

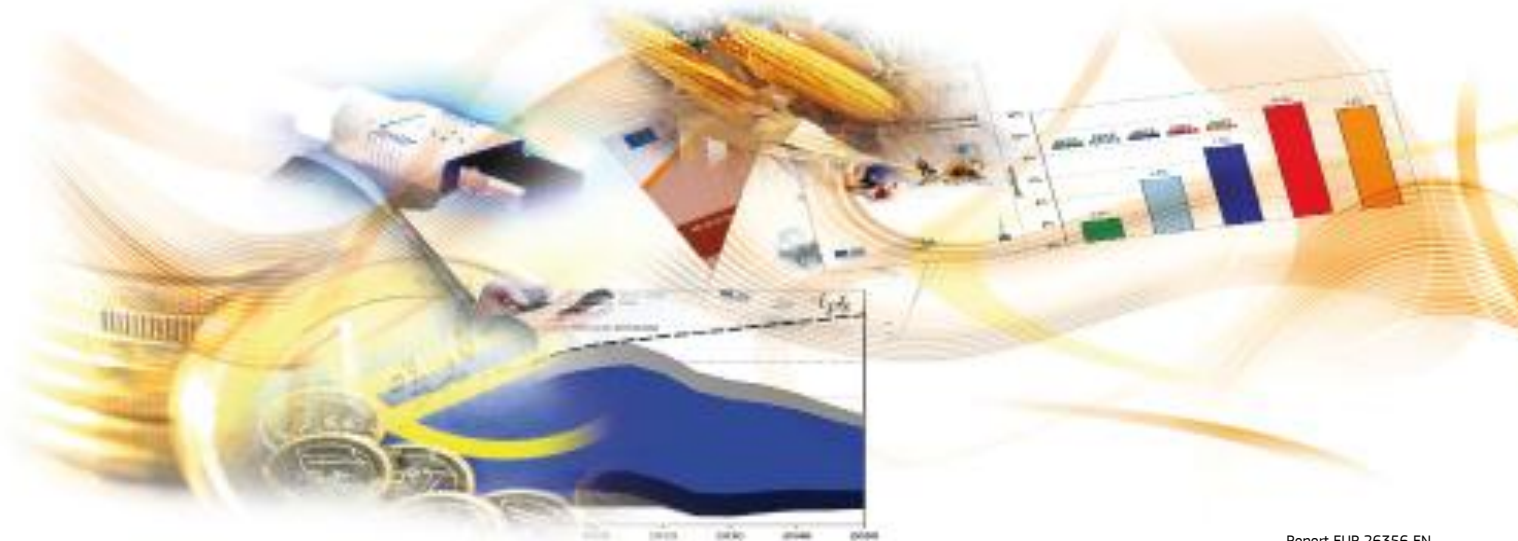
# JRC SCIENTIFIC AND POLICY REPORTS

## Monitoring and Assessment Framework for the European Innovation Partnership on Active and Healthy Ageing (MAFEIP)

Work Package 1 – Deliverable 1.1, Inception Report  
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# Table of Contents

<b>1. Introduction</b> .....	<b>2</b>
1.1 Objective of this report .....	2
1.2 Background .....	2
1.3 Initial methodological proposal by DG SANCO, DG CNECT, DG JRC and the Expert Group ...	3
1.3.1 Step 1: Monitoring the process of the EIP on AHA.....	4
1.3.2 Description of step 2-4 from the MAFEIP.....	5
<b>2. Conceptual Framework</b> .....	<b>9</b>
2.1 Key Concepts.....	9
2.1.1 Process indicators.....	9
2.1.2 Outcome and output indicators.....	9
2.1.3 Baseline.....	9
2.1.4 Comparability.....	9
2.1.5 Aggregation.....	10
2.1.6 Transferability .....	10
2.1.7 Links to HLYs and triple win .....	11
2.2 Key Factors .....	12
2.2.1 Target population .....	12
2.2.2 Resources used.....	12
2.2.3 Added value .....	12
2.2.4 Incremental approach.....	12
2.2.5 Confounders or delimiting factors.....	12
2.3 Gap analysis.....	13
2.3.1 Inconsistent responses.....	13
2.3.2 Missing data .....	13
2.3.3 Missing indicators.....	13
<b>Annex 1. Description of possible outcome and output indicators, available from international statistics</b> .....	<b>14</b>

# 1. Introduction

## 1.1 Objective of this report

This inception report aims to describe the process for defining indicators in line with the terms of Work Package 1 of the Technical Annex for "A Monitoring and Assessment Framework for the European Innovation Partnership on Active and Healthy Ageing" (MAFEIP) agreed between DG CNECT and DG JRC. It provides initial thoughts on the shaping of the MAFEIP based on IPTS' own research and taking account of the data and knowledge gained through discussions with the Expert Groups and also provided by the EIP on AHA Action Groups since their inception in June 2012, including:

- Information provided by stakeholders in the First Call for Commitment (June 2012)
- Knowledge obtained through interaction with partners during the Action Group meetings held between June and November 2012 and information sent by the partners on the monitoring framework of their individual commitments.
- Meetings and intensive interaction with the Expert Group on the monitoring framework (June - November 2012)
- Results of and decisions made at the 6 November 2012 EIP on AHA 1st Conference of Partners, with objectives and implementation detailed in the final Action Plans.
- Information provided by stakeholders in the Second Call for Commitment (February 2013).
- Data gathered from Action Groups' partners through the "Survey on the monitoring of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) closed in March 2013.
- Data received from the Reference sites (April 2013), more specifically data on the 71 Good Practices submitted by those Reference sites.

The objective of this inception report is therefore to propose some initial considerations, both from a theoretical and operational point of view, taking into account the methodological proposal agreed towards the definition of a Monitoring Framework for the EIP on AHA.

## 1.2 Background

The European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) is the first European Innovation Partnership launched by the European Commission in the framework of the Innovation Union<sup>1</sup>, one of the seven flagship initiatives of the Europe 2020 strategy for growths and jobs. The European Innovation Partnerships aim to address weaknesses in the European research and innovation system, which complicate the discovery or exploitation of knowledge and, in many cases, ultimately prevent the entry of innovations into the market place. More specifically, the EIP on AHA aims to add, by 2020, two healthy life years to the average healthy life span of European citizens. In a broader sense, the EIP on AHA aims to pursue a triple win for Europe by<sup>2</sup>:

1. Improving the health status and quality of life of European citizens, with particular focus on older people;
2. Supporting the long-term sustainability and efficiency of health and social care systems;
3. Enhancing the competitiveness of EU industry through business and expansion of new markets.

In November 2011, the Steering Group of the EIP on AHA, made up of European key players across the health, care and other sectors (i.e. communication, housing, and transport) defined a Strategic

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<sup>1</sup> COM(2010) 546 final.

<sup>2</sup> SEC(2011) 589.

Implementation Plan (SIP).<sup>3</sup> In the SIP 13 strategic priority action areas have been identified. From the key action areas, six actions have been singled out as "ready to launch" in 2012 i.e. stakeholders have demonstrated significant readiness and commitment to engage in these actions. To take forward the implementation of these six specific actions, the EC has launched an Invitation for Commitment upon the adoption of the Commission Communication on the EIP Strategic Implementation Plan (29th February 2012)<sup>4</sup> and closed on 3 June 2012. In total, 264 commitments were submitted by groups of stakeholders spanning the public and private sector. The stakeholders wishing to get involved in the advancing of Specific Actions have formed Action Groups. The six Action Groups are:

- Action Group A1: Prescription and adherence action at regional level
- Action Group A2: Personalised health management, starting with a Falls Prevention Initiative
- Action Group A3: Action for prevention of functional decline and frailty
- Action Group B3: Replicating and tutoring integrated care for chronic diseases, including remote monitoring at regional level
- Action Group C2: Development of interoperable independent living solutions, including guidelines for business models
- Action Group D4: Innovation for age friendly buildings, cities and environments

The six Action Groups expect to have their first results as early as 2013.

