

# Linking health workforce planning and policy in the Netherlands

On models, bridging interests and the challenges of  
integrated skill-mix planning

**Ronald Batenburg**

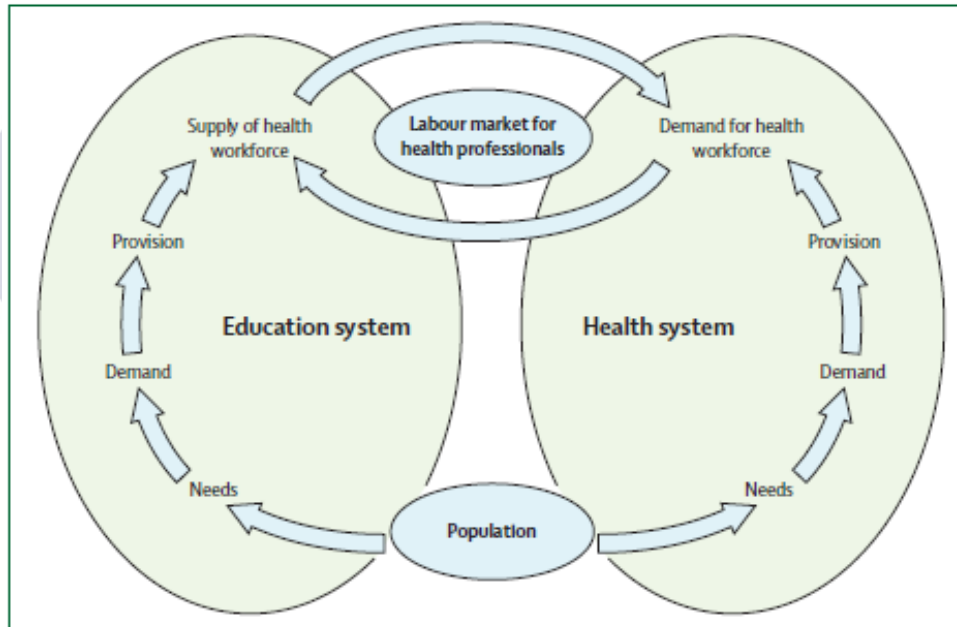
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# Going back to the Frenk et al 2010 paper: health labour markets 'should be' integrative and pro-active systems



*Cf: Frenk et al (2010) Health professionals for a new century: transforming education to strengthen health systems in an interdependent world. Lancet 376: 1923–58*

*“The health labour market is a suboptimal sub-system in connecting the supply of an educated workforce to meet the demand for professionals to work in the healthcare system”*

## Labour market mismatches are systemic and include:

### Quantitative misbalances:

- Shortages, waiting list, stress and burnout
- Oversupply, supply induced demand
- Recruitment and retention problems
- Mismatch between student interests and required capacities and workers

### Qualitative misbalances:

- Lack of competencies to meet patient and population needs,
- Poor integrative and patient centred care organization and limited teamwork,
- No focus on skill-mix optimization (e.g. hospital/clinical orientation at the expense of public health and primary care)

# How are these mismatches handled/governed in the Netherlands?

- There is a mathematical model for health workforce planning of physicians (i.e. not nurses or healthcare assistants)
  - Developed by Nivel in collaboration with the ACMMP
  - The supply and needs based simulation and forecasting model has 3 parts:
    1. Estimate the *available* capacity of a physician profession for the next 15 years– i.e. the required replenishment level of the workforce,
    2. Estimate the *required* capacity of a physician profession for the next 15 years– i.e. the demand-based expansion/reduction of the workforce,
    3. Based on 1 and 2: calculate the optimal *yearly inflow* for the 9-12 year training of physicians to reach/maintain balance between demand and supply in 15 years
- There is a policy model to implement the results of the mathematical model
  - Ensure consensus on model inputs and scenarios
  - Support implementation of the physician training inflow advice

2010

2010 - 2022

2022

Available supply

10,371 GPs in stock  
(6,026 male/  
4,345 female)

