

# The Impact of Anticipated Discharge Dates Communicated by a Physician Assistant on Hospital Length of Stay After Major Head and Neck Surgery

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## PURPOSE

Patients undergoing major head and neck (H&N) surgery require multidisciplinary care; team communication is critical for timely discharges. On our otolaryngology ward, patient rooms contain whiteboards that are primarily used by nurses and families for communication. Display of a patient "anticipated discharge date" (ADD) may be a simple yet effective discharge tool.

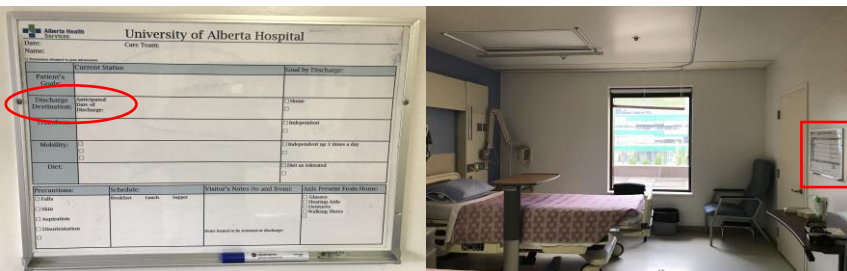


Figure 1. Shared room on otolaryngology ward (3D4) with hanging whiteboard.

## METHODS

Adult patients following H&N resection with free-flap reconstruction were included. Patients were block randomized into two groups: without an ADD (control) or with an ADD (intervention). The chief resident provided the physician assistant (PA) a targeted ADD for patients in the intervention group. Forty-eight hours prior to the ADD, the PA documented this ADD on the whiteboard and communicated it to the patient. The PA also provided discharge education to the ADD group that outlined: 1) home care needs, 2) prescriptions, 3) disposition, and 4) follow-up.

On the day of discharge, all patients completed a survey examining readiness for discharge. Nurses and allied health also completed a survey examining the protocol effectiveness.

The primary outcome of the study was hospital length of stay (LOS) after surgery. Secondary outcomes were: 1) 30-day re-admission, 2) patient subjective readiness for discharge and 3) staff satisfaction with the protocol.

A Shapiro-Wilk test for each variable was performed. For continuous variables, a t-test or Mann-Whitney-U test was performed, depending on normality. For categorical variables, a Fischer's exact test was used.

## RESULTS

Thirty-two post-operative patients were recruited between January – June 2018, and divided into 2 groups.

Control Group  
n = 16

Anticipated Discharge Date Group  
n = 16



## RESULTS

Table 1. Demographics and baseline parameters		Control group (n=16)	ADD group (n=16)	P-value
Gender	Men	13	14	1.00
	Women	3	2	
Age		61.4 (48-89)	55.7 (36-76)	0.21
Education level	Completed elementary / high school	11	7	0.26
	Completed post-secondary	4	7	
Living arrangement	Independent	15	15	1.00
	Assisted living	1	1	
Marital status	Single / divorced	9	7	0.71
	Married	6	8	
Tumour site	Oral Cavity or oropharynx	10	12	0.70
	Other	6	4	
Cancer staging	Early (Stage I-II)	6	5	0.68
	Advanced (Stage III-IV)	7	8	
Charleston Comorbidity Index	≤ 2	3	5	0.23
	≥ 3	13	11	

### Hospital Clinical Course

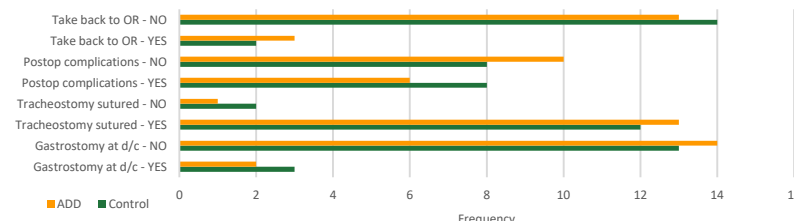


Figure 2. Categorical variables, differences between groups using Fischer exact test; Hospital Clinical Course.  $P > 0.05$  in all categories. Early take back to OR/reoperation required, occurrence of postoperative complications, tracheostomy stoma site sutured after decannulation, gastrostomy required at d/c due to dysphagia. OR = operating room. d/c = discharge

