HUMAN RESOURCES FOR PATIENT SAFETY
RECENT POLICY-RELEVANT RESEARCH

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INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

MID STAFFORDSHIRE NHS FOUNDATION TRUST SCANDAL

› **March 1999 – Royal College of Nursing general secretary Christine Hancock criticises Stafford Hospital for cuts to frontline nurses**

In a speech to the RCN conference in Harrogate in March 1999 she said hospital trusts were trying to save money by employing fewer senior nurses and weakening the skill mix ratio of qualified to unqualified staff.

The RCN had obtained internal plans that explored the option of reducing the level of senior nurses at Mid Staffordshire General Hospital. The plans were designed to re-organise the hospital wards into floors with patients no longer grouped by their condition or operation.

A spokesman for the hospital at the time dismissed her comments as "absolute nonsense". But the re-organisation went ahead later and, along with staff reductions, led to a skill mix ratio of qualified to unqualified staff of 40:60.

› **August 2001 – The Stafford Primary Care Group wrote a critical report of the management and leadership at Mid Staffordshire General Hospital**

The group wanted the then chief executive and management removed

One of its members William Price, who would later become the chief executive of the South Staffordshire Primary Care Trust, told the public inquiry: "Our view was that the leadership at Mid Staffs hospitals was not competent, in our view, to carry out the functions that we would expect them to carry out."

Mr Price said the problems had the "potential" to "impact on patient care".

Despite the recommendations, the trust's chief executive remained in post until 2005.

Mr Price later apologised for not doing more to assess the quality of patient care in his role as PCT chief executive.

INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

2002 – Commission for Health Improvement publishes highly critical report describing lack of governance, poor culture and some staff "under constant pressure."

2003-08 – hospital death rate rises to 27 per cent above national average

2004 – Trust receives zero star rating from Healthcare Commission

2005 – David Nicholson appointed chief executive of Shropshire and Staffordshire Strategic Health Authority

2006 – Healthcare Commission rates the hospital "good" in its star ratings

2006 - Cynthia Bower appointed chief executive of West Midlands Strategic Health Authority

2006 – David Nicholson moves to be chief executive of NHS London before becoming head of the national NHS.

2007- Trust board concludes there are "no clinically significant problems" which can be attributed to the high death rate

2007 – Stafford patient group "Cure the NHS" formed

2008 – Trust granted foundation status by Monitor – chief executive Martin Yeates says: "We have joined the premier league".

2009 – First inquiry - Healthcare Commission finds "appalling" care and says hundreds of patients died as a result of inadequate treatment and neglect.

2009 – Chair Toni Brisby resigns before Health Copmmission report is published. Chief executive Martin Yeates resigns in May

2009 – Royal College of Surgeons review of surgery department labels it "dysfunctional" and "frankly dangerous."

Feb 2010 – Second inquiry – Independent inquiry by Robert Francis , QC, finds a bullying culture that was target focused in which the needs of patients were ignored. "An appalling failure at every level," he said.

June 2010 - Third inquiry – Andrew Lansley, Tory health secretary announces a public inquiry into how the regulators failed at Mid Staffs. Also to be chaired by Robert Francis, QC.

Nov 2010 – Dec 2011 – Inquiry hears from 181 witnesses over 139 days of hearings.

6 Feb 2013 – Public inquiry report published

INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

ERROR DICHOTOMIES

Errors of commission	Errors of omission
Active failures	Latent conditions
Errors at the sharp end	Errors at the blunt end
Slips	Mistakes

Agency for Healthcare Research and Quality

INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

ERRORS OF (C)OMMISSION

Julie Thao was a nurse at St. Mary's Hospital in Madison, WI, in the summer of 2006 when 16-year-old Jasmine Gant was admitted to give birth. Through a series of actions, shortcuts, and omissions, all of which Thao accepted responsibility for at her sentencing in December, she mistakenly gave Gant an epidural anesthetic (Buvipacaine) intravenously. Gant was supposed to receive an IV antibiotic for a strep infection. Within minutes of receiving the epidural IV, Gant suffered seizures and died. Her child, a boy, was delivered by emergency Caesarean section and survived.

According to the investigator's report, Thao:

- improperly removed the epidural bag from a locked storage system without authorization or permission;
- did not scan the bar code on the epidural bag, which would have told her it was the wrong drug;
- ignored a bright pink warning label on the bag that stated the drug was for epidural administration
- disregarded St. Mary's "5 rights" rule for drug administration — right patient, right route, right medication, right dose, and right time.

News reports quoted Thao saying, "This was my mistake, everything was my fault" at the time of her plea. She will serve three years on probation, her license has been suspended for nine months, and should she return to nursing (she was fired from St. Mary's), she will face close scrutiny of her hours and work performance.

BUT

- 16h shift
- Formalized work around “to do list”
- Change in technology
- Similarity of packaging

INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

ERRORS OF (C)OMMISSION

Cancer patient sues hospital after surgeons removed wrong testicle

- **Wiltshire man, 48, sues Salisbury District Hospital**
- **Surgery for cancerous testicle saw the other removed**

By LUKE SALKELD FOR THE DAILY MAIL
PUBLISHED: 01:51 BST, 20 February 2013 | **UPDATED:** 01:51 BST, 20 February 2013

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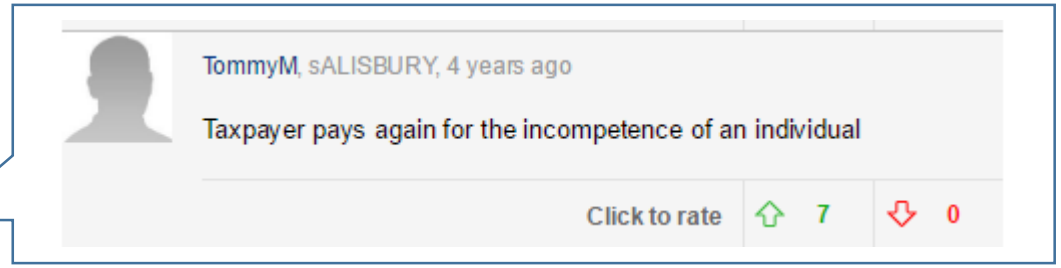
A patient suffering from cancer who had a healthy testicle removed by mistake is suing the hospital where he had the operation.

Often the compensation figure includes a sum to pay for cosmetic surgery to provide the men with a false testicle. Figures from the National Health Service Litigation Authority (NHSLA) show 78 successful cases have been brought in the last four years.

A total of £1.7million was paid out in those cases, meaning



INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

SECOND VICTIMS

Local News

Nurse's suicide follows tragedy

Originally published April 20, 2011 at 10:38 pm | *Updated April 21, 2011 at 12:57 pm*

The suicide of Kimberly Hiatt, a nurse who accidentally gave an infant a fatal overdose last year at Seattle Children's hospital, has closed an investigation but opened wounds for her friends and family members.

By Carol M. Ostrom

Share story

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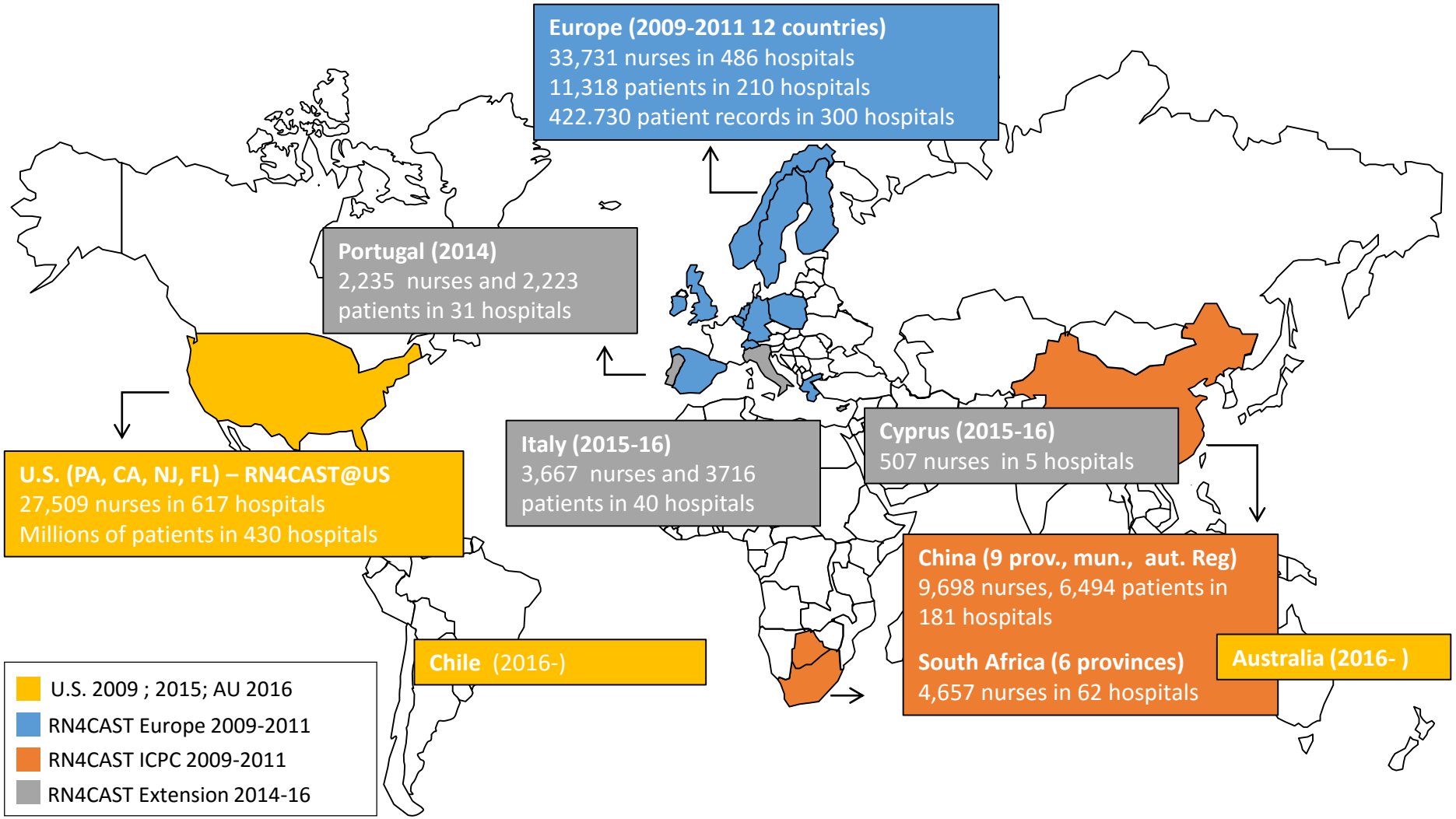
The suicide of a nurse who accidentally gave an infant a fatal overdose last year at Seattle Children's hospital has closed an investigation but opened wounds for her friends and family members, as they struggle to comprehend a second tragedy.

