RN4CAST

Nurse Forecasting: Human Resources Planning in Nursing

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CONTENT

❑ **The nursing workforce, international context**

❑ **RN4CAST: FP7-funded research on the nursing workforce**

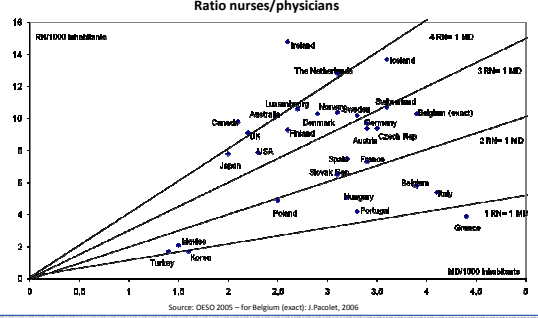**THE NURSING WORKFORCE, INTERNATIONAL CONTEXT**

Ratio nurses/physicians

Source: OESO 2005 – for Belgium (exact): J.Pacolet, 2006

Nursing education in 19 European countries

Country	Professional training	College	University	Master and PhD
	Undergraduate			**(post)graduate**
Iceland			Bachelor – 4y	MA, PhD
Ireland			Bachelor – 3 and 4y	MA, PhD
Italy			Bachelor – 3y	MA, PhD
Norway			Bachelor – 3y	MA, PhD
Spain			Bachelor – 3y	MA, PhD
Sweden			Bachelor – 3y	MA, PhD
UK			Bachelor – 3y	MA, PhD
Malta			Bachelor – 4y	
Greece		Bachelor – 4y	Bachelor – 4y	MA, PhD
Portugal		Bachelor – 4y	Bachelor – 4y	MA, PhD
Finland		Bachelor – 3,5y		MA, PhD
Denmark		Bachelor – 3,5y		MA, PhD
Switzerland	Diploma – 3y	Bachelor – 4y		MA, PhD
The Netherlands	Diploma – 3y (MBOV)	Bachelor – 3y(HBOV)		MA, PhD
Belgium	Diploma - 3jy	Bachelor – 3y		MA, PhD
Germany	Diploma - 3jy			MA, PhD
France	Diploma – 3y			
Austria	Diploma – 3y			
Luxemburg	Diploma – 3y			

Source: Spitzer and Perrenoud, 2006

- ❑ Worldwide numeric, skill and geographic imbalances in the nursing workforce
- ❑ Joint effects of staffing and various practice environment elements on patient outcomes (Aiken et al., 2002)
- ❑ Poor nursing workforce planning and associated shortages in any country threaten the stability of the nurse workforce

PROBLEM: traditional forecasting models for manpower planning in nursing are inaccurate and unreliable as they consider established factors of demand and supply, but ignore effects of deployment of nursing staff (number and qualification) on quality of patient care.

CONTENT

- **The nursing workforce, international context**

- **RN4CAST: FP7-funded research on the nursing workforce**

RN4CAST: FP7-FUNDED RESEARCH ON THE NURSING WORKFORCE
THE SEVENTH FRAMEWORK PROGRAMME

- Framework 7: 2007-2013
- Theme Health:
  "Research action to improve the health of European citizens and boost the competitiveness of health-related industries and businesses, as well as address global health issues."
- FP7-Health
  - Health theme 3: Optimising the delivery of health care
    - 3.2. Quality, Efficiency and solidarity of health care systems, including transnational health systems
      - 3.2.4. Health care human resources planning in nursing

http://cordis.europa.eu/fp7/

RN4CAST: FP7-FUNDED RESEARCH ON THE NURSING WORKFORCE
CALL

- RN4CAST: nurse forecasting In Europe
- Timeframe: 2009-2011
- Co-ordination
  - Co-ordinator: Walter Sermeus (CZV, Katholieke Universiteit Leuven)
  - Vice-coordinator: Linda Aiken (CHOPR, University of Pennsylvania)
- 15 partners

Slide 1

European partners

Belgium
Katholieke Universiteit Leuven
Germany
Technische Universität Berlin
Finland
Kuopio University
Greece
National and Kapodistrian University of Athens
Ireland
Dublin City University
The Netherlands
Radboud University Medical Centre Nijmegen
Poland
Jagiellonian University in Krakow
Spain
Institute of Health Carlos III
United Kingdom
King's College
Sweden
Karolinska Institutet
Switzerland
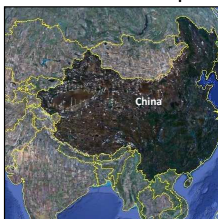Basel University

