



How to improve nurse's education

Nursing Practice and Nursing Education in current and future health care

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Health workforce is key to the sustainability of health systems

- **Challenges:**

- Ageing of population and health workers
- Increase of chronic and multi-morbidity
- Economic crisis

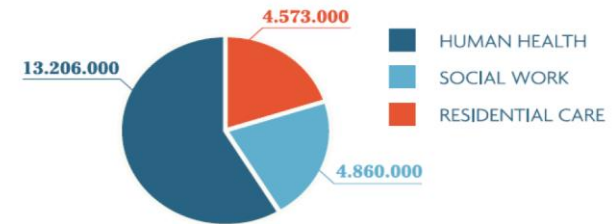
- **Leading to:**

- shortages of professional skills
- Regional imbalances of health professionals

- **Policy responses:**

- (inflow) Increased recruitment & training
- (Labour market) Organisational changes in care delivery
- (outflow) Improved retention, pay, working conditions

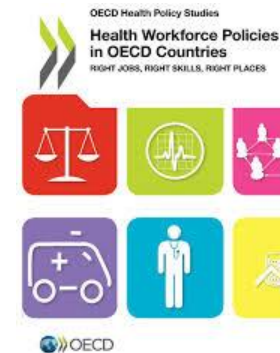
Jobs in the health and social sectors



ONE EMPLOYEE IN TEN
WORKS IN THE HEALTH
AND SOCIAL SECTOR



OECD



WHO



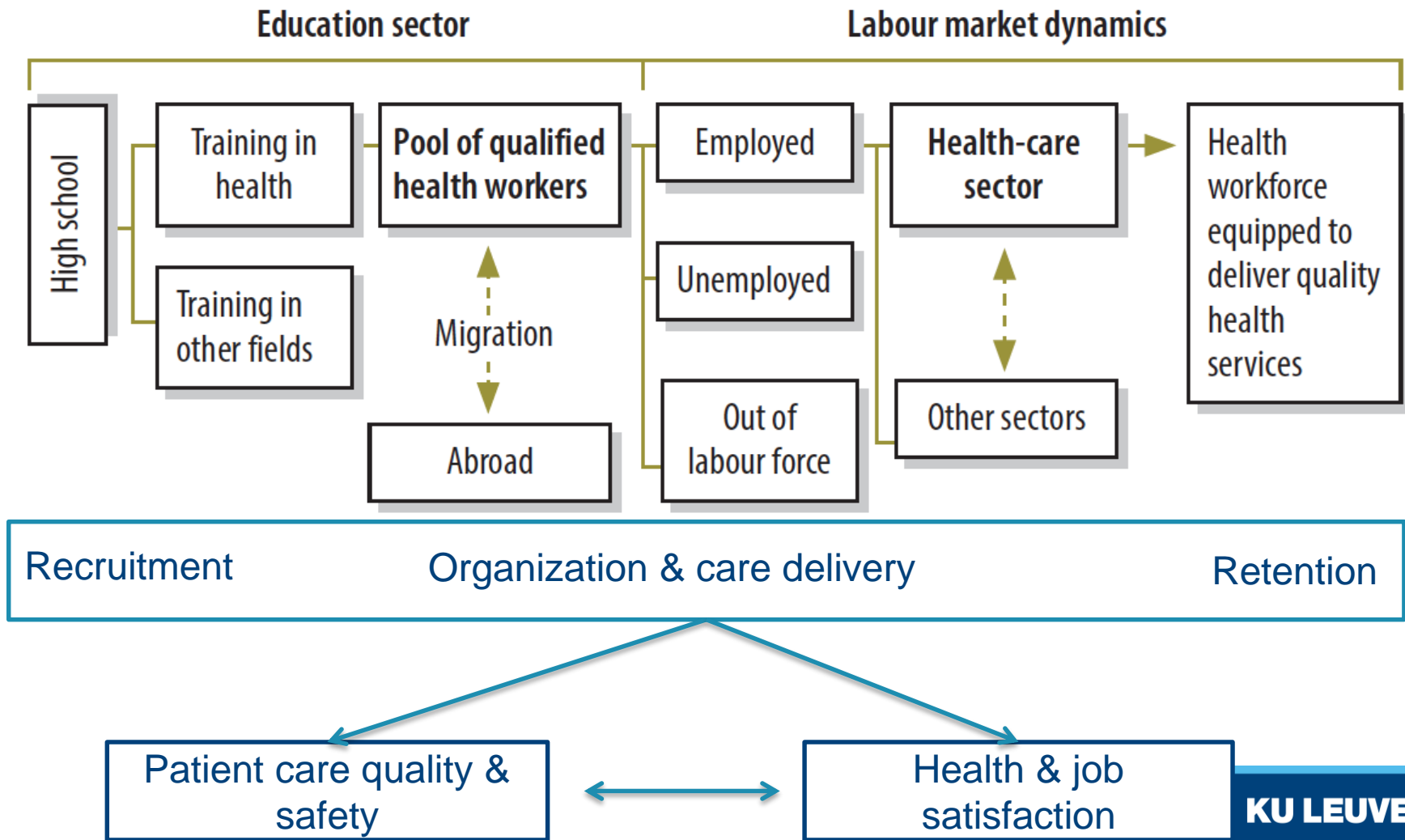
EU



World Health Organization

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How are these elements related?



Do we have data? RN4CAST, 2009-11

Qualification level
Skill-mix

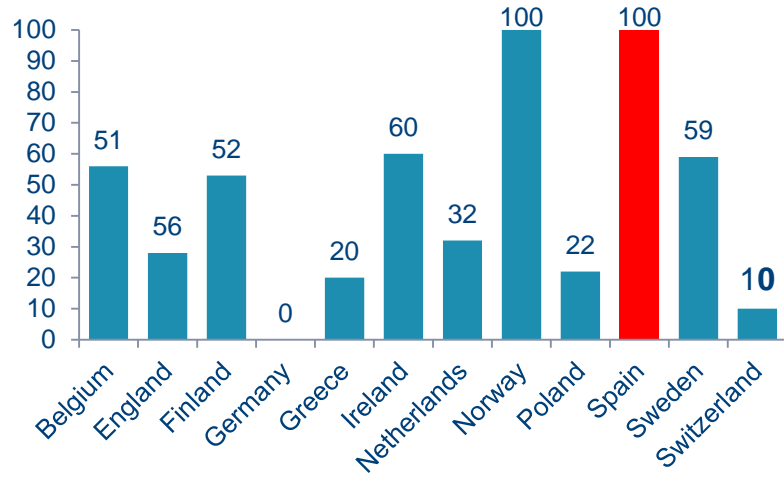
Nurse Staffing Levels

Quality & Patient Safety

Work Environment
Job Satisfaction – Intention To Leave

What do we know?

% Bachelor trained nursing staff



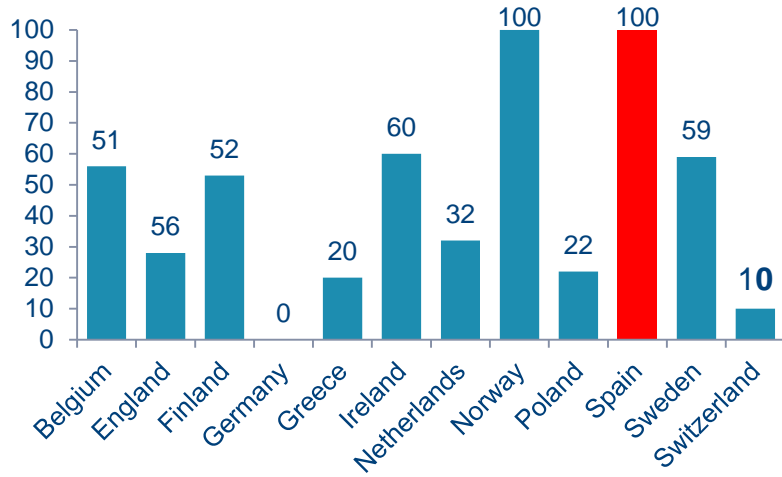
Nurse Staffing Levels

Quality & Patient Safety

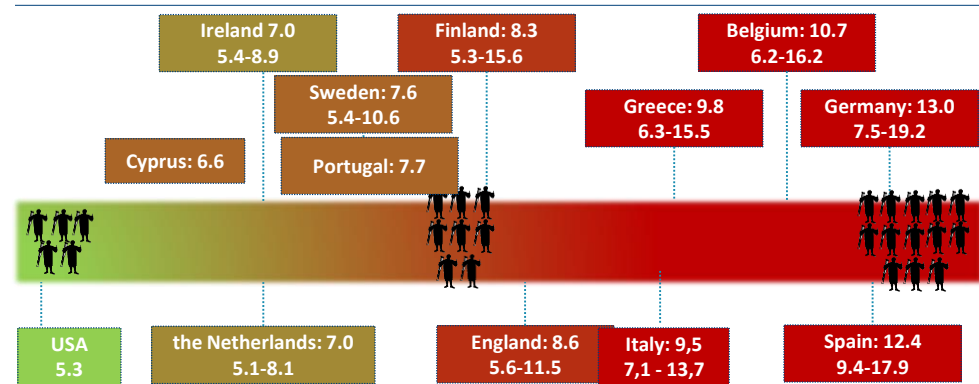
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Patient to Nurse ratios

