Describing the fundamental aspects of the HWF planning systems in selected European Countries

The purpose of the handbook on HWF (Health Work Force) planning systems (D52) is to become a guide to all European states wanting to improve their planning of the HWF but in particular those who are starting up a planning system now.

In order to respond to the future requests on the handbook we have decided to distinguish between the activities that need to be done during the starting up of a planning system and a description of that one. In this document we will treat the description of the planning system.

When we have analysed the different planning systems that could be used as “good practice” and compared with the literature on the subject, we have found five main elements to describe a planning system:

1. **How the planning system is organized** in order to guarantee a permanent process. The literature defines planning (also called forethought) as the process of [thinking](http://en.wikipedia.org/wiki/Thinking) about and organizing the activities required to achieve a desired goal. Planning is deciding in advance what to do, how to do it, when to do it, and who should do it. In a complex system it is critical to engage the stakeholders in the planning process.
2. Which **goals** are set and with which time frame. If the goals are set on fifteen years from now, probably there will be less restrictions in the system than if you plan for the next year. For example, in most European countries in fifteen years from now, half of the doctors of today will have left the active working life and the new doctors may have different characteristics.
3. How the planning process is connected with the actions that will achieve what has been planned, (the **cycle of continuous improvement** of Deming with the phases Plan, Do, Check, Act). Within the planning phase, the literature highlights the need to adopt a method that is consistent with the time frame. It might be necessary to include in the planning the skills needed, the future professional mix, the quantity, the working conditions and the training.
4. Which **data** is really used in the planning.
5. The type of the **forecasting model** and its use.

The attached template is to be used when describing some selected existing planning systems in European Countries[[1]](#footnote-1). In the expert meeting in Firenze in May the template and the descriptions will be used to:

* compare the different systems;
* choose criteria for assessing the systems;
* assess the systems according to these criteria.

During the following months the results of the expert meeting will be used to organize and develop the Handbook.