### Continuous Data

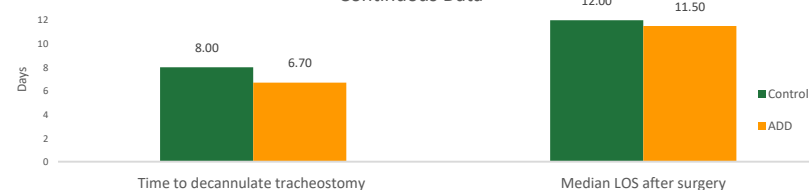


Figure 3. Continuous variables, differences between groups using Mann Whitney test; Continuous Data.  $P > 0.05$  in all variables. Number of days passed post-operatively to decannulate tracheostomy (n=28), median hospital length of stay following surgery. ADD = anticipated discharge date. LOS = length of stay

## RESULTS

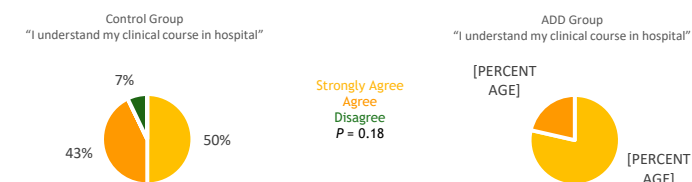


Figure 4. Percentage of patients comparing levels of (dis)agreement to subjective surveys at time of hospital discharge using Fischer exact test. Trend for significance,  $P = 0.18$ . Control group n = 14. ADD group n = 14. Colour corresponds to subjective level of agreement to the question: "I understand the medical and surgical events that occurred during my hospital stay."

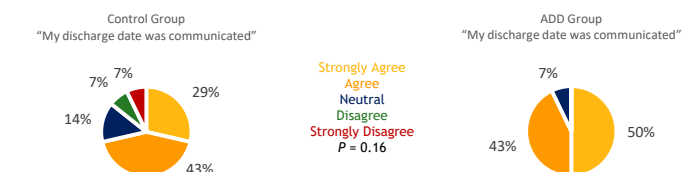


Figure 5. Percentage of patients comparing levels of (dis)agreement to subjective surveys at time of hospital discharge using Fischer exact test. Trend for significance,  $P = 0.16$ . Control group n = 14. ADD group n = 14. Colour corresponds to subjective level of agreement to the question: "My discharge date was adequately communicated to me."



Patient Mortality  
Control n = 0  
ADD n = 0



Hospital Readmissions  
Control n = 0  
ADD n = 0

Figure 6. Incidence of patient mortality during the study protocol (Jan – Jun 2018) and hospital readmissions within 30-days of discharge

Table 2. Staff survey results measured on a Likert scale (n = 12)	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
PA served as critical member of team in communicating ADD	5	5	1	0	1
PA served as critical member of team in discharge process	6	4	1	1	0
PA improved quality and efficiency of discharge process	4	6	1	0	0
ADD helped me in my practice	3	5	4	0	0

## DISCUSSION

Providing patients an ADD did not significantly reduce LOS following major H&N resection and reconstruction. Alberta Health Services has a targeted LOS of 14-days, with 57% meeting this target between July 2017 - June 2018. However, LOS was decreased by 1-1.5 days during this study; perhaps greater attention on discharge planning or the addition of a PA account for this.

Despite the majority of patients having advanced H&N cancer and considerable comorbidities, 30-day readmission rate was zero. The PA improved patient education, while 83% of staff agreed the PA serves as a critical member of the team in, and improves efficiency of, the discharge process.