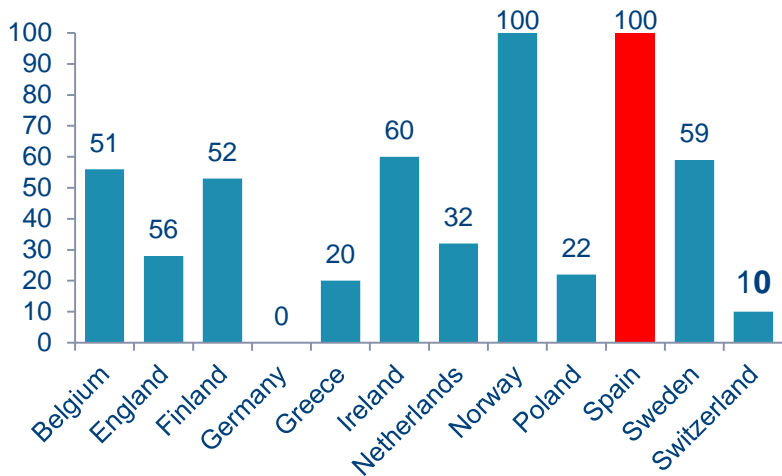


Quality & Patient Safety

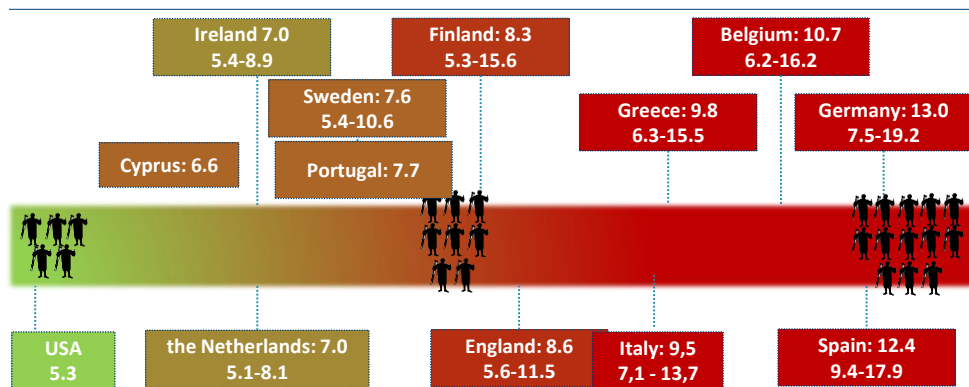
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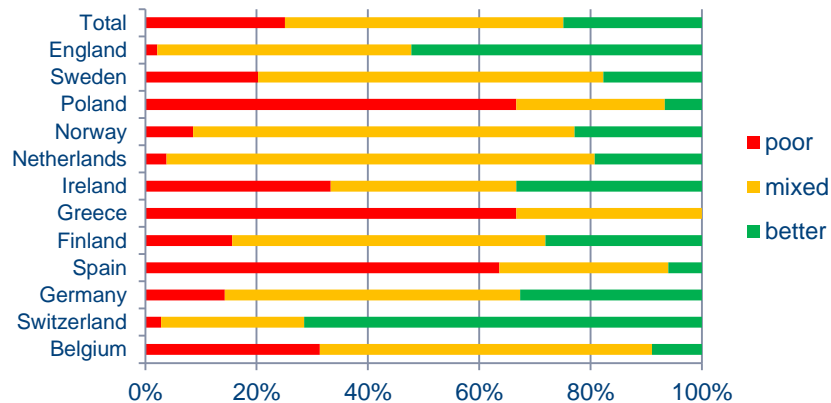


Patient to Nurse ratios



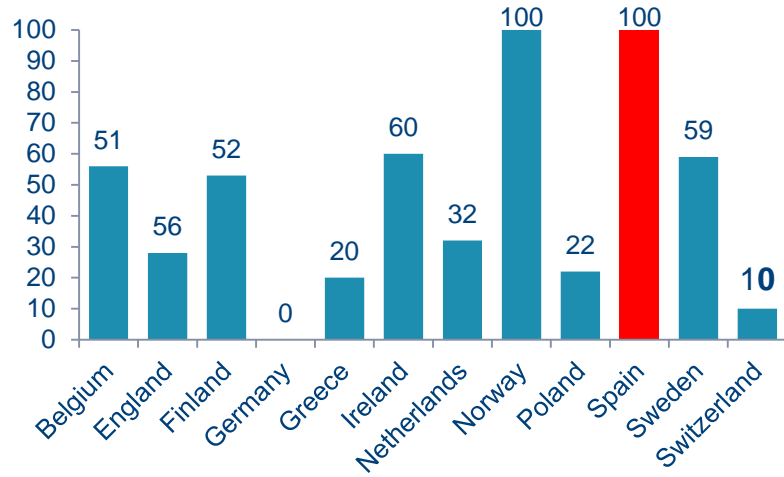
Quality & Patient Safety

Nursing work environment

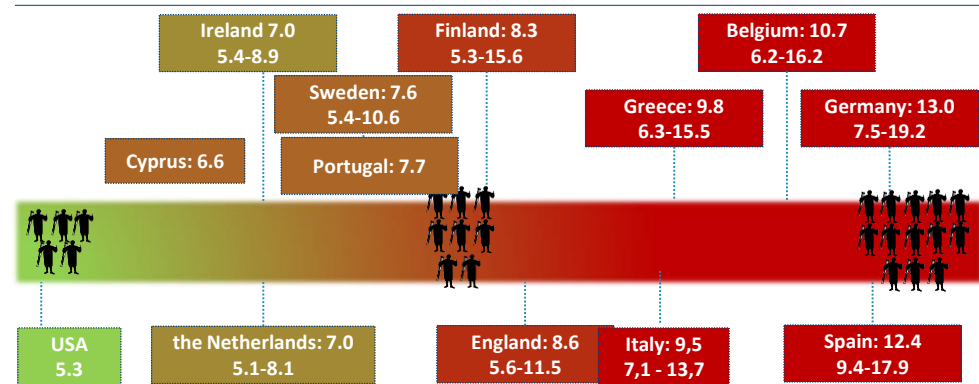


What do we know?

% Bachelor trained nursing staff



Patient to Nurse ratios



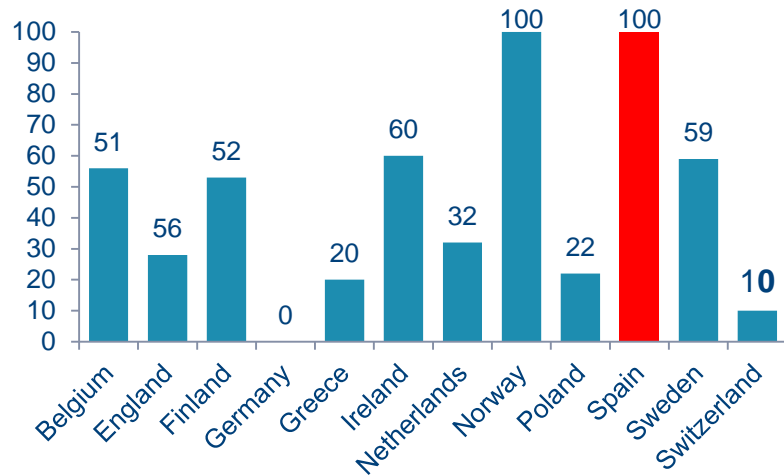
Quality & Patient Safety

Intention to leave the hospital and the profession in 10 European countries.

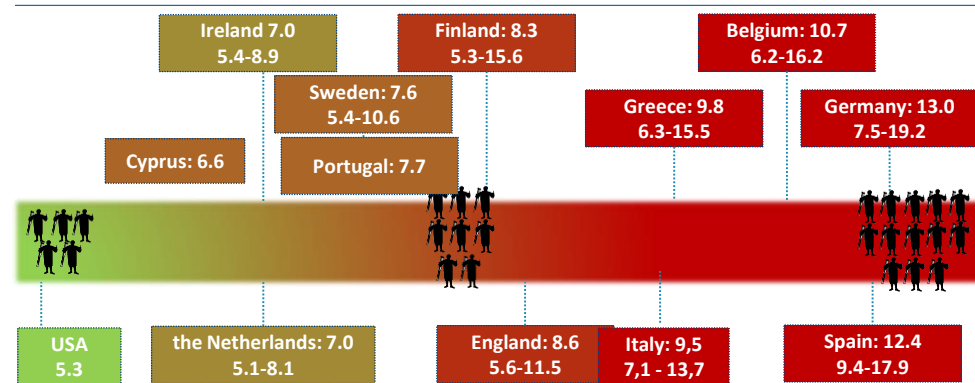
Country (number of nurses)	Nurses intending to leave the hospital workplace as % of all nurses	Nurses intending to leave the profession as % of all nurses
Belgium (n = 3186)	30	9
Finland (n = 1131)	49	10
Germany (n = 1508)	36	17
Ireland (n = 1406)	44	11
Netherlands (n = 2217)	19	5
Norway (n = 3752)	25	9
Poland (n = 2605)	44	9
Spain (n = 2804)	27	5
Switzerland (n = 1632)	28	6
UK (n = 2918)	44	10
Ten country mean (n = 23,159)	33	9

What do we know?

