

WP5 - Ministry of Health & Agenas, Italy.

WP5 Florence Conference results of groups' activities C



Joint Action Health Workforce
Planning and Forecasting

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Draft 01	19/05/14	Anna Maria
Draft 02	26/06/14	Anna Maria: partners integrations
Draft 03	30/06/14	Paolo and Edit integrations
Draft 04	03/06/14	Ragnar integrations
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All the mentioned files in this document are available on the JA website on the page dedicated to the event, [here](#)

EXPERT CONFERENCE
SECOND DAY 9th of MAY 2014

1. Group C: activities

(9.10 => 10.35)

- All participants organized in 9 groups of 5 members each.
- One group leader.
- All groups members switched – the group leader remaining the same.
- Focused on two topics:
 - E. DATA ON CURRENT SITUATION
 - F. MATHEMATICAL FORECASTING MODEL

First session:

- Each group has one aspect with a statement.
- Discussion. Prepare an opinion on the statement.
- Organization in groups – illustration of the chosen statements & explanation of the work.

Second session

- Each group has one aspect with a statement.
- Discussion.
- Confront the previous opinion made and prepare other opinions on the statement.

Third session

- each group has one aspect with a statement.
- Discussion.
- Confront the previous two opinions made on the statement and prepare other opinions on the statement

GROUP	MODERATOR
Basilicata	Paolo Tubertini
Emilia Romagna	Francesca Senese
Friuli Venezia Giulia	Eszter Kovacs
Lombardia	Edit Eke
Marche	Giovanni Leonardi
Piemonte	Paolo Michelutti
Sardegna	Matt Edwards
Toscana	Isabella Notarangelo
Umbria	Ana Paula Gouveia

2. "Basilicata"

Moderator: Paolo Tubertini

Topic: MATHEMATICAL FORECASTING MODEL.

Mandate: *Let's discuss about projection periods in the forecasting model.*

A time frame of three years is maybe too short but the forecasting is more reliable; on the contrary it's more useful to look into the future within 20 years, but in this case, the information are less reliable.

For example: the English system has a time frame of 5-10 years in the future for the ordinary planning and a strategic planning over 10-20 years (complicated due to the fact that the NHS structures are likely to change significantly).

2.1 Session 1

- The planning horizon proposed in the question (3 years) is considered too short;
- In order to make the decision effective the planning horizon should be at least equal to the duration of the training period;
- That is to say that if we want to plan only medical specialist it has to be at least equal to 5 years while if we want to consider also medicine school it has to be equal to 6+5 years;
- If we go for a long term planning horizon the model should be implemented with a rolling approach, that is to say that all data should be updated every 1 or at most 2 years;
- Complex modeling (mainly on the demand/need side) will need a strong data-mining approach that will have to face with Data Base integration
- As a consequence of point 5, data entry by hand should be forbidden → need of automatic update from DBs with direct access (erase the issue of data ownership)
- Model validation is an issue that should be faced in order to increase the trust in the planning policy
- Validation is complex since external factors can have a strong impact on forecasts

2.2 Session 2

All members agree with session 1 statements, in addition:

- The planning model should be modular and flexible (the level of detail should increase the closer we are in time = long term general model and short term detailed model);
- A very high level of detail in terms of FTE supply representation and population service utilization is reliable only for short term planning (i.e. 5 years)
- It makes sense to define a multiple level modular planning model since what is inspected in a long term forecasting model is different from what is important in a short term planning one
- As a general statement all session 2 member agrees in going for the broader picture and then increase the level of detail where possible in relation with quantitative methodological tools and available data

2.3 Session 3

All members agree with session 1 and 2 statements, in addition:

- They emphasized the rolling planning approach translating it in a learning methodology

- The long term planning model can be strongly influenced by disruptive changes (technology, organization etc..)
- The collaboration with WP6 is fundamental in order to detect disruptive changes and to evaluate those scenarios with quantitative tools

3. “Emilia Romagna”

Moderator: Francesca Senese

Topic: DATA ON CURRENT SITUATION.

