



Le projet NAS – SIZ Nursing

Arnaud Bruyneel

Infirmier chef adjoint- CHU Tivoli

Président SIZ Nursing

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I. Introduction

Title: Nursing workload and staff allocation in francophone Belgian intensive care units with implementation of the Nursing Activities Score

Auteurs : Arnaud Bruyneel (1,2), RN, MPH, Charline Guerra (3), RN, MPH, Jérôme Tack (2,4), RN, MPH, Marie Droguet (1,2), RN, Julie Maes (4), RN, D. Reis Miranda, Ph.D (6)

1. CHU Tivoli, Soins intensifs
2. SIZ Nursing
3. Ecole de santé publique, Unité Économie et Gestion des Institutions de Soins, Département d'Économie de la Santé École de Santé Publique ULB
4. Hôpital Civil Marie Curie – CHU Charleroi, soins intensifs
5. CUB Hôpital Erasme, Soins intensifs
6. University Medical Centre of Groningen, Groningen, the Netherlands

I. Introduction



Titre
SISU
(2009)



Master SP +
Chercheur
(2011-2014)

École de
Santé Publique
de l'ULB



IC → ICA -
CHU Tivoli
USI (2015-
présent)

Infirmier SISU
(2009-2015)



MA -
Condorcet
SIAMU (2014-
présent)



I. Introduction

The NEW ENGLAND JOURNAL of MEDICINE

SPECIAL ARTICLE

Nurse Staffing and Inpatient Hospital Mortality

Jack Needleman, Ph.D., Peter Buerhaus, Ph.D., R.N., V. Shane Pankratz, Ph.D.,
Cynthia L. Leibson, Ph.D., Susanna R. Stevens, M.S.,
and Marcelline Harris, Ph.D., R.N.

Total of 171,041 patients with no shifts in an ICU

Each shift with RN staffing level below target or high turnover during first 30 days after admission

Shift with RN staffing level 8 hr or more below target	1.04 (1.03–1.06)	<0.001
Shift with high patient turnover	1.07 (1.02–1.13)	0.006

Each shift with RN staffing level below target or high turnover during first 5 days after admission

Shift with RN staffing level 8 hr or more below target	1.12 (1.08–1.16)	<0.001
Shift with high patient turnover	1.15 (1.07–1.24)	0.001