INTRODUCTION -- SYSTEM ERRORS AND HUMAN MISTAKES

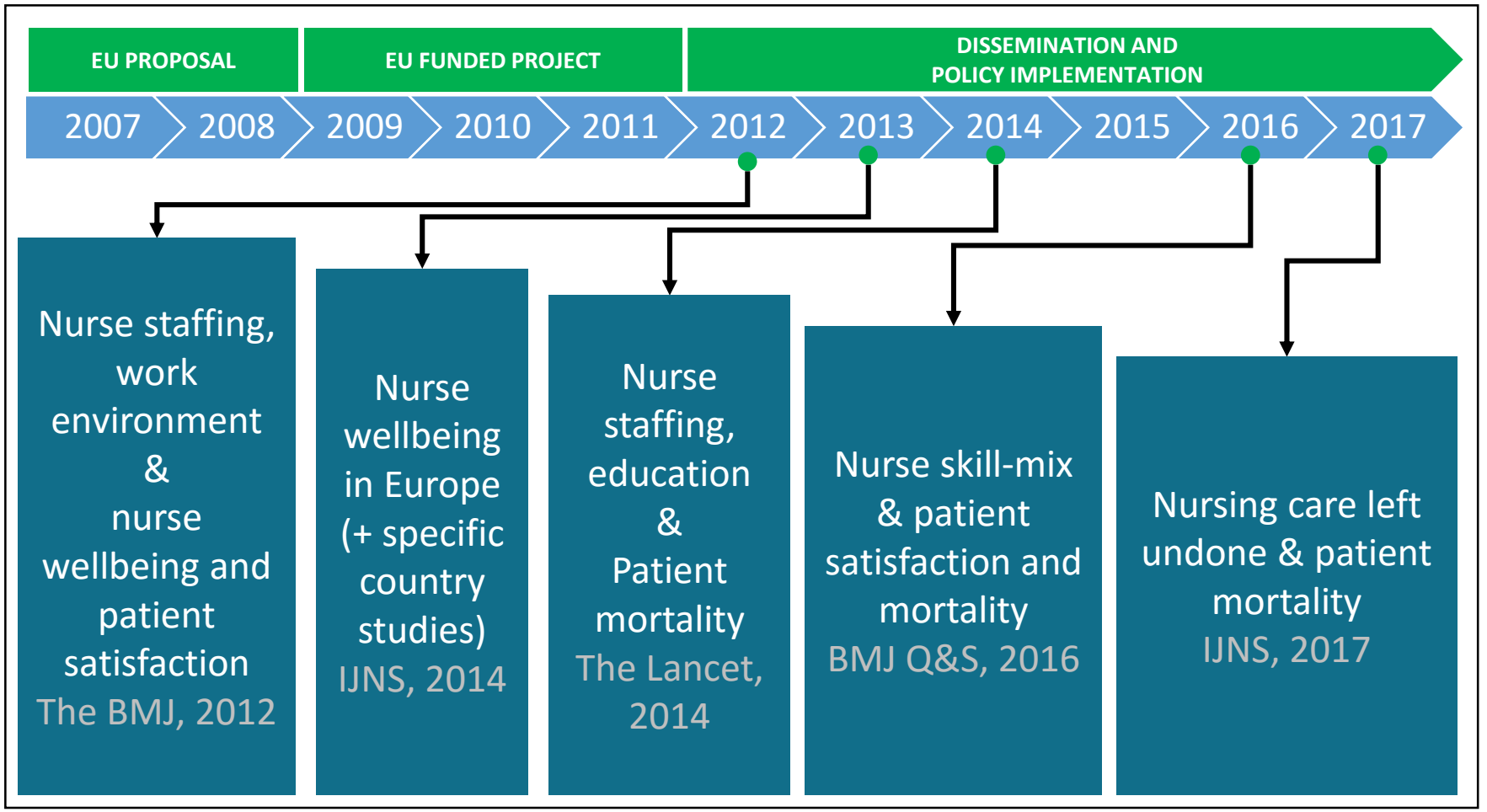
1. Organization of care and patient and healthcare worker outcomes
2. Process of care and patient outcomes
3. Second victims

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

RN4CAST



ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES



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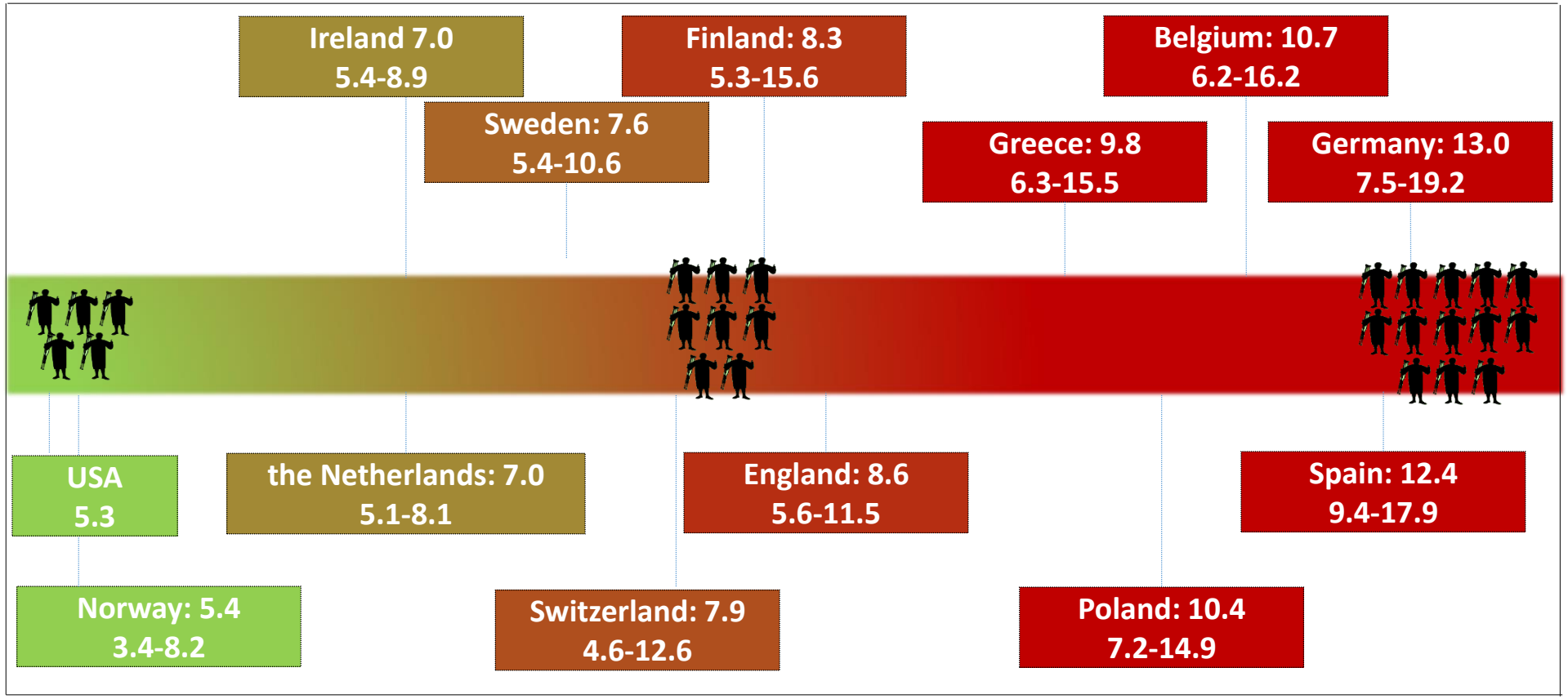
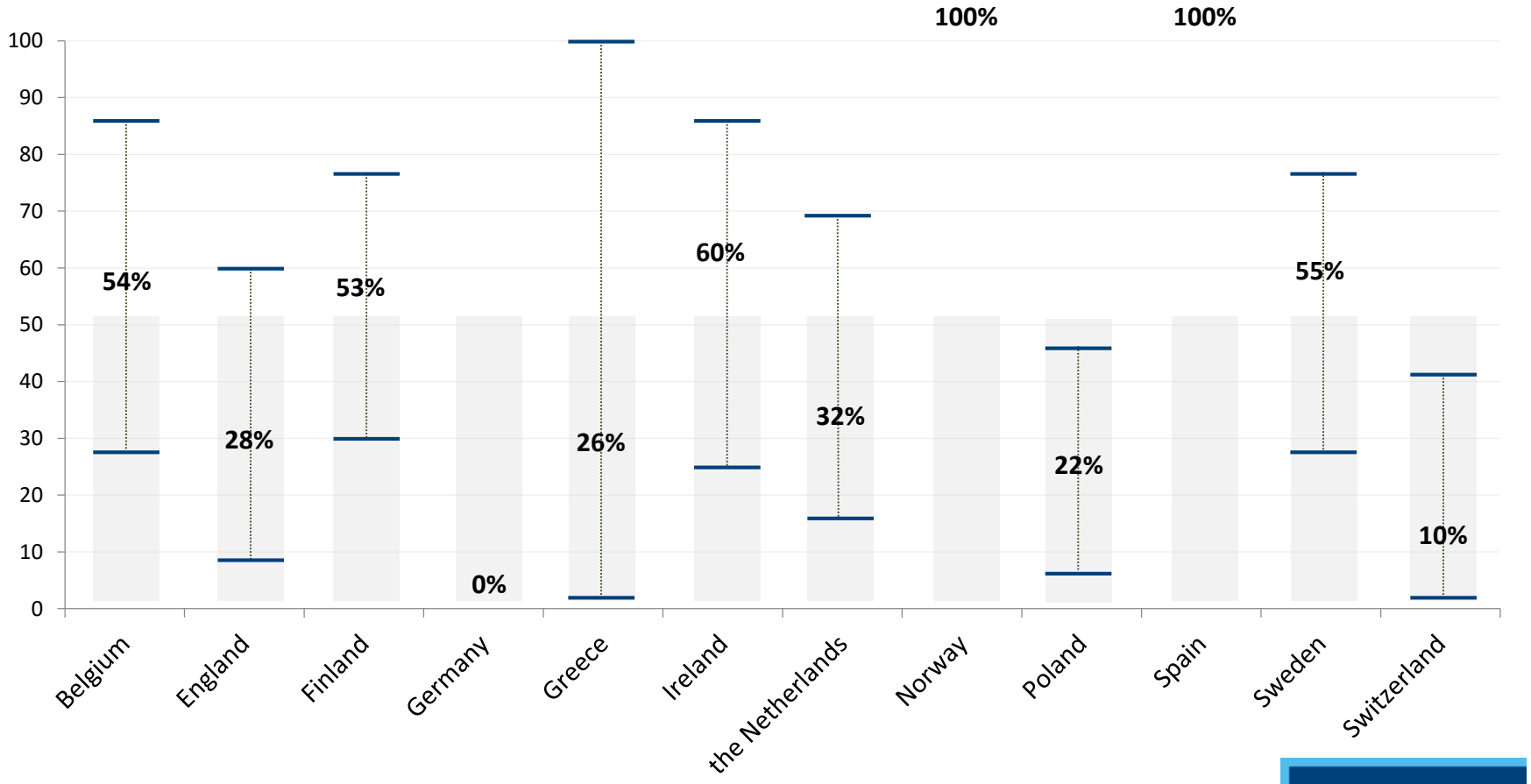


Weighted by hospital level

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES



Weighted by hospital level

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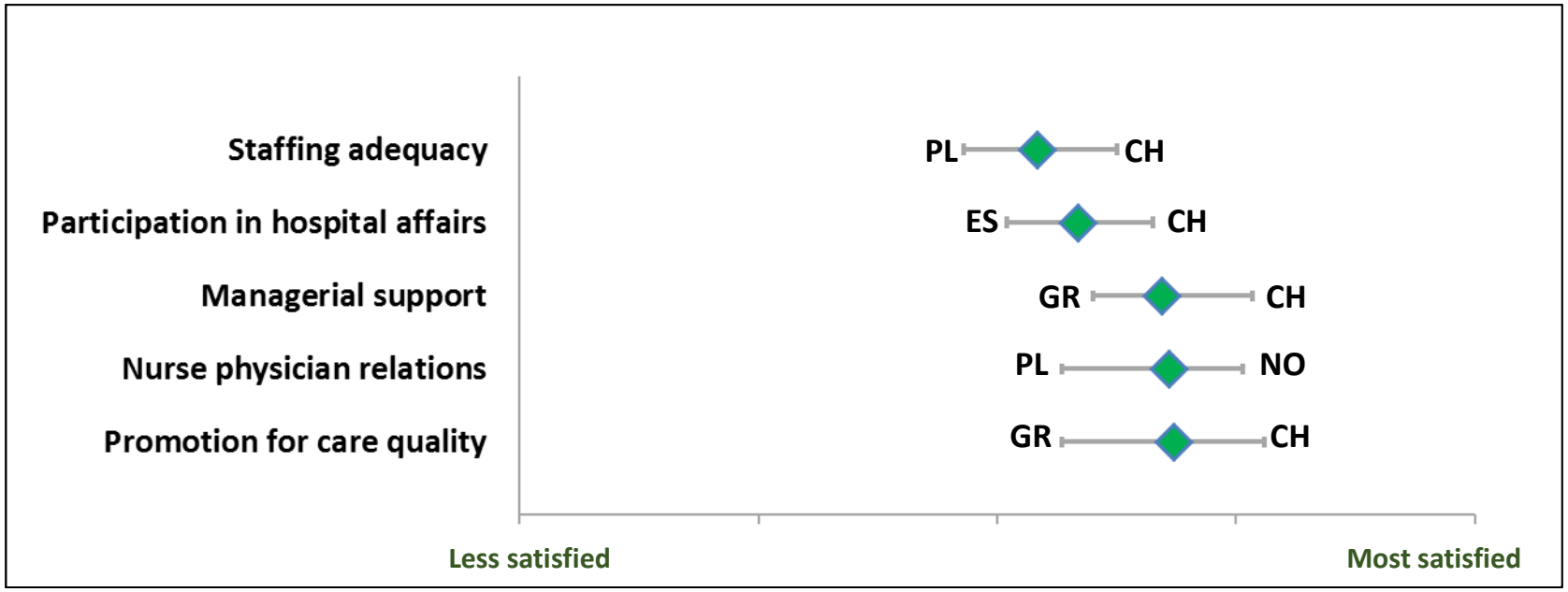
ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES



"The organizational characteristics that facilitate or constrain professional nursing practice"

Lake, 2002

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

Table 4| **Nurse outcomes in 12 European countries and the US. Data are number of nurses reporting outcome/total number of nurses surveyed, and percentage**

Country	Reported ward to have poor or fair quality of care		Gave ward poor or failing safety grade		Regarded themselves to be burnt out		Dissatisfied with job		Intended to leave their job in the next year		Not confident that patients can manage own care after hospital discharge		Not confident that hospital management would resolve patients' problems	
Belgium	886/3167	28	199/3150	6	730/2938	25	680/3159	22	934/3164	30	1921/3153	61	2518/3134	80
England	540/2899	19	191/2895	7	1138/2699	42	1136/2904	39	1261/2896	44	981/2901	34	1856/2893	64
Finland	141/1099	13	76/1095	7	232/1047	22	300/1114	27	546/1111	49	441/1098	40	890/1094	81
Germany	526/1507	35	94/1506	6	431/1430	30	561/1505	37	539/1498	36	473/1505	31	879/1504	58
Greece	170/361	47	61/358	17	246/315	78	199/358	56	177/358	49	231/358	65	311/356	87
Ireland	152/1389	11	117/1385	8	536/1293	41	581/1383	42	612/1380	44	588/1385	42	872/1381	63
Netherlands	756/2185	35	123/2187	6	211/2061	10	240/2188	11	418/2197	19	889/2195	41	1781/2200	81
Norway	468/3732	13	199/3712	5	823/3501	24	773/3729	21	942/3712	25	2097/3710	57	2739/3698	74
Poland	683/2581	26	463/2579	18	929/2321	40	663/2584	26	1056/2387	44	1890/2571	74	2196/2571	85
Spain	897/2794	32	173/2784	6	787/2670	29	1053/2786	38	740/2774	27	1554/2779	56	2370/2767	86
Sweden	2750/10 051	27	1117/10 035	11	2788/9477	29	2251/10 027	22	3418/10 013	34	2833/9995	28	7308/9988	73
Switzerland	324/1604	20	71/1606	4	228/1563	15	338/1610	21	447/1623	28	564/1612	35	1216/1612	75
US	4196/26 316	16	1628/26 772	6	9122/27 163	34	6692/26 935	25	3767/27 232	14	11 449/25 110	46	15 240/26 717	57

Aiken et al. 2012 The BMJ

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

Table 5| **Patient outcomes in 12 European countries and the US. Data are number of patients reporting outcome/total number of patients and percentage**

Country	Rated hospital 9 or 10*		Would definitely recommend hospital		Reported that nurses always treated them with respect		Reported that nurses always listened carefully to them		Reported that nurses always explained things in a clear manner	
Belgium	1179/2510	47	1483/2461	60	1980/2612	76	1515/2612	58	1389/2603	53
Finland	1128/1862	61	1246/1851	67	1399/1927	73	1116/1916	58	1158/1919	60
Germany	116/240	48	161/243	66	181/241	75	125/240	52	121/242	50
Greece	253/597	42	325/613	53	462/616	75	402/614	65	240/614	39
Ireland	171/282	61	206/278	74	244/284	86	197/281	70	188/284	66
Poland	2182/3979	55	2287/4028	57	3135/4112	76	2864/4116	70	2693/4103	66
Spain	166/469	35	243/438	55	354/463	76	298/464	64	284/465	61
Switzerland	587/976	60	761/980	78	842/988	85	693/987	70	690/984	70
US†	—	59	—	64	—	—	—	—	—	—

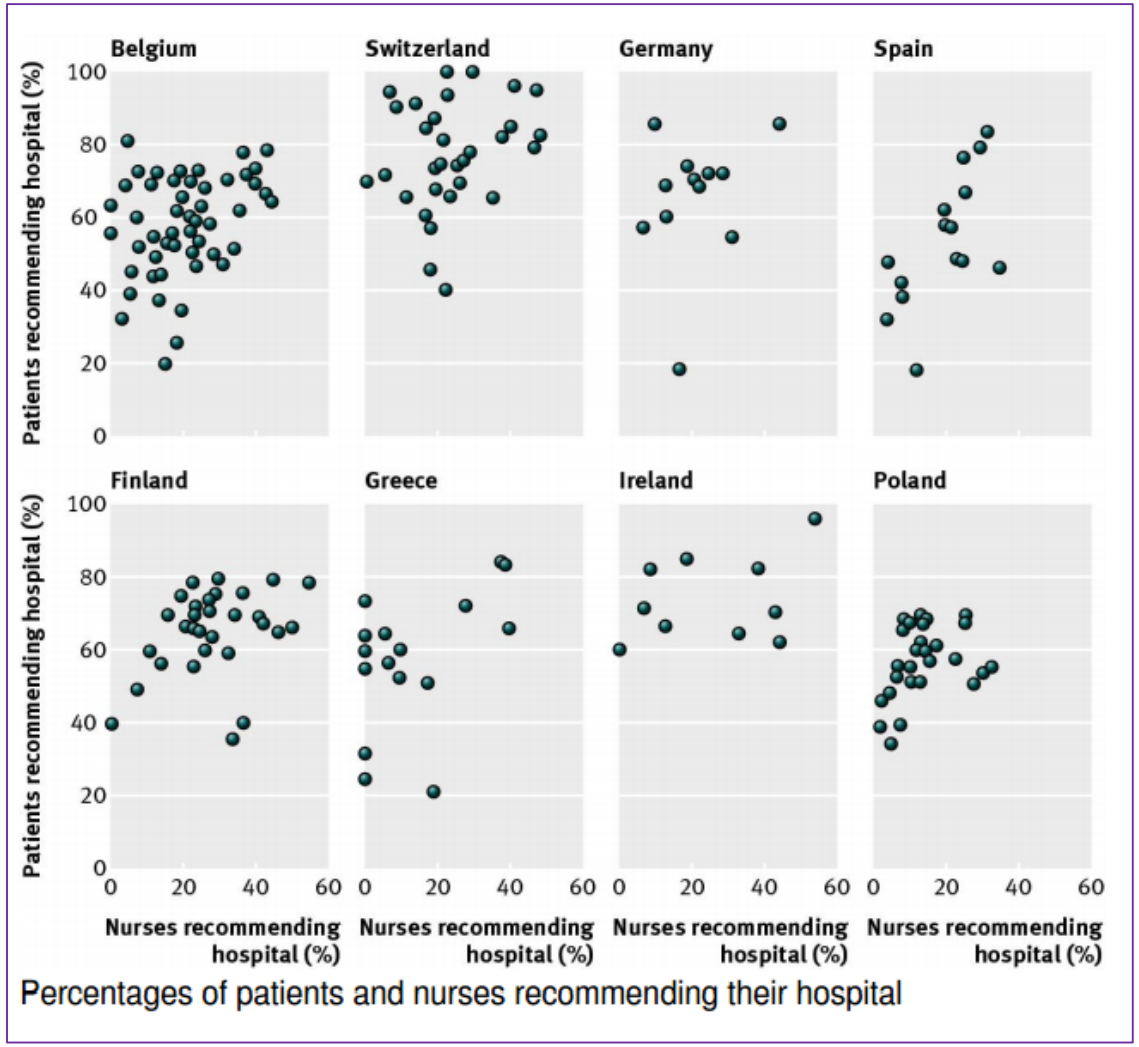
*On scale of 0-10.

†Some data were not available.

Aiken et al. 2012 The BMJ

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

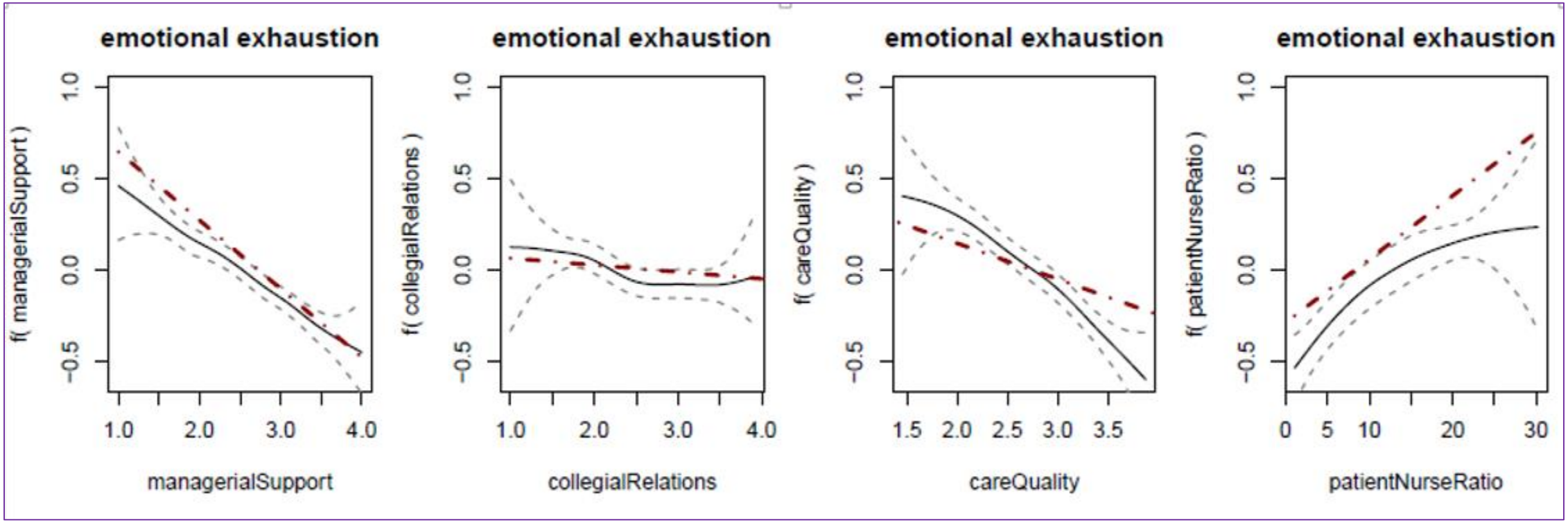
	Patient rating hospital 9 or 10*	
	Unadjusted odds ratio (95% CI)	Adjusted odds ratio (95% CI)
Europe		
Patient to nurse ratio	0.91 (0.88 to 0.94)	0.94 (0.91 to 0.97)
Nurse work environment	1.24 (1.11 to 1.38)	1.16 (1.03 to 1.32)
Nurse outcomes†		
Poor or fair quality of care in ward	0.83 (0.8 to 0.87)	0.88 (0.84 to 0.92)
Poor or failing safety grade in ward	0.9 (0.83 to 0.98)	0.85 (0.77 to 0.94)
Burnout	0.92 (0.89 to 0.96)	0.93 (0.88 to 0.97)
Job dissatisfaction	0.9 (0.86 to 0.94)	0.92 (0.87 to 0.96)
Intention to leave in the next year	0.98 (0.93 to 1.04)	0.91 (0.85 to 0.98)
Not confident that patients can manage care after hospital discharge	0.93 (0.89 to 0.97)	0.91 (0.85 to 0.97)
Not confident that hospital management would resolve patients' problems	0.97 (0.92 to 1.02)	0.96 (0.9 to 1.02)



Percentages of patients and nurses recommending their hospital

Aiken et al. 2012 The BMJ

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES



Casalicchio et al. 2017

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

	Nurse staffing (patients to nurse)		Nurse education (% of nurses with bachelor's degrees)	
	Mean (SD)	Range	Mean (SD)	Range
Belgium	10·8 (2·0)	7·5–15·9	55% (15)	26–86%
England	8·8 (1·5)	5·5–11·5	28% (9)	10–49%
Finland	7·6 (1·4)	5·3–10·6	50% (10)	36–71%
Ireland	6·9 (1·0)	5·4–8·9	58% (12)	35–81%
Netherlands	7·0 (0·8)	5·1–8·1	31% (12)	16–68%
Norway	5·2 (0·8)	3·4–6·7	100% (0)	100–100%
Spain	12·7 (2·0)	9·5–17·9	100% (0)	100–100%
Sweden	7·6 (1·1)	5·4–9·8	54% (12)	27–76%
Switzerland	7·8 (1·3)	4·6–9·8	10% (10)	0–39%
Total	8·3 (2·4)	3·4–17·9	52% (27)	0–100%

