munros Health Care Reform : The impact on practice, outcomes and costs of new roles for health professionals

Commission Expert Group on European Health Workforce

New Roles for Health Professionals: policy implications of the MUNROS Project

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on behalf of the MUNROS consortium

MUNROS is funded by the European Commission FP7 programme, HEALTH-F3-2012-305467EC. Project co-ordinators Prof Bob Elliott, r.elliott@abdn.ac.uk and Prof Christine Bond, c.m.bond@abdn.ac.uk
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MUNROS: the iMpact on practice, oUtcomes and costs of New roles for health pROfeSsionals

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Context

- Pressures on health budgets
  - Increasing demand for health care
  - Increasing price of delivering health care
- Spending on workforce largest single item of health care expenditures in EU member states (around 2/3rds of total)
- Costs of training medical staff are substantial (€0.7/0.8 million GP/Consultant in UK) and returns on that public investment declining
  - Number of hours worked reducing - more part-time working
  - Skills are transferable and labour is mobile
- New skills are required: new technologies and new protocols changing the way health care can be delivered
- New and extended roles can offer solutions:
  - Present opportunities for enhancing delivery and containing costs
  - BUT require changes to workforce planning models

The MUNROS Policy questions

- Have new roles been created and the roles of established professions extended?
- Task Substitution: are there tasks that were undertaken by medical staff that have been transferred to nurses (through extended roles) and other (new?) professions? What are these tasks?
- What drives task substitution?
- Does task substitution result in equivalent or better outcomes?
- Do new or extended roles promote/assist integrated care?
- What do the recipients of care, patients, think about task substitution?
- Does task substitution mean lower costs?
- What does task substitution mean for workforce planning?

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Project Design

To answer these questions requires a robust study design: THE MUNROS FRAMEWORK

- A sample of countries with different health systems and different degrees of innovation

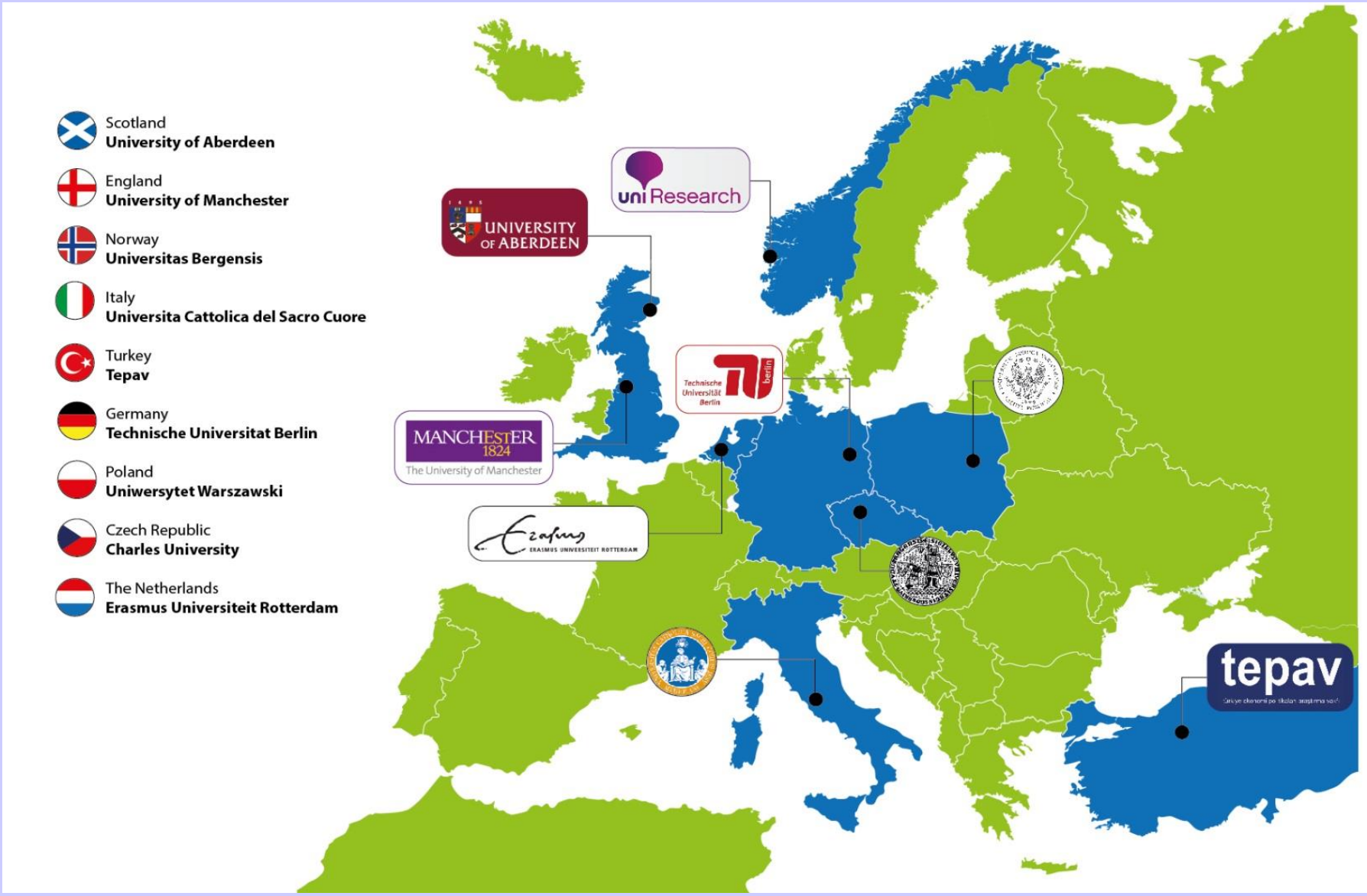
- Focus on three clinical conditions (building from solid micro foundations):
  - high prevalence in all partners;
  - all associated with significant morbidity and mortality;
  - all employ national guidelines and clinical protocols to determine treatment; cover a condition with high prevalence among >65's ,
  - and involve acute and chronic management and surgical procedures