Mandate: *Let's discuss about: Full Time Equivalent. How it's important to calculate it and which is the best way to do it.*

3.1 Session 1

- (FTE) is a unit that indicates the workload of a person, therefore it is a measure of his/her time devoted to work;
- FTE is perceived as a desirable information as it is considered a gross measure of productivity (FTE time for consultations), therefore it might be the prerequisite to dig into productivity information;
- FTE is useful if it is related to age, gender and location of the professional;
- A 'valuable' alternative of FTE information is a good headcount which distinguishes professionals actually in labour force;
- FTE, when not available, it can be proxies by data mining operations (estimating the portion of time devoted to work from invoices, n. of consultations) or with questionnaires.

3.2 Session 2

- FTE data suits better operational planning and performance assessment of employed professionals. For instance, to plan for university intake FTE might be misleading: *should we assume that a new trained professional is worth 1 FTE?* ;
- For certain planning needs a good, accurate headcount is as important as FTE information;
- FTE, again, is better to describe current productivity than to support projections as workload and productivity of health professionals will change;
- FTE availability is different among different sectors (public, private);
- To proxy FTE by means of qualitative research and data mining operations might turn into a merely academic exercise.

3.3 Session 3

- FTE indeed is not a good measure of 'productivity' as it says nothing about the type of activity of the professional neither about the 'case-mix' of the persons seen;
- For EU wide study FTE estimates might arise some difficulties with international comparison.

Evidences	Sessions		
	1	2	3
FTE is highly desirable information	✓	✓	
FTE vs. Headcount: FTE is better if it is homogeneously collected by all employers (public, private), if it is reliable and easy to retrieve and update	✓	✓	✓
For some planning goals accurate headcount is as important as FTE information	✓	✓	✓
FTE relates to gender, age and location of the health worker, less with his/her productivity	✓		✓
Proxying FTE with <i>ad hoc</i> surveys and data mining operations is recommended for research purposes or in well defined contexts	✓	✓	

4. “Friuli Venezia Giulia” (to be integrated)

Moderator: Eszter Kovacs

Topic: DATA ON CURRENT SITUATION.

Mandate: Let's discuss about: advices for a country (Italy and Portugal) that has to start to plan.

Key words (Ragnar)

- Compulsory to have HWF profiles
- Start from the National strategy of Health System Development
- Measure access to services and demand of the population
- Take into account health care expenditure (actual and budget)
- Take into account cross border movements (EU data)
- Develop individual data bases of HWF professionals
- If not with all regions, start with a few.
- Use best practice in EU countries as bench-mark
- Establish goals of number of students for basic training and specialization.

5. “Lombardia”

Moderator: Edit Eke

Topic: DATA ON CURRENT SITUATION.

Mandate: Let's discuss about: the literature says that a best practice is to have a data collection dedicated for the HWF planning and not for other purpose. But, in your opinion, for a country that has to start to plan is it better to:

- use the data already available (and collected for other purposes) or
- to invest in a dedicated (but most expensive) data collection?

5.1 Session 1

1. Review and use the best the data and data-sources you already have
2. start to develop HWF specific data collection system (and include already available data sources/systems the best you can)

Ad2 Start to develop HWF specific data collection system

- *Clarify: What HWF data to collect*
 - demand side
 - what you have (supply side): amount and type of professionals
 - what you need? what problems you face (what shapes your needs)?
- *Concerns:*
 - time-frame
 - budget
 - public-private issues
 - time need to have/get access to data
 - How to collect quality data, how to correct/improve (existing) data sources
 - Different IT systems: explore possible connections, data extraction options
 - quantitative and/or qualitative data?

