



Joint Action Health Workforce  
Planning and Forecasting

[www.healthworkforce.eu](http://www.healthworkforce.eu)

# ***Final Guide of the Joint Action on Health Workforce Planning and Forecasting***



Funded by  
the Health Programme  
of the European Union

# INTRODUCTION TO THE JOINT ACTION HEALTH WORKFORCE PLANNING AND FORECASTING

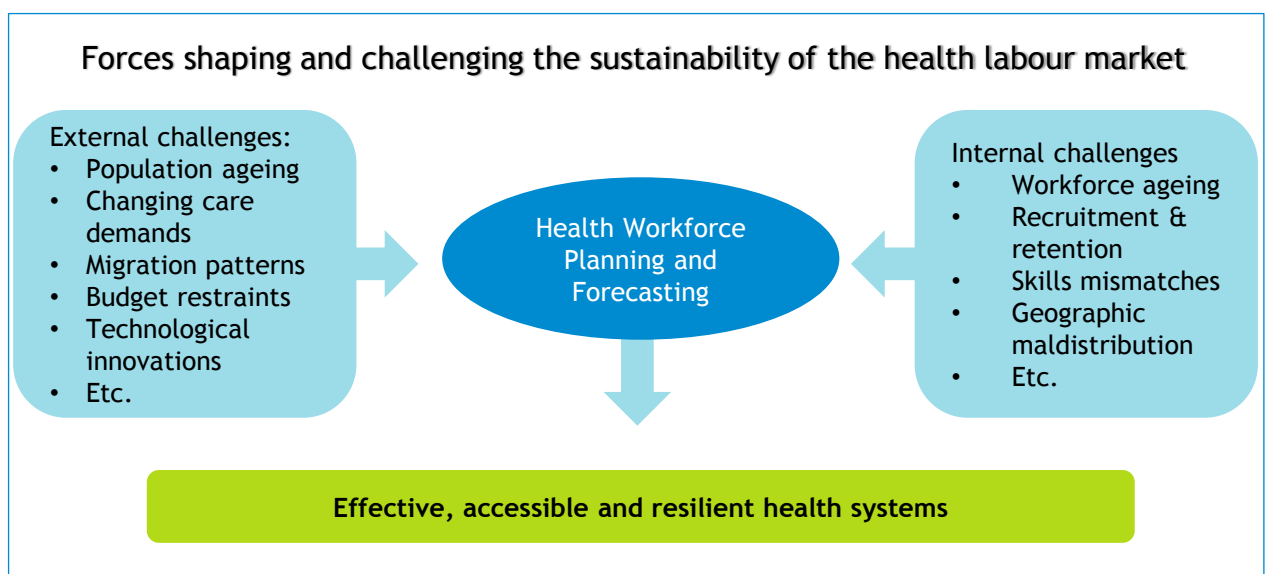
To ensure access to high quality health services, having a health workforce in place with the right numbers, the right skills and in the right places is of key importance. Health workforce planning is therefore necessary for the proper management of a country's healthcare system. The Joint Action on Health Workforce Planning and Forecasting aimed to improve the capacity for health workforce planning and forecasting by supporting European collaboration in this field.

## Introduction of the Joint Action

Joint Action on Health Workforce (JA EUHWF) is a three year project aimed at improving the capacity for health workforce planning and forecasting by supporting European collaboration. The general objective is to provide a platform for collaboration and exchange between Member states and to support them in the preparation of the future health workforce. It is partly funded by Consumer, Health, Agriculture and Food Executive Agency and is coordinated by Belgian Federal Public Service of Health. The JA EUHWF represents a significant part of the execution of the Action plan for the EU Health Workforce of the European Commission (2012).

## Current situation in the field of health workforce

All EU Member states face similar challenges in terms of health workforce and the sustainability of their health systems. Many European countries are faced with health workforce shortages. These shortages are primarily driven by demographic changes in the population, an increasing demand for healthcare, an ageing workforce and recruitment and retention difficulties. In addition, some Member States face considerable migration of young health professionals. Also, almost all Member States are faced with imbalances in the geographical distribution of health workers - mostly with a lack of health workers in rural and remote areas -, and skills mismatches within the workforce, also in view of the new care requirements caused by the demographic changes.



# INTRODUCTION TO THE JOINT ACTION HEALTH WORKFORCE PLANNING AND FORECASTING

## THE JOINT ACTION CONTRIBUTION AND MAIN FINDINGS

### The Joint Action helped countries to understand opportunities and challenges of their future health workforce by:

- summarising the planning methods used across EU and testing best practices within selected member states;
- analysing the essential data needed for planning health workforce and enable international comparisons;
- looking at common future trends applying to the health workforce labor market,
- proposing indicators to measure imbalances and mobility flow, while initiating a dialogue on ethical recruitment.

#### ➤ CORRECT AND TIMELY DATA

Based on the research, evidence and the experiences of project partners, the Joint Action discussed a minimum data set. This proposed 'Data Set' is the minimum of parameters and data necessary to start or continue the planning of health workforce. The Joint Action contributed to the analysis of the available health workforce planning data within the Member States participating in the project. Recommendations were formulated to help countries solve difficulties concerning the reporting to international data collections. This also enables the comparison of data across EU countries.

Collecting the right data will help EU countries and regions supported by international organisations, as well as professional organisations, feed the planning models at the first place. Furthermore, this will enable them to run an analysis of health workforce and make projections for future health care needs, e.g. how the changing health care will impact jobs, whom they hire, and how employees do their jobs or deliver patient care.

#### ➤ PLANNING METHODS IN PLACE

Based on this knowledge, guidelines and recommendations were formulated and compiled listed for countries who would like to implement a health workforce planning system or improve the system already in place. Results and findings are included in the 'Handbook of Health Workforce Planning Methodologies across EU countries'.

The Joint Action tested this knowledge in practice by conducting three pilot projects in Italy, Portugal and Belgium, along with two feasibility studies, one in Germany and the other in Romania together with Moldova. In particular, the three pilot projects worked on improving the national planning system.

#### ➤ SKILLS AND COMPETENCIES NEEDED IN THE FUTURE

To better understand the future skills and competences required from the health workforce, we need to take into account the driving forces for the future that will shape our health systems and our workforce. These driving forces cause change over time and can radically alter what skills and competences our workforce needs for the future, such as increases in prevention skills, technology use as part of care delivery, multidisciplinary working, coaching and enabling patients as they increasingly take control of their own care. In order to ensure better planning and preparedness, countries should be aware of these driving forces and the implications for their health systems and workforce.

#### ➤ SUSTAINABILITY

To help sustain the results of the Joint Action into the future, three main outputs have been produced:

- **Network of Experts** as the platform to foster further collaboration, exchange of knowledge, experience and good practices among the Member States
- **Sustainability Business Plan** listing a range of future projects and other collaboration options at the EU, national and regional level
- **Policy and technical recommendations** for improving various aspects of health workforce with regards to data collection, planning method, estimating the future, tackling mobility, education and training

# INTRODUCTION TO THE FINAL GUIDE OF THE JOINT ACTION ON HEALTH WORKFORCE PLANNING AND FORECASTING

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The Final Guide of the Joint Action on Health Workforce Planning and Forecasting will allow stakeholders and interested readers to have an overview of the work of Joint Action's partners, clustered according to the different subjects addressed by the Joint Action.

## Introduction to the Final Guide of the Joint Action

Joint Action Health Workforce (JA EUHWF) is a project aimed at improving the capacity for health workforce planning and forecasting by supporting European collaboration. The general objective is to provide a platform for collaboration and exchange between Member States, and to support them in the preparation of the future health workforce.

The Final Guide aims to provide stakeholders and interested readers with a brief but at the same time comprehensive overview of three years of work and collaboration between the Joint Action partners.

## Structure of the Final Guide

In order to achieve this objective, this Final Guide is structured in 25 two-pages info sheets entailing overviews, key details, tables and data on the core issues addressed by the Joint Action partners, based on the full sized deliverables produced throughout the project.

The info sheets are organized in six main clusters, according to their contents and subject. These are the six clusters:

- Introduction to the Final Guide
- Planning Health Workforce
- Planning in Action - Pilot Projects
- Evaluation of a Planning System
- Mobility of Health Professionals
- The Future Pathways of EU Cooperation.

An extended table of contents, providing more details on how the Final Guide is structured and featuring the titles of all the 25 info sheets, is available on the next page.

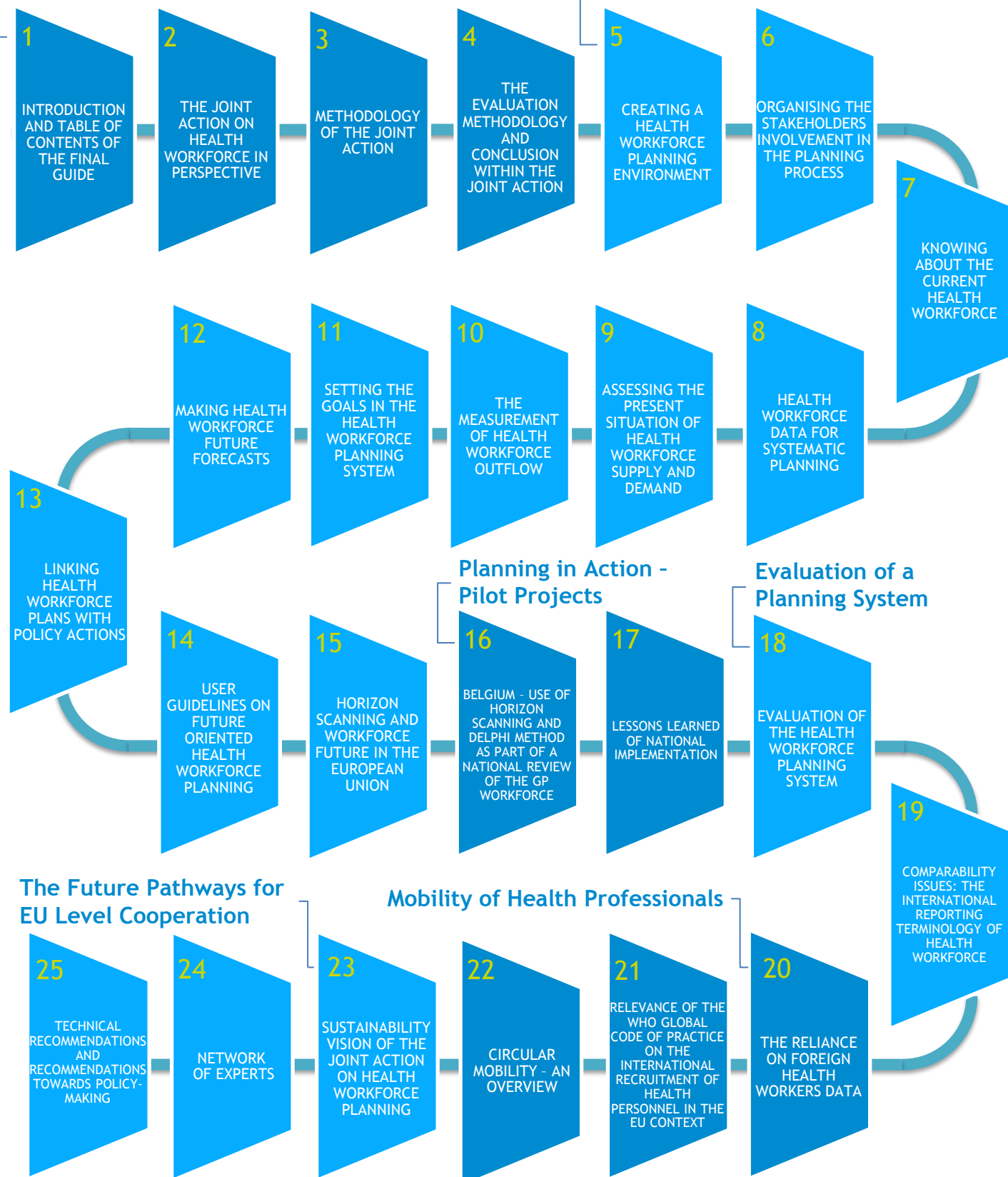
Each info sheet also contains information about the Work Package responsible for its contents and a full list of contributors and references is available at the end of the document.

The full size deliverables will be available on the Joint Action website [www.healthworkforce.eu](http://www.healthworkforce.eu)

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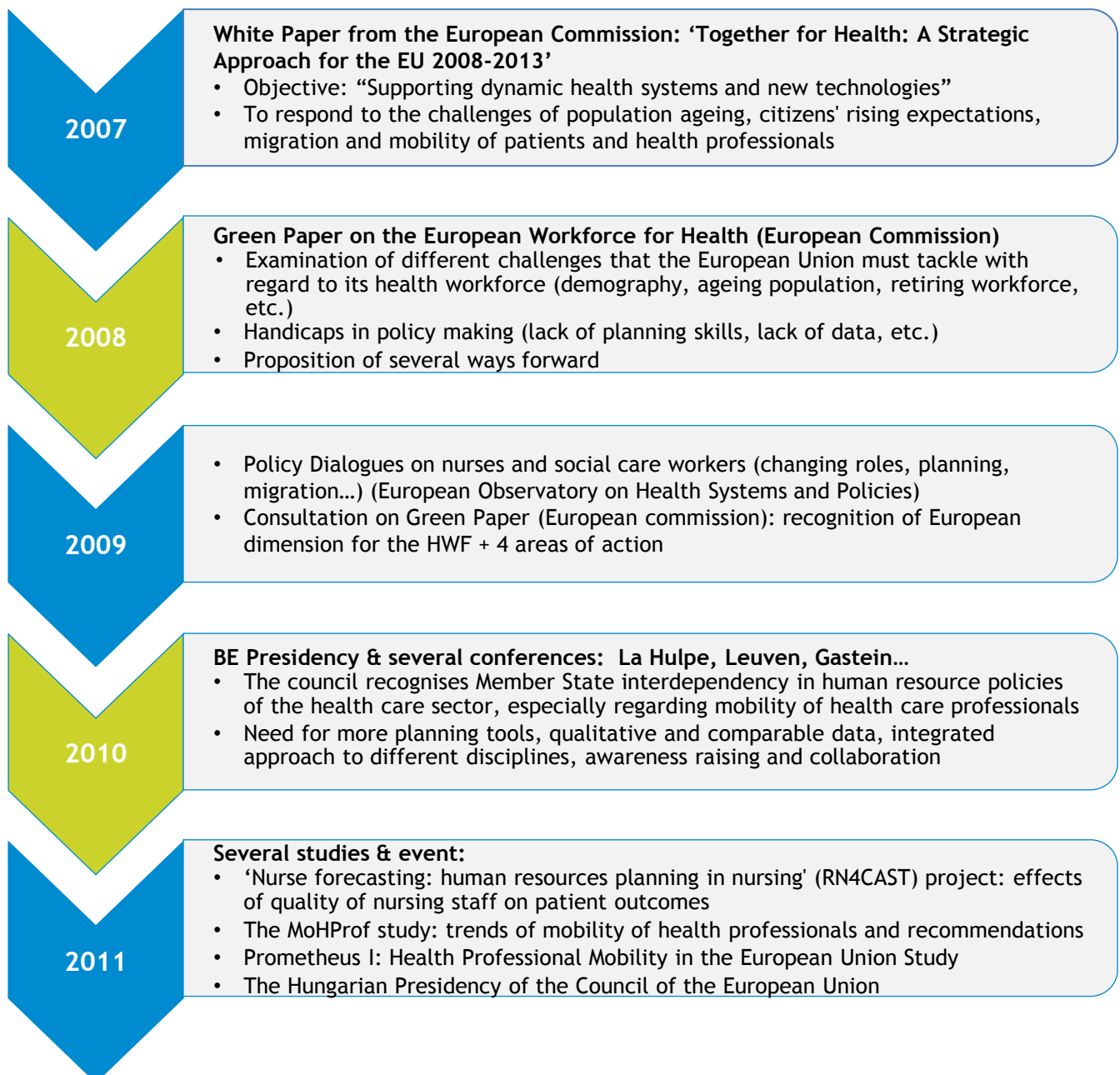
# THE JOINT ACTION ON HEALTH WORKFORCE IN EU PERSPECTIVE

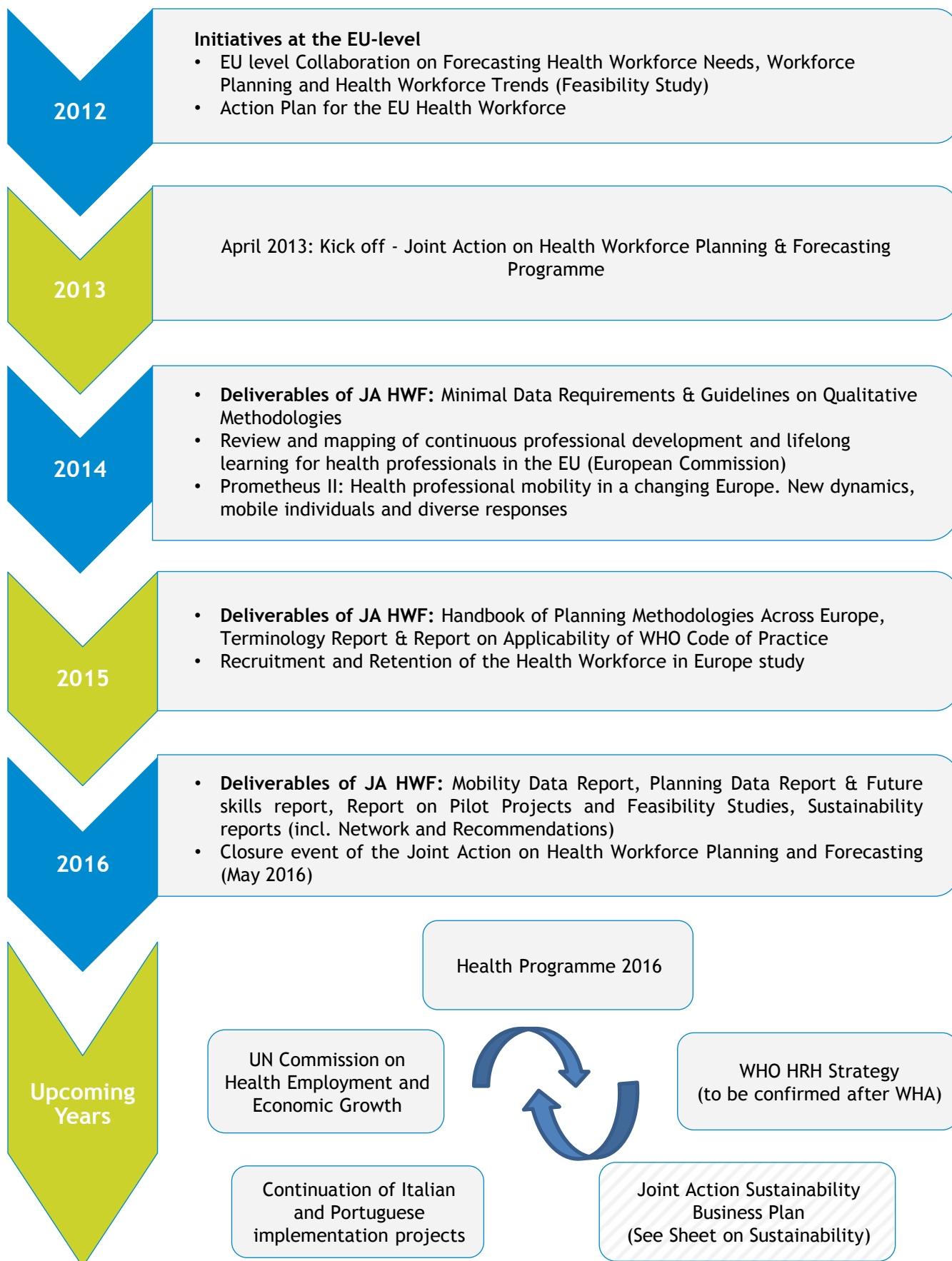
2

While the Joint Action on Health Workforce Planning & Forecasting (JAHWF) is a major step in a journey that spanned several years, it is important to situate the programme in a continuum of awareness-raising steps, which resulted in the collection of theoretical knowledge and its practical implementation. A sustainability strategy should have as its aim further practical realizations, whilst also keeping in mind the origins of the EU Health Workforce policy actions.

## Timeline

The following timeline shows how the Joint Action on HWF was developed through a history of 10 years of European Investment in Health Workforce strategies and highlights some of the Joint Action's main results.





# METHODOLOGY OF THE JOINT ACTION ON HEALTH WORKFORCE PLANNING & FORECASTING

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The Joint Action is a Collaborative Project that used a large variety of methods to ensure a large participation of all active partners, merging literature reviews, surveys, experts' advice and try-outs and pilot experiments.