A monitoring framework is needed to assess the evolution and impact of the EIP on AHA. The "Monitoring and Assessment Framework for the EIP on Active and Healthy Ageing" (MAFEIP) project was launched by the eHealth team at the IPTS Information Society Unit, DG JRC, in collaboration with the Directorate General of Health and Consumers (DG SANCO) and the Directorate General of Communications Networks, Content and Technology (DG CNECT). The main objective of MAFEIP is to define a common monitoring framework, which should facilitate the monitoring of the process of the EIP on AHA and facilitate and harmonise the monitoring of the outcome and output objectives of the Action Groups (not the individual commitments to the six specific Action Groups). It will also seek to establish a link between the monitoring results and the EIP on AHA objectives, namely the triple win and the overall objective of two extra healthy life years.

In addition, the eHealth team is managing an online community at the IPTS Information Society Unit online Collaborative Science Portal (ISCSP). This community can be used to open discussions with the Action Groups, and external specialists in the field where appropriate.

### **1.3 Initial methodological proposal by DG SANCO, DG CNECT, DG JRC and the Expert Group**

The description of the Monitoring Framework of the EIP on AHA (MAFEIP) as agreed between DG SANCO, DG CNECT, DG JRC and the Expert Group is summarized in the "Theoretical Document from 12 December 2012".

The first step out of the four steps described in this document has already been designed after agreement was reached on the set of process indicators and the structure of the online questionnaire used for the yearly ***Survey on the monitoring of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) process***. The survey for 2013 was closed in March 2013 and collected information from the Action Group Partners as described below.

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<sup>3</sup> Strategic Implementation Plan – Strategic Part: [http://ec.europa.eu/research/innovationunion/pdf/active-healthy-ageing/steering-group/implementation\\_plan.pdf#view=fit&pagemode=none](http://ec.europa.eu/research/innovationunion/pdf/active-healthy-ageing/steering-group/implementation_plan.pdf#view=fit&pagemode=none);

Operational Part: [http://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/steeringgroup/operational\\_plan.pdf#view=fit&pagemode=none](http://ec.europa.eu/research/innovation-union/pdf/active-healthy-ageing/steeringgroup/operational_plan.pdf#view=fit&pagemode=none)

<sup>4</sup> COM(2012) 83.

The analysis of the data gathered for monitoring the process of the EIP on AHA is presented in a separate deliverable, D2.1 "Interim Report on the defined process indicators and their baseline".

### **1.3.1 Step 1: Monitoring the process of the EIP on AHA**

The development of process indicators is based on data collected in the first Survey on the monitoring of the EIP on AHA process. The objective of this survey was to monitor the different aspects of the EIP on AHA process: the involvement of stakeholders; the creation of synergies; evidence of knowledge transfers; the absorption of innovation by health systems; and the added value for the participating organisations. The survey has been organised in four sections, with a first section containing general questions about, among others, topics covered by the commitment according to the objectives and actions set in the Action Plans. Section 2 describes involvement in terms of Member States and stakeholders involved, the description of the target groups and the involvement of end-users. Section 3 asks for the type of added value provided by the EIP on AHA and in particular the added value of the EIP on AHA with respect to overcoming barriers. The final section collects information on the mobilisation of resources like implementation of new procurement models and type of funding received, detailing the source in the case of EU funding.

#### *a) Involvement in the commitments*

The second part deals with involvement in terms of countries, regions and type of stakeholders involved as well as the target group of the commitment and the involvement of end-users. This information allows to get a first dimension of involvement as an identification picture of the partners in terms of geographical basis and type of stakeholder. This first identification is important taking into account the aim of the EIP on AHA to contribute to build partnerships across countries and different types of health providers and health users in all tiers of health care.

The indicators about the involvement of the partners aim to describe the characteristics of the partners who actually perform the commitments. The description of the partner includes the type and number of stakeholder involved and in what manner they are involved. Moreover, the information on the identification of the stakeholder includes whether the partner is from the industry sector and, in this case, the company size class and activity sector.

Others dimensions refer to the geographical coverage of the commitment, the target group and the involvement of end-users. The geographical coverage is at least at Member State level and is asked to be specified at regional level (Eurostat NUTS 2 regions). The target group is important to establish the link between the monitoring results and the EIP on AHA objectives. The target group gives insight in the group of population which can potentially benefit from a similar intervention. Some partners provide a description of the type of the target group (patients, health professionals, carers etc.). In some cases there is information on other characteristics such as the age group, type of illness, location. In general, an intervention is done on a sub-group of the target group which is either representative of the total or whose representativeness can be assessed based on complementary information. Finally, the selection process of the target group and the actual coverage rate and size of the target group are also being asked.

Regarding the involvement of end-users of the services and interventions delivered by the partners, these do not necessarily represent the target group or the partners even if some of these can be also end-users. There is an interest in identifying the role of end-users in the commitments in the design of the process, from the initial stage of devising the idea to the final stage of its implementation.

#### *b) Added value of EIP on AHA*

The third part of the questionnaire deals with the added value of the EIP on AHA as perceived by the stakeholders. According to the Guidance paper for the steering group of the pilot EIP on AHA (SEC (2011) 589), the EIP on AHA is expected to bring added value by:

- **Joining up efforts** across the European Union by encouraging cooperation based on a shared vision and common targets, fostering synergies and avoiding overlap, to achieve results that respond better to citizens' needs.
- **Bridging the gaps** between public and private actions and instruments, by addressing the lack of support on innovation to considerably reduce time-to-market of research and innovation breakthroughs.
- **Facilitating scaling up of results** by reducing complexity, overcoming fragmentation and enabling different approaches to converge.
- **Improving the framework conditions** by removing bottlenecks and anticipating common regulatory and other needs for all stages of the innovation chain to achieve critical mass.

The survey provides information on the type of added value for the participating organisations and in particular the added value with respect to overcoming barriers on funding, evidence, standards (technical and medical), regulatory issues, fragmented market conditions and creating critical mass. Furthermore information is gathered about new cooperations which have been started or new practices which have been implemented as a result of the cooperation within the EIP on AHA.

### c) Mobilisation of resources

In the final section of the questionnaire respondents are asked about the mobilisation of resources like implementation of new procurement models, the source, the amount of money and the estimated budget to carry out the activities in the commitment to the Action Plan and if EU funding is received.

#### **1.3.2 Description of step 2-4 from the MAFEIP**

Concerning the future steps for the design of the MAFEIP, the agreements achieved up to date refer to the scope of the actions for collection of data on the outcome objectives and deliverables already defined in the Action Plans, and to the description of the European context as a mode of baseline for the EIP on AHA related topics. The agreements are

