WENNBERG INTERNATIONAL COLLABORATIVE
SPRING POLICY MEETING 2018

Explore variations in daily nurse-to-patient ratio over three years for six different units

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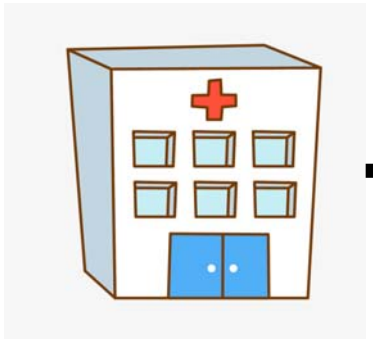
WIC WENNBERG INTERNATIONAL COLLABORATIVE

74 NRP Smarter Health Care
National Research Programme

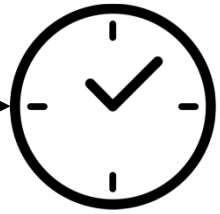
SSPH+ SWISS SCHOOL OF PUBLIC HEALTH

Data sources



Inselspital, Bern
University Hospital

Tacs®
Nurse staffing system



2015 to 2017

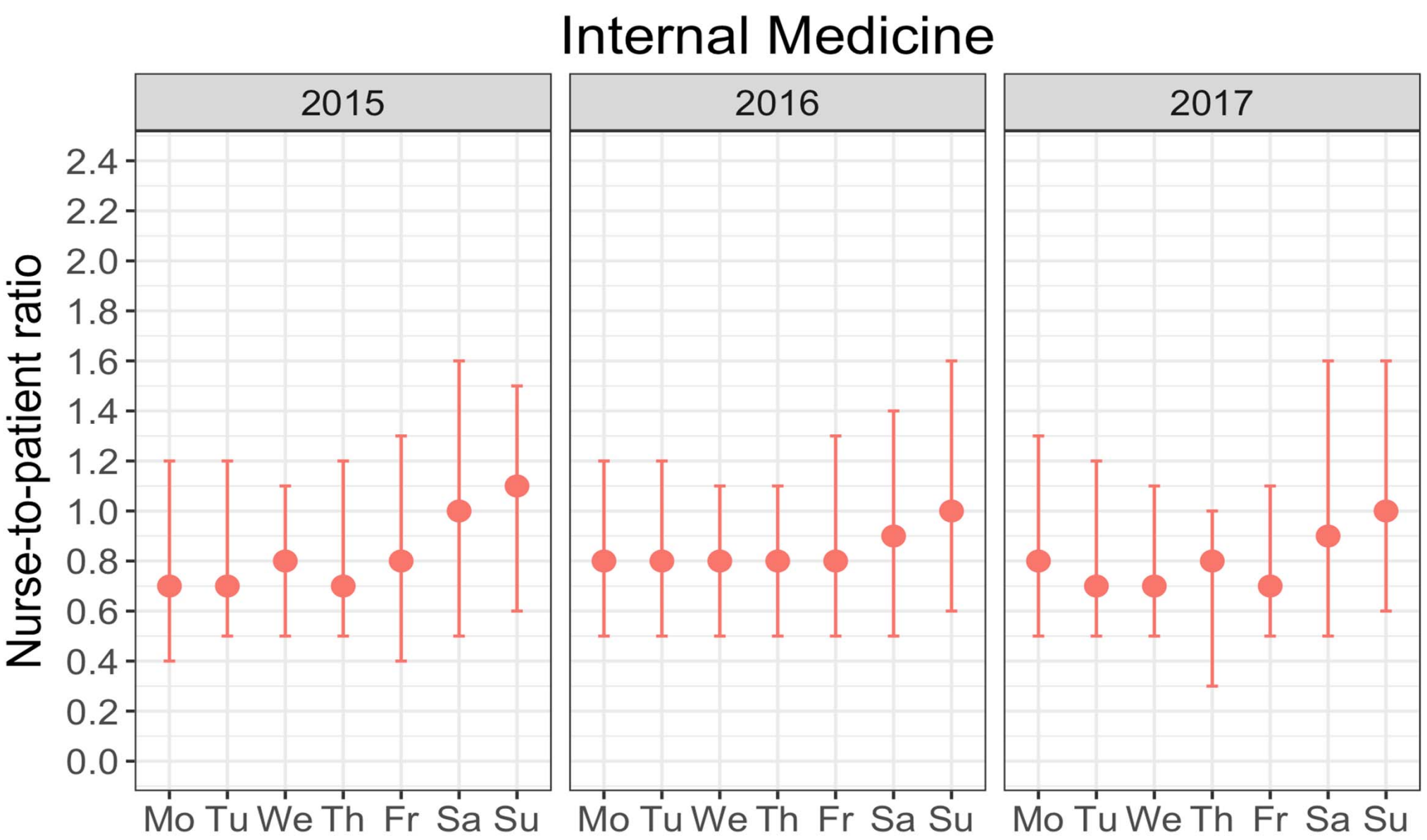
Nurse-to-patient ratio

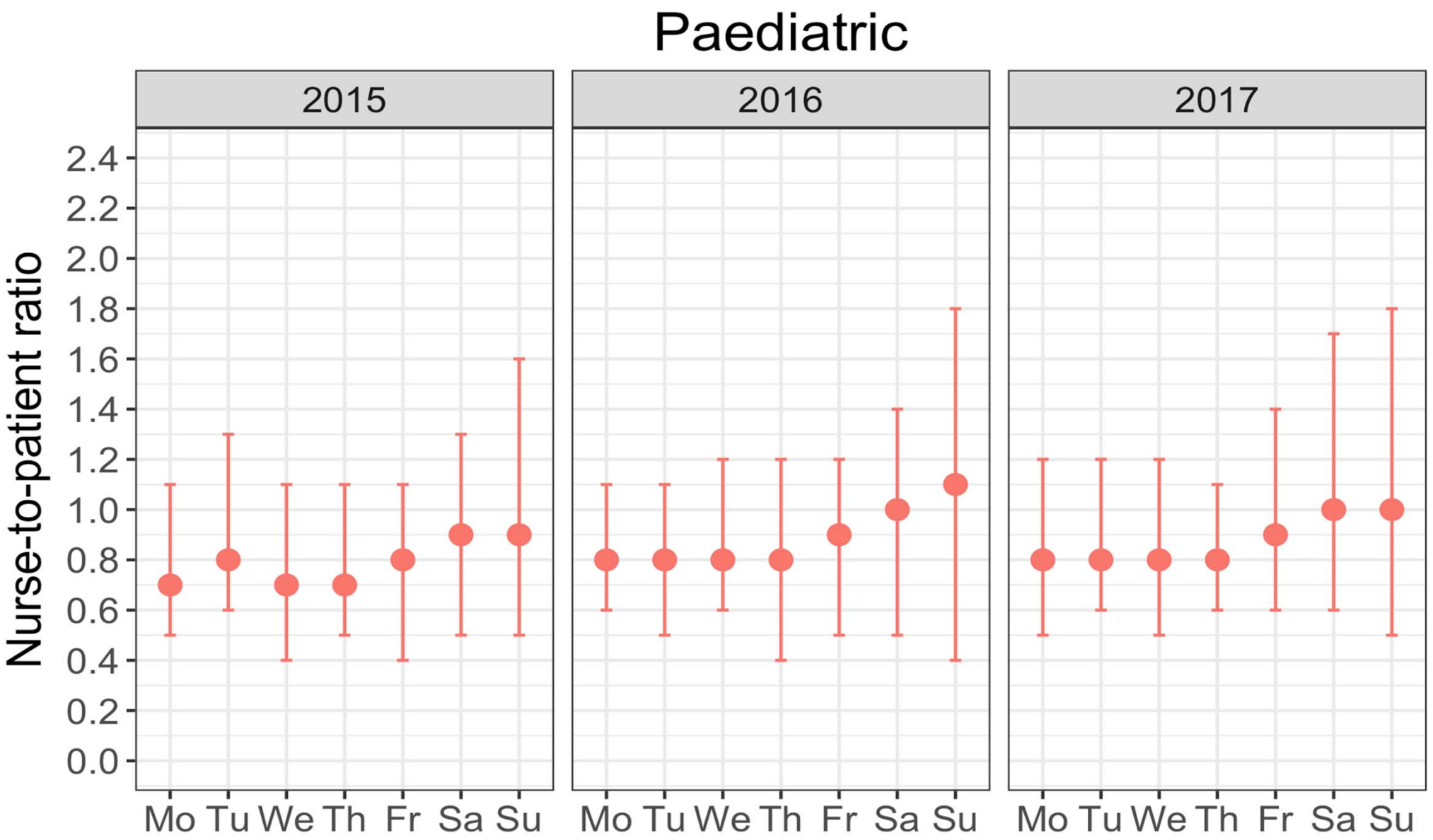
$$\frac{\text{Number of patients}}{\text{Number of nurses}}$$