## Key messages

- With primary goal to support a platform of collaboration, creating a EU wide collection of knowledge, various methods have been used to ensure a large participation. Numerous meetings with a wide assistance, interactive conferences, call for experts participation, rigorous document review consultation rounds and case oriented workshops. Those methods have proven to reach their objectives and ensure a high level of participant satisfaction.
- With secondary goal to collect the available knowledge, surveys, country visits, experts interaction support by creative meeting processes like speed-dating techniques and focused presentations ensure a professional quality of the deliverable.
- With the ultimate goal to support practical demonstration of implementation path, broad scope pilot projects supported by stakeholders and by experts have made sure that the JA results are applicable in real conditions.

## Platform of collaboration

The Joint Action on Health Workforce Planning knew a high attendance at all meetings because of its values\* and methods in line with the objective of enhances collaboration.



WP4 initial workshop in Budapest, Hungary, June 13/14, 2013

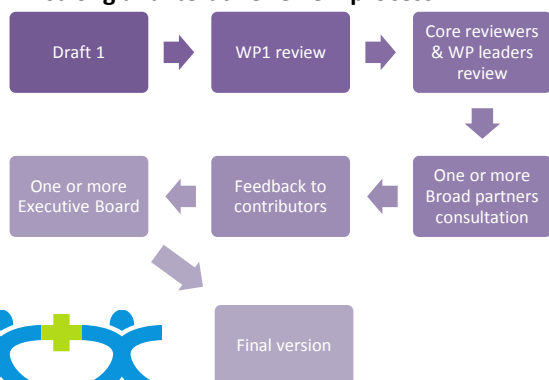
- **Preparatory work**
- Pre-reading Documentation
- Call for **expert testimonials** on:
  - Terminology
  - Mobility
- **Case presentation** followed by discussion
- Organised **professional speed dating discussions**
- Time for networking

Third Joint Action Conference in Varna, Bulgaria, Feb. 18/19, 2016  
Planning & Educating Health Workforce without Borders

- Three main topics with clear policy lines:
  - Mobility of Health Professionals
  - Influence of demographic trends on demanded skills
  - Integration of HWF and Education policies
- **All sessions moderated** and scheduled with **Questions & Answers** time
- **Balanced mix between theory & practice** speeches
- Time for **networking**
- Conference **evaluation** survey

\* Joint Action values are transparency, collaboration, quality & meaningfulness

## A strong and iterative review process





## Collecting wide knowledge

The Joint Action on Health Workforce Planning used both classic and creative methods to gather the EU knowledge. All information has been double checked with the experts and discussed. Intensive calls and visits allowed to quickly overcome any learning curve and improve the practical background of the deliverables

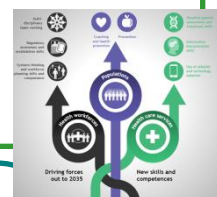


WP4 & WP5 surveys, on health workforce data terminology, planning system and on mobility, summer and fall 2013

- Pre-tested survey
- **One to one discussions** on the answers
- Writing of **country summaries** checked with the experts.

WP6 Horizon Scanning 2014 & 2015

- 36 semi-structured **professional interviews**
- Build of a system map
- **Multiple review rounds**
- **Professional interaction** with partners
- Support by academic expert



WP7 world café on the role of the network of experts, Firenze, Italy, May 7, 2014

- World café setting discussion on 8 topics
- Individual feedback and statistical compilation

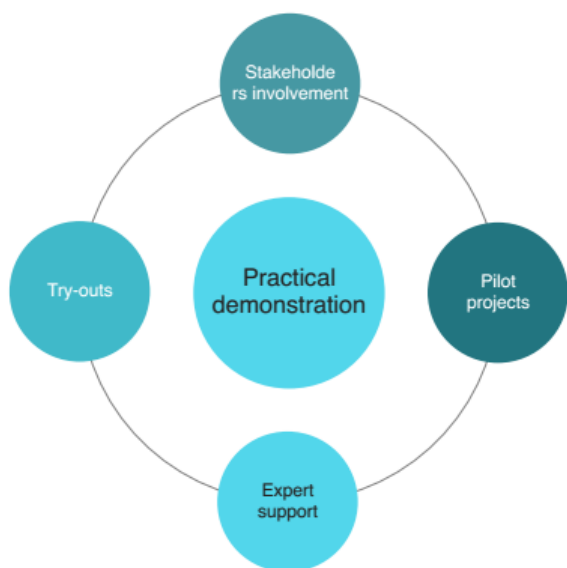


WP5 validation workshop, Torino, Italy, Sep 18/19; 2014

- Pre-reading material & call for contribution
- **Expert to Potential User confrontation setting**
- Country self-evaluation presentations
- Semi-conducted contribution from experts, with **papers review session**

## Practical demonstration

The Joint Action on Health Workforce Planning implemented several of its recommendations through pilot projects, feasibilities, and developed tools with a strong focus on usefulness. Stakeholder involvement, active project management, and transparent input from experts were among the reasons of success.



WP4 Consultation meeting of National Experts, Reykjavik, Iceland, Sep 24-25, 2015 National experts **testing** the proposed WP4 toolkit on own country case to ensure mindfulness and usefulness.

WP6 Pilot project, testing Horizon Scanning in Belgium from Spring 2015 to 2016 **Literature study, Horizon Scanning and Delphi rounds combined** to successfully enhance the modelling system.

WP1, WP2 & WP7, Mons, Belgium, May 3/4 2016, Plenary Assembly and Stakeholder Forum - "Towards sustainable health workforce for Europe" - Building bridges between the Joint Action and other programs for a sustainable joint vision

WP5 Strong Project Management on National implementation - from Spring 2015 to 2016.

- Involvement of International representatives through a **consultative board**.
- Piloting a **participative development** with co-ownership of 20 regions and the State.
- Organising an **expert meeting** to support and validate assumptions and developments (also for Portugal)



# THE EVALUATION METHODOLOGY AND CONCLUSION WITHIN THE JOINT ACTION

4

Evaluation is an integral part of the Joint Action (JA) process. The overall aim of the evaluation of the *EU Joint Action on Health Workforce Planning and Forecasting* was to verify whether the JA has been implemented as planned and reaches the defined objectives with quality. The focus has been on three perspectives: the process, outputs and outcomes.

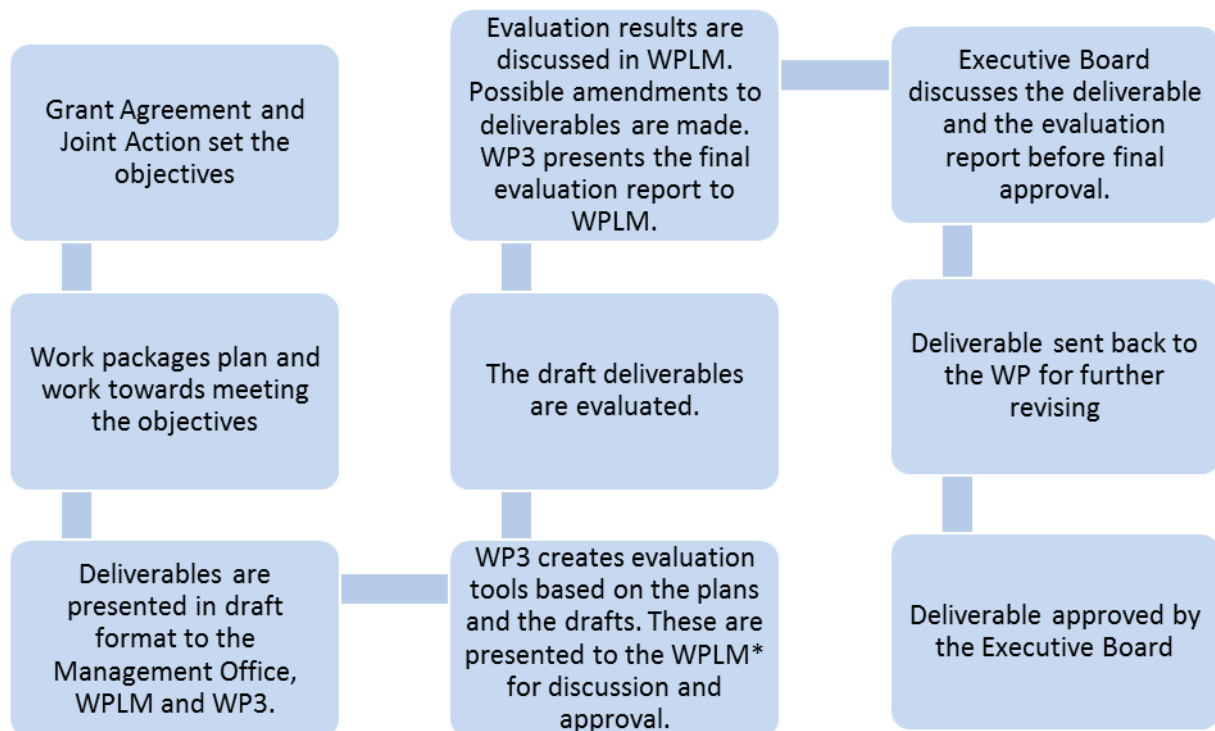
## Key messages

1. Evaluation should verify whether the JA progresses as planned and reaches the objectives with quality as well as assess the potential outcomes in the near future.
2. Multiple approaches should be used in order to provide evaluation of the JA on health workforce (HWF).
  - Evaluation has to focus on the process, outputs and outcomes of the JA.
  - Integrating both internal and external evaluation perspectives and applying multiple methods ensures the quality of the deliverables.
  - Tools used in the evaluation were structured check lists, semi-structured electronic questionnaires and semi-structured group interviews. Tools were based on objectives set in Grant Agreement, objectives and the content of the deliverable and relevant literature.
  - Elements of developmental evaluation should be deliberately planned into the evaluation process from the beginning of the project. Developmental evaluation changes the role of the evaluator from “outside observer” to “active commentator” in the production processes of the deliverables.
3. The evaluation framework should be based on scientific principles and a systematic procedure.
4. A sufficient time frame for evaluation should be incorporated into the project planning from the beginning to enable the evaluators’ work and feasible and continuous feedback to responsible authors and executive board of the JA.

## Evaluation Methods

	Process	Output		Outcome
Focus	Progress of the JA HWForce	Quality of the deliverables at different stages	Quality of the deliverables at the end of the JA HWForce	Sustainable future of the JA HWForce
Materials	Process evaluation reports I, II and III (based on e.g. WP-leader meeting minutes, Executive Board meeting minutes, risk and issues registers by WPs and stage plans by WPs)	Output evaluation reports of the deliverables	Expert Reference Group reports on selected deliverables	Focus Groups Interviews and report on selected deliverables
Methods	Review process of the formal reports conducted by Evaluation Team	Review process of the deliverables conducted by Evaluation Team	Assessment of selected deliverables by Expert Reference Groups including experts from different fields	Focus Group interviews with thematic external and internal experts
Tools	Structured check-lists designed by Evaluation Team	Structured check-lists designed by Evaluation Team for each deliverable	Semi-structured electronic questionnaires, designed by Evaluation Team	Semi-structured group interviews, interview questions designed by Evaluation Team

## Evaluation Process Flow



## Lessons learned for future Joint Action evaluations

- A systematic evaluation framework and a diversity of evaluation methods and tools are encouraged. Methods and tools are to be based both on the evaluation theory and literature on the subject, and adjusted to meet the needs of developmental evaluation.
- The approach of developmental evaluation enables the evaluation team to take a more active part in the making of the deliverables and to give core work packages timely feedback also during the process and not only after the deliverables have been produced.
- The evaluation team greatly benefits from a mixture of expertise, both in the evaluation and in the subject of the Joint Action in question.
- Use of external experts, both in output evaluation (quality control) and outcome evaluation is encouraged. This must be foreseen in the resources and budget of the evaluation team. Selection and recruitment of external experts is critical in terms of success of output and outcome evaluation.
- Ample time for evaluation should be included in the planning and timing of the whole project and particularly in the delivery of the outputs. Proper evaluation that provides useful and feasible feedback to core work packages takes time.
- Outcome evaluation gives added value regarding the potential future impact, but is challenging due to the time frame of JA.

# CREATING A HEALTH WORKFORCE PLANNING ENVIRONMENT

5

Health workforce (HWF) planning is a complex activity, and is ultimately aimed at ensuring the appropriate number of HWF for delivering healthcare and at supporting the sustainability of the healthcare system. Different levels, stages and actions taken concerning HWF planning processes and HWF planning data can be observed in European countries in terms of the maturity level of systematic HWF planning. In all, an appropriate HWF planning environment is necessary for implementing systematic national HWF planning.

## Key messages

- Improved HWF planning processes can contribute to increased quality of data, as better processes contribute to the elimination of gaps in data collection processes. Monitoring and managing the HWF processes play a significant role in developing systematic and strategic HWF planning actions.
- The HWF planning environment needs to be taken into account in conducting systematic HWF planning. Such planning is based on preconditions and processes focusing on: setting up planning objectives, raising awareness and commitment of stakeholders, managing data collections and reporting, as well as communication and data flow.

## Context and definitions

	Definitions of HWF Planning activities	Results
1	<b>Health workforce monitoring:</b> performing analysis on the current situation and aiming at responding to the challenges posed by the current situation	HWF monitoring is the most frequent activity, followed by planning and forecasting
2	<b>Health workforce forecasting:</b> the required health workforce to meet future health service requirements and development of strategies to meet those requirements	HWF planning activities focus mainly on medical doctors, nurses and dentists from the 5 sectoral health professions
3	<b>Health workforce planning:</b> ensuring the right number and type of health human resources are available to deliver the right services to the right people at the right time	

Source: *EU level collaboration on forecasting health workforce needs, workforce planning and health workforce trends - Feasibility study 2012*

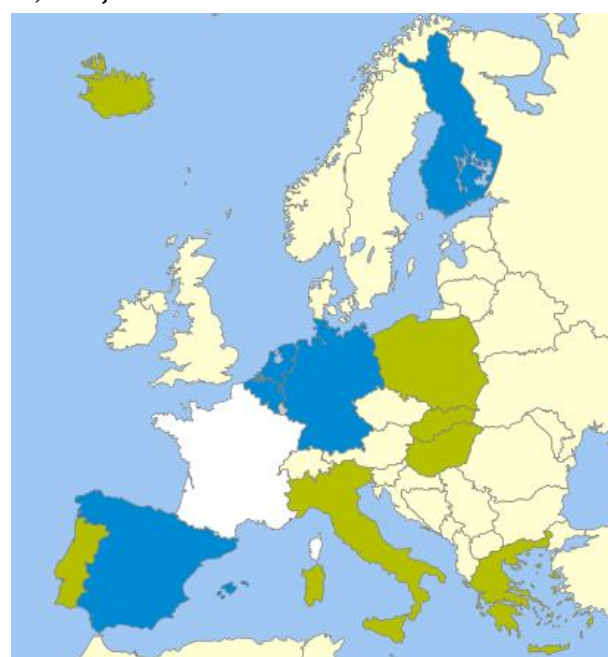
## HWF planning in 12 selected European Member States

### Countries with systematic HWF planning - Extended HWF planning systems (in blue)

Report high political commitment and tend to implement directives and policies quite efficiently, where HWF planning is a tool for strengthening HWF. They have broad datasets and rarely face lack of data; however, mobility indicators are hard to produce. Their basic issues revolve around the details and the refinement of HWF planning data.

### Countries towards systematic HWF planning (in green)

Develop HWF planning gradually, from simpler to more complex actions. The most critical points relate to the lack of comprehensive strategy, or blurred lines of systematically advanced and promoted processes.



Results based on 12 Member States involved

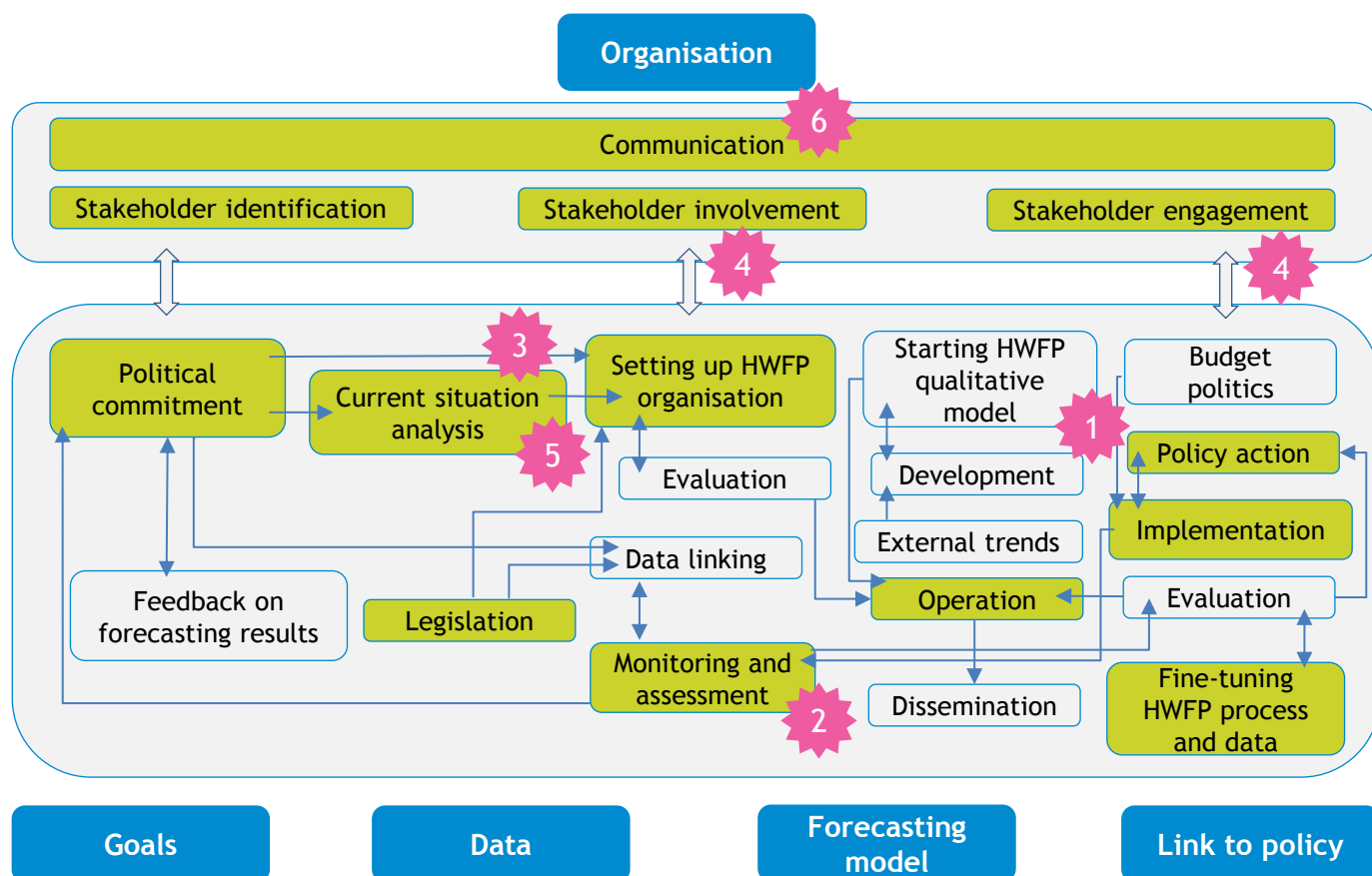
# CREATING A HEALTH WORKFORCE PLANNING ENVIRONMENT

## Identifying gaps and improving HWF planning processes

The currently existing HWF planning processes need to be screened, evaluated and their strengths and weaknesses identified. The investigation of 12 EU Member States resulted in the following **six most common boundaries** as also shown in the Figure below:

1. Lack of resources (e.g. financial, human, technical resources)
2. No tracking of shortage-surplus of HWF (e.g. role of HWF mobility)
3. Complicated, unclear structure of HWF planning
4. Unclear roles and responsibilities of stakeholders involved in HWF planning
5. No consideration of supply-demand side in HWF planning
6. Information and data flow failures

## The key processes in national HWF planning and the six most common boundaries



In order to realise systematic HWF planning, consistent line of actions are needed that ensure its continuous and tangible implementation.

### Recommendations

- Follow and rely on the minimal common guiding steps for a feasible and achievable HWF planning process;
- Use a measurement instrument for listing the objective criteria of systematic HWF planning in order to facilitate self-evaluation and reveal areas for improvement and/or expansion;
- Dedicate special attention to information flow and communication management;
- Invest in human, financial, infrastructural, technical, skill-related HWF planning resources and revise them regularly;
- Set up a designated responsible entity, a HWF Planning Committee/authority - proposed together with its possible composition - at the national, Member State level in order to strengthen national-level collaborations;
- Foster and optimise stakeholder-involvement for the successful development of the planning process, including the support of EU level professional organisations



# ORGANISING STAKEHOLDERS' INVOLVEMENT IN THE PLANNING PROCESS

6

All the health workforce planning activities require a process of organizing. The engagement of the stakeholders is strategic in this process: it gives commitment to the forecasting results and supports the communication with the policy makers. The involvement assumes different forms for different type of stakeholders, also depending on the national and the local regulations.

