

# Saturday switch: An intervention to improve physician satisfaction

Megan A Berman<sup>1\*</sup>, Pilar Acosta Lara<sup>2</sup>, Wayne Fischer<sup>3</sup> and Lindsay K Sonstein<sup>1</sup>

<sup>1</sup>Department of Internal Medicine, University of Texas Medical Branch, Galveston, Texas, USA

<sup>2</sup>Division of Pulmonary, Allergy, and Critical Care Medicine, University of Alabama at Birmingham, Birmingham, Alabama, USA

<sup>3</sup>Hospital Administration, University of Texas Medical Branch, Galveston, Texas, USA

## Abstract

**Introduction:** Data are sparse on interventions that impact internal medicine physicians' satisfaction while attending on teaching ward rotations. The authors hypothesized that changing the attending physicians' switch day when rotate on service from a Monday to Saturday would lead to improvements in physician satisfaction.

**Methods:** The authors conducted a quality improvement study in academic year 2012-2013 and followed up data in 2016, comparing physician's satisfaction with changing service on Saturdays versus Mondays. This study was conducted at a tertiary care teaching institution. Participants included 12 general internists initially and expanded to 24 internists during the study. Physician satisfaction was measured by pre- and post-intervention surveys.

**Outcomes:** Prior to the switch, 92% (11/12) of faculty felt rushed on the first day of service, compared to 10% (1/10) post-intervention ( $P < 0.001$ ). Assumption of care when coming on service, were believed to go smoothly by 33% (4/12) (pre-intervention) compared to 80% (8/10) (post-intervention) ( $P = 0.014$ ). There was improvement from 17% (2/12) to 70% (7/10) in those feeling that they had enough time to complete their clinical and administrative duties on the first three days of service ( $P = 0.005$ ). These positive satisfaction markers persisted and further improved at a 3-year follow up survey.

**Conclusion:** Changing service on Saturdays compared to Mondays resulted in a significant improvement in physician satisfaction among the surveyed academic internal medicine faculty. This may be considered on a more widespread basis with additional investigation related to its impact on quality of care.

## Introduction

Over the past decade, the extent of physician satisfaction has been well documented and known to significantly affect the lives and performance of physicians [1]. Burnout and satisfaction with work-life balance in US physicians has been worsening. From 2011 to 2014, more than half of US physicians are now experiencing professional burnout [2]. A variety of factors contribute to stress for teaching faculty at academic institutions, including increased patient complexity, expected clinical productivity, greater resident supervision, decreased resident availability due to work hour restrictions, and difficulty balancing personal and professional lives [3,4]. Low job satisfaction and subsequent burnout are associated with a decline in physician satisfaction and academic productivity [5]. Additionally, new published data highlights the association between end-of-rotation transition in care with resident physicians with significantly higher in-hospital mortality [6].

Despite the increasing rates of physician dissatisfaction, sparse data exist on various low-cost institutional interventions to address the problem. Academic medical centers have attempted to mitigate inpatient teaching faculty satisfaction by implementing reduced consecutive weeks on inpatient services while supervising house staff. Recent studies have found increased physician satisfaction with decreasing time from 4- to 2-week intervals [3,7]. There have been no studies to our knowledge investigating the impact on physician satisfaction of differences in the day of the week physicians change service.

The switch days for when academic teaching faculty rotate off service and transition care may vary among academic centers. Internal medicine faculty at the University of Texas Medical Branch (UTMB) in Galveston change inpatient service on Mondays. This may result in a perceived increase in stress of the faculty during the switch day due to other concomitant clinical and administrative responsibilities. Additionally, physicians rotating off service on Sunday continue to work the following day, which may contribute to physician fatigue and dissatisfaction.

Weekends may provide a better time for physician transition of care, as there are typically no other competing clinical or administrative duties. Additionally, while weekday inpatient admissions are generated from a variety of sources, weekend admissions are usually limited to the Emergency Department and outside hospital transfers. We hypothesized that changing the transition of care by attending physicians from a Monday to Saturday ("Saturday switch") would lead to improvements in physician satisfaction.