**ORGANIZATION OF THE HWF PLANNING SYSTEM** (staff, competences, workflow, responsibilities)

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| **Main aspects** | Description / Examples | Documents |
| At what level does workforce planning take place?   1. Regional (local). 2. National (central). 3. Separated between central administrations and regional (local) administrations. 4. Shared among central administrations and regional (local) administrations. | Regional and National  Workforce planning takes place at the regional and national levels.  Workforce Planning institution: The responsibility is shared between the Government Institute for Economic Research (VATT, under the Ministry of Finance, MoF) and the National Board of Education (FNBE, under the Ministry of Education and Culture, MoEC).  Long-term workforce forecasts are produced by the VATT and commissioned by a collaborative group of four ministries. They are the Ministry of Employment and the Economy (MoEE), the MoF, the MoEC and the Ministry of Social Affairs and Health (MoSocH).  Forecasts on educational needs and proposals for entrant targets are produced by the FNBE on the basis of the forecasts on workforce demand. The MoEC appoints a wide groups of experts to steer and provide expertice of different industries for the phase of forecasting educational needs. These experts present e.g. the MoSocH, the KT, trade unions, regional authorities and other stakeholders.  Entrant targets are adopted by the Government every four years as a part of the development plan for education and university research. The Decree on the Development Plan for Education and University Research (987/1998) regulates the preparation of the development plan for education and university research.  Regional councils have a statutory responsibility (Act 1651/2009) to coordinate the regional preparation of the long-term and medium-term forecasts for educational needs as a part of the preparation of the development plan for education and university research. According to the Health Care Act (1326/2010) the primary health care units in hospital districts have to ensure adequate human resources and the hospital districts within a catchment area for highly specialised medical care have to coordinate the demand for labor and the supply of training with regional councils.(Source: Matrix’s Feasibility Study).  The role of regional and local players should be strengthened. In particular, regional and local health providers and professional organisations should be given the opportunity to contribute to the forecasting, as they might have more specific inside knowledge to predict future developments  In this sense, the Health Care Act which came into force in May 2011 establishes that the primary health care unit in a hospital district should ensure the sufficiency of the human resources and should coordinate the demand for labour and the supply of training with regional councils. These new regulations strengthen the role of regional health care organisations in the analysis and forecast of workforce demand and educational needs.  (Source: Matrix’s Feasibility Study). |  |
| Staff members.   1. How many people are involved in the planning institution? 2. Which competence profile? 3. Other people involved from external organizations? | Are there any specific Regional offices dedicated only to HWF planning and forecasting? No (source: WP5 survey)  Modelling and analysis of the present and future supply of HRH is also well-developed in Finland. However, it appears that technical and financial resources allocated to the forecasting of health workforce supply and demand at the national level could be limited in the future. These could undermine future developments and ultimately reduce the modelling and analysis capacity of workforce planning institutions. (Source: Matrix’s Feasibility Study).  At VATTt there is a few people working on this but none of them full time, the model is run as normal exercise, senior level researches, At MoSocHealth there are five senior level people part time on this, at MoEC and FNBE 2-4 full time people senior level, but the work is not only for Health Sector. At the FNBE: 3-4 senior level researchers. In other organizations, such as Statistics Finland one senior level researchers, part time. In regional councils, primary health care units in hospital districts and hospital districts within a catchment area for highly specialized medical care: a few people involved part time at each. |  |
| Specialization of the staff members.   1. Staff members specialized for single professions. 2. Staff members competent for all professions. | Most of the experts involved are not specialized for single professions. |  |
| Organization of the workflow.   1. Different workflow for each professions managed by different planning institutions. 2. Same workflow with some specific articulation for the different professions managed by the same planning institutions. 3. Unique workflow with no specific procedures for the different professions managed by the planning institutions. | At higher level (Ministries) mostly “Unique workflow with no specific procedures for the different professions managed by the planning institutions” . |  |
| Organization of the stakeholders representation.  Please, describe the involvement in the decision making process of the stakeholders and, if possible, design the chart. | Firstly, workforce forecasts are produced by the VATT and commissioned by a collaborative group of four ministries (Employment and Economy, Finance, Education and Culture, Social Affairs and Health).  These feed in to the planning process in the the FNBE. In collaboration with a wide network of experts from the regional authorities, trade unions, employers' associations ministerial representatives etc. it produces workforce forecasts for the whole economy (28 different sectors).  These recommendations feed into "The Development Plan of Education and Research"; based on this development plan the Government adopts a plan for the education and university research every four years.As part of this plan, the Government adopts entrant targets for every educational field and level.(Source: Matrix’s Feasibility Study).  The MoEC appoints a wide group of experts to steer and provide expertice of different industries for the phase of forecasting educational needs. These experts present e.g. the Mo SocAH, the KT, trade unions, regional authorities and other stakeholders. (The MoSH is not coordinating this phase.) |  |
| Which are the stakeholders involved?   1. Health care producers (public and private). 2. Health care trainers. 3. Health care payers. 4. Health care workforce (professional orders). 5. Health care users. | Stakesholders are from 1.-4.  Health care producers (mainly municipalities through their association Local Govenrment Employers)  Trainers (institutes, schools and universities)  Health care payers  Health care workforce (professional orders as well trade unions) |  |
| Which is the role of the stakeholders?   1. Contributing to give advices. 2. Contributing to the take the decisions. | Long-term workforce forecasts are produced by the VATT (under the Ministry of Finance) and commissioned by a collaborative group of four ministries. They are theMoEE, the Ministry of Finance, the MoEC and the MoSocH.  Forecasts on educational needs and proposals for entrant targets are produced by the FNBE on the basis of the forecasts on workforce demand. The MoEC appoints a wide groups of experts to steer and provide expertize of different industries for the phase of forecasting educational needs.  These experts present e.g. the MoSocH, the KT, trade unions, regional authorities and other stakeholders. (Source: OECD study)  Stakeholders provide expertice of different industries for the phase of forecasting educational needs through the groups of experts appointed by The MoEC. | <http://www.oph.fi/english/education development/anticipation>  <http://www.oph.fi/english/education_development/anticipation/quantitative_anticipation>  <http://www.oph.fi/english/education_development/anticipation/qualitative_anticipation> |
| Responsabilities in the decision making process:  In the process to reach the defined goals, the responsibility of the final decision is up to   1. One subject (who?); 2. Two or more subject (shared responsibility). | The responsibility is shared between the VATT and the FNBEand commissioned by a collaborative group of four ministries (theMoEE, the Ministry of Finance, the MoEC and the MoSocH.  Final decision of quotas is made by MoEC after hearing the comments of MoSocH but also associations representing health employers and employees are consulted (Source: WP5 survey) |  |
| Communication:  How the decisions regarding “the goals” and “the results” are communicated/ published?   1. Goals; 2. Results. | The goals and outputs, such as entrant targets are published as part of the development plan of education and university reaseach which is adopted by the Government every four years for both the year in question and the following five calendar years. The development plan is prepared in accordance with the Decree on the Development Plan for Education and University Research (987/1998) and publised by the Ministery of Education and Culture.  In addition, VATT and the FNBE publish several reports on the forecasting process and outcomes. |  |