## Key messages

- ▶ Stakeholders' involvement is one of the fundamental and most critical points of the whole planning system. The importance of their involvement is due both to the necessity of **acquiring information** and points of view and to find the **consensus** on some solutions.
- ▶ In any case, this involvement is often critical, both for the number of interested stakeholders and for the strong discrepancy among the represented positions. These **criticalities** sometimes need a lot of time to be solved or weakened, which is also a criticality.
- ▶ Each of the health workforce planning systems analyzed during the Joint Action pays great efforts to involve in **organized forms**, various stakeholders in both the construction and feeding of the forecasting model and in the discussion of its results.

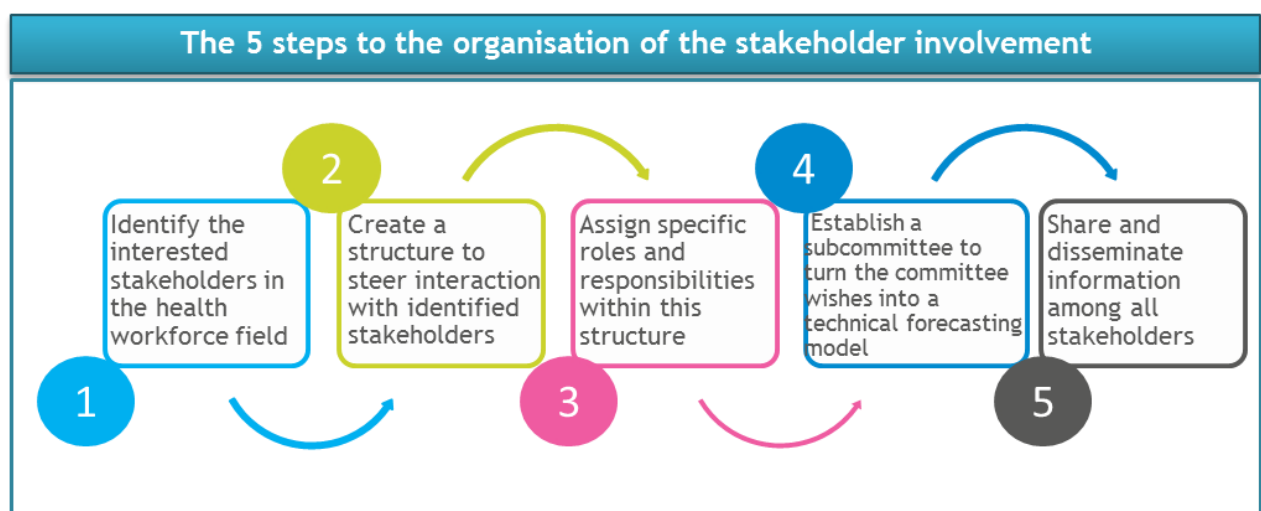
## The process of engaging the stakeholders

A well-structured organization, with roles and responsibilities clearly defined, are essential to support the health workforce planning.

In case of decentralized planning, regional needs have to be considered, but remembering that planning has to cover the overall needs of the country. Indeed, a national health workforce planning body that engages state, local, public and private stakeholders is important, in order to develop an integrated, comprehensive, national health workforce policy that can be accomplished if **all interested stakeholders work together**.

It is important to start the involvement process with a **stakeholder analysis**, which guarantees wide and cross-sectional participation and facilitates the identification of the stakeholders, depending also on the institutional context and the role assigned to them by the law or by the national regulation.

**Main involved stakeholders** are: ministries (health, education, finance, labour), regulatory bodies, health professional bodies and chambers, health insurance companies, statistical offices, medical universities/schools, local health entities and authorities.



## The 5 steps in the pilot projects and in the EU Country cases

1



In **ITALY**, during the pilot project, the stakeholders were placed in a grid and then selected according to their “interest” and “power” on health workforce. Stakeholders with high interest and high power, as the Regions, the Universities, and the Social Insurance Institutes, were involved directly in a Steering Committee and then in different working groups. Other stakeholders were constantly updated on the project’s progresses.

Also the **JOINT ACTION** started with a stakeholder inventory and analysis on the interest on the Joint Action’s outputs. Stakeholders were listed in three categories according to their interest level: political, strategic, implementation. Finally, 191 organizations from 15 countries were included in the analysis.



2



Usually, the workflow of the planning system is strongly coordinated by Councils or Commission, which are the core of the process. Typically, also in cases in which the system takes into account more professions, those Bodies are unique. As it is in **PORTUGAL**, where the stakeholders are going to be involved in an Advisory Board as foreseen in a Law approved on August 2015.

But the health workforce planning may be managed at a central level for the whole country or may be decentralized at a local level (like in **SPAIN**). In the latter case it is important to understand which role is performed at the central level and which at the local one. From this derives the organization of the decisional process.



3



Usually, stakeholders have an advisory role. They give suggestions, make their point, contributing to the collection of useful data and help in giving their correct interpretation. They never have a decisional role, but, through their advisory role, they try to direct and influence the decision makers toward the most correct choices (as it is in **FINLAND**).

4

The workload is often granted through working Groups or Committees for the single profession. When working group exists (as it is, for example, in **BELGIUM**), the results of the working group are submitted to a process of feedback and validation by the Commission. A dedicated staff is always in charge to manage the work of the groups.



5



Most of the planning systems developed in the EU publish reports on the web containing the goals and the outputs of the process, usually in a very detailed form (for example, in the **NETHERLANDS**).

Even if these reports are accessible by all, writing and publishing style have an institutional and typically dedicated to insider character. A good example of communication dedicated to a wide and heterogeneous public, is the Workforce Plan for England published by Health Education **ENGLAND**.



### Recommendations

- ▶ Identify all the interested stakeholders. Strengthen partnership between training system and health care system.
- ▶ Set a health workforce planning body that engages state, local, public and private stakeholders and supports the planning process in every stage, with roles and responsibilities clearly defined. Establish a subcommittee that implements the committees wishes into a technical forecasting model.
- ▶ Communicate goals and results of the planning process to the stakeholders and engage them both in building and agreeing upon the model that will be used by the health workforce planners in the elaboration of the scenario.

# KNOWING ABOUT THE CURRENT HEALTH WORKFORCE

7

Knowing about the current health workforce is the first step of a robust workforce planning. Key questions are: How many health professionals are working now in the Health System? What's their age? How many health professionals are not working but are "available" to satisfy the current and future demand?

## Key messages

A challenge for most of the national and regional planning systems in the EU is gathering updated and reliable information on the status of activity (licensed to practice, professionally active, practicing) as well as on the role played by the current health workforce.

The evidence shows that there is not «a best solution» but following some **minimum requirements** and several good practices it is **feasible** to have in short time a good picture of the current situation.

The outputs of the Joint Action on this topic are:

- ▶ A **Minimum Planning Data requirements** for Health Workforce Planning and Forecasting;
- ▶ A description and analysis of **good practices in data collection**;
- ▶ A set of recommendations to improve the knowledge on the current **health workforce stock**;
- ▶ Specific reports on **data terminology**, qualitative data collection, mobility data, planning data gap analysis.

Pilot projects in Italy and Portugal and feasibility studies in Germany, Romania and Moldova were conducted in order to experiment these outputs.

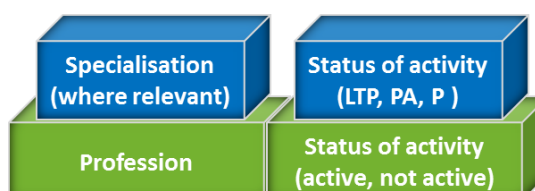
## The data set needed to start planning

Knowing «where we are», i.e. to be aware of the current health workforce stock, is the first attainable goal to reach during an ideal planning implementation process, which requires *at least* some data. While knowing «where we would like to go», i.e. to forecast future demand and supply, is a next step, attainable using additional information.

Starting from the Minimum Planning Data requirements, the Joint Action conducted several analysis and practical implementations regarding the data useful to reach the above mentioned goals, taking on a stepwise approach.

### The health workforce count

Based on the Joint Action's analysis and pilot projects, a first **basic approach** to know about the current health workforce consists of measuring in **headcount** and sorting by **profession** and **status of activity** (active and not active).



In a **upper level**, the stock is measured also in **FTE** and sorted also by specialisation (where relevant) and by the three categories "Licensed To Practice", "Professionally Active" and "Practising".

Other data on the health workforce stock are useful to measure the **gap** between the current supply (data on working geographical area) and the current demand (data on gender and age of the population of the geographical area in focus), to **forecast** the future health workforce stock (data on age of the current stock) or to **estimate** the main future inflows (data on *Country of first certification* to estimate mobility inflows; data on training to estimate inflows from education).

## The measurement of the health workforce in some EU Countries and in the pilot projects



Many of the advanced experiences in the EU countries are focused on **individual data collection**, based on professionals' registers and payroll systems: the information gathered from those different databases are matched in a register and enriched with fields specific for the planning project, for example with data on "productivity" usually expressed in Full Time Equivalent (FTE). One good example of this approach is the National Register of Health Professionals in **BELGIUM**.



In August 2015, the National Parliament of **PORTUGAL** issued a bill giving ACCS the responsibility of collecting data for the National Inventory of Health Professionals, including the public, private and social sectors. This individual **register**, still under construction, will permit to complete the current exhaustive individual database on public sector, adding individual and reliable data on the private and social sector.



In those cases, the inter-organizational cooperation is the successful key. Like in **FINLAND**, where an **integrated database** combines information on employers ("where do people work"), taxes and income ("where the main income is from") and education and degrees ("who has an exam at what level") and it is used both for monitoring the trends of the overall Finnish labour market and for planning its new entrants.



Another way to gather updated and reliable information on the current practicing stock, is through **statistic methodologies** as sample surveys. That's the case of the **NETHERLANDS**, in which many of the information used by the Planning Institute (Capaciteits Orgaan) about the Dutch stock are collected by The Netherlands Institute for Health Services Research through specific surveys, for example to estimate the FTE stock.



Another feasible solution is using existing databases (built for other purposes than planning), by means of specific assumptions and taking into account the inherent limitations. In **ITALY**, the Ministry of Health experimented the use of the professionals registers and of the Continuing Medical Education providers database to **estimate information** on different aspects of the current stock of professionals and its main flows.

In those practices and experimentations, international mobility flows of the health workforce still remain a **challenge**. Health workers' outflows are mostly unknown even though they are needed to have an update measurement of the current stock. Mobility inflows are measured or estimated taking into account the country of first qualification or, as second option, the place of birth. They are useful to measure the reliance on foreign health professionals and to estimate future flows on the base of past mobility trends.

### Recommendations

- ▶ Use updated data to provide an accurate and comprehensive description of the current supply for both the stock and the flow and to give timely descriptions health workforce demand.
- ▶ Measure the current and desired workforce in FTE focusing the analyses in the professionally active workforce.
- ▶ Before collecting new data try to use the data already available in the system. When data are not available, use statistic methodologies to gather the information needed.
- ▶ Build a coordination mechanism to manage, improve and monitor the information system.

# HEALTH WORKFORCE DATA FOR SYSTEMATIC PLANNING

8

Processes of health workforce (HWF) planning data management have a significant influence on HWF planning data quality, thus the development of these processes and the data itself should be aligned. Evidence-based policy interventions require continuous development of data collections. Every country has its own HWF capacity that is measurable, however, determining the necessary resources, quantifying the demand for HWF or the continuous evaluation, assessment is challenging or even often lacking.

## Key messages

- HWF planning is a complex process and the factors integrated in the planning models should be chosen carefully;
- Data collections should focus on using the best available data and on collecting data for HWF planning purposes;
- Identifying a minimum set of HWF planning data is beneficial, however country-specific variation might occur;
- A continuum of objectives in data collection can support reaching the required extent and quality of data.

## The “Minimum Planning Data Requirements”

The Minimum Planning Data Requirements Report of the Joint Action (<http://healthworkforce.eu/work-package-5/>) puts forward a set of data categories crucial for performing national health workforce planning. These data categories are “the key planning indicators and the set of data that are necessary and sufficient for basic planning”. These data categories are demonstrated by the below matrix.

A gap analysis concerning the availability of the data categories in the 12 EU Member States is demonstrated by this data matrix. Each cell of the table represents the number of countries with data available - including estimates - in the given data category, visualised according to the green-blue colour scale, where “green=0: data category not available in any of the 12 countries” and “blue=12: available in all 12 countries”.

	0	1	2	3	4	5	6	7	8	9	10	11	12
	SUPPLY						DEMAND						
	Labour force	Training	Retirement	Migration inflow	Migration outflow	Population	Health consumption						
Profession	12	10	9	8	4								
Age	12	5	7	5	2	11	8						
Head count	12	10	10	7	4	11	8						
FTE	7												
Geographic area	11	6	7	5	2	9	7						
Specialisation	11	8	6	6	2								
Country of first qualification	6	3	3	5	2								
Gender	10												



### How to mitigate lacking data and to improve HWF planning data quality?

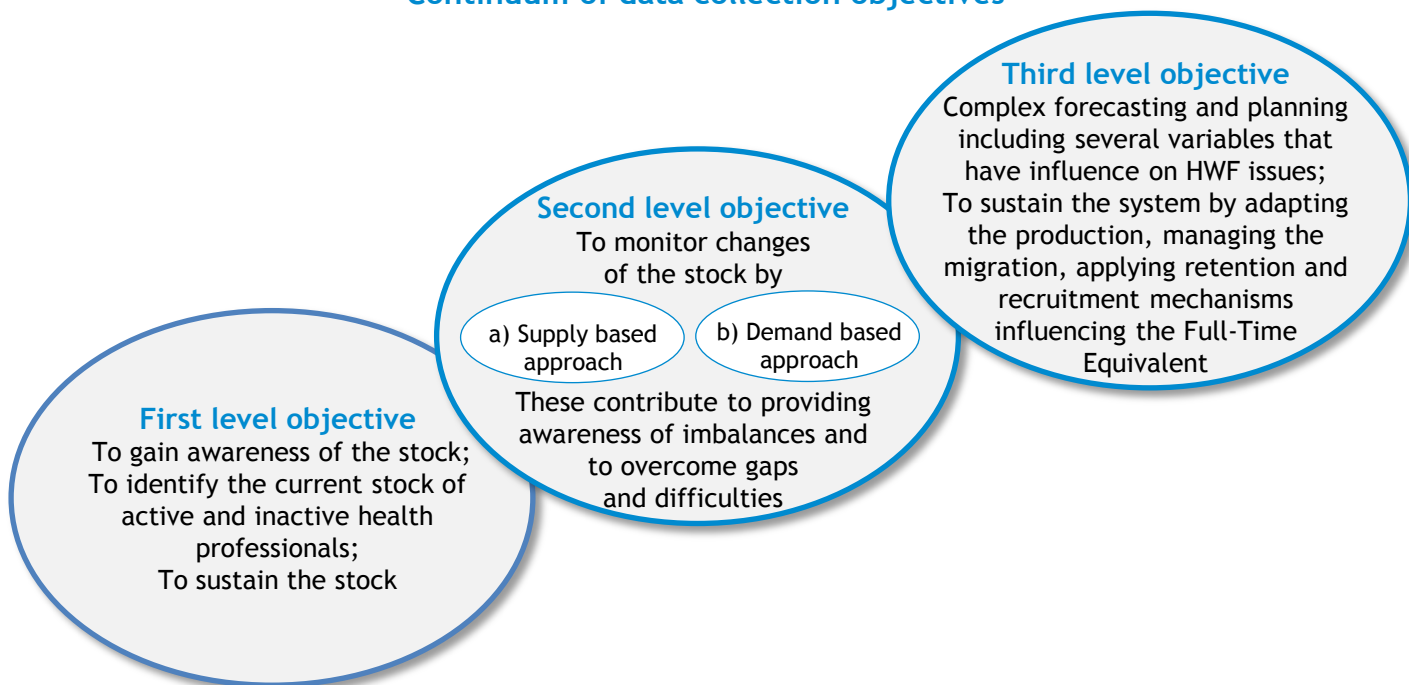
First, countries should revise and improve data collection, sharing and management. When setting the goals for establishing and maintaining the data collections, planners need to be aware that depending on the objectives, a required extent and quality of data is to be reached.

For example, a gap analysis provided an overview of the critical points of data components, elements that highly affect HWF planning data quality. This investigation of the 12 EU Member States claimed the following most common boundaries:

1. Non-availability of data
2. Lack/Misuse of models/methods/data
3. Poorer quality data (validity, reliability) and no up-to-date data
4. No use of qualitative data and no complementation of quantitative data with qualitative data - lack of triangulation also emphasised

In order to realise systematic HWF planning, consistent lines of action are needed, that affect their continuous and tangible implementation.

### Continuum of data collection objectives



### Recommendations

- Ensure and increase data quality, as well as improve and **optimise data** collection, sharing and **management**;
- Prevent inappropriate health policy actions based on the misinterpretation/misuse of data or on out-of-date data;
- **Revise objectives** for data collections and consider the three-level continuum of objectives in HWF planning;
- **Utilise estimates** based on quantitative data in the continuous situation analysis, trend analysis and **incorporate qualitative data collections** to enable deeper analysis and understanding of quantitative data in HWF planning;
- Incorporate **big data and e-health solutions** to enable more efficient HWF planning data gathering and data linking, utilise interoperable and comparable datasets;
- **Revise skills of data specialists** and evaluate HWF planning data on a regular basis to ensure continuous improvement.

# ASSESSING THE PRESENT SITUATION OF HEALTH WORKFORCE SUPPLY AND DEMAND

9

The analysis of the current health workforce supply compared to the demand is important in order to avoid the perpetuation of imbalances and to recognize weaknesses that potentially could turn in future disequilibrium. The use of specific indicators can help planners and policy makers to foster a dialogue with the stakeholders on assessing the present-day situation.

## Key messages

- ▶ Effective health workforce planning starts from an assessment of the present situation by performing a gap analysis between supply and demand, in order to find imbalances, as these imbalances profoundly influence the outcome of the future projections.
- ▶ Imbalances can be measured in different ways and sometimes they are **not so easy to assess**.
- ▶ The Joint Action proposed some **indicators** to support the analysis. But there is no single indicator capable of providing an instant snapshot, so **several indicators or appropriate proxies** have to be used and weighted against each other to achieve an estimate of the current gap.
- ▶ **Continuous monitoring** and calibration may enhance the quality of the estimations while the discussion and the agreement among the **stakeholders** will turn those estimations into a concrete and evidence-based assessment.

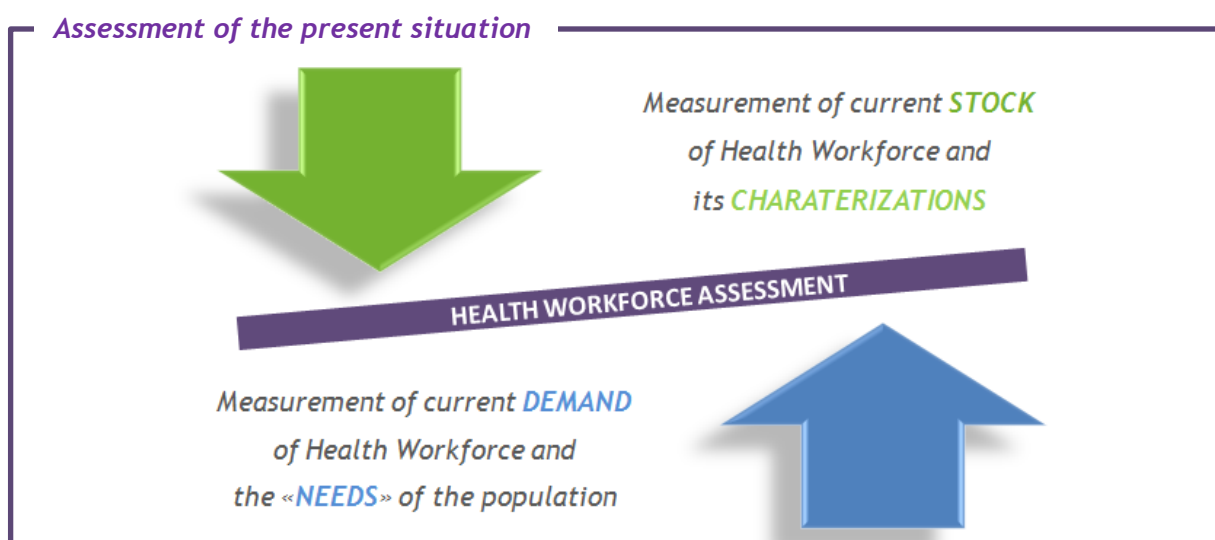
## Health workforce assessment is essential to point out and tackle imbalances

Health labour markets are subject to **rigidities**: for example, imperfect market competition under the form of monopoly or institutional and regulatory arrangements and government fixed prices, which may prevent automatic price and wage adjustment. That inelasticity may preclude immediate or complete adjustment of its imbalances, thus affecting the future welfare of the population and the patient safety.