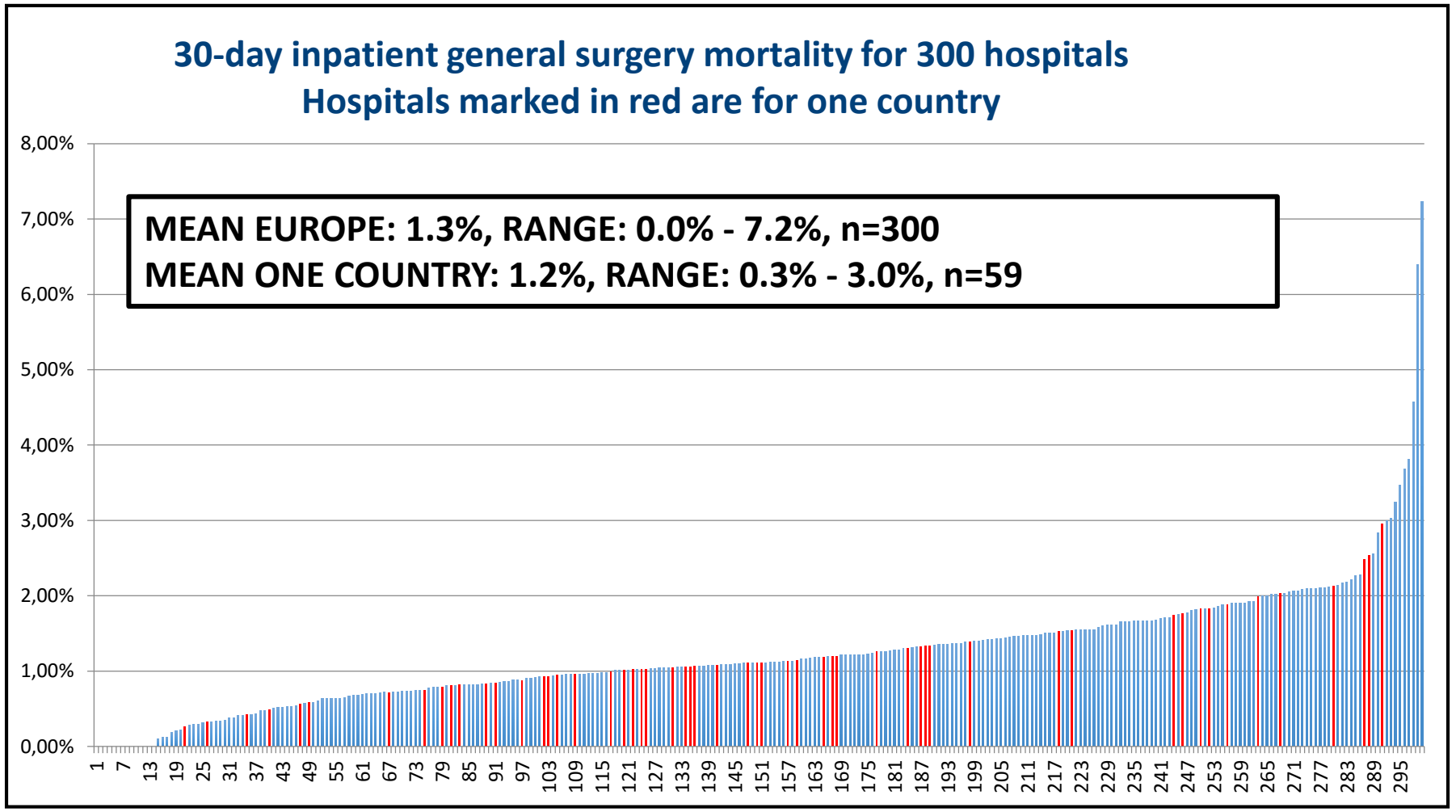
Means, SDs, and ranges are estimated from hospital data—eg, the 59 hospitals in Belgium have a mean patient-to-nurse ratio of 10·8, and the patient-to-nurse ratio ranges across those 59 hospitals from 7·5 to 15·9. Similarly, the 31 hospitals in Switzerland have, on average, 10% bachelor's nurses, and the percent of bachelor's nurses ranges across those 31 hospitals from 0% to 39%.

Table 2: **Nurse staffing and education in nine European countries**

There seems to be great disparity in the level of formal education among nurses in Europe. As evidenced by the present study, this heterogeneity might contribute to increased patient mortality. A bachelors degree in medicine and surgery is internationally recognised as a compulsory requirement for all doctors. Given that nurses spend arguably more time in the acute monitoring and management of patients than other health professionals,[2,3] it is somewhat surprising that similar basic formal qualifications are yet to be universally implemented in nursing.

Aiken et al. 2014 The Lancet

ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES



ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

	Partly adjusted models		Fully adjusted model	
	OR (95% CI)	p value	OR (95% CI)	p value
Staffing	1·005 (0·965–1·046)	0·816	1·068 (1·031–1·106)	0·0002
Education	1·000 (0·959–1·044)	0·990	0·929 (0·886–0·973)	0·002

The partly adjusted models estimate the effects of nurse staffing and nurse education separately while controlling for unmeasured differences across countries. The fully adjusted model estimates the effects of nurse staffing and nurse education simultaneously, controlling for unmeasured differences across countries and for the hospital characteristics (bed size, teaching status, technology, and work environment), and patient characteristics (age, sex, admission type, type of surgery, and comorbidities present on admission). OR=odds ratio.

Table 4: **Partly and fully adjusted odds ratios showing the effects of nurse staffing and nurse education on 30 day inpatient mortality**

Aiken et al. 2014 The Lancet

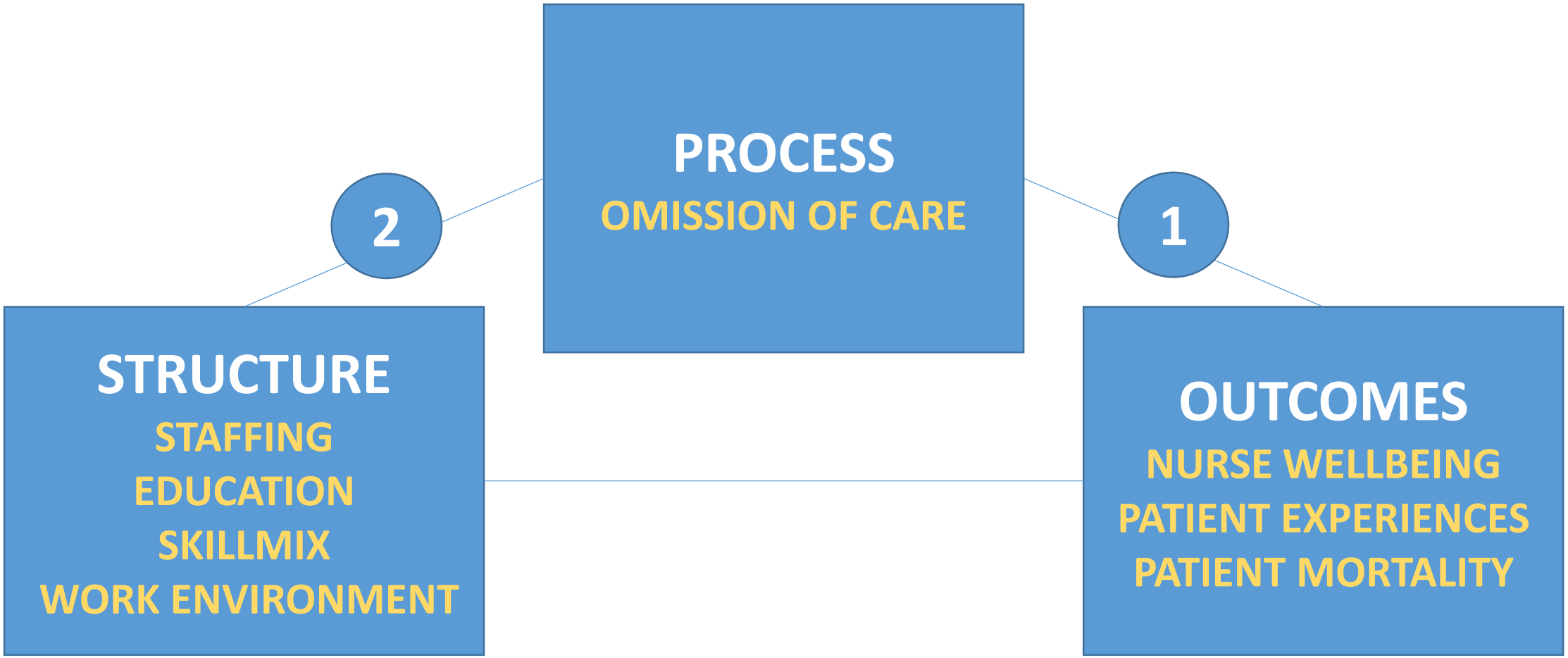
ORGANIZATION OF CARE AND PATIENT AND HEALTHCARE WORKER OUTCOMES

Table 3 ORs indicating the association of nursing skill mix with inpatient mortality, patient ratings of their hospitals, nurse-reported quality of care and nurse outcomes in hospitals in six European countries

	ORs reflecting the associations of skill mix with the different outcomes			
	Without controls		With controls	
Outcome	OR 95% CI	p Value	OR 95% CI	p Value
30-day inpatient mortality	0.90 (0.81 to 1.00)	0.058	0.89 (0.80 to 0.98)	0.018
Low hospital rating by patients	0.81 (0.74 to 0.88)	<0.001	0.90 (0.81 to 0.99)	0.026
Poor/fair unit quality	0.90 (0.81 to 1.00)	0.053	0.89 (0.80 to 0.98)	0.016
Poor/failing safety grade	1.05 (0.93 to 1.17)	0.457	0.85 (0.73 to 0.99)	0.040
Poor safety culture	1.09 (1.01 to 1.15)	0.022	0.93 (0.87 to 0.99)	0.027
Nurse would not recommend hospital	0.97 (0.87 to 1.08)	0.616	0.82 (0.72 to 0.93)	0.001
Pressure ulcers	0.82 (0.74 to 0.91)	0.001	0.85 (0.73 to 0.98)	0.027
Falls with injury	0.89 (0.79 to 1.00)	0.058	0.80 (0.71 to 0.91)	0.001
Urinary tract infections	0.89 (0.83 to 0.96)	0.002	0.88 (0.78 to 1.00)	0.049
High nurse burnout	0.93 (0.85 to 1.01)	0.102	0.89 (0.80 to 1.00)	0.043
Nurse job dissatisfaction	0.87 (0.79 to 0.95)	0.003	0.91 (0.83 to 0.99)	0.025

Aiken et al. 2016 BMJ Q&S

PROCESS OF CARE AND PATIENT OUTCOMES



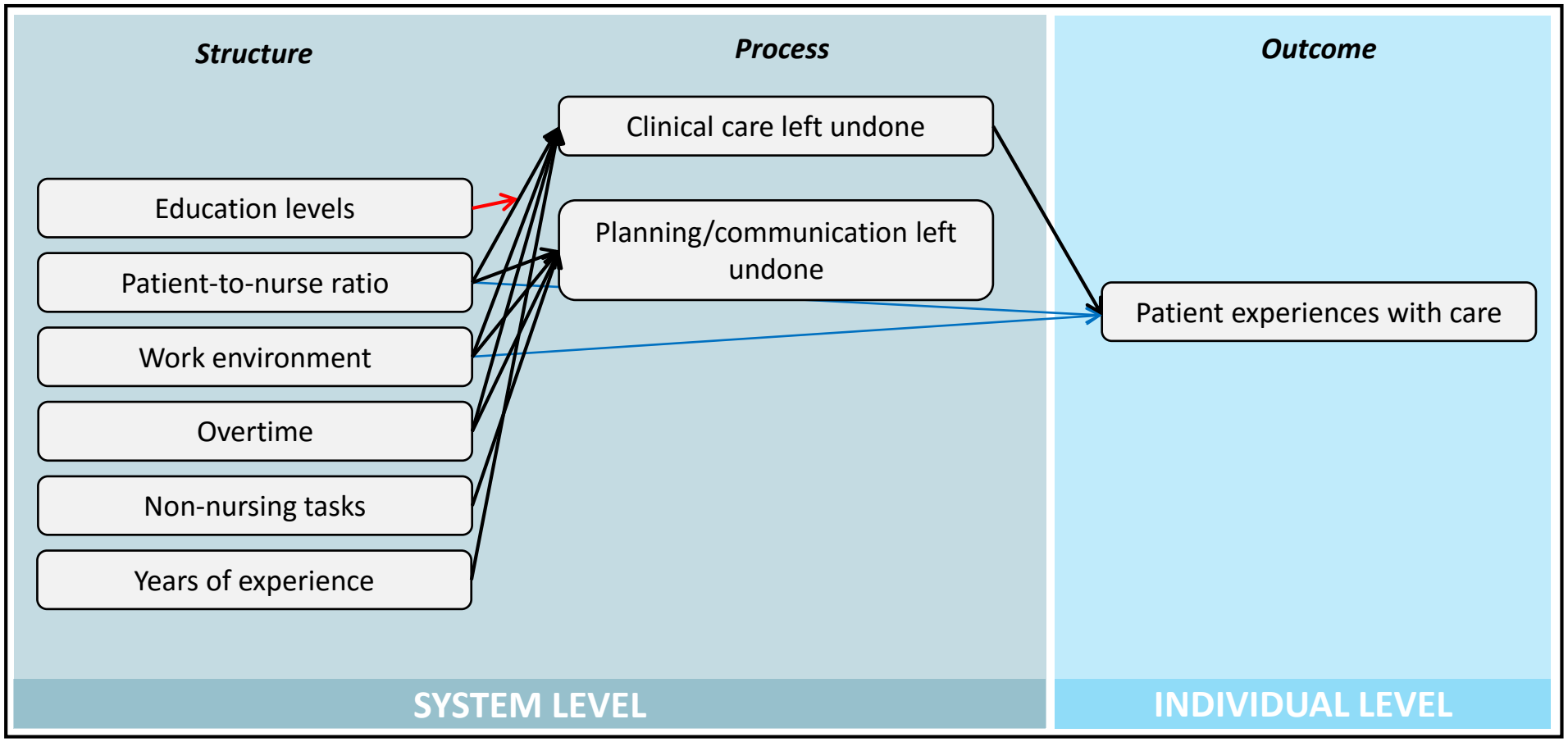
PROCESS OF CARE AND PATIENT OUTCOMES

Table 2 Prevalence (Mean percentages and SDs) of nursing care activities left undone in European hospitals (n=488)

