Self-scheduling for hospital nurses: an attempt and its difficulties

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Aim To describe a pilot project on self-scheduling (self-rostering) for hospital nurses and assess its potential values and difficulties in implementation.
Background Self-scheduling is one aspect of the effort to make the hospital nursing environment more accommodative of nurses' lives. It is part of the good employment practices that nurses want and that can help recruitment, retention and – possibly – patient care.
Method A self-scheduling programme was implemented on one nursing floor for a year. Its effect on nursing perceptions was gauged by an informal questionnaire, and its effect on the nurse manager was gauged by counting change requests and sick calls, as well as her time spent on scheduling and her perceived annoyance in doing it.
Findings During the time of the pilot project nurses felt that they had better control of their time and were able to give better patient care. Also, change requests decreased, as did the time spent by the nurse manager and her sense of annoyance. But since the nurses did not adhere to the rules of the programme, despite repeated efforts by the nurse manager, the attempt floundered.
Conclusion Self-scheduling can have positive results for nurses and benefit the nurse manager. But if nurses see this as an individual entitlement instead of a balance between individual and unit benefit, everyone loses. This experience may be of use to others trying to implement a self-scheduling system.

Keywords: self-rostering, self-scheduling

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Introduction

The idea of self-scheduling is not a new one and was first documented in 1963 by Jenkinson, who initiated a self-scheduling programme at St George's Hospital in London (Hung 2002). Key findings of a 2000 survey, as reported in News Reports (2002), show that good employment practices make a difference, and self-rostering was identified as one of these. And Buchan (2000, 2002) sees self-scheduling as a key aspect of improved nursing staff deployment. In general, most present literature on self-scheduling agrees to its benefits including some of the following main points:

- Empowering nursing staff and increasing their control to balance their personal and professional lives, particularly helpful to nurses who have children or part-time schooling.

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- Increasing predictability and flexibility of the nursing schedule and at the same time, freeing the nursing manager for other tasks.
- Enhancing the communication and interaction in the work environment to stimulate cooperative community building.

Indeed, such benefits can be built if the self-schedule is implemented correctly. However, in some cases, unfavourable conditions can develop such as complaints of peer pressure, favouritism and unavailability of staff (Teahan 1998). Under these circumstances one might encounter challenges to 'sell' self-scheduling to a sceptical nursing staff. As Miller suggests, the nursing staff must participate in each aspect of the change to self-scheduling to make it successful (Miller 1984).

One particular suggestion is to make a guideline early in the implementation process. The best idea would be to draft a guideline at one of the first committee meetings and have relevant short- and long-term goals developed immediately after to keep the focus of the self-scheduling concept (Beltzhoover 1994). Furthermore, implementation should not be rushed and should be explained carefully and thoroughly to the staff. The staff should agree to further detailed guidelines to determine the number of days the staff has to fill in the requested shifts. Also, maximum and/or consecutive shifts should be set at this time (Phillips & Brunke 1990).

Another possibility that has been explored in recent literature is the use of a computerized rostering system mentioned in Ball's article *Shifting the Control* (1997). Nurses would first enter the hours they wished to work into a time rostering software system, the computer program would then process their requested shift times and produce a 'best-fit' schedule, which would incorporate as many of the desired shifts as possible. The rostering software system also rated each hour on the nursing schedule according to popularity. Nurses who chose to work the unpopular hours were awarded with high scores. The nurses with the highest scores were the ones least likely to have to work any unfulfilled hours in the schedule or the gap hours.

Before the implementation of the self-schedule, the nursing staff should attend a unit meeting to clarify the rules and guidelines that perhaps are unfamiliar. Surveys in some self-scheduling implementations have shown that nurses would have liked more preparation on the topic, underlining the enormity of the cultural shift that is involved in introducing a change to the scheduling process (Ball 1997).

To the extent possible, we followed these guidelines in this pilot project. The hoped-for results were:

- to give nurses more control over their time, hence easing their lives and freeing them for better patient care;
- to decrease the time and annoyance of scheduling for the nurse manager and thus free her for other activities; and
- to reduce change requests and sick calls.

Method

The unit consists of 70 RNs who oversee 31 total beds, of which 12 are step-down beds that require extra patient care from intensive care unit nurses. It was not possible to meet with all the nurses before starting the project, but those we did meet seemed eager to try. We describe first the scheduling system that was in place before we started and the modifications that were introduced.

