Health Workforce Planning – Demand in Austria
Utilisation, Services, Quality Criteria

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Workshop 2, Ljubljana, 18–19 January 2018
Content

» Health Workforce Planning – Demand
  » utilisation driven demand
  » structure driven demand

» Health Work Force Planning – Demand: Utilisation Driven Approach
  » Austrian Method: Planning–Steps 1 to 5

» Health Work Force Planning – Demand: Structural Driven Approach
  » Austrian Method (until year 2000)
  » current possibilities in Austria

» Consolidation
Health Workforce Planning – Demand

Population

Patients

Demand

Service / Treatment / Utilisation

Legal framework

Organisational framework

Economic framework

Real health care landscape

"Utilisation driven demand"

"Structure driven demand"
Health Workforce Planning – Demand
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  » structure driven demand

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Consolidation
Health Workforce Planning – Demand Utilisation Driven Approach

HWFP–Demand: Utilisation Driven Approach (Physicians)
Current Method in Austria

Step 1:
» status quo FTE (hospital sector), ÄAVE (~ FTE; non hospital sector)
» „heads“ (hospital and non hospital sector)

Step 2:
» demographic extrapolation of FTE/ÄAVE with age– and gender–specific utilisation–rates

Step 3:
» conversion of the projected FTE/ÄAVE into „heads“ based on „part–time–factors“

Step 4:
» taking into account physicians in other health sectors (perpetuation of heads)

Step 5:
» taking into account existing or expected shortfall and other demand–determining factors (as far as known)
HWFP–Demand: Current Method in Austria (Physicians)

Step 2

Demographic extrapolation of FTE/ÄAVE with age- and gender-specific utilisation-quotes

» utilisation:
  » „hospital sector“: hospital discharges
  » „non hospital sector“: outpatient contacts

» utilisation-rate:
  » utilisations per inhabitant (gender and 5 year-agegroups)
  » possibility for scenarios (perpetuation status quo, in- or decreasing rates)

» demographic extrapolation of utilisation:
  » „hospital discharges“ and „outpatient contact“ in target year

» work-intensity:
  » hospital discharges/FTE; outpatient contacts/ÄAVE
  » possibility for scenarios (perpetuation status quo, in- or decreasing rates)

» extrapolation of FTE and ÄAVE for target year:
  » extrapolation based on extrapolated utilisation and work intensity
### HWFP–Demand: Current Method in Austria (Physicians)

**Example with fictional numbers (hospital sector) (1)**

**STEP 1**

<table>
<thead>
<tr>
<th></th>
<th>2017 FTE</th>
<th>2017 Head</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</tbody>
</table>

Austrian-wide hospital statistics and physician statistics

**STEP 2**

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Inhabitants 2017</th>
<th>Hospital Discharges 2017</th>
<th>Utilisation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Total</td>
</tr>
<tr>
<td>0 to 20</td>
<td>5.000</td>
<td>5.000</td>
<td>10.000</td>
</tr>
<tr>
<td>21-40</td>
<td>5.000</td>
<td>5.000</td>
<td>10.000</td>
</tr>
<tr>
<td>41-65</td>
<td>5.000</td>
<td>5.000</td>
<td>10.000</td>
</tr>
<tr>
<td>65 and older</td>
<td>5.000</td>
<td>5.000</td>
<td>10.000</td>
</tr>
<tr>
<td>Total</td>
<td>20.000</td>
<td>20.000</td>
<td>40.000</td>
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Demographic extrapolation of utilisation rate

<table>
<thead>
<tr>
<th>Age Groups</th>
<th>Population Forecast 2030</th>
<th>Hospital Discharges 2030</th>
<th>Utilisation Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Female</td>
<td>Male</td>
<td>Total</td>
</tr>
<tr>
<td>0 to 20</td>
<td>4.500</td>
<td>4.500</td>
<td>9.000</td>
</tr>
<tr>
<td>21-40</td>
<td>5.500</td>
<td>5.500</td>
<td>11.000</td>
</tr>
<tr>
<td>41-65</td>
<td>6.000</td>
<td>6.000</td>
<td>12.000</td>
</tr>
<tr>
<td>65 and older</td>
<td>6.500</td>
<td>6.500</td>
<td>13.000</td>
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<tr>
<td>Total</td>
<td>22.500</td>
<td>22.500</td>
<td>45.000</td>
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Hospital discharges /FTE (work intensity)