  Heart Disease; Breast Cancer and Type 2 Diabetes

- Representative Hospital context: teaching, large general, and smaller general hospitals and hospitals located in densely populated urban and small towns/rural locations

- Questionnaires to all Health Care Professionals (N = 2328), Managers (N = 715) and sample of patients (N = 3307) in nine countries.

Consortium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Have new roles been created and the roles of established professions extended?

NEW ROLES?

- Three main groups of countries:
  - New professional roles have legal power and authority (England, Netherlands, Scotland and now Germany): Nurse Practitioners and Advanced Practice Nurses – **New Professions**
  - 'New' professional roles are focussed on specialised care within the medical domain (Czech Republic, Germany, Italy , Turkey): **Extended roles for established professions**
  - Marginal development of new roles (Norway, Poland)

EXTENDED ROLES?

- Nurses roles have been extended in all partner countries
- Pharmacists roles extended in some countries: UK

Task Substitution: tasks transferred to new professions? What are these tasks?

Tasks previously done by medical staff

Physician Assistants/Associates (PAs):

- **Netherlands**: prescribe medicines, undertake some surgical procedures
- **Germany**: assist before and after surgery and carry out some surgery under supervision
- **England and Scotland**: undertake examinations, diagnose, determine treatments, interpret diagnostic tests

Advanced Nurse Practitioners (ANPs)

- **England, Scotland, Netherlands:** take patient histories, diagnose, undertake physical examinations, act as case managers, prescribe medicines.

Note: tasks and responsibilities differ across between countries and within countries by health care setting and health care institution.

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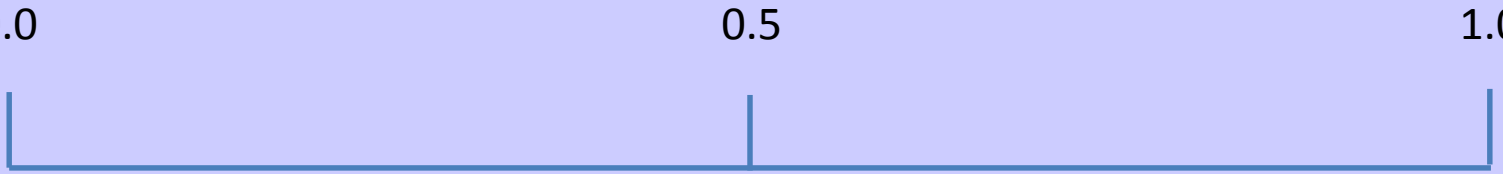
Task Substitution: tasks transferred to nurses through extended roles? Summary measure from the questionnaire task lists

- Tasks that doctors and/or nurses report undertaking



‘Doctors Tasks’ Nurses do no tasks

Nurses and doctors do same number of tasks

‘Nurses Tasks’ Doctors do no tasks

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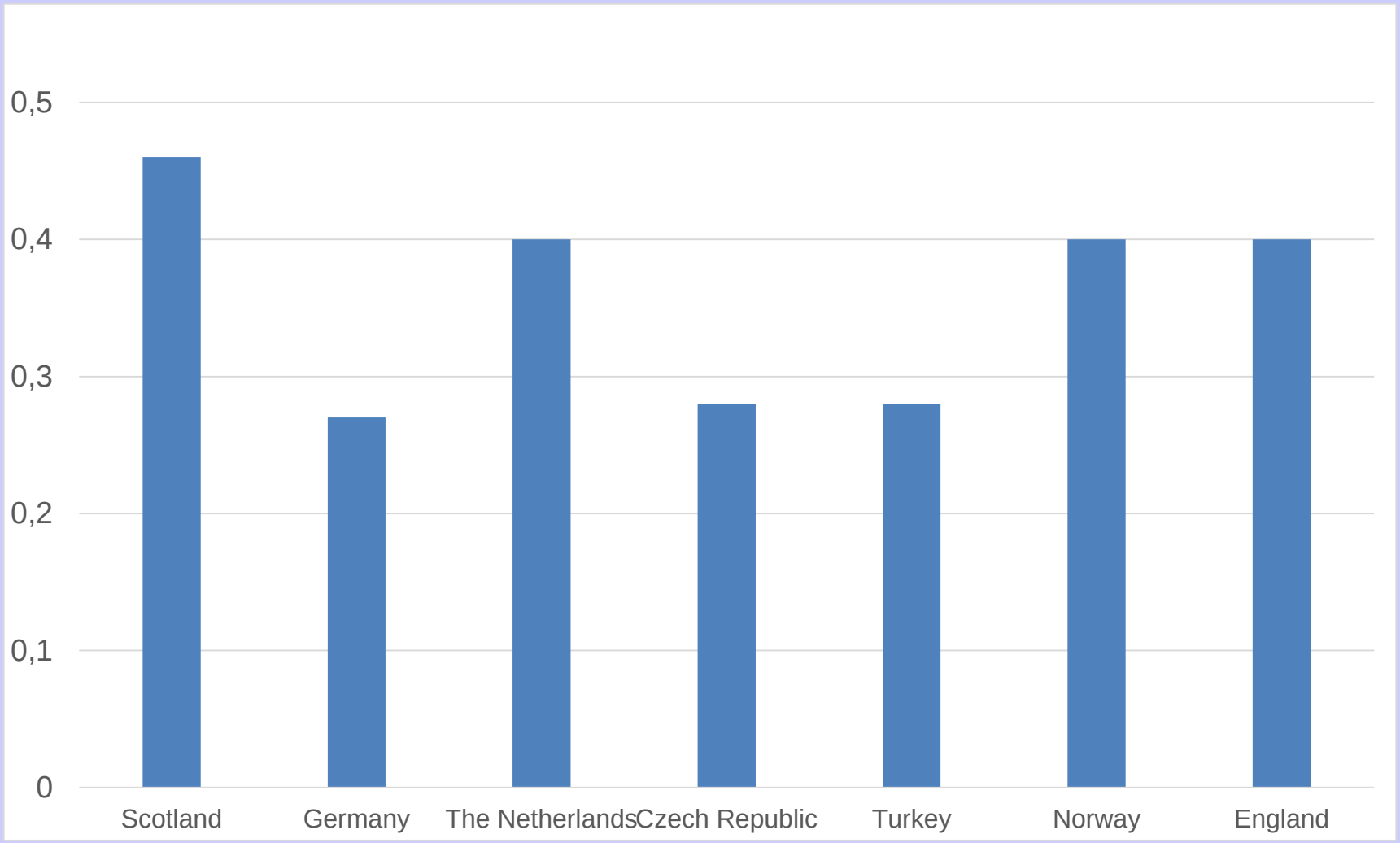
Task Substitution: tasks transferred to nurses through extended roles? Nurses share of breast cancer tasks



