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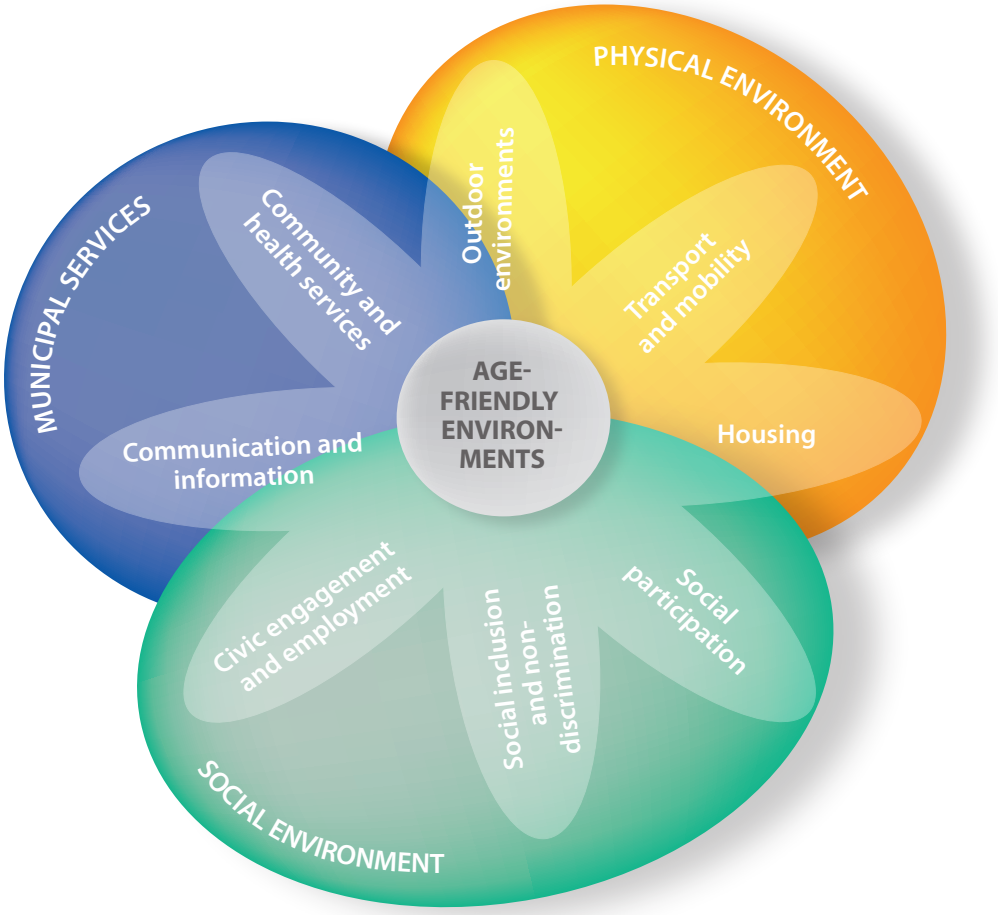

Age-friendly environments in Europe:
Indicators, monitoring and assessments

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Abstract

Policies to create more age-friendly environments have become a forceful movement in Europe and globally, in which a growing number of cities and communities, local authorities and regional governments participate. This publication examines the contribution of information systems, indicators, monitoring and assessment to the success and sustainability of age-friendly policy initiatives. It sets out the potential sources for drawing a comprehensive picture of the situation of older people and their quality of life, and considers how to communicate these effectively.

This publication is based on lessons learned from existing age-friendly initiatives in Europe and the various ways in which these are supported by measurement, monitoring and tailored communication tools, such as healthy ageing profiles and community information systems. These include participatory approaches to community evaluation with older people and bottom-up initiatives of gathering and sharing of information that support older people to remain active and engaged in their communities and thus to continue doing the things that are important to them.

Keywords
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Contents

List of boxes, figures and tables

Boxes

Figures

Tables

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1. Introduction

The level of interest among cities and communities in Europe in setting up and maintaining policy initiatives to improve the health and well-being of older citizens by investing in better age-friendly physical, social and service environments is unprecedented. These schemes have taken place at different scales, from neighbourhood initiatives to citywide planning and coordinated efforts at county, district and other levels of local government.

Much has been learned from existing initiatives about both success factors and challenges to sustained implementation (WHO Regional Office for Europe, 2016; WHO, 2017). One important lesson is that participatory age-friendly assessments of cities and communities and the use of indicators to monitor change are important tools that contribute to the success of age-friendly policy initiatives. Putting in place and choosing among various measurement instruments for age-friendly evaluations and monitoring progress can, however, be resource intensive and needs sound planning.

