8. Minimum data set

Here are listed the necessary and sufficient (minimum) data to create the indicators in described in the previous paragraph.

Information needed for measuring the indicator 1 – Minimum Data Set 1a (see appendix 9.2)

Areas	Supply					Demand
Category Characterisation	Labour force	Training	Retirement	Migration (outflow)	Migration (inflow)	Population
Type of profession	x	x	x	x	x	
Age	x	x	x	x	x	X
Head count	x	x	x	x	x	X

Information needed for measuring the indicators 2, 3, 4, 5 and 6 Minimum Data Set 1b (see appendix 9.2)

Areas	Supply					Demand
Category Characterisation	Labour force	Training	Retirement	Migration (outflow)	Migration (inflow)	Population
Type	x	x	x	x	x	
Age	x	x	x	x	x	x
Head count	x	x	x	x	x	x
FTE	x					
Geographical area	x	x	x	x	x	x
Specialisation (where applied)	x	x	x	x	x	
Country of first qualification	x	x	x	x	x	

Funded by the Health Programme of the European Union

9. Appendices

9.1 Appendix n 1. Some basic concepts for the indicators concerning the HWF demand

OECD has recently published two documents, OECD Health Working Papers n 59 "Comparative Analysis of Health Forecasting Methods"[34] and OECD Economic Policy Papers n 6 "Public spending on health and long-term care: a new set of projections"[35].

The first paper classifies the quantitative demand forecasting model proposed in this paper as "Component based models": indeed it forecasts health expenditure by component, such as by financing agent or providers of care and the forecast are usually estimated by age group. This type of forecasting models is the dominant class, accounting for more than half of all forecasting models surveyed by their study. One of the reasons for their proliferation is a focus on demographic drivers of health expenditure growth. They are also less data intensive and less complex than other type of models and they are considered most appropriate for short-term projections as they depend on clear and undisturbed trends. According to the study, virtually all existing models account for demographic shifts in the population and some focus specifically on scenarios about the potential future health status of older people. The study points out that two other important influences on health expenditure growth that are the least understood include technological innovation and the role played by changes in health-seeking behaviour and underlying social norms about health and illness, and that there is little empirical evidence on these factors upon which models may be developed.

Regarding "Demographical factors and health status", the authors report that around 25 % of life time health expenditures are concentrated in the last year of life and it might be that traditional projection methods overestimate the influence of population ageing because longevity gains could progressively postpone health expenditure from one age class to the next, rather than raise it. The relationship between life expectancy and morbidity can follow different paths. The first is known as the "health ageing" hypothesis, and assumes that increase of life expectancy corresponds to an equal increase in years of healthy life before the morbidity period prior to death. The second is a pessimistic view of expansion of morbidity where by increases in life expectancy yield a longer-time spent with ill-health and reduced quality of life. The third and opposite theory is known as "compression of morbidity" where longevity gains can be associated with an increase of healthy-life period.

The paper does not report evidence that one or another model is better than the others but concludes that the forecast models should be valued for their ability to demonstrate the likely future course of events, if past trends continue.

[34] OECD 2012.
[35] OECD 2013.

The second study compares the actual evolution of public health and long-term care expenditures with the projections made by an OECD study 2006. They find that the actual development of the last years was higher than the most expensive trend (called the "cost-pressure scenario"). The study then assumes the "compression of morbidity" relationship between life expectancy and morbidity (for definition see the first study above) and makes projections up to 2060. The projections shows that the more mature countries (the Nordic countries as well as the United States and the United Kingdom) will have a lower increase of costs while the poorer countries will have above average increases in public health expenditures. As an average, the percentage of GDP will increase in an interval between 3,5% of GDP to 8% of GDP. With the assumptions made, the demographic and income effects will play only a minor role in the projected increase of public health and long-term care expenditures.