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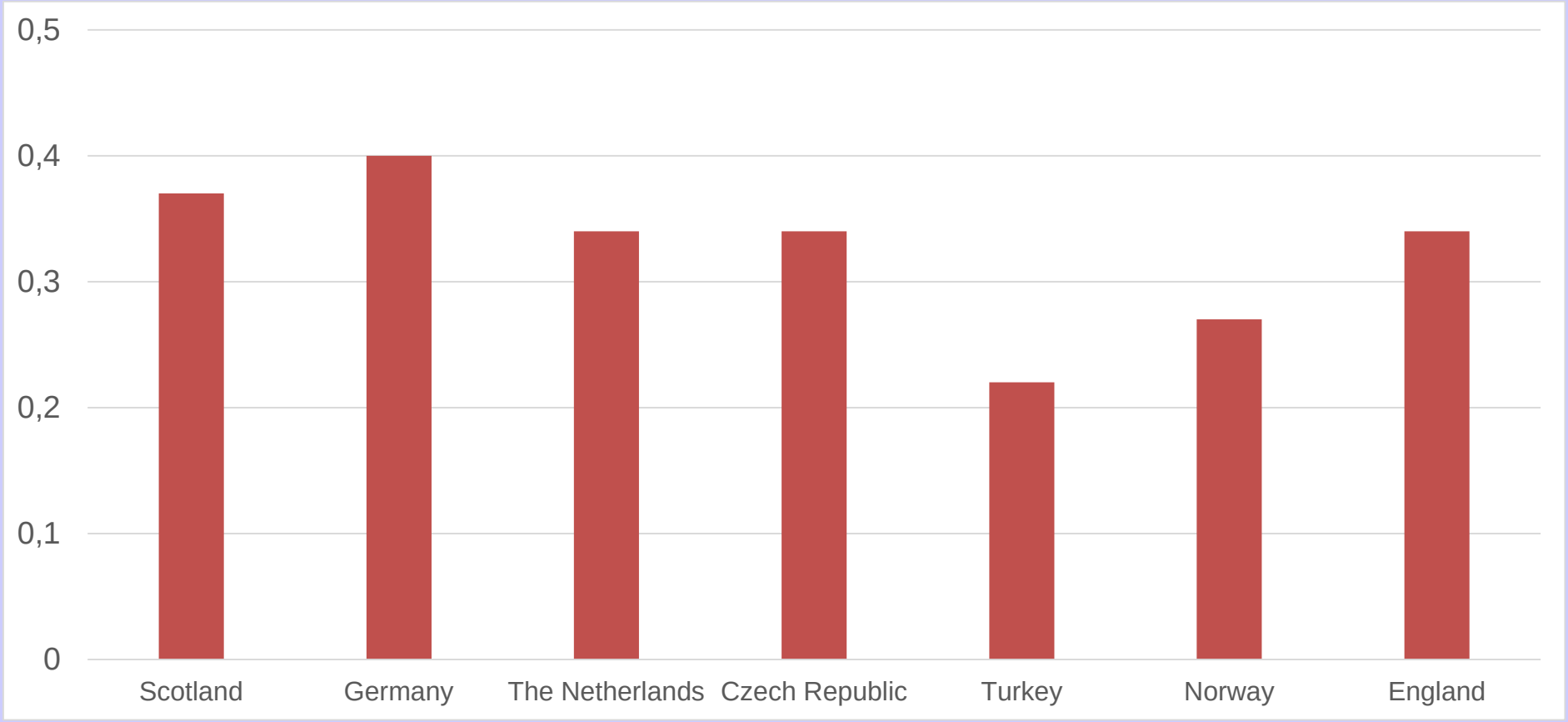
Task Substitution: tasks transferred to nurses through extended roles? Nurses share of heart disease tasks



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Task Substitution: Are there tasks that were undertaken by medical staff that have been transferred to nurses (through extended roles) and other (new) professions? Reflections.