The sign-up sheet that the nurse manager prepares lists all the nurses down the column and 28 days across the top. In each cell there is a letter corresponding to the shift of that nurse on that day, or whether she is on vacation or on a day for education, jury duty or whatever. Nurses on fixed schedules (some of the senior ones) would always be assigned to the same times. Other nurses knew the overall pattern of their schedule (e.g. three 12-hour days or two 12-hour and two 8-hour days per week), but did not know on which specific days these shifts would fall. There were guidelines about Fridays and evening/night rotations, depending on seniority, based on union contract. These guidelines are shown in Appendix 1. The schedule gets posted 1 month in advance of the starting day. If nurses want to make a change they have to fill in a change request to the nurse manager who then had to reconfigure the schedule.

Our first attempt was to duplicate this format in the self-scheduling mode. But this turned out to be unworkable, since it was not clear when a full roster for any particular time period was met. We tried keeping track by both addition and subtraction, but without success. We then devised the format shown in Appendix 2. The nurse manager entered the fixed schedules into this template, therefore, showing clearly where there are places available. To give everyone a chance to sign up early, the nurses were divided into three groups, with each group having a 1-week period for sign up before the schedule was opened to the other groups. This idea was based on a suggestion in Miller's article on

Implementing Self-scheduling (1984), and we used this format and system for the rest of the year.

During the time of self-scheduling, from 4 January 2004 to 1 January 2005, we collected the following data:

- Four times the nurses were asked to fill in a short questionnaire (see Appendix 3). This was made available in a folder and returned to a different folder seen only by the researchers, hence protecting the anonymity of the respondents. But it was impossible to know how many nurses took a questionnaire; hence these results are merely informal indicators of nurse perceptions.
- The nurse manager kept monthly track of the number of sick calls and the number of change requests.
- The nurse manager also kept track of the amount of time she spent on scheduling each month, and her annoyance with it. This latter was indicated on a scale from 1 to 10, with 10 indicating optimal annoyance.

Findings

The number of change requests decreased dramatically after the first month of the self-scheduling implementation but then reverted somewhat, though generally decreasing except for the last 2 months in the year due to the scheduling of Thanksgiving and Christmas (see Figure 1).

While the number of change requests decreased over time, the number of sick calls per month remained relatively steady at approximately 45.

After an initial increase when the form was being adjusted, the time the nurse manager spent to make the monthly nursing schedules decreased over the year that self-scheduling was in effect, with a slight increase at the end because of the holidays. Her annoyance, on the contrary, stayed fairly steady and eventually rose, again with the holidays (see Figure 2).

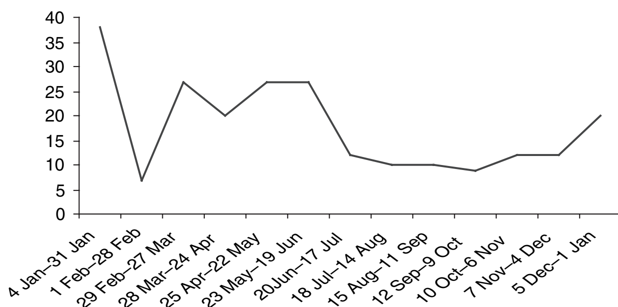

Figure 1
Number of change requests.

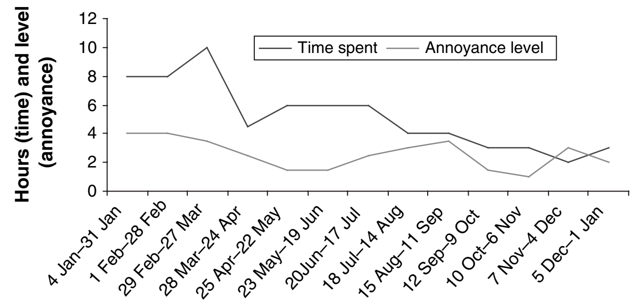

Figure 2
Time spent on schedule and annoyance level of nurse manager.

Towards the end of the implementation process, the nurse manager became more frustrated at the miscommunication between the nursing staff and herself. Several nurses did not follow the directions laid out in the self-scheduling programme, including sign-up times and shift restrictions. Some of the nursing staff did not fully understand that self-scheduling did not provide guaranteed times for nurses to work but rather allowed for more control and flexibility in one's schedule. But it could only reap these benefits if everyone followed the guidelines.

