number (%) consults not completed due to disposition ^b	0	3 (3.4)	
Number (%) consults not completed due to delay in order entered (< 24 hours) ^b	0	14 (15.9)	
Number (%) consults not completed by pharmacy ^b	0	2 (2.3)	
30-day readmissions of high-risk patients			
Number (%) amongst readmissions	47 (18.5)	50 (19.8)	0.825
Mean ± SD (range)	3.6 ± 1.6	3.8 ± 2.3	
Number (%) receiving pharmacist-discharge counseling	3 (1.2)	19 (7.5)	

^a Unless otherwise noted, Student's *t* test was used for continuous variables, and the Pearson chi-square test was used for categorical variables

^b Outcome assessed for intervention group only

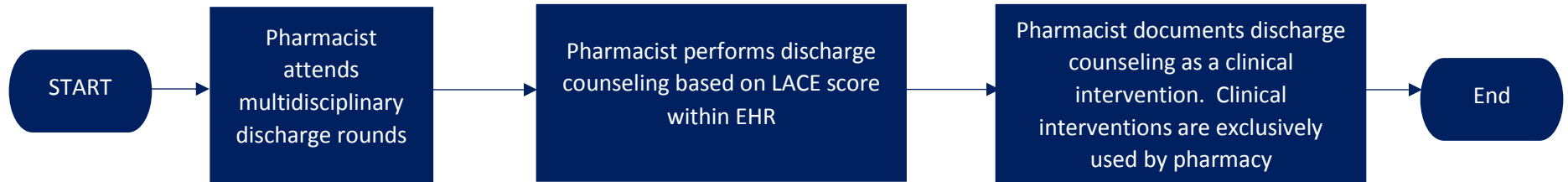
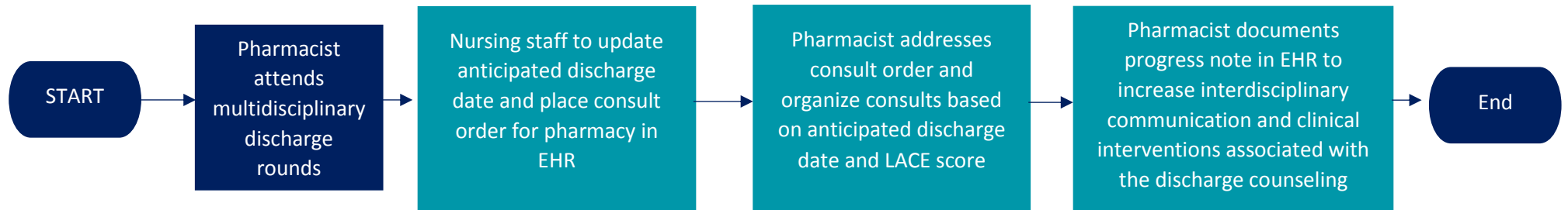
Figure 1. Discharge Counseling Process**Group A****Group B**