This publication describes the tools cities and communities can use for the tasks of self-assessment, target-setting and monitoring, and how to select a basic indicator set to monitor changes over time. It builds on recent progress with indicator development at the global level (WHO, 2015a) and on a number of national and European initiatives. Indicators for age-friendly environments are still a fairly recent area of practice and research. This in part also reflects gaps in monitoring trends of active and healthy ageing at the regional and national levels (WHO, 2015b).

Nevertheless, this publication builds on two important recent developments in Europe that have contributed to clarifying and standardizing the field of age-related statistics in Europe. In 2016 the United Nations Economic Commission for Europe (UNECE) published a set of general recommendations for age-related statistics in Europe (UNECE, 2016a). Moreover, the indicator set of the Active Ageing Index – a joint European Commission/UNECE initative – (Zaidi and Stanton, 2005; Zaidi et al., 2016; European Social Policy Network, 2016), is becoming increasingly relevant for selecting and setting up indicator systems, including those for use at the local level.

This report provides a synthesis of emerging national, European and international guidance in the field of age-friendly indicators and age-related statistics, from which local governments can draw inspiration to design their own toolbox of indicators, assessment instruments and information systems. It sets out illustrative examples and lessons learned from a number of age-friendly initiatives in Europe and beyond. In so doing, it serves as a guide to tools developed by European and international initiatives and projects (WHO Regional Office for Europe, 2008; AFE-INNOVNET, 2015; WHO, 2015a; UNECE 2016a; 2016b; Zaidi and Stanton, 2015) and national ones (Ontario Seniors' Secretariat, 2013; Public Health Agency of Canada, 2015).

This work is the outcome of the Age-friendly Environments in Europe (AFEE) project 2013–2016, which was jointly led by the WHO Regional Office for Europe and the European Commission Directorate-General for Employment, Social Affairs and Inclusion. It is a companion to the AFEE policy tool *Creating age-friendly environments in Europe: a tool for local policy-makers and planners* (WHO Regional Office for Europe, 2016) and the AFEE handbook *Creating age-friendly environments in Europe: a handbook of domains for policy action* (WHO Regional Office for Europe, 2017), which provide the policy and empirical background and the analytical framework on which it builds.

The goal of this publication is to complement these with more technical information on the different measurement tools and means of communication developed by cities and local governments to assess the age-friendliness of neighbourhoods and communities for the purposes of advocacy, planning and monitoring. An overview of the different ways indicators, assessment, monitoring and information systems are used and their role throughout the policy process of age-friendly initiatives is described in the policy tool (WHO Regional Office for Europe, 2016). This publication adds more detail on the practical steps and provides an overview of the concrete assessment instruments available. At its core is a model list of indicators that cities have created or that have been proposed by international measurement initiatives.

This is the first attempt at such a comprehensive synthesis in Europe. It also takes into account guidance developed and evaluated elsewhere (Government of South Australia, 2012; Ontario Seniors' Secretariat, 2013; Public Health Agency of Canada, 2015; Orpana et al., 2016).

Creating age-friendly environments

The policy commitment to create more age-friendly, supportive environments has become a central element of strategies and action plans for active and healthy ageing in Europe and globally (WHO Regional Office for Europe, 2012; EIP on AHA, 2015; WHO, 2016). WHO's *World report on ageing and health* (2015b) explains in detail why age-friendly environments are indispensable for achieving the goals of active and healthy ageing. Some key terms used throughout this report are introduced in Box 1.

Box 1. Key terms related to age-friendly environments

Accessibility describes the degree to which an environment, service or product allows access for as many people as possible – in particular, people with disabilities.

Accessibility standards define a level of quality accepted as the norm. The principle of accessibility may be mandated in law or treaty, and then specified in detail according to international or national regulations, standards or codes, which may be compulsory or voluntary.

Age-friendly environments (such as in the home or community) foster healthy and active ageing by building and maintaining intrinsic capacity across the life-course and enabling greater functional ability in someone with a given level of capacity.

Active ageing is the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age.

Healthy ageing is the process of developing and maintaining the functional ability that enables well-being in older age.

Quality of life is individuals' perceptions of their position in life in the context of the culture and value system in which they live, and in relation to their goals, expectations, standards and concerns. It is a broad-ranging concept, incorporating in a complex way a person's physical health, psychological state, level of independence, social relationships, personal beliefs and relationship to salient features in the environment. As people age, their quality of life is largely determined by their ability to maintain autonomy and independence.