Four questionnaires were handed out during the year, the first one before the project started. From these questionnaire responses, we determined the following findings (see Figure 3):

- Nurses' reported need for control and flexibility both decreased gradually as the self-scheduling implementation progressed.
- At the same time self-scheduling was perceived by the nurses to give them more time to spend with their families and to provide what they felt was better patient care.

Thus some, though not all of the hoped-for results were realized by this self-scheduling attempt.

Assessment

The questionnaires also allowed the nurses to comment on the benefits and problems of self-scheduling, which provide useful insight into how the nurses were feeling. The benefits centred on control: 'I feel more in control of my life as opposed to waiting to see what is going to be done to me.' Nurses felt it was 'a great morale booster' and that 'managers [were] so much more willing to work with sudden changes.' One nurse summarized the feelings well: 'I felt as though I could schedule my work around my personal needs without filling out multiple time request forms.'

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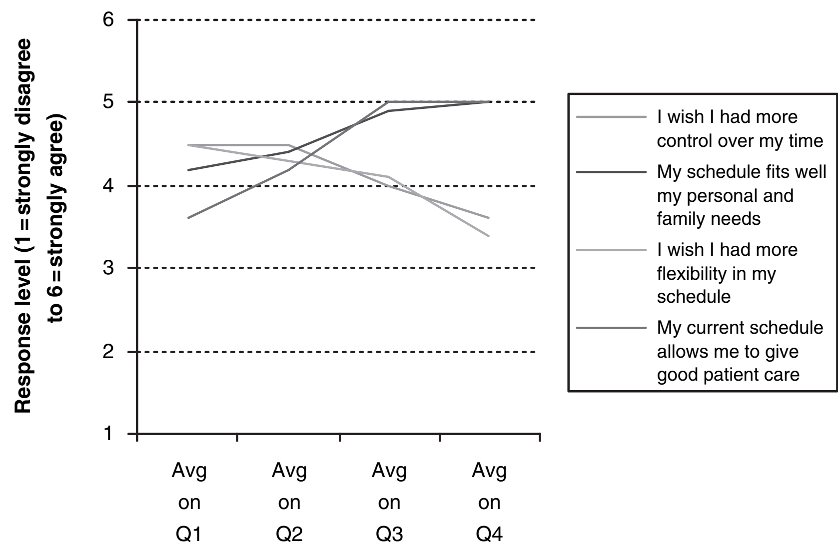

Figure 3
Nurse response averages taken over the four questionnaires.

Nearly all the nurses who responded commented that self-scheduling offered them more flexibility at the workplace. However, some were more cautious, stipulating conditions on self-scheduling and highlighting some of the problems encountered. Because of the timing when schedules were posted, it was not always easy to anticipate one's needs: 'I am able to schedule around planned events although many times I do not know 2–3 months in advance what events there are unless it's a wedding.' And there was concern that schedules sometimes had to be changed:

> I have been able to pick the shifts/days off I want but the schedule I choose compared to the final schedule is completely different. This is very frustrating. I will be paying closer attention to my schedule in the future and requesting the final schedule reflect what I request.

What eventually stopped self-scheduling is exemplified by this comment. Nurses would insert their names, even though a particular time period was already full, and leave large blocks of time without a full roster. Nurses would also sign up for consecutive day and night shifts without realizing the consequences or sign up for more shifts than they were scheduled to work. When the nurse manager then shifted people around to fulfil the staffing needs, they became annoyed that their wishes were not honoured. In the end the nurse manager stopped the project altogether.

Two months later, when the third author made an informal visit to the unit, she asked the nurses how they felt about self-scheduling. Of the 10 nurses she questioned, seven were indeed sorry that self-scheduling ended. They liked the control and freedom in their personal lives that self-scheduling allowed. However, they also reported that if a nurse was in the third and last group to sign up for the schedule or just got back from vacation, the nurse became frustrated at the selection of shifts left over. Nevertheless, the nurses did acknowledge that the three groups rotated for the sign-up schedule, making the process the fairest possible.

When asked why the nurses thought that self-scheduling did not work in this particular case, the answers were quite varied. Some believed the only reason that self-scheduling did not work was because it created too much work for the nurse manager. Others believed that a few nurses were ruining self-scheduling for everyone, that is, a few nurses did not follow the rules as they were supposed to. Furthermore, one nurse commented that the nurses who did not follow the sign-up rules thought they could get the best schedule and try to 'slide by' the nurse manager. This perception that only a few occasionally broke the rules does not agree with what actually happened. It was more than just a few who were making mistakes.