<table>
<thead>
<tr>
<th>Year</th>
<th>FTE</th>
</tr>
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<tbody>
<tr>
<td>2017</td>
<td>2.2</td>
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<tr>
<td>2030</td>
<td>2.0</td>
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</table>

Scenario assumption

**FTE 2030**

66.5
HWFP–Demand: Current Method in Austria (Physicians)

Step 3

Conversion of the projected FTE/ÄAVE into „heads“ based on „part–time–factors“

» part–time factors:
  » differentiation:
    » „hospital“ and „non hospital“ sector
    » disciplines (e.g. general practitioners, specialists)
  » possibility for scenarios (perpetuation status quo, in– or decreasing factors)

» conversion in „heads“ – target year
  » multiplication of FTE, ÄAVE in target year with expected part–time factor

Example „part–time factors“: hospital sector in an Austrian region

![Diagram showing part-time factors for general practitioners and specialists over years 2010 to 2015]
Step 4:
taking into account physicians in other health sectors (perpetuation of heads)
  » employed physicians in autonomous ambulatories
  » employed physicians in other health related institutions
  » ...

Step 5:
taking into account existing or expected shortfall and other demand-determining factors (as far as known), e.g.
  » existing lack
  » changes in working time acts in hospital sector
  » optimization measures
  » structural changes
  » ...

HWFP–Demand: Current Method in Austria (Physicians)
Step 4 and 5
HWFP–Demand: Current Method in Austria (Physicians)

Example with fictional numbers (hospital sector) (2)

<table>
<thead>
<tr>
<th>Result Step 2</th>
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<tr>
<td>FTE 2030</td>
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<tr>
<td>66,5</td>
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<table>
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<td>FTE</td>
<td>Head</td>
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<tr>
<td>2017</td>
<td>50,0</td>
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<tr>
<td>2030</td>
<td>66,5</td>
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<table>
<thead>
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<th>HEAD 2030</th>
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<tbody>
<tr>
<td>83</td>
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<table>
<thead>
<tr>
<th>STEP 4</th>
<th>physicians in other health sectors</th>
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<tr>
<td>2017</td>
<td>3 other sources</td>
</tr>
<tr>
<td>2030</td>
<td>3 scenario assumption (perpetuation)</td>
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<table>
<thead>
<tr>
<th>HEAD 2030</th>
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<td>86</td>
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</table>

<table>
<thead>
<tr>
<th>STEP 5</th>
<th>expected additional demand because of changing working time act (hospital)</th>
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<tbody>
<tr>
<td>head 2030</td>
<td>10%</td>
</tr>
<tr>
<td>optimizing measures</td>
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<tr>
<td>head 2030</td>
<td>-5%</td>
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<table>
<thead>
<tr>
<th>HEAD 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
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</table>

<table>
<thead>
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<th>HEAD 2017</th>
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<td>58</td>
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</table>

<table>
<thead>
<tr>
<th>HEAD 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>90</td>
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</table>
Health Workforce Planning – Demand
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Health Work Force Planning – Demand: Utilisation Driven Approach
  » Austrian Method: Planning–Steps 1 to 5

Health Work Force Planning – Demand: Structural Driven Approach
  » Austrian Method (until year 2000)
  » current possibilities in Austria

Conclusion
Health Workforce Planning – Demand (Structure Driven Approach)

HWFP–Demand: Structure Driven Approach (Physicians) Method in Austria (hospital sector) until the year 2000

Basics:

» legal basics (esp. hospital act, working time acts)
» regulations of the Austrian DRG–System (e.g. staff per hospital bed)
» general detailed hospital plan for the target year (Austrian hospital plan – ÖKAP, last version from 2005)
» regulations for staffing in different classifications of hospitals (standard hospital, regional central hospital, central hospital)
» regulation for physical presence of physicians (depending on discipline, form of organisation, grade/rank, daytime, weekend, etc.)
» regulations of „call out services“
» ....
HWFP–Demand: Structure Driven Approach (Physicians) Method in Austria (hospital sector) until the year 2000

Method:

» For each hospital location
  » for each kind of hospital (standard, regional central, central)
  » for each discipline
  » for each kind and size of organisational unit

» calculation of minimum staff in applying the relevant laws and regulations
HWFP – Demand: Structure Driven Approach (Physicians)
Current Possibilities in Austria for using this Approach

Integrated Health Care Planning in Austria (since 2006)

» Austrian Health Care Master Plan 2017 – ÖSG 2017
   » Integrated Health Care Planning – Framework

» Regional Health Care Masterplan (RSG): 9 integrated health care plans for each of the 9 Austrian provinces – detailed plan
HWFP–Demand: Structure Driven Approach (Physicians)
Current Possibilities in Austria for using this Approach

Austrian Health Care Master Plan 2017 – ÖSG 2017

» hospital sector – framework “inpatient care”

» quantitative and qualitative service provision planning framework
  » “Supply Matrix” (amount of DRG per 32 health regions in target year)
  » “Services Matrix” (quality criteria for each single medical procedure)

» quality criteria
  » by discipline,
  » form of organization (week or day surgery, standard wards specialized reference centers, etc.)

