

How much staff do we need for prevention of healthcare- associated infections in hospitals?

Peterhans van den Broek

Human Resource Needs for Infection Control

- What has to be done?
 - What is the present situation in Europe?
 - How many ICPs and ICDs are needed?
 - In hospitals
 - In nursing homes
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What has to be done ? (1)

- Surveillance
 - Committee work
 - Accessibility and availability out of working hours
 - Keeping up-to-date
 - Teaching
 - Development, implementation of guidelines and protocols
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What has to be done ? (2)

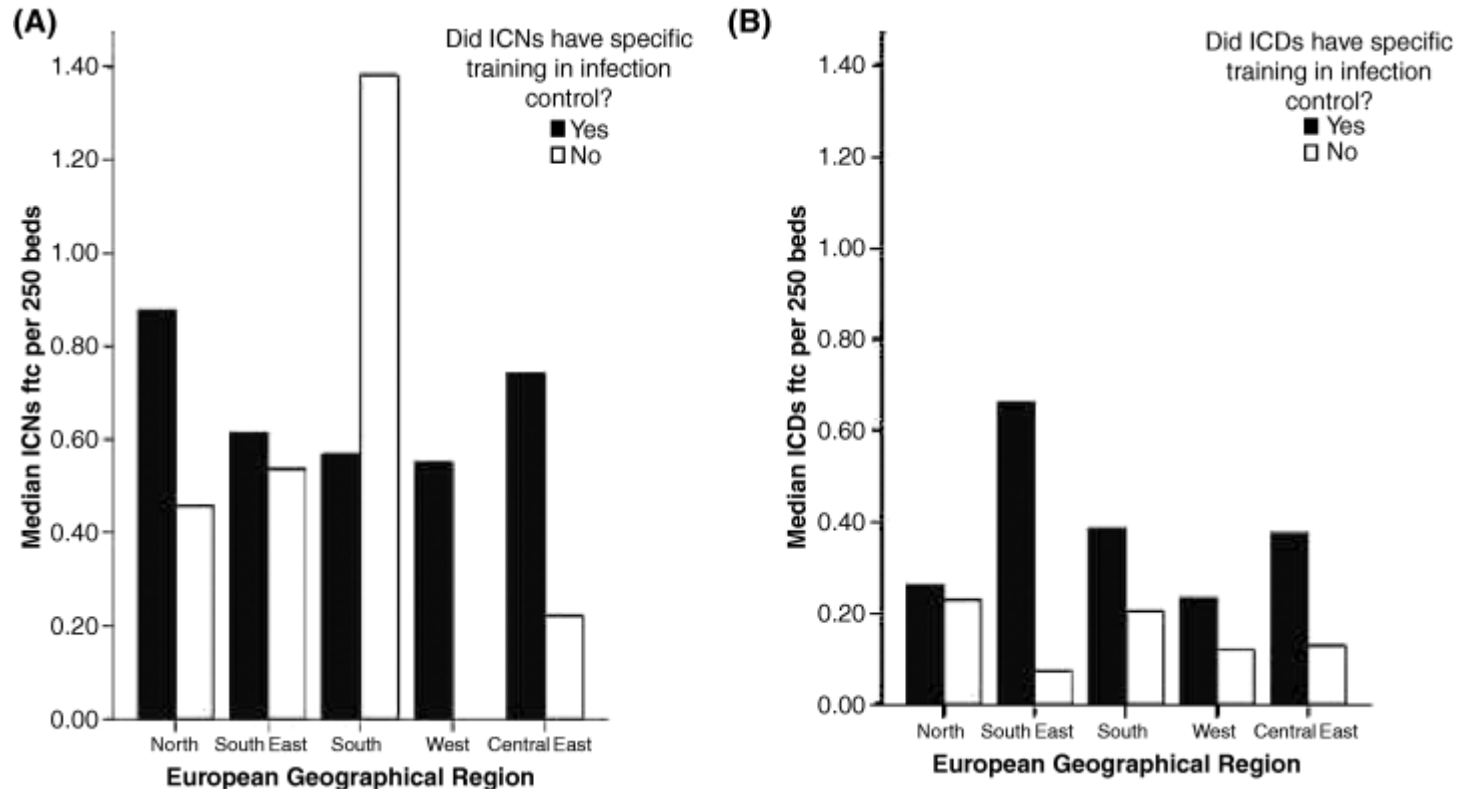
- Audits and other activities to evaluate guidelines and protocols
 - Counselling and consultation (structural and ad hoc)
 - Outbreak management
 - Activities in relation to (multi)resistant m.o.
 - Activities in relation to reportable diseases
 - External consultation and counselling
 - Other activities
-