The analysis on the health workforce **stock** and its main **characterizations** can point out imbalances of professions, geographical maldistribution, divergences in the allocation of professionals between the private and public sector, disparities in the male/female distribution and much more.

On the **demand side**, imbalances can be measured looking at :

- ▶ the real demand of the labour market produced by the health care services or direct from patients and influenced by the several factors (economic resources, demography, morbidity, etc) or
- ▶ “standards of health personnel”, usually set by experts in the field or fixed by law, that approximate the needs of the population to be cared.



## Indicators and evidences from EU Countries and pilot projects experiences

Two basic indicators to check and monitor the stock of health workforce.

N° of professionals per inhabitant	N° of professionals per weighted inhabitant
N° of professionals / population	N° of professionals / weighted population
Articulated by: Profession, specialization within the profession, geographical area.	Articulated by: Profession, specialization within the profession, geographical area. Inhabitants weighted by health consumption for age groups.

More advanced indicators to check and monitor the stock of health workforce and assess the gap with the demand.

Economic indicators	Operational indicators
<ul style="list-style-type: none"> <li>Occupational unemployment rate.</li> <li>Growth of the workforce (vs population growth).</li> <li>Real wage rate.</li> <li>Rate of return.</li> </ul>	<ul style="list-style-type: none"> <li>Vacancies (unfilled positions).</li> <li>Waiting lists.</li> <li>Overtime work.</li> <li>Turnover rate.</li> <li>Temporary workers.</li> <li>Level of substitution.</li> <li>Foreign professionals.</li> </ul>

The combination of which indicators to use will mostly depend on the typology of the market and the type of healthcare system.



In the **Netherlands** there are three types of indicators used for measuring imbalances between demand and supply of General Practitioners: trends in the vacancies monitor; trends in the number of locums; geographical distribution of general practitioners; trends in immigration of general practitioners from other countries.

In **Italy**, the pilot project targeted the assessment of the current situation starting from the operational indicators above mentioned. All the involved stakeholders agreed to declare the current imbalance for the 5 health professions in focus. But an agreement was not reached on the combination of indicators to use. Moreover, there was confusion between demand of the labour market and needs of the population which led to **contradictions**.

For example, declaration of shortages of nurses in the presence of strong unemployment and unfilled positions; declaration of oversupply of dentists in presence of full employment and significant flows of professionals trained abroad. In conclusion, it was adopted the basic indicator “*active professionals per inhabitant*”, articulated per geographical area, in order to measure, at least, the geographical maldistribution.



## Recommendations

- ▶ It's necessary to identify a number of **parameters** that can be considered to be illustrative for any differences between supply and demand. The parameters have to be measurable.
- ▶ By monitoring multiple parameters, one can consider **triangulating the results**. Nevertheless, they should always be interpreted with care, as statistical anomalies may lead to erroneous interpretations.
- ▶ The **involvement of the stakeholders** is the key factor to turn the measures of current supply and demand into a real assessment of the present situation. In case of disagreement on the measurement of more advanced indicators (economic or operational indicators), base the discussion on the basic indicators (number of professionals per population).

# THE MEASUREMENT OF HEALTH WORKFORCE OUTFLOW

10

Effectiveness of policies that address HWF outflow can be measured by various mobility indicators at the national/regional level in order to support HWF planning. Outflow data currently in use are usually proxy mobility indicators; the most commonly used information source is the “intention to leave” data. An improved indicator system is hereby suggested to improve national-level estimations on the extent and dynamics of mobility.

## Key messages

- National HWF planning strategies should comprehensively assess the mobility phenomenon. Mobility information should be included in the national/regional health workforce planning in order to mitigate the negative effect of outflow on the health system.
- Countries are advised to collaborate with the identified preferred destinations of their nationals, based on the mobility module data of international data collections (Joint Questionnaire). Outflow indicators in the source countries and inflow indicators in the destination countries should be compared.
- The use of developed indicators to measure the intention to leave of health professionals, supports better understanding and successful management of the outflow.

## Two key indicators used for the measurement of outflow



**Number of conformity or good standing certificates**  
“passive” intention, not showing concrete interaction with the receiving country



**Number of diploma recognition decisions**  
“active” intention, not showing the level of activity, or the fact of being licensed

## Joint Questionnaire mobility data collection (Eurostat-OECD-WHO)

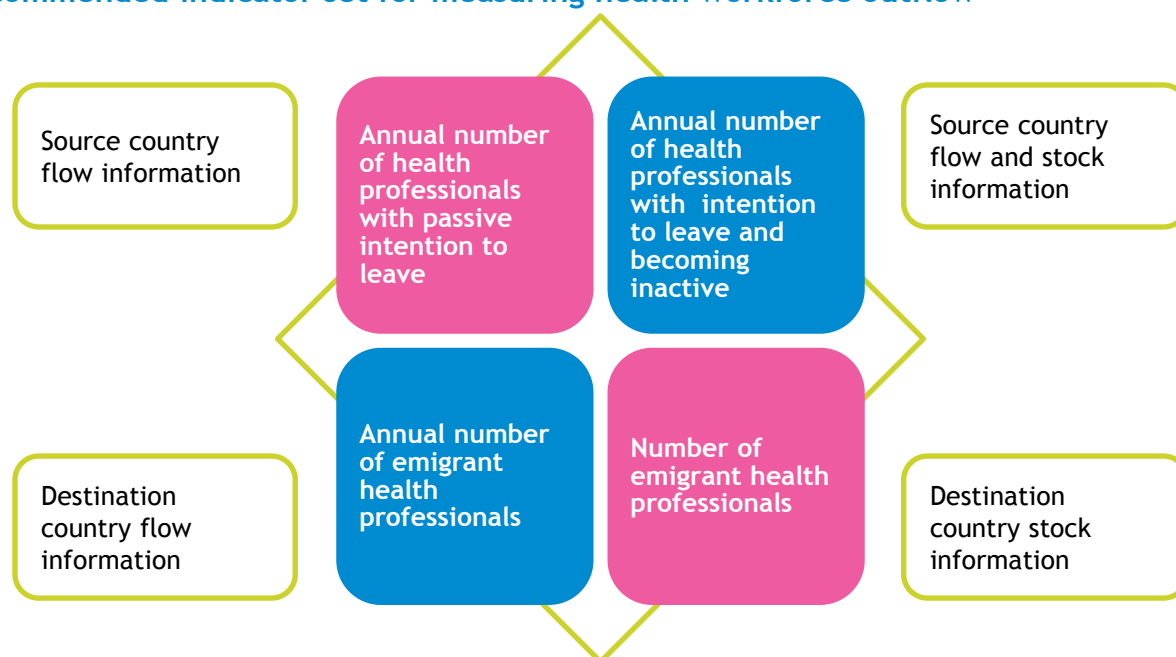
- Currently the main international data collection - initiated in 2015
- Collects information on :
  - ✓ country of training
  - ✓ number/proportion of foreign health professionals in the total stock and annual inflows
  - ✓ inflow data from destination countries by all countries of origin
- It is a useful tool for mobility data collection, the further development of which is necessary. Annual data collection is advised and planned.

## Main findings and recommendations

- Individual Mobility Data Set and Mobility Indicator Set are proposed to support national policy dialogue on managing the inflow or outflow of health professionals.
- Additional data collection is needed on the occupations undertaken by the mobile health workforce in destination countries, and on the skill mix that actually flows with this mobility.
- Key Indicators can be improved by (1) filtering out groups with no real mobility (e.g. foreign students requiring a certificate within a year after graduation; not first-time-applicants; or those who do not become inactive after requesting a certificate), or by (2) building on destination country information (“the best outflow data are inflow data”).
- Student mobility (graduate training) has special characteristics, additional mobility indicators to follow this phenomenon should be developed.

# THE MEASUREMENT OF HEALTH WORKFORCE OUTFLOW

## Recommended indicator set for measuring health workforce outflow



## Optimum and minimum contents of the recommended indicator set for measuring outflow

INDICATOR	INDICATOR CONTENTS (optimum)	INDICATOR CONTENTS (minimum)
Annual number of health professionals with passive intention to leave	Number of first time applicants of certificate for working abroad - (minus) foreign health professionals who requested a certificate in the first year after graduation	Number of health professionals requesting a certificate for working abroad
Annual number of health professionals with intention to leave and becoming inactive	Number of health professionals who requested a certificate for working abroad and became professionally inactive in the country for the following year + (plus) the number of domestic-born and domestic-nationality graduate students requesting a certificate for working abroad.	Number of health professionals who requested a certificate for working abroad and became professionally inactive in the country for the following year
Annual number of emigrant health professionals	Number of domestically trained health professionals newly registered (recognised) in other countries - (minus) health professionals that are domestically trained and have a foreign birthplace and foreign nationality	Number of domestically trained health professionals newly registered (recognised) in other countries
Number of emigrant health professionals	Aggregate number of domestically trained health professionals registered (recognised) in other countries - (minus) health professionals that are domestically trained but have a foreign birthplace and foreign nationality	Aggregate number of domestically trained health professionals registered (recognised) in other countries



# SETTING THE GOALS IN THE HEALTH WORKFORCE PLANNING SYSTEM

11

Any planning activities require to set the goals to be achieved. If no goals are established, the risk is to “wander” without reaching useful results, wasting time and money. What are the basic dimensions to be taken into consideration to improve chances of success? How to pursue long-term objectives in developing the health workforce? The basic principle consensus of the stakeholders upon the goals and their targets is necessary?

## Key messages

- ▶ To have more chances of success, a health workforce planning objective has to be specific (s), measurable (m), time-bound (t), achievable (a) and realistic (r). In other words, the objective should be **s.m.a.r.t.**
- ▶ Since health workforce development is a long-term process (decisions taken today produce their results not before 5-10 years' time), it is mandatory to define **long term goals** which require the continuous commitment of the policy makers.
- ▶ To guarantee the policy makers' commitment on the long term, it is essential to **build social support** within and beyond the health sector, from professional organizations and education institutions to civil society, even if the research of the consensus among the stakeholders jeopardizes the endeavors of setting *smart* goals.
- ▶ Best practices developed in EU Countries, suggest **first to set principles and strategic objectives** with a broader time horizon and **then to establish**, within the strategic framework, **operational objectives** with a short time span.

## Setting SMART goals to improve chances of success



To have more chances of success, an objective has to be specific, measurable, time-bound, achievable, and realistic. In other words, the objective should be **SMART**.

The goals should be **SPECIFIC** in at least the two dimensions:

1. The targeted quantities for any health profession (**MEASURABLE**);
2. The year in which these set quantities are to be accomplished (**TIME-BOUND**).

It is important to note that, concerning the resources of the healthcare system, a goal is more easily **ACHIEVABLE** if it is acceptable upon by the actors involved in the planning process. It is helpful to create room for this discussion, to be held by using a number of different scenarios in the planning. This will facilitate the discussion and the acceptance because it visualizes the “safe” margins, irrespective of the underlying scenarios.

The goal has to be **REALISTIC**, both from the perspective of the health field stakeholders and from the perspective of the government. For the latter, the financial dimensions of the set goal are in most cases the limitation. For the stakeholders in the field, it is the number of practical solutions they experience for the problems that encompass changes in the number of students to be trained.

## A statutory mandate as basis in pursuing long-term objectives

All the EU Countries' planning systems are guided by principles, values, strategic and legal framework, mostly described as "statutory mandate". Some examples are reported below.



**Health Education England:** To ensure that an effective education and training system is in place for the NHS and public health system.

**England, Department of Health:** Delivering high quality, effective, compassionate care developing the right people with the right skills and the right values.



**Finland, National Board of Education (FNBE) and Government Institute for Economic Research (VATT):** To promote the availability of skilled labour in accordance with developments in industrial and occupational structures and to guarantee all young people an opportunity to apply for vocationally/professionally oriented education and training.



**Spain, Ministry of Health:** To maintain the places in the medical schools according to the needs; to improve the distribution of the supply of specialized training according to identified needs; to reduce abandonment of specialized training and prevent recirculation.



**Portugal, Central Administration of the Health System (ACSS):** to provide the system with the necessary health workforce to satisfy the healthcare demand/needs; to ensure greater efficiency of public resources, and contribute to the system's sustainability.

## Agreement on basic principles and consensus

Some basic principles proposed by the Joint Action partners for the Health Workforce Planning in the EU Countries. A consensus on these was reached.

### UNIVERSAL COVERAGE

The need of professionals for the whole population of the Country has to be considered

### AFFORDABILITY

The cost of the future health care system has to be kept within the limits of what is considered sustainable for the population

### EFFECTIVENESS

It is important to consider production parameters in measuring the future need of professionals

## Recommendations

- ▶ Define and agree with stakeholders on planning principles.
- ▶ Turn planning principles into operational objectives, even in case of maintaining the situation "as it is now". Set targets regarding, at least, the amounts of health professionals needed and the year in which these amounts are to be accomplished.
- ▶ Ensure to start the process with an assessment of the current situation on the basis of which to define future goals.
- ▶ Be transparent and communicate principles, assumptions and targets to the stakeholders.

# MAKING HEALTH WORKFORCE FUTURE FORECASTS

12

Effective workforce planning is described as ensuring ‘the right people, with the right skills, in the right places, at the right time’. Key questions are: Is there a basic approach to estimate “the right people”? What’s “the right time”? Is it feasible to forecast “qualitative” health workforce dimensions? How to have a credible and reliable forecast?

## Key messages

- ▶ The forecasting model and its results (projections and scenarios) stimulate the **political debate** with the stakeholders and represent an essential instrument to support decisions and actions of the policy makers.
- ▶ Although there are several methods and tools developed in EU Countries, a **basic common approach** consists in estimating the quantitative evolution of the current health workforce, forecasting main future outflows and inflows and comparing those numbers with the estimated future trends of demography and of demand for healthcare services.
- ▶ It is essential to clearly outline the assumptions behind the planning tools, maintain a flexible approach and adapt the planning strategy as needed. Health workforce planning is **not an exact science**: it is more a political than a technical activity. To be most effective, health workforce planning and projections should be viewed as an iterative process, in which the ability to measure and tell the performance story improves over time.

## Modelling demand and supply forecasts

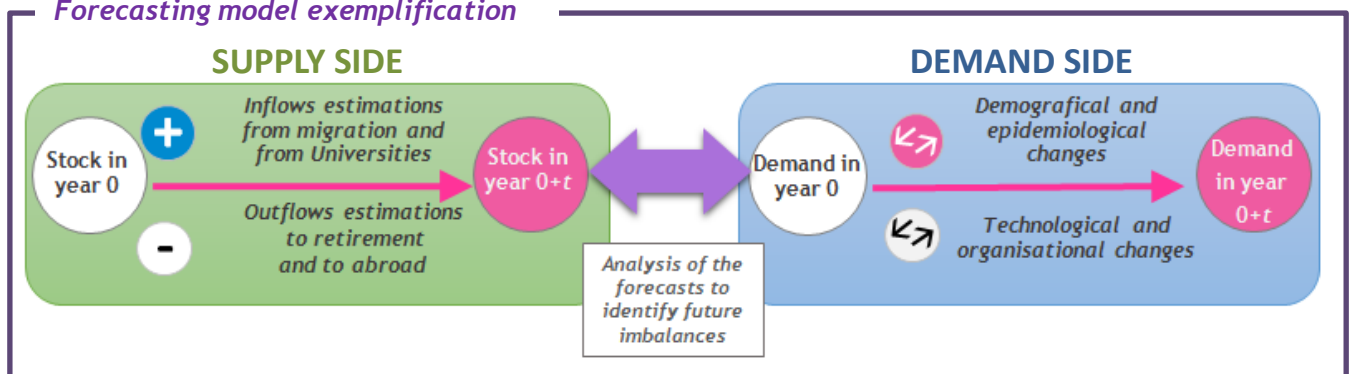
On the **supply side**, good practices among EU Countries reveal the importance of developing models that can formulate different **scenarios** related to different **conditions** of the health professionals, like changes in mortality and retirement rates, migration flows, medical school intakes, etc.

**Forecasting demand** is arguably more complex, mostly due to a higher uncertainty over the estimate of the underlying parameters (epidemiology, demography, organization of health care services, technology, etc.). Experiences and pilot projects developed during the Joint Action demonstrate that it is feasible to develop a qualitative method for involving stakeholders in the description of future demand.

More comprehensive forecasting models developed in the EU consider also:

- ▶ interaction between professions (vertical and horizontal substitutions);
- ▶ the skills of the workforce and their geographical distribution;
- ▶ the impact of technological progress, the epidemiological needs of the population or the kind of services provided and how all these factors evolve and their interactions within the system.

### Forecasting model exemplification



## Forecasting tools used in some EU Countries and experimented in two pilot projects

Each of the seven planning systems described in the “*Handbook on Health Workforce Planning Methodologies across EU Countries*” has developed a specific model based both on the supply projection approach and on the demand side.

Every system has a forecasting model based on **supply projection**: it means that, starting from the measure of the current stock and simulating the changes in the inflows and outflows, they forecast the future stock of health professionals.

### EU GOOD PRACTICES - COMMON FEATURES AND PECULIARITIES

<p><b>DEMAND SIDE</b></p> <p>Each model takes into account the population structure and future changes in the population size. Some models assume that the other demand patterns remain constant</p>	<ul style="list-style-type: none"> <li>▪ <b>Belgium:</b> simulation of future different levels of health service utilization by age and sex, based on the health expenditure</li> <li>▪ <b>England and The Netherlands:</b> forecasting future changes in population health status using data on epidemiological trends and experts guidance on socio-cultural development and unmet care needs</li> <li>▪ <b>England, Finland and Norway:</b> estimation of changes in GDP and in health expenditure considering future economic growth as one of the main pattern affecting the demand of the health services</li> </ul>
<p><b>MATHS TOOL</b></p> <p>The mathematical methods used are mainly based on classical time series analysis</p>	<ul style="list-style-type: none"> <li>▪ <b>England and Spain</b> adopt a systems dynamic approach that permits to manage typical features of the complex systems, like internal feedback loops and time delays that affect the behavior of the entire system</li> </ul>
<p><b>QUALITATIVE TECHNIQUES</b></p> <p>The Delphi method is a prevalent mixed method-qualitative technique used in the seven planning systems</p>	<ul style="list-style-type: none"> <li>▪ <b>Denmark:</b> a hearing process involving relevant stakeholders to forecast future demand</li> <li>▪ <b>England:</b> The Sheffield ELicitation Framework (SHELF) used to involve experts</li> </ul>

### PILOT PROJECTS' EXPERIENCES IN ITALY AND PORTUGAL

<p><b>DEMAND SIDE</b></p> <ul style="list-style-type: none"> <li>▪ <b>Portugal:</b> mainly quantitative future changes of population.</li> <li>▪ <b>Italy:</b> future changes of population (quantity and structure) and task shifting.</li> </ul>	<p><b>MATHS TOOL</b></p> <ul style="list-style-type: none"> <li>▪ <b>Italy and Portugal:</b> stock and flows deterministic model developed with spreadsheets.</li> </ul>	<p><b>QUALITATIVE TECHNIQUES</b></p> <ul style="list-style-type: none"> <li>▪ <b>Italy:</b> Panel of Experts on future changes on epidemiological trends, future care setting and technological developments.</li> </ul>
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### Recommendations

- ▶ Focus the forecast on long-term **structural factors** and avoid being overly sensitive to cyclical fluctuations. Set the minimum time horizon at 12 (for nurses) or 18 (for medical doctors) years and restrain expectations on shorter terms.
- ▶ Forecast both supply and demand. Involve **stakeholders** in the description of future demand, first of all measuring and predicting the demographic variables. Provide different scenarios related to different conditions of the supply, including trends of dependence of the health care system on foreign trained personnel.
- ▶ Calculate the **margin of error** of the forecasting.
- ▶ Take into account the interaction between different health professions and the **budget constraints**.

# LINKING HEALTH WORKFORCE PLANS WITH POLICY ACTIONS

13

Translating the project into actions is a key feature of all the planning system. So, the key question is: how to reach the objectives? For the policy makers it's important to choose the right solutions and the most effective policies. While for planners, it's important to manage the action planning with the right approach, using the most effective tools.