**GOALS OF THE HWF PLANNING SYSTEM** (reporting and describing the goals of the HWF planning system)

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| **Main aspects** | Description / Examples | Documents |
| The goals are   1. Explicit or Implicit (communicated or not); 2. Specific or Generic (type of objective); 3. Measurable or not (is it possible to set indicator?; 4. Attainable (is there an action plan) or not; 5. Realistic (are there restriction?) or not; 6. Timely or not (is set a time frame to reach the target? If so, which time frame?). | The goal is to achieve a better balance between the supply of education and training and the workforce demand as well as to support decision-making on education and training.  A key objective of education policy is to provide all young people (the average 16-21 age group for a certain period of time) an opportunity to apply for vocational and professional education and training. This approach aims to ensure that young people entering education and training will be divided into educational fields in accordance with the anticipated workforce demand in different industries.  The development plan for education and university research defines targets for educational supply within the next five years as entrant targets and output of qualifications for every field and level of professional and vocational education and training.  The intake in universities, polytechnics and vocational institutions is defined in accordance with the national entrant targets.  A national development plan for social and health care services which is adopted by the Government every four years defines the development objectives for municipal social and health care services and main measures to achieve them. This plan defines also measures to ensure the sufficiency and skills of the personnel, retention policy issues, redistribution of professional responsibilities and well-being at work in social and health care.  In addition, legislation regulates the responsibilities of the hospitals districts and the local authorities to ensure that the sufficiency of the personnel in health care is in accordance with the care needs of the population. The hospital districts within a catchment area for highly specialised medical care have to ensure that all treatment units providing services according to the agreement on the provision of specialised medical care have adequate financial and human resources and competence (Act 1326/2010). The local authorities forming the joint municipal authority for a hospital district have to ensure the availability of the personnel in primary health care through a health care provision plan which must be provided on the basis of the health statistics and the needs of the population (Decree 337/2011).  (Source: OECD study) | <http://www.minedu.fi/export/sites/default/OPM/Koulutus/koulutuspolitiikka/asiakirjat/Kesu_2011_2016_fi.pdf>  <http://www.vatt.fi/file/vatt_publication_pdf/t154.pdf>  <http://www.vatt.fi/file/vatt_publication_pdf/t161.pdf>  <http://www.minedu.fi/export/sites/default/OPM/Julkaisut/2011/liitteet/tr16.pdf?lang=fi>  <http://www.oph.fi/download/110071_Education_training_and_demand_for_labour_in_Finland_by_2020.pdf> |