What has to be done ? (3)

Other activities

- Administration
 - Research
 - Quality promotion
 - Management
 - Discussion of progress
 - Projects
 - National activities
 - Supervision of ICP in training
 - Healthcare inspectorate
 - Sharp accidents
 - Travelling time between locations
 - Laboratory work
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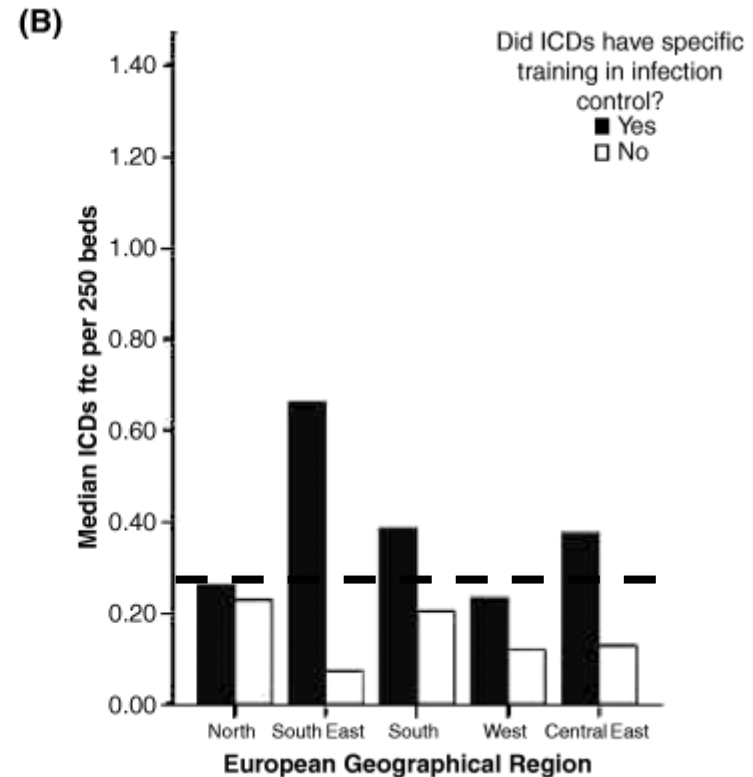
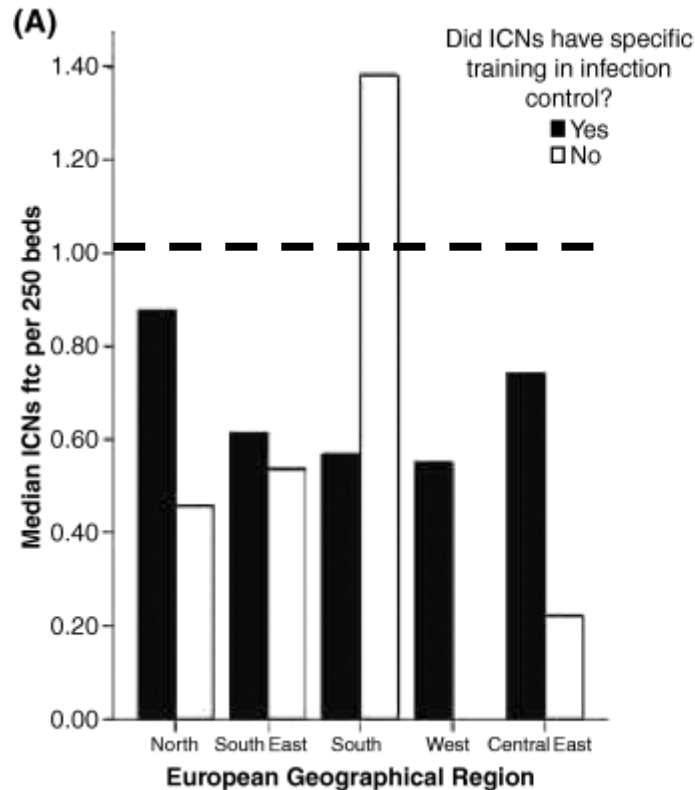
ICPs and ICDs in Europe