Figure 2. Patients Discharge Counseled

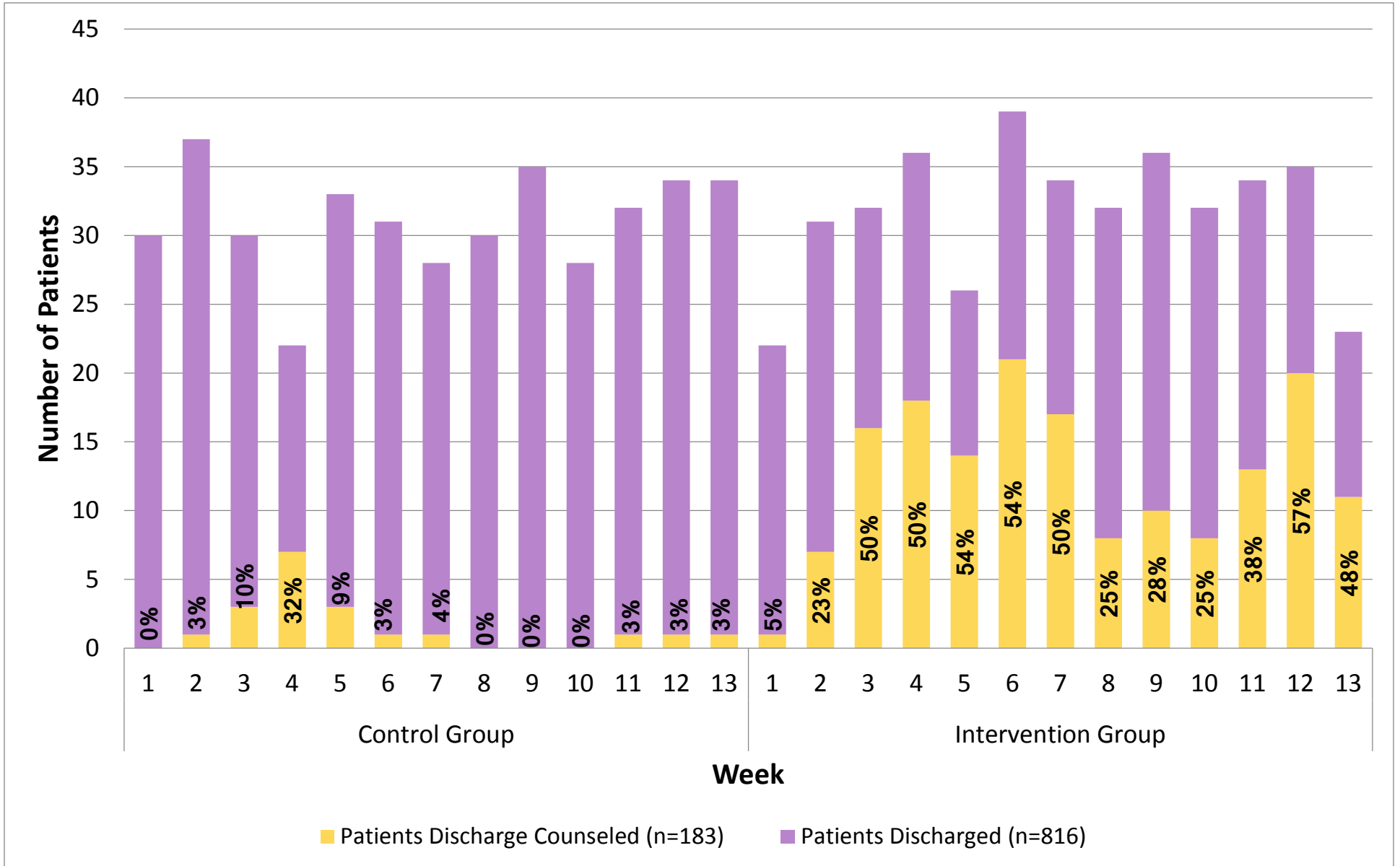


Figure 3. High-risk Patients Discharged Counseled