	BE	CH	DE	ES	FI	GR	IE	NL	NO	PL	SE	EN	12 countries
1. Comfort/talk with patients	58.7 (15.9)	51.8 (17.1)	81.0 (11.6)	39.6 (10.7)	37.2 (13.0)	48.1 (16.7)	68.2 (13.5)	44.6 (12.3)	39.1 (9.4)	36.8 (11.0)	44.9 (10.5)	65.0 (7.9)	**52.6 (18.5)**
2. Develop or update nursing care plans/care pathways	43.4 (11.3)	38.3 (13.6)	55.2 (11.3)	46.1 (15.1)	35.7 (13.5)	39.8 (14.9)	49.5 (13.4)	37.8 (11.2)	38.7 (11.2)	37.6 (10.0)	32.9 (10.6)	46.5 (12.6)	**41.7 (13.8)**
3. Educating patients and families	44.0 (12.6)	30.9 (11.6)	51.3 (14.0)	48.9 (11.2)	25.0 (11.6)	53.7 (15.8)	58.0 (10.5)	25.7 (10.1)	25.0 (6.1)	61.0 (9.7)	25.2 (7.4)	52.1 (9.2)	**40.6 (17.1)**
4. Oral hygiene	43.3 (12.9)	24.1 (11.8)	30.2 (14.3)	47.1 (8.2)	31.3 (14.1)	60.6 (14.1)	33.0 (9.1)	23.9 (9.1)	29.9 (10.8)	41.5 (11.4)	28.8 (10.2)	28.9 (7.9)	**34.4 (14.5)**
5. Adequately document nursing care	36.3 (12.5)	19.4 (9.4)	40.7 (13.7)	20.9 (9.5)	21.3 (11.0)	37.8 (18.0)	23.8 (9.7)	17.9 (5.9)	21.6 (8.2)	19.6 (6.9)	24.6 (9.6)	32.9 (10.4)	**27.5 (13.2)**
6. Adequate patient surveillance	28.6 (12.5)	16.3 (10.5)	37.7 (12.6)	20.9 (8.9)	27.0 (12.6)	54.8 (12.7)	31.2 (10.0)	21.4 (7.4)	26.3 (8.4)	15.6 (5.2)	19.9 (7.0)	34.7 (8.4)	**27.2 (13.6)**
7. Planning care	26.5 (11.8)	19.2 (9.4)	43.7 (12.3)	29.5 (10.5)	32.8 (14.7)	42.0 (17.5)	27.8 (9.6)	13.7 (6.1)	15.8 (6.3)	38.4 (12.3)	10.0 (4.6)	27.8 (8.2)	**25.8 (14.9)**
8. Frequent changing of patient position	31.8 (19.5)	18.0 (11.8)	22.4 (13.1)	19.2 (7.6)	19.6 (12.1)	58.8 (21.1)	19.0 (9.1)	16.9 (8.6)	23.0 (9.5)	30.1 (10.5)	18.4 (7.9)	28.8 (10.5)	**24.7 (15.5)**
9. Skin care	26.5 (11.8)	16.4 (7.2)	28.5 (14.2)	24.8 (8.2)	24.0 (11.3)	57.0 (18.7)	15.5 (6.6)	17.8 (7.5)	30.1 (8.3)	20.8 (7.5)	23.5 (8.1)	21.1 (7.4)	**24.5 (12.8)**
10. Prepare patients and families for discharge	26.6 (9.5)	16.4 (5.9)	23.5 (9.5)	33.7 (9.0)	11.9 (5.9)	36.4 (14.5)	28.3 (6.7)	16.7 (7.1)	13.6 (5.0)	35.3 (8.4)	15.7 (5.4)	20.9 (7.6)	**22.4 (11.0)**
11. Administer medications on time	22.6 (10.4)	15.3 (7.9)	20.2 (10.6)	8.2 (5.8)	12.6 (7.9)	34.8 (15.2)	18.7 (8.8)	17.2 (6.7)	15.5 (5.8)	11.9 (4.6)	23.7 (7.9)	23.6 (8.6)	**19.4 (10.5)**
12. Pain management	15.7 (8.6)	8.3 (6.3)	19.7 (10.1)	4.1 (3.7)	7.3 (5.0)	27.2 (13.5)	4.4 (3.5)	11.1 (5.8)	4.6 (3.1)	5.4 (2.3)	5.5 (3.2)	7.4 (6.3)	**10.0 (9.2)**
13. Treatments and procedures	12.3 (7.7)	2.8 (3.6)	14.2 (9.4)	4.1 (3.1)	9.2 (6.3)	27.5 (20.9)	5.7 (3.6)	10.2 (4.7)	7.0 (4.3)	4.5 (2.3)	5.4 (3.1)	11.2 (6.3)	**9.2 (9.0)**
14. Composite score	**4.1 (1.1)**	**2.8 (0.8)**	**4.7 (0.9)**	**3.5 (0.7)**	**2.9 (1.0)**	**5.8 (1.2)**	**3.8 (0.7)**	**2.8 (0.8)**	**2.9 (0.7)**	**3.6 (0.7)**	**2.8 (0.7)**	**4.0 (0.7)**	**3.6 (1.2)**

Ausserhofer et al. 2014 BMJ Q&S

PROCESS OF CARE AND PATIENT OUTCOMES



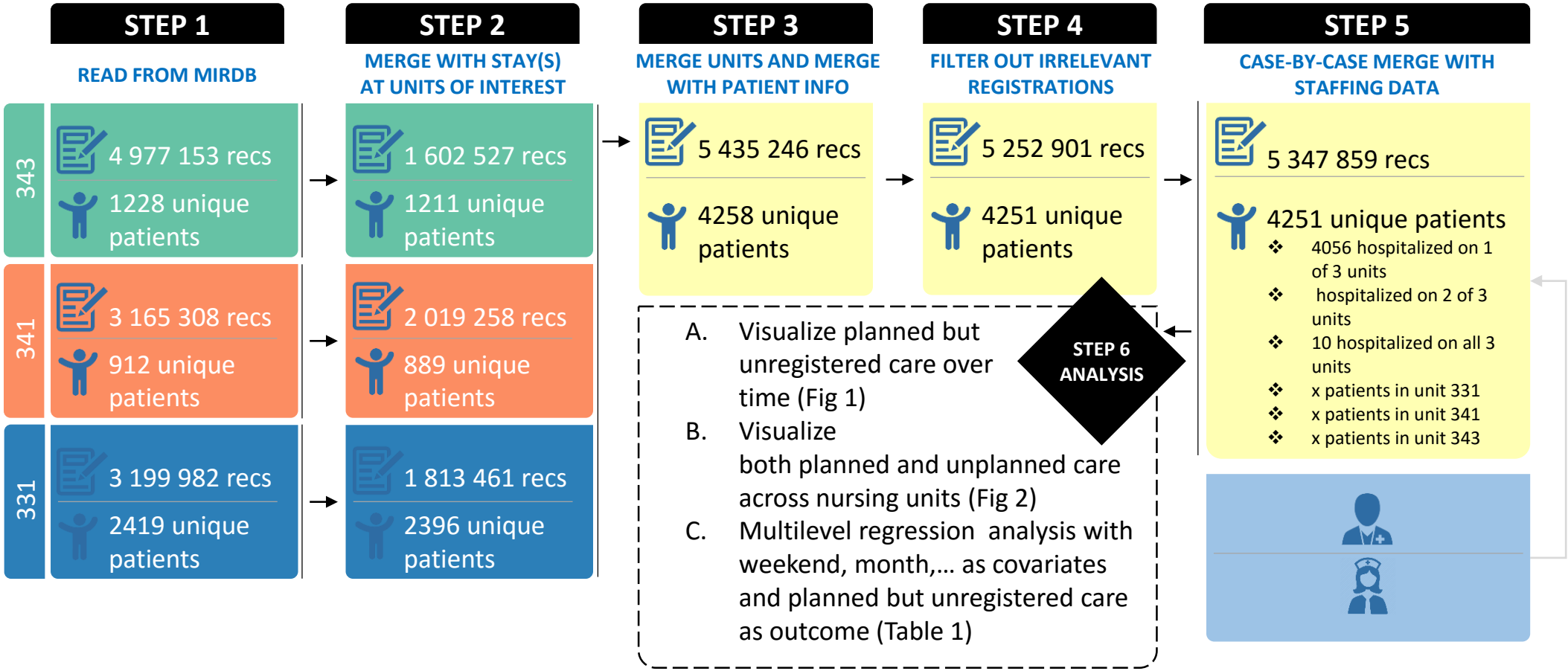
Bruyneel et al. 2015 Med Care Res Rev

PROCESS OF CARE AND PATIENT OUTCOMES

	30-day inpatient mortality			
	Odds ratio	Lower 2·5% CI	Upper 2·5% CI	p-value
Model 1				
Nurse staffing	1·068	1·031	1·106	0·0002
Nurse education	0·929	0·886	0·973	0·0019
Model 2				
Care left undone	1·015	1·004	1·026	0·0084
Model 3				
Care left undone	1·012	1·001	1·023	0·0392
Nurse staffing	1·056	1·018	1·095	0·0036
Nurse education	0·928	0·885	0·972	0·0018

Ball, Bruyneel et al. *IJNS forthcoming*

PROCESS OF CARE AND PATIENT OUTCOMES



PROCESS OF CARE AND PATIENT OUTCOMES

Table 1. Organization and management of nursing work in 11 European countries: proportion of hospitals indicating that the item is present

	BE	CH	DE	ES	FI	IE	NL	NO	PL	SE	UK
Planning of staffing											
The hospital as a whole uses a formal system to determine staffing adequacy on its inpatient units	40%	46%	51%	39%	23%	17%	32%	17%	70%	36%	93%
Ward staffing levels are based on the result of matching staffing to patient acuity/dependency using a formal system	35%	40%	62%	37%	87%	30%	25%	26%	63%	27%	59%
Staffing is planned to match patient acuity dependency on a shift by shift basis using a formal system	19%	29%	16%	29%	85%	21%	4%	19%	50%	12%	30%
Performance review and professional development											
The hospital has an appraisal system where all nursing staff undergo an annual review with their manager	50%	94%	84%	29%	74%	14%	75%	97%	20%	58%	100%
The performance of all nursing staff is formally reviewed at least once a year	45%	66%	29%	50%	67%	14%	93%	53%	60%	100%	100%
The training needs of all nursing staff are formally reviewed at least once a year	56%	77%	53%	96%	74%	54%	93%	71%	97%	97%	100%

SECOND VICTIMS

Open Access Research

BMJ Open

Psychological impact and recovery after involvement in a patient safety incident: a repeated measures analysis

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To cite: Van Gerven E, Bruyneel L, Panella M, *et al*. Psychological impact and recovery after involvement in a patient safety incident: a repeated measures analysis. *BMJ Open* 2016;**6**:e011403. doi:10.1136/bmjopen-2016-011403

► Prepublication history for this paper is available online. To view these files please visit the journal online (http://dx.doi.org/10.1136/bmjopen-2016-011403).