Slide 2

United States
University of Pennsylvania
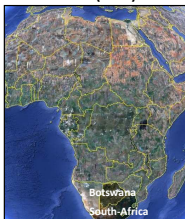
❏ Vice-coordinator
❏ Experience as co-ordinator of the
   International Hospital Outcomes
   Study:
   ❏ Instruments
   ❏ Protocol
   ❏ Analysis

Slide 3

International Cooperating Partner Countries (ICPC)
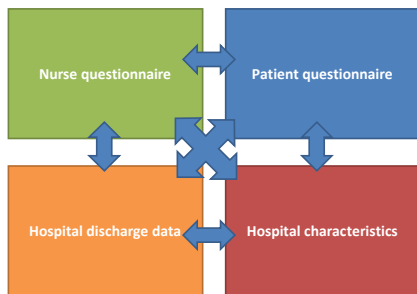
China
Peking Union Medical College

Botswana
University of Botswana
South-Africa
North-West University

Objective : observation and comparison in a second phase

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OBJECTIVE

To refine current forecasting models for manpowerplanning of the nursing workforce with new elements:

1. Various aspects of the nursing work environment
2. Impact of nurse deployment on recrutement, retention and productivity of nurses and on patient outcomes

And to present mid-term and long-term projections on a European and national level

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METHODOLOGY

- Nurse questionnaire
- Patient questionnaire
- Hospital discharge data
- Hospital characteristics

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METHODOLOGY

❑ Hospitals
  ❑ Acute hospitals
  ❑ At least 30 hospitals/country
❑ Nursing units
  ❑ General medicine and surgery (cf. Kane et al., 2007)
  ❑ At least 2 units/hospital
❑ Nurses
  ❑ All nurses in direct patient care
  ❑ Approximately 15 000 nurses will participate

Nursing Questionnaire

- The nursing work environment
  - Factors influencing the nursing work environment, job satisfaction, intention to leave
- Quality and safety
  - Incidents, quality nursing unit and hospital
- Most recent shift
  - Number of patients cared for, non-nursing tasks,…
- Characteristics of nurses
  - Age, gender, migration, experience

Patient questionnaire

- On one day
- Experiences
  - Care from nurses (respect,…)
  - Care from physicians (respect,…)
  - Hospital environment (cleanliness, calmness)
  - Pain management, information

Hospital discharge data

- Routinely collected hospital discharge data (i.e. hospital discharge datasets containing information about patient demographics, medical diagnoses & interventions
  - ICD-9, ICD-10
  - length-of-stay
  - discharge status (e.g. in-hospital mortality)
- Selection of adult medical/surgical patients
- Outcomes will include mortality, failure-to-rescue and adverse events (e.g. pressure ulcers, nosocomial infections)

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METHODOLOGY

Hospital characteristics

- ❑ Type
- ❑ Patient activity
- ❑ Personnel deployment (nurses, physicians): number and qualification
- ❑ Personnel inflow and outflow
- ❑ Organisation and management of the nursing workforce

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METHODOLOGY

Traditional forecasting models

RN4CAST data

Patient safety

Nursing work environment

Nurse deployment

&

Other European and national research (e.g. MoHProf (FP7))

- → Image of nursing
- → (ethical aspects of) migration
- → Nursing education
- → Competences, retention, recrutement, management

Accurate idea of the required personnel deployment in terms of number of qualification for safe patient care and a healthy work environment for nurses

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DISSEMINATION

- ❑ Publications, website, conferences,…
- ❑ National and international stakeholder committees
  - ❑ National: representatives of nursing unions, hospitals, schools of nursing, government
  - ❑ International: EU, ICN, EHMA, HOPE, EFN, WHO, EOHSP, EANS, ENDA, other FP7-funded projects
  - ❑ Strong basis and support for translation of results to European and national policy
  - ❑ Follow-up, monitoring of outcomes

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POLICY IMPLICATIONS

- ❑ **Patients**
  - ❑ Improved outcomes
  - ❑ Active, well-informed role in care-process
- ❑ **Nurses**
  - ❑ Involvement in policy-making
  - ❑ Recognition of contribution to patient care
  - ❑ Improved nurse outcomes
- ❑ **Hospital administrators**
  - ❑ Better understand the implications of staffing decisions
  - ❑ Better understand how organizational models affect care
- ❑ **Governments**
  - ❑ Educational restructuring
  - ❑ Increased pressure to improve quality of patient care

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POLICY IMPLICATIONS

RN4CAST has the capability to bridge the information gap between the causes and effects of current nurse deployment and traditional models for manpowerplanning of the nursing workforce. The objectification and accurateness of mid-term and long-term projections for manpowerplanning of the nursing workforce should result in well-informed discussions between stakeholders at both the national and European level and should lead to a broadly supported nursing workforce policy, boosting a well-skilled, geographically balanced nursing workforce

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