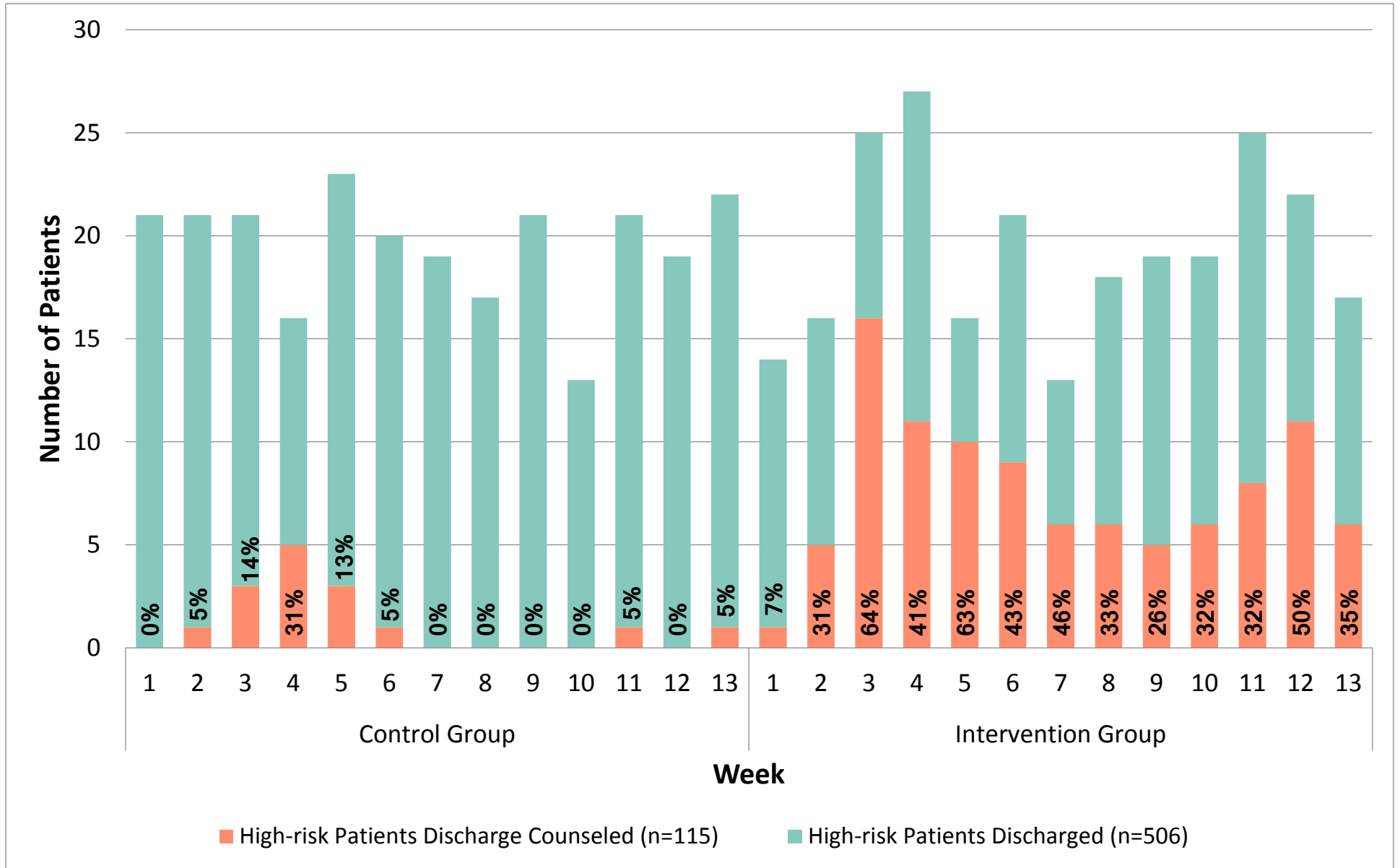


Figure 4. Completed Consult Orders in Intervention Group

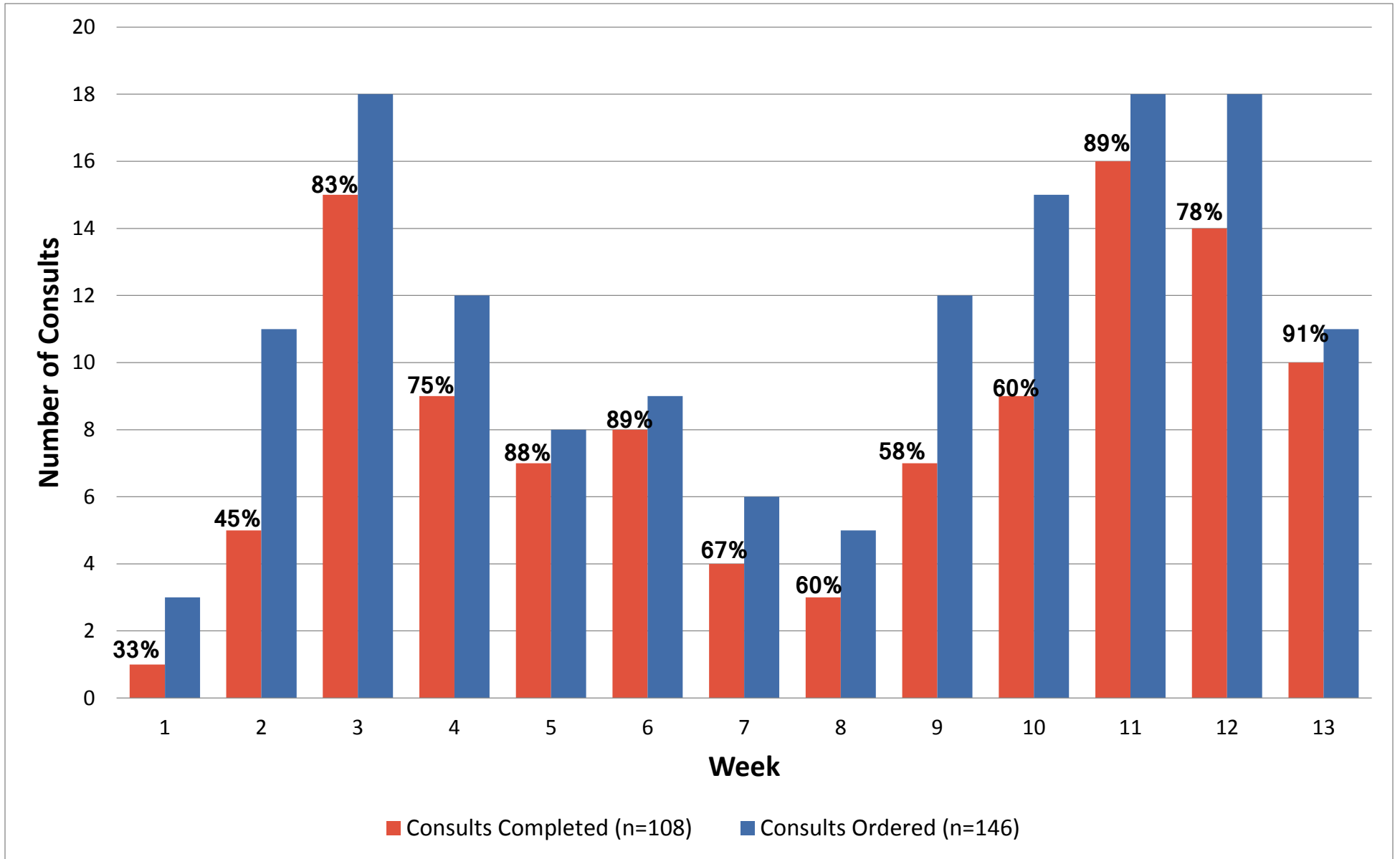