% Bachelor trained nursing staff



Patient to Nurse ratios



Aiken et al., BMJ Q&S, 2016 **With controls**

Outcome	OR 95% CI	p Value
30-day inpatient mortality	0.89 (0.80 to 0.98)	0.018
Low hospital rating by patients	0.90 (0.81 to 0.99)	0.026
Poor/fair unit quality	0.89 (0.80 to 0.98)	0.016
Poor/failing safety grade	0.85 (0.73 to 0.99)	0.040
Poor safety culture	0.93 (0.87 to 0.99)	0.027
Nurse would not recommend hospital	0.82 (0.72 to 0.93)	0.001
Pressure ulcers	0.85 (0.73 to 0.98)	0.027
Falls with injury	0.80 (0.71 to 0.91)	0.001
Urinary tract infections	0.88 (0.78 to 1.00)	0.049
High nurse burnout	0.89 (0.80 to 1.00)	0.043
Nurse job dissatisfaction	0.91 (0.83 to 0.99)	0.025

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RN4CAST: Effect of nurse staffing on patient mortality

	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%.

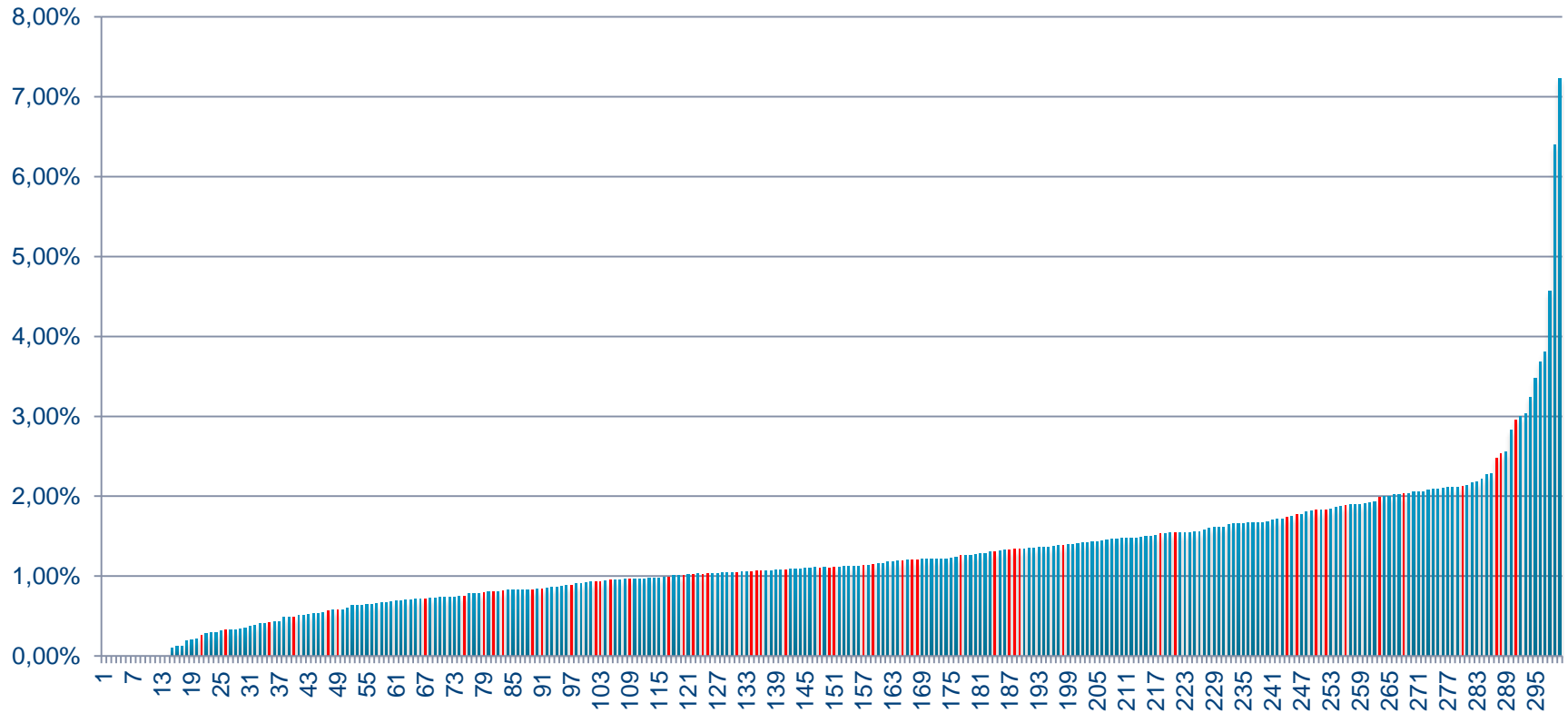
Table 2: Nurse staffing and education in nine European countries

	Number of hospitals	Mean discharges per hospital (range)	Deaths/discharges (%)
Belgium	59	1493 (413–4794)	1017/88 078 (1.2%)
England	30	2603 (868–6583)	1084/78 045 (1.4%)
Finland	25	1516 (175–3683)	303/27 867 (1.1%)
Ireland	27	738 (103–1997)	292/19 822 (1.5%)
Netherlands	22	1419 (181–2994)	466/31 216 (1.5%)
Norway	28	1468 (432–4430)	518/35 195 (1.5%)
Spain	16	1382 (186–3034)	283/21 520 (1.3%)
Sweden	62	1304 (295–4654)	828/80 800 (1.0%)
Switzerland	31	1308 (158–3812)	590/40 187 (1.5%)
Total	300	1308 (103–6583)	5381/422 730 (1.3%)

Only hospitals with more than 100 surgical patient discharges were included in the analyses. Data shown are for discharged patients for whom information about 30 day mortality, age, sex, type of surgery, and comorbidities were complete. Data were missing for those characteristics for less than 4% of all patients.

Table 1: Hospitals sampled in nine European countries with patient discharge data, numbers of surgical patients discharged, and numbers of patient deaths (RN4CAST data)

30-day inpatient general surgery mortality per hospital
 $N_h = 300$ Hospitals, $N_p = 422730$ patients
 (9 European countries: BE, UK, FI, IE, NL, NO, ES, SE, CH)
 "One country" hospitals are marked in red



MEAN EUROPE: 1.3%, RANGE: 0.0%-7.2%, N=300

MEAN ONE COUNTRY: 1.2%, RANGE: 0.3%-3,0%, N=59

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Significant effect

	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

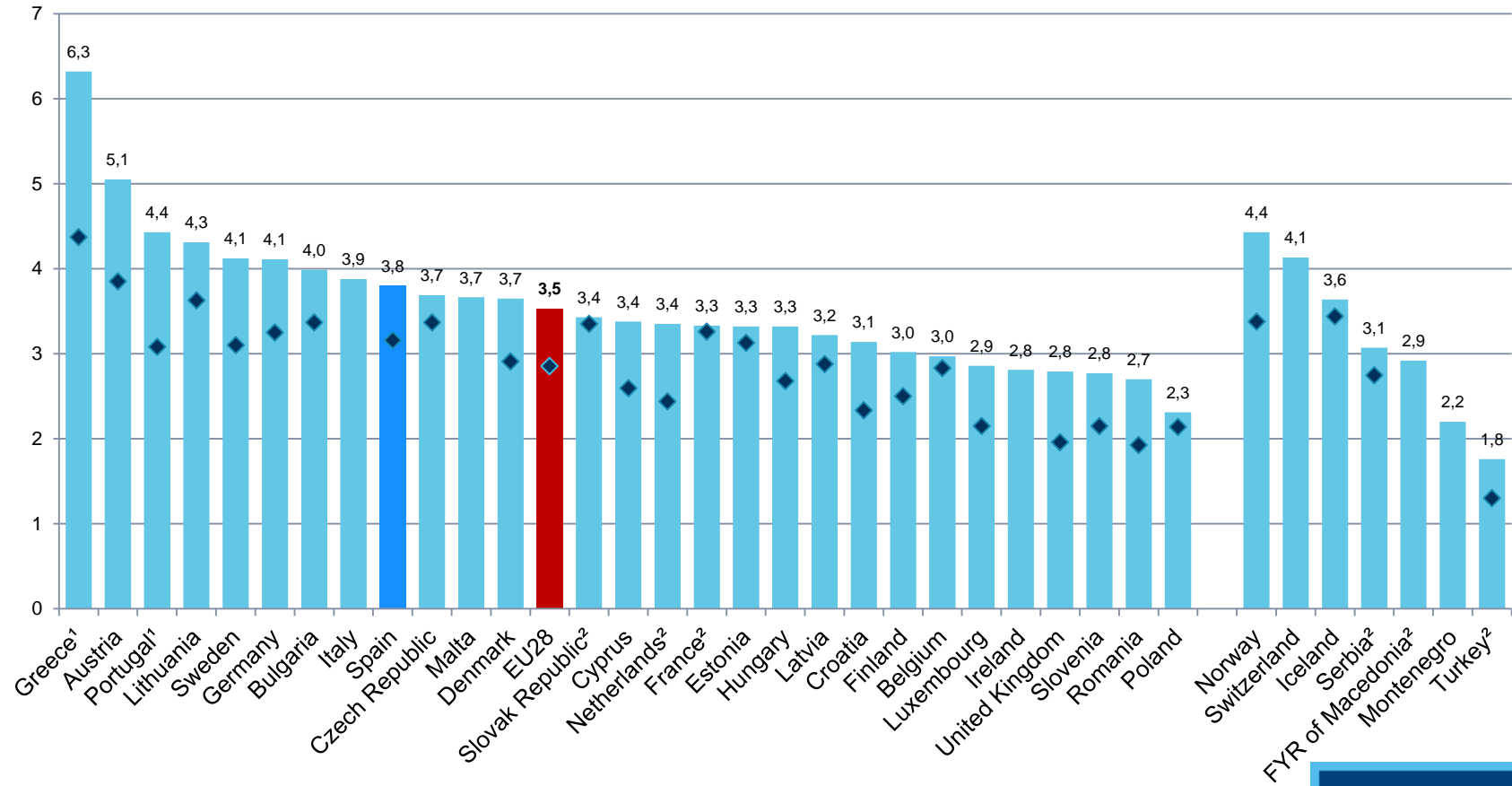
The partly adjusted models estimate the effects of nurse staffing and nurse education separately while controlling for unmeasured differences across countries. The fully adjusted model estimates the effects of nurse staffing and nurse education simultaneously, controlling for unmeasured differences across 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

