Supplementary digital content

Table A. More empirical data on case arrival and cancellation within 2 workdays before the surgery

Among performed cases, what % minutes were scheduled on day of surgery?	
479628	Numerator
7133182	Denominator
6.7%	Ratio
% minutes cases cancelled on day of surgery?	
169053 = 648681 - 479628	Numerator
7133182	Denominator
2.4%	Ratio
Among performed cases, what % minutes were scheduled at/after 7 AM working day before surgery?	
1455265	Numerator
20.4%	Ratio
% minutes cases cancelled one work day before surgery	
378964 = 548017 - 169053	Numerator
7133182	Denominator
5.3%	Ratio
Among performed cases, what % minutes were scheduled at/after 7 AM 2 working days before surgery?	
1811524	Numerator
25.4%	Ratio
% minutes cases cancelled 2 work days before surgery	
67686 = 615703 - 548017	Numerator
7133182	Denominator
0.95%	Ratio

Base on this table, we calculate the empirical data in Table 2 as follow:

% (net addition) minutes were scheduled on day of surgery **4.3%** = 6.7% - 2.4%

% (net addition) minutes were scheduled at/after 7 AM one working day before surgery **8.4%** = 20.4%-6.7% - 5.3%

Table B. First alternative form for the probability of case arrivals:

Scheduled # of cases	**Probability of new A_k cases arriving during one period** $A_k = 0$	$A_k = 1$	$A_k = 2$	$A_k = 3$
0	0	0	0	100%
1	0	0	50%	50%
2	0	33.3%	33.3%	33.3%
3	25%	25%	25%	25%
4	33.3%	33.3%	33.3%	0
5	50%	50%	0	0
6 or more	100%	0	0	0

Table C. Second alternative form for the probability of case arrivals:

Scheduled # of cases	Probability of new A_k cases arriving during one period			
	A_k = 0	A_k = 1	A_k = 2	A_k = 3
0	0	10%	10%	80%
1	0	20%	20%	60%
2	0	33.3%	33.3%	33.3%
3	33.3%	33.3%	33.3%	0
4	60%	20%	20%	0
5	80%	10%	10%	0
6 or more	100.0%	0	0	0

Table D. Distributions used to obtain the initial distribution used in the Markov chain model (prior to the burn-in process).

Symmetric initial distribution

Sym 1 (Baseline)			**Sym 2**		
frequency	OR 1 workload	OR 2 workload	frequency	OR 1 workload	OR 2 workload
6.25%	0	0	10.01%	13.5	13.5
6.25%	0	4.5	6.67%	11.5	13.5
6.25%	0	1.5	6.67%	8.5	13.5
6.25%	0	6.5	6.67%	13.5	11.5
6.25%	4.5	0	6.67%	13.5	8.5
6.25%	4.5	4.5	4.45%	6.5	13.5
6.25%	4.5	1.5	4.45%	11.5	11.5
6.25%	4.5	6.5	4.45%	11.5	8.5
6.25%	1.5	0	4.45%	8.5	11.5
6.25%	1.5	4.5	4.45%	8.5	8.5
6.25%	1.5	1.5	4.45%	13.5	6.5
6.25%	1.5	6.5	2.97%	6.5	11.5
6.25%	6.5	0	2.97%	6.5	8.5
6.25%	6.5	4.5	2.97%	11.5	6.5
6.25%	6.5	1.5	2.97%	8.5	6.5
6.25%	6.5	6.5	1.98%	6.5	6.5
mean	**3.13**	**3.13**	**mean**	**8.27**	**8.27**

Unsymmetric initial distribution

UnSym 1			**UnSym 2**		
frequency	OR 1 workload	OR 2 workload	frequency	OR 1 workload	OR 2 workload
28.69%	8.5	1.5	25%	6.5	0
19.13%	6.5	1.5	25%	11.5	0
9.56%	8.5	0	25%	8.5	0
7.17%	3.5	1.5	25%	13.5	0
6.38%	6.5	0			
5.06%	8.5	6.5			
4.78%	1.5	1.5			
3.38%	6.5	6.5			
3.19%	4.5	1.5			
2.39%	3.5	0			
1.69%	8.5	4.5			
1.59%	1.5	0			
1.27%	3.5	6.5			
1.13%	6.5	4.5			
1.06%	4.5	0			
0.84%	1.5	6.5			
mean	**6.45**	**1.76**	**mean**	**10**	**0**