

not only for the technician in charge of planning, but also for policy makers, especially when the collection of information requires an economic investment.

“Data availability will continue to be scarce unless governments recognize this and allocate resources to health workforce planning.

Hence, there should be a sense of purpose on the basis of which national governments recognize the importance of health workforce planning to ensure the affordability and sustainability of their health systems.”⁽³⁵⁾.

FINDINGS

Data useful for the planning may be collected and filed with a planning aim in a specific database or arise from different sources and collected to different aims.

In general, there is more than one database where data used for planning are stored. However, usually, these databases aren’t created only for planning purposes. In some case a comprehensive and complete database is available thanks to a collection of data coming from different data sources.

Sometimes, there is also a dedicated agency with responsibility for producing comprehensive regular reports from different data sources to improve planning and decision making⁽³⁶⁾.

The databases used as data source for planning might contain individual data or aggregated data.

One of the principal sources of data useful for the aims of planning is represented by professional registers to which professional are obliged to be enrolled in order to exercise the profession.

It is obvious that a huge part of database analyzed contains individual data referred to the single professional that allow further aggregations on various dimensions object of the analysis.

(35) Matrix pag.25

(36) See Information Centre Health and Social Care in England - <http://www.hscic.gov.uk/>

Where these types of elementary information are unavailable, data is extrapolated by different sources and already presents a level of aggregation more or less elevated.

The data sources used to feed the forecasting model might be unique or multiple.

No one of the analyzed models has a sole source from which are extracted data which will provide the forecasting model. Usually there are multiple sources, even if there are often principal sources of data from which the most part of necessary information are extracted. For example in Belgium there are three primary sources of data, in Denmark just two and in Finland four. Anyway in some countries there are structured database gathering information from more than one data sources (see the National Cadaster of Health Professionals in Belgium and the Mobility register in Denmark).

Availability of updated data to be used as input in the forecasting model is necessary for the success of the exercise and the reliability of evaluations.

In the selected planning systems data from which the forecasting is generated are almost always updated to the previous one or two years.

| DATA COLLECTION | DATA SOURCES | DATA COLLECTED | LAST AVAILABLE DATA |
|-----------------|--|---|---|
| BELGIUM | <p>THE FEDERAL DATABASE OF REGISTERED HEALTH PROFESSIONALS WHICH INCLUDES "LICENSED TO PRACTICE" (IN FEDERAL PUBLIC SERVICES HEALTH).</p> <p>THE NATIONAL INSTITUTE OF HEALTH INSURANCE AND DISABILITY FOR INFORMATION ABOUT THE "PRACTICING".</p> <p>THE CROSSROADS BANK FOR SOCIAL SECURITY FOR INFORMATION ABOUT THOSE PROFESSIONALS, WHO ARE "WORKING" AS EMPLOYEES.</p> | INDIVIDUAL DATA | <p>THE PRIME SOURCE (FEDERAL DATABASE) IS UPDATED DAILY.</p> <p>DATA LINKING WITH THE OTHER SOURCES IS A COMPLICATED PROCESS AND HAS BEEN CARRIED OUT FOR THE FOLLOWING YEARS:</p> <p>2009 FOR NURSES, 2010 FOR PHYSIOTHERAPISTS, 2012 FOR PHYSICIANS AND DENTISTS.</p> |
| DENMARK | <p>REGISTER OF HEALTH PERSONNEL REGISTER AT THE DANISH HEALTH AND MEDICINES AUTHORITY (AUTHORIZATION REGISTER): CONTAINS RELEVANT DATA REGARDING PROFESSION, GENDER, AGE, DATE OF REGISTRATION ETC.</p> <p>THE MOBILITY REGISTER: A COMBINATION OF INFORMATION FROM THE AUTHORIZATION REGISTER COMBINED WITH INFORMATION FROM "DANMARKSSTATISTIK" REGARDING EDUCATION, OCCUPATION ETC.</p> | <p>THE AUTHORIZATION REGISTER THAT CONTAINS BOTH INDIVIDUAL AND AGGREGATE DATA.</p> <p>THE MOBILITY REGISTER THAT CONTAINS AGGREGATED DATA.</p> | <p>THE AUTHORIZATION REGISTER IS UPDATED ON A DAILY BASIS.</p> <p>THE MOBILITY REGISTER WAS LAST UPDATED WITH DATA FROM 31.12.2012. ACCORDING TO PLAN THE REGISTER FROM NOW ON IS GOING TO BE UPDATED ONCE A YEAR.</p> |