Physicians' density 2000-2014

Per 1 000 population

■ 2014 ◆ 2000



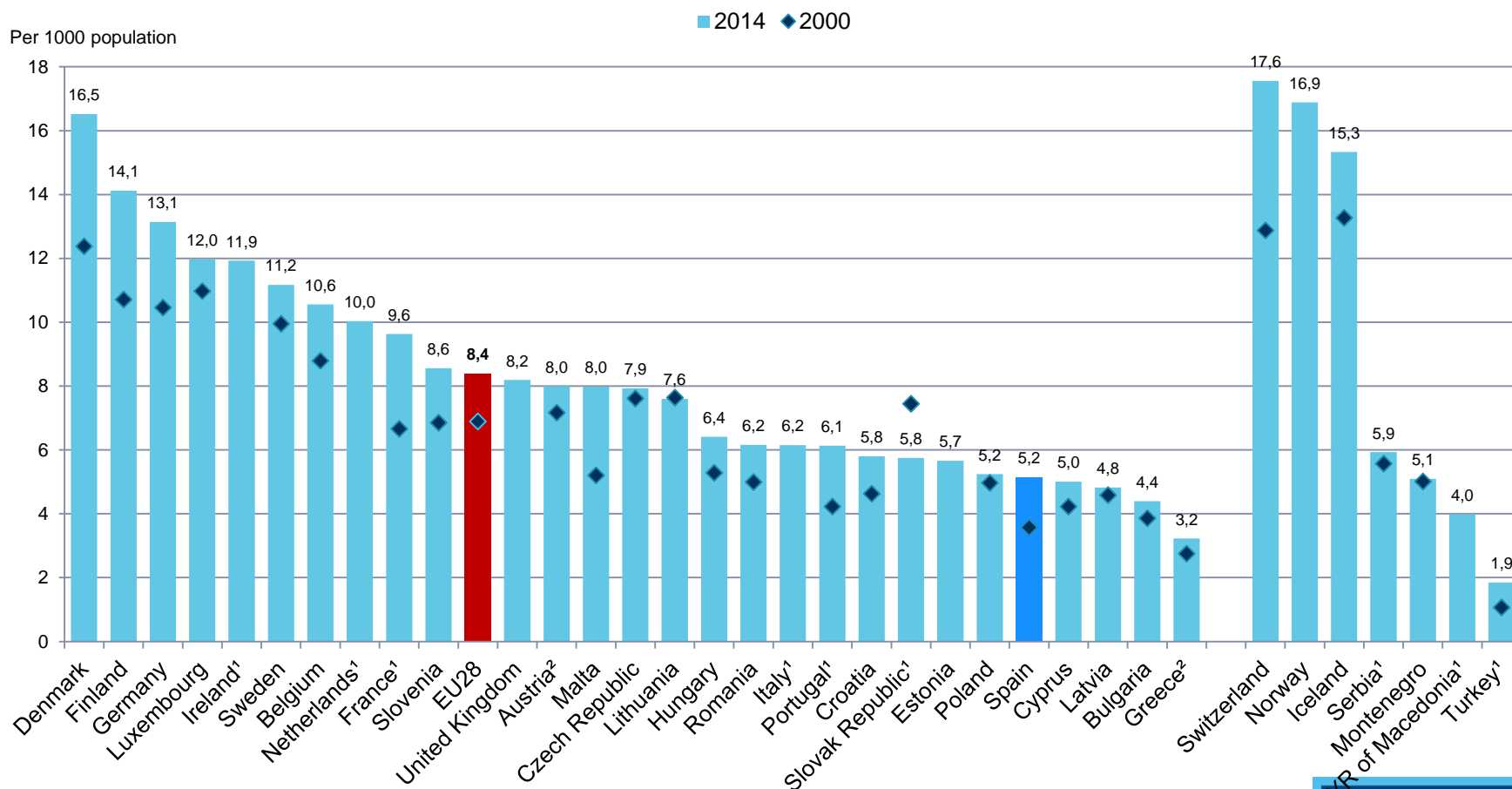
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Source: G. Lafortune, EUPHA, Vienna 2016

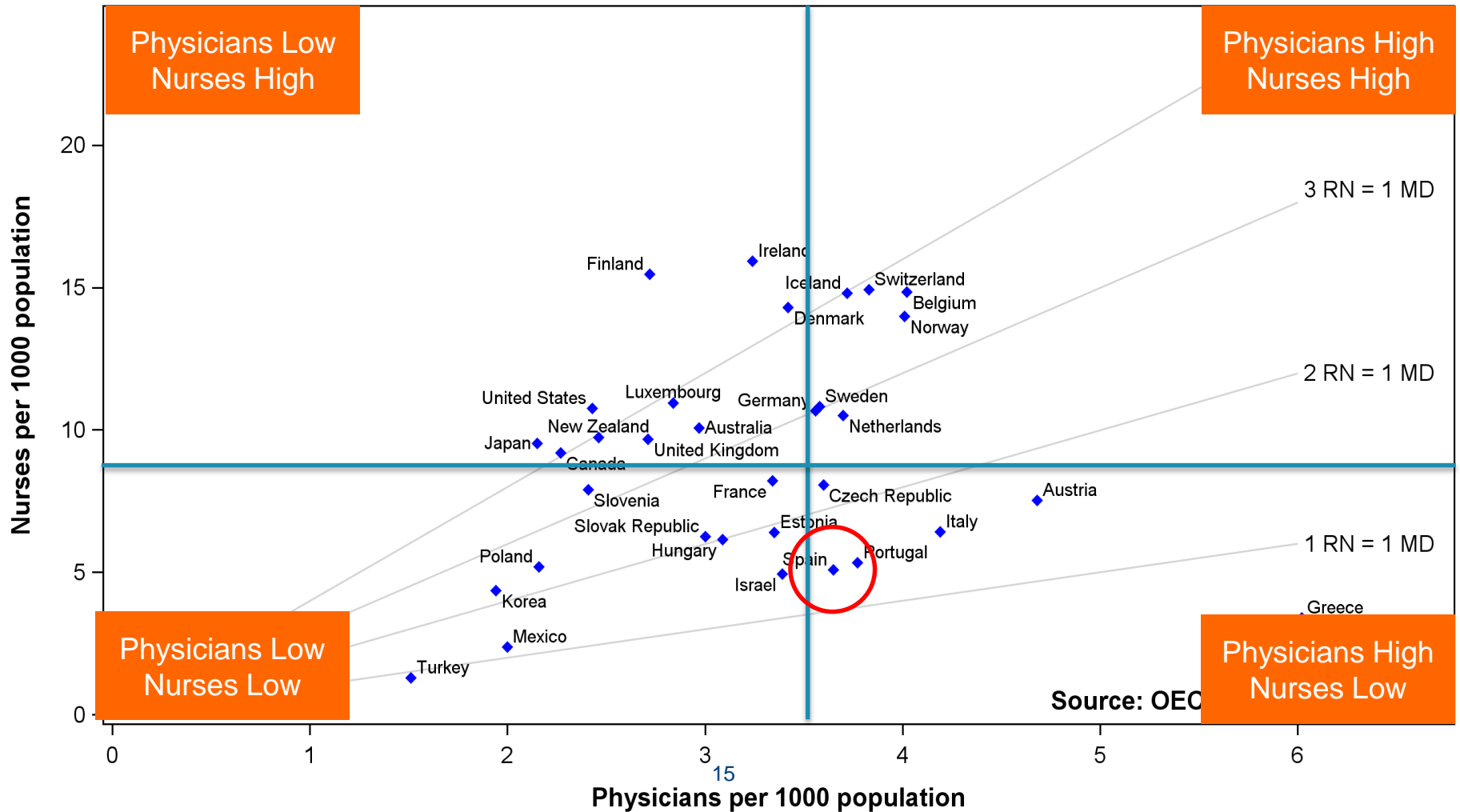
Based on 2016 OECD/Eurostat/WHO-Europe Joint Questionnaire.