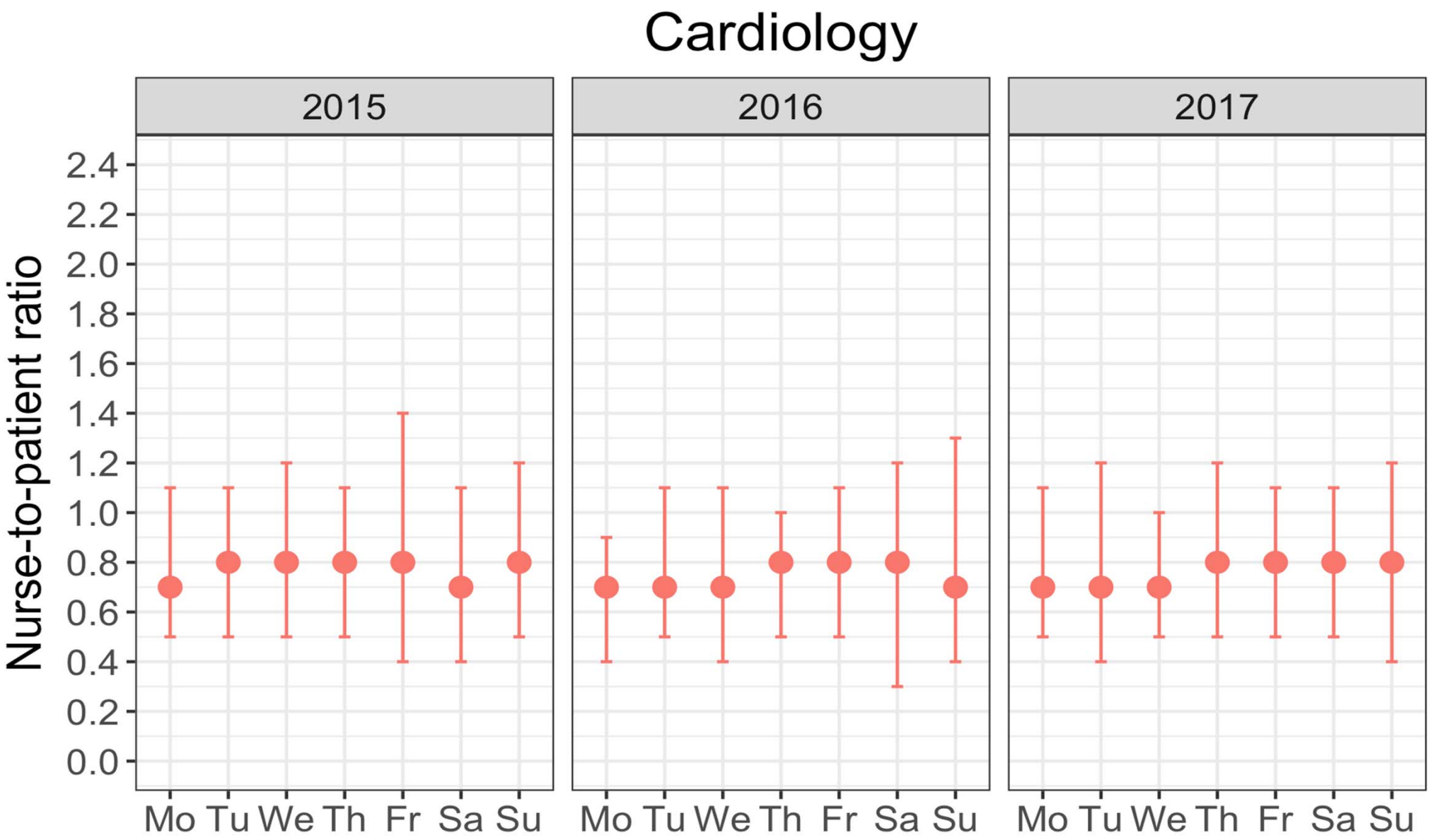
< 1 (more nurses than patients)