**CONTROL AND CONTINOUS IMPROVEMENT OF THE HWF PLANNING PROCESS** (Deming cycle: Plan, Do, Check, Act)

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| **Main aspects** | Description / Examples | Documents |
| Plan  Which “objects” are taking into account in the planning?   1. Skills needed. 2. Future professional mix. 3. Quantity of professionals. 4. Future working conditions. 5. Futurenecessary changes in training. | 1-2, 4: A national development plan for social and health care services which is adopted by the Government every four years defines the development objectives for municipal social and health care services and main measures to achieve them. This plan defines also measures to ensure the sufficiency and skills of the personnel, retention policy issues, redistribution of professional responsibilities and well-being at work in social and health care.  3, 5: In addition to the previously mentioned development plan of education and university reaseach, the National Institute for Health and Welfare (THL) follows workforce development on yearly base both on the municipality sector (Public Health Care) as well as health care total (public and private sectors) and health care professionals´ emigration and immigration from/to Finland. The reports are published yearly on web site of the National Institute for Health and Welfare (www.thl.fi).  The Finnish Medical Association and the Finnish Dental Association together with KT collect information on physician and dentist shortages in municipal health centres. KT studies also the shortages of the medical specialists in hospitals. KT makes assessments every two or three years also on the shortages of other professional and vocational groups in municipal social and health care. These assessments on shortages are carried out in collaboration with the MoSocH.  According to the Act on social and health review (879/2002), the MoSocH gives every four years a report regarding the population’s state of welfare and health and the measures adopted to improve these. The review constitutes supplementary material to the Government Report to the Parliament. The report includes also descriptions and assessments on the sufficiency of the workforce in social and health care as well as on related changes and measures.(source: OECD Study) | Pls see above the qualitative anticipation part of FNBE model  for monitoring:  <http://www.thl.fi/en_US/web/en/statistics/topics/finances> |
| Which are levers and actions that planners can manage to reach the goals?   1. barriers to university (basic degree); 2. barriers to specialization; 3. barriers to and/or specific authorizations to work; 4. other levers or actions. | Training quota:  Over 700 students are accepted to medical education every year. Around 150 students are accepted to dentist’s education and 2400 students to nurse’s education. (Source: Matrix’s Feasibility Study).  Right to practice:  Licensing is granted to the following professions: physician, dentist, pharmacist, psychologist, speech therapist, dietician, dispenser, nurse, midwife, public health nurse, physiotherapist, medical laboratory technologist, radiographer, dental hygienist, occupational therapist, optician and dental technician (17 titles in total). The practice of these professions is restricted to licenced professionals only.    Licensing is granted, upon application, by the National Supervisory Authority for Welfare and Health  The National Supervisory Authority for Welfare and Health (Valvira) grants an authorization to practice to Finnish nationals as well to nationals of countries outside the EU/EEA and who have obtained their qualifications in a country outside of the EU/EEA. The authorization is valid for a fixed period of time and may be restricted to a specific place of employment. (Source: Matrix’s Feasibility Study). |

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| Do  How are the plans realized and who is involved? | The intake at universities, polytechnics and vocational institutions is defined in accordance with the national entrant targets as part of the development plan of education and university reaseach.  Educational supply is evaluated in the middle of the implementation period for the development plan. This process is commissioned by the MoEC and supported by a national coordination group appointed by the MoEC. The MoSocH is also involved in this process. During this process the production of the qualifications is compared to the entrant targets and assessed in relation to the sufficiency of workforce (shortages among different professional and vocational groups, changes in professional roles and the service structure etc.). |  |
| Check  How are goals and actions checked?  Who is the checker? | In order to ensure that the university intakes and the content of university and training programs established in the Development Plan are respected, the Ministry of Education and Culture makes three-year performance agreements with polytechnics and universities. Intakes are agreed in these negotiations. (Source: Matrix’s Feasibility Study).  Educational supply is evaluated in the middle of the implementation period for the development plan. This process is commissioned by the Ministry of Education and Culture and supported by a national coordination group appointed by the Ministry of Education and Culture. The MoSocH is also involved in this process. During this process the production of the qualifications is compared to the entrant targets and assessed in relation to the sufficiency of workforce (shortages among different professional and vocational groups, changes in professional roles and the service structure etc.). (source: OECD Study)  There is a continuous monitoring of labor force in Social care and Health, yearly reports from THL (through data from Statistics of Finland and Valvira). In addition, The Finnish Medical Association and the Finnish Dental Association together with Local Government Employers (KT, [www.kuntatyonantajat.fi](http://www.kuntatyonantajat.fi)) collect information on physician and dentist shortages in municipal health centres. KT reports also the shortages of the medical specialists in hospitals.KT makes assessments every two or three years also on the shortages of other professional and vocational groups in municipal social and health care. These assessments on sortages are carried out in collaboration with the MoSocH. | <http://www.thl.fi/en_US/web/en/statistics/topics/personnel>  and partly on finances too  <http://www.thl.fi/en_US/web/en/statistics/topics/finances> |
| Act  Are there any example or documentation on acts to correctthe activities in order to reach the goals?  Who is in charge of acting if the objectives are not reached?  Are there any examples of re-actions to external events (for example increase/decrease in working hours or in retirement age introduced for economic reasons)? | Educational supply is evaluated in the middle of the implementation period for the development plan. This process is commissioned by the MoEC and supported by a national coordination group appointed by the Ministry of Education and Culture. The MoSocH is also involved in this process. During this process the production of the qualifications is compared to the entrant targets and assessed in relation to the sufficiency of workforce (shortages among different professional and vocational groups, changes in professional roles and the service structure etc.). (source: OECD Study) |  |