Struelens et al. Clin Microbiol Infect 2006; 12: 729-737



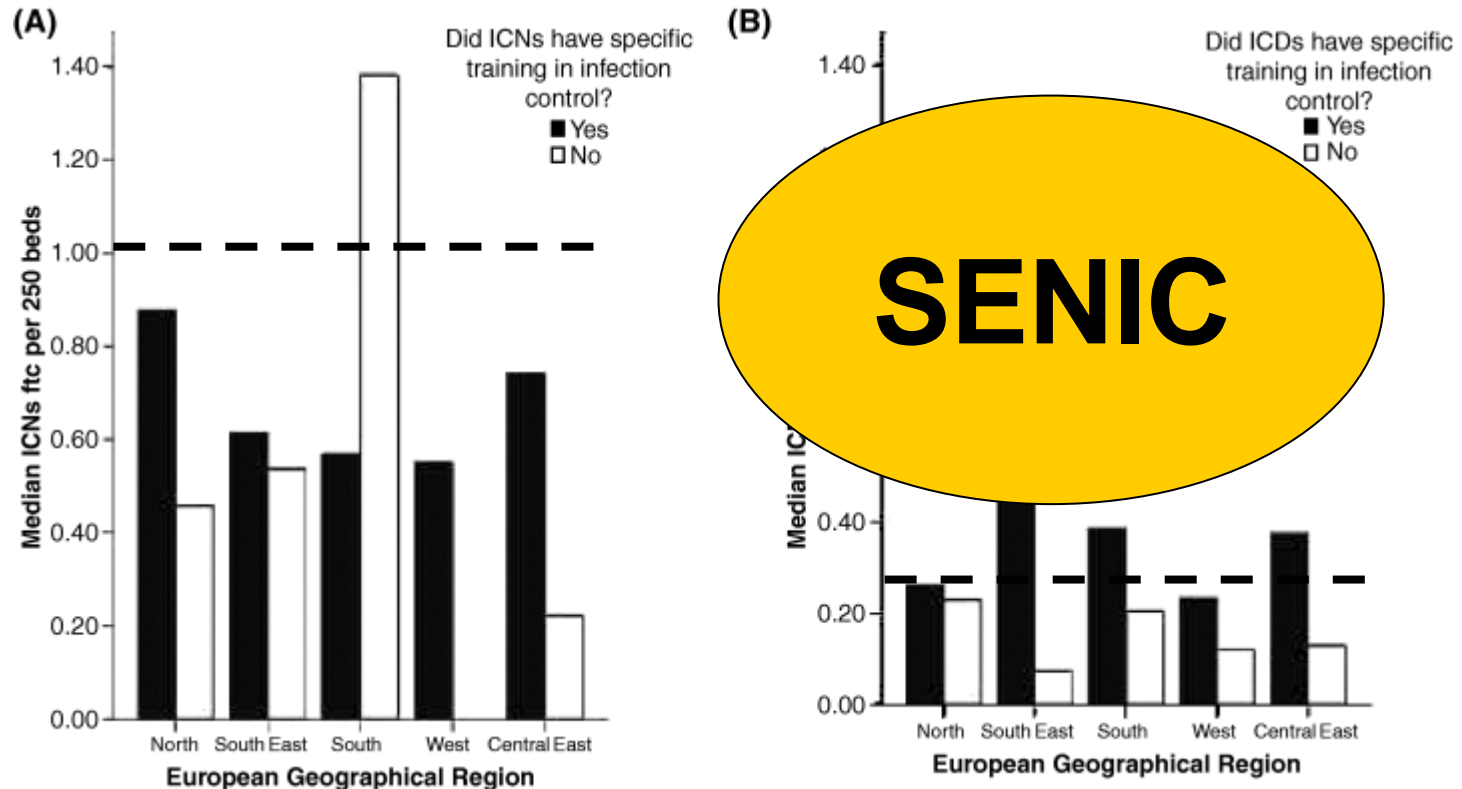
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