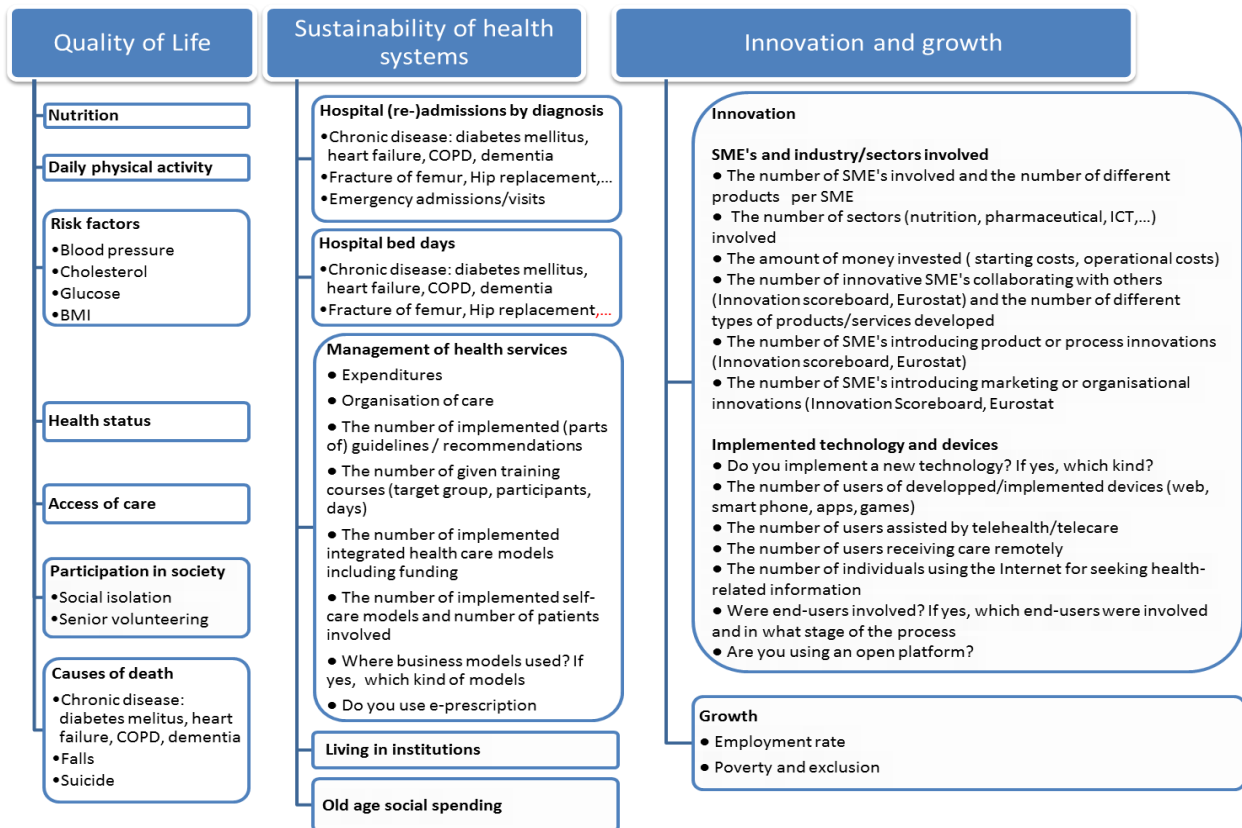
#### Step 2: Monitoring the outcome and the output

The MAFEIP will focus on the link between the outcome objectives of the six Action Groups and the objective of the EIP on AHA, namely two healthy life years and the triple win. Therefore factors influencing Healthy Life Years like education and socio-economic conditions are not taken into consideration because they are outside the scope of the outcome objectives of the six Action Groups.

As highlighted earlier, the MAFEIP will not monitor the individual commitments. Also, it has been agreed that the commitments will not be asked to use a specific indicator defined by the EC and that there will not be imposed a standard questionnaire to the partners to be submitted to the population under the intervention. However, a questionnaire to monitor the outcome and output of the EIP on AHA has been prepared although it will be implemented at a later stage.

The outcome and output indicators proposed to measure the Triple Win comprise the following:

**Figure 1 – EIP on AHA indicators**



In order to progress with outcome and output indicators in the meantime, the information on indicators submitted by Reference sites in the first quarter of 2013 has been used to refine this model. It should be emphasized that while the monitoring of the outcome and output of the Reference Sites is not part of the MAFEIP, the information in the Good Practices of the Reference Sites have offered valuable input in terms of what indicators are used in practice and are supported with collected data.

### Step 3: Description of the European context

The description of the European context will be based on available statistics. An overview of available international statistics and their sources are specified in Annex 1 (from the Theoretical document from 12 December 2012). A selection of these indicators will be taken as reference for two main reasons: (i) to agree on a robust definition of the indicator, (ii) to have a national average as baseline and give a context for interpretation of the data provided by the commitments. The variables presented in Annex 1 include around 50 for Quality of Life, 11 for Sustainability of health systems, and 5 for Innovation and growth (see Annex 1). Nevertheless, the final European context to be presented in relation to the outcome and output indicators of the EIP on AHA has to be finally tailored to MAFEIP indicators as measured by the Action Groups. Note that Annex 1 presents a battery of potential indicators which are available from international statistics but not all of them may be necessary nor included to describe the European context of the EIP on AHA.

In the case of the indicator for the overarching objective, the Healthy Life Years indicator will be considered according to the Eurostat definition. The EU structural indicator Healthy Life Years (HLY) is based on limitations in daily activities and is therefore a disability-free life expectancy, one of the most common health expectancies reported. Healthy Life Years at a particular age are the number of years spent free of activity limitations. They are calculated by Eurostat. The life time span



considered in EU-SILC is 16 and older and thus an adjustment is needed to consider a disability indicator for the total life span.

Annex 1 includes among the indicators on health status those measured from the EU-SILC which contains ECHI indicators. Table 1 presents the data for three of these indicators aggregated for the population over 65. The indicators on self-assessment of health status and disability allow the responder to select three levels. These data are aggregated for two degrees of health status: 1. healthy and independent, and 2. in risk of dependency. The indicator on proportion of people reporting any long-standing chronic illness is presented from Eurostat data.

**Table 1: European Context for indicators on Health Status (EU-SILC, ECHI indicators)**

Older people: 65 years or over (Year 2011)						
	ECHI 33		ECHI34	ECHI35		Total Population 65 or over
	Health Status: Very good or good	Health Status: Fair or worse	Chronic illness	Activity: no limitations	Activity: some or severe limitations	
	%	%	%	%	%	
European Union (27 countries)	33.24	66.76	45.01	44.98	55.02	88,074,340
Belgium	47.44	52.56	46.12	51.71	48.29	1,883,182
Bulgaria	18.08	81.92	44.28	58.56	41.44	1,360,451
Czech Republic	19.67	80.33	59.57	51.03	48.97	1,636,969
Denmark	54.39	45.61	41.96	69.15	30.85	933,781
Germany	36.50	63.50	65.47	37.70	62.30	16,844,293
Estonia	13.43	86.57	79.71	32.60	67.40	228,007
Ireland	..	..	..	..	..	527,437
Greece	38.50	61.50	58.60	46.38	53.62	2,177,405
Spain	38.55	61.45	51.01	49.96	50.04	7,877,800
France	36.78	63.22	63.83	47.73	52.27	10,895,208
Italy	..	..	..	..	..	12,301,537
Cyprus	..	..	..	..	..	106,510
Latvia	9.16	90.84	74.40	30.48	69.52	381,140
Lithuania	2.94	97.06	67.15	39.14	60.86	545,307
Luxembourg	45.87	54.13	40.12	61.10	38.90	71,084
Hungary	11.86	88.14	74.49	37.16	62.84	1,671,135
Malta	29.58	70.42	69.55	63.04	36.96	64,798
Netherlands	57.37	42.63	51.65	53.25	46.75	2,594,946
Austria	39.89	60.11	57.40	44.02	55.98	1,480,127
Poland	12.45	87.55	72.76	45.82	54.18	5,190,409
Portugal	11.61	88.39	66.61	43.16	56.84	2,014,862
Romania	18.92	81.08	56.66	31.49	68.51	3,186,073
Slovenia	24.10	75.90	69.04	35.41	64.59	338,944
Slovakia	14.69	85.31	72.71	19.87	80.13	678,448
Finland	36.01	63.99	74.89	45.10	54.90	941,041
Sweden	63.36	36.64	47.84	74.42	25.58	1,737,246
United Kingdom	..	..	..	..	..	10,406,200

Source: 2011 data from Eurostat and authors' elaboration

**Notes:**

Health status according to ECHI Indicator 33 'Self-perceived health; Activity level according to ECHI Indicator 35 'Long-term activity limitations'; Chronic illness according to ECHI Indicator 34 'Self-reported chronic morbidity' Percentages at EU27 level weighted for the 23 countries with available data

#### Step 4: The link with two healthy life years and the Triple Win

There is no agreement yet on the methodology for the final step: to establish the link between, on the one hand, the process indicators, the outcome and output indicators and the European context and, on the other hand, the overall objective of the EIP on AHA (namely the two additional healthy life years by 2020) and the Triple Win.