- **Variation in practice**
  - Extent of task substitution varies between countries
  - Note also varies within countries and between local teams

- **Tasks substitution depends on attitude and flexibility of established professionals**
  - Often a single individual – the team leader
  - Necessary to establish new professionals are knowledgeable and competent
  - Extension of roles results from assuming additional tasks to “get the job done”

- **Staff are allocated to clinical teams by managers**

What drives task substitution?
Locally, managerial decisions on staffing

Part 3: How you decide who does what on the Breast Cancer Care Pathway

Q12 Which factors other than their clinical knowledge influence your choice of staff to work on the Breast Cancer care pathway? Please circle one number for each of the factors listed below to show how much it influences your choice of staff to work on the care pathway. Please answer all of them.

Factor	Does not influence my choice	Somewhat influences my choice	Influences my choice a lot
Budgetary/cost consideration	1	2	3
Cost effectiveness	1	2	3
Experience of staff	1	2	3
Patient preferences	1	2	3
Professional influence/opinions	1	2	3
Regulations	1	2	3
Skills and competences	1	2	3
Workforce availability	1	2	3
Other (please specify below)	1	2	3
Other:			

What drives task substitution?
How managers decide 'who does what' on breast cancer pathway

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What drives task substitution?
At health system level

What Encourages/Incentivises?

- Workforce shortages (National and/or local – all partners)
- Workforce polices: regulation of junior doctors' hours (England, Scotland, Netherlands)
- Pressure on health care budgets (All countries)
- Technological advance: new roles for nurses as technology changes chronic disease management (Italy) and requires new competencies (All countries)
- New approaches to care: shift from secondary to primary care (England and Scotland)
- Professionalisation of non-medical health care professionals: degree-level entry requirement changes expectations of professions (England)

What Discourages?

- Payment systems: payment for clinical treatment conditional on physician delivering treatment (Germany)
- Attitude and flexibility of established professionals

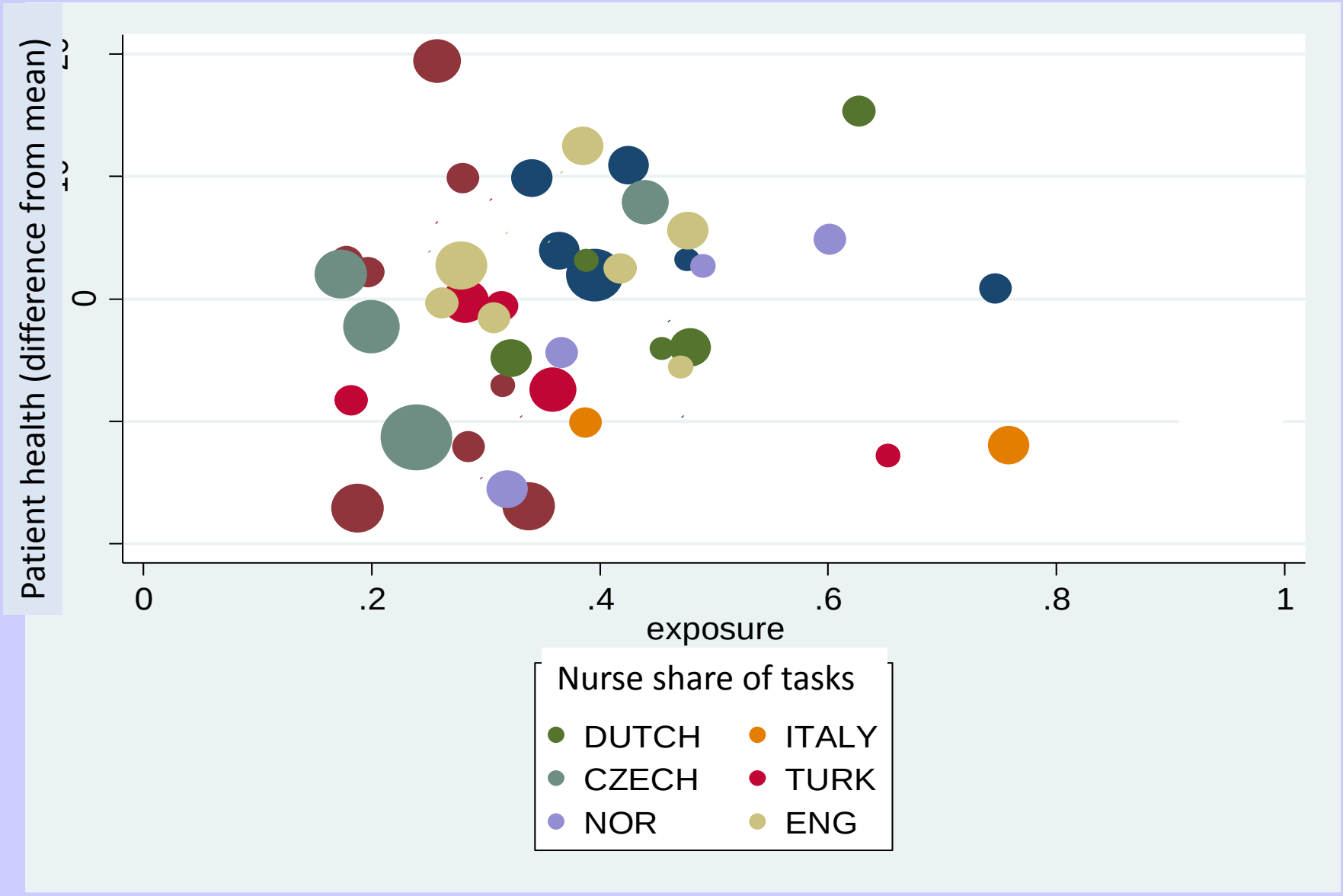
Does task substitution result in equivalent or better outcomes?