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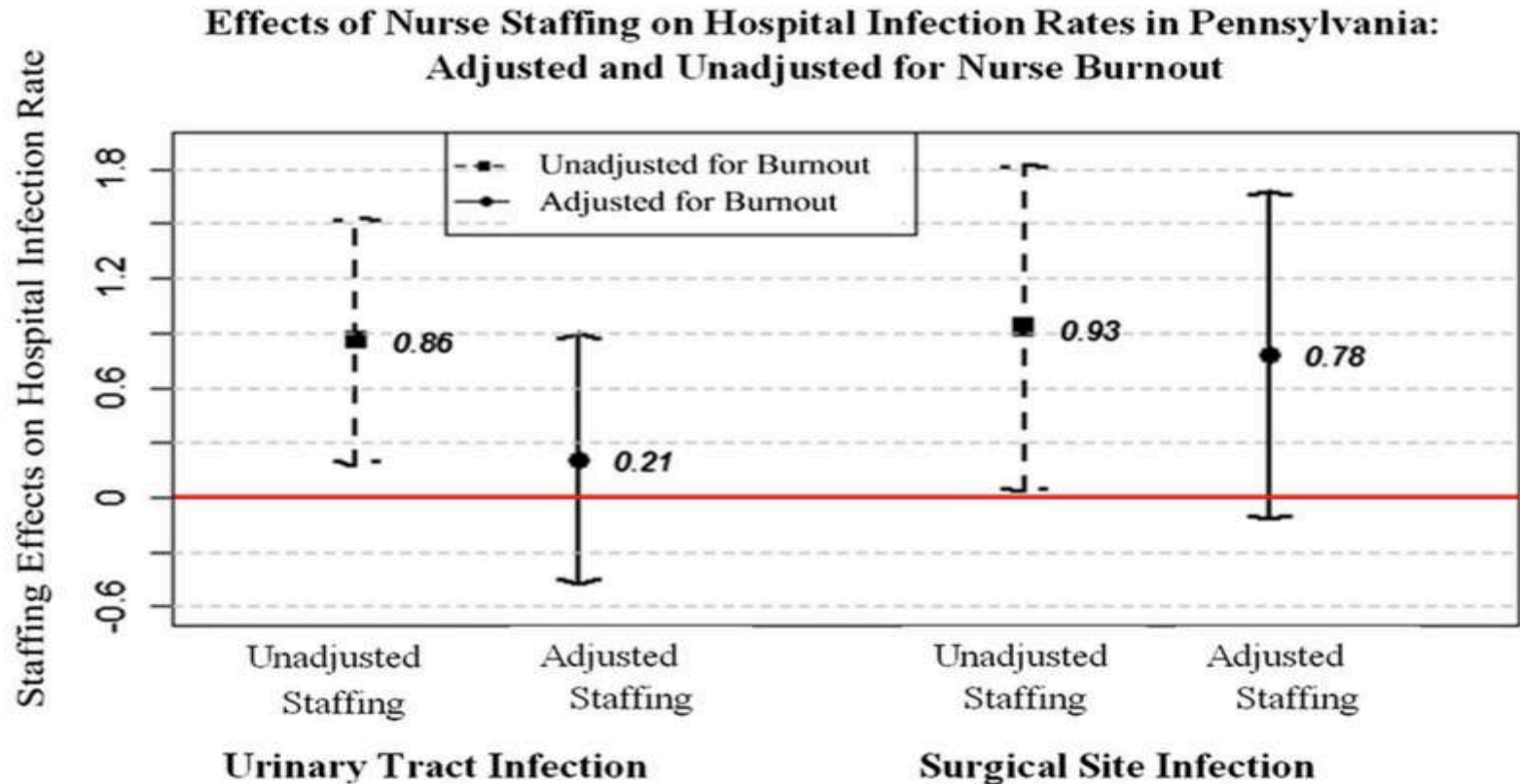
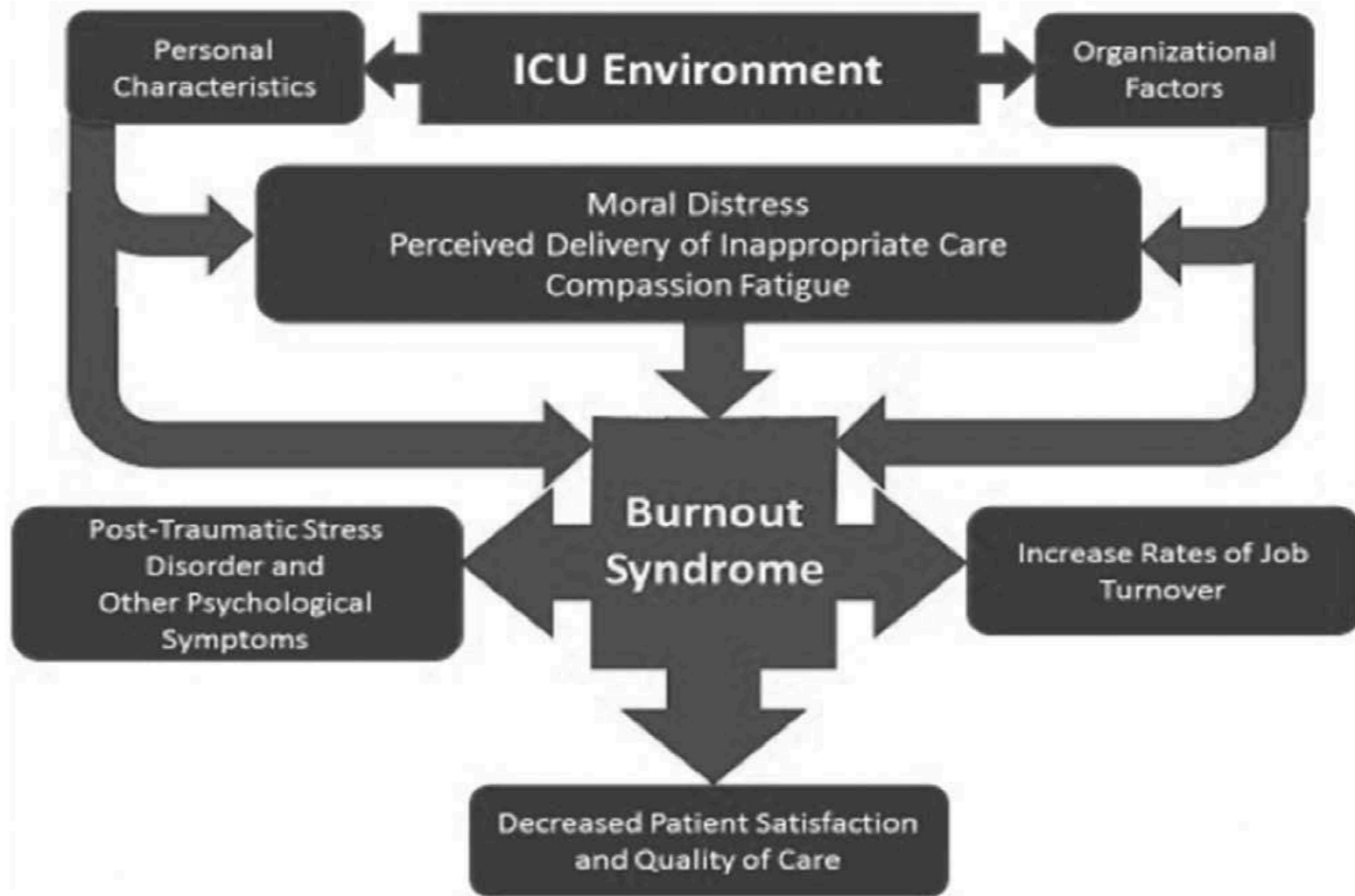


Fig 1.