Nurses' density 2000-2014



Physician/Nurse densities across OECD countries

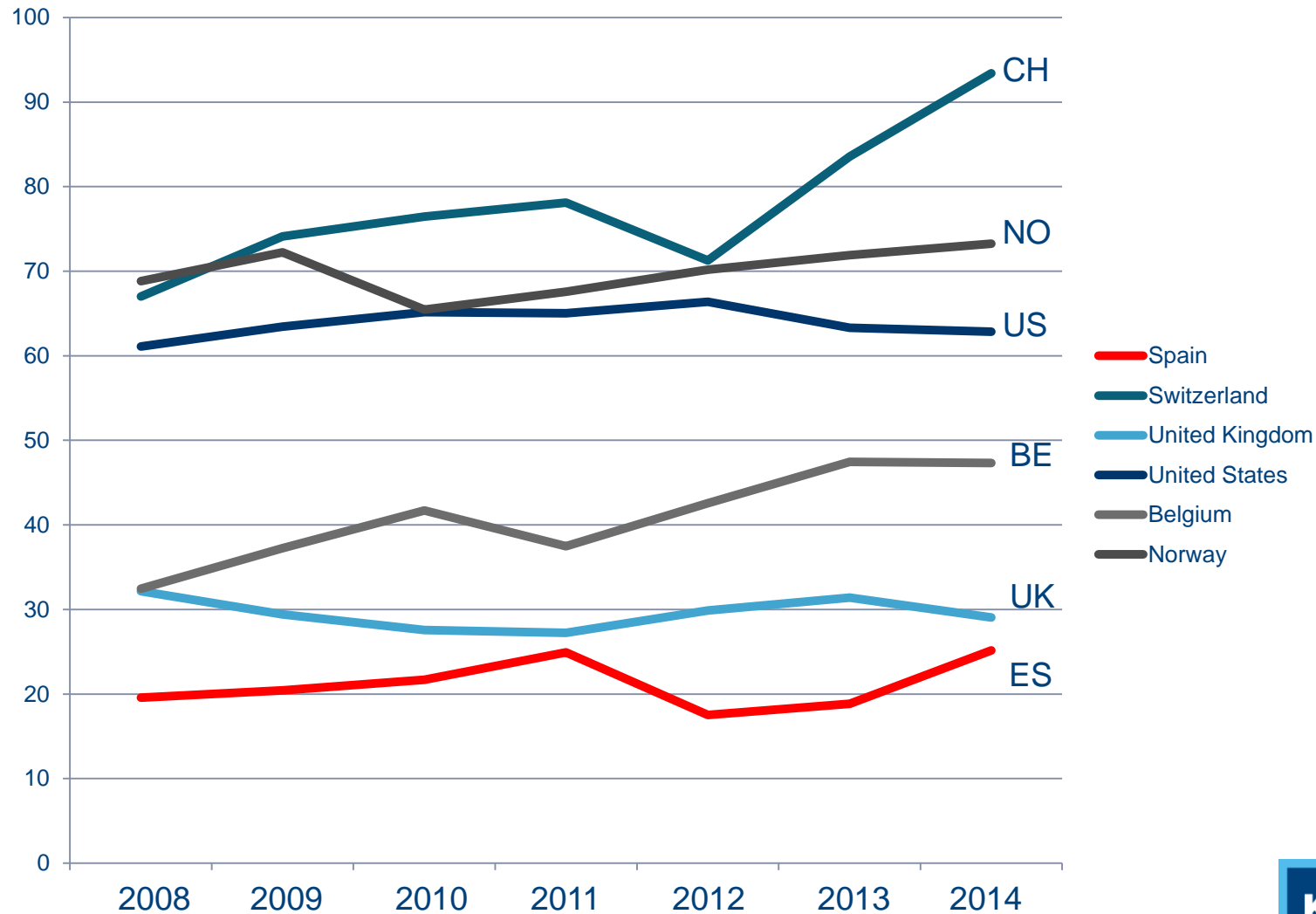
Ratio of nurses to physicians



Source: OEC

*nearest year available

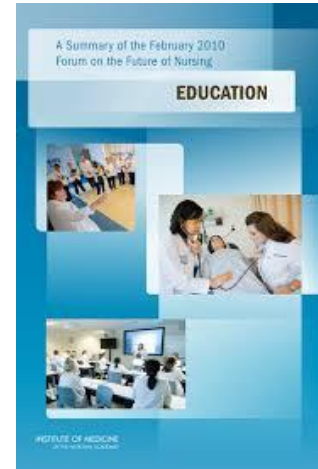
Inflow Nursing Graduates (per 100.000 population)



Overall strategies on nursing education

- **The IOM future of nursing Report USA (2010)**

- Future of nursing : education (2010)
- Progress report 2013
- Progress report 2015



- **WHO-Europe: European strategic directions for strengthening nursing and midwifery towards Health 2020 goals (Sept 2015)**

- Scaling up and transforming education and training
- Workforce planning and optimizing skill mix
- Ensuring positive work environments
- Promoting evidence-based practice and innovation





The Future of Nursing (2010)

- Remove scope-of-practice barriers
- expand opportunities for nurses to lead and diffuse collaborative improvement efforts
- Implement nurse residency programs
- Increase the proportion of nurses with a baccalaureate degree to 80 percent by 2020
- double the number of nurses with a doctorate by 2020
- ensure that nurses engage in lifelong learning
- prepare and enable nurses to lead change to advance health
- Build an infrastructure for the collection and analysis of inter-professional health care workforce data

WHO-Europe – strategy

Scaling up and transforming education



1. Standardize the initial education of nurses and midwives at degree level to get the best outcomes for patients and populations.
2. Develop education and regulation that enables and ensures that nurses' and midwives' core competencies are in line with the basic principles of Health 2020.
3. Strengthen continuing professional development and career development.

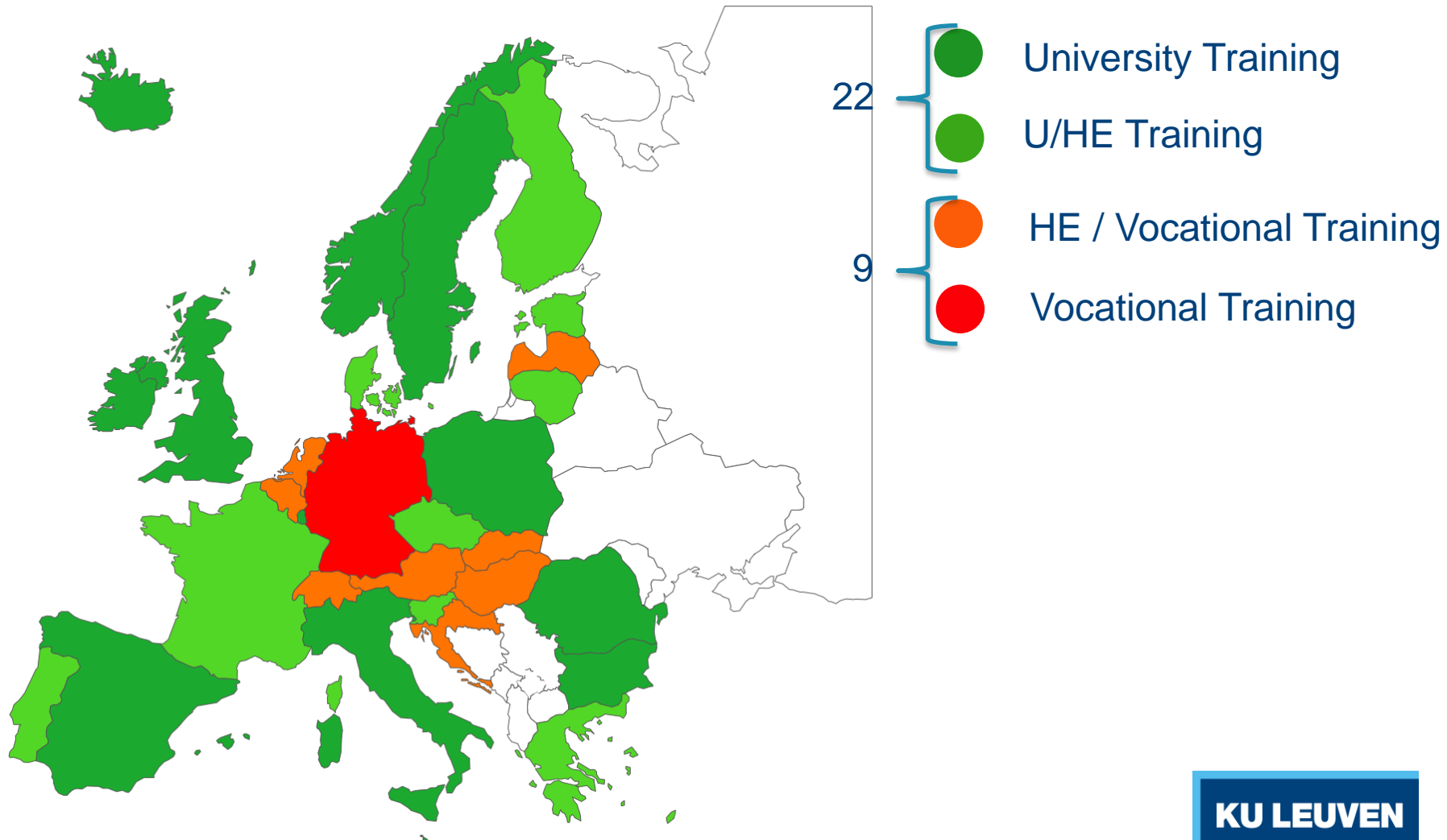
directive 2013/55/EU on the recognition of professional qualifications