5.2 Session 2

Ad 2

- Set up basic principles of the HWF data collection system, include available best practices
- The data collection system has to be cost-effective

Ad 1

- Check what you have/ what you COULD have, what your data really reflect regarding HWF
 - use of these data/ data sources
 - validity
 - availability
 - "age" of the data (timeliness)
- Evaluate,
 - if, and what kind of data missing versus what duplications occur?
 - Evaluate and decide: usable what you have, thus develop/amend existing systems according to your needs on HWF data OR create/ develop a new data collection system
 - A combination can be a solution:
 - characteristically (on general, considering data collection) 60% of the data we already have, use, can develop; 40% is totally missing, for that part new data sources/ systems and/or data collection ways have to be created
- Define if you want/need individual/ aggregated data
- *Concerns:*
 - Compliance of the stakeholders and people who are involved in data collection and management is critical – they have to be involved and engaged
 - Coordination
 - Communication
 - Legislative background

5.3 Session 3

- *Main important issues:*
- What is the quality of data
- Usability of available data
- What duplications occur
- How existing data can complement information
- What data cross-roads can be made, including **inter-sectorial** data-communication and use
- Why legal force support the data collection

Evidences	Sessions		
	1	2	3
Clarify what HWF data you need, define basic principles/ expectations	✓	✓	
Review, evaluate, use the best the existing data sources, collection methods, systems you have (also consider the use of “extra-health” data sources)	✓	✓	✓
Quality of data is a key, good quality is essential	✓	✓	✓
Explore possible and necessary connection/ completion between the different data sources, including inter- sectoral options	✓	✓	✓
Avoid duplications	✓	✓	✓
Stakeholders and involved people in the data provision and management have to be informed engaged, communication and coordination are essential – consider and win compliance		✓	
Use available best practices	✓		
Legislative background to support HWF information system is crucial	✓	✓	✓
To implement a unique model to plan and forecast the supply of professionals and a several models (“light weight models”) to plan and forecast the demand		✓	✓
Consider possible combination: characteristically 60% of the data we already have, use, can develop; 40% is totally missing, for that part new data sources/ systems and/or data collection ways have to be created		✓	
Consider available budget and cost-effectiveness		✓	

6. “Marche”

Moderator: Giovanni Leonardi

Topic: DATA ON CURRENT SITUATION.

Mandate: Let’s discuss about: advices for a country (Italy and Portugal) that has to start to plan.

6.1 Session 1

- First of all the country has to set its goals.
- Then it has to work to get all the data homogeneous.
- But it’s necessary to begin with the data available.
- If different institutional level are involved in the data collection, a common methodology for data collection and processing has to set.

- Always considering: number of professionals active; retirement and replacement; outcome of education.

6.2 Session 2

- It's difficult to have homogeneous data because the sources are different. So, in the beginning, you have to accept as they are.
- You have to start with the data available but you have to work to fill the gap gathering the necessary data that missed.
- About the goals, there's a high risk of non-compliance. So it's better to make transparent the methodology.
- In the data collection it's important also to have data on HWF gender.
- Minimum Data Set: it's important to set the timeframe.

6.3 Session 3

- About data collection: it's important to have data on the qualification of the practicing doctors.
- That is the correct process to assess and improve the dataset:
 - What data we need;
 - Which data are available;
 - Out of available data:
 - Which are updated?
 - Which is their quality?
 - Are they reliable?
- For not available data: how to get they available and what's the cost for that?

7. "Piemonte"

Moderator: Paolo Michelutti

Topic: DATA ON CURRENT SITUATION.

Mandate: *Let's discuss about if it's better to have:*

- *accurate individual data but not updated;*
- *or aggregate and approximate data update.*

7.1 Session 1

- The right answer depend on the type of data we are considering.
- In general terms, it's very important to have update data. But the updating frequency depends on the type of data considered. For example, data on the population needs doesn't vary so much in 3 or 4 years.
- In the beginning of the planning experience for a Country it's most important to have update data, even if aggregated. But it's necessary to work on developing an individual database right away.
- The question could be different for public and private data.

7.2 Session 2

- The starting point should be the data collection on medical doctors and then to expand to the other professions.
- If individual data are not available it's necessary to have surveys.
- In case of using surveys the problem to have updated information still remains.
- Regarding the private sector there are two alternatives:
 - assuming that private sector has the same sizes of public sector;
 - or studying with specific survey the private sector.

7.3 Session 3

- On the demand side, there are some data that are easier to collect than other (for example the population age).
- To have accurate and individual data is more important than having updating data (obviously it depends how those data are outdated).
- But it depends on which data are necessary for the forecasting: on the base of the necessary dataset it's possible to define rules on "degree of details" and "frequency of updating" for the different data and fields.