- **Measured outcomes**
  - Patient health outcomes (e.g. EuroQoL measures)
  - Patient experiences (e.g. satisfaction)
  - Processes and outcomes (e.g. mortality and re-admissions)

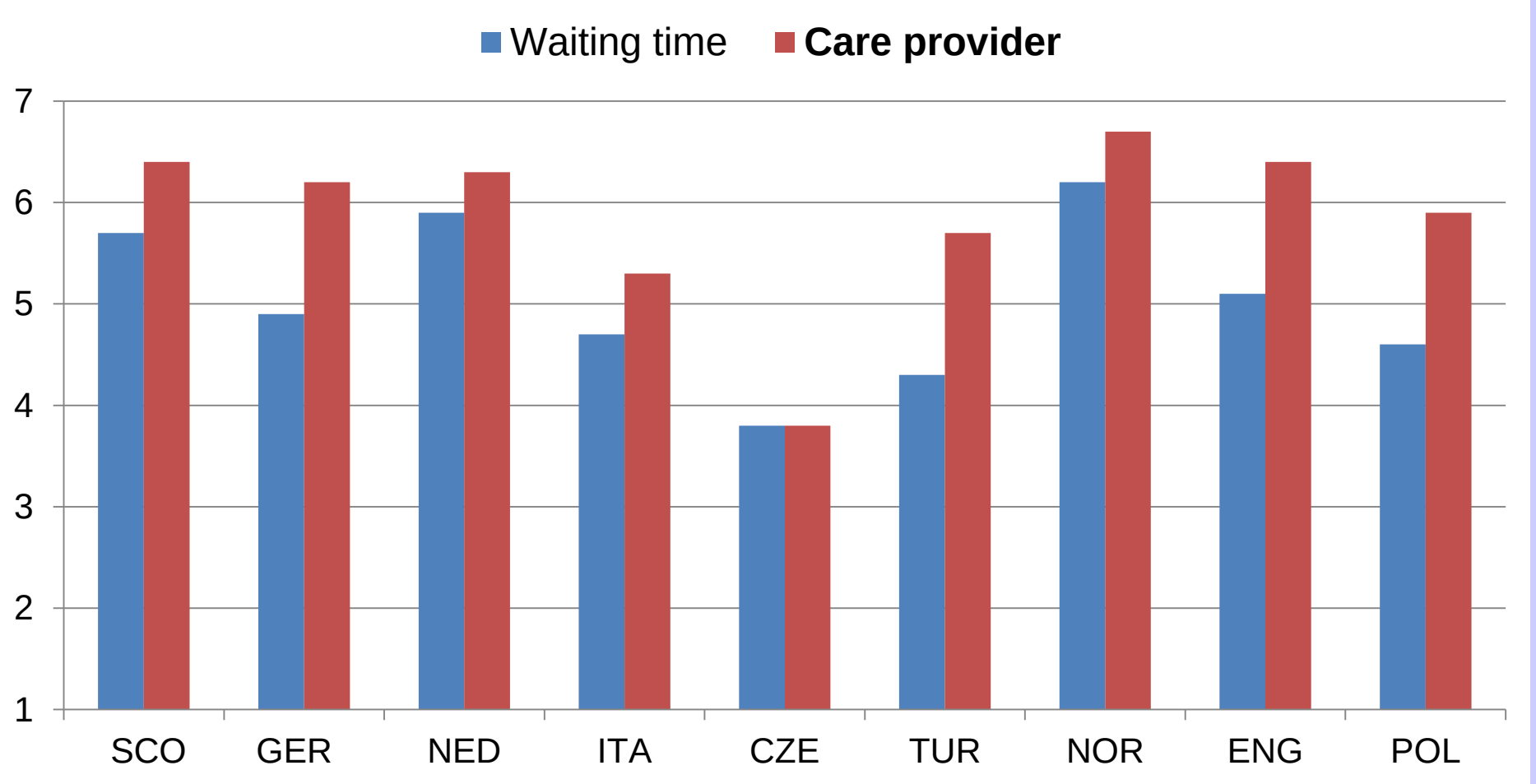
- Assess impact of **differences in skill mix on outcomes** at different sites (within and between countries)

- Data sources:
  - Patient questionnaires
  - Medical records
  - Register data : Scotland, Norway, England

Does task substitution result in equivalent or better outcomes? Patient's health and nurses share of tasks - site level variation



Does task substitution result in equivalent or better outcomes?
Average patient satisfaction: breast cancer



Mean values: 1 = extremely dissatisfied, 7 = extremely satisfied

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Do new or extended roles promote/assist integrated care?