- Art. 31 Admission to training for nurses responsible for general care shall be contingent upon either:
 - completion of general education of 12 years, as attested by a diploma, certificate ... and giving access to universities or to higher education institutions of a level recognised as equivalent;
 - or(b) completion of general education of at least 10 years, as attested by a diploma, certificate ... and giving access to a vocational school or vocational training programme for nursing.';
- At least 3Y of study; at least 4 600 hours of theoretical and clinical training; at least 1/3 theoretical training; at least 2300h of clinical training

Nursing Education Level in EU/EEA 2016

Requirements for entry into the profession



(Own compilation of data)

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Eight core competencies

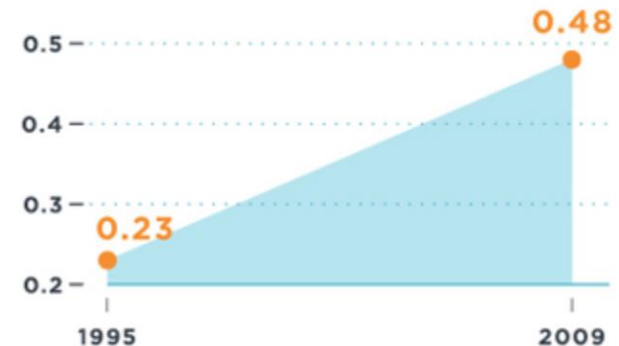
- a) competence to independently diagnose the nursing care
- b) competence to work together effectively with other actors in the health sector
- c) competence to empower individuals, families and groups towards healthy lifestyles and self-care
- d) competence to independently initiate life-preserving immediate measures and to carry out measures in crises and disaster situations
- e) competence to independently give advice to, instruct and support persons needing care;
- f) competence to independently assure the quality of, and to evaluate, nursing care
- g) competence to comprehensively communicate professionally and to cooperate with members of other professions in the health sector
- h) competence to analyse the care quality to improve his own professional practice as a nurse responsible for general care.

Advanced Practice Nursing Roles

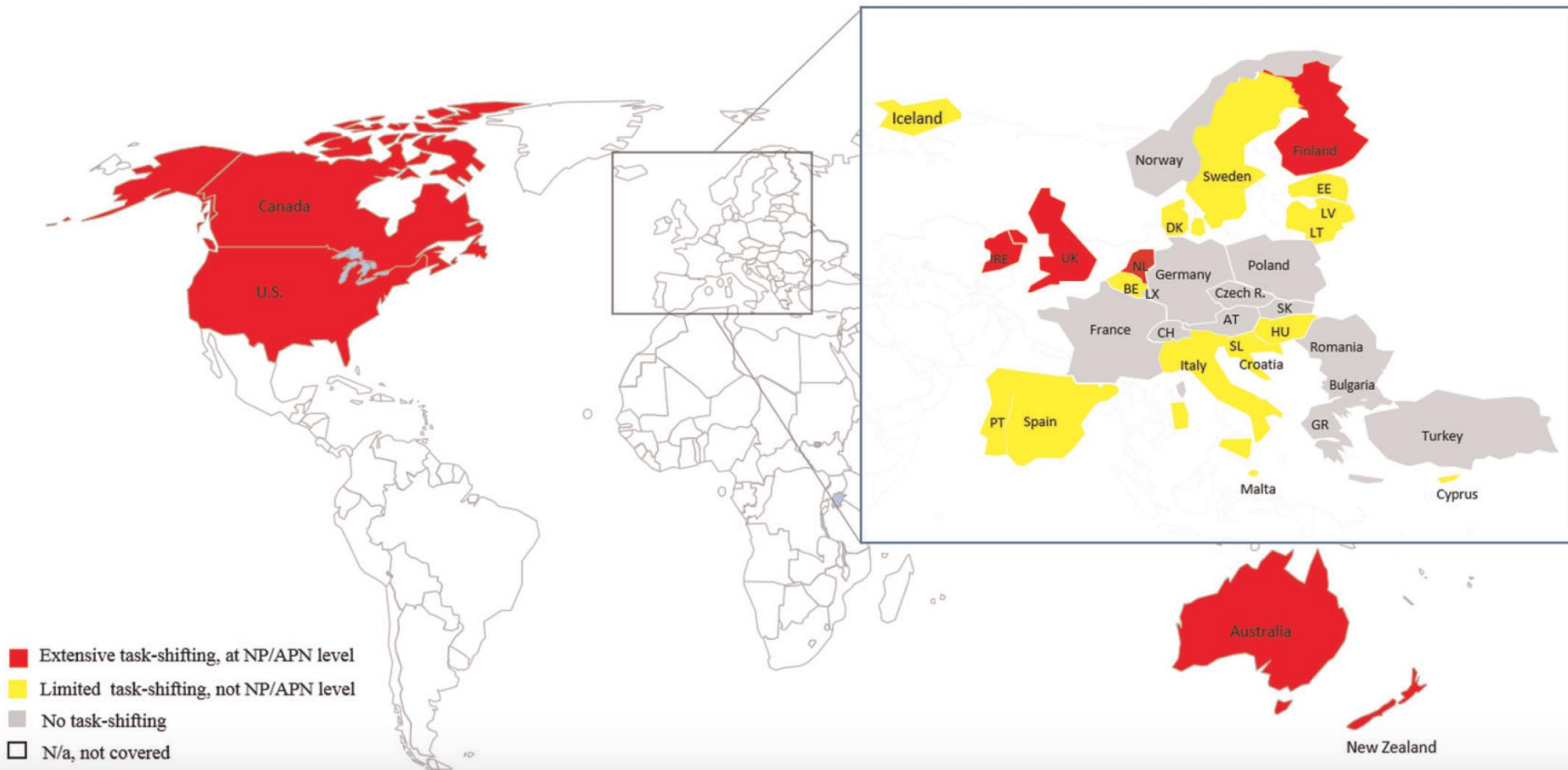


- Nurse Practitioners or other Advanced Practice Nurses (NP/APN), working at the interface of the nursing and medical profession
- Expanding Scope of Practice:
 - Task-shifting (a concept referred to as ‘substitution’) whereby nurses take up activities formerly in the domain of physicians to alleviate shortages and/or improve access;
 - New clinical areas (‘supplementation’) that have been largely unexplored, such as new roles as case managers, liaison roles, eHealth monitoring and lifestyle advice.

