

Optimal Time to Educate Cardiac Surgery Patients about Medications: A Pilot Study

Shaylee Peterson, B.Sc.Pharm; Sean Gorman, B.Sc.Pharm, ACPR, PharmD; Sarah Murray, B.Sc.Pharm, ACPR; Melissa McQuat, B.S.P, ACPR; Dawn Dalen, B.S.P, ACRP, PharmD; Richard S. Slavik, B.Sc.Pharm, ACPR, PharmD, FCSHP; Cathy Roberts, RN, M.Sc.N, ACNP, CCN(C); Carol Laberge, PhD, RN; Wayne Senner, MN, NP; Mia Chorney, MN, NP; Guy Fradet, MD, FRCSC

Background and Rationale

Background

- Cardiac surgery patients require individualized medication education
- Improved knowledge of medications is correlated with patient satisfaction
- Patients satisfied with medication information more likely to be adherent
- Clinical pharmacists provide medication education and counselling to patients during hospital stay
- Cardiac surgery clinical pharmacists across BC currently provide patient medication education at variable times during the patient's stay
- Cardiac surgery patients demonstrate elevated levels of anxiety and information overload on the day of hospital discharge
- Patients may prefer medication education earlier during hospital stay

Rationale

- No published studies addressing impact of timing of medication education on patient satisfaction
- It is not known whether it is feasible to conduct a large, multi-centre study evaluating the effect of medication education timing on patient satisfaction

Objectives

- To evaluate feasibility of conducting a large study to determine if the timing of medication education affects patient satisfaction and primary adherence
- To report preliminary outcomes associated with the timing of patient medication education during hospital stay

Methods

Design

- Quasi-experimental, 2 group post-test pilot study

Setting & Sampling

- Cardiac surgery inpatient unit (14 beds) at Kelowna General Hospital
- Consecutive sampling strategy from Nov. 17, 2014 – Mar. 26, 2015

Inclusion Criteria

- CABG ± Valve repair/replacement
- Receiving at least 2 cardiac medications (ACE-I/ARB, statin, BB, antiplatelet)
- Alert and oriented to person, place, time
- Patients discharged on weekday (phase 1)

Exclusion Criteria:

- Not responsible for managing their medications out of hospital
- Cannot be contacted or communicate via telephone in English
- Requests education by pharmacist at different time than study phase
- Not discharged within 5 days of pharmacist education

Methods (cont'd)

Pharmacist Interventions

- Phase 1:** Standard medication education (checklist) on day of discharge
- Phase 2:** Standard medication education (checklist) ≥ 2 days pre-discharge

Outcome Measures

- Feasibility**
- Recruitment rate (% patients screened who were enrolled)
 - Duration of pharmacist provided education (minutes)
 - Consistency of pharmacist provided education (# education points covered)
 - Loss to follow-up rate (% enrolled but not analyzed)
 - Telephone follow-up time requirements (minutes)

Patient Outcomes

- Satisfaction (% Modified SIMS >12; Total SIMS and SIMS Domains)
- Primary medication adherence (% adherence)
- Recall of pharmacist education (% recall)
- Preference for medication education at predetermined times (% preference)

Satisfaction with Information about Medicines (SIMS) Tool

- Validated 17 item questionnaire modified to 15 items for relevance
- Assesses satisfaction with amount of information received related to "Action & Usage" of medications and "Potential Problems" with medications
- Scoring based on patient's perception of amount of information received
 - About the right amount of information - 1 point
 - Too much information, Too little information - 0 points
 - No information received, No information needed - 0 points
- Satisfaction defined a priori as SIMS score > 12/15

Follow-up Procedures

- 10 minute telephone call 3-7 days post-discharge to assess:
 - Satisfaction using modified SIMS tool
 - Primary medication adherence (self-reported)
 - Recall of pharmacist education in hospital
 - Preference for timing of medication education

Statistical Analysis

- Demographics, feasibility, preference endpoints: descriptive statistics
- Satisfaction, adherence, recall endpoints: Fisher's Exact test (2-tailed; p<0.05)