To understand what happened one has to consider what underlies such an attempt. It means bringing together the needs of the individual nurses with the needs of the unit to the benefit of both. The finding that nurses perceived both their personal lives and their patient care to improve with self-scheduling, shows the advantage of such an approach. But it is necessary, also, that everyone keeps both sides – both the individual employee and the need of the unit – continuously in mind; what has been called a dual agenda (Rapoport *et al.* 2002) must be continuously kept in the foreground. What happened here is that the needs of the unit were ignored by the nurses who put their personal needs ahead of unit

requirements. They began to see the schedules they signed up for as an entitlement, not as one part of a joint agreement to enhance both their lives and the functioning of the floor. And thus the self-scheduling was stopped and everyone lost. They lost some of the control they had over their own time, which they had valued highly, and the benefits of self-scheduling – e.g. bringing nurses together, easing the burden of the nurse manager, enhancing morale and patient care – were lost.

Why this happened in this case is difficult to say. Because of the pressures of the work on this floor it was not possible to get all the nurses together to plan the implementation. The researchers met in individual groups with some of the nurses, but this may not have been sufficient. Also this was a large roster of nurses – more than 70 – and most successful self-scheduling efforts described in the literature had been done with many fewer nurses. Finally, the nurse manager felt that perhaps the union environment made nurses more conscious of their particular duties and hence they felt that the kind of cooperation needed to make this work was beyond their duties. It should be said, however, that the union representatives approved of the trial.

So what have we learned? We have learned that the advantages of self-scheduling can accrue both to the nurses and the nurse manager, as well as to the patient care in the unit. But to make it work requires collective commitment to both sides of the dual agenda. Engaging such commitment in a large unit is not easy, as this example shows. Although the nurse manager continuously inquired about the progress and adaptation of self-scheduling throughout the implementation period via regular emails, staff meetings, and impromptu discussions on the floor, in retrospect, we probably should have spent more time with more of the nurses even before starting the effort.

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Appendix

Appendix 1
Guidelines used to implement self-scheduling

Scheduling guidelines	*Nurses in charge*	*ICU nurses*	*Staff nurses*
I – Number of nurses			
Monday – Saturday			
Day and evening	3	6	6
Night	3	6	5
Sunday			
Day	3	6	6
Evening	3	6	5
Night	3	6	4
II – Fridays and weekends			
2 Fridays/month			
36 hour people (3 × 12)	Up to every other weekend		
40 hour people (2 × 8 + 2 × 12)	Every third weekend		
III – Rotation			
<3 years	50% day/night rotation		
3–8 years	25%		
>8 years	Can elect not to rotate		

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Appendix 2
Sample sign-up sheet for nurses

	RNs – four/shift		*Week (1):*	
	Day 7 AM to 3 PM	*Eve 3* PM to 7 PM	*Eve 7* PM to 11 PM	*Night 11* PM to 7 AM
Sunday	1 Nurse X	Nurse X		
	2			
	3			
	4		XXXXXXXXXX	XXXXXXXXXX
Monday	1			
	2			
	3			
	4			XXXXXXXXXX
Tuesday	1			
	2			
	3			
	4			XXXXXXXXXX
Wednesday	1			
	2			
	3			
	4			XXXXXXXXXX
Thursday	1			
	2			
	3			
	4			XXXXXXXXXX
Friday	1			
	2			
	3			
	4			XXXXXXXXXX
Saturday	1 Nurse X	Nurse X		
	2			
	3			
	4			XXXXXXXXXX

I Please indicate the extent to which you agree or disagree with the following statements about your job. Please use the following scale:

Appendix 3
Questionnaire

1	2	3	4	5	6
Strongly disagree	Disagree	Disagree a little	Agree a little	Agree	Strongly agree

(a) I am pleased with my current schedule……………………_____
(b) I get energized by my job……………………_____
(c) I wish I had more control over my time……………………_____
(d) My schedule fits well my personal and family needs……………………_____
(e) I feel that the current scheduling system is fair……………………_____
(f) I wish I had more flexibility in my schedule……………………_____
(g) My current schedule allows me to give good patient care……………………_____
(h) I am very satisfied with the conditions of my current job……………………_____

II In general, how do you feel about the self-scheduling experiment – what's good and what's bad?