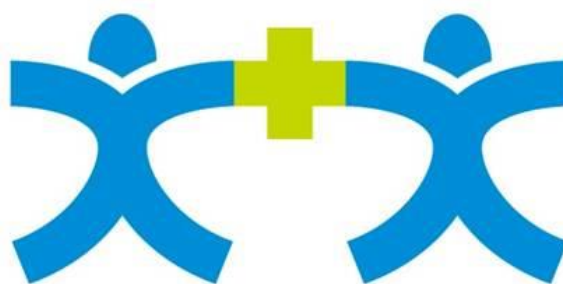# WP5 Workshop
"Defining the Minimum data set"

WP5 Workshop minutes

Joint Action Health Workforce
Planning and Forecasting

Milan, 19th and 20th November 2013

Index

0. Introduction

The Work package 5 (WP5), in accordance with the Joint Action (JA) agreement, has to deliver by November 2013 a minimum data set (MDS) to allow Member States (MS) to start or to improve effectively monitoring, analyzing and planning their Health Workforce (HWF). Such a MDS will be a key element within the JA and the activities of the different Work packages: for WP4 it will the standard to measure the availability in the MSs of useful data for HWF planning and forecasting; for WP5 it will be the base to develop models of HWF planning and forecasting and experiment it within the pilot studies in Portugal and in the Italian Regions; for WP7 as starting data set which could be subjects for future enhancement actions.

The Workshop on MDS was organized in Milan on September the 19th and 20th in order to define a first list of indicators on the basis of the agreed criteria and requirements. All the WP5 partners were present (*for the list of the attendees see appendix n.1*).

Activities of Thursday 19th September 2013

1. Welcome

Alberto Brugnoli, General Director Eupolis Lombardy, who kindly hosted the meeting, welcomed the participants. Éupolis is the Institute for research, statistics and formation of the Lombardy Region, to emphasize the increasing attention to knowledge as the foundation of political and administrative action.

2. Introduction to the activities

Michel Van Hoegaerden, Project Manager, put in evidence the importance of every partner's contribution to build up the MDS. This project will bring knowledge together and spare efforts and money to all the EU countries in developing their planning capacity. (see Michel's speech on www.euhwforce.eu for more).

3. The aim of the workshop

Giovanni Leonardi, WP5 leader, has clarified to the attendees the scope of the workshop: to agree on founding principles, targets, and potential users of MDS; to qualify a set of requirements for MDS; to define the draft of the MDS.

4. The results of the first WP5 survey

Paolo Michelutti, WP5 project manager, reported the first findings from the WP5 survey on the HWF planning currently in use in 12 EU MSs [1].

The most interesting information related to the MDS are the following:
- physicians are take into the planning in every of the 12 Countries, while Nurses and Dentists are planned in 8 Countries and only in 4 Countries they planned for Pharmacists and Midwives;
- according to what declared by the Countries involved in the survey, for everyone the most important aim of the HWF planning system is to "adapt the supply to the variations of the demand";
- on the base of the WP5 meta-model, in which 38 measuring items are listed concerning both supply and demand side, the most frequent measured indicators in the 12 planning systems are:
  for the supply side
    1. training (6 items of which "n° of students starting university" is measured by all),
    2. current labour force (5 items, of which "geographic localization" is measured by all),
    3. migration (2 items of which "n° of immigrants from abroad" is measured by all);
  for the demand side
    1. the population needs (3 items, of which "population size" and "morbidity" is measured by two-thirds).

5. Tools for MDS

Ragnar Gullstrand (WP5 content leader) and Annalisa Malgieri (WP5 statistic expert) put in evidence the importance to identify the necessary attributes, characteristics and quality of the data used by the Health Work Force planning system to create value and utility for the users, (organization, internal user or other stakeholder). That means it's necessary to have a common groundwork on which build the MDS made by:
- founding principles of the MDS;
- targets of the MDS;
- users of the MDS;
- and some common main definitions.

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[1] WP5 collected information from 13 partners representing the following EU MSs: Belgium, Denmark, Finland, Germany, Greece, Hungary, Iceland, Italy, Netherlands, Poland, Portugal, Slovenia, Spain. Greece is not computed in calculation because there is no planning and forecasting methods for HWF used in that Country. So, by now, 12 Countries are in the survey.

One of those common definitions on which it would be necessary coming to an agreement regards the categories of the 5 "regulated" health professions [2]:

- Which professions do we have to include in the MDS release 1?
- Do different professions need different data set?
- Which level of aggregation of the professions is most efficacy?

Some possible alternatives are explored as base for the following sub-groups discussions.

6. Basic requirements for the MDS

After those introductory plenary presentations, Michel Van Hoegaerden, JA Program Manager, introduced the next two parallel sessions. Objective for these working sessions was to create some "common bricks" to use in the definition of the MDS for the working sessions of the day after.

The organization of the two parallel groups was as follow:

A. *Group animated by Ragnar Gullstrand*, started from the Netherlands model simplifying the bricks of that model into a Core Minimal Model (MDS) and Enhanced Modules (top-down approach);

B. *Group moderated by Michel van Hoegaerden*, started from scratch and created the bricks that are needed (bottom-up approach).

6.1 Group A: top-down approach

➢ _Participants: Annalisa Malgieri, Achille Iachino, Verdiana Morando, Lucia Ferrara, Pieter-Jan Miermans, Sebas Martin, Eszter Kovacs, Edmond Girasek, Bartosz Baran, Aleksandra Kotowicz, Ivo Rui Santos, Rade Pribakovic, Cecilia Sironi, Isabella Notarangelo, Patricia Munoz, Anders Haahr, Gabrielle Jacob, Milena Vasic, Zuzana Matlonova, Matt Edwards, Angela Blanco._

➢ _Moderator: Ragnar Gullstrand, Agenas, Italy._

➢ _Expert of the Dutch model: Leon Van Berkel, Ministry of Health, Netherlands._

Brief summary of the workshop to identify the parameters of the minimum data set through a comparison with a model considered "successful" (The Netherlands).

Ragnar Gullstrand opened the session remembering the task of the group as specified in the "Road book - basic requirements for Minimum Data Set".
The group was to fill in the forms of:

- founding principals for the minimum data set;
- targets;

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[2] The JA agreement states that WP5 will focus only on the 5 Health professions regulated by the EU Directive 2005/36: physicians, nurses, dentists, pharmacists and midwives.

- users of the MDS;
- definitions of some important variables like health professions, geographical dimensions and sector of employment.

As the base of the discussion was the Dutch model, Ragnar Gullstrand continued with a short description of this model that regards only Physicians (*see appendix n.2*). After this presentation the partecipants discussed various elements of this model with Leon Van Berkel.