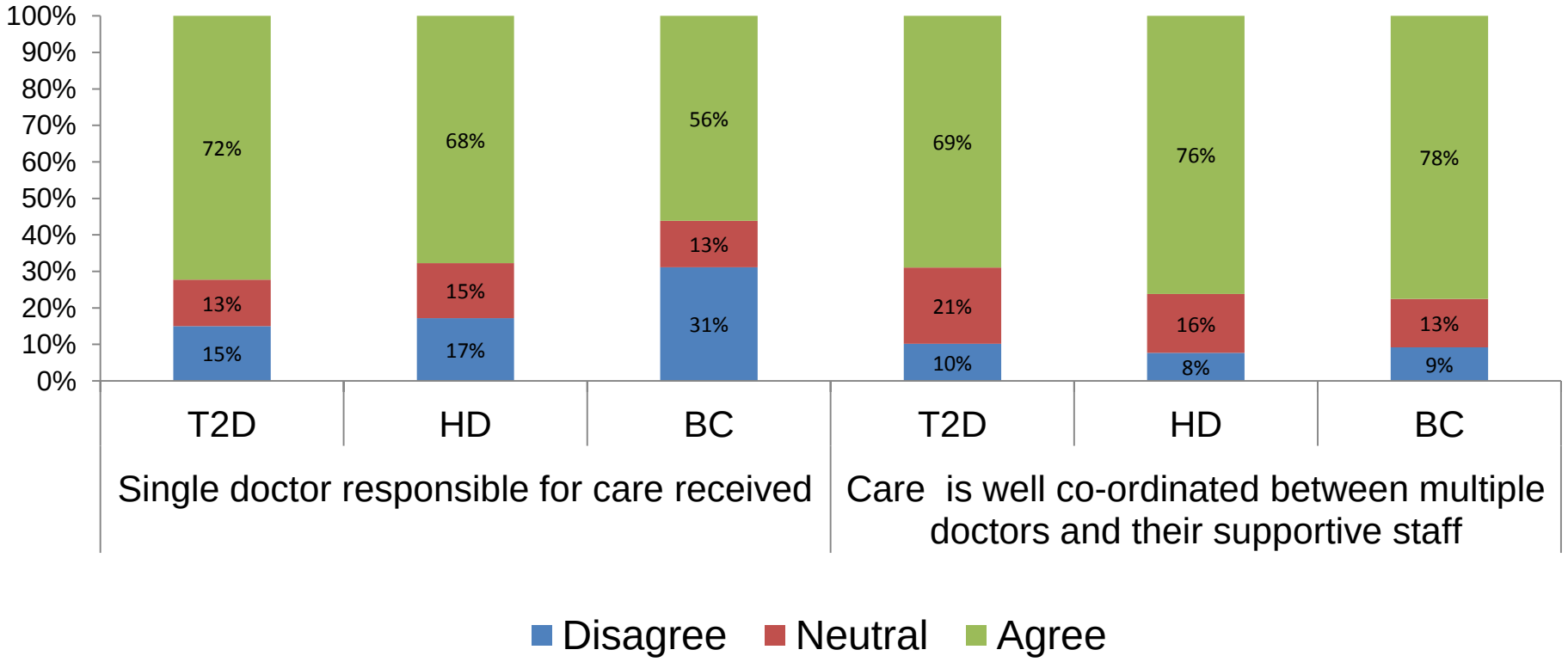
Examples of where promotes integration

- Netherlands, the **clinical practice assistant** (*praktijkondersteuner, POH*) AHP in mental health in primary care.

- England and Scotland **advanced nurse practitioners** act as case managers, monitoring and supporting patients and relatives

- Italy **Social Care/Healthcare Assistants** undertake simple nursing tasks in hospitals and the community. Nurses roles extended to **Case managers** to ensure integration

Do new or extended roles promote/assist integrated care? Perceived organisation of care



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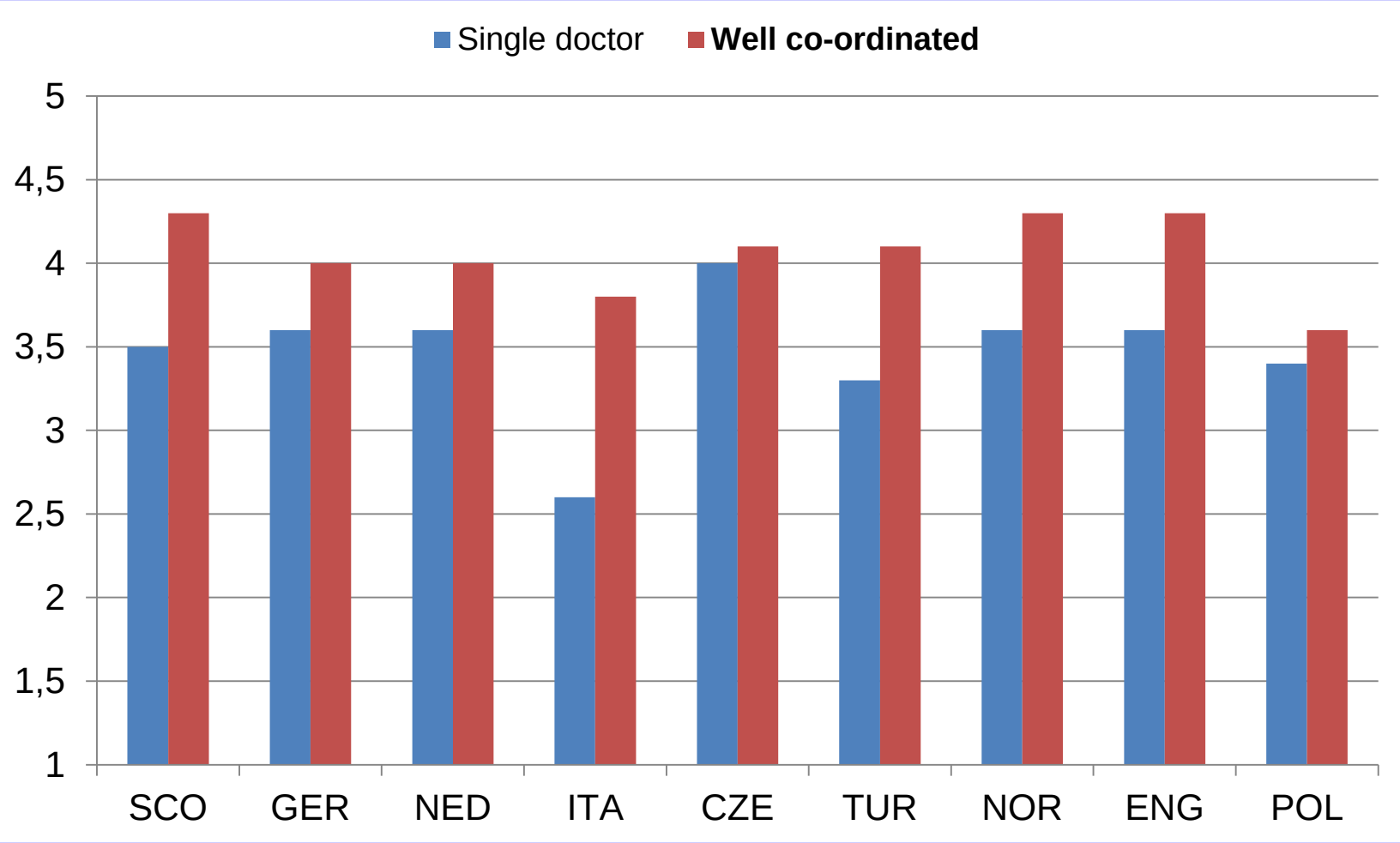
Do new or extended roles promote/assist integrated care? Patient perceptions of organisation of care: breast cancer