## **2. Conceptual Framework**

### **2.1 Key Concepts**

#### **2.1.1 Process indicators**

The discussions on the development of the process indicators according to the MAFEIP are summarised in Deliverable D2.1 "Interim Report on the defined process indicators and their baseline".

The treatments and interventions described in the Actions Plans of the EIP on AHA include not only activities inside but also outside the health sector performed by industry in sectors such as construction, information services, and others. This has motivated the participation of stakeholders outside the health care system and a great variety of resources whose precise amount is difficult to measure. Therefore, the MAFEIP process indicators for involvement and resources make the two following considerations:

- Since the scope of the EIP on AHA includes more stakeholders than just those from the healthcare sector, other industrial sectors including all IT and ICT activities as well as housing and building have been taken into account.
- On the traditional consideration of inputs as labour and capital, the MAFEIP does not plan to have an exhaustive and homogeneous accounting of all the types of staff and funding used by the partners. The intended description of the resources measures global funding and its source.

#### **2.1.2 Outcome and output indicators**

The EIP on AHA aims to increase the life of European citizens on average by 2HLY by 2020. The policy design does not only consider this global outcome as the overarching objective. The associated gains derived from the investments towards and the proper achievement of this objective are defined in terms of the three outcome objectives of the Triple Win: Quality of Life, Sustainability of Health Systems, and Innovation and Growth.

The separate Report on Outcome Indicators Review presents an analysis of output and outcomes indicators.

#### **2.1.3 Baseline**

Regarding the design of baseline indicators, the interpretation of the baseline is done as the situation at the start of the commitment. The starting date is indicated in the commitment and not all the commitments have the same onset date for their interventions. The European context should cover the baseline outcome and output indicators at country level, and if possible at regional (NUTS2) level.

On the side of process indicators, the start date for the definition of the baseline coincides with the inception of the activities of the EIP on AHA at the time of the first invitation for commitments: June 2012. The information provided by the partners in their commitments is structured in a questionnaire built by the European Commission in the IPM tool. This information covers the dimension of involvement, especially geographical and for each type of stakeholder. There is also some information on the target group and the mobilisation of resources, although the content of this information is not systematic and it is missing for some commitments,

As to outcome indicators, as the data collection for these indicators has been postponed, their baseline will be defined at a later stage.

#### **2.1.4 Comparability**

The heterogeneity of the commitments and their representativeness in the country/region has been acknowledged. It is not a problem in so far comparability across regions and countries or measuring health inequalities are not the objectives of the EIP on AHA monitoring. Nonetheless, when there is a need for scaling up, some decisions need to be made on how to break down the space and define the periodicity, as well as how to identify variables to control for the diversity in order to assess

whether a similar result of a similar intervention can be expected in different regions or in the future. Therefore, comparability becomes endogenous to the adoption and implementation of the practices within a network of different stakeholders from different regions and countries.

Even though comparability is not an objective, the design of indicators must provide a meaningful mapping of analysis for different units of analysis, be it countries, partners or other units. This mapping can be presented by using indicators measured in relative terms, for example with respect to absolute size, as measured by some of the process indicators, or by depicting time trends.

The EIP on AHA is inclusive since it allows for participation of new commitments. Therefore, allowing heterogeneity is desirable and intrinsic to the bottom-up design of the initiative which leaves in the hands of the partners the exercise of comparability: to find good practices to implement an intervention by taking into account the heterogeneity of users.

### **2.1.5 Aggregation**

Most of the existing aggregation methodologies require common definitions of the indicators used so that a volume index can be obtained. The methodology for aggregation is established in the System of National Accounts (SNA) as the methodology to measure the output and aggregate demand of the economy and the aggregate price level. The methodology of aggregation used in the SNA has been adapted to the System of Health Accounts (SHA) to consider the fundamental measurement problems in service industries which is complicated by the unobservability of market prices for health care services. This methodology was established from a joint collaboration between the WHO, the OECD and the Eurostat Task Force on Health Care Statistics and it is reported in chapter 7 "Price and volume measurement" of *"A System of Health Accounts"* (OECD, 2000).

There is recognition in the SHA of the fundamental aggregation problem which is the definition of unit of output, traditionally based in hospital episodes, in part complicated by the shift of treatments from hospital to ambulatory care facilitated by health technologies. On the other hand, health production can be measured by identifying the proper classification of the production side within the standard classification of economic activities, the ultimate beneficiaries of the health care services, and the sources of funding. In this way, the measurement of health care services can be included as part of various functional classifications in National Accounts: Classification Of Individual Consumption by Purpose (COICOP); Classification Of the Functions Of Government (COFOG); Classification Of the Purposes of Non-profit Institutions serving households (COPNI); and Classification of Outlays of Producers by Purpose (COPP).

Despite the standardisation effort made to construct the SHA, each country has adapted the definition of the unit of output to the structure of the national health care system and this has limited international comparisons to only some aggregate indicators such as those exemplified in Annex 1 as sustainability indicators.

Taking into account that the Action Group partners have freedom of choice of output and outcome indicators, it is expected that aggregation at European level, or even at country level, will not be achieved for all the indicators. Nonetheless, the aggregation methodology established in the SHA and also the classification of diseases (ICD-10), risk factors, or other of the international indicators presented in Annex 1, must be finally considered to present the top-level indicators for the triple win.

### **2.1.6 Transferability**

As already noted for the concept of comparability, the main role of scaling up the interventions to different regions is in the hands of the partners. The measurement of the evolution of outputs and outcomes associated with scaling up the activity and its progress in the future resides as a MAFEIP exercise by using Transferability methods.

There are many factors that may determine the results of a health intervention which are context specific. For instance, the prevalence of the disease in question, the type of technology and resources available, the clinical practice patterns, the organisation of the healthcare system and the

relative prices, may vary between countries, and even between regions within the same country. This variation may constrain the validity of the results of a particular intervention to the local boundaries of data sources and also to the specific methods, both of the intervention and of the measurement methodology. In 2007, Goeree et al<sup>5</sup> systematically reviewed the scientific literature and found 77 unique "variability factors" which have previously been discussed by other health economists in the context of transferability of economic evaluation data. These variability factors were subsequently classified in five broad groups, based on characteristics of:

- **the patient:** e.g. demographics; patient risk factors; mortality rates; life expectancy; attitudes towards treatment; compliance / adherence rates
- **the disease:** e.g. epidemiology (incidence, prevalence, disease progression); disease severity; disease interaction; co-morbidity)
- **the provider:** e.g. clinical practice, conventions and guidelines; experience, education & training, learning curve position; methods of remuneration; incentives for providers
- **the healthcare system:** e.g. absolute or relative prices; available resources (staff, facilities, equipment); organization of delivery system, level of competition; capacity utilization; input mix; available treatment options, level of technological advancement, etc.
- **the methodology used in the analysis:** e.g. costing methodology, estimation procedures; study perspective; timing; clinical endpoints / outcome measures; exchange rates; opportunity cost etc.