Received 4 February 2016
Revised 26 May 2016
Accepted 3 August 2016

ABSTRACT

Objective: To examine individual, situational and organisational aspects that influence psychological impact and recovery of a patient safety incident on physicians, nurses and midwives.

Design: Cross-sectional, retrospective surveys of physicians, midwives and nurses.

Setting: 33 Belgian hospitals.

Participants: 913 clinicians (186 physicians, 682 nurses, 45 midwives) involved in a patient safety incident.

Main outcome measures: The Impact of Event Scale was used to retrospectively measure psychological impact of the safety incident at the time of the event and compare it with psychological impact at the time of the survey.

Results: Individual, situational as well as organisational aspects influenced psychological impact and recovery of a patient safety incident. Psychological impact is higher when the degree of harm for the

Strengths and limitations of this study

- This paper adds new knowledge on the factors associated with psychological distress resulting from involvement in patient safety incidents.
- This paper is one of the first to provide quantitative data on the recovery of second victims.
- This paper includes a timely question, a large population and the use of standardised and validated questionnaires.
- The study was not prospective but instead asked participants to think back and report on a past event, and then their current state which increases the chance that confounding might affect the observed associations.
- This study was limited to physicians, nurses and midwives, whereas other hospital workers may also be disturbed by stressful patient-related events.

SECOND VICTIMS

To examine the impact of

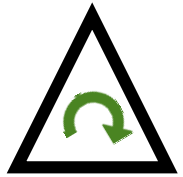
individual, 

situational and 

organisational aspects 

on

psychological impact and



recovery of a patient

safety incident

among **physicians**, **nurses** and **midwives**



SECOND VICTIMS

- Cross sectional analysis (recollection proxy pretest design)
- Setting & participants: 913 clinicians who were all involved in a patient safety incident

 n = 186

 n = 682

 n = 45

from 33 hospitals

SECOND VICTIMS

Incident type ‘medication and intravenous fluids’ was most common (35.5%), followed by incidents within the clinical process or procedure (34.4%) and patient or staff behaviour (12%).

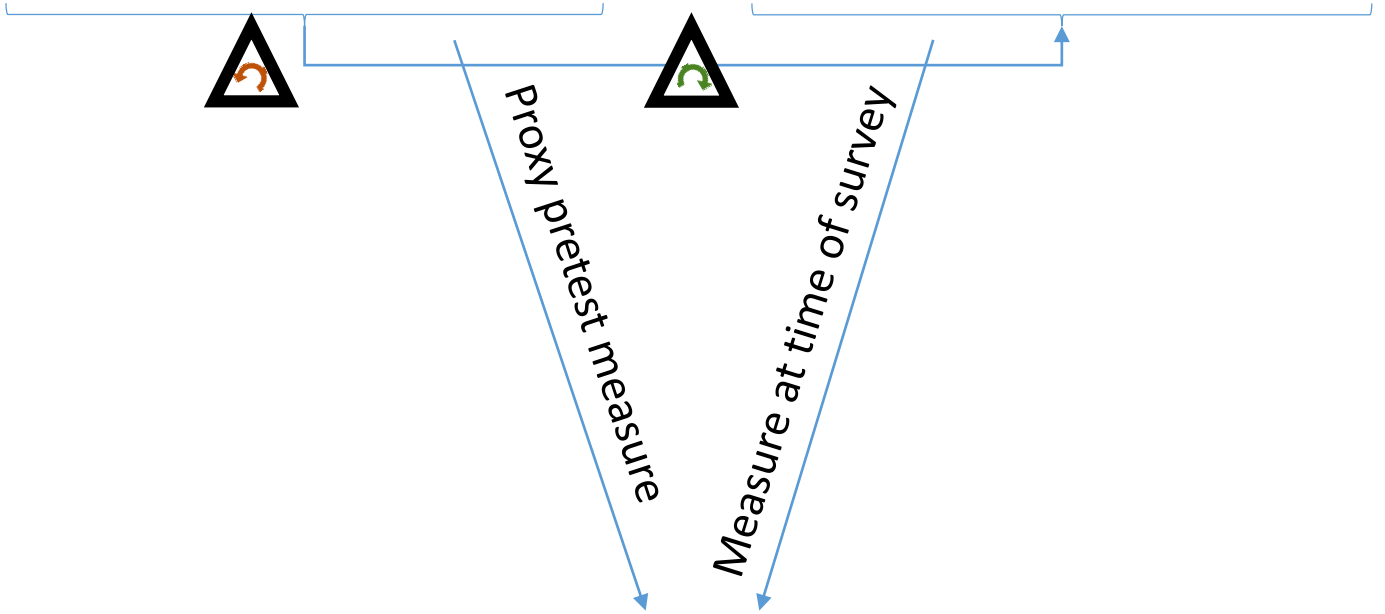
* Classification of PSIs based on The Conceptual Framework for the International Classification for Patient Safety.

Type of most memorable patient safety incident experienced by participants

Type of patient safety incident	n	Per cent
Medication/intravenous fluids	324	35.5
Clinical process/procedure	314	34.4
Staff/patient behaviour	110	12
Patient accidents eg, falls	70	7.7
Blood/blood products	32	3.5
Clinical administration	17	1.9
Medical device/equipment	10	1.1
Nutrition	9	1
Oxygen/gas/vapour	7	0.8
Infrastructure/building/fixtures	4	0.4
Resources/organisational management	3	0.3
Documentation	2	0.2
Unclear	11	1.2

SECOND VICTIMS

Psychological impact at time of the incident and at time of the survey



Impact of Event Scale = 15 items for 1 scale
e.g. “I thought about it when I didn't mean to”,
Response categories ‘not at all’ (0), ‘rarely’ (1), ‘sometimes’ (3) and ‘often’ (5)

SECOND VICTIMS

INDIVIDUAL ASPECTS

- Demographics
  - Gender
  - Profession
  - Professional experience.
- Personal resources: self-efficacy, resilience and optimism (8-item Life Orientation Test)
- Coping skills: support seeking and active coping and planning (16-item Brief COPE)

SITUATIONAL ASPECTS

- Feel personally responsible (‘yes’ / ‘no’)
- Time since event
- Degree of harm to patient ‘mild’, ‘moderate’, ‘severe’, ‘death’)

ORGANIZATIONAL ASPECTS

- Availability of a peer support team or support protocol (‘yes’/‘no’)
- Support received in the aftermath of the PSI
- Organisational culture (8-item Hospital Survey on Patient Safety Culture)

SECOND VICTIMS

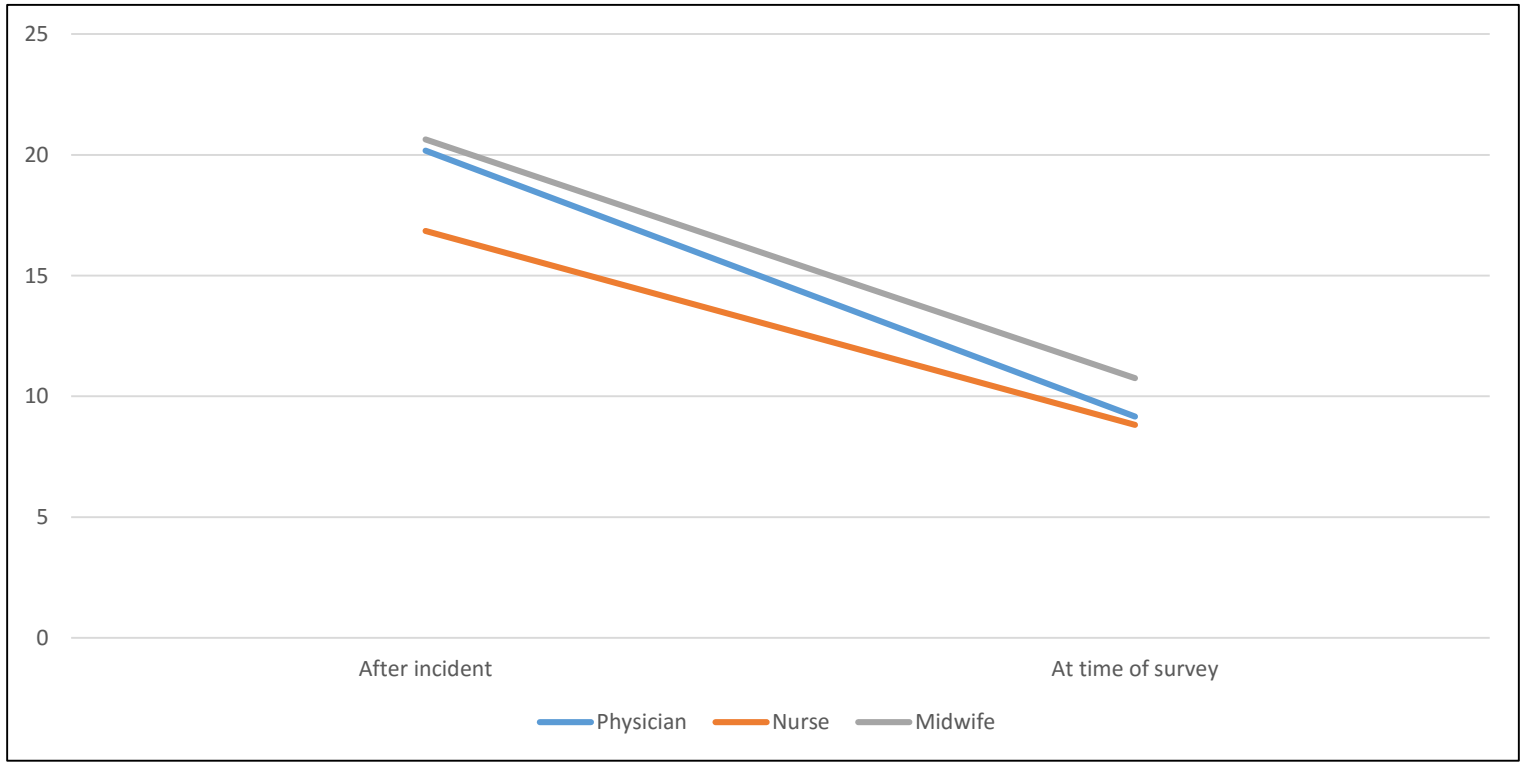
1. Psychological impact and recovery after a PSI

- Mean IES at time of incident: 17.72
- Mean IES at time of survey: 8.99

= significant decrease in IES scores between the retrospectively measured score and the score at the time of the survey