Adjusted and unadjusted effects of burnout on nurse staffing and health care–associated urinary tract and surgical site infections.

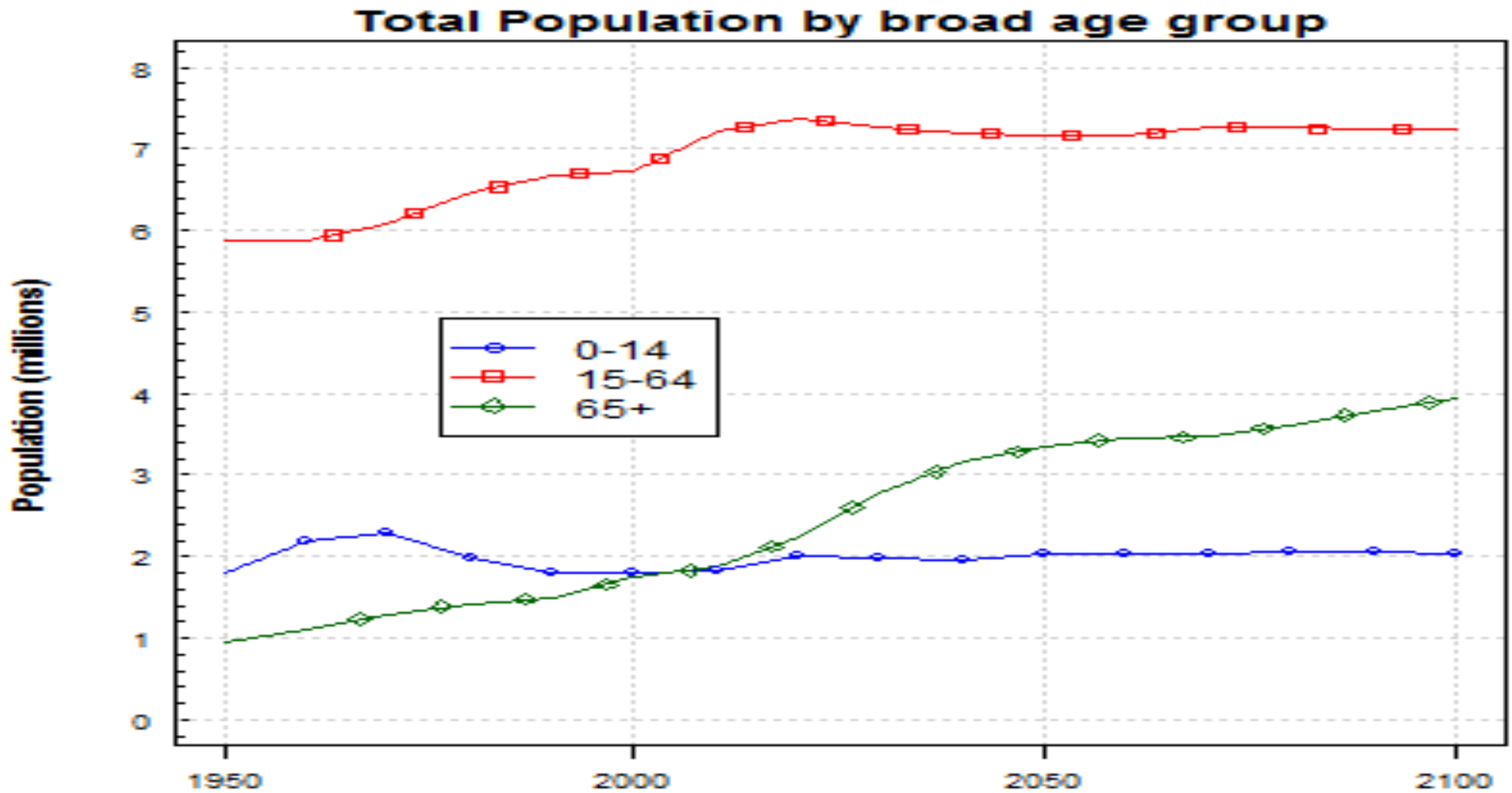
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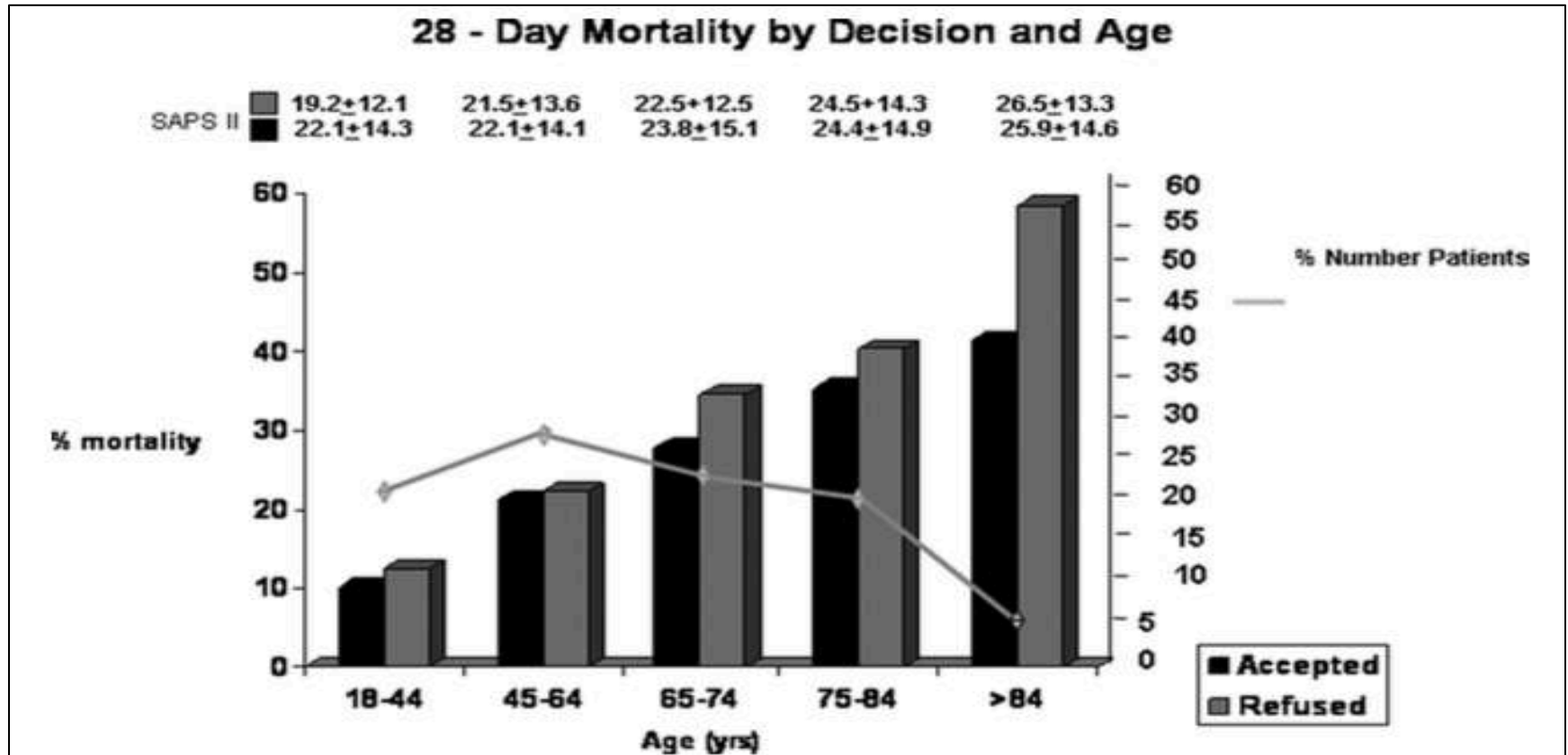