This classification system for transferability factors may be particularly useful for the current exercise as there appears to be some overlap between groups of transferability factors and groups of indicators in the monitoring framework. More precisely, whilst a number of patient and disease characteristics closely relate to QoL-indicators as listed in the monitoring framework, some provider and healthcare system characteristics overlap with indicators on the sustainability of healthcare systems (however, indicators on innovation and growth do not seem to have any overlap with transferability factors as reviewed by Goeree et al. (2007). Nevertheless, if i) data on indicators as suggested in the monitoring framework is available, and ii) indicators may also be regarded as variability factors, we may apply transferability methods to extrapolate from jurisdictions reflected in the data to other contexts of interest. Most transferability methods rely in some way on the basic assumption that the transfer from one context to another may be appropriate if the characteristics of the target setting (i.e. the relevant variability factors) are appropriately reflected in the existing data). Hence, in order to transfer evidence to other contexts of interest, we ought to assess i) which factors vary between different contexts, ii) whether this variation also causes a difference in results (and if so, what is the magnitude and direction of change) and iii) whether we can adjust the existing data to other location(s) of interest accordingly.

### 2.1.7 Links to HLYs and triple win

The approaches on the links from the outcome and output indicators of the individual commitments to the Triple Win and the HLY's have still to be discussed. Moreover, a methodology has to be proposed to construct composite indicators linking the outcome objectives of the MAFEIP with the top level indicators of the Triple Win, and these, in turn, to life expectancy and an activity/disability index to measure the change in HLYs according to the Eurostat definition. As mentioned before the MAFEIP will focus on the link between the outcome objectives of the six Action Groups and the objective of the EIP on AHA, namely two healthy life years and the triple win. Hence factors influencing Healthy Life Years like education and socio-economic conditions are not taken into consideration as they are outside the scope of the outcome objectives of the six Action Groups.

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<sup>5</sup> Goeree, R., Burke, N., O'Reilly, D., Manca, A., Blackhouse, G. & Tarride, J., 2007. Transferability of economic evaluations: approaches and factors to consider when using results from one geographic area for another. *Current Medical Research and Opinion*, 23(4), pp. 671-682

As already agreed, the HLY indicator will be considered according to the Eurostat definition. The weighting of life expectancy according to degree of disability is done by using the Global Activity Index obtained from the EU-SILC. Given that this survey considers population 16 and older, an adjustment is needed to consider the Global Activity Index for the total life span.

## **2.2 Key Factors**

The key factors refer to operational issues which are relevant for the definition of indicators and the collection of data. These operational issues are considered as the pragmatism for implementation of the methodology described above as key concepts.

### **2.2.1 Target population**

The target population differs not only from commitment to commitment, but also from Action Group to Action Group. According to the Glossary of Action Plans A1 and A3 the target group refers to the group of individuals or objects to which researchers are interested in generalizing the conclusions. The target population usually has varying characteristics.

The intervention is designed on a part of the target population. The commitments decide how to select the group for intervention. It would be supportive if the commitments provide information aiming at achieving statistical independence between the type of intervention and the outcome of the intervention so as to measure the intervention effect. For the target group, the usual method to achieve this is to select a sample randomly (Random Control Trials), but other selection methods can be considered which allow the application of statistical methods to isolate the treatment from the outcome. These methods need to use additional information on the characteristics of the population.

### **2.2.2 Resources used**

The MAFEIP does not intend to include detailed indicators of inputs measuring resources such as staff time by type of staff. On the other hand, there will be information on available funding and its source.

### **2.2.3 Added value**

The *Survey on the monitoring of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) process* carried out in March 2013 asked the commitments to report their experience in terms of the involvement of stakeholders, the creation of synergies, knowledge transfers and the absorption of innovation by the health systems, and the added value for the participating organisations. The added value might, among others be: networking, visibility, exchange of good practice, type of barriers which the EIP on AHA facilitate to overcome, creating awareness, influence policies or plans, growth and employment.

### **2.2.4 Incremental approach**

Related to the definition of the baseline, the measurement of the effect of the treatment on the respective outcomes will be done in terms of increments (or deltas) between the value at the start of the commitment (onset date) and final outcome at the measurement date, planned to be carried out once a year. Increments will be considered in relation to partners who participate in different waves of the Monitoring Survey, and also in terms of additions of new partners who enter the EIP on AHA in future invitations for commitments.

### **2.2.5 Confounders or delimiting factors**

The use of confounders is necessary in econometrics modelling in order to measure the causal effect of the intervention when this intervention is not performed in a Random Control Trial design.

By analysing the results it should be kept in mind that, as mentioned before, the MAFEIP will focus on the link between the outcome objectives of the six Action Groups and the objective of the EIP on AHA, namely two healthy life years and the triple win.

Therefore factors influencing Healthy Life Years<sup>6</sup> like: genes, environment, culture and level of development are not taken into account since they are outside the scope of the outcome objectives of the six Action Groups. Examples of confounders at the individual level are:

- Lifestyle,
- Prevention treatment for risk factors,
- Disease management,
- Mainstream and assistive devices.

## **2.3 Gap analysis**

The most substantive part of the gap analysis will be presented as separate analysis of the output and outcome indicators to identify missing indicators and possible links between the existing indicators with the top level indicators of the triple win and HLY. In this section, the gaps refer to the Monitoring survey of process indicators whose data are presented in deliverable D2.1 "Interim Report on the defined process indicators and their baseline".

### **2.3.1 Inconsistent responses**

Firstly, there is an analysis of inconsistent responses and replacement of inconsistencies. We also check carefully answers to questions that might have been understood differently by different respondents. For instance we have checked whether the leading country and stakeholder are the same in the Invitation for Commitment and the Monitoring Survey.

### **2.3.2 Missing data**

Most of the missing responses in the Monitoring survey concern the definition of the target group and details of funding. Some statistical method will be used to replace missing data by reasonable values.

### **2.3.3 Missing indicators**

Regarding outputs and outcomes, the analysis of missing indicators and a proposal on how to complete these is presented in the separate Report on Outcome Indicators Review.

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<sup>6</sup> Jagger et al. (2008), Inequalities in healthy life years in the 25 countries of the European Union in 2005: a cross national meta-regression analysis. *Lancet*, 372: 2124-31.

## Annex 1. Description of possible outcome and output indicators, available from international statistics

### 1 - Indicators Quality of Life

Quality of Life Indicator	Source	Subsource	Subsource	Definition
<b>Lifestyle</b>				
Daily smokers of cigarettes	Eurostat – European Health Interview Survey (2002), 2008, 2014	Determinants of health		Proportion of population 15+ smoking cigarettes (manufactured and hand-rolled) daily. Note: breakdown by sex and age.
Daily smokers by number of cigarettes	Eurostat – European Health Interview Survey 2008, 2014	Determinants of health		Proportion of population 15+ smoking cigarettes (manufactured and hand-rolled) daily: 20 or more per day / less than 20 per day. Note: breakdown by sex and age.
Daily smokers of cigarettes (15+)	OECD Health statistics	Non-medical determinants of health		Annual statistics, Daily smokers (age 15+) Furthermore, they have annual information on: Tobacco consumption in grams per capita (age 15+); Average number of cigarettes per smoker per day (age 15+)
Hazardous alcohol consumption	Eurostat – European Health Interview Survey (EHIS, 2008, 2014)	Determinants of health		Prevalence of hazardous drinking (> 20g in F and > 40g in M daily) in the total population Note: breakdown by sex and age.
Risky single-occasion drinking (RSOD)	Eurostat – European Health Interview Survey (EHIS, 2008, 2014)	Determinants of health		Distribution of the population (%) according to their frequency of RSOD (daily / weekly / monthly / less than monthly / not in past year or never) Note: breakdown by sex and age.
Annual consumption of pure alcohol in liters, per person, aged 15 years and over.	OECD Health statistics  WHO Global Information System on Alcohol and Health	Non-medical determinants of health		Annual consumption of pure alcohol in litres, per person, aged 15 years and over.
NB: The European Community Health Indicators (ECHI) recommends to measure 'Policies and practices on healthy lifestyles', but no preferred source has been defined yet (indicator 87).				