The next step was to define the Targets of the Minimum data set. Each member of the group had to propose one target or to agree with a target already proposed. At the end there were 12 targets rigrouped in 11 targets.

Subsequently each member was asked to give a priority of the 11 targets by assigning his vote to two targets. The targets proposed ordered by number of votes is presented in table 1.

Table 1* Proposed targets that should be reflected in the Minimum Data Set

Targets	Votes
1.Affordability of the production	9
2.Demand of health care	7
3.Quality of care	6
4. Access to post-graduate education	6
5. Regional (i.e. by language) distribution	4
6. Balance of the demand for care between General care and Specialized care (horizontal) and between the professions (vertical).	4
7. Mapping movements of specialized professionals between countries	2
8.Reaching a set of indicators (i.e. doctors per 1000 habitants)	2
9. Retention of professionals within the country	2
10.Controlling the retention process.	1
11. Affordability of training	1

Commento [AMP1]:
From MILENA SANTRIC MILICEVIC AND MILENA VASIC (MSM,MV)_RS: Does it mean production of services? If not, what is the difference between this point and point 11?

Commento [AMP2]:
From MSM, MV_RS: It needs clarification: reaching the consensus on the set of indicators or maybe determine a set of indicators?

*The table above doesn't necessarily mean that the affordability is the main proposed target, but might reflect the wish of many participants to include this target compared to the models that are used at the moment.

Commento [AP3]:
From LEON BARKEL_NL

As regarding the users of the MDS the members agreed upon the statement that "Each model has its own data-set, so each country, depending on the choose model, might have different datasets". As a result, the users should be principally on national and regional level and would probably regard the countries that choose a new model: the ones that will start programming now.

The members of the workshop agreed on that the disaggregation of the health professions should be as detailed as possible, depending on the national organization of the education, as this is the level needed to be able to take decisions.

Regarding the geographical areas the members tended to indicate the single countries and regions within the countries and not the whole EU or Macro-areas (i.e. language areas) of countries within the EU.

Commento [AMP4]:
From PAUL DE RAEVE_EFN: Regarding this issue the EFN pointed out that for the MDS, it would be sufficient to include the 4 categories of nursing care and that going into too much detail doesn't make sense for the MINIMUM data set.
Note: This comment was made in the Plenary when the results of both workshops were presented to the all group. (see §7)

6.2 Group B: buttom-up approach

➢ _Participants_: Giovanni Leonardi, Cristina Sabatini, Paolo Michelutti, Nikolina Radeva, Heinz Rothgang, Despena Andrioti, Pilar Carbajo, Reijo Ailasmaa, Edit Eke, Valgerdur Gunnarsdottir, Gustavo Ferreira, Ana Paula Gouveia, Silvia Gomez, Nicolae Jelamschi, Milena Santric Milicevic, Galina Perfilieva, Tomoko Ono, Zoltan Aszalos, John Fellows.

➢ _Moderator_: Michel Van Hoegaerden, JA Program manager.

The exercise took place as a role-playing game, enabling the different participants to think broader than from the sole healthcare perspective. Description of the role playing gaming is to be found on the slides on www.euhwforce.eu.

Conclusions

The workshop identified the following overall comment:
- Playing the real game shows that many actors consider health workforce from very different perspectives. Their basic needs creates an huge list of requirements. The awareness that not meeting at least a few requirements of many partners means a rejection is high.
- The participants nevertheless made some choices and believe that there is a way to define a minimal data set (even though broad).
- It was mentioned that in a real country context, the minimal data set can be smaller due to the local context and system.

The priority one principles and target identified are:

Main Principles (groups)	Main Targets (groups)
Availability of service.	Numbers needed on current people.
	Numbers needed on population & geography.
Adapting education to the needs of Healthcare.	Numbers needed on future skills & needs.
Cost effectiveness is important.	Numbers needed on cost & effectiveness.
Planning help evaluating current situation and new initiatives.	Relation between current reality, scenarios and cost effectiveness.

Commento [AMP5]:
From MSM, MV_RS: HWF stock?

From MELANIE BOEKMANN_DE: Could you specify whom you mean by „people"?

Commento [AMP6]:
From MSM, MV_RS: Reconsider to delete this word from the table.

Commento [AMP7]:
From MELANIE BOEKMANN_DE: Do you also mean skills that will be needed in the future?

For a full overview of the opinions gathered see the slides on _www.euhwforce.eu_

7. Sharing the results and closure

The findings raised in the two groups and described above were displayed in the plenary session.

The main comments were on the criteria of a hypothetical basic model: Valgerdur Gunnarsdottir evidenced the importance of the effectiveness of a planning model based on evidences but admitted the difficulties to measure it.

Tomoko Ono added that every planning model should declare the incurred and estimated costs, even if it is hard to interpret this dimension.

The EFN pointed out that in relation to the MDS, it would be sufficient to include the 4 categories of nursing care and that going into too much detail doesn't make sense for the MINIMUM data set. The EFN made reference to the discussions under WP4, where the EFN 4 nursing care categories were presented.

Finally, Michel Van Hoegaerden completed stating that stakeholders need cost analysis. The discussion and agreement on those findings were postponed to the day after.

Activities of Friday 20th September 2013

8. Review of the previous day sessions

Michel Van Hoegaerden and Giovanni Leonardi reviewed the results of the previous day sessions and, considering the goal of the workshop, defined the scope of the ongoing workshop and of the MDS delivered by this Joint Action.

The framework of targets and requirements defined during the two parallel sessions of the day before was very rich and the amount of priorities too huge to set a coherent and effective group of indicators (*see table below*).

| Principles	Targets
Planning & forecasting are must do's to allow both monitoring and policy making.	Current HWF.
Shortages are no options as it is a threat to the coverage and quality.	Benchmark against population information's (incl. real coverage).
Universal coverage.	Measuring the impact of policies.
Affordability.	Monitoring the effect of HWF on cost.
Effectiveness.	Monitoring the effectiveness of HWF.
Education to meet Healthcare needs.	Monitoring HWF workload.
Quality of work/private balance.	Evaluate potential new strategies.

In order to become to a shared and common declination of a MDS, it was proposed to the attendees an optional definition of "minimal", then it was proposed to challenge it and, finally, it was request to populate the choose option.