Figure 2. Twenty-eight-day mortality by decision (accepted or refused), age group, and Simplified Acute Physiology Score II scores in 7,368 patients. Mortality increased with age for accepted ($p < .001$) and rejected patients ($p < .001$). Mortality differences between rejected and accepted patients increased with age. Compared with the 15% mortality surplus for 85+, the differences were 2.0%, $p = .01$ for age 18–44; 4.7%, $p = .048$ for 45–64; 9.3%, $p = .20$ for 65–74; and 7.8%, $p = .17$ for 75–84.

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27 AVRIL 1998. – Arrêté royal fixant les normes auxquelles une fonction de soins intensifs doit répondre pour être agréée (*M.B. du 19/06/1998, p. 20073*)

Section 2 Le personnel infirmier.

Art. 18. La fonction dispose d'une équipe infirmière spécifique propre, qui permet d'assurer une permanence 24 h sur 24 d'au moins 2 infirmiers, par tranche complète de six lits, dont un au moins est porteur du titre professionnel particulier d'infirmier gradué ou d'infirmière graduée en soins intensifs et d'urgence ou justifie d'au moins 5 ans d'expérience, à la date d'entrée en vigueur du présent arrêté, dans un des services visés à l'article 17, alinéa 2.

Par tranche complémentaire entamée de 6 lits, il convient d'adapter le nombre d'infirmiers visé à l'alinéa précédent proportionnellement au nombre de lits.

En outre, l'équipe infirmière doit être adaptée en fonction des activités de la fonction.

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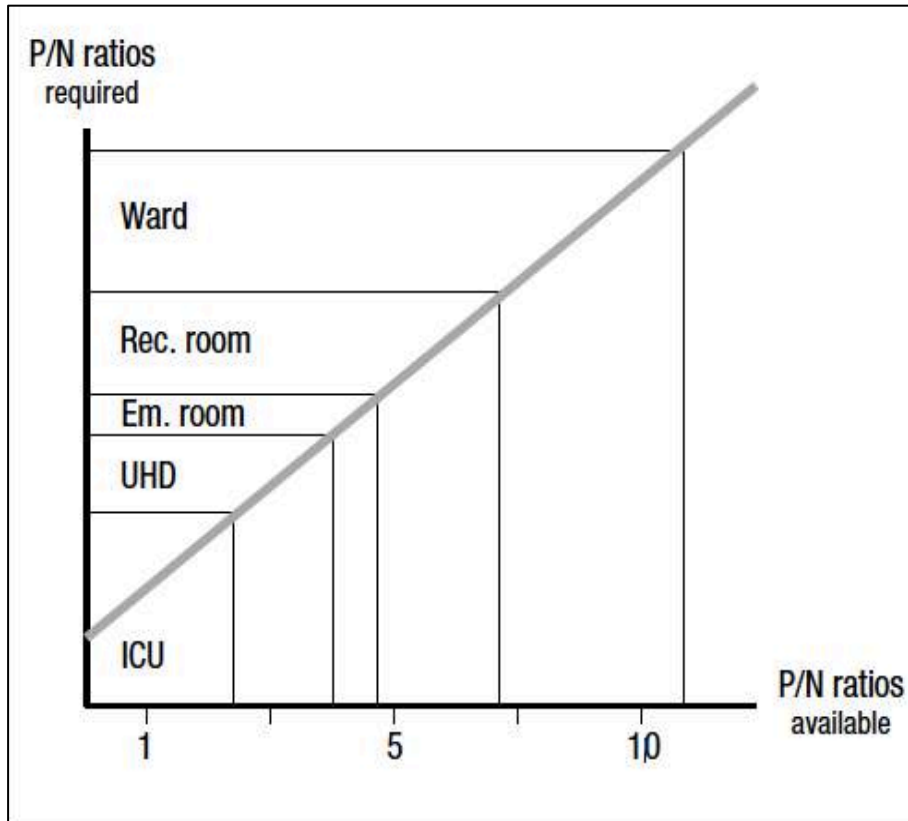


Figure 3. P/N ratios across the hospital. P/N- mean number of patients cared by one nurse; Rec. room: recovery room; Em. room: emergency room; HDU: high dependency unit; ICU Intensive Care Unit.