**DATA ON CURRENT SITUATION ON SUPPLY SIDE** (What are the supply side data on the current stock and flow and how they are collected)

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| **Main aspects** | Description / Examples | Documents |
| Data sources  Is there a unique database with data stored in for the planning purposes? | Thanks to the collaboration and complementarity across these multiple data collection authorities, data on HRH in Finland are complete and comprehensive. Information on the place of residence, place of work, retirement, age, gender, temporary leave and specialization across all health and medical professions are available. Full coverage is ensured, thanks to the fact that data is collected directly at the national level. In addition, the involvement of professional registries allows Finnish authorities to have an overview of stocks and flows both in the public and in the private sector.  Data collected by the four main sources are then reported by the Statistical Office, which makes an extraction for the Unit of Statistics and Registers in the VALVIRA. This unit performs the analysis of the data and drafts monitoring report. (Source: Matrix’s Feasibility Study). This is done also at THL (National Agency for Health and Social Care) and reported to MoSocH |  |
| The database contains:   1. Aggregated data 2. Individual data | The database is a register based on individual data collected every year. |
| Which are the data sources?   1. Unique 2. Multiple | Data is collected by four main sources:  Statistical Office (Statistics Finland)collects demographic data, as everyone has to have a registered address with their PIN number. Contains data on age, gender, place of residence. The statistical Office also compiles data based on tax reports; these include variables such as income, place of work, employment record and social security benefits.  National Supervisory Authority for Welfare and Health (VALVIRA) under the Ministry of Health and Social Affairs collects information about the health care authorizations and licensing of all health care personnel in Finland. <http://www.valvira.fi/en/>  Finnish medical association and Finnish dental association together with the KT collect information on physician and dentist shortages in municipal health centres.(<http://www.laakariliitto.fi/en/> and <http://www.hammaslaakariliitto.fi/index.php?id=6404>  Finnish medical association provide extra detailed data on specialization which clarifies in particular what specialisation an particular doctor is actually practising in, in case he holds multiple qualifications.  The KT makes assessments every two or three years on the shortages of other professional and vocational groups in municipal social and health care. These assessments are carried out in collaboration with the MoSocH and are based on questionnaires answered by municipal health and social care organizations. (Source: Matrix’s Feasibility Study).<http://www.kuntatyonantajat.fi/en/Pages/default.aspx> |
| Who reports the data? | Medical professionals through authorization  Employers through tax and wages reports  Hospitals and health centres in relation to annual survey on positions and vacancies performed by the medical and dental associations of Finland (all this is reported to Statistics Finland who makes the yearly data base)(Source: Matrix’s Feasibility Study). |
| Timely Data  Now you are working on supply side data regarding which year?   1. 2014 2. 2013 3. … |  |  |
| Data collection  Which Is the data collection main purpose?   1. Specifically for planning 2. For other purposes and used for planning. | Mainly for monitoring the labor force and personnel but also for general statistical information of the all Finnish society |  |
| List of the data collected for planning (indicating also the data used by the mathematical forecasting model) | Place of work ~~residence~~, place of work, retirement, age, gender, retirement number of graduates, profession, medical specialization for doctors, for others training (education), nationality, public and private sector. Also students and trainees (Source: Matrix’s Feasibility Study). |  |