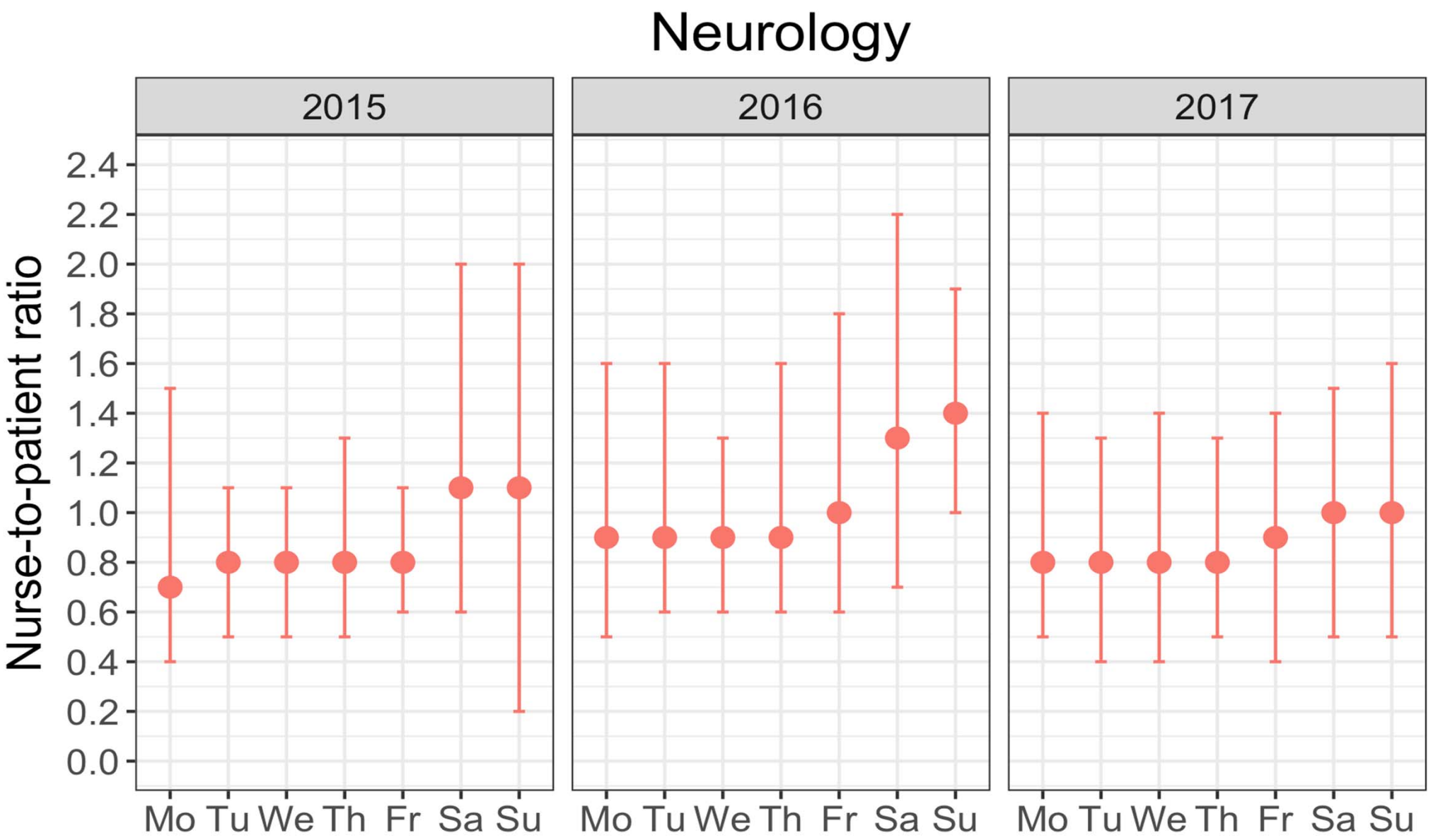
= 1 (one nurse for one patient)