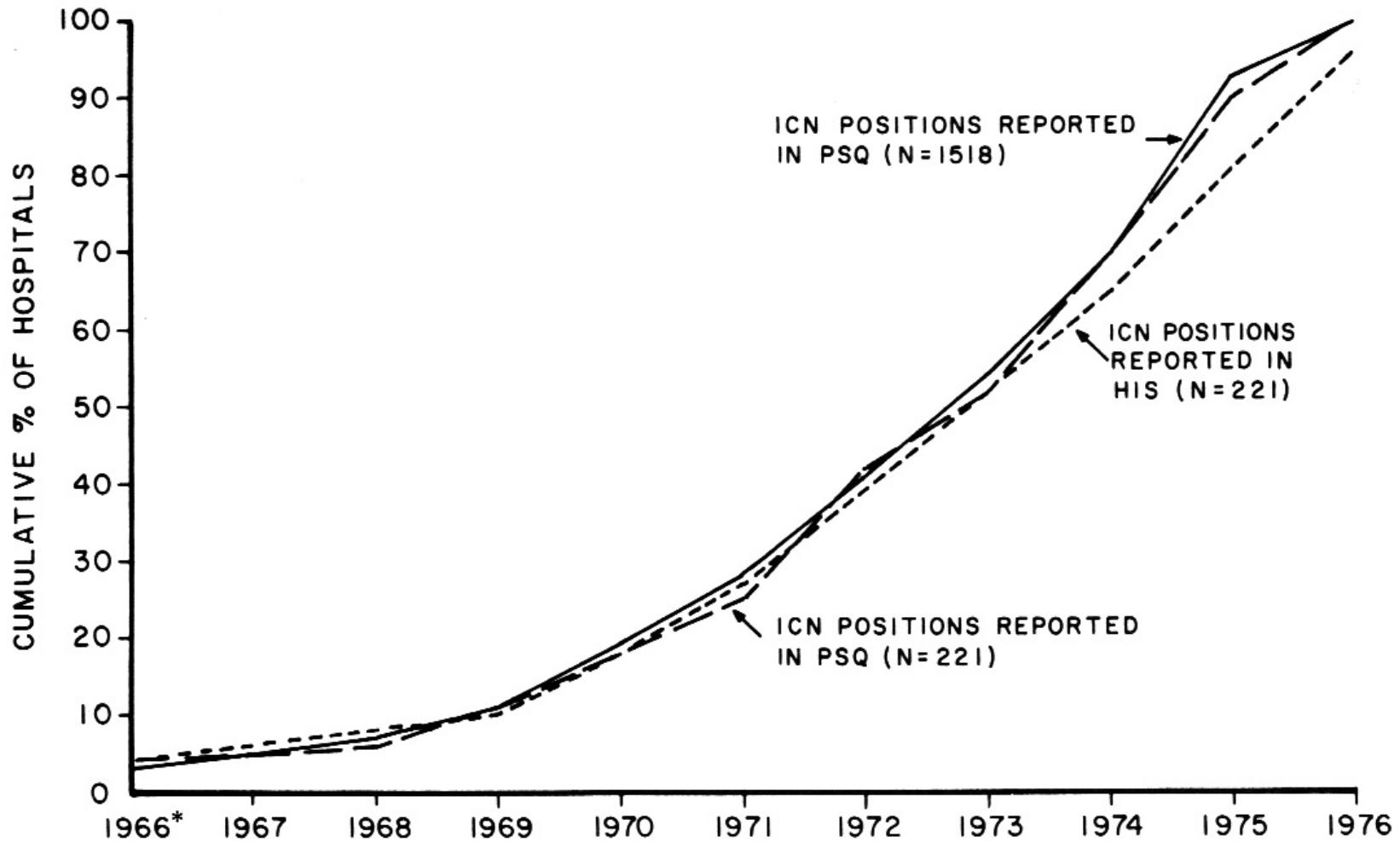
THE EFFICACY OF INFECTION SURVEILLANCE AND CONTROL PROGRAMS IN PREVENTING NOSOCOMIAL INFECTIONS IN US HOSPITALS