When considering the implications of these two studies for this project we have to take into account that the projection period in our case will be around fifteen years and not fifty years. The past trends will therefore be more significant for the result. Even if the role of the ageing population to the increase of future expenditures is not certain (see the first study), but we think that, at the present state of art, it will represent a good assumption for our model. As the institutions and the policies may be an important part of the model, we think that it is necessary to discuss the effects with the policy makers and not only present the results as facts. The overall effect of the indicators, and in particular the indicators 2, 5 and 6 may help in these discussions.

9.2 Appendix n.2 - Definition of each indicator

9.2.1 Coverage of future demand, high level

Numerator: Future supply domestic + Future supply abroad Denominator: Future demand **Articulated by:** Type of profession
Numerator: Future supply Future supply domestic= current stock + from education - retired Future supply abroad = + immigration - emigration **Current stock**: Current number of professionals (headcount) that are currently producing health care stratified by type (5 types) and age. **From education**: Forecast of number of professionals (headcount) that complete education (basic or specialist) and are licensed to practice during the period. The first years will be calculated on the base of the current students in training; subsequently the actual training capacity (average of the statistics of the last years) of will be used. **Retired:** Forecast of number of professionals (headcount) that will retire each year using the actual probability according to the existing laws of the country. **Immigration:** Forecast of number of licensed and recognised professionals (headcount) that may enter the country calculated using the average of the last years. **Emigration:** Forecast of number of practising professionals (headcount) that may leave the country calculated using the average of the last years.
Denominator: Future demand Future demand = $HWF_{px}=k_p * HCT_x$ where $HCT_x = (HC1_0 * Pop1_x + HC2_0 * Pop2_x + HC3_0 * Pop3_x)$ (2) HWF_{px} : The demand of a specific profession "p" (headcounts) in the year x. k_p: The constant that connects the total health production with the demand for a specific profession. HCT_x : The total health consumption in year x.(1) $HC1_0$: The pro capite consumption of age group 1 in year 0 (basic year) $HC2_0$: The pro capite consumption of age group 2 in year 0 (basic year) $HC3_0$: The pro capite consumption of age group 3 in year 0 (basic year) $Pop1_x$: The population of age group 1 in year x. $Pop2_x$: The population of age group 2 in year x. $Pop3_x$: The population of age group 3 in year x. **Note**(1)**:** it is important to check the sustainability of the total health consumption in year x compared with the current consumption. **Note**(2): the values of these parameters are available from OECD / Eurostat / WHO

Funded by the Health Programme of the European Union

9.2.2 Relative Affordability

Numerator: Future health consumption Denominator: Current health consumption **Articulated by:** Depends on the institution responsible for the health consumption. If it is on country level, the indicator will not be articulated further, otherwise it has to be further detailed.
Numerator: Future health consumption HCT_x : The total health consumption in year x. $HCT_x = (HC1_0 * Pop1_x + HC2_0 * Pop2_x + HC3_0 * Pop3_x)$ HCT_x : The total health consumption in year x. $HC1_0$: The pro capite consumption of age group 1 in year 0 (basic year) $HC2_0$: The pro capite consumption of age group 2 in year 0 (basic year) $HC3_0$: The pro capite consumption of age group 3 in year 0 (basic year) $Pop1_x$: The population of age group 1 in year x. $Pop2_x$: The population of age group 2 in year x. $Pop3_x$: The population of age group 3 in year x.
Denominator: Current health consumption: HCT_0 : The total current health consumption. $HCT_0 = (HC1_0 * Pop1_0 + HC2_0 * Pop2_0 + HC3_0 * Pop3_0)$ $HC1_0$: The current pro capite consumption of age group 1 $HC2_0$: The current pro capite consumption of age group 2 $HC3_0$: The current pro capite consumption of age group 3 $Pop1_x$: The current population of age group 1. $Pop2_x$: The current population of age group 2. $Pop3_x$: The current population of age group 3.