Here the optional definition for "minimal", described from a "release management" point of view:

Version	What
MDS 1a	Today, focus on a subset of the principles and targets listed yesterday that, within the priority one items, are the very obvious and feasible. Delivery: Minimal Data Set Month 7
MDS 1b	During the Joint Action, focus on an additional subset of the principles and targets listed yesterday taking main number of priority one items on board. Delivery: Together with the handbook on methodology Month 18
MDS 2	Together with WP7, listing the most important proposed enhancement to the methodology and the data set which could be subjects for future actions. Delivery : Within the final recommendation Month 36

Considering a virtual decision making process on a short (1-3 years) and mid-term (4-9 years) the three options could be view as tools useful in different steps:
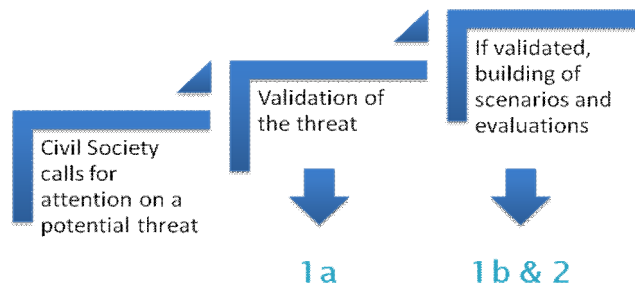
The scope of stage 1a should be to identify the major problems and gather the data to face those problems. Tomoko Ono specified: "to assess the current situation".

The scope of stage 1b should be to assess the problems identifying the possible solutions (and gather the data to identify those solutions).

The scope of stage 2 should be to draw future scenarios and implement the found solutions (and gather the data to deliver those scenarios to the decision makers who decides on the implementation).

Afterwards, it was requested to the attendees, working in two parallel sessions (same composition of the day before) to split the targets of table into stage 1a, stage 1b and stage 2.

9. Defining the distribution of targets, discuss the proposed split & criteria's

The two parallel sessions were introduced by Michel Van Hoegaerden.
The criteria to define what should be in stage 1a were:
- availability and feasibility of data collection;
- enabling the policy makers to identify the major threats in a "fixed" context.

According to those criteria international reporting requirements are not to take into account in this first stage (out of scope).
What should be in stage 1b:
- not only identifying threats but proposing some strategies on retention, retirement, training, mobility and all the inflow and outflow triggers the decision makers have available.
- What should be in stage 2:
- recommendations and suggestions to the MSs to improve their capacity to build future scenarios.

Michel Van Hoegaerden proposed to the two groups to challenge to following distribution of targets (done accordingly with the above specified criteria).

1a	1b	2
Identify high level shortage* vs. overall evaluation demand of Healthcare	Identify detailed shortage	Impact on scenario like skills transfer.
Monitor overall coverage	Monitor geographical variances of coverage	Impact on scenario on coverage.
...	Identify if in land production meets the needs	Impact on scenario on updating the in land production.
	dentify major costs aspects of HWF	Evaluate effectiveness & cost vs. Results.
	First evaluation on impact of shortages on quality	Balance between primary care & Specialized care.
	...	International migration aspects.

> **Commento [AMP8]:**
> **From MELANIE BOEKMANN_DE:**
> Replace Land with „country"

> **Commento [AMP9]:**
> **From MELANIE BOEKMANN_DE**
> Replace Land with „country"

*It has been discussed to replace the term shortage with imbalance.

9.1 Group A

➢ _Participants: Verdiana Morando, Lucia Ferrara, Pieter-Jan Miermans, Sebas Martin, Leon Van Berkel, Eszter Kovacs, Edmond Girasek, Bartosz Baran, Aleksandra Kotowicz, Ivo Rui Santos, Rade Pribakovic, Cecilia Sironi, Isabella Notarangelo, Patricia Munoz, Anders Haahr, Gabrielle Jacob, Milena Vasic, Zuzana Matlonova, Matt Edwards, Angela Blanco._
➢ _Moderator: Ragnar Gullstrand and Lieve Jorens._

Remarks on 1a:
- What is meant by 'overall coverage': not clear.
- Focus of the planning on health care professionals or on health care in general: different opinions in the group.
- 1a as assessment of current situation is too limited: should include improvement of assessment of current situation AND allow planning in the future.
- What are needs? What is demand? Definitions not clear!!
- 1a can use 'public expenditure' as a reference, most basic inf.

Remarks on 1b
- This should contain geographical variances in HWF coverage.
- 1b should foresee possibilities to look into items such as HWF productivity.

9.2 Group B

➢ *Participants: Cristina Sabatini, Paolo Michelutti, Nikolina Radeva, Heinz Rothgang, Despena Andrioti, Pilar Carbajo, Reijo Ailasmaa, Edit Eke, Valgerdur Gunnarsdottir, Gustavo Ferreira, Ana Paula Gouveia, Silvia Gomez, Nicolae Jelamschi, Milena Santric Milicevic, Galina Perfilieva, Tomoko Ono, Zoltan Aszalos, John Fellows.*

➢ *Moderator: Giovanni Leonardi and Achille Iachino.*

On the base of the proposed distribution of targets these are the main opinions:

Zoltan Aszalos: to identify a MDS to assess a shortage or to evaluate the demand is very complex. At least the demand side should put out of the MDS.

Tomoko Ono: it should be better to start assessing the shortage of supply and the approach the demand side because we have to be careful to evaluate the demand; indeed there's difference between health services demand and HWF demand (and surplus or oversupply is about the second), and we have also to be careful to compare population size and health service demand. Take into account all these warnings the „minimum" target might be „to adapt the supply to the variation of the demand".

Heinz Rothgang: it's necessary to have a simple model for the demand. And we can adopt the assumption that there's no imbalance at the moment.

Edit Eke: the minimum target of the MDS should be, first of all, to measure and assess the current workforce.

Nikolina Radeva: the priority is to measure the current workforce.
Milena Santric Milicevic: the MDS should give answers to simple question as „how much resources do we have?"

Ana Paula Gouveia: if the targets is to identify high level of future shortage based on an overall evalutation of the demand of health care, it's important to compare the standard of production between countries with shortage and countries with no shortage.

10.Every group shares the results. Discussion and conclusion

➢ *Moderator: Michel Van Hoegaerden.*
The results of both workgroups are presented.
Important to note that:

- Only the scope of 1a has been discussed and the scope of 1b will be postponed to a mail survey among the participants.

Both groups in joined assembly agreed that the scope of the 1a priority (scope of the MDS to be delivered in November 2013) will take the following target into account:

- **Target 1.**/ Identify domestic MACRO current and future level demands for health workforce
- **Target 2.**/ Identify current and future supply of health workforce, with a focus on <u>demand</u> of health workforce
- **Target 3.**/ Identify high level imbalance of Health workforce

We also agreed that, even though very important for both group, the target: _Monitor overall coverage has to be postponed to the 1b scope._

<u>Important</u>

- The WP5 Team has been especially requested to provide in the introductory work of their document a lexicon of the concepts and words used in order to make sure that everybody understood the same concepts.
- The assembly still highlighted the importance of distinguishing between the demand of healthcare and the demand of Health Workforce. This discussion has been added to the scope of the afternoon workshops.