SECOND VICTIMS

2. Psychological impact and recovery after a PSI: individual aspects

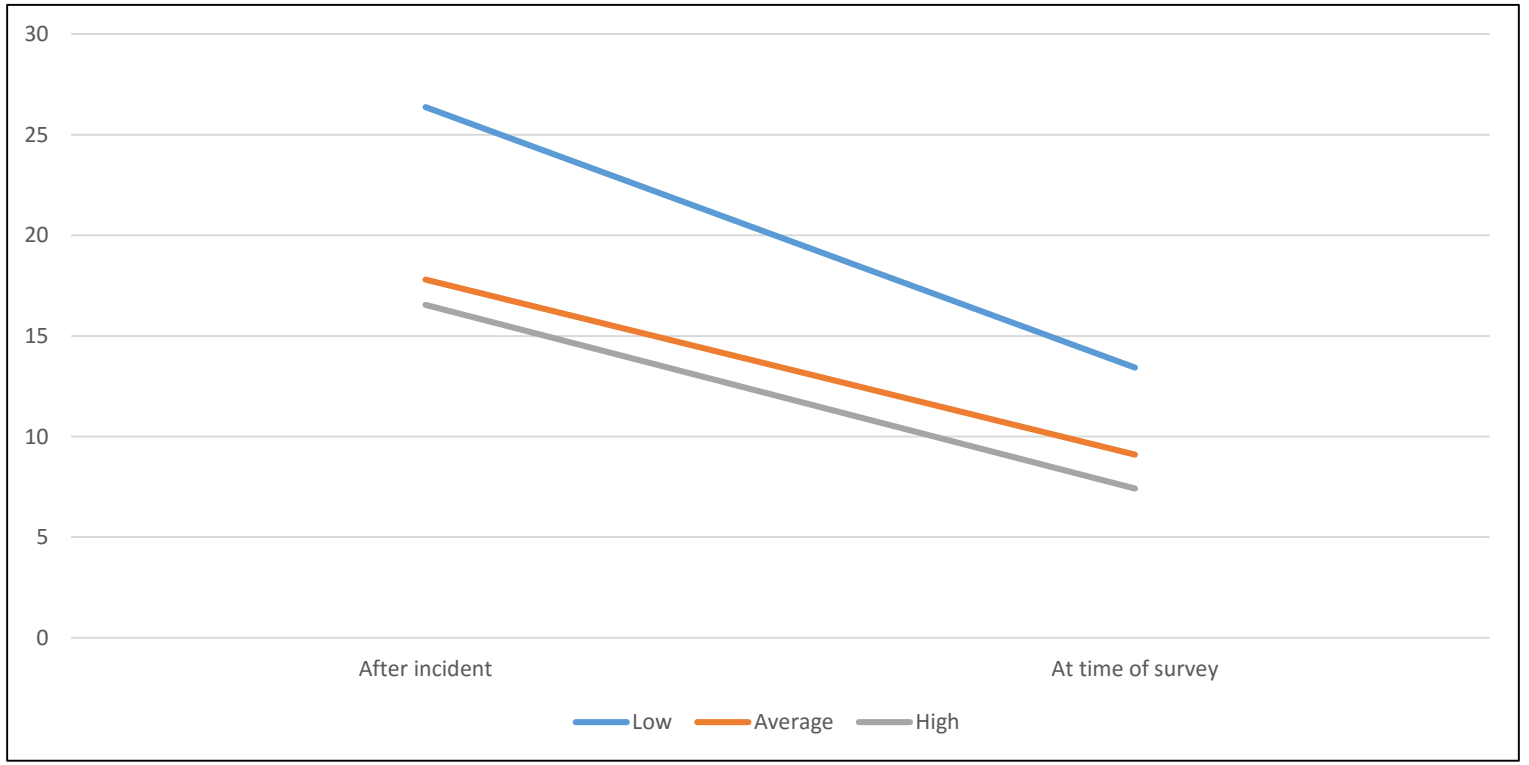


Profession

- No significant differences among physicians, nurses and midwifes

SECOND VICTIMS

2. Psychological impact and recovery after a PSI: individual aspects

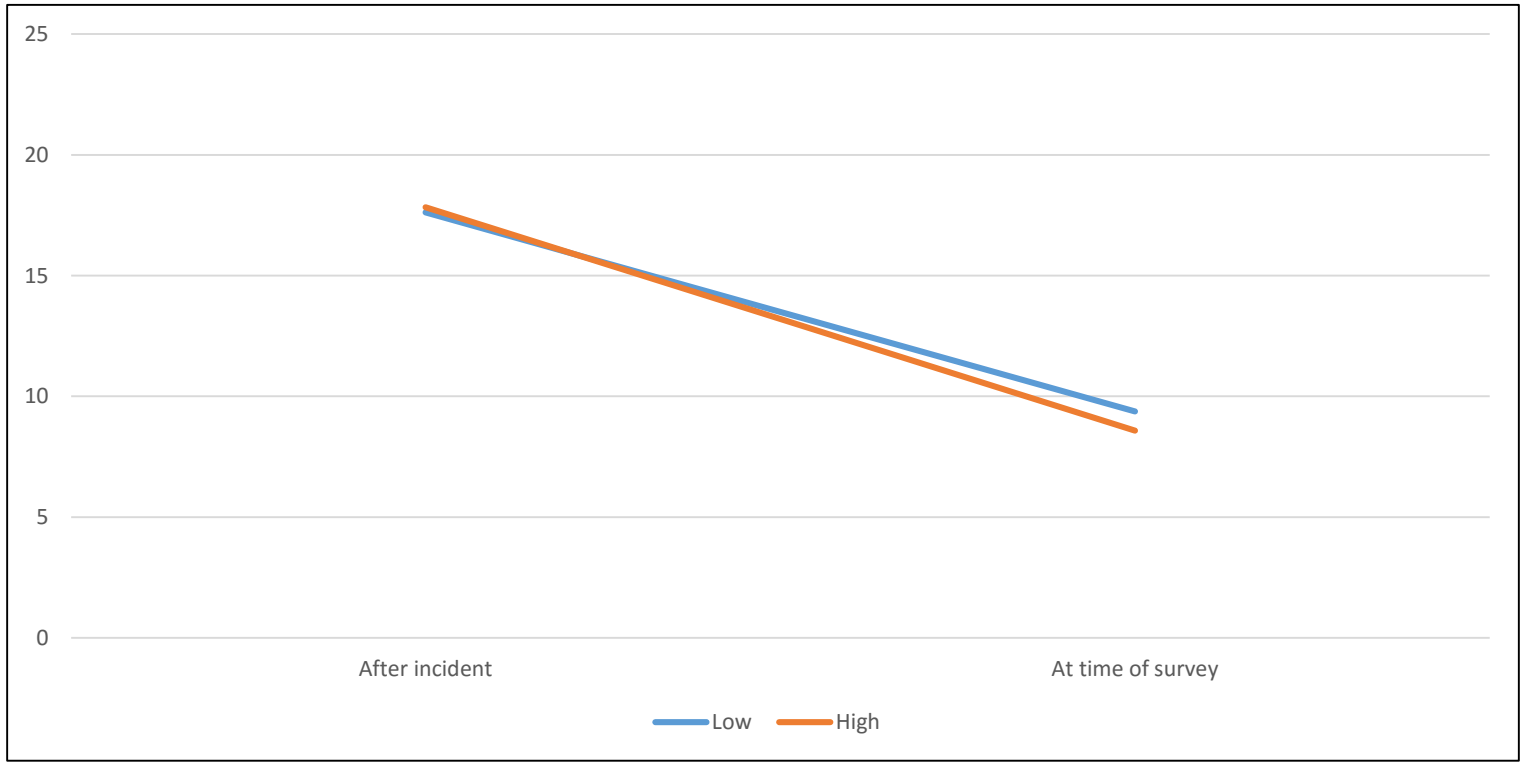


Optimism

- Has a significantly negative association with psychological impact

SECOND VICTIMS

2. Psychological impact and recovery after a PSI: individual aspects

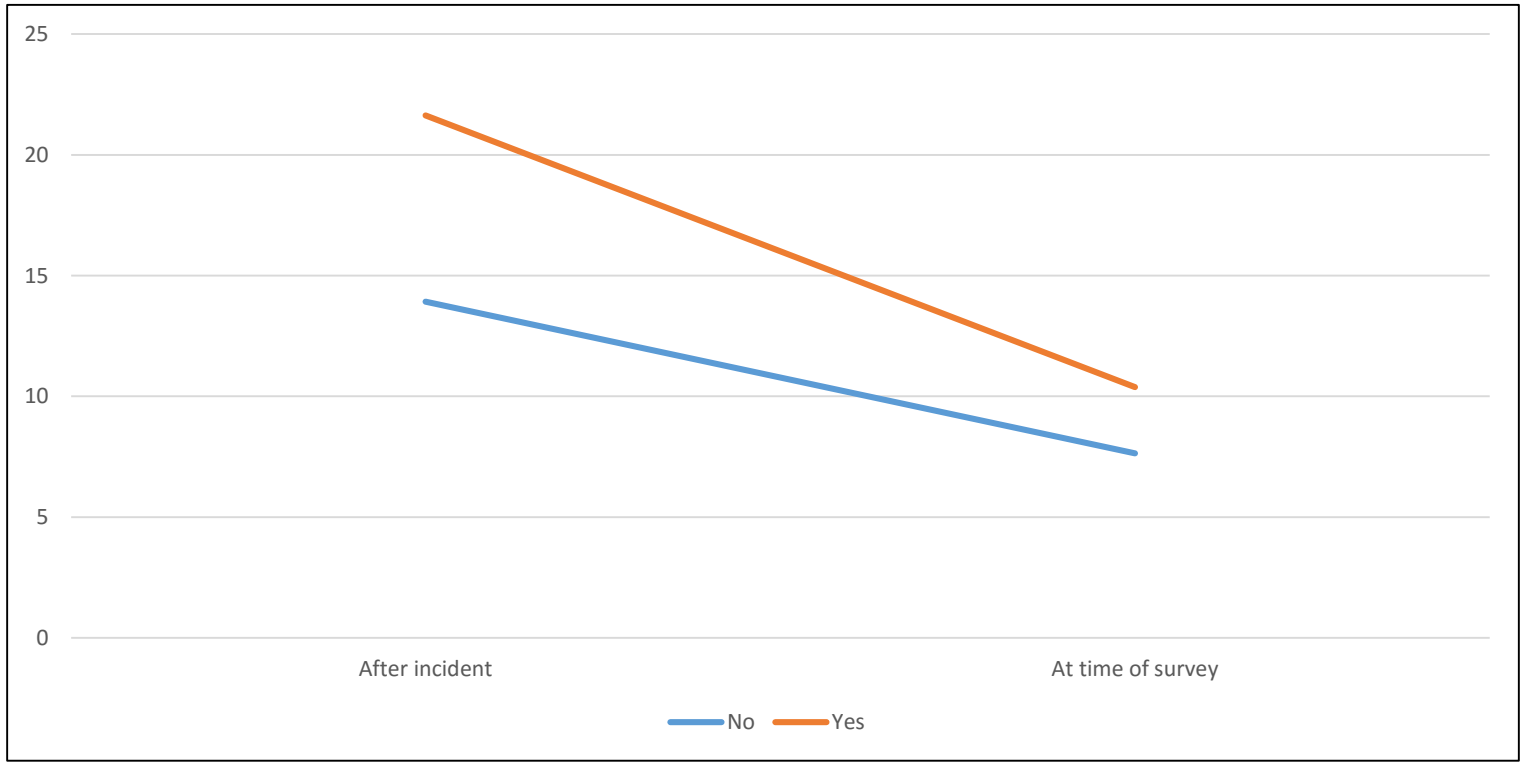


Support seeking

No association with the psychological impact nor recovery from a PSI

SECOND VICTIMS

3. Psychological impact and recovery after a PSI: situational aspects

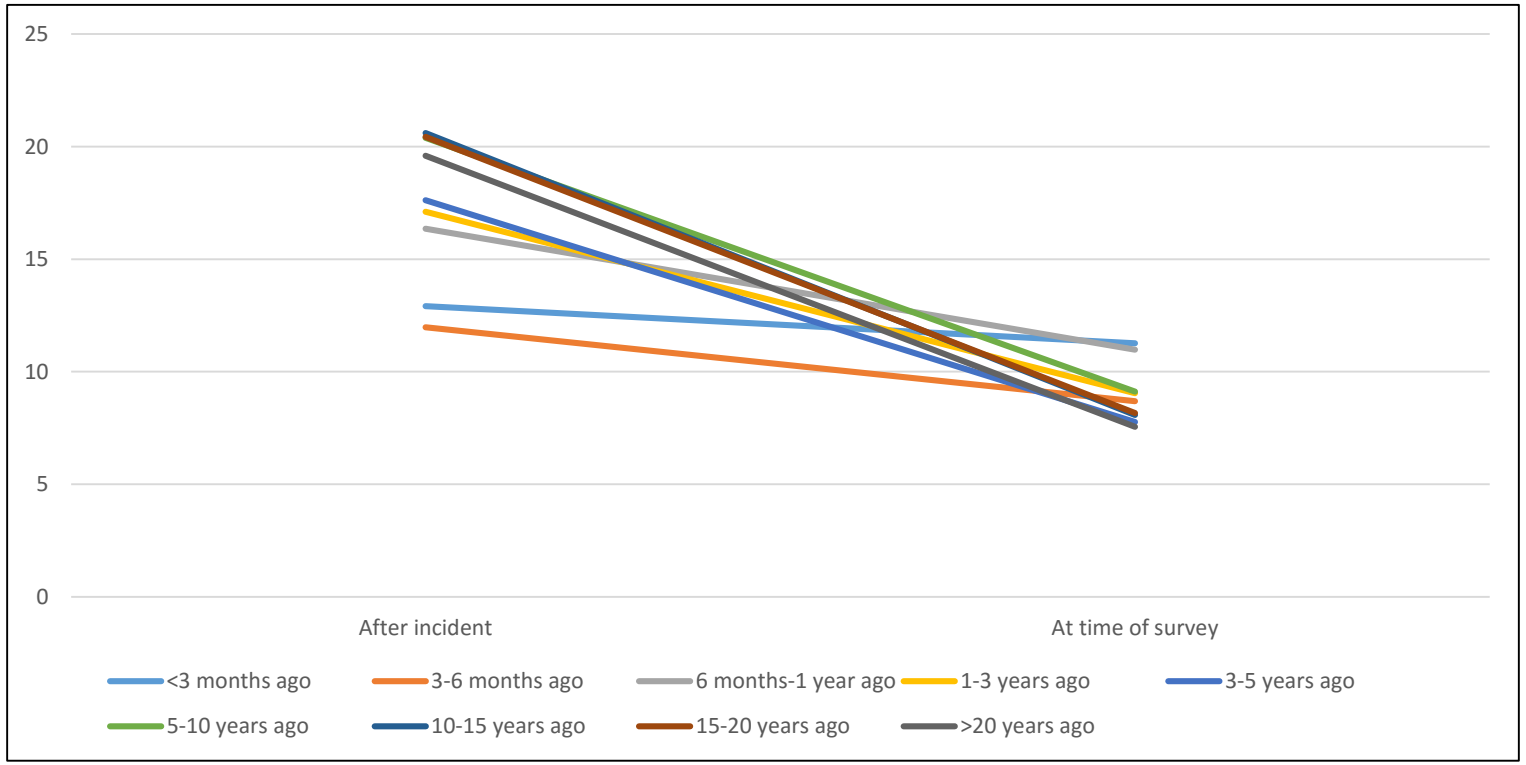


Feel personally responsible

- Feeling personally responsible for the incident is associated with a higher overall IES score
- Psychological impact among those who indicated a sense of responsibility has decreased significantly more