9.2.3 Coverage of future demand, detailed

Numerator: Future supply domestic + Future potential supply from abroad Denominator: Future demand **Articulated by:** Type of profession, specialization within the profession, geographical area
Numerator: Future supply Future supply domestic= current stock + from education - retired Future potential supply from abroad = + immigration - emigration **Current stock**: Current number of professionals (headcount) that are currently producing health care stratified by type (5 types) and age. **From education**: Forecast of number of professionals (headcount) that complete education (basic or specialist) and are licensed to practice during the period. The first years will be calculated on the base of the current students in training; subsequently the actual training capacity (average of the statistics of the last years) of will be used. **Retired:** Forecast of number of professionals (headcount) that will retire each year using the actual probability according to the existing laws of the country. **Immigration:** Forecast of number of licensed and recognised professionals (headcount) that may enter the country calculated using the average of the last years. **Emigration:** Forecast of number of practising professionals (headcount) that may leave the country calculated using the average of the last years.
Denominator: Future demand Future demand = $HWF_{px}=k_p * HCT_x$ where $HCT_x = (HC1_0 * Pop1_x + HC2_0 * Pop2_x + HC3_0 * Pop3_x)$ HWF_{px} : The demand of a specific profession "p" (headcounts) in the year x. k_p: The constant that connects the total health production with the demand for a specific profession. HCT_x : The total health consumption in year x.(1) $HC1_0$: The pro capite consumption of age group 1 in year 0 (basic year) $HC2_0$: The pro capite consumption of age group 2 in year 0 (basic year) $HC3_0$: The pro capite consumption of age group 3 in year 0 (basic year) $Pop1_x$: The population of age group 1 in year x. $Pop2_x$: The population of age group 2 in year x. $Pop3_x$: The population of age group 3 in year x. (1) **Note:** it is important to check the sustainability of the total health consumption in year x compared with the current consumption.

9.2.4 Coverage of needs by foreign professionals today and in the future

Numerator: N° of professionals with foreign first qualification. Denominator: Total n° of professionals. **Articulated by:** Type of profession, specialization within the profession, geographical area
Numerator: N° of professionals with foreign first qualification. **Current stock of professionals with foreign qualification:** The part of the current stock with country of first qualification <> current country of activity. **Future stock of professionals with foreign qualification:** The part of the future stock with country of first qualification <> current country of activity.
Denominator: Total n° of professionals. **Total current stock**: Current number from indicator 3. **Total future stock:** Numerator of indicator 3

9.2.5 N° of professionals per inhabitant today and in the future

Numerator: N° of professionals Denominator: population **Articulated by:** Type of profession, specialization within the profession, geographical area
Numerator: Actual number of professionals **Actual number of professionals:** From indicator 3 **Future number of professionals:** From indicator 3
Denominator: population Actual population: Number of population (without weighting) **Future population:** Number of population (without weighting) from a reliable institute of forecasting.

9.2.6 N° of professionals per weighted inhabitant today and in the future

Numerator: N° of professionals Denominator: weighted population **Articulated by:** Type of profession, specialization within the profession, geographical area
Numerator: Actual number of professionals **Current number of professionals:** From indicator 3 **Future number of professionals:** From indicator 3
Denominator: population Current population: Number of inhabitants weighted by the health consumption for each age group (average current EU countries). **Future population:** Number of population from a reliable institute of forecasting weighted by the health consumption for each age group (average actual EU countries).

9.3 Appendix n.3 – Two examples of calculation for the indicator 1

In order to make the calculation more clear we have included two examples of the calculation of the demand formulas in the Indicator 1:

a. calculation of the actual and the future health consumption (the main alternative) or
b. calculation of the weighted population (the alternative presented on page x).

The supply formulas are the same in the two examples.