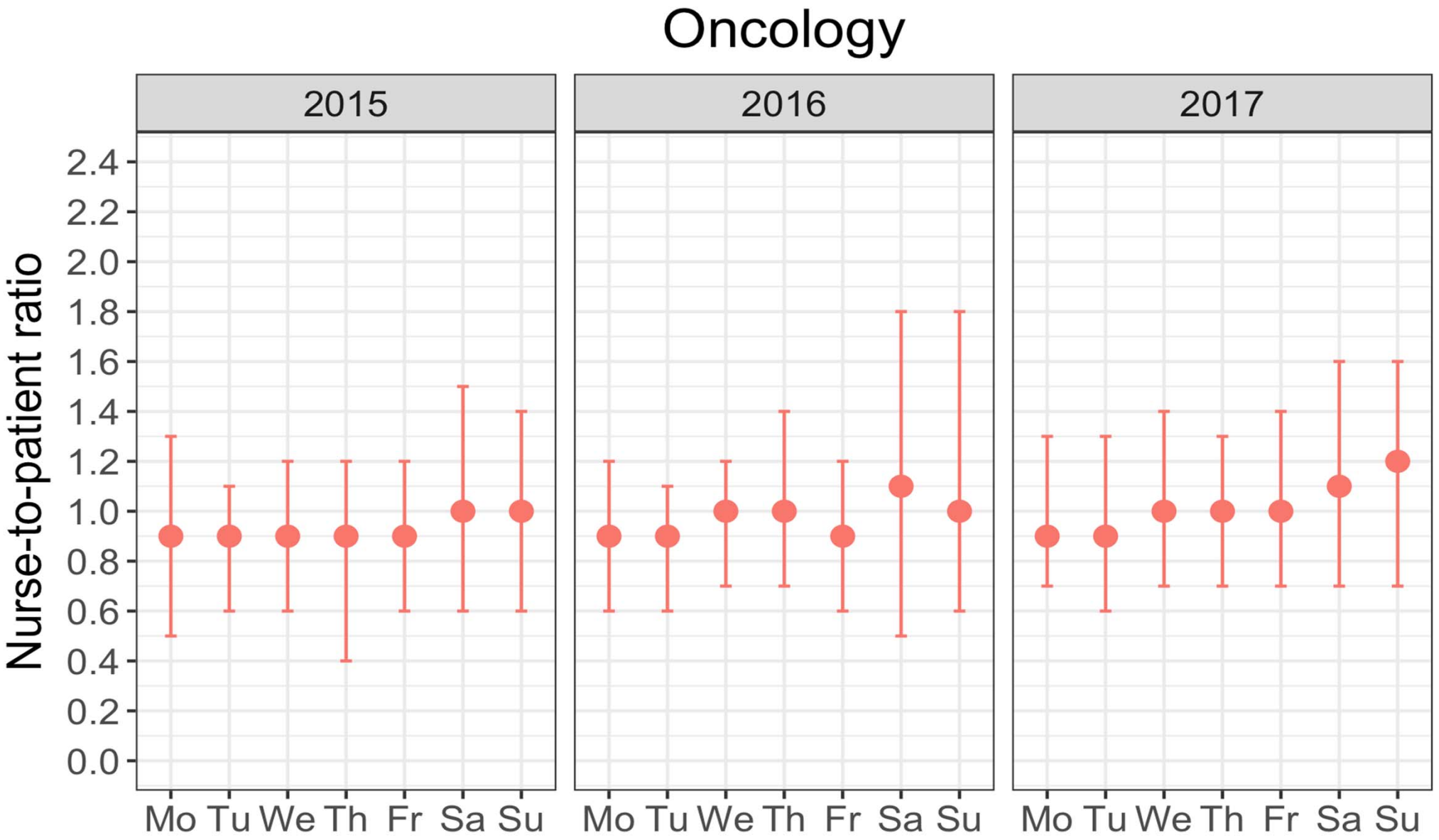
> 1 (more patients than nurses)