0.71 FTE per GP  
(0.82 male/  
0.55 female)

**7,347**  
FTE total  
available  
supply

**575** GPs in training per year  
(171 male/425 female  
& 3 years of training)

return on training  
(94.8  
% male/ 93.3%  
female)

45% male/ 24% female  
outflow until 2022

0 inflow from abroad  
(male and female)

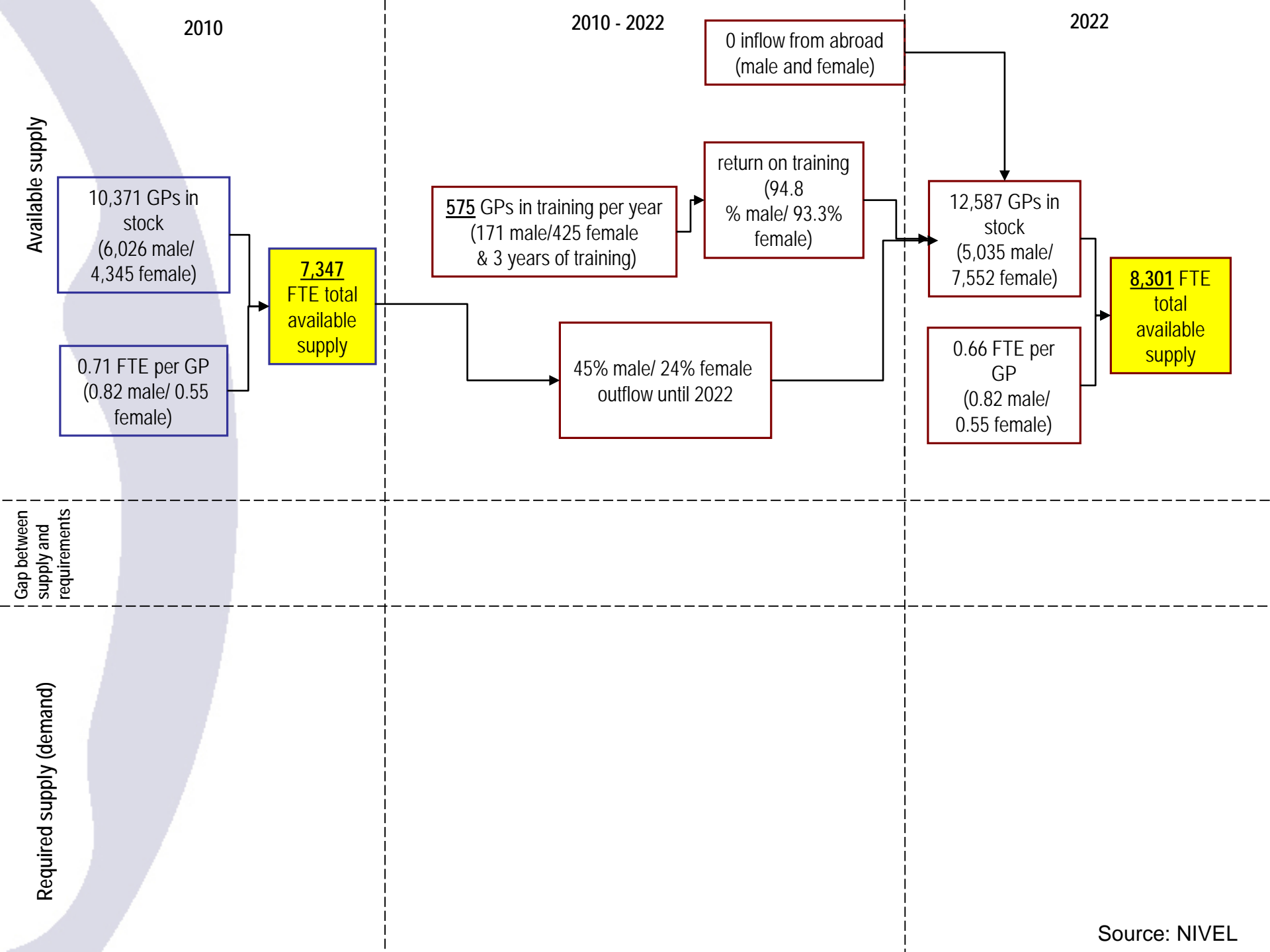
12,587 GPs in stock  
(5,035 male/  
7,552 female)