» other sectors
### Supply Matrix (Versorgungsmatrix) 

"quantitativ planning base"

<table>
<thead>
<tr>
<th>VMMHG = Aggregated DRG</th>
</tr>
</thead>
</table>

VMMHG (Aufenthalte)

**Hospital stays of regional inhabitants:**

- **status quo 2014**
- **plan values 2020, 2025 (range: +/- 25%)**

### Health Regions and Provinces

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>2014</td>
<td>34</td>
<td>16</td>
<td>50</td>
<td>-11</td>
<td>0</td>
<td>565</td>
<td>504</td>
<td>644</td>
<td>353</td>
<td>2066</td>
<td>3%</td>
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<tr>
<td>2020</td>
<td>46</td>
<td>23</td>
<td>69</td>
<td>n.v.</td>
<td>0</td>
<td>860</td>
<td>450</td>
<td>482</td>
<td>284</td>
<td>2076</td>
<td>0%</td>
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<tr>
<td>2025</td>
<td>46</td>
<td>23</td>
<td>69</td>
<td>n.v.</td>
<td>0</td>
<td>860</td>
<td>450</td>
<td>482</td>
<td>284</td>
<td>2076</td>
<td>0%</td>
</tr>
</tbody>
</table>

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(H01.a) Infektiöse Erkrankung des Gehirns/Rückenmarks und seiner Häute

(H01.b) Maligne Neoplasien - Nervensystem

(H01.c) Benigne Neoplasien und Abszesse - Nervensystem
Services Matrix (Leistungsmatrix–stationär) „part of quantitativ planning base“

Auf Basis LKF-Modell 2018

<table>
<thead>
<tr>
<th>MEL</th>
<th>Medizinische Einzelleistung</th>
<th>BV</th>
<th>ORG</th>
<th>VS</th>
<th>KTyp</th>
<th>KOZ</th>
<th>INT KJ</th>
<th>INT E</th>
<th>HP</th>
<th>LB-Code</th>
<th>MFS</th>
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<tbody>
<tr>
<td>AA040</td>
<td>Akute Schlaganfallbehandlung auf einer Schlaganfalleinheit (Stroke Unit) (LE=je Aufenthalt)</td>
<td></td>
<td>N</td>
<td>ABT</td>
<td>1</td>
<td>1 IS</td>
<td>1 IS</td>
<td>1 IS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AA050</td>
<td>Durchtrennung funktioneller Bahnen (LE=je Sitzung)</td>
<td></td>
<td>N</td>
<td>ABT</td>
<td>1</td>
<td>1 IS</td>
<td>1 IS</td>
<td>1 IS</td>
<td>X</td>
<td></td>
<td></td>
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<tr>
<td>AA060</td>
<td>Tumortherapie</td>
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<td>ABT</td>
<td>1</td>
<td>1 IS</td>
<td>1 IS</td>
<td>1 IS</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*single medical procedures (DRG-Model 2018)*

*Basic Care Yes / No*

*required minimum structure*
- ABT – ward
- RFZ – reference center
- dTK – stand alone day surgery

*kind of reference center*

*Other quality criteria*
Method:

» Starting Point „ÖSG“ (framework plan für RSG)
   » supply matrix (quantity)
   » service matrix and quality criteria (quality)
   » but no Austrian wide detailed hospital plan!

» Next step „RSG“ (Regional Health Care Masterplan: integrated health care plan for each of 9 provinces)
   » more detailed hospital plan
   » but more creative leeway for planning (than ÖKAP)
   » in more and more instable environment (need for flexibility)
   » provincial hospital plans are not sufficiently detailed to calculate a minimum staff in applying the relevant laws and regulations for each hospital

Conclusion:

» method is not practicable on the macrolevel in the current situation
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» Consolidation
Consolidation – Next Steps

**Macro Level – Top Down Approach**
*medium and long term perspective*

**Micro Level – Bottom Up Approach**
*short and medium term perspective*

tuning the planning results on the *medium term perspective*
Contact

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