**MATHEMATICAL FORECASTING MODEL** (How future scenarios are made? How future HWF needs are calculated?)

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| **Main aspects** | Description / Examples | | Documents |
| The projections concern   1. Only Supply 2. Supply and Demand 3. Supply and population needs | The model VATTAGE (‘Forecasts for labour demand’, used in forecasting labour demand) is an applied general equilibrium economic model, that takes into account structural changes of the economy, development of employment, demographics etc.)  The Institute for Economic Research applies a dynamic demand model called VATTAGE for the development of forecasts on health workforce demand. This model takes into account demographics, structural changes of the economy, development of employment and other factors. Two or three different scenarios are taken into consideration and evaluated to develop the forecasts.  The supply model MITENNA (‘Forecasts for Educational Needs’) has instead been developed by the Finnish FNBE to convert labour demand to a corresponding educational need for each professional group. The calculations take into account drop-outs, completion of qualifications, graduates entering the labour market, and supply of unemployed labour force.  (Source: Matrix’s Feasibility Study).  So far, the VATTAGE-model in the VATT has made use of exogenous forecasts on health care expenditure. The VATTAGE-model uses these forecasts as input to the health workforce calculations. The health expenditure scenarios have come from EU projections or projections done by the MoSocH (MSAH). Both EU and MSAH projection models use data on current health expenditure and health service use by sex and age, demographic forecasts, as well as assumptions on health service productivity, gdp growth etc. It is through these expenditure projections that the above mentioned demand-side variables are included in the workforce modeling. (source: OECD Study)  Intake needs in young people´s education and training and co-ordinating these with the educational needs of the world of work. | | Publication on the Vattage-model (in English):  http://www.vatt.fi/file/vatt\_publication\_pdf/t150.pdf  Publications on workforce demand (in Finnish):  http://www.vatt.fi/file/vatt\_publication\_pdf/t154.pdf  http://www.vatt.fi/file/vatt\_publication\_pdf/t161.pdf  http://www.vatt.fi/file/vatt\_publication\_pdf/t166.pdf (regional level)  The whole English document is available through internet:  http://www.oph.fi/download/110071\_Education\_training\_and\_demand\_for\_labour\_in\_Finland\_by\_2020.pdf (For further infomation, see the pages 46-47, appendices 1 and 2.) |
| Is your projection segmented along different health service delivery settings? Which delivery settings does the projection take into account?  (e.g. Hospitals vs. Ambulatory Health Care; Public vs. Private Sector) | Health care is dealt as a whole covering the public and private sectors as well as hospital care and primary health care.(source: OECD Study) | |  |
| Does the model take into account any interaction between demand and supply?  (e.g. supply-induced demand) | In the workforce demand modelling, there is no automated mechanism that would link the health workforce supply to the demand. So far, it has been assumed in the scenarios that in healthcare the demand is always met by the supply.  However, these kind of questions are taken into closer consideration by the healthcare experts that take part in the workforce planning process.  (source: OECD Study)  Nothin g is included in the model but in the process there is estimation of the gap and evaluating the policies to fill the gaps.  First, FBNE calculates the difference between the output from education and new needs yearly. Currently there is an gab of 10 000 in whole Finland. The Health sector is about 20 % of this.  Then this will go further to MoEE who estimates the needs and means how to reduce the gap. At the moment 2/3 are estimated to be achieved by increase in productivity and 1/3 by recruitments abroad.  Finally all this is again put into political discussion and MoSocH’s actions are determined by Government. All this applies to all the industries and ministries.  The more accurate monitoring of Health Care personnel is done yearly by MoSocH and THL based on Statistics Finland data. | |  |
| Which are the projection periods? | The present long term forecasting on workforce demand cover years from 2008 to 2025. On the basis of these forecasts the present entrant targets have been adopted for 2011-2016.(source: OECD study) | |  |