\*Correspondence to: Megan A Berman, 301 University Boulevard Galveston, Texas 77555-0566, USA, Tel: (409)772-7399; Fax: (409)772-6507; E-mail: maberman@utmb.edu

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## Methods

### Setting and Participants

This single-center study was conducted at UTMB in Galveston, which is a 460-bed tertiary care academic institution. We performed a pre- and post-intervention study comparing changes in faculty satisfaction when switching services on a Saturday versus a Monday. This was deemed a quality improvement project and exempted from needing approval per our institutional review board. The intervention began on July 28, 2012 and is ongoing. All patients admitted to the internal medicine service are admitted to a teaching service. There is no non-teaching or hospitalist service. The general internal medicine division consisted of 15 academic physicians in 2012 and has since expanded to 24 academic physicians, with majority of expansion in the 2015-2016 academic year. The physicians function as hospitalists while on inpatient service, and otherwise time is spent as primary care physicians in the outpatient setting. In both inpatient and outpatient duties, the administrative duties that varied among physicians remained unchanged. Different physician characteristics are described in Table 1. The hospital teams consist of one faculty, one resident, and two interns. Housestaff rotations are 4-weeks long; the residents change service on Wednesdays and interns switch on Mondays. The inpatient service for faculty is 2-weeks, however, the faculty are working in the clinic before and after their rotation, resulting in a total of 3 weeks of work without a day off. Each faculty is responsibility for covering only their own ward service on the weekend; there is no sharing of ward coverage among the faculty group. House staff are permitted days off during the weekend and frequently one house staff is off on each weekend day, leading to a smaller team. Average team census ranged from 12-16 patients and this has been consistent.

### Design

Beginning July 28, 2012 all general medicine faculty schedules were adjusted to start inpatient services on Saturday. An 8-item, five-point Likert scale questionnaire was created and distributed to the general internal medicine faculty who attend on teaching ward services in-person and by email before and after the Saturday switch. This survey was then repeated three years later to assess for sustainability of the change. The survey was anonymous to maintain blinding of the investigators. The survey consisted of questions regarding physician perceptions of the following domains: stress, fatigue, efficiency, and quality of care. Participants could provide additional comments at the end of the survey. Surveys were administered prior to the intervention in June 2012, after implementation in April 2013, and again in December 2016 to assess sustainability. Open comments were permitted on each survey and were also analyzed.

### Outcomes

Our primary outcome was physician satisfaction with the Saturday switch. Survey results were analyzed using a two-proportion test

**Table 1.** Characteristics of General Internal Medicine Faculty.

Characteristics of General Internal Medicine Faculty (n=24)	
Median age	38
% Female	46%
Years in clinical practice (median)	7
Total clinical full time equivalent	14.07
Mean clinical full time equivalent	0.52
% Assistant Professor	75%
% Associate Professor	17%
% Full Professor	8%

with probabilities calculated using the Fisher's exact test. The survey response rate was 100% (12 of 12 responses) pre-intervention, 83% (10 of 12 responses) in the initial post-intervention, and 60% (14 of 24 responses) in the sustainability arm. There was a statistically significant improvement in physician satisfaction among the internal medicine faculty after the Saturday switch. Prior to the intervention, 8% (1 of 12) of the internal medicine faculty did not feel rushed on the first day of service, compared to 90% (9 of 10) post-intervention ( $P<0.001$ ). Transition of care, or physician assumption of care when coming on service, were felt to go smoothly by 33% (4 of 12) of the faculty prior to intervention compared to 80% (8 of 10) post-intervention ( $P=0.04$ ). There was an improvement from 17% (2 of 12) to 70% (7 of 10) of the faculty who felt that they had enough time to complete their clinical and administrative duties on the first three days of service ( $P=0.03$ ). Complete analysis of the survey responses are summarized in Table 2. A follow up survey was administered 3 years later to document sustainability. The results demonstrate additional improvements in physician fatigue and perceived quality of care. Pre-intervention data revealed that only 8% (1 of 12) of faculty felt rested in the transition from wards to clinic responsibilities, and this increased to 30% (3 of 10) immediately post-intervention. The 3-year sustainability survey showed this had increased to 71% (10 of 14) ( $P=0.045$ ). Faculty also felt that changing service on a Saturday allowed them more time to learn their new patients. The initial survey demonstrated 25% (3 of 12) of faculty felt they had enough time to learn patients, which increased to 40% (4 of 10) post-intervention, and increased further up to 93% (13 of 14) ( $P=0.005$ ) 3 years later. Survey comments mirrored the aforementioned results; these included an overall increase in satisfaction and feeling more rested upon completion of their ward service prior to resuming their usual clinical and administrative activities.