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|-----------------|--|--|--|
| ENGLAND | <p>DATA ARE COLLECTED NATIONALLY THROUGH A HUMAN RESOURCE (HR) AND PAYROLL SYSTEM (ELECTRONIC STAFF RECORD SYSTEM - ESR).</p> <p>DATA ON GENERAL PRACTITIONERS (GP), AND SOME PRACTICE STAFF WHO ARE NOT DIRECTLY EMPLOYED BY THE NHS, ARE COLLECTED BY SEPARATE SYSTEMS.</p> <p>OTHER KEY DATA SOURCES ARE THE LABOUR FORCE SURVEY CONDUCTED BY THE OFFICE OF NATIONAL STATISTICS (ONS) AND DATA FROM UNIVERSITY COLLEGES AND ADMISSIONS SERVICE AND HIGHER EDUCATION STATISTICS AGENCY).</p> | INDIVIDUAL DATA | CONSIDERING THE PROJECTIONS MADE BY CFWI, THE SUPPLY MODELS ARE BUILT USING DATA RELATED TO YEAR 2013. |
| FINLAND | MULTIPLE DATA SOURCES | INDIVIDUAL DATA | THE MODEL, DATA AND CALCULATIONS HAVE BEEN UPDATED CONTINUOUSLY EVERY YEAR |
| NORWAY | <p>REGISTER OF ALL STUDENT IN HIGHER EDUCATION (MINISTRY OF EDUCATION AND RESEARCH).</p> <p>STATE REGISTER OF EMPLOYERS AND EMPLOYEES (NAV), CENTRAL REGISTER OF EMPLOYMENT RELATIONSHIPS IN NORWAY REGISTER OF HEALTH PERSONNEL WITH AUTHORIZATION GIVEN BY THE NATIONAL HEALTH PERSONNEL AUTHORITY (SAK).</p> <p>CENTRAL REGISTER OF ALL PHYSICIANS (GPS - NAV) AND SPECIALISTS (DIRECTORATE OF HEALTH).</p> <p>RELEVANT DATA AT REGISTERS IN STATISTICS NORWAY.</p> | INDIVIDUAL DATA AND JOB POSITIONS AVAILABLE FOR SPECIALISTS IN HOSPITALS. | <p>MAINLY 2012.</p> <p>DATA ON GPS AND SPECIALISTS ARE UPDATED CONTINUOUSLY.</p> |
| SPAIN | <p>MEDICAL COUNCIL REGISTER: PROVIDING INFORMATION OF REGISTERED PROFESSIONALS.</p> <p>PAYROLL DATA OF REGIONAL HEALTH SERVICES.</p> <p>PRIMARY CARE: SNS INFORMATION SYSTEM FOR PRIMARY CARE (SIAP).</p> <p>HOSPITAL BASED-CARE, AMBULATORY AND INPATIENT CARE: NATIONAL SURVEY ON INPATIENT CARE PREMISES (ESCR).</p> <p>REGISTER OF MINISTRY OF EDUCATION: GRADUATES AND SPECIALIST DOCTORS.</p> <p>NATIONAL STATISTICAL INSTITUTE (INE) FOR DATA ON RETIRED AND ACTIVE PROFESSIONALS, BY GENDER AND AGE; HEALTH PROFESSIONALS ENTERERING SPAIN (ECONOMICALLY ACTIVE POPULATION SURVEY (EAPS); NATIONAL IMMIGRANT SURVEY (NIS 2007) -SOCIAL AND DEMOGRAPHIC CHARACTERISTICS OF PEOPLE BORN ABROAD).</p> | <p>AGGREGATED DATA.</p> <p>BUT WITH THE IMPLEMENTATION OF THE NATIONAL REGISTER OF HEALTH PROFESSIONALS BY 2016 THE DATA WILL BE INDIVIDUAL.</p> | DECEMBER 2013 |
| THE NETHERLANDS | <p>SOURCES USED FOR PLANNING PURPOSES INCLUDE GOVERNMENT BODIES SUCH AS THE CENTRAL BUREAU OF STATISTICS (CBS), THE NATIONAL REGISTER FOR HEALTH PROFESSIONALS WORKING FOR INDIVIDUAL PATIENTS (BIG-REGISTRY) AND THE NATIONAL INSTITUTE FOR PUBLIC AND ENVIRONMENTAL HEALTH FOR FORECASTS ON DEMOGRAPHICS AND THE DEVELOPMENT OF NEED/DEMAND FOR HEALTH CARE.</p> <p>PROFESSIONAL ASSOCIATIONS SUCH AS THE ROYAL NETHERLANDS SOCIETY FOR MEDICINE KEEP DETAILED PERSONAL REGISTERS FOR EACH SPECIALISM AND FOR EACH TRAINING PROGRAM.</p> <p>STATE REGISTER OF EMPLOYERS AND EMPLOYEES (CENTRAL REGISTER OF EMPLOYMENT RELATIONSHIPS IN NORWAY) OPERATED BY NAV, AND REGISTER OF HEALTH PERSONNEL WITH AUTHORIZATION (HPR) OPERATED BY SAK.</p> <p>DATA ON PRODUCTION CAN BE DRAWN FROM THE DATABASES OF THE HEALTH INSURANCE COMPANIES AND THE HOSPITALS THEMSELVES.</p> | INDIVIDUAL DATA | JANUARY 2013 FOR ALMOST ALL THE VARIABLES CONSIDERED |

Data useful for planning may be collected and filed for aims different from the specific aim of planning. Vice versa, might be collected with the principal aim to plan and after be used also for other aims and the control of authorization to exercise. At the

end, existing and created with different aims database might be enriched with data specifically required by the planning.

In the analysed experiences, generally speaking, data utilized in the forecasting model are not collected with the specific aim of health workforce planning. They are mainly data filed in professionals registers and useful to payroll systems. The fact remains that these archives represent the main source of information useful for planning and, where there is the opportunity, they may be enriched with fields specific for the planning project. Vice versa, in those cases in which data are collected and filed for planning (National Cadaster of Health Professionals in Belgium), they may be also used for other purposes.

FOR FURTHER DETAILS:

- Focus on --> *Details of the seven planning systems* --> [Data](#)