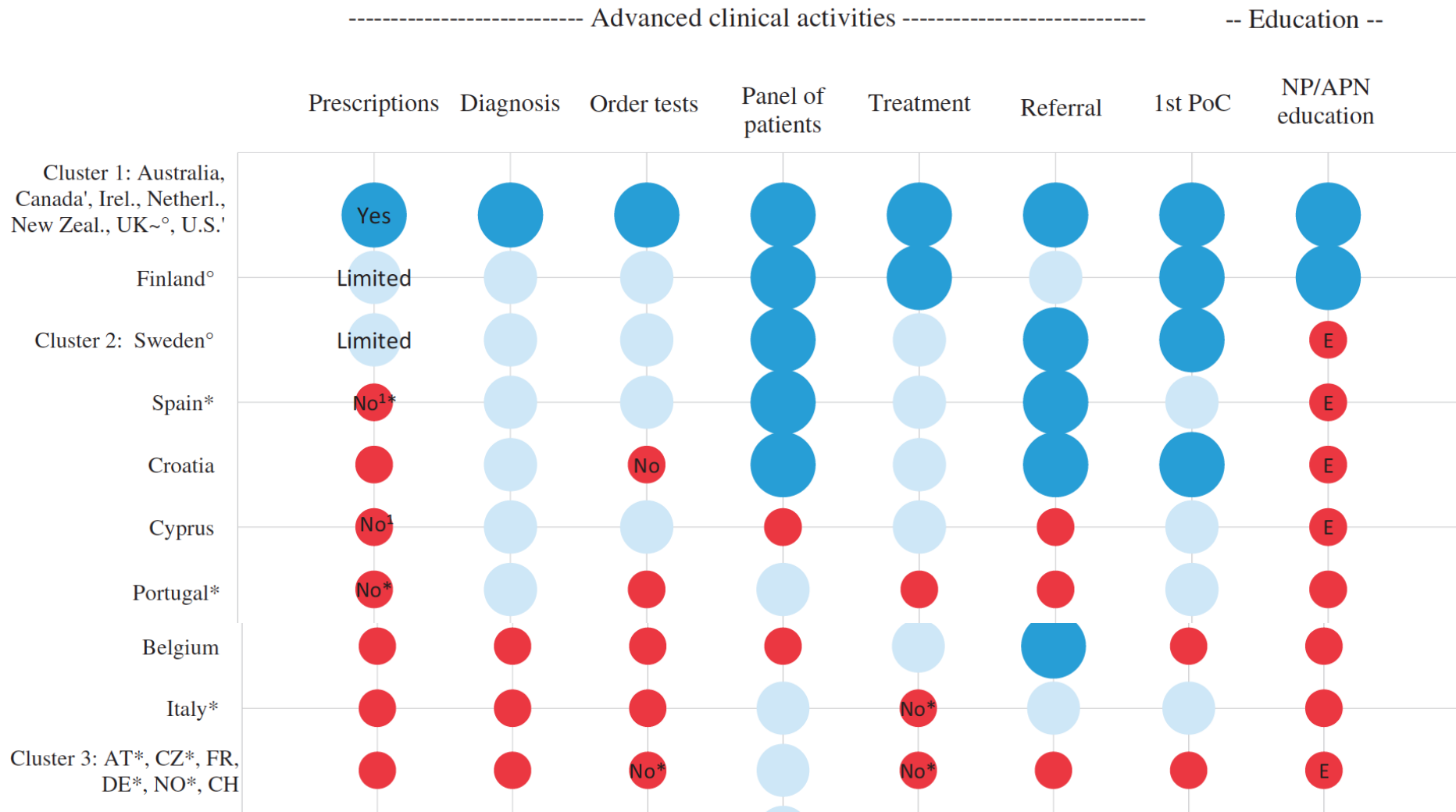
Numbers of nurse practitioners and physician assistants are steadily INCREASING.



Task shifting from MD to RN (NP/APN)



Extent of task shifting from physicians to nurses by seven clinical activities and educational requirements



Doctoral degree in nursing

PhD
level

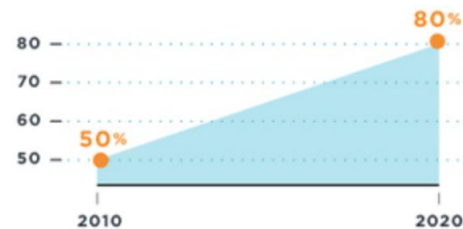
Master
level

Bachelor
level

INCREASE THE NUMBER OF NURSES WITH BACCALAUREATE DEGREES FROM 50% TO 80% BY 2020.

DOUBLE THE NUMBER OF NURSES WITH A DOCTORAL DEGREE BY 2020.

HIGHER ED GOALS



HOW:

- Tuition reimbursement
- Scholarships and loan forgiveness
- Increase higher ed faculty
- Expand clinical partnerships



ALTHOUGH 13% OF NURSES hold a graduate degree, fewer than 1 percent (28,369 nurses) have a doctoral degree in nursing or a nursing-related field.

The IOM future of nursing Report USA (2010)

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Overall strategy for Education Health Professionals



Flexner-report 1910

The Lancet Commissions

THE LANCET

EDUCATION OF HEALTH PROFESSIONALS FOR THE 21ST CENTURY: A GLOBAL PROFESSIONAL COMMISSION

Health professionals for a new century: transforming education to strengthen health systems in an interdependent world

Jill Freckel†, Lincoln Chert*, Zilijepa A. Blazina, Jordan Cohen, Nigel Crisp, Timothy Frenk, Harvey Fineberg, Patricia Garcia, Yong Ku, Patrick Galvin, Barry Ginsburg, Ajay K. Jha, Maria Domitraglia, Axel Pablos-Mendez, Suman Pandey, Sarah Hoadly, Susan Scrimshaw, James Siegel, and David Stroup, and Hilda Zeng†*

Executive summary

Problem statement

100 years ago, a series of studies about the education of health professionals, led by the 1910 Flexner report, sparked groundbreaking reforms. Through integration of modern science into the curricula at university-based schools, the reforms equipped health professionals with the knowledge that contributed to the doubling of life spans during the 20th century.

By the beginning of the 21st century, however, all is not well. Clinging ages and inequities in health persist both within and between countries, undermining our collective future to share the dramatic health advances equitably. At the same time, both health challenges loom. New infectious, zoonomous, and behavioral risks, at a time of rapid demographic and epidemiological transitions, threaten health security of all. Health systems worldwide are struggling to keep up, as they become more complex and costly, placing additional demands on health workers.

Professional education has not kept pace with these challenges, largely because of fragmented, outdated, and static curricula that produce ill-equipped graduates. The problems are systemic: mismatch of competencies to patient and population needs; poor teamwork; persistent gender stratification of professional status; narrow technical focus without broader contextual understanding; episodic encounters rather than continuous care; predominant hospital orientation at the expense of primary care; quantitative and qualitative imbalances in the professional labour market; and weak leadership to improve health-system performance. Laudable efforts to address these deficiencies have mostly floundered, partly because of the so-called silos of the professions—in the tendency of the various professions to act in isolation from or even in competition with each other.

Realizing the opportunities for mutual learning and joint solutions offered by global interdependence due to acceleration of flows of knowledge, technologies, and financing across borders, and the migration of both professionals and patients. What is clearly needed is a thorough and authoritative re-examination of health professional education, matching the ambitious work of a century ago.

That is why this Commission, consisting of 20 professional and academic leaders from diverse countries, came together to develop a shared vision and a common strategy for postsecondary education in medicine, nursing, and public health that reaches beyond the confines of national borders and the silos of individual professions. The Commission adopted a global outlook, a multiprofessional perspective, and a systems approach. This comprehensive framework considers the connections between education and health systems. It is centred on people as co-producers and as drivers of needs and demands in both systems. By interaction through the labour market, the provision of educational services guarantees the supply of an educated workforce to meet the demand for professionals to work in the health system. To have a positive effect on health outcomes, the professional education subsystem must design new instructional and institutional strategies.

Major findings

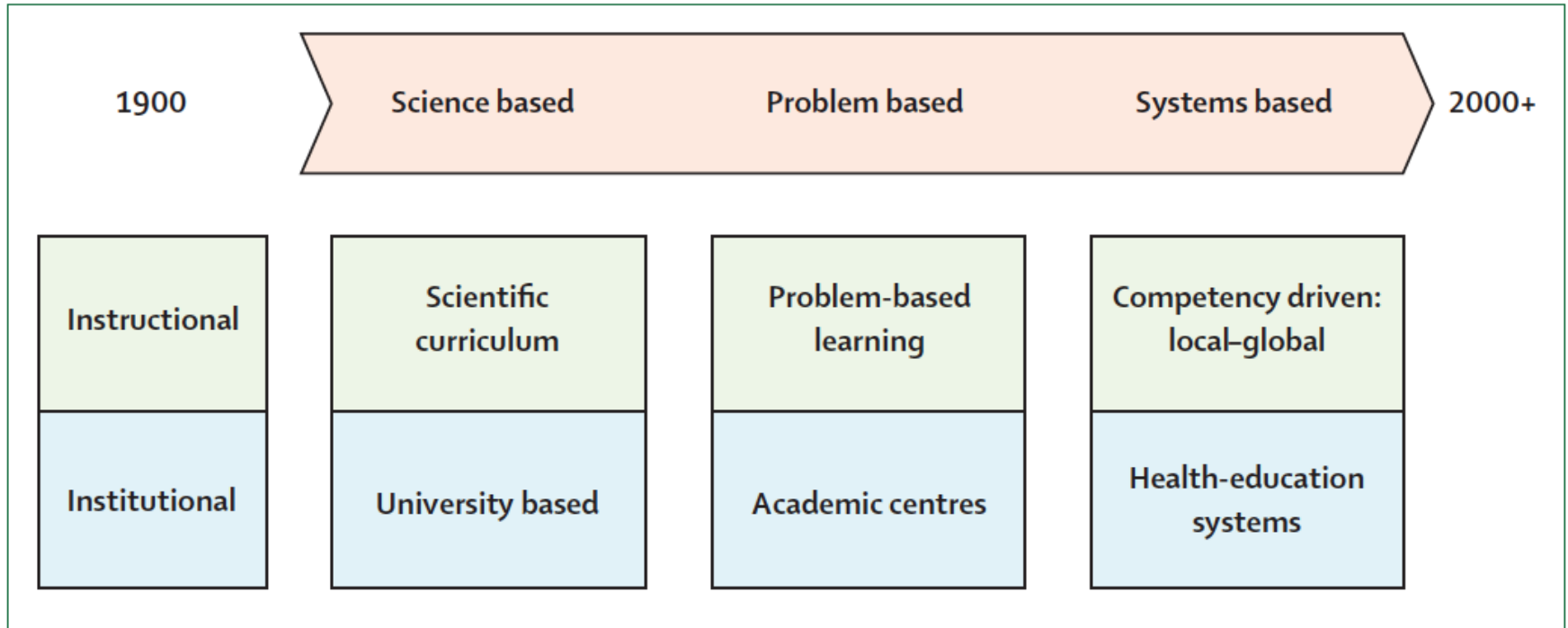
Worldwide, 2420 medical schools, 467 schools or departments of public health, and an indeterminate number of postsecondary nursing educational institutions train about 1 million new doctors, nurses, midwives, and public health professionals every year. Severe institutional shortages are exacerbated by maldistribution, both between and within countries.