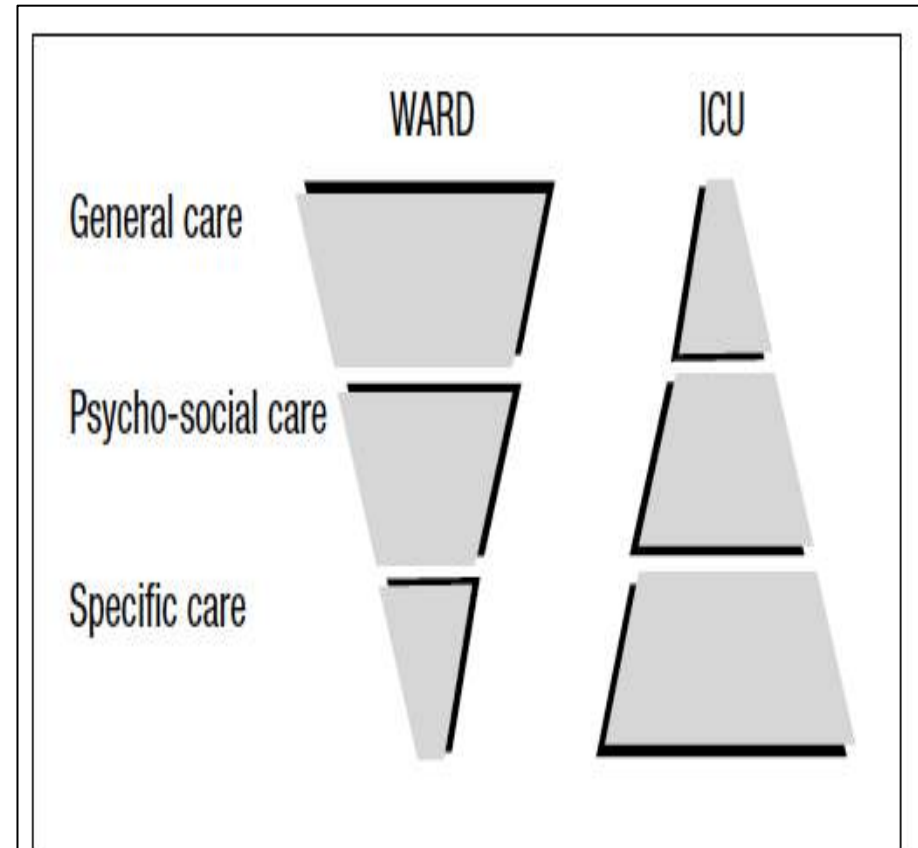


Figure 2. Nursing workload in three areas of care: the ward versus the Intensive Care Unit (ICU).

I. Introduction

TABLE 2. Results of the survey of ICUs in Europe (EURICUS-II)

	Number of beds per ICU (mean)	Number of nurses per ICU bed (mean)	P/N ratio (mean)	Annual ICU mortality (%)	SMR (mean)	ABY (mean)	LOS (mean)	OR (mean)	WUR (mean)	Elective surgery (%)
Poland	6.0	3.2	1.65	19	0.96	34	3.5	58.1	0.59	7.0
Germany	16.7	2.8	1.51	6	0.80	77	1.2	84.7	1.12	57.1
Denmark	8.3	4.5	1.05	13	1.24	76	1.0	61.3	0.49	24.7
Finland	10.2	3.7	1.14	8	1.00	71	1.0	70.4	0.65	45.1
Netherlands	8.0	4.1	1.04	10	1.00	80	1.0	80.6	0.76	48.2
Belgium	12.7	2.7	1.82	7	0.81	87	1.9	68.8	1.00	47.8
France	13.0	2.6	1.74	16	0.95	43	3.7	73.3	0.89	7.0
United Kingdom	5.8	6.5	0.71	20	1.12	60	1.7	58.5	0.40	20.7
Italy	6.9	3.2	1.36	18	1.04	51	3.0	79.7	0.86	27.2
Spain	11.3	3.2	1.38	15	1.05	60	3.5	82.7	0.91	11.4
Portugal	7.8	3.2	1.39	14	0.91	35	5.6	84.7	0.91	26.1
Overall	9.55	3.6	1.33	13	1.00	57	2.0	70.1	0.72	30.1

PN ratio: annual mean number of patients per nurse; SMR: standard mortality ratio; ABY: annual mean number of admission per ICU-bed; LOS: length of stay in the ICU (days); OR: occupancy rate; WUR: work utilization ratio. WUR represents the nursing work used (equal to the total measured number of points of NEMS¹² or an equivalent index), divided by the number of points which could be produced by the nursing staff during the same period of time².

I. Introduction

D. R. Miranda and M. Jegers

Table 1

EURICUS III [third European intensive care unit (ICU) Study: BMH4-CT98-3461]. Breakdown of costs from a financial survey in 45 ICUs in 10 European countries.⁷ In the survey of the cost administration of all ICUs, the total fixed costs (51, 5%) were similar to the total variable costs (48, 5%). Of these, the equivalent of 49% of the total costs of the ICU corresponded to cost data readily available (varying between 35% and 70%). This cost data is presented in the left column of both fixed- and variable costs. Of the fixed costs, more than the half (the nursing staff cost) is easily collected; of the variable costs, the amount of readily available costs was scattered and much smaller.

Fixed costs (51.5%)			Variable costs (48.5%)		
		Cost easily traced			Cost easily traced
Labour	<u>46.0</u>		Blood products	<u>4.8</u>	4.8
Nursing staff		27.8	Clinical services	<u>14.5</u>	
Other staff	18.2		Laboratory		6.9
			Radiology		3.3
			Rest	4.3	
			Non-clinical services	<u>7.2</u>	
Equipment	<u>5.5</u>		Pharmaceuticals	<u>15.4</u>	
			Anaesthetics		1.7
			Anti-microbial's		2.9
			Feeding		0.9
			Vasoactive drugs		0.7
			Rest	9.3	
			Disposables	<u>6.6</u>	
Total % cost traced		27.8	Total % cost traced		21.2



II. Bilan activités 2016

Mesures d'économie dans les soins de santé

En 3 ans, ce gouvernement aura ainsi asséné quelques 500 millions d'euros d'économies aux hôpitaux (journal du médecin, 10/03/17) → 8000 emplois à temps plein