9.3.1 Example a The indicator 1 (Physicians) with the demand calculated on the base of the future health consumption

Numerator: Future supply 2028 (Italian figures)

Future supply = current stock + from education - retired + immigration -emigration

Current stock (practising)	**254.000**	
From education (2013-2028)	**140.578**	*estimation*
Retired (2013-2028)	**168.597**	*estimation*
Immigration (2013-2028)	**3.819**	*estimation*
Emigration (2013-2028)	**7.918**	*estimation*
Future supply 2028	**221.883**	

(254.000 + 140.478 - 168.597 + 3.819 - 7.918)

Denominator: Future demand 2028 (Italian population)

Step 1 Construction of the current health consumption.
Actual population

	N° of inhabitants (a)	Health consumption (euro per person, European average) (b)	Health consumption (millions of euro) (a)*(b)/1.000.000
Pop1 = population aged 0-14	8.325.217	772	6.427
Pop2 = population aged 15-64	38.698.168	1.287	49.805
Pop3= population aged 65+	12.370.822	3.861	47.764
Total Italian population	59.394.207		103.995

Step 2 Calculation of the conversion factor for physicians

Current number of physicians	254.000	
kp	2,442417	(254.000/103.995)

Step 3 Calculation of the future health consumption
Population 2028

	N° of inhabitants (a)	Health consumption (euro per person, European average) (b)	Health consumption (millions of euro) (a)*(b)/1.000.000
Pop1 = population aged 0-14	8.073.662	772	6.233
Pop2 = population aged 15-64	39.374.526	1.287	50.675
Pop3= population aged 65+	15.893.206	3.861	61.364
Total Italian population	63.341.394		118.272

Step 4 Calculation of the future number of physicians

kp	2,442417	
Number of physicians 2028	288.868	(118.272 * 2,442417)

Indicator 6.1.1 = coverage of future demand

Future supply 2028/Future demand 2028	**0,8** (221.883 / 288.868)	**is < 1**	**Future shortage**

Funded by the Health Programme of the European Union

9.3.2 Example 2 b The indicator 1 (Physicians) with the demand calculated on the base of the future weighted population

Numerator: Future supply 2028 (Italian figures)

Future supply = current stock + from education - retired + immigration -emigration

Current stock (practising)	**254.000**	
From education (2013-2028)	**140.578**	*estimation*
Retired (2013-2028)	**168.597**	*estimation*
Immigration (2013-2028)	**3.819**	*estimation*
Emigration (2013-2028)	**7.918**	*estimation*
Future supply 2028	**221.883**	

(254.000 + 140.478 - 168.597 + 3.819 - 7.918)

Denominator: Future demand 2028 (Italian population)

*Future demand (HWF_{2028}) =kp * HCT_{2028}*

Step1 Construction of a Weight for each age group

Actual consumption of health care

	Health expenditure (euro per person European average)	Weight per age group
Pop1 = population aged 0-14	772	0,6
Pop2 = population aged 15-64	1.287	1
Pop3= population aged 65+	3.861	3
Total Italian population		

Step 2 Construction of the current weighted population (Italian population).

Actual population

	N° of inhabitants (a)	Weight (b)	Weighted pop = (a)*(b)
Pop1 = population aged 0-14	8.325.217	0,6	4.995.130
Pop2 = population aged 15-64	38.698.168	1	38.698.168
Pop3= population aged 65+	12.370.822	3	37.112.466
Total Italian population	59.394.207		80.805.764

Step 3 Calculation of the conversion factor for physicians

Kp = current number of practising physicians/weighted population * 1000

Kp = 254.000 / 80.805.764 * 1.000

Kp	**0,00314**

Step 4 Calculation of the future weighted population

Population 2028

	N° of inhabitants (a)	Weight (b)	Weighted pop = (a)*(b)
Pop1 = population aged 0-14	8.073.662	0,6	4.844.197
Pop2 = population aged 15-64	39.374.526	1	39.374.526
Pop3= population aged 65+	15.893.206	3	47.679.618
Total Italian population	63.341.394		91.898.341
HCT_{2028}	**91.898.341**		

Step 5 Calculation of the future demand of practising physicians

Future demand 2028 *(HWF_{2028}):* *0,00314 * 91.898.341 =*

288.868

Indicator 6.1.1 = coverage of future demand

Future supply 2028/Future demand 2028	**0,8**	**is < 1**	**future shortage**

9.4 Appendix n.4 - Minority opinions

There were no proposed additional key planning indicators which change the contents of the MDS.