11. Defining the content of the MDS for each profession

➢ _Introduced by Michel Van Hoegaerden._

The attendees were split up in three groups working on different parts of the MDS:

- Supply side: training and mobility;
- Supply side: current health workforce and outflow;
- Demand side.

A template containing a proposal of measurable items of each own part was distributed to every participant within each group.

Each group had the same mandate, i.e. within the items of the specific part of the meta-model assigned to the group, find an agreement on a MDS for stage 1a (basic) which answers to these targets:

- identify domestic MACRO current and future level demands for health work force;
- identify current and future supply of health work force;
- identify high level imbalance of Health work force.

Commento [AMP10]:
From MSM, MV _RS: Is it high level of imbalance or Macro level imbalance?

11.1 Group 1 - Supply: training and mobility

➤ _Participants:_ _Lucia Ferrara, Pieter-Jan Miermans, Nikolina Radeva, Pilar Carbajo, Eszter Kovacs, Edit Eke, Valgerdur Gunnarsdottir, Bartosz Baran, Aleksandra Kotowicz, Ivo Rui Santos, Rade Pribakovic, Silvia Gomez, Isabella Notarangelo, Patricia Munoz, Anders Haahr, Gabrielle Jacob, Zuzana Matlonova, Matt Edwards._

➤ _Moderators:_ _Giovanni Leonardi and Cristina Sabatini._

The distributed template was discussed with the following results:
Training:
- changing starting university to Starting education (not only university level);
- considering age and gender in all category of training;
- considering foreign students (UE- non UE);
- observing if the Universities have separate headquarters abroad;
- changing number certified in number licences.

As for professionals with more than one specialization, the group decides to discuss in plenary session whether MDS should consider only the main specialization or all of them and, then, collect individual positions through e-mail.
The same is decided for attriton, since the attrition rate may be calculated knowing the number of intakes and that of graduates. On the other hand, a focus on attrition might provide deeper insights of drop-out causes.

Mobility:
Immigration:
- considering citizenship of immigrant, country of diploma ,age, gender.
- changing number of certifications recognized in number of recognitions (foreign qualifications).
Emigration:
- number of compliance certificates.

11.2 Group 2 - Supply: retirement, retention and stock

➤ _Participants:_ _Reijo Ailasmaa, Edmond Girasek, Gustavo Ferreira, Cecilia Sironi, Nicolae Jelamschi, Galina Perfilieva_

➤ _Moderators:_ _Ragnar Gullstrand and Paolo Michelutti._

Commento [AMP11]:
From PILAR CARBAJO_ES: As for multi-specialization, we believe that the data of MDS most interesting is the specialty practiced, not the number of specialties that has a professional. However, we consider very important to analyze the causes of multi-specialization beyond the MDS (in second time)

Commento [AMP12]:
From AANDERS HAAR_DK: My suggestion would be to only consider the latest achieved speciality.

A doctor with more than one speiclaity is most likely to primarily work in one of the fields.

Commento [AMP13]:
From PILAR CARBAJO_ES: It s more important to consider the causes of attrition that their absolute number, so it would not be included in MDS. For us it is important to know the causes of attrition in basic training and too in specialized training

Ragnar Gullstrand opened the session remembering the task of the group. Then, every participants started from the items present in the template[3] and proposed which of those items (or other items not present but considered important) were more significant on the base of the MDS targets (they also express the reasons of their choice and any useful comments).

These are the main remarks concerning the "current health workforce items":

- Number of health workers: it's important to measure the full capacity but it's not easy to collect, because you can measure headcounts or Full Time Equivalent; if's decided for FTE, it is measurable counting the part time hours or estimating the FTE (better the second if we take into account also private sector). This issue is linked with job retention and gender of health workers.

- Sector of work – hospital/not hospital: that's an important issue for assessing the current situation (and monitoring the transition from an hospital-based health system to a primary-based health system) but not to estimate the future situation.

- Age structure of health workers: to gather the year of birth is better than measure 5-years intervals. This issue is linked to retirement (estimation of retirement percentage).

- Sector of employment
    o Public/Private: it's important to measure both sector, not so important to distinguish between the two.
    o Non health sector: for example government, university, research institutes, etc. It's difficult to measure it. Not for a MDS.
    o Unemployment: it's important to estimate oversupply, ~~especially for nurses sector~~, not for physicians, but it's difficult to measure it.

- Gender: important to measure it (linked to retirement, retention, FTE).

- Place of work: it's important to manage the network of services (to guarantee the equity in a specific area). Depending on the Country, it should be necessary to measure different levels (National, regional, sub-regional, etc.). To manage maldistribution it could be better to measure urban/rural (it depends on the detail of the geographic measurement).

- Specialization: important for physicians.

These are the main remarks concerning the "outflow" (emigration was not taken in consideration because it was treated in the sub-group 1):

- Retirement: one of the most important outflow items (but it's related to retention).

Commento [AMP14]:
From PAUL DE REAVE_EFN doesn't see the relevance of including a reference to nurses oversupply when the general trend is a nurse shortage.

FROM LEON BERKEL_NL: The Netherlands does see the relevance. The coming 3-5 years there might be an oversupply of some type of nurses.

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[3] The items were "current health workforce" (i.e. part time / full time, hospital / non hospital, vertical substitution, age structure, public / private sector, geographical level, urban / rural, non health sector and unemployment) , "outflow" (i.e. retirement, death in service, inability, family care) and "retention".

- <u>Death in service / inability</u>: not so important to measure 'cause of the low numbers.
- <u>Other (for example family care)</u>: it could be important for nurses (linked to retention).

These are the main remarks concerning the "<u>job retention</u>": it could be important as trigger once the problems are assessed. Not so important to identify and analyze the current situation (low numbers, and it's also hard to define and to collect data).

Subsequently each member was asked to give a priority of the chosen items by assigning degree 1 (high), 2 or 3 (low).

The final result of the discussion is shown in the picture below:

According to principles and targets, a MDS might include:

–Current health workforce:
    1 – Number of health workers both FTE and head–counts → how to calculate FTE?
    2 – Age structure → which degree of details?
    3 – gender
    4 – Sector of employment:
        –Private / public → to measure both
        –Hospital / non hospital (primary care)
    5 – Place of work
        –National level
        –Regional level
        –In some countries subregional

–Outflow:
    1 – retirement

At the end the group identified 5 items on "current health workforce" and 1 item on "outflow" as part of MDS for stage 1a.