Bilan Taux d'endettement financier

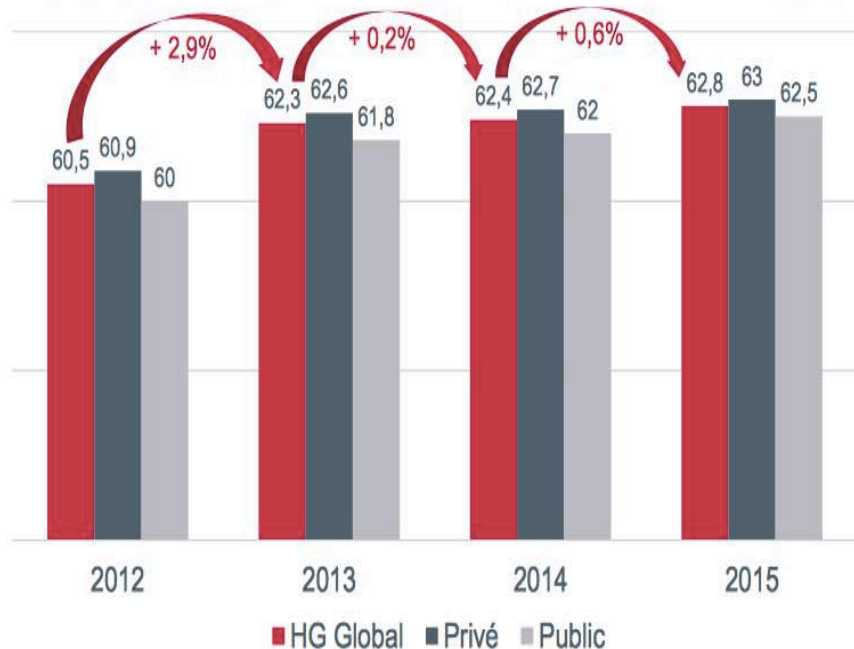
Evolution taux d'endettement financier en % bilan



II. Bilan activités 2016

Compte de résultats Personnel

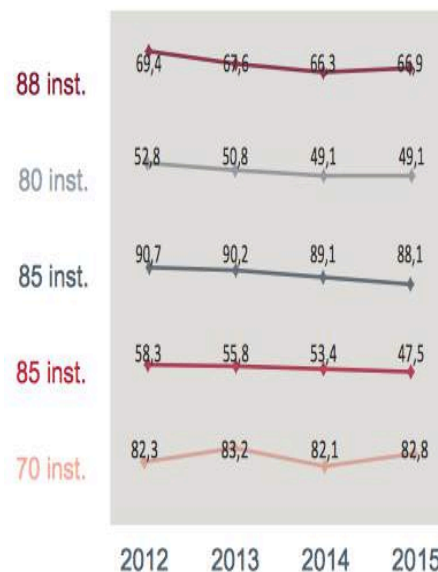
Coûts du personnel hors médecin par ETP * (x 1000 EUR)



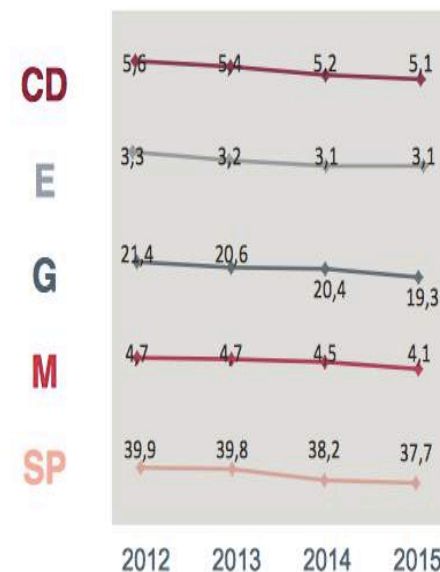
Activité des services

Taux d'occupation et durée de séjour

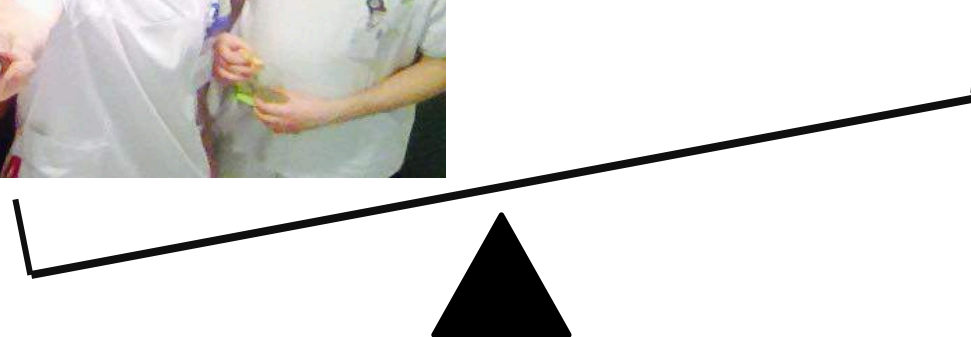
Taux d'occupation %



Durée de séjour %



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I. Introduction

[INFO] Non-marchand en colère à Bruxelles: entre 12 000 et 14 000 personnes battent le pavé



Non-marchand en colère à Bruxelles: plus de 10 000 personnes battent le pavé

Un cortège rouge, bleu et vert s'est élancé mardi vers 10h45 dans le boulevard Botanique à Bruxelles, marquant le début d'une nouvelle manifestation nationale...