8. "Sardegna"

Moderator: Matt Edwards

Topic: MATHEMATICAL FORECASTING MODEL.

Mandate: *Let's discuss about: Integration of different professional groups in the forecasting model.*

- *Is it better to have different forecasting models for different professions (as it is in The Netherlands or in Spain, for Example) or to have a system that forecasts for all the HWF?*

For example: the Finnish system contains comprehensive analyses of long-term labour demand for every industry have been carried out in Finland since 1991. Workforce demand forecasts are prepared by the National Board of Education, under the Ministry of Education and Culture, in collaboration, since recently, with the Institute for Economic Research, under the Ministry of Finance. This national institute produces workforce forecasts for the whole economy (28 different sectors), in cooperation with a wide network of experts from regional authorities, trade unions, employers' associations, ministerial representatives etc. These recommendations feed into "The Development Plan of Education and Research", which is drafted every 4 years by the Ministry of Education and Culture and which establishes the educational needs corresponding to the forecasts.

8.1 Session 1

- Norway has a whole system model for their healthcare system. This includes 16 professional groupings
- Slovakia looks at qualifications over the long term by professional categories and is similar to Serbia in its approach of matching the workforce to the healthcare infrastructure
- Serbia links workforce planning to the size and distribution of the population, healthcare infrastructure, proximity of services, targets for care, doctors and the number of beds a facility may have. Serbia has restructured recently in response to financial changes.

- England looks at professions historically and continues to do so for the major workforce groups. However also looks at and is increasingly looking at workforce models for care pathways, life course, health systems and groupings by disease or condition group for example vulnerable older people or cancer. England uses systems dynamics for supply and demand planning at national levels. A range of tools are used locally.

8.2 Session 2

- Choosing the appropriate model depends on many things such as do you wish to look at skills and competences of the workforce or just headcount.
- In the Netherlands they only look at workforces by professions within the remit of their department. They have 15 years experience within some professions of workforce planning.
- Italy use the same key parameters for each review such as headcount, profession etc. But they vary what is collected and modeled depending on the question they wish to answer.
- Question: Might the expert network being organised by WP7 look to develop expert coaching for those partners and member states who wish to start workforce planning for the first time or to move up the scale of advancement?

8.3 Session 3

- In Belgium they use the same baseline parameters for any review of workforces or professions e.g. headcount, entries or exit data from the profession etc
- Question: Could there be models or tools that can be made available to support beginners, intermediate and advanced practitioners of workforce planning methods?
- It is important for partners to identify the steps they need to take to answer the key question as part of an agreed roadmap with stakeholders.

8.4 Conclusions

- Decide if you need a model at all! Is the issue or study area a policy challenge or stakeholder engagement requirement? What evidence do you require to answer the question? Then choose the most appropriate approach.
- Involve a wide range of stakeholders appropriate to the study.
- A model or study should be designed to answer the key question as to what the aim and purpose of the analysis or the vision for the study. The model built should help answer this question.
- A single static model will constrain you and what you might be able to study - combine different types of analysis or modeling if needed and worth it.
- The approach you choose depends on many factors - question to be answered, the vision for the study, the area of study, data availability to enable modeling or absence of information that the study seeks to tackle.
- If your key question requires all aspects of a system including all professions to be included then it would be appropriate to model in this way. If it does not then there is no need - select the approach necessary for the context of each country.
- However it is not necessary to build a vast model if all professions/workforces are not required in that model - to collect data is a major effort for many and this can take a long time - do not build a model or collect data if it is not helpful to answering the reason or question posed by the study/review. This will allow partners to judge for their contexts the

level of investment, time and effort that would be selected i.e. to answer the key question for a review or study

- If you were to start workforce planning for the first time: it is recommended a profession based approach is first selected. However do not ignore linked workforce questions or relationships where relevant

9. "Toscana"

Moderator: Isabella Notarangelo

Topic: MATHEMATICAL FORECASTING MODEL.