Quality of Life Indicator	Source	Subsource	Subsource	Definition
<b>Nutrition</b>				
Proportion (%) of people aged 15+ reporting to eat fruits (excluding juice) at least once a day	Eurostat – European Health Interview Survey 2008, 2014 European Community Health Indicators (ECHI)	Determinant of health indicators	Consumption of Fruit	Proportion of persons who eat fruits (respectively vegetables) twice or more a day / once a day / less than once a day but at least 4 times a week / less than 4 times a week but at least once a week / less than once a week / who never eat fruits (respectively vegetables). (ECHI Indicator 49 'Consumption of fruit') Note: breakdown by sex and age.
Proportion of the population aged 15+ eating fruit (excluding juice) at least once per day.	OECD Health statistics	Non-medical determinants of health		Proportion of the population aged 15+ eating fruit (excluding juice) at least once per day. The main data sources are national health surveys. A number of European countries have implemented. The relevant module recommended in the European Health Interview Survey. Unfortunately, no data in online database.
Proportion (%) of people aged 15+ reporting to eat vegetables (excluding potatoes and juice) at least once a day	Eurostat – European Health Interview Survey 2008, 2014 European Community Health Indicators (ECHI)	Determinant of health indicators	Consumption of vegetables	Proportion of persons who eat fruits (respectively vegetables) twice or more a day / once a day / less than once a day but at least 4 times a week / less than 4 times a week but at least once a week / less than once a week / who never eat fruits (respectively vegetables). (ECHI Indicator 50 'Consumption of vegetables') Note: breakdown by sex and age.
Proportion of the population aged 15+ eating vegetables (excluding potatoes and juice) at least once per day.	OECD Health statistics	Non-medical determinants of health		Proportion of the population aged 15+ eating vegetables (excluding potatoes and juice) at least once per day. The main data sources are national health surveys. A number of European countries have implemented. The relevant module recommended in the European Health Interview Survey. Unfortunately, no data in online database.
Healthy diet awareness	Eurobarometer Special 2005 and 2009	Healthy Life Style Awareness and Practice		We often hear people talking about the importance of eating a healthy diet. What do you think "eating a healthy diet" involves?
Total calories intake	OECD Health Statistics	Non-medical determinants of health	Food consumption	Calories per capita per day, only available for Belgium, Luxemburg and Israel. Unfortunately, no data in online database.
Vitamin D intake	???			
NB: The European Community Health Indicators (ECHI) recommends to measure 'Policies on healthy nutrition', but no preferred source has been defined yet (indicator 86).				

Quality of Life Indicator	Source	Subsource	Subsource	Definition
<b>Daily physical activity</b>				
Practice of daily physical activity	Eurostat – European Health Interview Survey	Determinants of health		Percentage of the population practising at least 30 minutes of physical activity (moderate or intense) per day by gender, age groups and education level. NB: The European Community Health Indicators is developing an indicator (indicator 52) on the proportion of individuals reporting to perform a certain period of time of health enhancing physical activity on an average day/ at least X times per week.
Physical activity in the last 7 days	Eurobarometer Special 2005 and 2009	Physical activity		In the last 7 days, how much physical activity did you get...?
Physical inactivity	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Percent of defined population attaining less than 5 times 30 minutes of moderate activity per week, or less than 3 times 20 minutes of vigorous activity per week, or equivalent by gender, age groups and education level. Not annually data, different years for each country, roughly data around 2008.
<b>Risk factors</b>				
Body Mass Index	Eurostat – European Health Interview Survey (2002), 2008, 2014 European Community Health Indicators (ECHI)	Determinant of health indicators		The European Community Health Indicators (ECHI) recommend to present the percentage of adult persons (18+) who are obese, i.e. whose body mass index (BMI) is $\geq 30$ kg/m <sup>2</sup> . (ECHI Indicator 42 'Body Mass Index') Note: Data on overweight or underweight are also available from EHIS. Note: breakdown by sex and age.
Overweight/Obesity $\geq 25$ $\geq 30$	WHO Global Health Observatory Data Repository OECD Health statistics	Noncommunicable diseases (NCD) Non-medical determinants of health	Risk factors	Percentage of defined population with a body mass index (BMI) of 25/30 kg/m <sup>2</sup> or higher. WHO and OECD have no annually data, different years for each country. WHO has roughly data around 2002, 2005 and 2008.
Mean body mass index (BMI) trends (age standardised estimate and crude estimate)	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Mean body mass index (BMI) in kg/m <sup>2</sup> of defined population. Based on measured height and weight. Annual age-standardized estimate and crude estimate.

Quality of Life Indicator	Source	Subsource	Subsource	Definition
Raised blood pressure (SBP $\geq$ 140 OR DBP $\geq$ 90)	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Percent of defined population with raised blood pressure (systolic blood pressure $\geq$ 140 OR diastolic blood pressure $\geq$ 90). Not annually, different years for each country, roughly data around 2002, 2005 and 2008. NB: The European Community Health Indicators (ECHI) recommended the Eurostat – European Health Interview Survey (EHIS) to present the percentage of people reporting to have been diagnosed with high blood pressure in the past 12 months by gender, age groups (25-64, 65+) and educational level. Data available for 2008. (ECHI Indicator 43 'Blood Pressure')
Mean systolic blood pressure trends (age-standardized estimate)	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Mean systolic blood pressure (in mm Hg). Based on measured blood pressure. If multiple blood pressure readings were taken, first reading per participant was dropped and average of remaining readings was used. Annually age-standardized estimate and crude estimate
Raised cholesterol Raised 5.0 or 6.2	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Percent of defined population with total cholesterol $\geq$ 190 mg/dl (5.0 mmol/l) or $\geq$ 240 mg/dl (6.2 mmol/l). Not annually, different years for each country, roughly data around 2002, 2005 and 2008.
Mean total cholesterol trends (age- standardized estimate)	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Mean total cholesterol of defined population in mmol/l or mg/dl. Based on measured total cholesterol. Annually age-standardized estimate and crude estimate
Raised fasting blood glucose	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Percent of defined population with fasting glucose $\geq$ 126 mg/dl (7.0 mmol/l) or on medication for raised blood glucose. Not annually, different years for each country, roughly data around 2002, 2005 and 2008.
Mean fasting blood glucose trends (age-standardized estimate)	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Risk factors	Mean fasting blood glucose of defined population in mmol/l or mg/dl trends. Based on measured fasting blood glucose. Annually age-standardized estimate and crude estimate
NB: The European Community Health Indicators (ECHI) recommends to follow the percentage of adult diabetics receiving appropriate care, in terms of regular retinal exams, but no preferred source has been defined yet (indicator 84).				