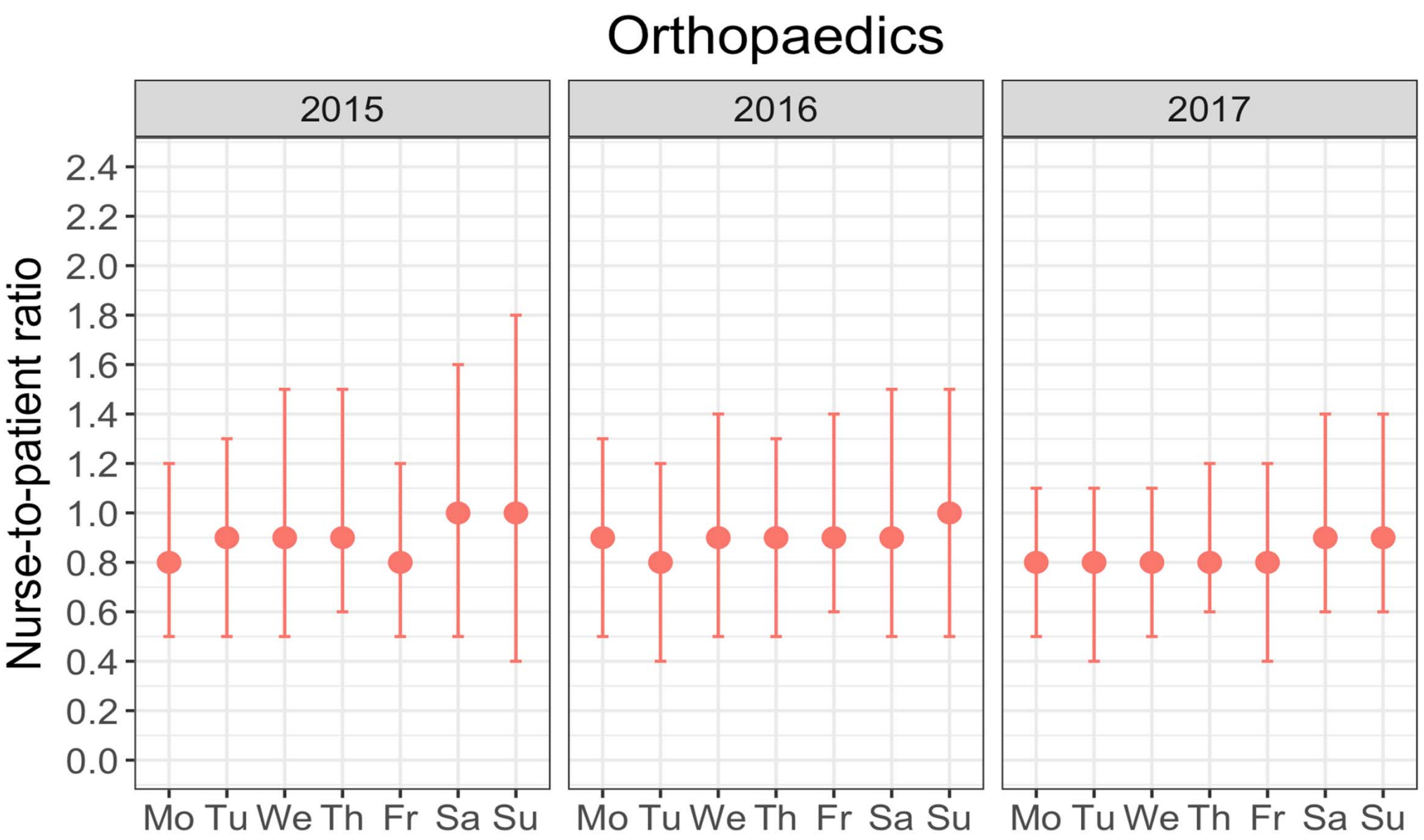

Internal Medicine
2015
2016
2017
Nurse-to-patient ratio
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su


Paediatric
2015
2016
2017
Nurse-to-patient ratio
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su


Cardiology
2015
2016
2017
Nurse-to-patient ratio
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su


Neurology
2015
2016
2017
Nurse-to-patient ratio
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su


Oncology
2015
2016
2017
Nurse-to-patient ratio
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su


Orthopaedics
2015
2016
2017
Nurse-to-patient ratio
2.4
2.2
2.0
1.8
1.6
1.4
1.2
1.0
0.8
0.6
0.4
0.2
0.0
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su
Mo Tu We Th Fr Sa Su

Overview of the nurse-to-patient ratio

Units	mean (min - max)		Days of extreme values ± 2SD (% understaffing)	
	Weekdays	Weekends	Weekdays	Weekends
Internal medicine	0.8 (0.3-1.3)	1 (0.5-1.6)	4 (75%)	14 (64.3%)
Paediatric	0.8 (0.4-1.4)	1 (0.4-1.8)	3 (100%)	24 (66.6%)
Cardiology	0.8 (0.4-1.4)	0.8 (0.3-1.3)	1 (100%)	2 (50%)
Neurology	0.8 (0.4-1.8)	1.1 (0.2-2.2)	13 (100%)	2 (50%)
Oncology	0.9 (0.4-1.4)	1.1 (0.5-1.8)	69 (66.6%)	13 (53.8%)
Orthopaedic	0.8 (0.4-1.5)	1 (0.4-1.8)	266 (7.5%)	50 (90%)

Key messages

- First approach
- Variations
  - Weekdays vs Weekends
  - Units
  - Extreme ratio
- Further analysis
  - Other variables
  - All units
- Some nurses not using tacs®

THANK YOU FOR YOUR ATTENTION

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