**ROBERT W. HALEY,^{1,2} DAVID H. CULVER,¹ JOHN W. WHITE,¹ W. MEADE MORGAN,¹
T. GRACE EMORI,¹ VAN P. MUNN¹ AND THOMAS M. HOOTON^{1,3}**

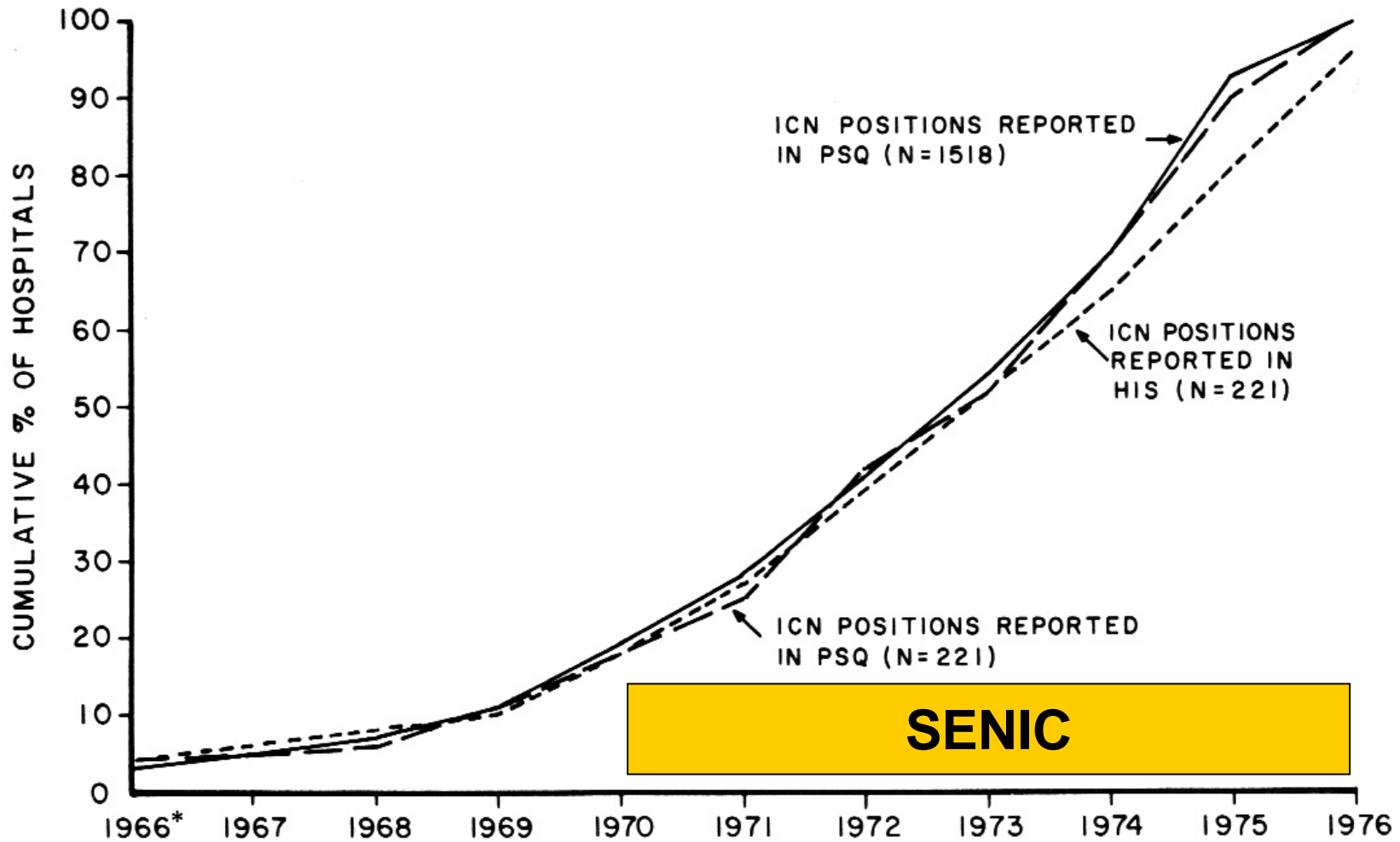
Haley, R. W. (SENIC Project, CDC, Atlanta, GA 30333), D. H. Culver, J. W. White, W. M. Morgan, T. G. Emori, V. P. Munn and T. M. Hooton. The efficacy of infection surveillance and control programs in preventing nosocomial infections in US hospitals. *Am J Epidemiol* 1985;121:182-205.

In a representative sample of US general hospitals, the authors found that the establishment of intensive infection surveillance and control programs was strongly associated with reductions in rates of nosocomial urinary tract infection, surgical wound infection, pneumonia, and bacteremia between 1970 and 1975-1976, after controlling for other characteristics of the hospitals and their patients. Essential components of effective programs included conducting organized surveillance and control activities and having a trained, effectual infection control