## Key messages

- ▶ Policy makers need to set their own policies based on the goals to be achieved.
- ▶ It is important that they take into account the full **range of policy actions**: training policies, policies to address inflow and outflow, policies to address maldistribution and inefficiency, policies to regulate the demand of health workforce.
- ▶ **Planners** have to manage the policy actions at their best through a continuous improvement cycle.
- ▶ The Joint Action highlighted some **good practices** implemented in EU Countries. They are useful as guidance and inspiration
  - ▶ for policy makers to set the right policy actions at national and local level;
  - ▶ for planners to increase the capacity of linking the goals and the plans with the actions.

## Choosing the right policies

To reach the goals of the planning system and so turn what has been planned into outputs, **policy makers** have to choose the **right levers** and the **right actions**.

The most common (and in many cases unique) implemented lever in the EU Countries appertain to the category "**barriers to entry**": depending on the circumstances, their purpose is to regulate the access to the university, to postgraduate schools or to labour market. But the link between education and health workforce planning is often weak.



In **ITALY**, during the pilot project, Regions and Ministry of Health worked together to build a common methodology to determine in a more robust way the students intakes to degree courses. The use of this method by local and national stakeholders strengthens the link between the health workforce needs and training capacity of the universities.

But policy makers can choose **complimentary policy actions** to shape the future workforce.



In **BELGIUM**, for example, in 2008 the Ministry of Public Health and Social Affairs started an attractiveness plan for the profession of nurses. Several actions were undertaken: diminishing the workload and stress of nurses; functional differentiation (increasing the number of titles and qualifications); annual payment for the holders of a particular professional title or qualification.



In **ENGLAND**, Health Education England, Local Education and Training Boards, Department of Health work together to shape the training contents and length of training in order to produce health professionals with the required competencies to practice in the new NHS.



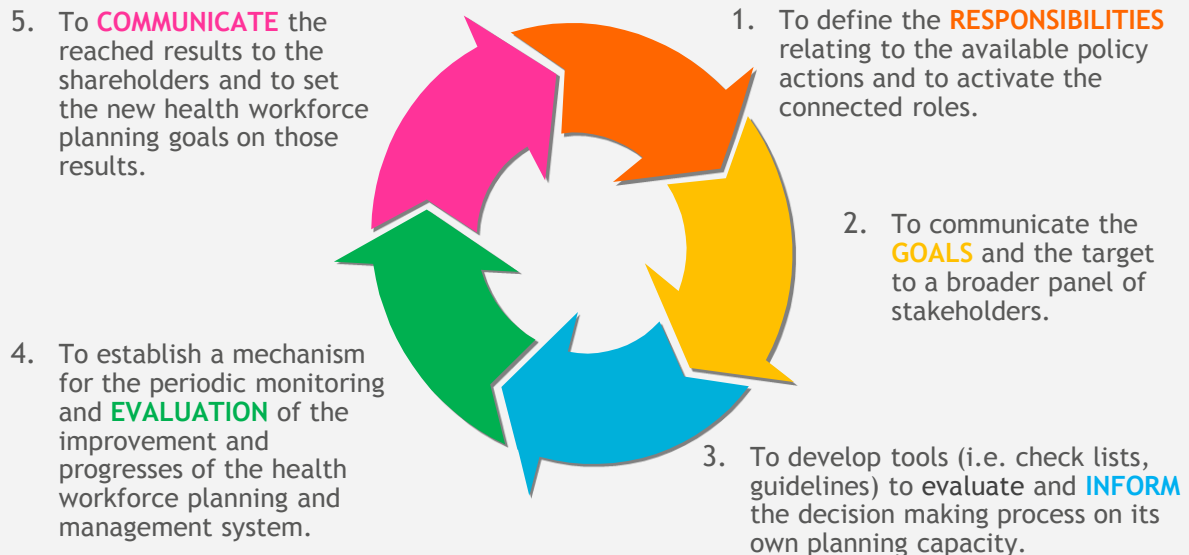
In **FINLAND**, the National Government, with the involvement of the Ministry of Education and Culture, Ministry of Economics and the Ministry of Social Affairs and Health, works constantly on measures to ensure the sufficiency and skills of the personnel, retention policy issues, redistribution of professional responsibilities and wellbeing at work in social and health care.



## Linking plans with the actions

It's planners' responsibilities to manage to the best the available policy levers. Practices developed in some EU Countries demonstrates that it is important for planners to trigger and manage an improvement cycle.

### FROM THEORY...



### ...TO PRACTICE

1. **RESPONSIBILITIES** of the planning levers are usually shared between local and national stakeholders. At the national level, the responsibility is commonly under the Ministry of Health jointly with the Ministry of Education.
2. **GOALS** of the planning system are usually communicated through the website of the planning Bodies or Entities and by specific report, yearly published and updated.
3. Usually, a series of **REPORTS** are published, containing data and monitoring evaluation. In the Netherlands, a set of evaluation parameters is arranged with stakeholders. Instead, in Belgium the control is done by a third body, the Belgian health care knowledge center.
4. In Finland training capacity is **EVALUATED** in the middle of the implementation period: the production of the qualifications is compared to the entrant targets and assessed in relation to the sufficiency of workforce.
5. In Italy, the **COMMUNICATION** of forecasting exercise' results for pharmacists fostered the stakeholders to set new goals related to training policy and students' orientation.

### Recommendations

- ▶ Develop different strategies to shape the right needed workforce (retention, retirement, flexibility, financial mechanisms, etc.).
- ▶ Communicate goals, targets and tools available to reach them.
- ▶ Monitor continuously the HWF situation, keeping stakeholders informed on the progress and changes in order to adjust and intervene with corrective actions.
- ▶ Evaluate periodically the planning capacity of the system.
- ▶ Communicate reached results and on that base, set the new goals.

# USER GUIDELINES ON FUTURE-ORIENTED HEALTH WORKFORCE PLANNING

14

The User Guidelines are aimed broadly at health workforce planners and forecasters in Member States (MSs) and stakeholder organisations in the European Union, who would like to apply future-oriented methods to improve their health workforce planning and forecasting in their specific national contexts. These methods are recommended as they help deal with the inherent complexity and uncertainty encountered when planning the workforce.

## Key messages

- The report recommends taking into account the rich practice and experience of Member States, who apply future-oriented workforce planning methods, such as scenario planning, horizon scanning and Delphi (see overleaf). These methods can be used to systematically investigate different workforce futures and assist with planning the workforce to meet population needs.
- The report also recommends that each Member State selects and applies these methods to improve their workforce planning practices. These methods help to better understand current and future workforce challenges as well as enabling robust workforce planning.

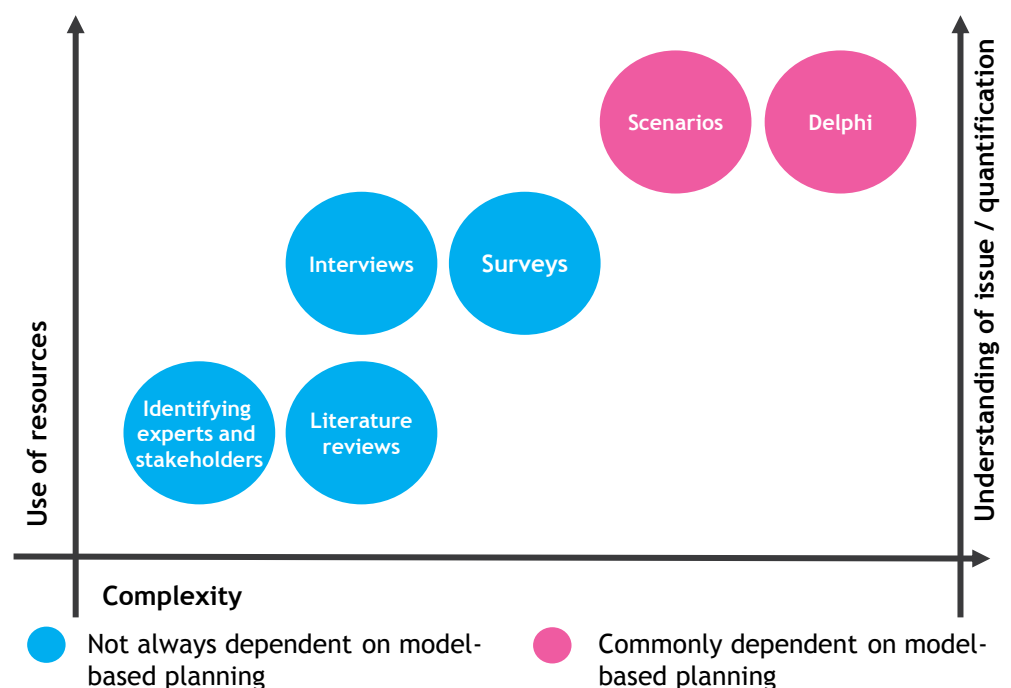
## Context and how future-oriented methods can help

Health workforce projection models are used to estimate the future health workforce required, often to inform decisions on training numbers for specific health professions and specialties. This is what most models do (inform numerus clausus). However, workforce planning models should also improve and develop, with the help of future-orientated methods, to allow considerations of:

- Multiple workforces that work together closely e.g. the workforce in primary care.
- A range of demand sources in combination e.g. physical and mental health long term conditions.
- Multiple futures and scenarios that workforces may face as a result of a complex mix of driving forces and factors, e.g. changing financial conditions, the adoption of new technologies, differing societal and epidemiological trends.

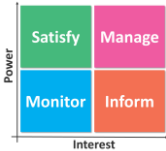




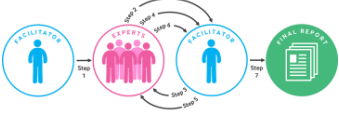
## The methods' use of resources and their use with model based planning

The chart shows the methods and how they can contribute to an increased understanding and processing of complexity; as well as their relative use of resources and whether they are dependent on model based planning.



## Future-oriented methods and who uses them as part of workforce planning

The various methods in use by the surveyed Member States in 2014 were:

Method		Description	Countries using the method
Identifying experts and stakeholders		Ensuring that all of the relevant people are identified and are involved in the health workforce planning process.	<ul style="list-style-type: none"> <li>The Netherlands</li> <li>United Kingdom</li> </ul>
Literature reviews		A literature review's main purpose is to consider the evidence that is available, and examine previous research and thinking on a topic.	<ul style="list-style-type: none"> <li>Belgium</li> <li>Finland</li> <li>The Netherlands</li> <li>United Kingdom</li> </ul>
Semi-structured interviews including horizon scanning		Semi-structured interviews are an effective research method to target people based on the specific knowledge and experience that they have, as well as to consider future drivers of change.	<ul style="list-style-type: none"> <li>Belgium</li> <li>The Netherlands</li> <li>United Kingdom</li> </ul>
Surveys		Survey research is a form of structured interviewing using a predetermined structure and topic e.g. future trends on demand for workforce or career intentions.	<ul style="list-style-type: none"> <li>Belgium</li> <li>Spain</li> <li>United Kingdom</li> </ul>
Scenarios		A scenario is 'an internally consistent view of what the future might turn out to be - not a forecast, but one possible future outcome'. Scenarios help consider different futures and different possible responses.	<ul style="list-style-type: none"> <li>Belgium</li> <li>Finland</li> <li>Germany</li> <li>The Netherlands</li> <li>Spain</li> <li>United Kingdom</li> </ul>
Delphi		The Delphi method is a systematic consensus process for collecting and refining the knowledge of a group of experts and is well known for its use in futures research and forecasting. It can help quantify uncertain workforce planning variables such as future retirement or activity rates.	<ul style="list-style-type: none"> <li>Belgium</li> <li>The Netherlands</li> <li>United Kingdom</li> </ul>

### Further information and 7 country profiles

This research can be found at the link below and includes seven country profiles for Belgium, Finland, Germany, Hungary, The Netherlands, Spain and the United Kingdom. These profiles detail how each country applies each method and shares their experiences.

# HORIZON SCANNING AND WORKFORCE FUTURES IN THE EUROPEAN UNION

15

Horizon scanning for the Joint Action has carried out research into the driving forces influencing the future skills and competences of the health workforce in the European Union out to 2035.

The report *Future skills and competences of the health workforce in Europe* and the associated policy briefs are aimed at policy makers and workforce planners across Europe to share and better understand the driving forces, their skills implications and to argue for increased use of approaches that can consider multiple workforces and futures as part of health systems and workforce planning.

## Key issues at a glance

- ▶ Health care workforces are involved in a wide range of essential activities, such as preventing ill-health, treating and caring for populations. These activities take place within a broader system of health care workforce skills and competences, where the responsibilities to deliver health care are associated with different professional groups.
- ▶ To better understand the future skills and competences required from health workforces, health systems and workforce planning need to take into account the driving forces causing change and to understand their potential effects across individuals and multiple health workforces.

## Recommendations

1. **Member States, competent national authorities and partners are aware of the implications of these driving forces on the workforce** (including the skills implications). **We encourage that this information and knowledge is applied** in Member States' national-specific contexts, with the support of workforce planning expertise and knowledge, as mapped within the EU Joint Action network of experts.
2. **Member States investigate the development of qualitative and quantitative workforce planning methods, as well as multi-professional projections** (within the context of individual member states), to further develop our future understanding of the implications to the workforce and skills.
3. **The EU Commission and Member States consider the requirement, scope and timeframe of a further workforce research programme which builds on this horizon scanning.** The next stage would be to simulate the effects of selected driving forces on workforce skills and competences as part of a system dynamics modelling project at EU level, where a range of challenging futures would be generated and quantified.
4. **The EU Commission and Member States are aware of the need to ensure that this programme of work should consider and investigate the health and care workforces of the EU.** Our health and care systems are intertwined; as are our health and care pathways that patients and service users travel. Therefore, a wider scoping of the issues potentially impacting on these workforces, with full engagement with the Commission, Member States, social partners, patient representatives and carers, is necessary to consider how our health and care systems need to respond to the future pressures and future challenges they face.

➤ **The high-level drivers of change out to 2035 are:**

Populations	Health care services	Health workforce
<ul style="list-style-type: none"> <li>▶ Population structure</li> <li>▶ Long-term care and availability of informal carers</li> <li>▶ Types and distribution of health conditions</li> <li>▶ Multimorbidity</li> <li>▶ Health inequalities</li> <li>▶ Health literacy</li> <li>▶ Patient mobility</li> <li>▶ Patient empowerment</li> </ul>	<ul style="list-style-type: none"> <li>▶ Health care expenditures</li> <li>▶ Health IT and health services</li> <li>▶ Genomics and precision medicine</li> <li>▶ Location of care by setting</li> <li>▶ Roles and decision rights</li> <li>▶ Regulation</li> </ul>	<ul style="list-style-type: none"> <li>▶ Ageing health workforce</li> <li>▶ Multi-professional education and adaptation of competences</li> <li>▶ Health IT and health workforce</li> <li>▶ Skill mix</li> <li>▶ Health workforce mobility</li> </ul>

## A complex system

This work has visualised and described a complex system surrounding health workforce skills and competences. This level of detail is simplified to provide an overview of the driving forces and their implications for workforce skills, at the levels of populations, health care services and health workforces.

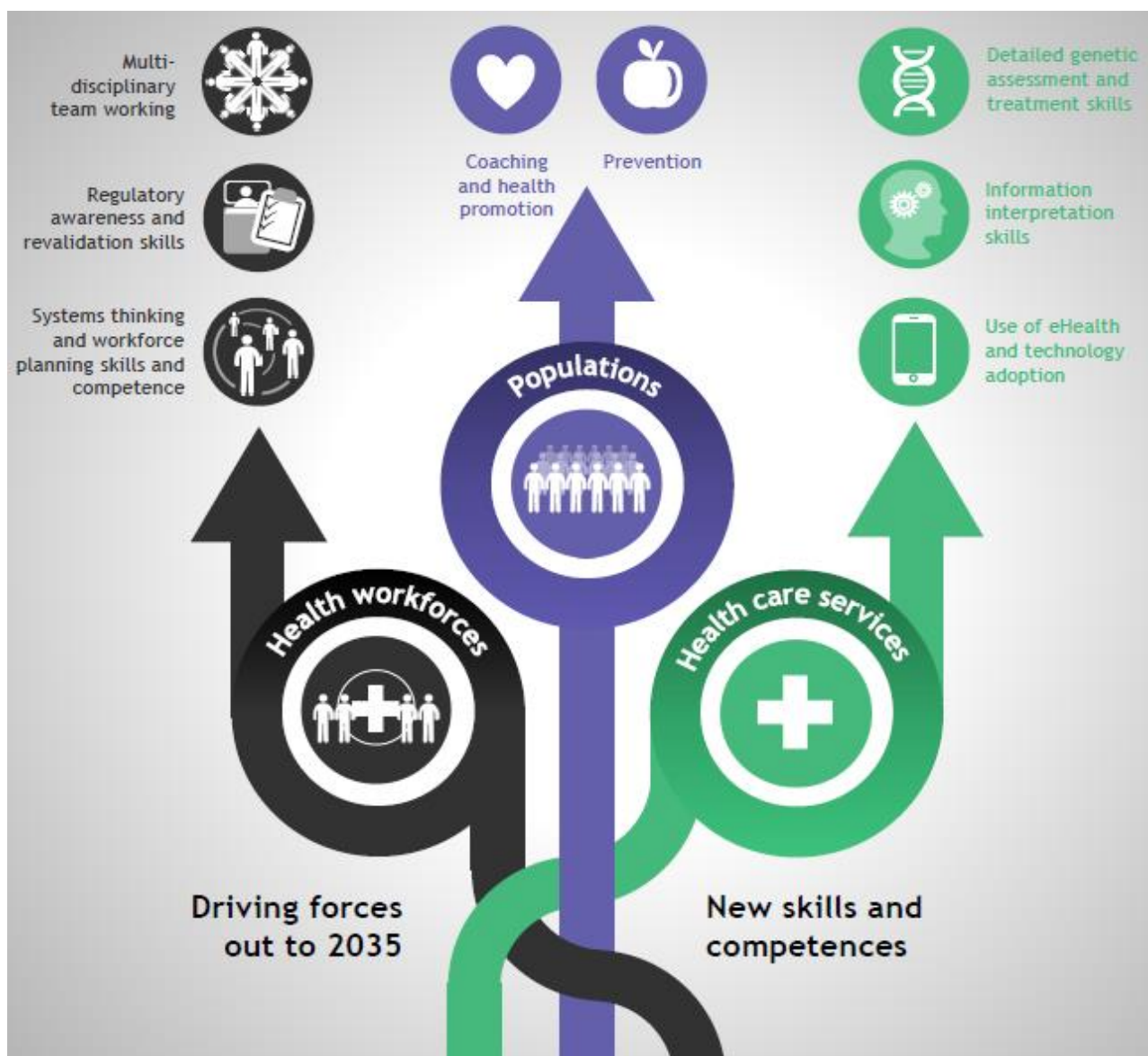
## Applicability of the approach

The approach of horizon scanning and drivers analysis can be directly applied within national-specific contexts, to better understand current workforce systems and the forces and factors driving change within them, which are likely to vary across Member States and may have divergent effects in different health systems.

## Skills and competences



Importantly, the system has been approached from a skills and competences perspective. This allows multiple health workforces to be considered and the focus to be on what will need to be done in the future, rather than starting from the existing division of roles and responsibilities and attempting to work these forward.

The high-level skills implications relating to the areas of populations, health care services and health workforces are shown below.





# BELGIUM - USE OF HORIZON SCANNING AND DELPHI METHOD AS PART OF A NATIONAL REVIEW OF THE GP WORKFORCE

16

As part of a pilot, the Belgian national process for workforce planning included the use of horizon scanning and Delphi method for the first time, providing valuable learning and findings.

The national review of the General Practitioner (GP) workforce in Belgium investigated the driving forces and factors shaping the GP workforce out to 2035 using horizon scanning; followed by the quantification of key variables for the future using the Delphi method with experts.

## Key messages

- The first time use of horizon scanning and Delphi method in workforce planning in Belgium added value to the national General Practitioner (GP) review with new areas of information and data revealed (overleaf).
- As an overall result, these methods will be used again and integrated into the overall approach by Belgium for the future, with the findings going forward into the advice and recommendations to ministers regarding the GP workforce in Belgium.
- The Belgian team at the Ministry of Health commented: “Anyone can apply these methods with the right support and obtain new useful outputs for workforce planning. We will use these methods again as we have integrated them into our formal workforce planning process”.

## Context and why this pilot was useful

The pilot provided an appropriate test of these methods being applied due to Belgium having a different type of health system and context than the UK. The focus on GPs was also relevant across Europe as this workforce is considered to be in shortage in multiple countries, alongside an overall desire within health systems towards delivering a greater amount of care in primary care settings (OECD, 2015).

Additionally, Belgium had historically considered factors and quantified variables for modelling prior to engaging experts i.e. the opposite of the UK. This resequencing of workforce planning techniques, evidence input and stakeholder/expert engagement in Belgium has provided positive outcomes.