Quality of Life Indicator	Source	Subsource	Subsource	Definition
<b>Health status</b>				
Prevalence of selected chronic conditions or diseases	Eurostat – European Health Interview Survey 2008, 2014	Health Status		Self-reported prevalence of selected diseases: proportion of individuals (15+) reporting prevalence of a disease which occurred during the past 12 months: diabetes, chronic depression, asthma, chronic obstructive pulmonary disease (COPD) and high blood pressure Note 1: Data on other chronic conditions or diseases are available. Note 2: An indicator on the 'Percentage of people with a certain disease being hospitalized during the last year' can also be calculated. Note 3: breakdown by sex and age.
Proportion of persons who assess their health to be very good or good	Eurostat – European Union Statistics on Income and Living Conditions	Health indicators		Annual data on proportion of persons who assess their health to be good or very good. (ECHI Indicator 33 'Self-perceived health')
Proportion of people reporting any long-standing chronic illness or longstanding health problem	Eurostat –European Union Statistics on Income and Living Conditions	Health indicators		Annual data on proportion of people reporting any long-standing chronic illness or longstanding health problem (ECHI Indicator 34 'Self-reported chronic morbidity')
Proportion of people declaring having long-term activity limitations	Eurostat –European Union Statistics on Income and Living Conditions	Health indicators		Annual data on proportion of persons reporting that they have long-term restrictions in daily activities. (ECHI Indicator 35 'Long-term activity limitations')
Health deprivation	Eurostat – European Union Statistics on Income and Living Conditions	Health indicators		The share of persons that assess their health to be fair/bad/very bad, or that report having a longstanding chronic illness/ long-standing health problem or declare having long-term activity limitations in daily activities. (18-64, 65+) (Based on aggregation ECHI indicators 33, 34 and 35)
Limitations in personal care (ADL)	Eurostat – European Health Interview Survey 2008, 2014	Health Status		2 sub-indicators available: - Prevalence of limitations (by severity) in personal care (population 15+) - Percentage of population 15+ with limitations in personal care with not enough help received Personal Care Activities: Feeding: Eating and drinking, Getting in and out of a bed or chair: Transferring oneself, Dressing and undressing: Dressing, Using toilets: Toileting, Bathing or showering: Washing oneself. Note: breakdown by sex and age.

Quality of Life Indicator	Source	Subsource	Subsource	Definition
Physical and sensory functional limitations	Eurostat – European Health Interview Survey 2008, 2014	Health Status		2008: Seeing functions, Hearing functions, Walking, Climbing, Squatting and kneeling, Carrying in the hands or in the arms, Fine hand use, Biting and chewing. 2014: vision, hearing, walking on level ground, and walking up steps. (ECHI Indicator 36 'Physical and sensory functional limitations', no data available yet: The percentage of people who declare having physical and sensory functional limitations (concerning seeing, hearing, mobility, speaking, biting/chewing, and agility). Note: breakdown by sex and age.
<b>Access of care</b>				
Self-reported unmet needs for medical examination Self-reported unmet needs for dental examination	Eurostat – European Union Statistics on Income and Living Conditions			Respondent's own assessment of whether he or she needed a medical examination or treatment, but did not have for one of these main reasons: couldn't afford, to long waiting lists, to long distance or transportation problems.  Note 1: breakdown by sex and age. Note 2: annual data. Note 3: Be careful with interpreting results.
GP utilisation, self-reported visits	Eurostat - European Health Interview Survey 2008, 2014  European Community Health Index (ECHI)	Health services indicators		Mean number of visits to general practitioner per person per year, derived from EHIS questions HC10 and HC11. HC10: When was the last time you consulted a GP (general practitioner) or family doctor on your own behalf? (1) Less than 12 months ago /2) 12 months ago or longer / 3) Never) If HC11: During the past four weeks ending yesterday, that is since HC10 is 1): (date), how many times did you consult a GP (general practitioner) or family doctor on your own behalf? (number of times). Total number of contacts reported under HC11 is extrapolated from 4 to 52 weeks, and divided by the total number of respondents in the sample. EHIS data will not be age standardized. (ECHI Indicator 71a 'GP utilisation' in development)
Visits to GPs and emergency services	???			
<b>Participation in society</b>				
Voluntary work in organisations (65+)	European Social Survey, 2010 or most recent year	Senior volunteering		Working in a political party or action group or another organisation or association during the last 12 months among the population aged 65 or over
Social isolation	European Social Survey, 2010 or most recent year	Senior volunteering		Meeting friends, relatives or colleagues less often than once a month or never among the population aged 65 or over

Supportive relationships	Eurostat – European Union Statistics on Income and Living Conditions			Based on “quality of relationships” items (Ability to ask any relative, friend or neighbour for help, relatedness) (Ad hoc module 2006 and Ad hoc module 2013)
Social contacts	Eurostat – European Union Statistics on Income and Living Conditions			Based on aggregation 'frequency contacts' items (people that meet 'less than once a week' with both relatives and friends) (Ad hoc module 2006)
Social support	Eurostat - European Health Interview Survey 2014 European Community Health Indicators (ECHI)			Measured by Oslo-3 Social Support Scale (OSS-3) which is a composite scale measuring perception of both support and social network. Social support is defined as the perceived availability of people whom the individual trusts and who make one feel cared for, loved, esteemed and valued as a person.
Proportion of people reporting diagnosed chronic depression in the past 12 months	Eurostat - European Health Interview Survey 2008, 2014 European Community Health Indicators (ECHI)	Health Status indicators	Depression	Proportion of individuals reporting to have been diagnosed with the disease which occurred during the past 12 months, by gender, age groups (15-64, 65+) and educational level. (ECHI indicator 23a 'Depression, self-reported prevalence') Note: For both years 2008 and 2014 only data on total 'Proportion of people reporting chronic depression in the past 12 months' is available.

Quality of Life Indicator	Source	Subsource	Subsource	Definition
Number of countries dealing with the accessibility of public transport	PTaccess			PTaccess project was running from 2007-2009.  Conclusion; Still lack of data at EU-level.
A policy to guarantee mobility for disabled people	PTaccess			PTaccess has gathered information for the EU-countries
Monitoring of the accessibility of public transport	PTaccess			In the 'Urban audit' data collection, Eurostat provides data on public transport: - Number of stops of public transport per km2 - Cost of a monthly ticket for public transport (for 5-10 km)
Accessibility of stops and stations	PTaccess			<a href="http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=urb_ikkey&amp;lang=en">http://appsso.eurostat.ec.europa.eu/nui/show.do?dataset=urb_ikkey&amp;lang=en</a>
Accessibility of vehicles	PTaccess			Out of this collection some urban data are derived for core cities, larger urban zones and sub-city districts on Number of stops of public transport per 1000 pop. Number of stops of public transport per km2 TT1091I Number of stops per 1 km of public transport network TT1080I Cost of a monthly ticket for public transport (for 5-10 km) Number of park and ride parking spaces per 1000 pop. Number of park and ride parking spaces per 1000 cars Maximum charge of on-street parking in the city centre per hour Cost of a taxi ride of 5 km to the centre at day time Length of bicycle network (dedicated cycle paths and lanes) per 1000 pop Accessibility by air (EU27=100) Accessibility by rail (EU27=100) Accessibility by road (EU27=100) Multimodal accessibility (EU27=100)
NB: The European Community Health Indicators (ECHI) will develop indicator on 'Social support' (indicator 54).				

Quality of Life Indicator	Source	Subsource	Subsource	Definition
<b>Causes of death</b>				
Causes of death: <ul style="list-style-type: none"> <li>• Chronic diseases, like: diabetes mellitus, heart failure, COPD, dementia...</li> <li>• Falls</li> <li>• Suicide and intentional self-harm</li> </ul>	Eurostat - Public health	Causes of death		Annual national and regional data - absolute numbers, crude death rates (expressed in deaths per 100,000 inhabitants) and (age-) standardised death rates. Data are broken down by sex, 5-year age groups. Causes of death (COD) are classified by the 65 causes of the " <a href="#">European shortlist</a> " of causes of death. This shortlist is based on the <a href="#">International Statistical Classification of Diseases and Related Health Problems</a> (ICD) developed and maintained by the WHO.
NCD Deaths under 60  NCD Deaths under 70	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Mortality	Deaths are reported as the total number of deaths in thousands for the year indicated.  Death rates and age-standardized death rates are reported per 100,000 population per year.
Mortality, Cardiovascular diseases and diabetes, deaths per 100,000	WHO Global Health Observatory Data Repository	Noncommunicable diseases (NCD)	Mortality	Deaths are reported as the total number of deaths in thousands for the year indicated.  Death rates and age-standardized death rates are reported per 100,000 population per year.
Main causes of fatal injuries: falls	WHO Mortality indicator Database (MDB)	Main causes of fatal injuries in older people		Age standardised mortality rate by cause
Place of occurrence of injuries	EU Injury Database			
NB: The European Community Health Indicators (ECHI) recommends to measure 'Suicide attempt', but no preferred source has been defined yet (indicator 32).				