SENIC study

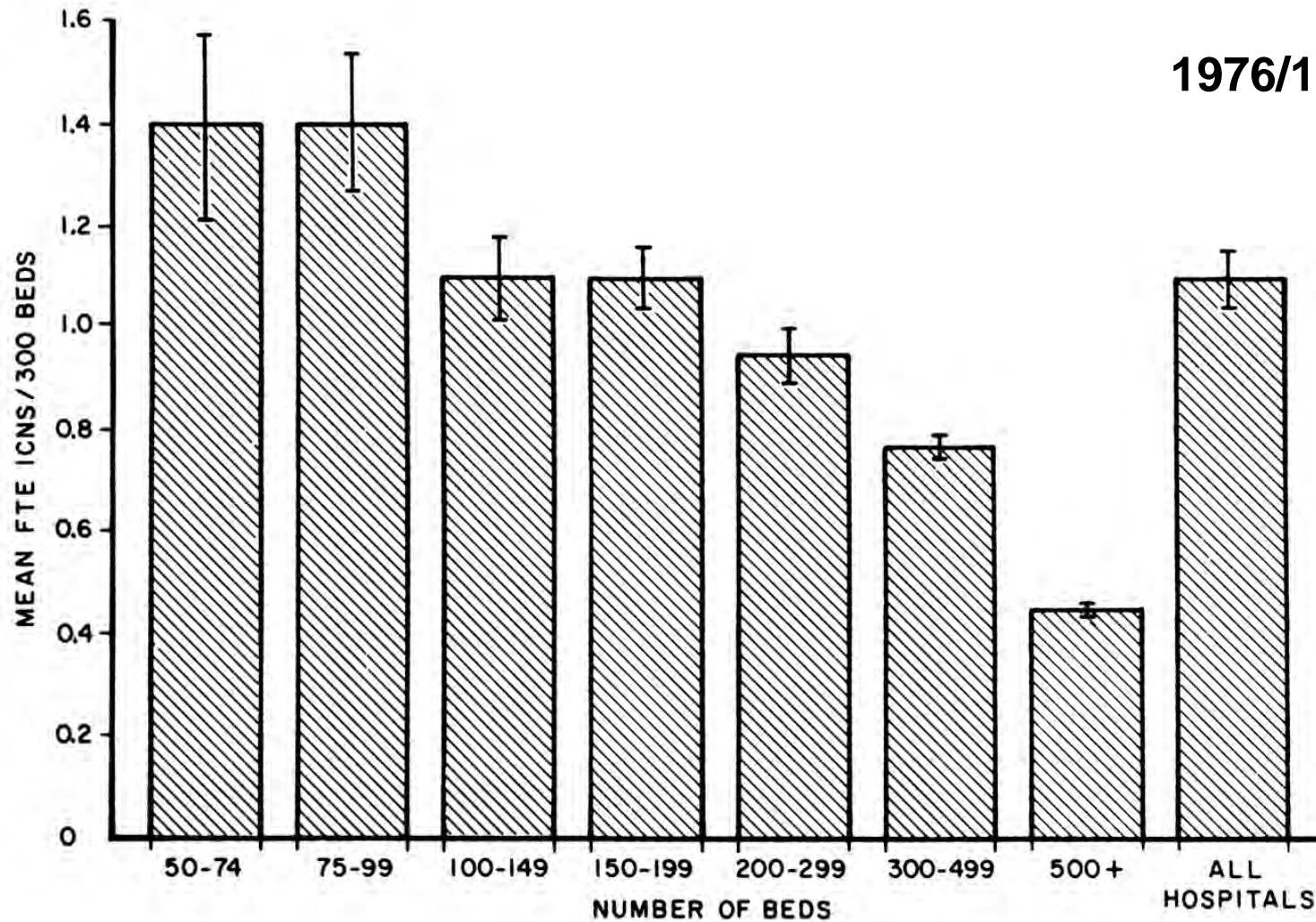


SENIC study

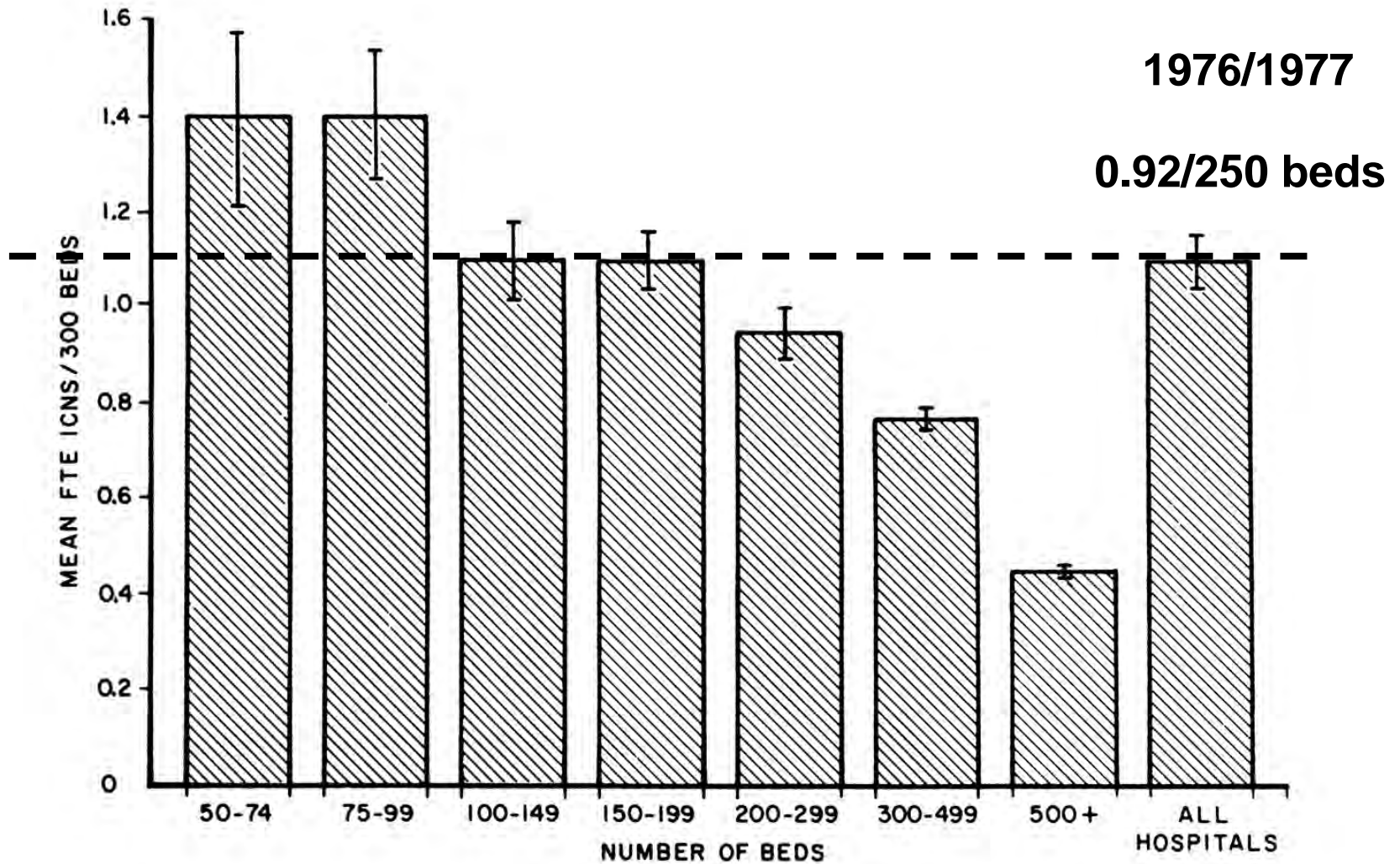


SENIC study

1976/1977



SENIC study



Development of a resource model for infection prevention and control programs in acute, long term, and home care settings: Conference proceedings of the Infection Prevention and Control Alliance

Health Canada, Nosocomial and Occupational Infections Section

There is mounting concern about the impact of health care restructuring on the provision of infection prevention services across the health care continuum. In response to this, Health Canada hosted two meetings of Canadian infection control experts to develop a model upon which the resources required to support an effective, integrated infection prevention and control program across the health care continuum could be based. The final models project the IPCP needs as three full time equivalent infection control professionals/500 beds in acute care hospitals and one full time equivalent infection control professional/150-250 beds in long term care facilities. Non human resource requirements are also described for acute, long term, community, and home care settings. (*Am J Infect Control* 2004;32:2-6.)

Development of a resource model for infection prevention and control programs in acute, long term, and home care settings: Conference proceedings of the Infection Prevention and Control Alliance