## Recommendations for other countries considering using horizon scanning and Delphi method in the future

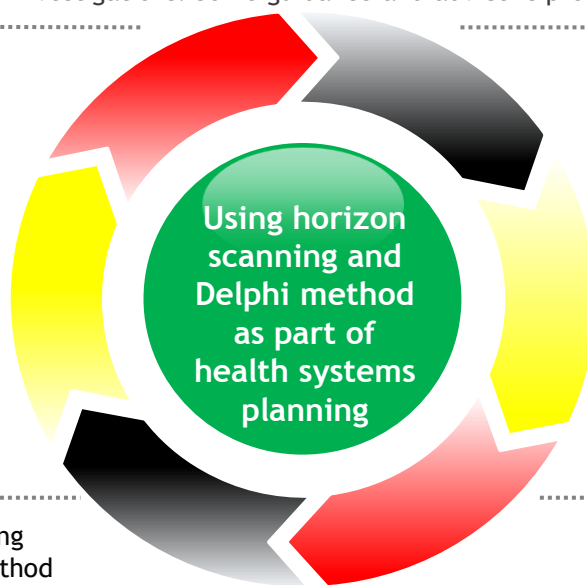
These methods are flexible, adaptable and can be used for workforce futures research projects, as well as wider health system evolution investigations. Some guidance and advice is provided below:

### 6. Ensure the overall planning, timing and budget of the work is realistic.

Learn from others who have used these methods as part of workforce reviews.

### 5. Ensure stakeholders are involved in every stage of the workforce review including modelling and variable validation (CfWI, 2015)

4. Ensure that the persons using horizon scanning or Delphi method have or access some proven experience and expertise (or access to people that do) in workforce planning.



1. Set goals and objectives of the workforce review to be completed. What is the priority? What time frame or depth will the review go to?

2. Understand the context of the system to be investigated, ensuring that appropriate methods are selected for workforce planning (Fellows and Edwards, 2014).

3. Use the selected techniques as part of an overall approach. Ensure that horizon scanning and Delphi method is strongly linked to all stages.

# BELGIUM - USE OF HORIZON SCANNING AND DELPHI METHOD AS PART OF A NATIONAL REVIEW OF THE GP WORKFORCE

## Horizon scanning - what driving forces will impact the Belgian GP workforce in the future?

The horizon scanning process enables the capture, categorisation and linkage of influential systemic factors and components from subject matter experts. These factors relate well to pan EU drivers as explored in 'Future skills and competences of the health workforce in Europe' (Fellows and Edwards, 2016) [www.healthworkforce.eu](http://www.healthworkforce.eu).



**Focal question as used by Belgium for horizon scanning**

“Thinking up to the year 2035, what are the key driving forces that will impact the general practitioner workforce in Belgium? (in terms of numbers and requirements)”

High impact factors identified	Medium impact factors identified
<ul style="list-style-type: none"> <li>• A more capitation oriented payment for integrated care delivery (Economic)</li> <li>• Changes to more horizontally integrated services e.g. out of hours (Political)</li> <li>• Introduction of new professions and adaptation of the legal framework (Political)</li> <li>• Task shifting to more multidisciplinary group practices (Political)</li> <li>• Changes in health care needs (Social)</li> <li>• Decreasing activity rate in GPs (working hours + numbers) (Social)</li> <li>• Task definition of GPs and other health care providers (Social)</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic sharing patient information (Technological)</li> <li>• Regional variation in GP distribution (Environmental)</li> <li>• Vertical integration of the relationship between GP and specialist doctors (Political)</li> <li>• Distribution of GP students between the two language communities - French and Dutch speaking (Political)</li> <li>• Large outflow older GPs (Social)</li> </ul>

Visit the horizon scanning portal at [www.healthworkforce.eu](http://www.healthworkforce.eu) to see more driving forces and workforce futures research findings.

## The Delphi method - what variables were quantified to enable improved workforce modelling?

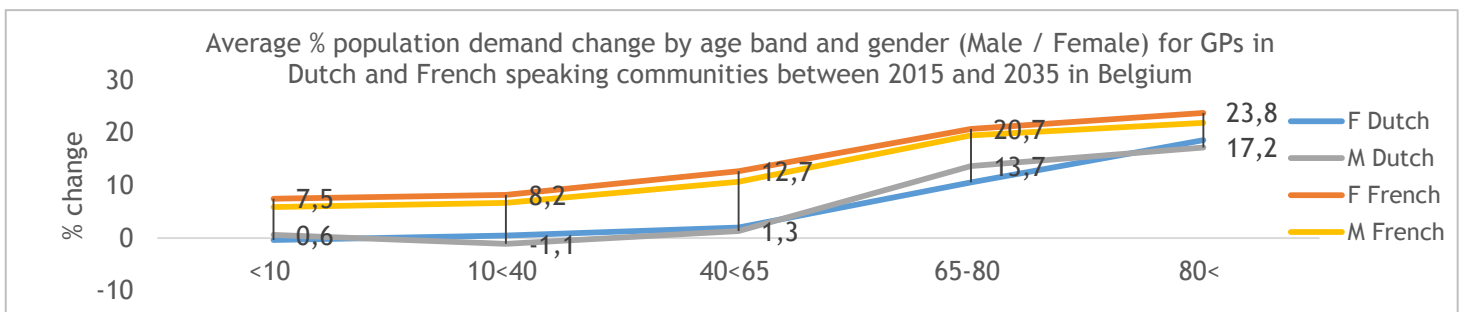
The Delphi method was developed by the RAND Corporation in the 1950s for military purposes (Dalkey and Helmer, 1963). It is a systematic consensus process for collecting and refining the knowledge of a group of experts (Linstone and Turoff, 2002) and is well known for its use in futures research.



The Delphi method elicits responses from a group of experts to a series of questions using their judgement. Often the aim is to achieve expert consensus.

Delphi method questions regarding the GP workforce in Belgium to the French and Dutch language speaking communities	Questions
	1. What is the expected change in demand for GPs in the female/male population between now and 2035?
	2. How many hours does a full time equivalent consist of now, and how do you expect this to change in 2035?
	3. What is the expected change in activity rate for female/male GPs between now and 2035?
	4. What is the expected change in distribution of tasks for a GP between now and 2035?

Below are some of the results where experts considered future population demand change by age band for males and females in different communities. The results highlight the range of values and the inherent uncertainty that workforce planning and modelling needs to take account of when creating future projections.



# LESSONS LEARNED OF NATIONAL IMPLEMENTATIONS

17

In 2015, the Joint Action launched two pilot projects in Italy and Portugal, ended on April 2016, aiming to implement in those national contexts new planning and forecasting methods. Which were the improvements reached? Which are the lessons learned in the implementation process? What are the recommendations to replicate the implementation in other national and local systems?

## Key messages

The Joint Action gave the opportunity to Italy and Portugal to improve, in a fixed term project, their national health workforce planning system. At this aim, the Joint Action provided knowledge, good practices and a network of experts. Part of this know how is contained in the *Handbook on Health Workforce Planning Methodologies Across EU Countries* and structured along an [IMPLEMENTATION PATH](#).

Starting from this shared expertise, Italy and Portugal tried to enhance the weaknesses of their national and local planning system, by reinforcing their strengths accordingly to their specific national objectives.

The two pilot projects were definitely two attempts to **change** the national planning systems. They were indeed seen as the first steps of a change that will have further developments in the coming years.

The two pilots confirmed that the improvement of the health workforce planning capacity is feasible, with good results in a short term, thanks to a continuous process of **knowledge management** and **change management** at local and national level.

Visit the planning methodologies portal at [www.healthworkforce.eu](http://www.healthworkforce.eu) to see the details of the implementation path.

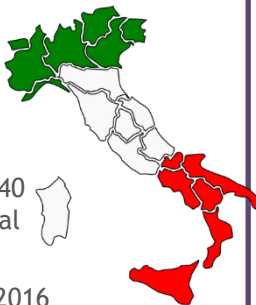
## The pilot projects' main results

A lot of efforts were done to better know on the current health workforce, to project it out to 2040 forecasting the main OUT and IN flows in comparison with the estimated future demand of health workers. A key factor was **the involvement of the stakeholders**, enabling, for example in Italy, to shape and foster more appropriate policy actions, as well as inserting the health workforce planning in the political agenda.

The pilot projects focused on **five professions**: dentists, doctors, nurses, pharmacists and, only in Italy, midwives.

### Main outputs in Italy

- Data gap analysis and inventory of the current workforce (5 professions in focus) at local (Regions) and national level.
- Projection tool, both supply and demand sides, out to 2040 available at local and national level.
- Access to degree courses in 2016 agreed in the light of the forecasting exercises.



### Main outputs in Portugal

- Characterizations of the public sector workforce (four profession in focus) and its analysis both at local and national level.
- Forecasting exercise out to 2040 at national level.
- Points of attention to further improve the Portuguese planning system.



Visit the web page [healthworkforce.eu/work-package-5](http://healthworkforce.eu/work-package-5) for a description and more results out of the pilot projects, as well as of the two feasibility studies conducted in Germany and jointly in Romania and Moldova.

# LESSONS LEARNED OF NATIONAL IMPLEMENTATIONS

## Lessons learned out of the implementation path

**Data** collected at a personal level in a dedicated data base is the best option to have a complete picture on the current situation. If not all the data are available, it's possible, consuming few resources, to use already existing data estimating the information needed by means of assumptions. In the latter case, the overview is preferred to the detail.



Measuring the **current demand** of health workforce still remains a challenge. The evidence shows that, in case of disagreement on the measurement, it's none the less important to start a discussion with the stakeholders using basic indicators as e.g. the number of professionals per thousands of inhabitants.

**Stakeholder engagement** in all the steps of the implementation path is a key element, despite it requires to invest time. Moreover, stakeholders' involvement could be turned into "assuming their point of view", with particular regards to the weakest involved party, as sometimes are health providers or patients.



Taking into account the public policy nature of the health workforce, it's important to have both a reliable and an intelligible **forecasting model**. Furthermore, some dimensions are better forecasted at local level (e.g. the population needs), while others at national (inflows from education) or international level (mobility flows).

To set health workforce **goals**, for local authorities and Professional Bodies, it is mandatory to know about the goals and the strategies of the other involved stakeholders, thus creating synergy to have a better chance of success. In turn, developing different strategies and **policy actions** guarantees major chances to reach and maintain a sustainable workforce.



The **assessment of the planning system capacity** to reach its goals is desirable and feasible. The Joint Action proposed an easy-to-use tool which allows a comparison between a "before" and an "after". Such comparison therefore allows to highlight the impact on the planning system of improvement actions such as, for example, a pilot project.

## Recommendations for a successful implementation

Recommendations based on a change management model adapted from T. Knoster (1991, TASH Conference).

### Vision

Build a **vision**, prospecting solutions to practical problems shared by stakeholders. Ensure that the problems include a local vision and that the solutions include an international perspective.

### Consensus

Try to achieve the first results in a limited time frame, starting with a basic approach, then raise topics with a more ambitious programme, thus gaining the stakeholders' trust.

### Skills

Try to achieve the first results in a limited time frame, starting with a basic approach then raising topics with a more ambitious programme, thus gaining the stakeholders trust.

### Incentives

Highlight the opportunities of health workforce planning system in the general context of HR management. Develop specific professionalism related to human resource planning.

### Resources

Establish a project team with few people (3-4) working full time. Identify other people with varied skills to be involved on demand on specific issues.

### Action Plan

Establish a steering committee in which to present the action plan for its validation. Regularly reports the results to the committee and trim subsequent actions.

# EVALUATION OF THE HEALTH WORKFORCE PLANNING SYSTEM

18

The aim of health workforce planning is to rationalize decision-making in relation to future health workforce needs, so as to respond more effectively to a country's objectives. Key questions are: How to assess the quality and impact (effectiveness) of health workforce planning? To what extent does the effectiveness of health workforce planning depend on technical factors or on governance dimensions?

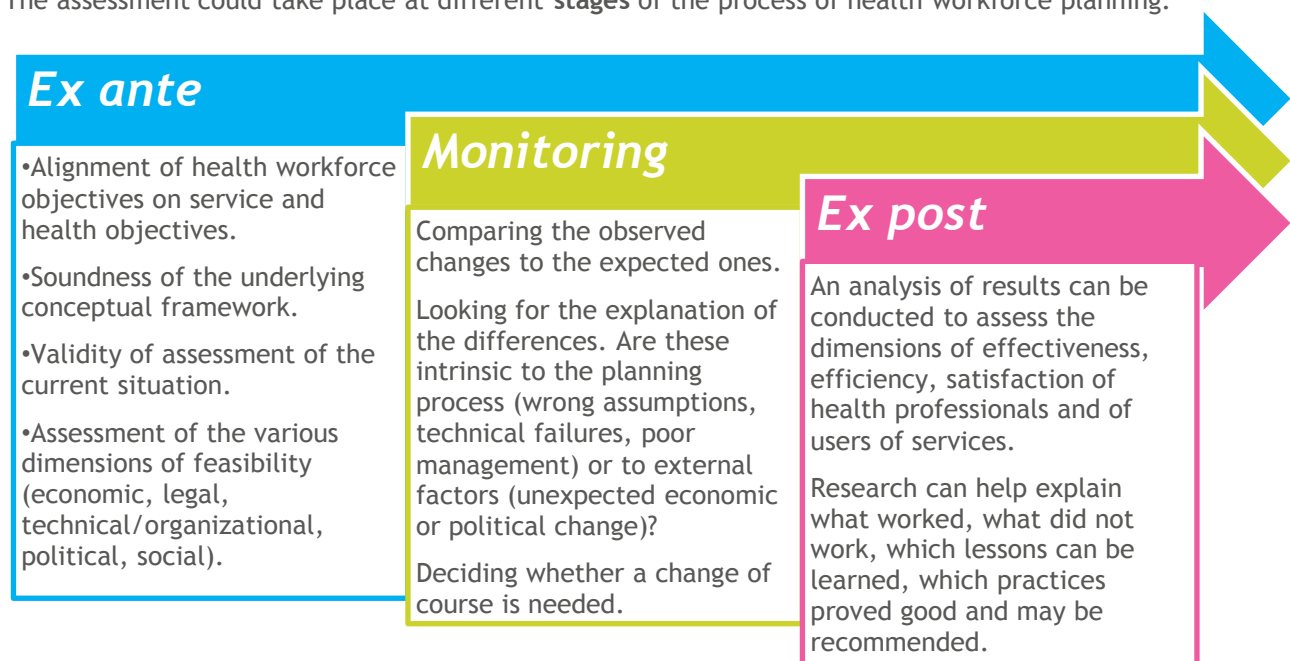
## Key messages

- ▶ The evaluation of the planning system capacity is the last step of an ideal implementation path. This step, analyzing the deeds done in the past, the achievements but also the mistakes, allows to establish next actions and future goals, thus triggering a continuous improvement cycle.
- ▶ The assessment is feasible using different tools, also custom made. In EU countries there are examples of customized tools, aimed to assess the dimensions of effectiveness, efficiency, satisfaction of health professionals and of users of services.
- ▶ The Joint Action proposed an easy-to-use self-assessment tool which allows a comparison between an “*ex ante*” and an “*ex post*” situation, highlighting the impact on the planning system of improvement actions such as, for example, a pilot project.
- ▶ The use of both customized and standard tools is recommended.

## How, what and when assessing the health workforce planning system

Health workforce planning takes place in a context of high uncertainty, as changes can rapidly occur at various levels. The evaluation of a planning strategy and system is not only possible, but it is desirable, in order to measure its effectiveness and its compliance with the changing situation.



























The assessment could take place at different **stages** of the process of health workforce planning.





## Assessing technical factors and governance dimensions of the planning system

The Joint Action proposed an easy-to-use tool which allows a comparison between an “ex ante” and an “ex post” planning capacity. The tool, made up of 13 items related to **governance dimensions** (yellow items), **technical factors** (blue items) and **sustainability features** (green item), is designed for a self-evaluation process. Each item can be scored with three ratings (0 - not at all; 1 - somehow; 2 - completely) allowing a total score from 0 to 26 points.

Governance		Technique		Sustainability	
	Objectives 		Established methodology 		
	Political commitment 		Data coverage 		
	Communication flow 		Data sources 		Regular evaluation 
	Dedicated entity 		HR information systems 		Recommendations 
	Multisectoral collaboration 		Qualitative methods 		Sustainability 

The self-evaluation toolkit is available at [www.healthworkforce.eu](http://www.healthworkforce.eu)

The “ex ante” evaluation allows to put in evidence the weaknesses of the planning system, addressing the planners to the most appropriate Joint Action’s deliverable and suggesting the improvements action. The “ex post” evaluation and its comparison with the former would allow to highlight the impact on the planning system of improvement actions and to decide upon further actions needed.

In **ITALY** the self-evaluation toolkit was used to assess the impact of the pilot project on the health workforce planning capacity. The score after the pilot project (15 points) compared to the evaluation score before the pilot project (7 points) disclosed the doubled planning capacity of the national planning.

In the **NETHERLANDS**, the stakeholders are engaged in an evaluation of the planning system’ effectiveness, assessed using the following four questions: *Has the planning model contributed to the decision-making process? Is the model mathematically sound? Is the planning approach appreciated and accepted by the health field? Does the model cover all the relevant parameters?*

## Recommendations

- ▶ To establish a mechanism for the periodic monitoring and evaluation of the progress of implementation of interventions and initiatives for HRH development and management.
- ▶ To develop and use customized tools to evaluate among the stakeholders specific dimensions of effectiveness, efficiency, satisfaction of the planning systems.
- ▶ To use the standard self-evaluation toolkit proposed by the Joint Action to point out areas of improvement and inform the decision-making process on the planning capacity.

# COMPARABILITY ISSUES: THE INTERNATIONAL REPORTING TERMINOLOGY OF HEALTH WORKFORCE

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Available and accurate data on health workforce is essential for health workforce planning. National health workforce planning in EU Member States can be based on terminology applied and data available at national level, which can be supported by international health workforce planning guidelines and tools. Agreed international terminology is a prerequisite for sharing such planning guidelines and recommendations across Member States.

## Key messages

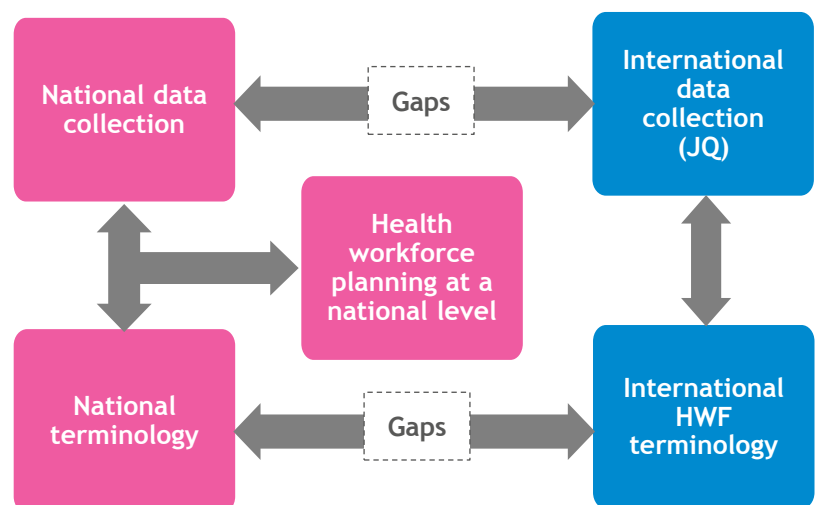
- As health workforce planning usually takes place at national or regional level, a clear national or regional system for terminology, complemented with accurate data, plays a more important role for planning than international terminology definitions.
- Although international data collection requires health workforce data base on occupations, data based on qualifications fits better the purposes of health workforce planning. Registries can be appropriate data sources for keeping records on health workforce with additional information on health care labour market activities, in the activity category available closest to practising.

## Connection between international and national data collections and terminologies

- National classifications and data collection systems based in the EU are not fully compliant with the JQ categories, therefore Member States face challenges in submitting the data for the JQ. Data interpretation or transformation according to the ISCO categories can cause difficulties, when different national classifications exist or only qualification-based data is available.
- Gaps between international and national terminologies both reflect and result in a lack of comparability between systems.
- For the purposes of national health workforce planning, only terminology and data available at national level can be used. In case of regional level planning, even more difficulties can occur due to the differences between regions, or between the regional and national systems.

## International data reporting - the Joint Questionnaire on non-monetary health care statistics

The Joint Questionnaire (JQ) by the Eurostat, OECD and WHO Europe is a harmonised tool for international reporting on health workforce, which enables the tracking of trends and allows international comparisons to a certain extent. As an internationally accepted data collection system, the terminology and definitions used in Joint Questionnaire can serve as a basis for common terminology in international planning guidelines. Definitions are agreed for each data category, and health professional groups are defined by the Standard International Classification of Occupations (ISCO-08) with less emphasis on qualifications.