11.3   Group 3 - Demand

➢ *Participants: Verdiana Morando, Heinz Rothgang, Despena Andrioti, Sebas Martin, Leon Van Berkel, Ana Paula Gouveia, Milena Santric Milicevic, Milena Vasic, Tomoko Ono, Zoltan Aszalos, John Fellows, Angela Blanco.*
➢ *Moderators: Lieve Jorens and Achille Iachino.*

Central idea behind the demand-model proposed: for a basic model, you have all the data you need for the demand side within the demographic data of the country. Every country has this information. There is no need to collect information on health care services.

On which professions is the model applicable: in principle, the model can be used by all professions, by just using other data and other categories. The WG proposes however to start at a Macro level and to break down into different professions, different specializations, ... once the Macro level is done.
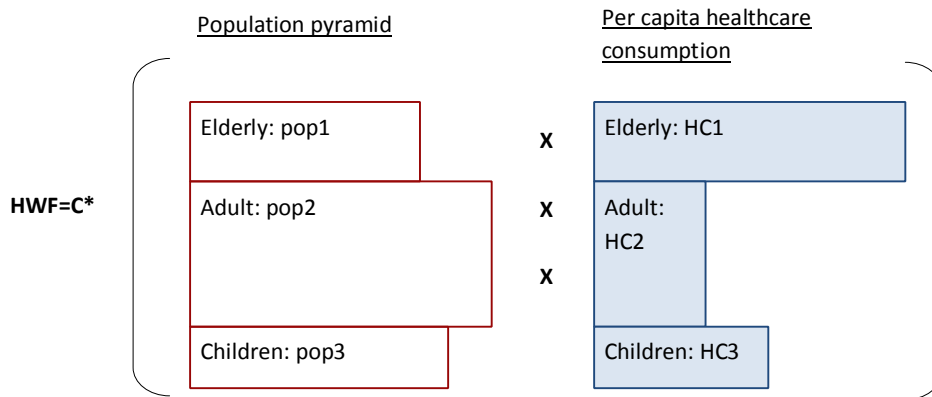
We know some population groups use more resources for health services than others. For simplicity, we will base it on age and disaggregate into three groups: children, adult, and elderly.

- Number of people in each age group is: pop1 (elderly), pop2 (adult) and pop3 (children)
- Per capita healthcare consumption of each age group is : HC1 (elderly), HC2 (adult) and HC3 (children).
- Total number of health workforce demand: HWF
- C is a conversion factor from the total amount of healthcare consumption of population to demand for health workforce

$$HWF = C*(HC1*pop1 + HC2*pop2 + HC3*pop3)$$

We estimate C based on current number of health workforce, population, and health care consumption for each age group. Assuming C, HC1, HC2, and HC3 remain constant over time, change in health workforce demand is

$$\Delta HWF=C*(HC1*\Delta pop1 + HC2*\Delta pop2 + HC3*\Delta pop3)$$

HWF=C*

Population pyramid: Elderly: pop1, Adult: pop2, Children: pop3

X X X

Per capita healthcare consumption: Elderly: HC1, Adult: HC2, Children: HC3

Commento [AMP15]:
From MELANIE BOEKMANN_DE: Would it be helpful for future reference to specify what the macro level entails exactly?

Commento [AMP16]:
From PILAR CARBAJO_ES
proposes to include an explanation: _"HC (health care consumption) is not constant over time, and that is why we called this as assumption."_

12. Sharing the results and closure

The results of the three groups are presented in the last plenary session but not discussed due to lack of time. Giovanni Leonardi closed the workshop remembering that the minutes of the workshop will be sent to the participants to ask their checks and additions.

Based on the final minutes, the WP5 will wrote a report that will be circulated among the partners by the end of October, thus starting the final discussion on the MDS. The contents so agreed will be reported on the final Deliverable #D.051 to be ready by the end of November 2013.

12.1   List of decision taken

Here you can find a final summary list of the decisions taken.

1) To split MDS in three stages:

Stage	What
1a	Focus on a subset of the principles and targets listed by the WP5 partners that, within the priority one items, are the very obvious and feasible. Delivery: Minimal Data Set Month 7
1b	During the Joint Action, focus on an additional subset of the principles and targets listed by the WP5 partners taking main number of priority one items on board. Delivery: Together with the handbook on methodology Month 18
2	Together with WP7, listing the most important proposed enhancement to the methodology and the data set which could be subjects for future actions. Delivery : Within the final recommendation Month 36

2) To characterize the 3 stages with the following scopes:

Stage	What
1a	The scope of stage 1a should be to identify the major problems and gather the data to face those problems (to assess the current situation).
1b	The scope of stage 1b should be to assess the problems identifying the possible solutions (and gather the data to identify those solutions).
2	The scope of stage 2 should be to draw future scenarios and implement the found solutions (and gather the data to deliver those scenarios to the decision makers who decides on the implementation).

3) To detail the 1a scope into these three targets:

Stage	Targets
# 1a	1 Identify domestic MACRO current and future level demands for health work force.
	2 identify current and future supply of health work force.
	3 Identify high level imbalance of Health work force.

4) To populate, in the first instance, the 1a MDS with the following items:

Category	Sub-category	Item		
Supply	Training. §11.1 (starting from the distribuited template)	Changing starting university in Starting education (not only university level).		
		Age and gender in all category of training.		
		Foreign students (UE- non UE).		
		if Universities have separate headquarters abroad.		
		Changing n# certified in n# licences.		
	Mobility. §11.1 (starting from the distribuited template)	*Immigration*	Citizenship of immigrant, country of diploma, age, gender.	
			Changing number of certifications recognized in nunmber of recognitions (foreign qualifications).	
		Emigration	Number of compliance certificates.	
	Current labour force. §11.2	Number of health workers		
		Sector of work – hospital/not hospital		
		Age structure of health workers (linked to estimation of retirement %).		
		Sector of employment	Public/Private.	
			Non health sector.	
			Unemployment.	
		Gender (linked to retirement, retention, FTE).		
		Place of work (to guarantee the equity in a specific area).		
		Specialization.		
	Outflow §11.2	Retirement (related to retention).		
		Death in service / inability		
		Other (for example family care, linked to retention).		
Category	**Sub-category**	**Item**		
Demand	Population size. §11.3	Population size per age group.		

12.2   To do list

Planning for next actions.