Funded by
the Health Programme
of the European Union

9.5 Appendix n.5 – Glossary

ITEM (alphabetical order)	DEFINITION
Age group	Population by single year of birth or age groups (i.e.: 0-4; 5-9; 10-14;.... 60-64;65+).
Dentists	Dental practitioners *(see Directive EC/2005/36 section 4, article 34).*
Emigration (outflow)	Annual number of professionals exiting from the Country for practising profession full time abroad.
Forecasting model (quantitative)	A quantitative forecasting model is a set of formal statement about variables and relationships among variables. The scope is to estimate future data as a function of past data (time series, cross-sectional or longitudinal data) on the base of specific assumptions. Accordingly it is appropriate when past data are available. Quantitative forecasting models are usually applied to short- or intermediate-range decisions. On the other hand, qualitative forecasting models (in which estimations are based on the opinion and judgment of experts, stakeholders or users) are appropriate when past data are not available and they are usually applied to intermediate- or long-range decisions.
Full time equivalent (FTE)	Unit to measure employed persons in a way that makes them comparable although they may work a different number of hours per week. The unit is obtained by comparing an employee's average number of hours worked to the average number of hours of a full-time worker. A full-time person is therefore counted as one FTE, while a part-time worker gets a score in proportion to the hours he or she works or studies. For example, a part-time worker employed for 24 hours a week where full-time work consists of 48 hours, is counted as 0.5 FTE.
Labour force	Current number of professionals (headcount) that are currently producing health care in the Country/Region.
Midwives	Midwives *(see Directive EC/2005/36 section 6, article 40).*
Migration (inflow)	Annual number of licensed and recognised professionals entering the Country.
Nurses	Nurses responsible for general care *(see Directive EC/2005/36 section 3, article 31)*
Pharmacists	Pharmacists *(see Directive EC/2005/36 section 7, article 44).*

ITEM (alphabetical order)	DEFINITION
Physicians	Doctors of medicine *(see Directive EC/2005/36 section 2, article 24).*
Planning process	The planning process is the set of organized activities, task lists and schedules required to achieve the objectives defined in the health workforce planning system. It includes the making and maintenance of a plan and it combines forecasting of developments with the preparation of scenarios of how to react to them (strategies). In these meaning it is the counterpart of the spontaneous order. The planning process is a fundamental function of management since it is aimed at the best satisfaction of the needs given the resources available.
Planning system	The planning system is used to make decisions about the future development and use of health workforce ("*what it should look like in the future*"). It considers both the internal and external factors that affect the health workforce supply and demand (where development should happen, where it should not and how development should be). The planning system balances different interests to make sure that the healthcare system works and it is developed in a way that creates high quality at sustainable costs. The health workforce planning systems in the different Countries will tend to vary and are flexible due to the periodic and adaptive nature of the applied strategy. These will also have political aspects.
Population	Number of inhabitants in the Country or Region considered at the reference date (Source: National Institute of Statistics).
Professions	Health professions included in the Directive 2005/36/EC of the European Parliament and of the Council on the recognition of professional qualifications: physicians, nurses, midwives, pharmacists, dentists *(please see details in the items).*
Retirement	Annual number of professionals retiring from labour market.
Shortage	Negative gap between supply and demand.
Training	Annual number of professionals who complete education (basic or specialist) and are licensed to practice.