## Key dimensions for health workforce terminology

A national health workforce can be described by the composition of the professions and the activity level:

- **Professional categories** include professional groups defined by occupations or qualifications. Special attention is focused on the five professions with automatic recognition (doctors, nurses, midwives, dentists, pharmacists).
- The **activity status** defines three activity levels for health professionals: **Practising** - with direct patient contact; **Professionally active** - practicing and also those active in education or research; **Licensed to practice** - including also inactive licensed professionals.
- The **amount of activity** can be featured by the quantity of health professionals, measured in headcount or in full-time equivalent (taking into account the actual working time).

## Major gaps and recommendations according to the key dimensions of terminology

A gap analysis on the current practices of applying HWF terminology can provide additional information for understanding the structure of health workforce and formulating recommendations for closing the gaps at national and international levels.

	RESULT OF GAP ANALYSIS	RECOMMENDATIONS
<b>PROFESSIONAL CATEGORIES</b>	<ul style="list-style-type: none"> <li>• Doctors, dentists and pharmacists: occupation based ISCO categories match well with qualifications</li> <li>• Nurses and midwives: data gaps due to the national specificities in the system of occupations and qualifications or the interpretation of international terminology</li> </ul>	<ul style="list-style-type: none"> <li>• Reporting less but more consistent categories for the nursing workforce is recommended, with inclusion of the qualification defined in 36/2005/EC Directive</li> <li>• Midwives should be registered separately from nurses or data for midwives should be extracted from the total number of nurses in reporting</li> </ul>
<b>ACTIVITY STATUS CATEGORIES</b>	<ul style="list-style-type: none"> <li>• In most countries, data in the three activity status categories originate from different sources</li> <li>• Available data sources can determine what types of data are available, e.g. registries are better sources for health professionals licensed to practice, while health facility reports for practicing health workforce</li> </ul>	<ul style="list-style-type: none"> <li>• Consensus is to be reached on prioritized indicators and on a set of minimum feasible common indicators based on the three activity status categories including an acceptable methodology with respect to data collection</li> <li>• For cases when data for a category cannot be collected, agreement on proxy indicators is recommended</li> </ul>
<b>AMOUNT OF ACTIVITY</b>	<ul style="list-style-type: none"> <li>• The headcount definition is straightforward</li> <li>• There are significant differences across countries in Full-time Equivalent measurement</li> </ul>	<ul style="list-style-type: none"> <li>• International organisations should cooperate with Member States and their competent authorities to agree upon, announce and promote methodological choices for calculating FTE</li> </ul>

## Relevance for planning

**Data collection according to qualifications** is more supportive for planning, as it can be linked easily to the interventions at the level of education. Regarding activity categories, *licensed to practice* and *practicing* data can also add valuable information for planning. In cases, when *practicing* data according to the international definitions is not available, producing **data closest to practicing** is recommended.

Data gaps are most often originated from the fact that **national data collections are usually planned and maintained originally for other purposes** than international reporting or health workforce planning. Harmonised international terminology and precise definitions can give guidance for Member States for system improvements. Increasing the use and visibility of JQ results at national level is recommended.

# THE RELIANCE ON FOREIGN HEALTH WORKERS DATA

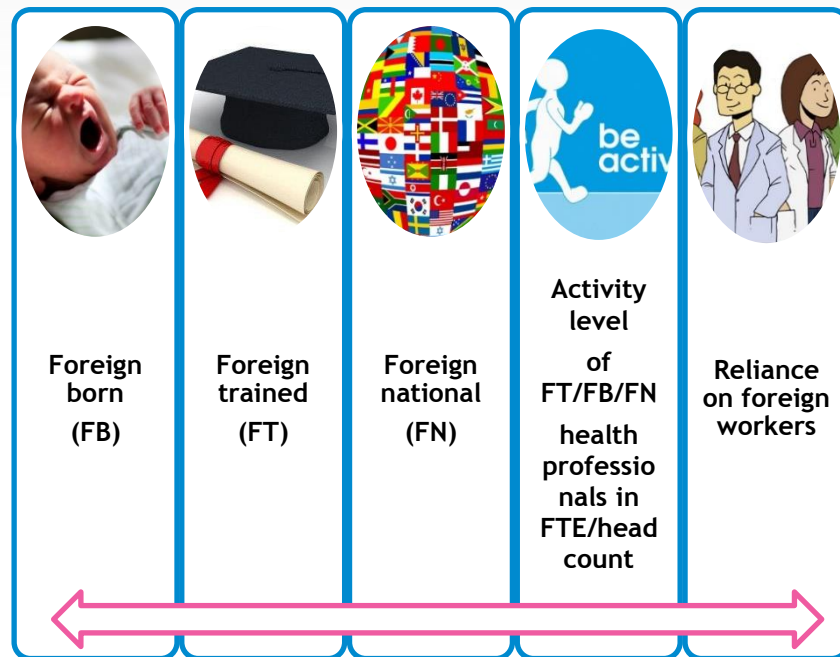
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The reliance on foreign trained and foreign national health workforce may constitute a risk for the health system of a host country. Mobile human resources might migrate further on one hand, and as driving forces for mobility can evolve drastically in a short timeframe, the country may be left dependent on insufficient HWF training capacities. Indicators that measure such reliance are essential to national health workforce planning.

## Key messages

- As HWF mobility has an impact on the national health system of many countries, its significance needs to be evaluated at the national level. Mobility indicators are complex tools for such evaluation.
- For the evaluation of mobility, the key data categories are: Foreign Born, Foreign Trained, Foreign National, Full-time equivalent and Headcount. These categories need to be further refined, for an in-depth analysis of mobility flows. See figure on the right
- Two overarching HWF planning objectives are the most important for most European countries: **managing outward migration of HWF** (brain drain), and **managing inward migration** (the reliance on foreign HWF).

## Key data categories for measuring mobility



## Reasons of reliance on foreign health workers

Reliance on foreign workforce may be the

- consequence of underinvestment in the educational infrastructure,
- relying on foreign education at lower costs than on domestic training,
- specific dynamic of the market towards foreign HWF with lower salary and work condition requirements,
- the effect of global mobility flows.

Inflow indicators provide information for policy making to address these consequences.

## Priority list of data categories for indicators



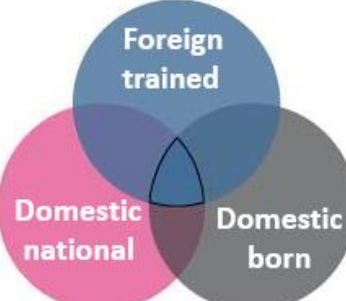
When building the indicators, the following hierarchy of data categories is suggested to be used. Categories are presented in a preference order. If the best variable is not available, then the second one should be used, etc.

Professional activity status	1. Practicing 2. Professionally active 3. Licensed to practice 4. With registered qualification
Quantification of professional activity	1. Full time equivalent 2. Headcount
Mobility status	1. Foreign-trained: first qualification without domestic-born and domestic-nationality 2. Foreign nationality: nationality at registration 3. Foreign-trained by first qualification 4. Foreign-trained by last qualification 5. Foreign-nationality: current nationality 6. Foreign-born

# THE RELIANCE ON FOREIGN HEALTH WORKERS DATA

## Reliance on foreign education and foreign health workers - optimum and minimum contents of key indicators (nominator/denominator)

Inflow indicators have been developed (described as „optimum” in the table below) trying to filter out bias, in order to better measure the reliance of a country on foreign education, health workers and trainings. The data contents of the indicator is also indicated by the black contour in the figures.

Indicator	Indicator contents (optimum)	Indicator contents (minimum)
<b>Reliance on foreign education</b>		
	$\frac{\text{number of practising foreign health professionals in FTE}}{\text{number of all practising health professionals in FTE}}$ <ul style="list-style-type: none"> <li>foreign: foreign-trained excluding foreign-trained health professionals who are both domestic-born and of domestic-nationality</li> </ul>	$\frac{\text{number of foreign-trained health professionals in head counts closest to practising}}{\text{number of all health professionals in head counts closest to practising}}$ <ul style="list-style-type: none"> <li>This content in fact determines the reliance on foreign education</li> </ul>
<b>Reliance on foreign health workers</b>		
	$\frac{\text{number of practising foreign health professionals in FTE}}{\text{number of all practising health professionals in FTE}}$ <ul style="list-style-type: none"> <li>foreign: foreign trained</li> </ul>	$\frac{\text{number of foreign-trained health professionals in head counts closest to practising}}{\text{number of all health professionals in head counts closest to practising}}$ <ul style="list-style-type: none"> <li>The same as the minimum of the reliance on foreign health workers</li> </ul>
<b>Tendency towards foreign education</b>		
	$\frac{\text{number of practising foreign health professionals in FTE}}{\text{number of practising health professionals in FTE}}$ <ul style="list-style-type: none"> <li>foreign: foreign trained with domestic birthplace and domestic nationality</li> </ul>	$\frac{\text{number of domestic-born, domestic-nationality and foreign-trained health professionals closest to practising in head counts}}{\text{number of health professionals closest to practising in head counts}}$

## Recommendations

National HWF planning strategies in destination countries in order to comprehensively assess the mobility phenomenon should

- **utilise the above indicator categories** for the measurement of the reliance on foreign education, foreign health workers, and the tendency towards foreign education
- **dedicate particular attention to the collection of data in the key mobility data categories** that especially support the measurement of the reliance of foreign health workers: Foreign Born, Foreign Trained, Foreign National, Full-time equivalent and Headcount
- **establish national legislation that facilitates the required mobility data collection**, in compliance with EU and national data protection laws.



# RELEVANCE OF THE WHO GLOBAL CODE OF PRACTICE ON THE INTERNATIONAL RECRUITMENT OF HEALTH PERSONNEL IN THE EU CONTEXT

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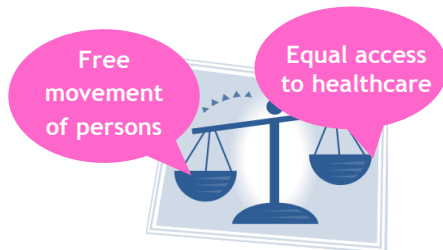
The voluntary WHO Global Code of Practice on the International Recruitment of Health Personnel was adopted on 21<sup>st</sup> of May, 2010. Good practices of implementation are available in growing number in the EU Member States, and the EU can be considered as a leading region in this regard. Discussions investigated whether and how these practices can be used in a special context: within the free movement zone of the European Union. Good practices collected can be used for experts or even decision makers.

## Key messages

- The principles of the Code cover a wide horizon of policies connected to mobility management, and are also relevant within the EU context.
- Good implementation practices can offer a basis for intra-EU solutions compatible with EU law.
- Building on health workforce planning can help to validate the assumptions on migration.
- The applicability of the WHO Code for the EU is undoubtedly a major topic for future discussions at EU and national levels. The sharing of knowledge should be continued.

## The special context of the EU

- The freedom of movement is a cornerstone of European integration
- The realisation of free movement of persons however can result in considerable imbalances in the healthcare systems of some regions or countries within the EU.
- Research has shown significant changes in mobility patterns as a consequence of recent enlargements



## WHO Global Code of Practice on the International Recruitment of Health Personnel

The Code aims to establish and promote voluntary principles and practices for the ethical international recruitment of health personnel and to facilitate the strengthening of health systems. Member States should discourage active recruitment of health personnel from developing countries facing critical shortages of health workers. The Code was designed by Member States to serve as a continuous and dynamic framework for global dialogue and cooperation.

Source: WHO at <http://www.who.int/hrh/migration/code/practice/en/>

## Implementation of the WHO Code in the EU - topics covered by the Joint Action and the introduced MS practices (DE, FI, IE, MO)

Art. 4 - Responsibilities, rights and recruitment practices - ethical recruitment, fair treatment with migrants

Art. 6 - Data gathering and research for effective planning

Art. 8 - Implementation of the Code, role of recruitment agencies, circular migration

Art. 5 - Health workforce development and health systems sustainability - training and retaining, international cooperation on recruitment

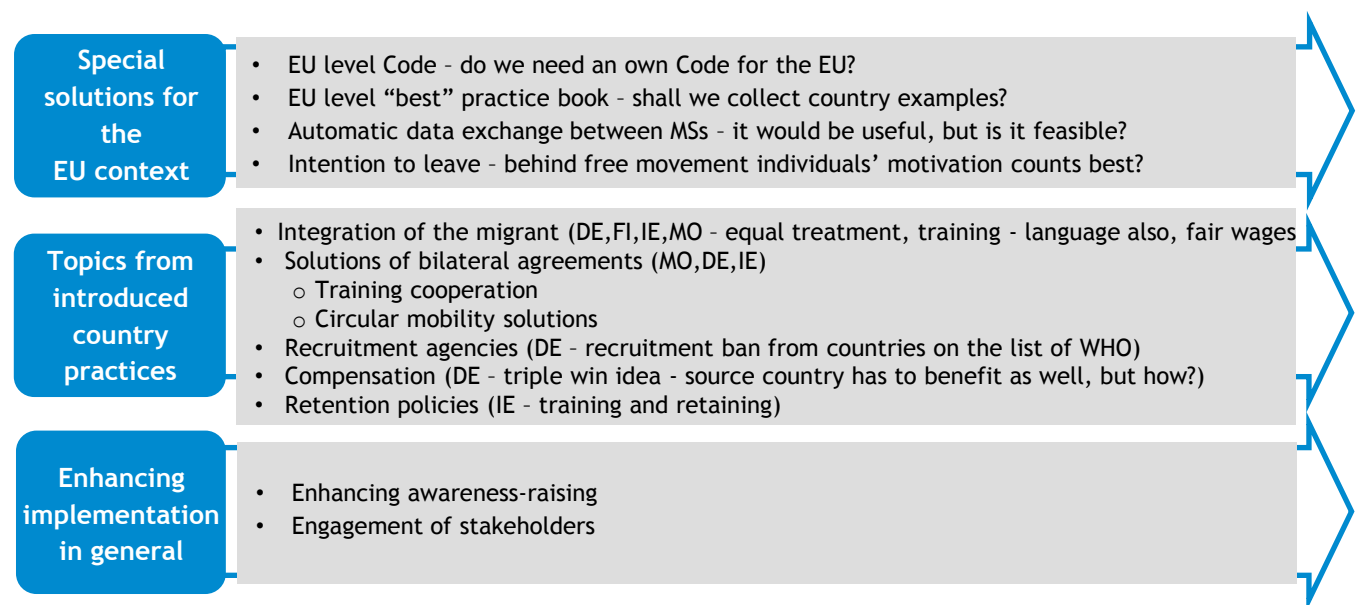
Art. 7 - Information exchange on migration and health systems

Art. 9 - Monitoring the implementation of the Code

## Lessons learnt from implementation in EU Member States

- Solutions to benefit all actors affected by international recruitment have to be elaborated, with a special focus on also benefiting the source country.
- The WHO Code is much broader in scope than ethical recruitment practices. More attention has to be given to the integration and fair treatment of foreign health personnel.
- Engaging professional organisations, and especially the level of employers with the messages of the WHO Code is inevitable for proper implementation.
- Further awareness-raising is needed - the Code is not widely known or is narrowly interpreted.
- EU Member States should invest the necessary resources for the operation of the national designated authority for the WHO Code, and communicate and share information on health worker recruitment and migration issues.
- Initiatives aiming to better monitor migration flows could support decision-makers in finding the necessary points of intervention, where the implementation of the Code has to be strengthened.

## Relevant issues to be discussed within the EU context



## Main findings and recommendations concerning the applicability within the EU

- **Cross-border tailor made solutions** between institutions can significantly improve compliance with the Code and also the transparency of HWF mobility within the EU.
- **Compensating for the loss** of investment into health workforce is hardly feasible at EU level, however ethical solutions can be supported by better use of cohesion policies and other funds.
- **Retention policies** at Member States level have high impact on health workforce mobility, creating fair, equitable working conditions in the source country is of key importance.
- **Employment** of EU health workforce also has to be based on **ethical principles**, avoiding the discrimination when offering jobs.
- **Data exchange** on mobility should be as **automatic** as possible; especially data from receiving countries on the registration of foreign workforce.

# CIRCULAR MOBILITY - AN OVERVIEW OF KNOWLEDGE

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Circular migration is increasingly being advocated as a potential solution to a number of challenges surrounding migration flows of the health workforce. The Report on Circular Migration of the Health Workforce provides an overview on circular migration of the health workforce and provides European Member States with preliminary guidance on how source and destination countries may cooperate, in order to find a mutually beneficial solution in terms of circular mobility of the health workforce.

## Key messages

- Circular migration - a form of migration that allows migrants some degree of mobility back and forth between two or more countries - is being advocated as a potential solution to a number of challenges surrounding health workforce migration flows.
- Circular migration is one of the most important, relevant and feasible actions to start with, in order to better manage health workforce mobility, according to participants of the Joint Action ‘Workshop on the applicability of the WHO Global Code of Practice on the International Recruitment of Health Personnel’ (see also the *Info Sheet on Relevance of the WHO Global Code of Practice on the International Recruitment of Health Personnel in the EU*).
- Currently, there is a lack of empirical data and research on circular migration of health workers, its prevalence and health workforce impacts in sending and receiving countries.
- The Joint Action on Health Workforce Planning and Forecasting proposed six guiding principles for cooperation in circular migration of the health workforce, within the framework of the WHO Global Code of Practice on the International Recruitment of Health Personnel.

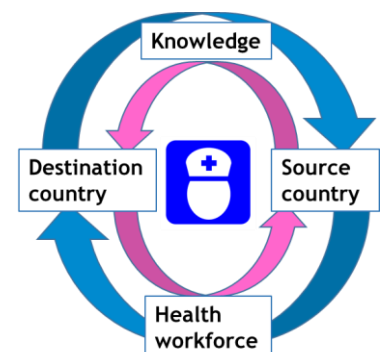
## Circular migration as ‘triple win’ solution

Circular migration is being advocated as a potential solution to a number of the challenges surrounding health workforce migration flows, including brain drain and the inequitable distribution of health workers. The **WHO Global Code of Practice on the International Recruitment of Health Personnel** encourages Member States to “facilitate circular migration of health personnel, so that skills and knowledge can be achieved to the benefit of both source and destination countries” (Art.3.8).

In recent years, circular migration has been promoted as a ‘triple win’ solution, bringing benefits to:

- **Source countries:** e.g. benefiting from health workers who return with greater knowledge and skills and enhanced networks and ideas;
- **Destination countries:** e.g. that can handle health worker shortages in a flexible and timely way;
- **Migrant health workers:** e.g. enhancing their income, skills and experience.

Yet this idea of a ‘triple win’ outcome has also been contested, especially for migrant workers and, to a lesser extent, the source countries.



## Cooperation in circular migration

Little is known about the impact and effects of various cooperation forms in circular migration of the health workforce on source and destination countries and health workers. This is because of a lack of data and also because many of these cooperation forms are still in their infancy. An overview of the formal and informal cooperation mechanisms and practices available in the EU for migrants from EU and non-EU countries shows that:

- Immigration policies are still the traditional mechanism for managing international migration flows;
- Mobility partnerships specifically focused on circular migration are rarely used;
- Many circular migration initiatives and collaborations take place outside the realm of formal legislative and policy mechanisms and structures. These mainly take the form of temporary projects and often involve NGOs to help execute them.

## Example from practice: the German Triple Win Migration© Programme

The German Triple Win Migration© Programme develops training and partnerships between medical institutions in source and destination countries. Its main guiding principle is the WHO Global Code of Practice on the International Recruitment of Health Personnel. It works in the following way:

- Identification of **appropriate source countries** (in terms of health workforce, education and training, future health system needs, cultural aspects ...)
- Establishment of a **training and development cooperation** between different institutions in both countries (schools/universities, care organizations and companies)
- Foreign health professionals (nurses) are recruited and receive **language training and intercultural training** in their country as well as **practical support** for transfer to Germany (recognition of qualification, residence and work permit).
- The foreign nurses have the **opportunity to work in German healthcare facilities** and are (further) educated in geriatric and elderly care.
- The foreign health personnel will be actively **supported to utilize work experience** gained abroad for the benefit of their home country, not always necessarily meaning a return.

There are schemes in Vietnam, Serbia, Bosnia, the Philippines and Tunisia.



## Guiding principles

In view of the lack of knowledge and evidence on circular migration of the health workforce, no clear-cut recommendations or best practices on how to deal with this issue can be provided to European Member States. Yet, based on the evidence available, the following preliminary guidance is presented:

### Six guiding principles for cooperation in circular migration of the health workforce

- Consider circular migration of the health workforce as **one option among others**
- Circular migration should be based on the **principles of the WHO Global Code of Practice** and aim for a 'triple win' outcome
- **Cooperation structures** for circular migration of the health workforce should be chosen primarily based on the health workforce needs of the source country and adapted to the envisioned goal
- Circular migration of health workers is a **joint process** and should involve all relevant parties
- The importance of **language skills and recognition of professional skills** needs to be acknowledged and better integrated in circular migration processes
- **More data and research** on circular migration of the health workforce are urgently needed, including on what percentage of migration can be labelled as 'circular migration', integration and training costs, average stay, inflow of remittances to source countries, and so on.