0.66 FTE per GP  
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0.55 female)

**8,301** FTE  
total  
available  
supply

Gap between  
supply and  
requirements

Required supply (demand)



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**8,301 FTE** total available supply

Gap between supply and requirements

1% unmet demand for care

**Scenario 0**

Difference between available and required supply: **-364 FTE**

Required supply (demand)

7,420 FTE total required supply

3.1% change by demographics

Total required supply (FTE) - Scenario 0: **7,937 FTE**

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2010 - 2022

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(6,026 male/  
4,345 female)

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7,347 FTE total available supply

Required number of GPs in training - Scenario 0: **501** / year (-12%)

**575** GPs in training per year  
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**Scenario 0**

Difference between available and required supply: **- 906 FTE**

Required supply (demand)

7,420 FTE total required supply

3.1% change by demographics

Total required supply (FTE)  
- Scenario 0: 7,937 FTE  
- Scenario 1: **9,207 FTE**

0.2% change by developments regarding efficiency	0.3% change by epidemiological developments
0.1% change by technical developments regarding the profession	0.5% change by socio-cultural developments

**Scenario 1**

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2010 - 2022

2022

Available supply

10,371 GPs in stock  
(6,026 male/  
4,345 female)

0.71 FTE per GP  
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0.55 female)

7,347 FTE total available supply

Required number of GPs in training  
- Scenario 0: 501 / year (-12%)  
- Scenario 1: **833** / year (+49%)

575 GPs in training per year  
(171 male/425 female & 3 years of training)

return on training (94.8 % male/ 93.3% female)

45% male/ 24% female outflow until 2022

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**8,301** FTE total available supply

Gap between supply and requirements

1% unmet demand for care

**Scenario 0**

Difference between available and required supply: - **906** FTE

3.1% change by demographics

Required supply (demand)

7,420 FTE total required supply

0.2% change by developments regarding efficiency	0.3% change by epidemiological developments
0.1% change by technical developments regarding the profession	0.5% change by socio-cultural developments

Total required supply (FTE)  
- Scenario 0: 7,937 FTE  
- Scenario 1: **9,207** FTE

**Scenario 1**



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2010 - 2022

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8,301 FTE  
total  
available  
supply

Gap between  
supply and  
requirements

1% unmet  
demand for care

Scenario  
0

Scenario  
2

Difference between available  
and required supply: -354 FTE

3.1% change by  
demographics

0.3% change by  
horizontal  
substitution

-0.6% change  
by vertical  
substitution

Total required supply (FTE)  
- Scenario 0: 7,937 FTE  
- Scenario 1: 9,207 FTE  
- Scenario 2: 8,655 FTE

Required supply (demand)

7,420 FTE total  
required supply

0.2% change by  
developments  
regarding efficiency

0.3% change by  
epidemiological  
developments

0.1% change by  
technical developments  
regarding the profession

0.5% change by  
socio-cultural  
developments

Scenario  
1

2010

2010 - 2022

2022

Available supply

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(6,026 male/  
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0.71 FTE per GP  
(0.82 male/  
0.55 female)

7,347 FTE total available supply

Required number of GPs in training  
- Scenario 0: 501 / year (-12%)  
- Scenario 1: 833 / year (+49%)  
- Scenario 2: **689** / year (+20%)

575 GPs in training per year  
(171 male/425 female & 3 years of training)

return on training (94.8 % male/ 93.3% female)

45% male/ 24% female outflow until 2022

12,587 GPs in stock  
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8,301 FTE total available supply

Gap between supply and requirements

1% unmet demand for care

Scenario 0

Scenario 2

Difference between available and required supply: **-354 FTE**

3.1% change by demographics

0.3% change by horizontal substitution

-0.6% change by vertical substitution

7,420 FTE total required supply

Total required supply (FTE)  
- Scenario 0: 7,937 FTE  
- Scenario 1: 9,207 FTE  
- Scenario 2: **8,655** FTE