### Conclusion

Our study utilized a simple, cost-neutral intervention that improved physician satisfaction. Physicians are a limited resource, and there is a growing shortage of the US physician workforce throughout the United States [8]. Physician stress and burnout are complex and increasing; 14% of physicians surveyed have left a practice citing stress or burnout as the primary motivator [1]. Changing service on a Saturday improved physician satisfaction compared to starting on a Monday. Overall, the two most impactful effects this Saturday switch had on physician satisfaction were the ability to have more time to learn their patients on their initial day of service, because it is a "less active" hospital day, and the two days off after working on inpatient service. Having the days off after finishing the 2-week inpatient rotation, instead of the weekend off before starting the service, was the most commented upon benefit of the switch with greatest feeling of rest. Despite working the same number of days, respondents reported improvements in stress, fatigue, and the feeling of being rushed after the intervention. Faculty felt that transitions of care and perceived the quality of care were improved.

There are potential confounders that can affect satisfaction while on service that were not measured, such as patient complexity, patient turnover, and better or more senior residents. Since faculty comments were overall positive after several rotations and on the sustainability surveys, it is not likely that these variations impacted overall satisfaction on day of service change. This intervention performed on teaching services did not measure the effect on resident satisfaction, although would have been of interest to know. The small faculty sample size from this single-center study is another potential limitation. Although there are a multitude of services at our institution, other subspecialty services alternate weekend coverage among all those in their call pool, so were not included in the intervention.

**Table 2.** Physician satisfaction survey results.

Item	pre (n=12)	post (n=10)	post-pre (95% CI)	P (post-pre)	Sustainability (n=14)	P (post-sustain)
1. Transitions of care go smoothly when starting on service.	4 <sup>b</sup>	8 <sup>b</sup>	0.47 (.10 to .83)	0.04	10	0.62
2. I do not feel rushed on the first day of service.	1	9	0.82 (0.57 to 0.99)	<0.001	13	0.80
3. I do not feel overwhelmed on the first day on a new service.	5	5	0.08 (-0.33 to 0.50)	1.00	8	0.73
4. I feel rested in transition of services after being on wards.	1	3	0.22(-0.11 to 0.54)	0.29	10	0.05
5. I have enough time to complete all my clinical and administrative duties during the first 3 days of service.	2	7	0.53 (0.18 to 0.89)	0.027	8	0.52
6. House staff officers are familiar with the patients on my first day of a new service.	3	6	0.35 (-0.04 to 0.74)	0.19	11	0.32
7. I have sufficient time to learn my patients handed off to me on the first day of a new service.	3	4	0.15 (-0.23 to 0.54)	0.65	13	0.005
8. I feel confident discharging patients on the first day of service.	2	3	0.13 (-0.22 to 0.49)	0.62	5	0.77

<sup>a</sup>Number of respondents (denominator)  
<sup>b</sup>Number of positive responses = Strongly Agree+Agree (numerator)

## Discussion

We studied the effect of a different attending service switch day (weekend) compared to a traditional Monday switch day demonstrating improvements in physician satisfaction. This simple intervention improved the perception of quality of care and physicians felt less fatigued. Given the success with physician satisfaction demonstrated in this study, use of the Saturday switch may be considered on a more widespread basis. In light of the proliferation of reports on physician workplace satisfaction, the importance of such improvements aimed at physician morale should not be underestimated [9]. Additionally, one may hypothesize that the increase in faculty overlap from housestaff switch day, and therefore, increased continuity of care, could decrease the effects of hospitalized patient mortality already shown to be associated with end-of-rotation resident transition of care [6]. At a time when our health care system is ever-changing, creating simple solutions to help improve physician satisfaction will hopefully translate to improved patient satisfaction and better patient care [10].

## Conflict of interest

All authors have no conflicts of interest to disclose.

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