SECOND VICTIMS

3. Psychological impact and recovery after a PSI: situational aspects

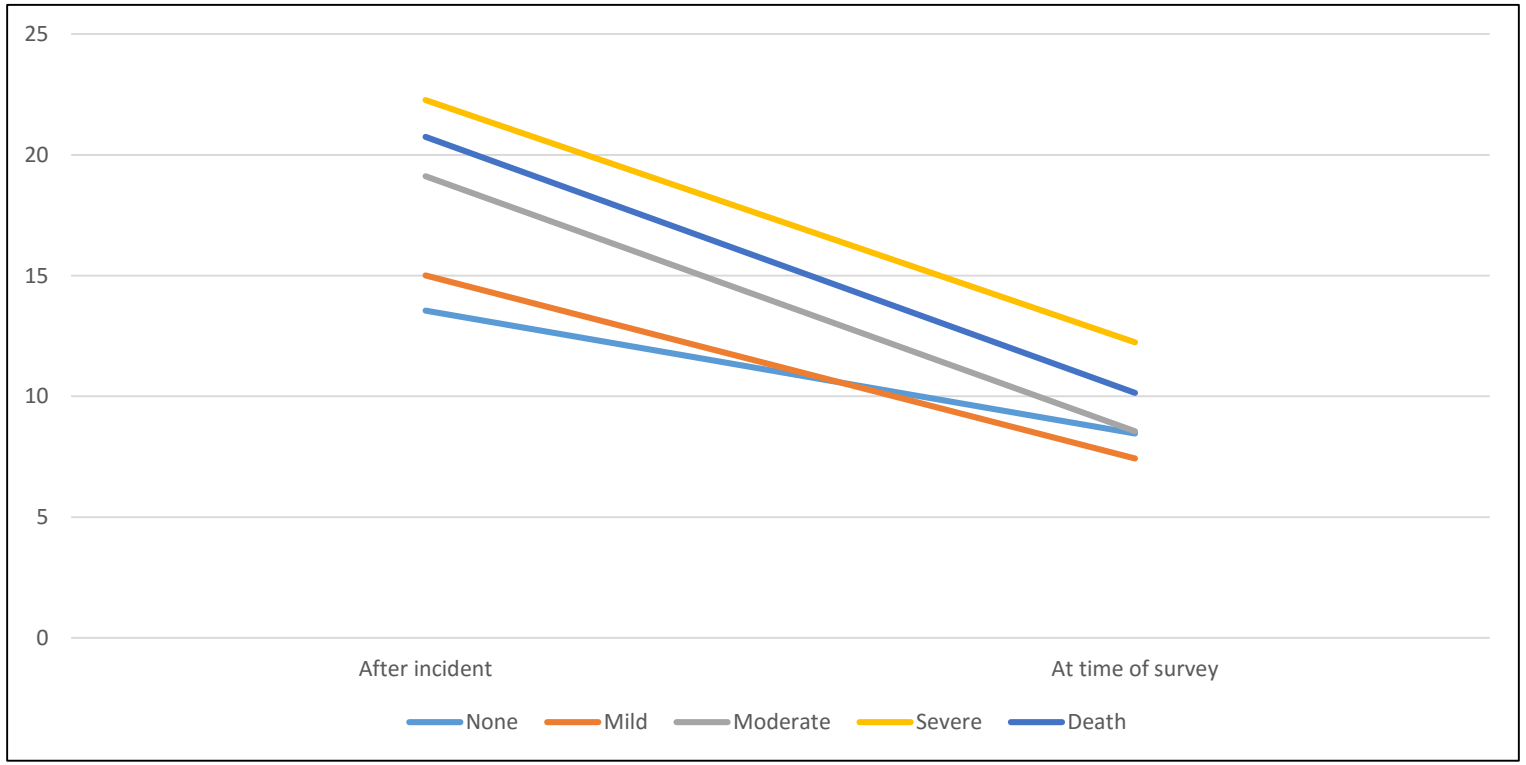


Time since event

- The longer ago the incident took place, the stronger the IES score had decreased between the retrospectively measured score and the score at the time of the survey

SECOND VICTIMS

3. Psychological impact and recovery after a PSI: situational aspects

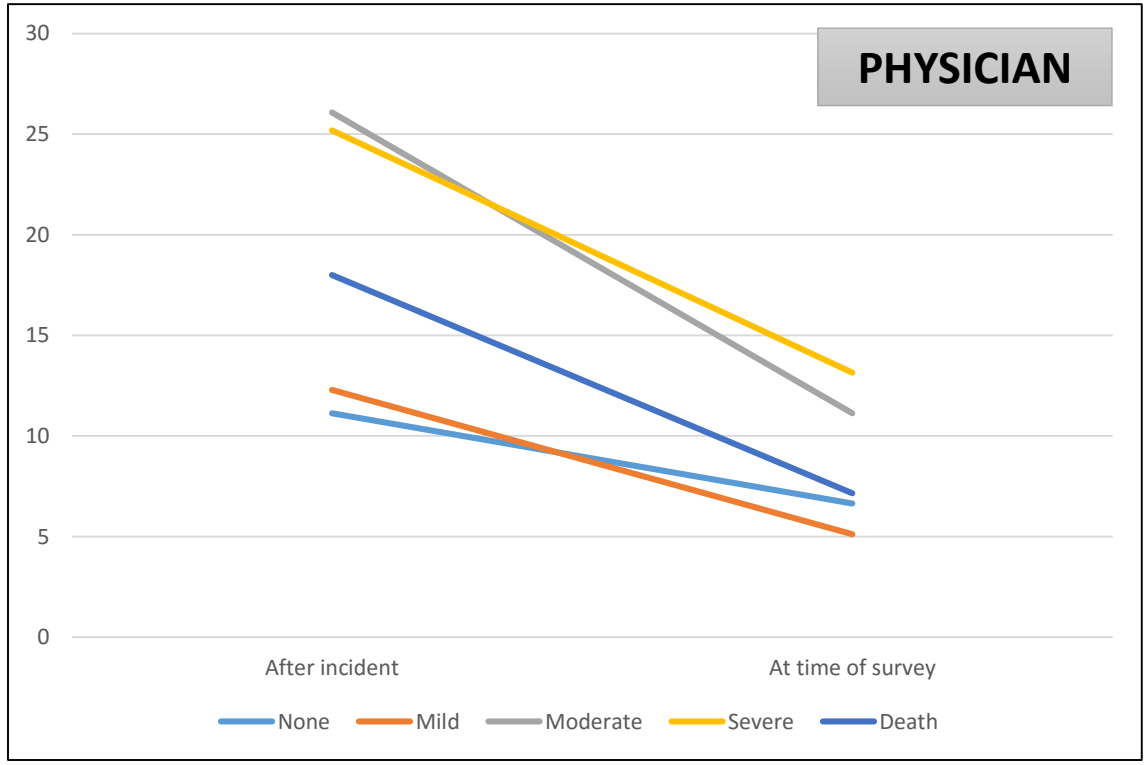


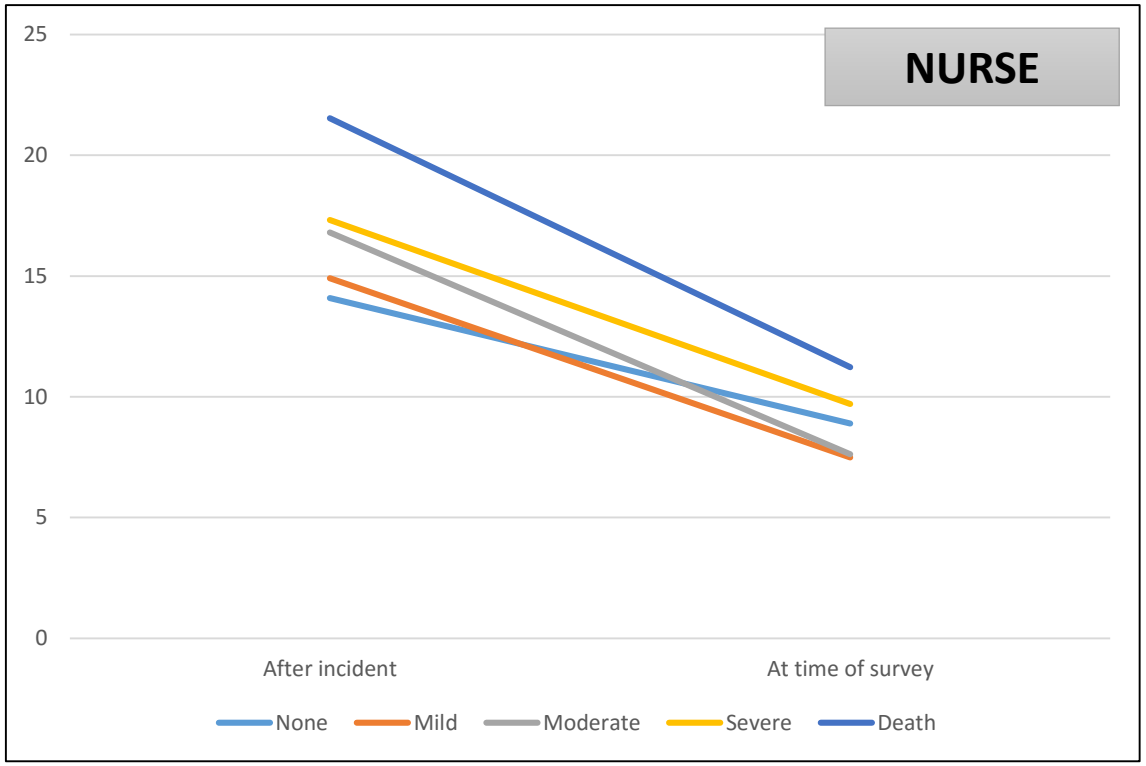
Degree of harm to patient

- PSIs resulting in moderate harm, severe harm or death are systematically associated with higher psychological impact on the health professional compared with incidents that do not result in harm for the patient.

SECOND VICTIMS

3. Psychological impact and recovery after a PSI:





SECOND VICTIMS

4. Psychological impact and recovery after a PSI: organizational aspects

N ORGANIZATIONS WITH SUPPORT TEAM FOR SECOND VICTIMS

11/33

N ORGANIZATIONS WITH PROTOCOL OR GUIDELINES FOR SECOND VICTIMS

14/33

Both did not influence psychological impact or recovery

SECOND VICTIMS

4. Psychological impact and recovery after a PSI: organizational aspects

- Respondents scoring the organizational culture above median as one of support and respect, experience a lower psychological impact
- Respondents scoring the organizational culture above median as one characterized by blame, experience a higher psychological impact
- Support under the form of information concerning what happened, information concerning what to do after the incident and extra guidance at the workplace are all associated with significantly lower IES scores only when it was fully received, not when it was only partially received.

SECOND VICTIMS

- **Proactive and reactive actions supported by the organization** and its leadership are needed to reduce the severity of the psychological impact of PSIs and markedly speed clinicians' healing process.
- **Starting at the recruitment stage, effective screening should be routinely conducted to identify clinicians at risk**, assessing personal resources and coping strategies that were found to affect impact and recovery in this study.

SECOND VICTIMS

- **Junior clinicians should be made familiar with the topic of second victims**. They should have the opportunity to openly discuss PSIs as well as near misses with senior clinicians acting as coaches.
- **Peer review meetings should take place routinely rather than only being incident based**, provide clear information concerning what happened and what to do, acknowledge learning opportunities and be non-confrontational.