| Do you explore the consequences of health workforce projections in relation to other health system goals?  (E.g. access to care, quality of care, cost containment)? | | This kind of qualitative assessment is done by the healthcare experts that take part in the workforce planning process. However, it is not incorporated in the planning models.(source: OECD study) |  |
| How frequently do you update health workforce forecasting exercises? | | Long term forecasts for workforce demand and corresponding forecasts for educational needs have been carried out every four years since 1991.  (source: OECD study) |  |
| Integration of different professional groups  Does the forecasting model take into account any kind of   1. horizontal integration (different specialties within the professional group) or 2. Vertical integration (different professional groups) | | The general workforce planning process covers all 28 industries, of which health care is one. The workforce demand projections made by the VATT cover the healthcare workforce as a single unit.  The planning process in the FNBE makes use of the results from the VATT. The FNBE uses a more detailed classification of healthcare professionals, making sure that the numbers in the detailed professional categories are in line with the results from the VATT.  The occupations for the forecasts on educational needs are defined on the basis of the classification by Statistics Finland. The classifications are in accordance with the structure of the International Standard Classification of Occupations (ISCO-02). The category on health and social work includes six occupational groups which can be divided into 25 occupational titles in health care, seven in social services and two in management.  In addition, there are also other categories than social and health work which include health care professionals´ groups (e.g. psychologists, hospital physicists etc.). |  |
| Forecasting methods used   1. Only quantitative methods 2. Only qualitative methods 3. Combination of quantitative and qualitative methods | | 1 and 2. |  |
| Quantitative forecasting method  Which statistical forecasting method is used?   1. Classical time series analysis 2. Stochastic time series analysis 3. Multiple Regression Analysis 4. Other | |  |  |
| Qualitative forecasting method (if used)   1. Delphi 2. Brainstorming 3. Market survey 4. Other | |  |  |
| Evaluation of forecast   1. Forecast error calculation (MAD, percent confidence interval, tracking signal, etc) 2. Test on historical data 3. Others. | |  |  |
| Scenario analysis   1. Just one scenario developed 2. More scenarios developed with not adjustable assumptions 3. More scenarios developed with adjustable assumptions | | The forecasts of the workforce demand are provided in accordance with two or three scenarios.  The most recent workforce demand projections of the Government Institute of Economic Research have looked into three different scenarios:   * Basic scenario: The employment rate is expected to end up at 72 %, with the GDP growth is leveling at 1,7 %. Considerable growth is expected in the GDP share and the workforce share of the social and health services. * Target scenario: Compared to the basic scenario, the Finnish economy is expected to perform better. One of the presumtions is that demand for export will continue to increase also in the future. The GDP is expected to increase 2,3 % during the last years of the forecasting period, the employment rate is expected to rise to 75 % and the unemployment rate is expected to fall to 4 %. The need for social and health care services and the demand for social and health care workforce are expected to rise, but to a lower extent than in the basic scenario. * SOME scenario: Regarding the health and social care services, the SOME scenario is based on expenditure projections by the MoSocH. The demand growth for health workforce is largely similar to that in the target scenario.   These alternative scenarios have not considered detailed differences (eg. different skill-mixes) in the health workforce developments. The main difference is the assumption about the demand for health care and the corresponding effects on workforce. |  |

1. See document in Sharepoint at

   https://collab.health.fgov.be/sites/dg1/CW/JAEUHWF/WP\_5/Shared%20Documents/D052%20Handbook%20on%20planning%20methodologies/140312\_Inclusioncriteriaforassessmentofplanningmethodologies\_WP5\_PM.docx . [↑](#footnote-ref-1)