Mandate: *Let's discuss about: Integration of different professional groups in the forecasting model.*

- *Is it better to have different forecasting models for different professions (as it is in The Netherlands or in Spain, for Example) or to have a system that forecasts for all the HWF?*

For example: the Finnish system contains comprehensive analyses of long-term labour demand for every industry have been carried out in Finland since 1991. Workforce demand forecasts are prepared by the National Board of Education, under the Ministry of Education and Culture, in collaboration, since recently, with the Institute for Economic Research, under the Ministry of Finance. This national institute produces workforce forecasts for the whole economy (28 different sectors), in cooperation with a wide network of experts from regional authorities, trade unions, employers' associations, ministerial representatives etc. These recommendations feed into "The Development Plan of Education and Research", which is drafted every 4 years by the Ministry of Education and Culture and which establishes the educational needs corresponding to the forecasts.

Topic: *Is it better implementing one model or several models for planning HWF?*

9.1 Session 1

- To adopt a unique skill mix planning forecasting model for connected/related professional categories (taking into account the high complexity and the financial/budget burden);
- To adopt a unique planning model if it is foreseen a transfer of competences from one professional category to another;

9.2 Session 2

- To consider the characteristics of education and healthcare systems in adopting a unique skill mix planning and forecasting model;
- To adopt a "middle solution", defining common goals, outcomes and objectives but at the same time guaranteeing flexibility to tailor the model to countries and professionals;
- To consider the transfer of competences in any model (inter-professional collaboration, HCS integration);
- To consider important the consultation with professional stakeholders;
- To implement a unique model for planning and forecasting the supply of all professional categories and several models for the demand of each professional category;

9.3 Session 3

- To implement a unique model with dedicated parameters for each professional category to plan and forecast the supply of professionals and several "light weight models" to plan and forecast the demand (extracting the best practices from the existing models).

Evidences	Sessions		
	1	2	3
To adopt a unique skill mix planning forecasting model for connected/related professional categories	✓		
To adopt a unique planning model if it is foreseen a transfer of competences	✓		
To consider the characteristics of education and healthcare systems in adopting a unique skill mix planning and forecasting model		✓	
To adopt a "middle solution": common goals, outcomes and objectives/ flexibility to tailor the model to countries and professionals		✓	
To consider the transfer of competences in any model		✓	
To consider important the consultation with professional stakeholders		✓	
To implement a unique model to plan and forecast the supply of professionals and a several models ("light weight models") to plan and forecast the demand		✓	✓

10. "Umbria"

Moderator: Ana Paula Gouveia

Topic: MATHEMATICAL FORECASTING MODEL.

Mandate: *Let's discuss about: advices for a country (Italy and Portugal) that has to start to plan.*

Do the projections have to concern:

1. *only Supply?*
2. *supply and Demand?*
3. *supply and population needs?*

Do the projections have to be segmented along different health service delivery settings (e.g. Hospitals vs. Ambulatory Health Care; Public vs. Private Sector) or not?

10.1 Session 1

- Mathematic model (Supply and demand). Demand is what population ask and need is what population really needs.
- Use representative sample and surveys. It's possible to measure the demand of health services.
- Total Demand = Present health care consumption + waiting lists.

10.2 Session 2

- Total Demand = Present health care consumption + (waiting lists + unrecognized needs).

10.3 Session 3

- Do the projections have to be segmented along different health service delivery settings (e.g. Hospitals vs. Ambulatory Health Care; Public vs. Private Sector) or not? Depending on the problem we have.
- The projection should be segmented by group of patient and diseases.

Evidences	Sessions		
	1	2	3
Mathematic model (Supply and demand). Demand is what population asked and need is what population really needs.	✓	✓	✓
Use representative sample and surveys. It's possible to measure the demand of health services.	✓	✓	✓
Total Demand = Present health care consumption + waiting lists.	✓		✓
Total Demand = Present health care consumption + (waiting lists+ unrecognized needs).		✓	
Do the projections have to be segmented along different health service delivery settings (e.g. Hospitals vs. Ambulatory Health Care; Public vs. Private Sector) or not? Depending on the problem we have.			✓
The projection should be segmented group of patient and diseases			✓