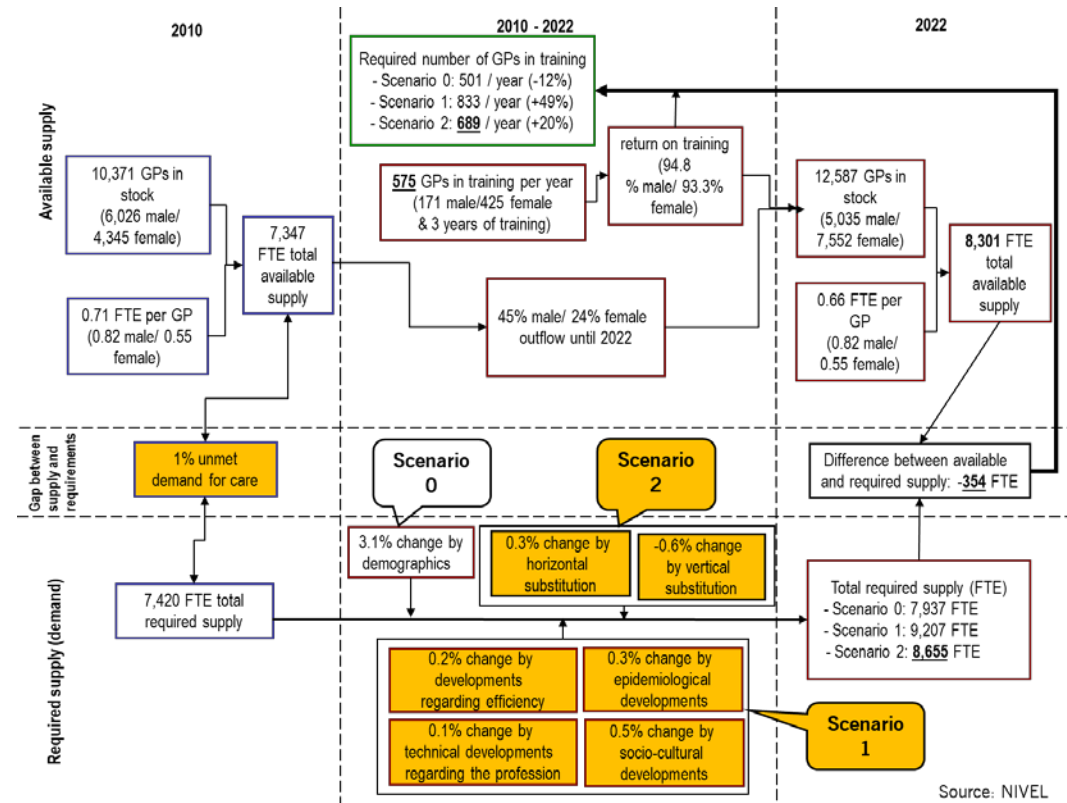
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0.5% change by socio-cultural developments

Scenario 1

Required supply (demand)

# The policy model: stakeholders are involved in (parts of) the mathematical model

- Doctors, training institutes and insurers are jointly asked to:
  - Estimate current unmet demands
  - Estimate the future need for physicians based on scenario 2 and 3 and its demand parameters



Source: NIVEL

# The policy model aims to balance stakeholders' interests

- Professionals (e.g. GPs)
  - Protect professional status
  - Protect revenues
  - Main interest: control training inflow
- Training institutes (academic hospitals)
  - Protect quality in training
  - Secure training capacity
  - Main interest: constant training inflow
- Health care insurers
  - Ensure quality of care, access to care
  - Control health care costs growth
  - Main interest: increase training inflow

*Consensus and commitment on the outcome of the mathematical model (and the consequences of the scenario inflow advices)*