9.6 Appendix n. 6 - Table of references

Matrix Insight Ltd, in collaboration with the Centre for Workforce Intelligence (CfWI) - for EC - 2012
Commission feasibility study on EU level collaboration on forecasting health workforce needs, workforce planning and health workforce trend
http://ec.europa.eu/health/workforce/key_documents/study_2012/index_en.htm
Tomoko Ono, Gaetan Lafortune, Michael Schoenstein. *OECD Health Working Papers*, No. 62, OECD Publishing. - 2013
Health Workforce Planning in OECD Countries: A Review of 26 Projection Models from 18 Countries
http://www.oecd-ilibrary.org/social-issues-migration-health/health-workforce-planning-in-oecd-countries_5k44t787zcwb-en
WHO Library Cataloguing (in Publication Data) - 2008
WHO human resources for health minimum data set
http://www.who.int/hrh/documents/hrh_minimum_data_set.pdf
OECD-WHO -
Draft guidelines on monitoring the implementation of the WHO Global Code on the International Recruitment of Health Personnel. *Part II* – Regular national reporting instrument – Section 2: Quantitative information – Minimum Data Sets
http://www.who.int/hrh/migration/section_2_quantitative.pdf
WHO - 2009
WHO - Handbook on Monitoring and Evaluation of Human Resources for Health
http://www.who.int/hrh/resources/handbook/en/
Bartosz Przywara - 2010
Projecting future health care expenditure al European level: drivers, methodology and main results
http://ec.europa.eu/economy_finance/publications/economic_paper/2010/ecp417_en.htm
Christine de la Maisonneuve, Joaquim Oliveira Martins - 2013
Public spending on health and long-term care: a new set of projections
http://www.oecd.org/eco/growth/Health%20FINAL.pdf
Roberto Astolfi, Luca Lorenzoni, Jillian Oderkirk - 2012
A comparative analysis of health forecasting methods
http://search.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DELSA/HEA/WD/HWP(2012)2&docLanguage=En

Leonie Segal, Tom Bolton - 2009
Issues facing the future health care workforce: the importance of demand modelling
http://www.anzhealthpolicy.com/content/pdf/1743-8462-6-12.pdf
WHO - 2010
WHO Global Code of Practice on the International Recruitment of Health Personnel
http://www.who.int/hrh/migration/code/code_en.pdf
European Commission - 2008
GREEN PAPER On the European Workforce for Health
http://ec.europa.eu/health/ph_systems/docs/workforce_gp_en.pdf
Harpa Guðnadóttir, Marías Halldór Gestsson; Sólveig Fríða Jóhannsdóttir – 2009
Health workforce forecast
Stephen Birch, George Kephart, Gail Tomblin Murphy, Linda O'Brien-Pallas, Rob Alder, and Adrian MacKenzie
Health Human Resources Planning and the Production of Health: Development of an Extended Analytical Framework for Needs-Based Health Human Resources Planning
http://ccoms-imsuerj.org.br/capfts/2011/uploads/Health_Human_Resources_Planning_and_the_Production.14.pdf
O'Brien-Pallas L, Baumann A, Donner G, Murphy GT, Lochhaas-Gerlach J, Luba M. - 2001
Forecasting models for human resources in health care
http://www.ncbi.nlm.nih.gov/pubmed/11155116
Dominique Roberfroid*, Christian Leonard and Sabine Stordeur - 2009
Physician supply forecast: better than peering in a crystal ball?
http://www.biomedcentral.com/content/pdf/1478-4491-7-10.pdf
Leonie Segal* and Tom Bolton - 2009
Issues facing the future health care workforce: the importance of demand modelling.
http://www.anzhealthpolicy.com/content/pdf/1743-8462-6-12.pdf
Walter Sermeus, Linda H Aiken, Koen Van den Heede1, Anne Marie Rafferty, Peter Griffiths, Maria Teresa Moreno-Casbas, Reinhard Busse, Rikard Lindqvist, Anne P Scott, Luk Bruyneel, Tomasz Brzostek, Juha Kinnunen, Maria Schubert, Lisette Schoonhoven, Dimitrios Zikos and RN4CAST consortium - 2009
Nurse forecasting in Europe (RN4CAST): Rationale, design and methodology
http://www.biomedcentral.com/content/pdf/1472-6955-10-6.pdf