Health Canada, Nosocomial and Occupational Infections Section

There is mounting concern about the impact of health care restructuring on the provision of infection prevention services across the health care continuum. In response to this, Health Canada hosted two meetings of Canadian infection control experts to develop a model upon which to base infection prevention and control programs across the health care continuum. The model is based on the following assumptions: 1) 1 full time equivalent infection control professional/50 acute care beds; 2) 1 full time equivalent infection control professional/150-250 beds in long term care facilities; 3) 1 full time equivalent infection control professional/150-250 beds in community, and home care settings. (Am J Infect Co

1 fte per 167 bedden

Norm based on consensus

- 25 November 2005, Utrecht
 - 15 ICP en 9 medical microbiologists
 - Round 1: indicate time needed for tasks
 - Discuss scores in groups of ± 5 persons
 - Presentation of results of round 1
 - Round 2: indicate time needed for tasks
 - Plenary discussion of results of round 2
 - Round 3: indicate time needed for tasks
-

Model hospital



- Amphia Hospital Breda
- 1370 official beds
- 280.000 patient days
- 39.000 admissions
- 40 intensive care beds

Needs for infection control



	ICP	ICD
hours (sd)/week	242,2 (49,4)	53.8 (11,9)
Hours/year	12.594	2798
Fte	7,7	1,7

1 fte = 1632 hours/year (1378 – 1869 hours/year)

Which denominator?