Figure 1. Participant Flow Diagram

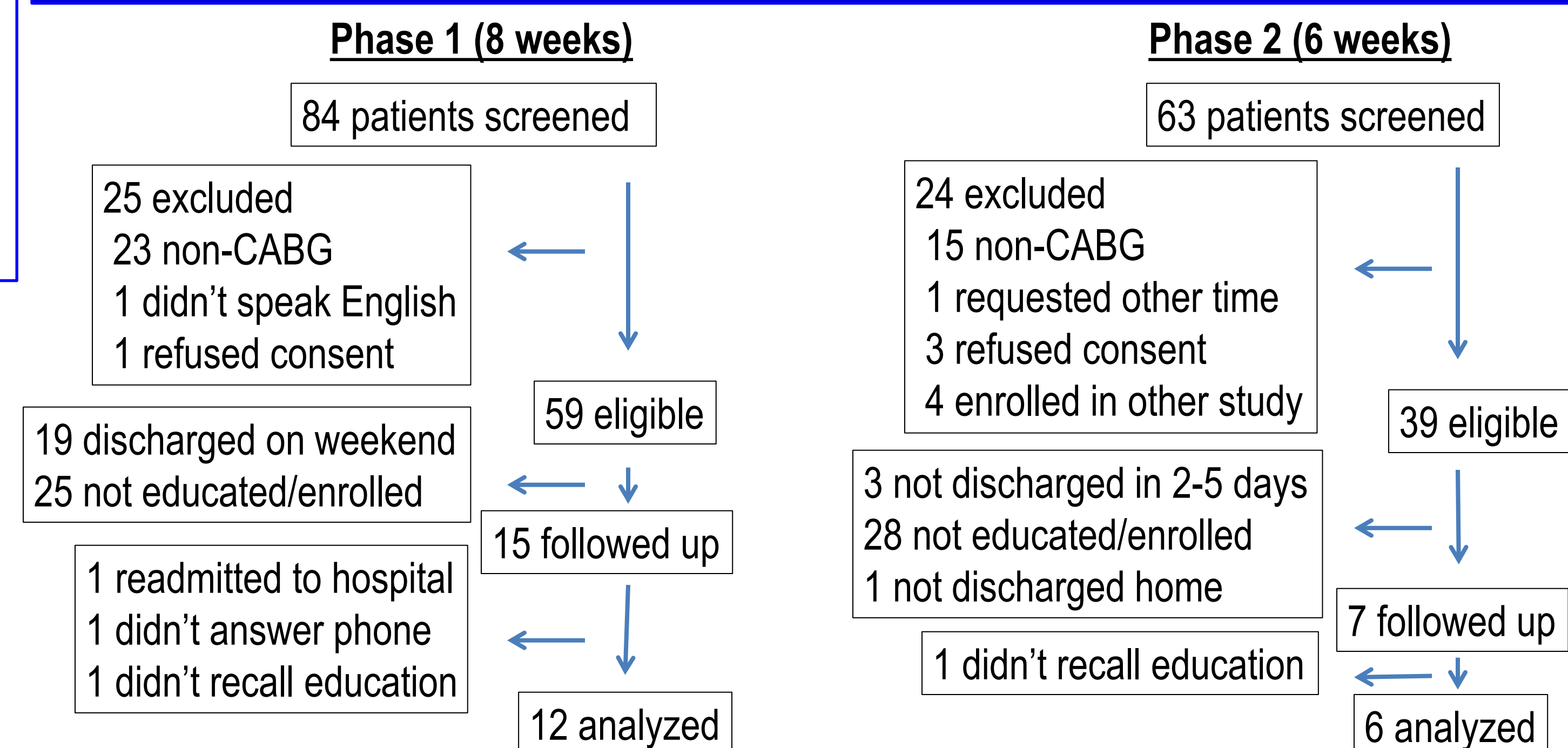


Table 1. Participant Demographics

Characteristic	Phase 1 (n=12)	Phase 2 (n=6)
Age (yr)	66 (60-71)*	61 (57-71)*
Male	9 (75%)	5 (83%)
Length of stay**	6 (5-7.8)*	6.5 (4.8-7.5)*
Medications		
Antiplatelet	12 (100%)	6 (100%)
Beta-blocker	11 (92%)	6 (100%)
Statin	12 (100%)	6 (100%)
ACE-I/ARB	9 (75%)	2 (33%)