Figure 5. Completed Consult Orders for High Risk Patients in Intervention Group

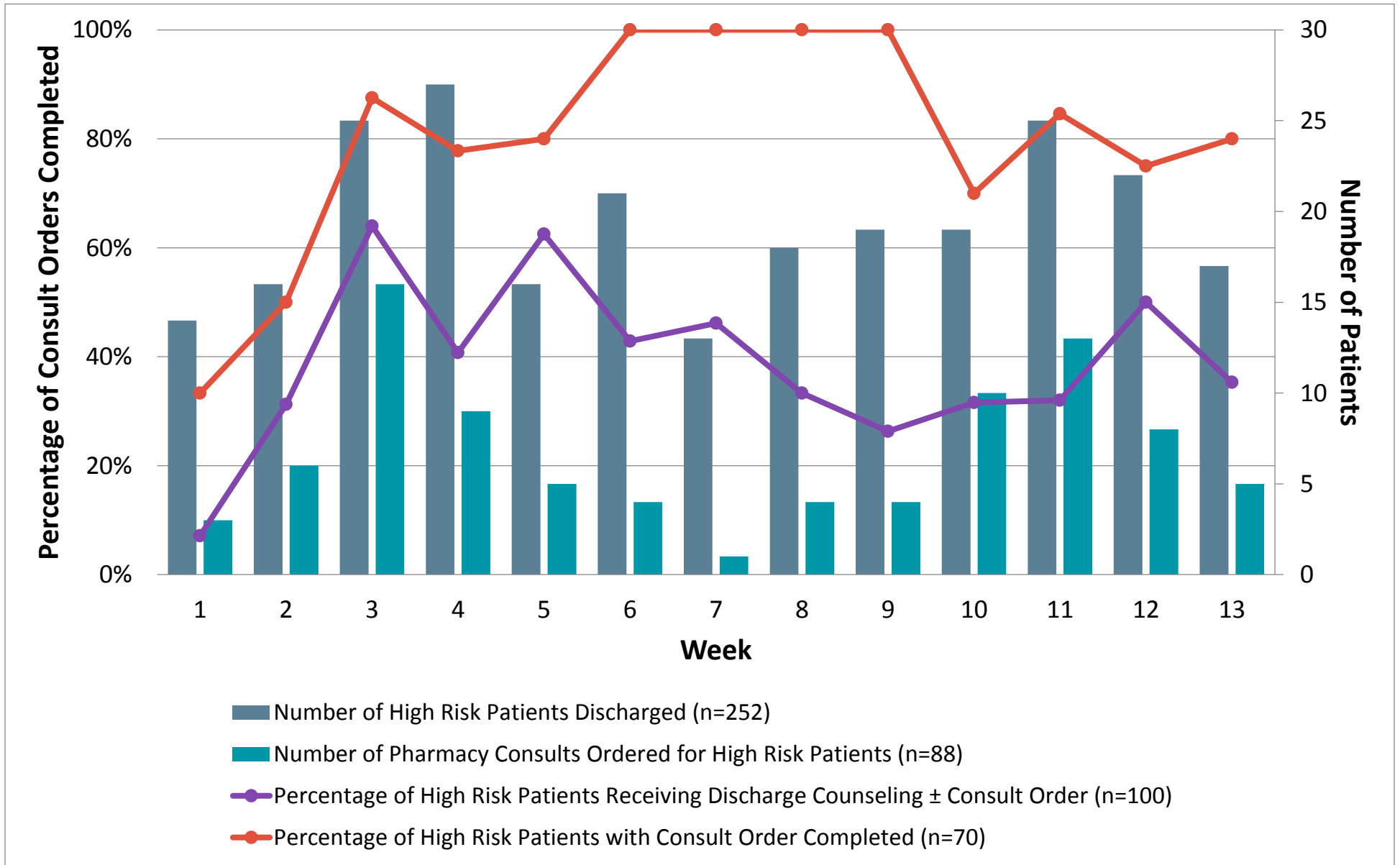


Figure 6. Readmission Rate