WP5 Activities to do in Oct/Nov 2013			
WHAT	**FROM WHO**	**TO WHO**	**WHEN**
Milan minutes - mailing	Italy	Workshop participants	4th Oct.
Milan minutes - comments	Workshop participants	Italy	Until 14th Oct.
Milan minutes - final	Italy	Workshop participants and WP1	Until 21th Oct.
Deliverable #D.051 - in draft	Italy	WP5 partners	Until 30th Oct.
Deliverable #D.051 - agreement	WP5 partners	Italy	Until 15th Nov.
Deliverable #D.051 - translation	Italy	Translator	Until 25th Nov.
Deliverable #D.051 - delivery	Italy	WP1	30th Nov.

13. Appendix 1 - List of participants, in country alphabetical order

COUNTRY	ORGANISATION	NAME SURNAME	ROLE
Belgium	Federal Public Service Health, Food Chain Safety and Environment	Michel Van Hoegaerden	Program Manager
		Lieve Jorens	WP1 Leader
		Pieter-Jan Miermans	WP5 Associated Partner
Bulgaria	Medical University of Varna	Nikolina Radeva	WP5 Associated Partner
Denmark	Danish Health and Medicines Authority	Anders Haahr	WP5 Collaborating Partner
Europe	EU Federation of Nurses Associations	Silvia Gomez	WP5 Associated Partner
		Cecilia Sironi	WP5 Associated Partner
Europe	EU Hospital and Healthcare Federation	Isabella Notarangelo	WP5 Associated Partner
Europe	Pharmaceutical Group of the EU Union	Patricia Munoz	WP5 Associated Partner
Europe	WHO, Regional Office for Europe	Galina Perfilieva	WP5 Collaborating Partner
Europe	OECD	Tomoko Ono	WP5 Collaborating Partner
Europe	European Commission	Angela Blanco	EC Representative
Finland	Ministry of Social Affairs and Health	Reijo Ailasmaa	WP5 Associated Partner
Germany	University of Bremen	Heinz Rothgang	WP5 Associated Partner
Greece	National School of Public Health	Despena Andrioti	WP5 Associated Partner
Hungary	Semmelweis University	Eszter Kovacs	WP5 Associated Partner
		Edit Eke	WP5 Associated Partner
		Edmond Girasek	WP5 Associated Partner
		Zoltan Aszalos	WP4 Leader
Iceland	Ministry of Health and Welfare	Valgerdur Gunnarsdottir	WP5 Associated Partner
Ireland	Ministry of Health	Gabrielle Jacob	WP5 Collaborating Partner
Italy	Ministry of Health	Giovanni Leonardi	WP5 Leader
		Annalisa Malgieri	WP5 Team
		Cristina Sabatini	WP5 Team
Italy	National Agency for Regional Healthcare	Achille Iachino	WP5 Team
		Paolo Michelutti	WP5 Team
		Ragnar Gullstrand	WP5 Team
		Anna Maria Pacini	WP5 Team
Italy	Eupolis Lombardy	Verdiana Morando	Venue guest
		Lucia Ferrara	Venue guest
Moldova	Ministry of Health	Nicolae Jelamschi	WP5 Collaborating Partner
Netherlands	Ministry of Health	Leon Van Berkel	WP5 Associated Partner
Poland	Ministry of Health	Bartosz Baran	WP5 Associated Partner
		Aleksandra Kotowicz	WP5 Associated Partner
Portugal	Central Administration of the Health System	Ivo Rui Santos	WP5 Associated Partner
		Gustavo Ferreira	WP5 Associated Partner
		Ana Paula Gouveia	WP5 Associated Partner

Serbia	University of Belgrade	Milena Santric Milicevic	WP5 Collaborating Partner
	Institute of Public Health of Serbia	Milena Vasic	WP5 Collaborating Partner
Slovakia	Ministry of Health	Zuzana Matlonova	WP2 Leader
Slovenia	National Institute of Public Health	Rade Pribakovic	WP5 Associated Partner
Spain	Ministry of Health	Pilar Carbajo	WP5 Associated Partner
		Sebas Martin	WP5 Associated Partner
United Kindom	Centre for Workforce Intelligence	Matt Edwards	WP6 Leader
		John Fellows	WP6 team

WP5 Workshop "Defining the Minimum data set"
Milan, 19 th and 20th of September 2013
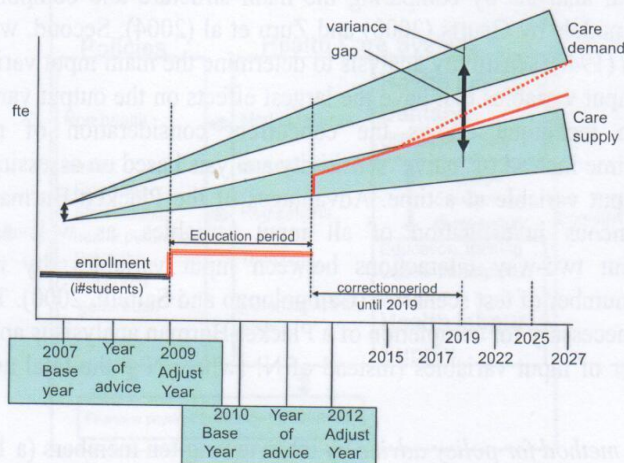_____
Meeting Minutes

14. Appendix 2 - Some elements of the Dutch model for Physicians

The process
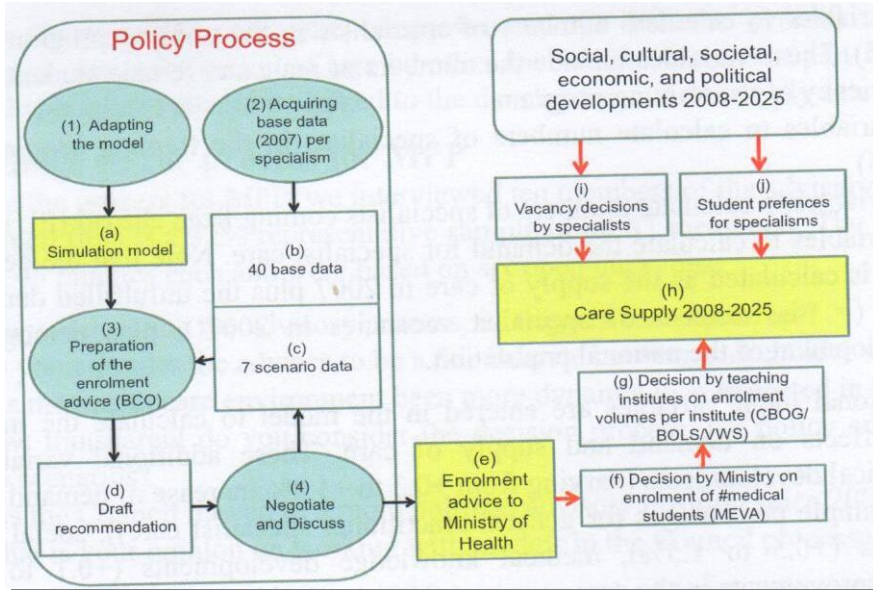
incremental policy advices for required enrolment figures, if the new data indicate different long-term developments.