*Median (IQR), **Post-op, † of all pts screened

Table 2. Feasibility Endpoints

Endpoint	Phase 1	Phase 2
Recruitment rate†	17.9%	11.1%
Duration of pharmacist education (mins)	10 (10-15.5)*	10 (10-15)*
Education points covered	12 (12-12.5)*	12.5 (12-13.8)*
Lost to follow up	20%	14.3%
Duration of telephone call (mins)	8.25 (7-10.4)*	9.5 (6-11.6)*

Figure 2. Outcome-Related Endpoints

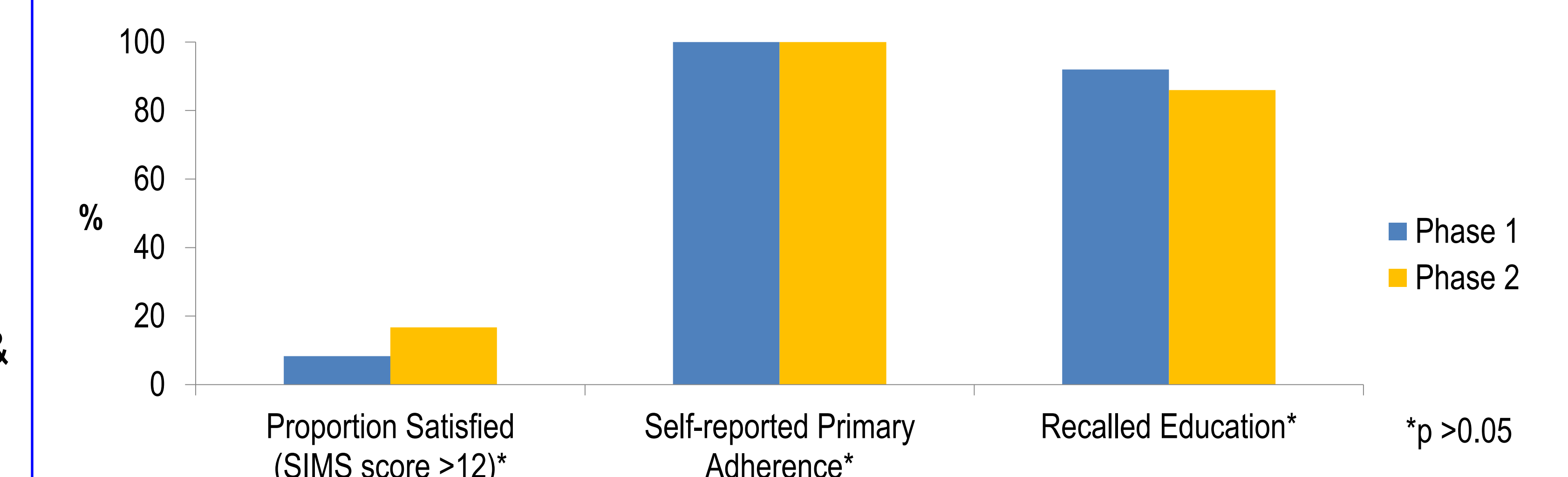


Figure 3. SIMS Domains