## 2- Indicators Sustainability of health systems

Sustainability Indicator	Source	Subsource	Subsource	Definition
<b>Hospital (re-) admissions by diagnosis</b>				
Hospital discharges by diagnosis ICD10: Chronic diseases: diabetes mellitus, heart failure, COPD, dementia, ... <ul style="list-style-type: none"> <li>• Chronic diseases, like: diabetes mellitus, heart failure, COPD, dementia...</li> <li>• Fracture of femur, (Second) Hip replacement</li> </ul>	Eurostat – Public Health	Health care activities	Hospital patients	Annual national and regional data are provided in absolute numbers and in population-standardised rates (per 100 000 inhabitants) following the International Shortlist for Hospital Morbidity Tabulation (ISHMT) and the System of Health Accounts (SHA) definitions. Data is available by gender, age groups and at regional level (NUTS2).  The International Classification of Diseases (ICD) is the standard diagnostic tool for epidemiology, health management and clinical purposes. This includes the analysis of the general health situation of population groups. It is used to monitor the incidence and prevalence of diseases and other health problems. (WHO)  NB: The European Community Health Indicators (ECHI) uses this source for the ' Hospital in-patient discharges, selected diagnosis' indicator (indicator 67).
Hospital re-admissions by ICD10	???			???
<b>Hospital bed days</b>				
Average Length of Stay (ALOS)	Eurostat – Public Health	Health care activities	Hospital patients	Average length of stay (ALOS) is computed by dividing the number of hospital days (or bed-days or in-patient days) from the date of admission in an in-patient institution (date of discharge minus date of admission) by the number of discharges (including deaths) during the year.  Eurostat collects on an annual basis data on number of hospital in-patient discharges per 100,000 population following the International Shortlist for Hospital Morbidity Tabulation (ISHMT) and the System of Health Accounts (SHA) definitions. Data is available by gender, age groups and at regional level (NUTS2).
Average length of stay by diagnosis ICD-10: <ul style="list-style-type: none"> <li>• Chronic diseases, like: diabetes mellitus, heart failure, COPD, dementia...</li> <li>• Fracture of femur, (Second) Hip replacement</li> </ul>	WHO European Hospital Morbidity Database (EHMD)			The Hospital Morbidity Database (HMDB) contains hospital discharge data by detailed diagnosis, age and sex, which were submitted by European.
Level of hospitalisation	???			
<b>Living in institutions</b>				
Living in institutions	OECD Health Data			Share of people aged 65 and over living in institutions

Sustainability Indicator	Source	Subsource	Subsource	Definition
<b>Management of health services</b>				
Expenditures: Ratio between health care expenditures of different providers like: - Hospitals, - Out-patient care - Community Care facilities for the elderly	Eurostat - Public health OECD Health Statistics WHO European Health for all Database (HFA-DB)	Health care expenditure	Eurostat	Joint data collection EUROSTAT, OECD and WHO
Organisation of care: Ratio between health care expenditures of different functions like: - In-patient curative care - Out-patient curative care - Services of long term nursing care	Eurostat - Public health OECD Health Statistics WHO European Health for all Database (HFA-DB)	Health care expenditure	Eurostat	Joint data collection EUROSTAT, OECD and WHO
<b>Old age social spending</b>				
Old age social spending Public social expenditure as a percentage of GDP	OECD Social expenditure Statistics	Social expenditure Statistics		Old age social spending as a percentage of GDP  <a href="http://www.oecd-ilibrary.org/statistics">http://www.oecd-ilibrary.org/statistics</a>
Expenditure on pensions - Current prices (% of GDP)	Eurostat - ESSPROS			The 'Pensions' aggregate comprises part of periodic cash benefits under the disability, old-age, survivors and unemployment functions. It is defined as the sum of the following social benefits: disability pension, early-retirement due to reduced capacity to work, old-age pension, anticipated old-age pension, partial pension, survivors' pension, early-retirement benefit for labour market reasons.
Expenditure on care for elderly (% of GDP)	Eurostat - ESSPROS			Percentage share of social protection expenditure devoted to old age care in GDP. These expenditures cover care allowance, accommodation, and assistance in carrying out daily tasks.

### 3- Indicators Innovation and growth

Innovation and growth Indicator	Source	Subsource	Subsource	Definition
<b>Employment rate</b>				
(Un)employment rate	Eurostat – Labour Force Survey			(Un)employment rates by sex, age and nationality
<b>Poverty and exclusion</b>				
Reduction of population at risk of poverty or social exclusion in number of persons	Open Method of Coordination on social inclusion and protection	Database: Eurostat Income and Living conditions	Main indicators	People at risk of poverty or social exclusion by age and sex
Housing cost overburden rate by age, sex and poverty status	European union statistics on income and living conditions	Housing conditions	Housing cost burden	Housing cost overburden rate by age, sex and poverty status
<b>R&amp;D</b>				
Government budget appropriations or outlays on R&D	Government budget appropriations or outlays on R&D (GBAORD)	7-Health		<p><b>This chapter includes R&amp;D related to</b> protecting, promoting and restoring human health - broadly interpreted to include health aspects of nutrition and food hygiene. It ranges from preventative medicine, including all aspects of medical and surgical treatment, both for individuals and groups, and the provision of hospital and home care, to social medicine and paediatric and geriatric research.</p> <p><b>This chapter also includes R&amp;D related to:</b></p> <ul style="list-style-type: none"> <li>- Prevention, surveillance and control of communicable and noncommunicable diseases;</li> <li>- Monitoring the health situation;</li> <li>- Health promotion;</li> <li>- Occupational health;</li> <li>- Public health legislation and regulations;</li> <li>- Public health management;</li> <li>- Specific public health services;</li> <li>- Personal health care for vulnerable and high risk populations.</li> </ul>
<b>Patents</b>				
Patents	Patent statistics			



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#### Abstract

The present inception report aims to describe the process for defining indicators in line with the terms of Work Package 1 of the Technical Annex for "A Monitoring and Assessment Framework for the European Innovation Partnership on Active and Healthy Ageing" (MAFEIP) agreed between DG CNECT and DG JRC. It provides initial thoughts on the shaping of the MAFEIP based on IPTS' own research and taking account of the data and knowledge gained through discussions with the Expert Groups and also provided by the EIP on AHA Action Groups since their inception in June 2012, including:

- Information provided by stakeholders in the First Call for Commitment (June 2012)
- Knowledge obtained through interaction with partners during the Action Group meetings held between June and November 2012 and information sent by the partners on the monitoring framework of their individual commitments.
- Meetings and intensive interaction with the Expert Group on the monitoring framework (June - November 2012)
- Results of and decisions made at the 6 November 2012 EIP on AHA 1st Conference of Partners, with objectives and implementation detailed in the final Action Plans.
- Information provided by stakeholders in the Second Call for Commitment (February 2013).
- Data gathered from Action Groups' partners through the "Survey on the monitoring of the European Innovation Partnership on Active and Healthy Ageing (EIP on AHA) closed in March 2013.
- Data received from the Reference sites (April 2013), more specifically data on the 71 Good Practices submitted by those Reference sites.

The objective of this inception report is therefore to propose some initial considerations, both from a theoretical and operational point of view, taking into account the methodological proposal agreed towards the definition of a Monitoring Framework for the EIP on AHA.

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