Jonathan P. Weiner
A Shortage Of Physicians Or A Surplus Of Assumptions?
http://content.healthaffairs.org/content/21/1/160.full.html
Malou Van Greuningen*, Ronald S Batenburg and Lud FJ Van der Velden - 2012
Netherlands - Ten years of health workforce planning in the Netherlands: a tentative evaluation of GP planning as an example
http://www.human-resources-health.com/content/pdf/1478-4491-10-21.pdf
Sabine Stordeur and Christian Léonard
Challenges in physician supply planning: the case of Belgium
http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3017009/
DOMINIQUE ROBERFROID, SABINE STORDEUR, CECILE CAMBERLIN, CARINE VAN DE VOORDE, FRANCE VRIJENS, CHRISTIAN LEONARD
KCE reports 72C : Physician workforce supply in Belgium: current situation and challenges
https://kce.fgov.be/sites/default/files/page_documents/d20081027309.pdf
Karen Bloor, Alan Maynard - University of York - 2003
Planning human resources in health care: Towards an economic approach. An international comparative review
http://www.fcass-cfhi.ca/Migrated/PDF/ResearchReports/CommissionedResearch/bloor_report.pdf
Tomblin Murphy G, Kephart G, Lethbridge L, O'Brien-Pallas L, Birch S. - 2009
Planning for what? Challenging the assumptions of health human resources planning.
http://www.ncbi.nlm.nih.gov/pubmed/19443074
European Commission Staff Working Document (2012) 93 final - 2012
Action Plan for the EU health workforce

9.7 Appendix n. 7 – WP5 general description

9.7.1 WP5 scope

Work Package 5 (WP5) aim is to promote and support the use of quantitative model-based planning methodologies (both supply-side and demand-side) based on what is in use today or shortcomings in EU countries and a "good practices" evaluation.
Health professions in focus are doctors, nurses, pharmacists, dentists and midwifes (the five health professions covered by the Recognition of Professional Qualifications Directive).

9.7.2 WP5 actions

The WP5 specific Objective is to "*define guidelines on quantitative HWF planning methodology and increased quantitative planning capacity*".

N#	Title		WHEN
3.1	**Minimum data set (MDS)**		
	MILESTONES 5.1	Agreement on the minimum data set	October 2013
	DELIVERABLE D.051	Minimum planning data requirements	November 2013
3.2	**Exchange of good practices**		
	MILESTONES 5.2	Experts group conference on HWF planning methodologies	April 2014
	DELIVERABLE D.052	Report of good practices in planning methodologies	September 2014
	DELIVERABLE D.053	Web portal on HWF planning methodologies, with WP2	January 2015
3.3	**Defining and experimenting guide lines on HWF planning (cookbook)**		
	MILESTONES 5.3	Validation of the cookbook	March 2015
	MILESTONES 5.4	Start-up of the Pilot studies	June 2015
	MILESTONES 5.5	Finalisation of the cookbook	September 2015
	DELIVERABLE D.054	Report on WP5 pilot study experiences	March 2016

9.7.3 WP5 team members

WP5 is managed by Italy. The WP5 Team Leader is Giovanni Leonardi, General Director Health Professions and Human Resources at Ministry of Health.

There are two Italian organisations covering the competencies of WP5: the Ministry of Health (MoH) and the National Agency for Regional Healthcare (AGENAS); their roles, within the project, were divided accordingly.

Their primarily responsibilities are:

MoH
- Results of WP5
- Represent the Italian knowledge broker
- Relationships with international contacts
- Dissemination to Italian stakeholders
- Pilot study project

AGENAS
- Project management
- Methodology of research
- Budget and reporting management
- Logistics and organisation of meeting
- Operational secretariat

Italian team

Ministry of Health
Giovanni Leonardi - WP5 Leader
Egle Parisi
Annalisa Malgieri
Cristina Sabatini

AGENAS
Achille Iachino
Ragnar Gullstrand
Paolo Michelutti
Anna Maria Pacini

Italy is supported by WP5 Partners and experts, divided into WP Leaders, Associated and Collaborative partners, which together make up the team. They are:

WP Leader			
Country	**Acronym**	**Role**	**Name**
Belgium	BE_FPS	Michel Van Hoegaerden	Program Manager
Belgium	BE_FPS	Lieve Jorens	WP1 Leader
Slovakia	SK_MOH	Zuzana Matlonova	WP2 Leader
Europe	STAK_EHMA	Jeni Bremner	WP2 Leader
Europe	STAK_EHMA	Paul Giepmans	WP2 Leader
Finland	FI_MOH	Marjukka Vallimies-Patomäki	WP3 Leader
Malta	MT_MOH	Andrew Xuereb	WP3 Leader
Hungary	HU_SU	Zoltan Aszalos	WP4 Leader
United Kindom	UK_DoH	Matt Edwards	WP6 Leader
United Kindom	UK_DoH	John, Fellows	WP6 Team member
Bulgaria	BG_MUV	Todorka Kostadinova	WP7 Leader
Europe	STAK_EAHC	Caroline Hager	EC Representative
Europe	STAK_EC	Balazs Lengyel	EC Representative
Europe	STAK_EC	Antoniette Martiat	EC Representative
Europe	STAK_EC	Angela Blanco	EC Representative

Associated partners		
Country	**Acronym**	**Name**
Belgium	BE_FPS	Pieter-Jan Miermans
Bulgaria	BG_NCPHA	Nastashka Danova
Bulgaria	BG_NCPHA	Milena Vladimirova
Bulgaria	BG_NCPHA	Plamen Dimitrov
Bulgaria	BG_MUV	Nikolina Radeva
Finland	FI_MOH	Reijo Ailasmaa
Germany	DE_UNI-HB	Melanie Boeckmann
Germany	DE_UNI-HB	Heinz Rothgang
Greece	EL_NSPHJ	Despena Andrioti
Hungary	HU_SU	Eszter Kovacs
Hungary	HU_SU	Edit Eke
Hungary	HU_SU	Edmond Girasek
Iceland	IS_MOH	Valgerdur Gunnarsdottir
Netherlands	NL_CAPORG	Victor Slenter
Netherlands	NL_MOH	Leon Van Berkel
Poland	PL_MOH	Aleksandra Kotowicz
Poland	PL_MOH	Bartosz Baran
Portugal	PT_ACSS	Ivo Rui Santos
Portugal	PT_ACSS	Filomena Parra da Silva
Portugal	PT_ACSS	Ana Paula Gouveia
Portugal	PT_ACSS	Gustavo Ferreira
Slovenia	SI_IVZ	Rade Pribakovic
Spain	ES_MOH	Pilar Carbajo
Spain	ES_MOH	Mercedes De Jorge
Spain	ES_MOH	Sebas Martin
Europe	STAK_AMREF	Giulia De Ponte
Europe	STAK_EFN	Silvia Gomez
Europe	STAK_EFN	Alessia Clocchiatti
Europe	STAK_EFN	Paul de Raeve
Europe	STAK_HOPE	Isabella Notarangelo
Europe	STAK_PGEU	Patricia Munoz
Europe	STAK_PGEU	John Chave

Collaborating partners		
Country	**Acronym**	**Name**
Belgium	BE_FPS	Peter Willemé
Denmark	DK_DHMA	Anders Haahr
Germany	DE_KBV	Filip J. Lassahn
Ireland	IE_DoH	Gabrielle Jacob
Italy	IT_AIC	John Williams
Moldova	MD_MoH	Eugenia Berzan
Moldova	MD_MoH	Nicolae Jelamschi
Serbia	RS_IPHS	Milena Vasic
Serbia	RS_UNI-BG	Milena Santric Milicevic
Europe	STAK_ENMCA	Tanja Schubert
Europe	STAK_ENMCA	Marie Colegrave-Juge
Europe	STAK_UEMO	Marie-Christine Bonnamour
Europe	STAK_IOM	Benedict Roumyana
Europe	STAK_IOM	Giuliana Urso
Europe	STAK_OECD	Michael Schoenstein
Europe	STAK_OECD	Tomoko Ono
Europe	STAK_WHO	Galina Perfilieva

9.8 Appendix n. 8 – WP5 workshop minutes – Milan 19th – 20th of September 2013

See the pdf document external to this document.