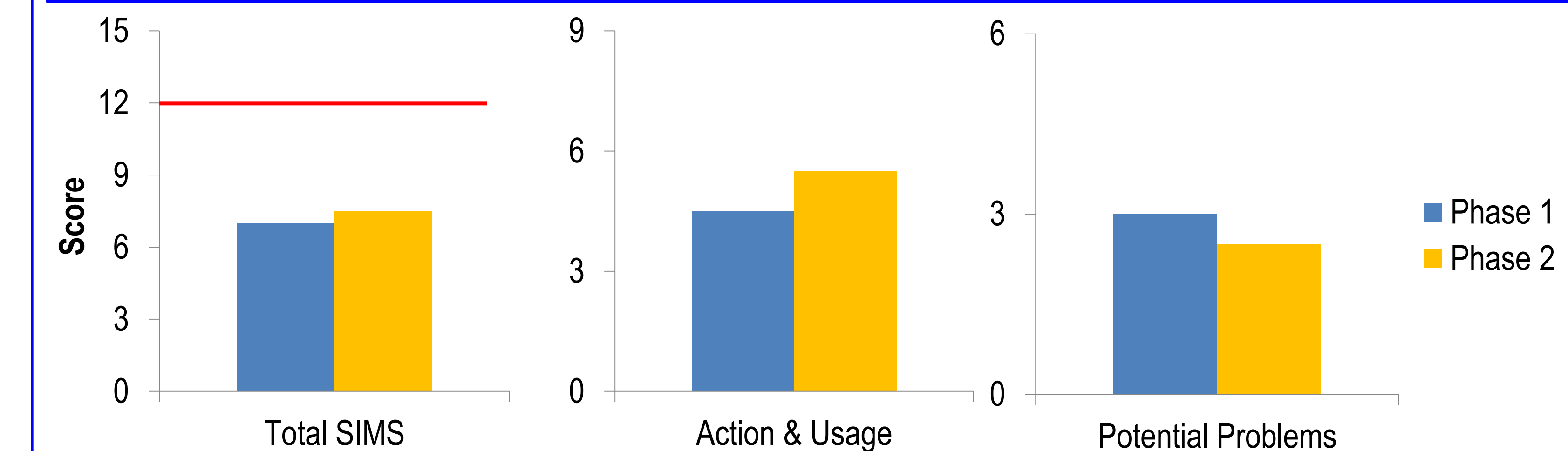
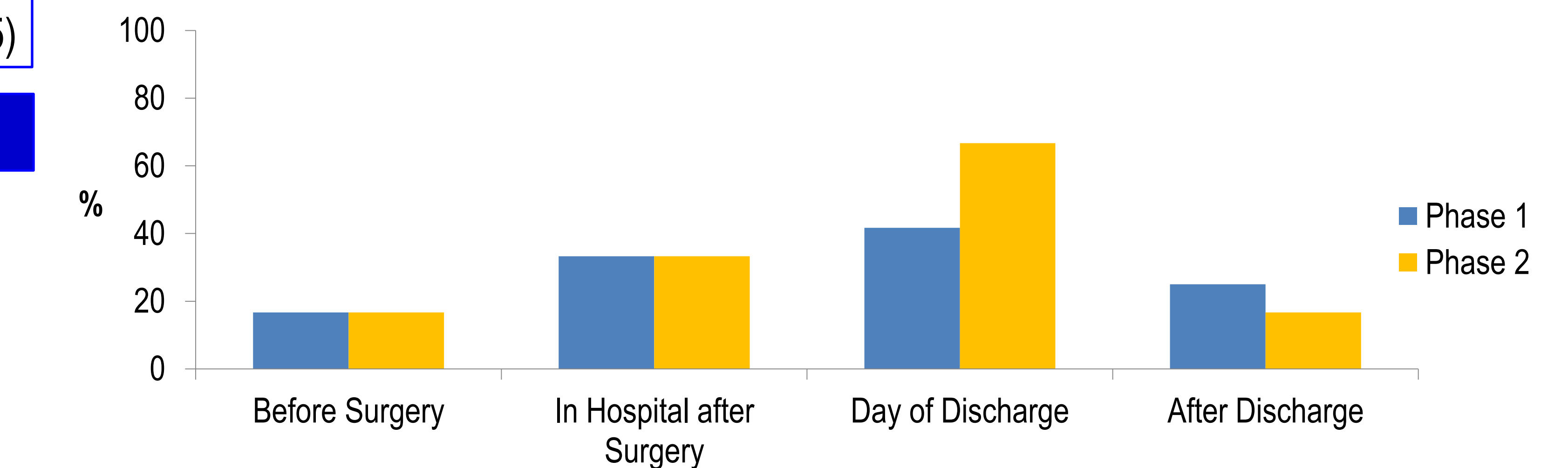


Figure 4. Patient Preference for Timing of Education



Conclusions

- Lower than anticipated recruitment rate
- Future large study is feasible, but requires additional resources
- Low overall satisfaction rates and no apparent differences with respect to timing
- High primary adherence rates were discordant with low satisfaction rates
- Patients may prefer education at time of discharge