	ICP	ICD
Official beds	1 per 178	1 per 806
Admissions	1 per 5065	1 per 22941
Patient days	1 per 36364	1 per 164706

Norm per official hospital beds

- Canadian meeting 1 fte / 167 beds
- Dutch meeting 1 fte / 178 beds

- USA Delphi project 0.8-1 fte /100 beds

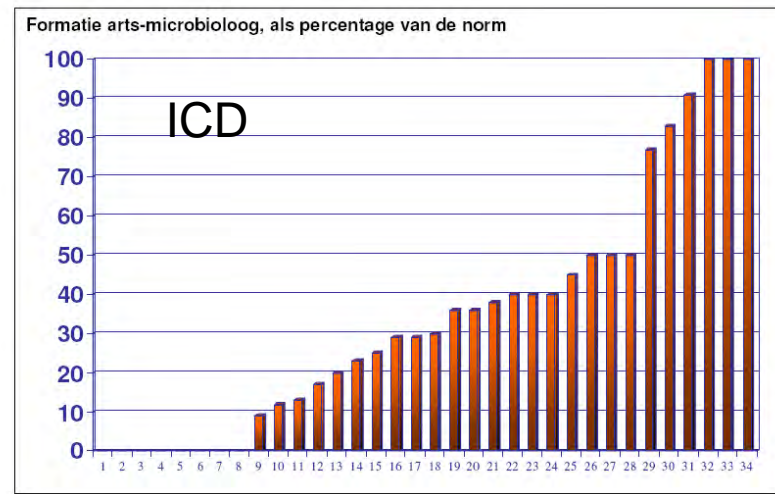
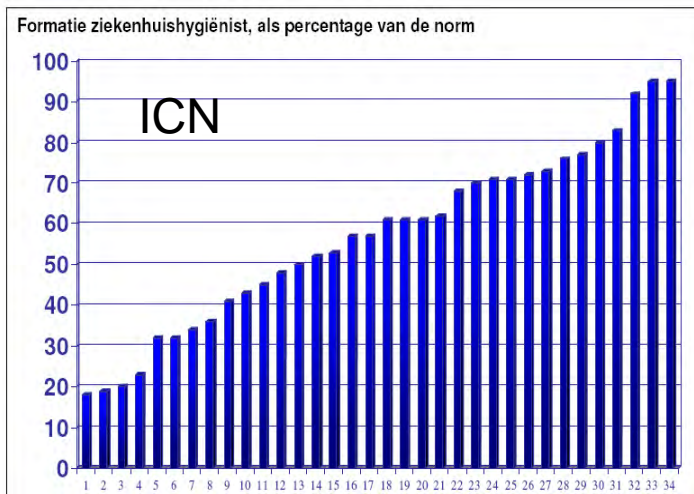
(O'Boyle et al. AJIC 2002; 30: 321-333)

Recommendations for hospitals

- 1 fte ICP per 5000 admissions
 - 1 fte ICD per 25.000 admissions
 - Each 5 years reconsideration of the norm
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Recommendations for hospitals

- 1 fte ICP per 5000 admissions
- 1 fte ICD per 25.000 admissions
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Recommendations for nursing homes

- Same method
 - 513 hours per 100 beds per year
 - 154 hours per 10 000 care days per year
 - ICPs account for 49%, ICDs for 14% and nursing home doctors for 37%
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References

Journal of Hospital Infection (2007) 65, 108–111



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How many infection control staff do we need in hospitals?

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How much time should long-term care and geriatric rehabilitation facilities (nursing homes) spend on infection control?

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Background: For hospitals, standards for the required number of infection control personnel are outdated and disputed. Such standards are not even available for long-term care and geriatric rehabilitation facilities (ie, nursing homes). This study addressed the question of how much time nursing homes should spend on infection control.

Methods: Through group discussions and individual sessions, experienced infection control practitioners, medical microbiologists, and nursing home doctors evaluated the time needed to perform infection control activities in a model nursing home.

Results: The number of hours needed was estimated as 513 per 100 beds, or 154 per 10,000 care-days per year.

Conclusions: Given that significant differences can be expected among the various facilities identified as nursing homes, long-term care facilities, or geriatric rehabilitation centers, as well as among countries, the standard that we propose for The Netherlands will not be generally applicable. However, the method we have used to determine this standard can be easily applied in other countries and settings.

Key Words: ■■■■

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