Input variables (summary) (27)
1. Supply of professionals in base year (8 variables).
2. Number of specialists in training programs period 2007-2015 (5 variables).
3. Number of specialists in training program after 2015 (4 variables).
4. Number of specialists from abroad - EU (3 variables).
5. Demand for specialist care (2 variables).
6. Additional input variables for additional effects on demand and supply of care (7 variables).

Input variables (detail)
1. Supply of professionals in base year (8 variables)
   - Number of professionals baseline year (registrations).
   - Gender frequencies (registrations).
   - % FTE per professional baseline year per gender (surveys).
   - % FTE per professional future years per gender (expert estimations).
   - % retirement per period (medical registration and others).
   - Age groups (registration).

2. Number of specialists in training programs for a period of 8 years (5 variables)
   - Number in training (information from training).
   - Gender frequencies (information from training).
   - Duration of training (information from training).
   - Yield of training (information from training).
3. Number of specialists in training program after the preceding period (4 variables)

4. Number of specialists from abroad - EU (3 variables)
   - • Annual immigration (medical registration and expert estimation).
   - • Gender frequencies (medical registration and expert estimation).
   - • Yield immigration (different sources).

5. Demand for specialist care (2 variables)
   - Unmet demand base year (expert estimations).
   - Demographical development of the national population (projections).

6. Additional input variables for additional effects on demand and supply of care (7 variables)
   - Epidemiological developments (+0,3% to +1,3% per year of demand) - expert estimations.
   - Social cultural developments (+0,5% to 1,5% per year of demand) - expert estimations.
   - Medical knowledge developments (+0,1% to 1,1% per year of supply) - expert estimations.
   - Efficiency improvements in the care process (-0,2% to 1,2% per year of demand) - expert estimations.
   - Vertical substitution of care (-0,5% to -1,5% per year of demand) i.e. substitution by nurses - expert estimations.

- Horizontal substitution by other specialists (-0,6% to +0,4% per year) of supply - expert estimations.
- Increase of part-time factor (-0% to -1,0% per year) of supply - expert estimations.

Sources of data
- Registration of professionals.
- Surveys.
- Expert estimation.
- Empirical data if available.

Targets

Target	Why
1.Main task is to advise the Ministry about the required enrolement of students in the basic medical training and in the postgraduate medical specialist educational programs to balance future demand and supply of specialist care.	Increase of medical specialists with differences between the specialities.

Users of the results of the process
1. Medical specialist representatives (lower amount than the Health insurance but enough young specialists to take over the practices)
2. Health insurance company representatives (high amount of doctors as competition can increase quality of care and decrease prices, but consider also unwanted effects of supplier induced demand)
3. University training programs (stable student groups because teaching capacity is difficult to adjust).
4. The Ministry of Health.

Disaggregation Physicians
1. Primary care (3)
2. Hospital care (incl ambulatorial care) (27)
3. Public/ occupational care (10)
4. Profiled physicians (7)
5. Dental care (4)
6. Beta-professions (3)

List of Specialization (Physicians)

Primary care	**12.006**	
- General practitioners	10.371	pediatricians?
- Physicians for elderly	1.443	
- Physicians for mentally disabled	192	
Hospital care (incl. ambulatorial care)	**17.350**	
- Anesthesiology	1.445	
- Cardiology	850	
- Cardio-thoracic surgery	120	
- Dermatology	430	
- Surgery	1.100	
- Internal medicine	1.780	
- Ear Nose Throat medicine	440	
- Pediatrics	1.270	
- Clinical Genetics	100	
- Clinical Geriatrics	170	
- Pulmonary diseases	490	
- Gastroenterology	320	
- Medical microbiology	225	
- Neurosurgery	125	
- Neurology	785	
- Nuclear medicine	135	
- Obstetrics/ gynaecology	900	
- Ophtalmology	600	
- Orthopedics	590	
- Pathology	355	
- Reconstructive surgery	235	
- Psychiatry	2.700	
- Radiology	940	
- Radiotherapy	230	
- Reumatology	235	
- Revalidation medicine	430	
- Urology	350	
Public/ occupational care	**3.815**	
- Occupational medicine	1.968	
- Insurance medicine	933	
- Public Health	218	
- PH +profile juvenile medicine	346	
- PH + profile infectious disease	60	
- PH + Profile Tuberculosis	17	
- PH + Profile Policy	140	
-PH + Profile forensic medicine	96	
- PH + Profile environmental medicine	14	
- PH + Profile social services	23	
Profiled physicians	**612**	
- Profile juvenile medicine	431	
- Profile infectious disease	13	
- Profile Tuberculosis	2	
- Profile Policy	35	
- Profile forensic medicine	91	

- Profile environmental medicine	0
- Profile social services	40
Dental care	**11.813**
- oropharingeal surgeons	233
- Orthodontics	275
- Dentists	8.880
- Dental hygienists	2.425
Beta-professions	**925**
- Clinical chemistry	260
- Clinical Physics	285
- Hospital Pharmacy	380

Disaggregation Geographical dimensions: Country

Disaggregation: Sector of employment,

No difference between public and private sector. Total figures for all sectors.

Funded by
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15. Appendix 3 – Group 3 - Tomoko Ono in-depth analysis on Demand Model

Here you can find an in-depth analysis on demand model made by Tomoko Ono – OECD

Proposal for demand model is to build a simple model with several fundamental building blocks and to outline the assumptions, so that the model can be developed further depending on data availability and need in each country. The final objective of forecasting is to estimate the future demand of health workforce.
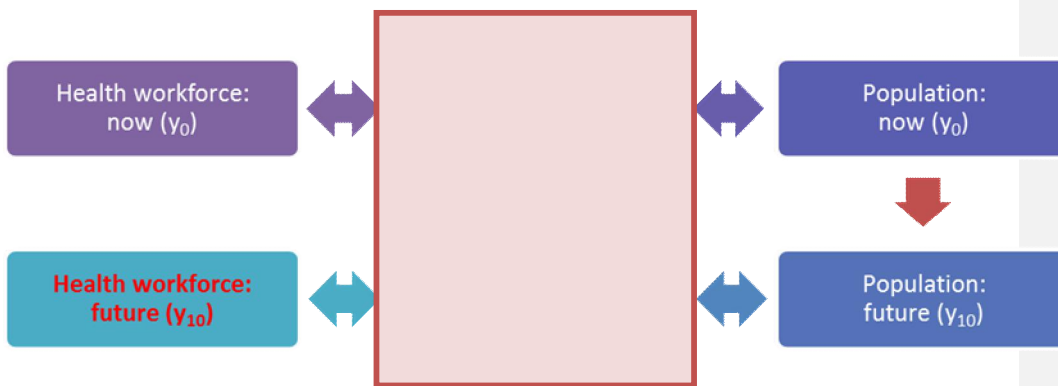
The growth of demand will be estimated based on the demographic change. It will be assumed that the service provision does not change over time and the needed growth/reduction in health workforce is equal to the growth in demand based on population demographics.