Mean values; 1 = strongly disagree, 5 =strongly agree

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Does task substitution mean lower costs?

- Use data collected on health service utilisation, productivity costs, and informal care to analyse the effects on costs of differences in skill mix

- Preliminary results: breast cancer past 3 month costs
  - HEALTH CARE COSTS: average €2,350
    - Lowest costs in Scotland highest costs in Germany
    - Differences associated with differences in rate of hospitalisation and treatment procedures
  - SOCIETAL COSTS: average €2,570

- **Multilevel, multivariate modelling suggests shifting tasks from doctors to nurses may reduce costs of breast cancer care**

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What does task substitution mean for workforce planning? The MUNROS approach

Traditional approach:

$N = (N / P) \times P$

Where: **N** = number of providers
P = population

No consideration of 1) population need for care or 2) how health care delivered

MUNROS Approach:

Disaggregate N/P at time t to give:

$N_t = N/Q \times Q/H \times H/P \times P_t$

Where: **Q =** number of tasks
H = health status of population

MUNROS innovation is to recognise that:

Skill mix: Q, the tasks can be produced by different combinations of providers, N, so Q= f(N1, N2,N3). Health professions 1, 2 etc.

Practice and Regulations determine which providers can perform which tasks

Practice – who does what?

Legislated scope of practice – who is permitted to do what?

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What does task substitution mean for workforce planning? Selecting the optimal skill mix

The 'ideal' mix	• Comparing European and national guidelines for core team/wider team • Deliver care according to skills and competencies
The actual mix	• Survey data on who does which tasks
The optimal mix	• Who does and is permitted to do tasks • Cost effective and clinically effective combinations • Identify 'imporvements'

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What does task substitution mean for workforce planning? The steps involved in the MUNROS approach.

1. Estimate the population prevalence/severity of defined health conditions (Epidemiology)

2. Identify the care pathways for our three health conditions (Service planning)

3. Determine provider tasks and competencies for care pathways (Task and competency mapping)

4. Calculate service requirements to meet population need (Next Slide)

5. Identify different ways of undertaking tasks/supplying competencies(Skill mix)

6. Identify implications of different skill mixes for health workforces (workforce planning)

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What does task substitution mean for workforce planning? The MUNROS approach: calculating service requirements to meet population need

From the Health Care Professionals Questionnaire we obtain data for each profession on:

- **Patients Seen**. Average % of total patients seen by professional group (grouped as above
- **Patients Treated**. Average % of patients seen for whom the the task is performed (grouped as above)
- **Tasks per Patient Treated**. Average number of times a treated patient has received the procedure/task per year (grouped by country)
- **Productivity**. Average productivity of a profession (number of task per hour) (grouped by profession and country)

For each profession we can then calculate a number of **required hours** per 1000 patients by:

1000 X **Patients Seen** X **Patients Treated** X **Tasks per Patient Treated**)**/ Productivity**

What does task substitution mean for workforce planning? The MUNROS approach: constructing different scenarios

Workforce planning tool is:

- Multi-profession not Uni-profession
- Based on what needs to be done:
  - Projected health care status
  - Tasks required to provide care to a patient with a particular disease
- Combined with who can do it
  - Data on which professional can deliver those tasks effectively
  - Information from Regulators

Allows construction of different models for delivering care based on:

- Variations between partner countries
- Evidence-based guidelines

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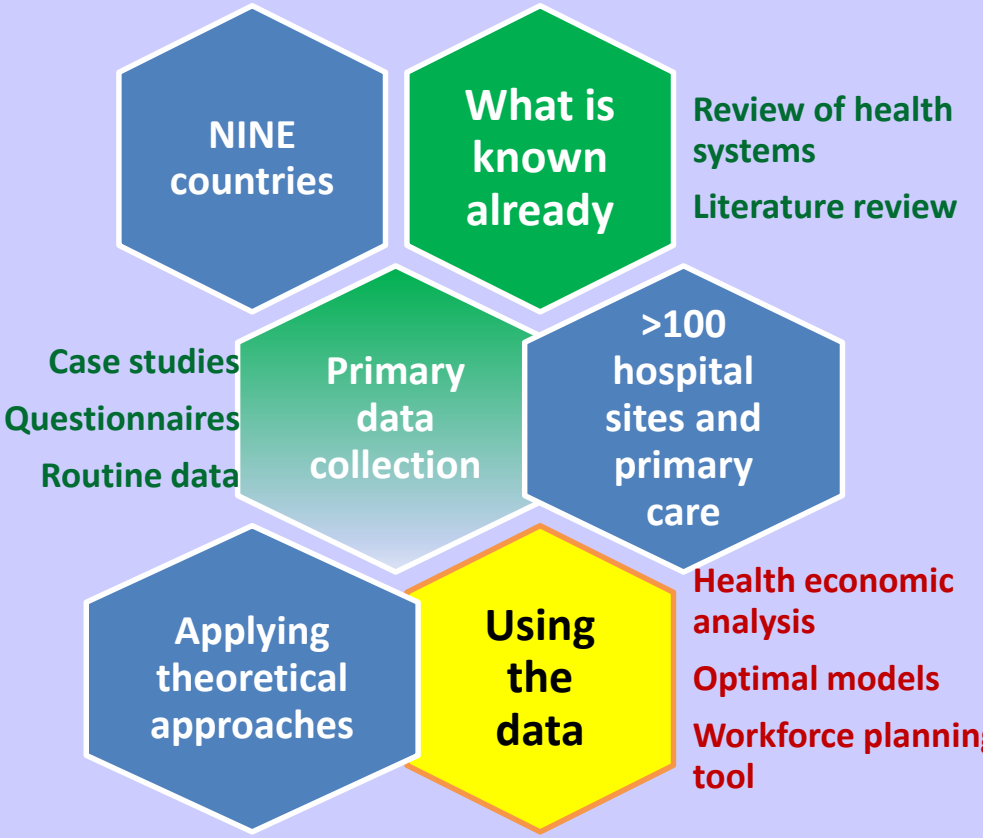
Bringing it all together



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MUNROS Policy Conference: Edinburgh 5-6th February 2017 New and Extended Roles for Health Care Professionals: Practice, Outcomes, and Costs

The MUNROS Policy Conference explores the impact on practice, outcomes and costs of the wider use of new health care professionals and extended roles for established health care professionals.

The conference, in Edinburgh on February 6th 2017, will showcase the findings of the EU MUNROS project and explore their implications for policy.

Interactive sessions will enable delegates to explore in detail the issues of:

- *Substitution: when does it occur and what drives it?*
- *Barriers and facilitators to task substitution*
- *Integrated care and its association with task substitution*
- *Optimal care*
- *Patient preferences: what does task substitution mean to patients?*
- *Workforce planning: modelling and planning a changing workforce*

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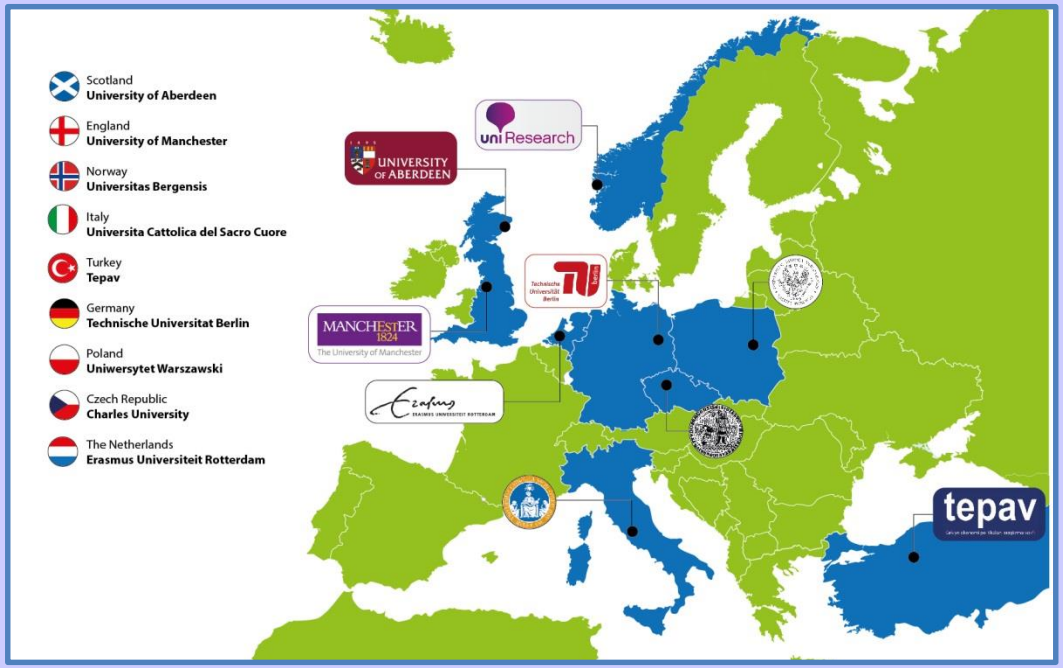
- *All those who supported and guided this work both within the MUNROS research project team and as external associates.*

- *All the MUNROS research and project partners for their continuing collaboration in this research.*

Thank you-questions please



The MUNROS partnership | The team | The health care team of the future | The patient | A MUNRO

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