www.thelancet.com Vol 376 December 4, 2010

1921

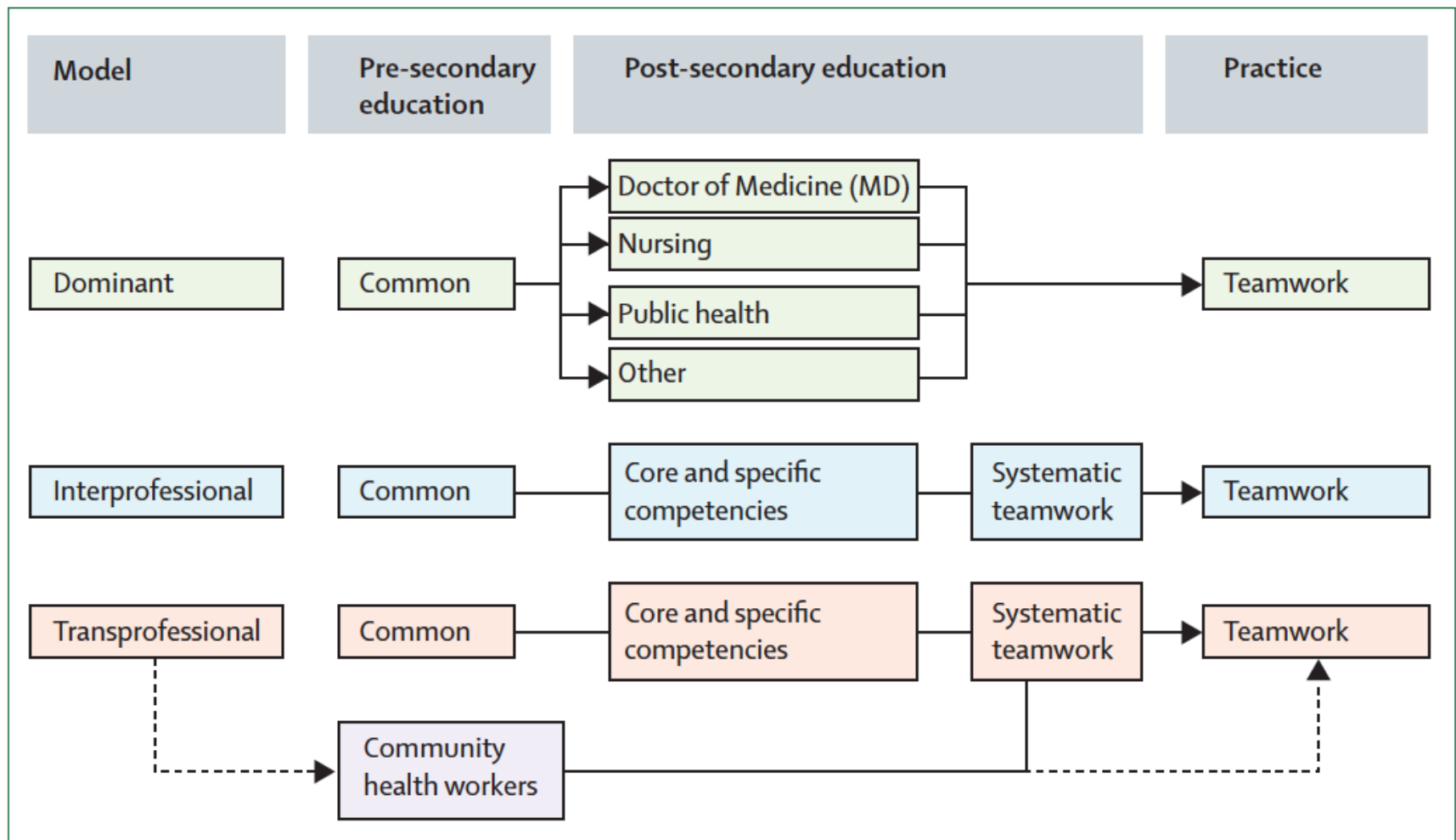
Lancet-report 2010 (Frenk et al.)

Recommendations from the Lancet report (1)

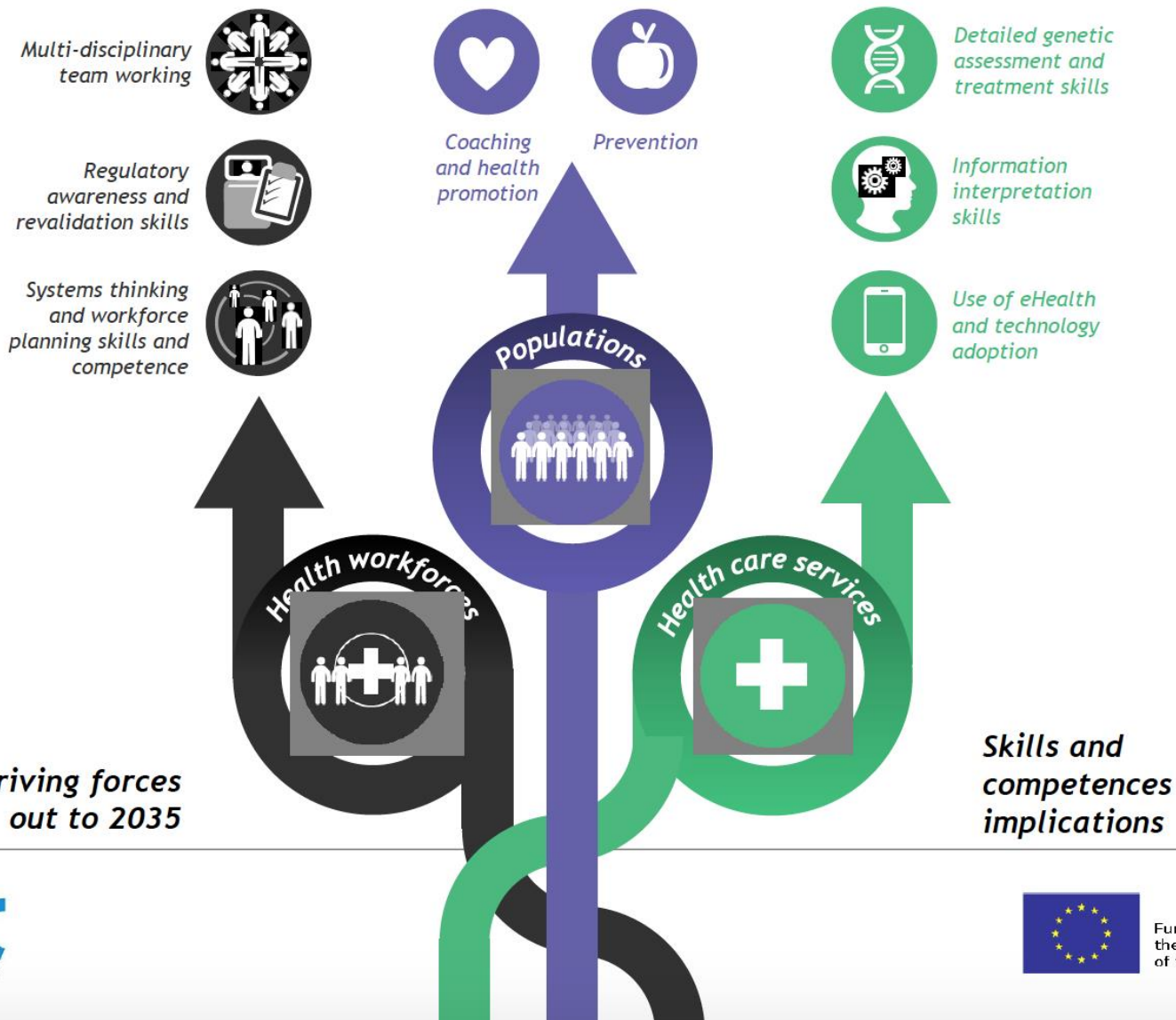


	Objectives	Outcome
Informative	Information, skills	Experts
Formative	Socialisation, values	Professionals
Transformative	Leadership attributes	Change agents

Shifts proposed in the Lancet report (2)



Drivers of change and skills implications



Conclusions

- Highly positive: all nurses are trained at the Bachelor Level
- Health system: high physician density, low nurses' density
- Shift in competencies will be required (chronic care conditions, primary care, elderly care,...)
- Recommendations to develop further:
 - Recruitment & retention efforts
 - Advanced Practice Nursing Roles (on master level)
 - Doctorates for teaching, innovation, leadership
 - Transformational skills and competences
 - Interprofessional education

Thank you for your
attention



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