Taking into account aging of population
We know some population groups use more resources for health services than others. For simplicity, we will base it on age and disaggregate into three groups: children, adult, and elderly.
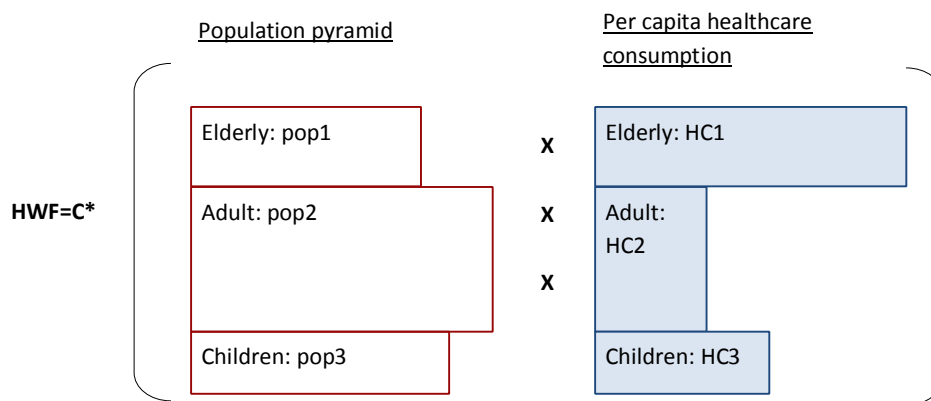- Number of people in each age group is: pop1 (elderly), pop2 (adult) and pop3 (children)
- Per capita healthcare consumption of each age group is : HC1 (elderly), HC2 (adult) and HC3 (children).
- Total number of health workforce demand: HWF
- C is a conversion factor from the total amount of healthcare consumption of population to demand for health workforce

$$HWF = C*(HC1*pop1 + HC2*pop2 + HC3*pop3)$$

We estimate C based on current number of health workforce, population, and health care consumption for each age group. Assuming C, HC1, HC2, and HC3 remain constant over time, change in health workforce demand is

$$\Delta HWF = C*(HC1*\Delta pop1 + HC2*\Delta pop2 + HC3*\Delta pop3)$$

Data we need for this basic model
- Population estimates and its projection by age (all country have this info)
- Per capita health consumption by age group, for example
  - Health expenditure by age (EC have this info)
  - The ratio can be adjusted for different professional groups using other utilization

data; for example, number of prescription dispensed for pharmacists, number of delivery for midwives.
- Some specialists which serve certain segment of population (pediatrics, OBGYN, geriatrics) can be estimated simply based on population growth.
- Assumptions (that we can choose to relax for 1b and 2)
- Health consumption per capita for each age group remain constant (no compression or expansion of morbidity)
- Health service remain as it is: no change in productivity, technology
- The roles or the scope of practice for each profession remain unchanged (no interaction between 5 different professional groups)
- Current shortage gap between supply and demand
- [Please list more…]

How to include current gap between supply and demand in the projection model
Measuring the exact magnitude of shortages can be difficult and we have no consolidate way to measure the shortage at the moment. Some uses the size of vacancy, survey of employers (Japan), or Delphi methods to consider multiple indicators.

Whatever the indicators and methods used to estimate the size of current shortage, it is easily integrated in the model discussed above. The proposed model allows calculations of additional health workforce needed, in order to provide services to **additional** demand due to changes in population structure. We just need to include that current shortage in the equation above as follows;

Future shortage = Current shortage + ΔHWF

Graphically, if we assume there is a balance between the supply and demand now (year 2015 in graph), the future shortage is the gap between projected supply (grey) and projected demand (red, demand 1). If we incorporate the current shortage (demand>supply in 2015) of 100 health workers (pink, demand 2), the growth of demand between 2015 and 2030 does not change, but simply the magnitude of shortage is larger by 100 health workers.
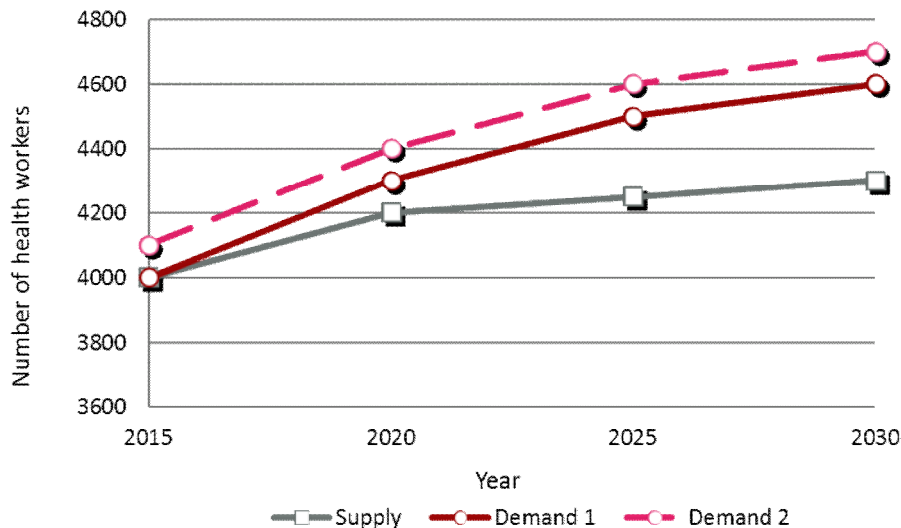
Other changes in assumption

- Simplification of the model: If we assume HC1=HC2=HC3=1 (every single individual demand the same level of health care consumption), then we have a model that estimate the demand simply by the changes in population size; a commonly known as a constant health workers to population ratio approach.
- Extension of the model:
    o Expansion and compression of mobility can be integrated in to the model by shifting the per capita health care consumption for elderly up/down
    o Productivity improvement: reduce C by x% (you need less health workforce per the total health consumption).