RTBF.BE

Table 2 - Frequency of item and subitem performance of Nursing Activities Score. Campinas, 2008

Items and subitems	n	%
1. Monitoring and titration		
1a. Hourly vital signs, regular registration and calculation of fluid balance. (4.5 pts)	840	77.8
1b. Present at bedside and continuous observation or active for 2 hrs or more. (12.1 pts)	83	7.7
1c. Present at bedside and active for 4 hrs or more. (19.6 pts)	5	0.5
2. Laboratory, biochemical and microbiological investigations. (4.3 pts)	276	25.6
3. Medication, vasoactive drugs excluded. (5.6 pts)	916	84.8
4. Hygiene procedures		
4a. Performing hygiene procedures. (4.1 pts)	812	75.2
4b. The performance of hygiene procedures took more than 2 hrs. (16.5 pts)	90	8.3
4c. The performance of hygiene procedures took more than 4 hrs. (20.0 pts)	2	0.2
5. Care of drains - All (except gastric tube). (1.8 pts)	244	22.6
6. Mobilization and positioning		
6a. Performing procedure(s) up to three times per 24 hrs. (5.5 pts)	71	6.6
6b. Performing procedure(s) more frequently than 3 times per 24 hrs, or with two nurses, any frequency. (12.4 pts)	45	4.2
6c. Performing procedure with three or more nurses, any frequency. (17.0 pts)	3	0.3
7. Support and care of relatives and patient		
7a. Support and care of either relatives or patient requiring full dedication for about 1 hr in any shift. (4.0 pts)	881	81.6
7b. Support and care of either relatives or patient requiring full dedication for 3 hrs or more in any. (32.0 pts)	46	4.3
8. Administrative and managerial tasks		
8a. Performing routine tasks such as processing of clinical data, ordering examinations, professional exchange of information. (4.2 pts)	606	56.1
8b. Performing administrative and managerial tasks requiring full dedication for about 2 hrs in any shift. (23.2 pts)	328	30.4
8c. Performing administrative and managerial tasks requiring full dedication for about 4 hrs or more of the time in any shift. (30.0 pts)	5	0.5
9. Respiratory support: any form of mechanical ventilation/assisted ventilation ; supplementary oxygen by any method. (1.4 pts)	74	6.9
10. Care of artificial airways. (1.8 pts)	45	4.2
11. Treatment for improving lung function. (4.4 pts)	298	27.6
12. Vasoactive medication, disregard type and dose. (1.2 pts)	21	1.9
13. Intravenous replacement of large fluid losses. (2.5 pts)	0	0
14. Left atrium monitoring. (1.7 pts)	0	0
15. Cardiopulmonary resuscitation in the past period of 24 hrs. (7.1 pts)	3	0.3
16. Hemofiltration techniques. Dialysis techniques. (7.7 pts)	10	0.9
17. Quantitative urine output measurement. (7.0 pts)	422	39.1
18. Measurement of intracranial pressure. (1.6 pts)	0	0
19. Treatment of complicated metabolic acidosis/alkalosis. (1.3 pts)	6	0.6
20. Intravenous hyperalimentation. (2.8 pts)	49	4.5
21. Enteral feeding through gastric tube or other gastrointestinal route. (1.3 pts)	64	5.9
22. Specific intervention(s) in the intensive care unit. (2.8 pts)	41	3.8
23. Specific interventions outside the intensive care unit. (1.9 pts)	199	18.4

In items 1, 4, 6, 7 and 8, only one subitem can be scored

I. Introduction

Objectifs

- Implémenter un outil d'évaluation du temps de travail infirmier (NAS) dans plusieurs services de soins intensifs belges
- Analyser la fluctuation de la charge de travail dans plusieurs services de soins intensifs et son adéquation avec l'effectif infirmier (ratio patient/infirmière)
- Comparer l'effectif théorique du NAS avec les normes de permanence infirmière



Keys messages



Dépenses

- ➔ Coût des soins de santé
- Budget limité
- L'USI représente 15 à 20% des coûts hospitaliers
- Le coût du personnel soignant représente 60% du coût des USI
- Normes en personnel qui datent de 1998 !

➔ Efficience du système

Charge de travail

- ➔ Mortalité
- ➔ Colonisation MRSA
- ➔ Absentéisme voir Burnout du personnel soignant
- ➔ Infections nosocomiales
- ➔ Complications postop
- ➔ Durée de séjour

➔ Charge de travail adaptée

MERCI DE VOTRE ATTENTION

NAS

means

Nursing Activities Score

by allacronyms.com