# So far, so good? (1)

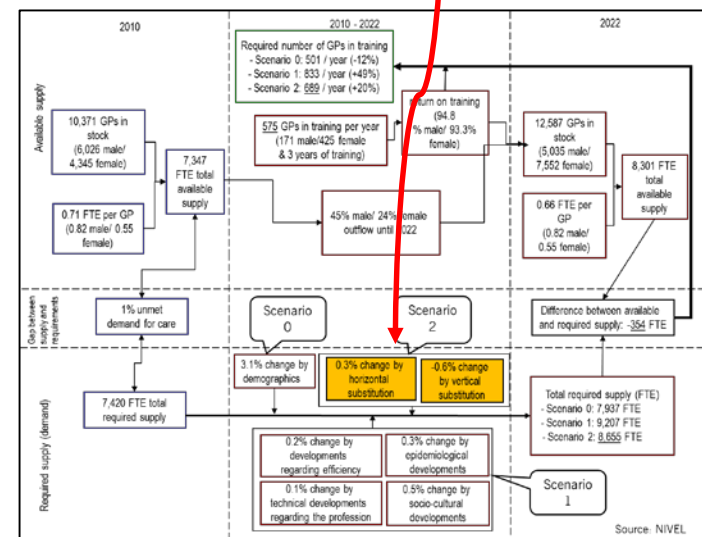
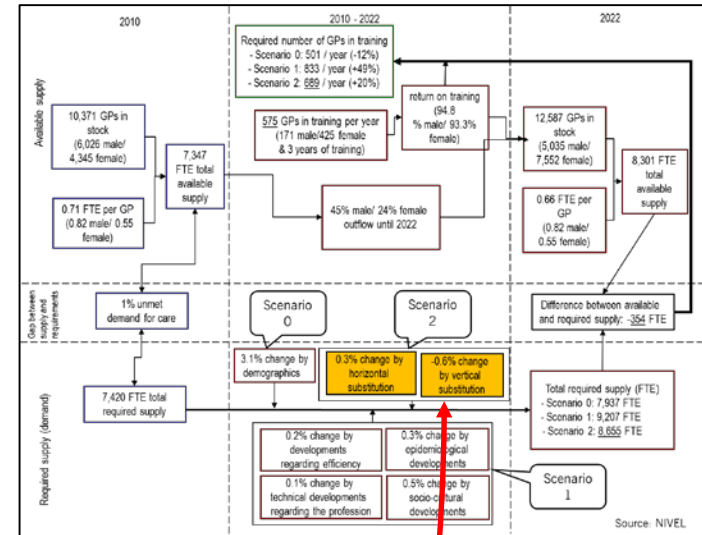
- The mathematical and policy for health workforce planning 'works' for physicians in the Netherlands ... but:
  - It requires the recognition of an independent organization (ACMMP)
  - Requires commitment and consensus of different stakeholders
  - Requires reliable data, methods and (sub)models for scenario and estimation workshops
  - Requires 'belief' in: "*plan long, act short, update often*"

# So far, so good? (2)

- The mathematical and policy for health workforce planning 'works' for physicians in the Netherlands ... but:
  - The system only plans single physician groups – *not* integrated skill-mixes/teams of health care professions
  - The system only plans single careers of physicians – *not* inflow from different educations or reflows of health care professions
  - The system plans at the national level – *not* at the regional, sectoral or institutional level

# Next steps for the Dutch research and policy system of health workforce planning (1)

- Interconnect the mathematical planning models for related/collaborating professions
  - E.g.: if the required GP capacity is assumed to **increase** by 0.3% per year by substitution of tasks from medical specialists ...
  - What would be the **decrease** of the required capacity of medical specialist?
  - E.g.: if the required GP capacity is assumed to **decrease** by 0.6% per year by substitution of tasks to primary care nurses ...
  - What would be the **increase** of the required capacity of primary care nurses per year?



# Next steps for the Dutch research and policy system of health workforce planning (2)

With regard the mathematical planning model:

- Define what are the 'substitution ratios'
  - How can one 'capacity unit' of a substituted task be translated into (a proportion) of a 'capacity unit' executed by another profession?

With regard the policy planning model:

- Get the multiple related professions around the table to jointly discuss:
  - What tasks of one profession can or should be delegated or shifted to another profession?
  - Can it legally be enabled, are adjustment of legal act or guidelines for medical professions needed?
  - Are competences in place, both at 'directing' professionals and 'achieving' professionals?
  - What is the opinion of patients and health insurers on this?
  - Is substitution modelled as a fact or a scenario? Is it a possible future or a wishful scenario?





Thank you

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