# SUSTAINABILITY VISION OF THE JOINT ACTION ON HEALTH WORKFORCE PLANNING

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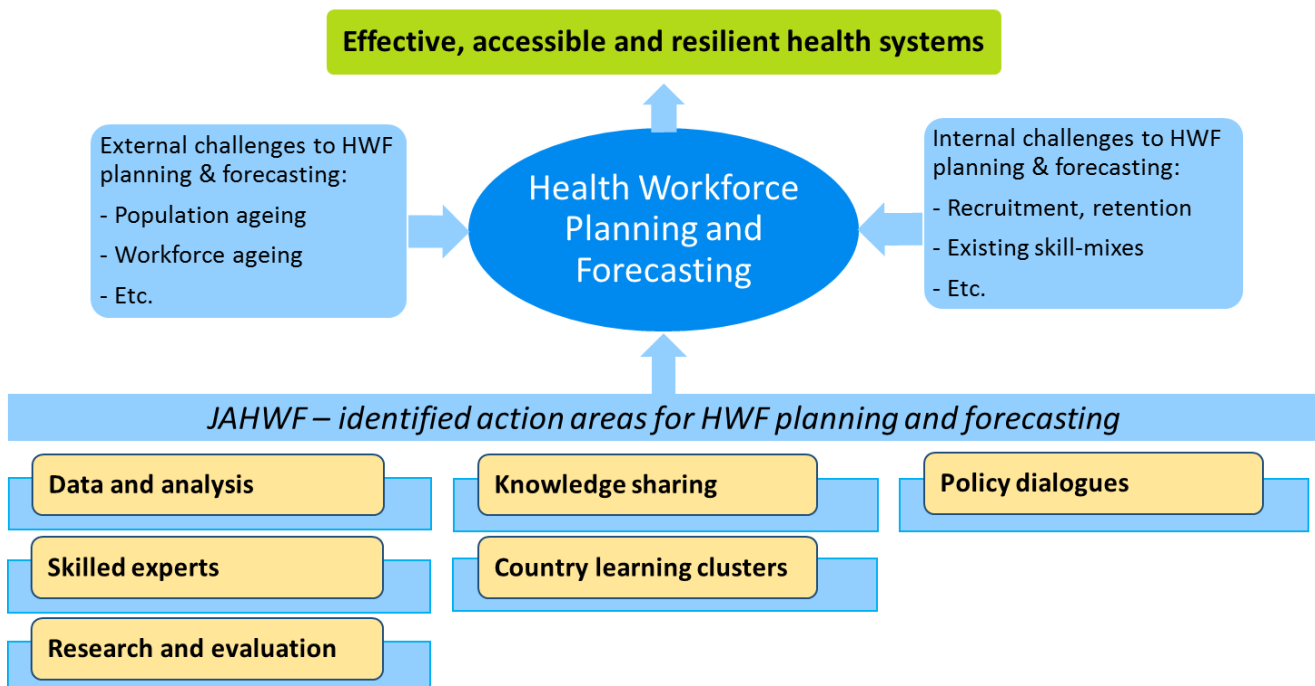
The sustainability strategy of the Joint Action on Health Workforce ensures that the results, its outputs, activities and benefits are developed after the end of the project. The sustainability actions and projects are aimed at the further development of the knowledge and EU cooperation on health workforce planning and forecasting through essential new research, cooperation projects, knowledge sharing and exchanging of best practices, implementation of health workforce planning and forecasting models.

## Key messages

- Health workforce planning and forecasting are crucial for ensuring *effective, accessible and resilient health systems*
- The Joint Action on HWF provides EU Member States with a valuable platform for collaboration and exchange and aligns actions with other relevant and national initiatives in the area of HWF policy
- The sustainability of the Joint Action on HWF focuses on both policy and technical levels, i.e. it is aimed at technical support and supporting the policy making process
- The Joint Action on HWF Sustainability Vision provides directions on how the obtained Joint Action on HWF results and benefits might be sustained in the future

## Method

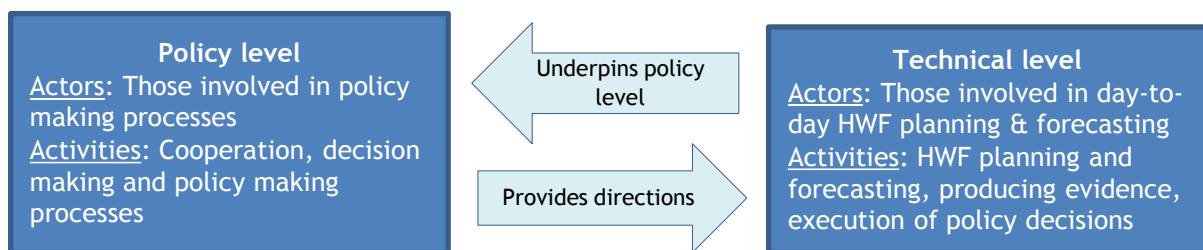
To sustain the flow of Joint Action on HWF outputs and benefits into the future, a number of priority action areas for HWF planning and forecasting have been identified:





## Main Findings

- The experiences from the Joint Action on HWF are consolidated into a design for a platform of collaboration and exchange between EU Member States, stakeholders, health professionals, international organizations and the academia.
- The sustainability of the Joint Action on HWF focuses on both policy and technical levels, acknowledging their strong interrelatedness in HWF planning and forecasting, while retaining the distinction between the two levels:



## Added Value

- The outcomes of the Joint Action on HWF, will contribute to the development and implementation models for planning and forecasting of health professionals, to mitigating the gap between the demand and supply of health professionals equipped with the right skills and competences.
- The sustainability will further enhance European cooperation and the political willingness of EU Member States to undertake a range of actions in the field of HWF planning and forecasting, together with project proposals that can be performed independently.
- To further translate the JAHWF exchanges into national policies and develop EU Member States cooperation in the area of health systems, with a central role for the HWF, continuous policy dialogues have to take place at both national and European level. These will lead to shared HWF and health system objectives and strategies, including strategies related to health inequities. This is also an important step of the WHO Global Code of Practice implementation.
- The Sustainability Plan is built on the basis of The Knoster model for managing complex change. It connects the symptom with the components of change. The results of JAHWF activities will enable the process of overcoming the gap between education and health employment, will increase the understanding of global developments beyond the national strategies in order to plan and manage human resources for health in the EU internal market.
- The Sustainability Plan is in line with the European Network of Health Workforce Planning Experts (ENHWoPE), which has been established within the current Joint Action on Health Workforce. It also supports the activities for further development proposed in the Business Plan.

# NETWORK OF EXPERTS

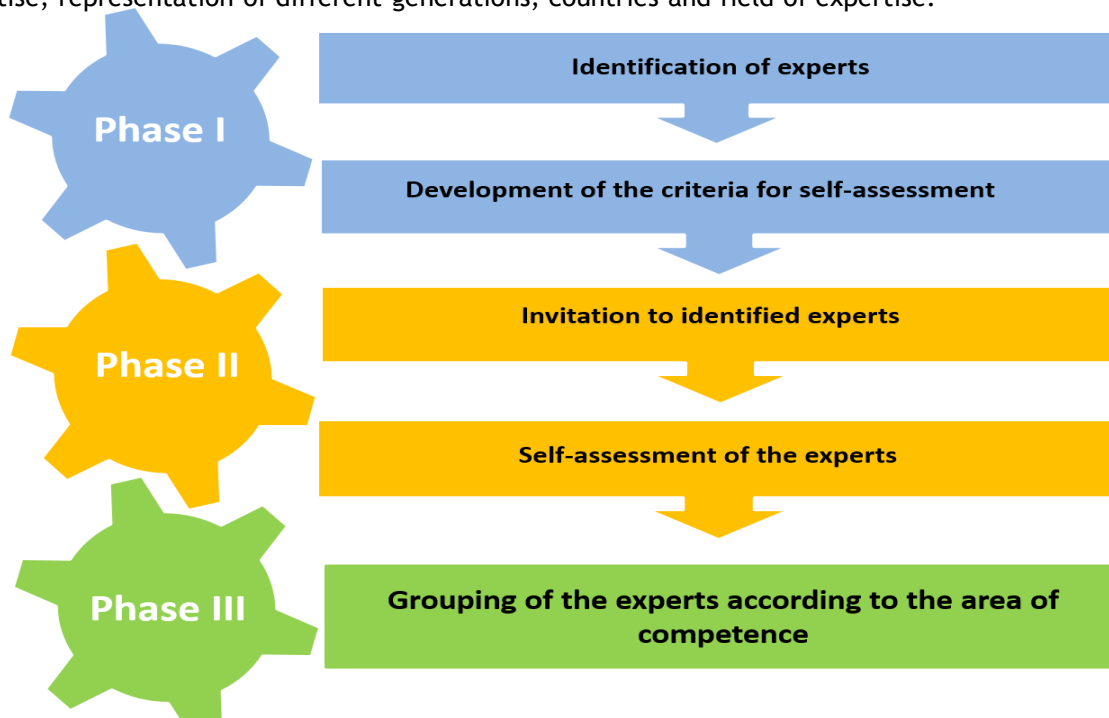
The European Network of Health Workforce Planning Experts (ENHWoPE) is a platform within the current Joint Action on Health Workforce. The Network aims at being a think tank providing European policy makers with sound base for policy decisions: up-to-date information, analysis, good practices, experiences, trends and recommendations on health workforce planning and forecasting. While focused on the specific challenges of the European region, the European Network welcomes world experience and builds the link for a global knowledge management. Viewing health workforce planning as an important part of health systems planning, it affiliates and seeks synergies with the other EU networks and organizations.

## Key messages

- The Network is intended to retain the momentum of the Joint Action on Health Workforce Planning and benefit from the synergies achieved by the participants, all associated and collaborative partners, stakeholders and the EU Expert Group on Health Workforce.
- The Network of Experts consists of leading and like-minded researchers, who wish to see their evidence considered and applied in policy processes.
- The participants in the Network of Experts will further collaborate with other experts from different fields and find solutions on specific issues related to health workforce.
- The Network will be further developed and extended with new participants - experts in different fields of health workforce governance.

## The Process of Establishment and Development of the Network

The components of the whole process of establishment of the Network are based on the main principles of cooperation, transparency, voluntary participation, diversity in the area of competences and level of expertise, representation of different generations, countries and field of expertise.



# NETWORK OF EXPERTS

## Main findings:

The participants in the Network of Experts come from the following five competence areas according to their self-evaluation:

- Data and modeling;
- Healthcare system development;
- Policy making;
- Education and training;
- Labour market and employment.

There are two levels of expertise in each area of competences:

- Level „Experienced” - the expert is considered as possessing experience and knowledge sufficient to the relevant components of the planning and forecasting processes: to analyze data and environmental factors, do research, conduct studies, model processes, take part in training, etc.
- Level „Master” - the expert is considered an authority in the field and an established practice leader, adding value to the existing knowledge and experience

New applicants are expected and welcome to join the Network of Experts on the web portal [www.healthworkforce.eu](http://www.healthworkforce.eu)

## Core recommendations:

Extend and further develop the Network with the involvement of a larger number of participants with broader expertise

Share and update of methodological and statistical information, good practices and knowledge on a regular basis

Apply the cluster approach as a possible solution of specific problems related to health workforce

Cooperate with other relevant networks, stakeholders and partners to support health policies at national, regional and EU levels

Extend the scope from health workforce planning to health workforce governance

## Added value

The **expected outcomes** of the future functioning of the Network of Experts are as follows:

- identification and development of a set of methods and tools for health workforce analysis;
- building capacity at a national level for the use of the developed methods and tools;
- increasing accessibility to the developed models and tools;
- exchange of good practices in planning and forecasting of health workforce;
- improving the quality of health workforce planning and forecasting as part of positive health systems' changes;
- sustainability of the achieved results.

# TECHNICAL RECOMMENDATIONS AND RECOMMENDATIONS TOWARDS POLICY - MAKING

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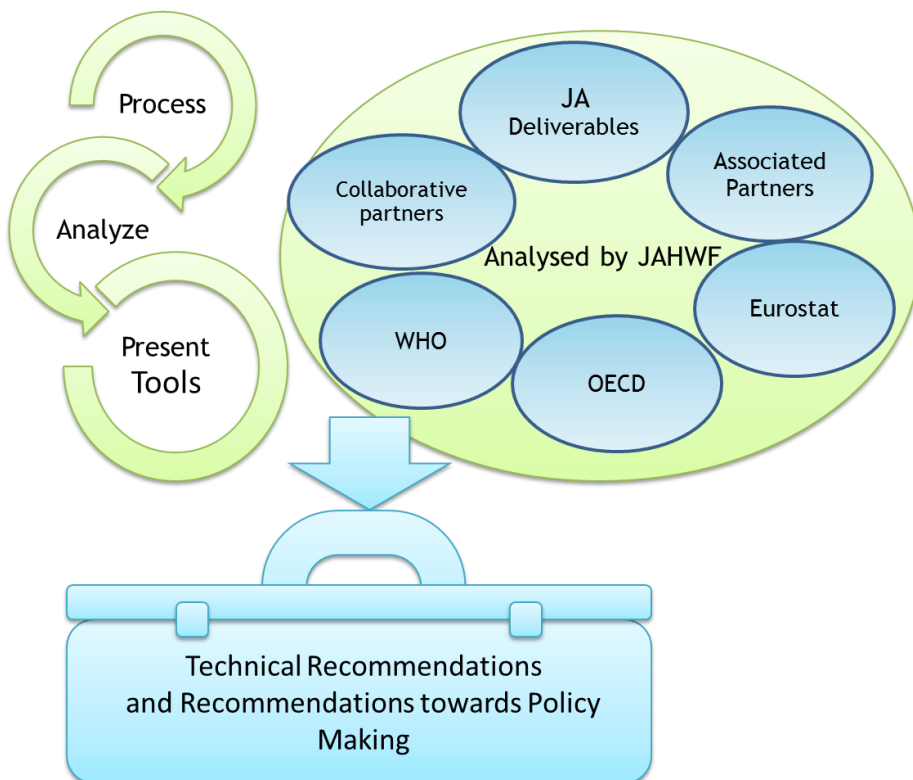
The Joint Action on Health Workforce recommendations have been developed on the basis of the documents and studies of the project, as well as discussions and consultations with stakeholders and partners. They are brought together and divided into technical recommendations and recommendations towards policy-making. These recommendations can be beneficial for health workforce planning and forecasting at national and European level in the following areas: international data reporting, mobility data, planning methodologies of the health workforce, future competences (skills, knowledge, attitude), applicability of WHO code for ethical recruitment.

## The concept of Technical Recommendations and Recommendations towards Policy making

- Recommendations on technical level are aimed at experts and specialists, involved in planning and forecasting. These recommendations concern the technical support activities of health workforce planning and forecasting: collecting data, producing evidence and intelligence, executing policy decisions, etc.
- Recommendations at policy level are aimed at decision and policy-makers. These recommendations aim at supporting the cooperation, decision-making and policy-making processes.
- There is a strong correlation between policy and technical levels in HWF planning and forecasting, which integrates these two components to support sustainability, while retaining the distinction between the two levels.

## Description of the Methodology

The process of identifying and formulating the recommendations has been evidence-based on the findings and conclusions of the knowledge and documents delivered by the three core work packages of Joint Action on Health Workforce, as well as the input by associated and collaborative partners. In addition, they comply with the expertise and documents of WHO, OECD and Eurostat:



- The collected input has been analysed, listed and structured under five main **Policy Recommendation Groups** on the basis of the Knoster Model for Managing Complex Change. The Five Policy Recommendation Groups have been validated through three consultation rounds among relevant stakeholders and experts.
- The collected input has been analyzed, listed and structured under six main **Technical Recommendation Groups**. The Technical Recommendations Groups have been validated through two consultation rounds among relevant stakeholders and experts.

## Main Technical Recommendations and Recommendations towards Policy Making

### European Cooperation

- European cooperation can be useful to exchange best practices and learn from each other's experiences and to scale up research efforts.

### Common Vision

- EU Member States and EEA should continue to share a common vision, to guarantee the necessary flow of resources for health workforce planning beyond the level of the projects and actively involve the stakeholders (employers, professional organisations, educational bodies, NGOs, etc.) in order to overcome the imbalances of the health workforce.

### Resources

- The application of qualitative and quantitative methods could improve the relevance of outputs, aid transparency of decision-making and help to develop a shared vision of the future health workforce for Member States and across Europe.
- These methods should be used within national-specific contexts and in further research and collaborative programmes; they should be combined with quantitative modelling to project the relative size and uncertainty of workforce supply and demand pressures.

### Investment in the recruitment and the skills development

- Investment is needed in developing a sustainable framework for health workforce intelligence.
- Governments are recommended to set up a national body that engages state, local, public and private stakeholders and carry out the planning process in every stage, with roles and responsibilities clearly defined.
- All interested stakeholders should be identified and involved in the planning process.
- Partnerships between educational institutions and the health care organizations should be enhanced and further developed.

### Data and Analysis

- EU/EEA governments and planning partners need to work together on common mobility indicators, while respecting EU and national data protection legislation and information exchange on HWF mobility.
- Investment is needed in developing data bases and analysis with focus on mobility.

### Education, Training & Research

- Educational models should be able to match the rapid changes in population needs and respond to the new requirements of the developing health systems.
- New technologies should be used to enhance distance learning, skills development and interactivity. It will complement the traditional physical teaching and strengthen good educational outcomes.
- Further research in the field of health workforce planning and forecasting is recommended at national and EU level.



International level of action



National and International level of action



## Work Package 1

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## Work Package 2

- INTRODUCTION TO THE FINAL GUIDE OF THE JOINT ACTION ON HEALTH WORKFORCE PLANNING AND FORECASTING (INFO-SHEET #1)
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## Work Package 4

- CREATING A HEALTH WORKFORCE PLANNING ENVIRONMENT (INFO-SHEET #5)
  - HEALTH WORKFORCE DATA FOR SYSTEMATIC PLANNING (INFO-SHEET #8)
  - THE MEASUREMENT OF HEALTH WORKFORCE OUTFLOW (INFO-SHEET #10)
  - COMPARATIBILITY ISSUES: THE INTERNATIONAL REPORTING TERMINOLOGY ON HEALTH WORKFORCE (INFO-SHEET #19)
  - THE RELIANCE ON FOREIGN HEALTH WORKERS DATA (INFO-SHEET #20)
  - RELEVANCE OF THE WHO GLOBAL CODE OF PRACTICE ON THE INTERNATIONAL RECRUITMENT OF HEALTH PERSONNEL IN THE EU CONTEXT (INFO-SHEET #21)
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## Work Package 5

- ORGANISING THE STAKEHOLDERS INVOLVEMENT IN THE PLANNING PROCESS (INFO-SHEET #6)
- KNOWING ABOUT THE CURRENT HEALTH WORKFORCE (INFO-SHEET #7)
- ASSESSING THE PRESENT SITUATION OF HEALTH WORKFORCE SUPPLY AND DEMAND (INFO-SHEET #9)
- SETTING THE GOALS IN THE HEALTH WORKFORCE PLANNING SYSTEM (INFO-SHEET #11)
- MAKING HEALTH WORKFORCE FUTURE FORECASTS (INFO-SHEET #12)
- LINKING HEALTH WORKFORCE PLANS WITH POLICY ACTIONS (INFO-SHEET #13)
- LESSONS LEARNED OF NATIONAL IMPLEMENTATIONS (INFO-SHEET #17)
- EVALUATION OF THE HEALTH WORKFORCE PLANNING SYSTEM (INFO-SHEET #18)

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## Work Package 6

- USER GUIDELINES ON FUTURE-ORIENTATED HEALTH WORKFORCE PLANNING (INFO-SHEET #14)
- HORIZON SCANNING AND WORKFORCE FUTURES IN THE EUROPEAN UNION (INFO-SHEET #15)
- BELGIUM - USE OF HORIZON SCANNING AND DELPHI METHOD AS PART OF A NATIONAL REVIEW OF THE GP WORKFORCE (INFO-SHEET #16)

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## Work Package 7

- CIRCULAR MOBILITY - AN OVERVIEW OF KNOWLEDGE (INFO-SHEET #22)
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- SUSTAINABILITY VISION OF THE JOINT ACTION ON HEALTH WORKFORCE PLANNING (INFO-SHEET #23)
- NETWORK OF EXPERTS (INFO-SHEET #24)
- TECHNICAL RECOMMENDATIONS AND RECOMMENDATIONS TOWARDS POLICY-MAKING (INFO-SHEET #25)
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