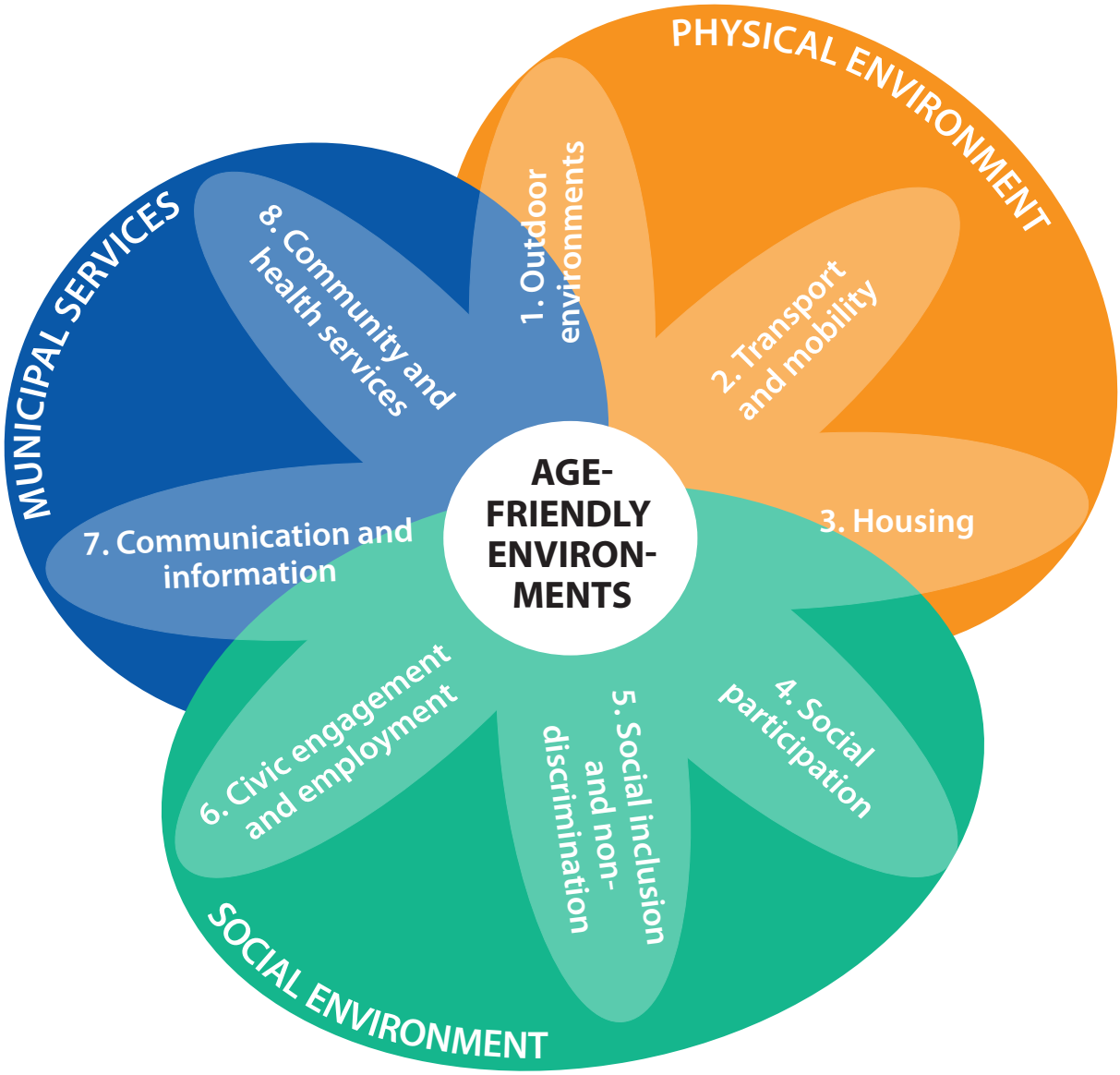
Supportive environments for health offer protection from threats to health and enable people to expand their capabilities and develop self-reliance in health. They encompass where people live, their local community, their home and where they work and play, including people's access to resources for health and opportunities for empowerment.

Universal design refers to the design of products, environments, programmes and services to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design. It should not exclude assistive devices for particular groups of people with disabilities where this is needed.

Source: WHO (2015b: Glossary).

Over the past decade WHO's *Global age-friendly cities: a guide* (2007a) has served as methodological reference point for the age-friendly environments movement – a movement that has grown dynamically ever since. The 2007 guide developed a framework of eight domains for age-friendly action in cooperation with 33 cities globally. This project was based on the methodology of the Vancouver Protocol (WHO, 2007b), which identified eight domains or major fields of concern from the perspective of older people, comprising three clusters (Fig. 1).

Fig. 1. Eight domains for age-friendly action



Source: WHO Regional Office for Europe (2016).

All three clusters interact, often in complex ways (WHO Regional Office for Europe, 2017). Policy actions with a focus on core concerns under one domain often reap joint benefits for other domains and support corresponding aspects of age-friendly environments. They also create important mutual benefits with healthy cities and communities action more broadly, and have other synergies, in particular via intergenerational activities and "livable" neighbourhoods for all generations (Jackisch et al., 2015).

Because of its wide usage in age-friendly initiatives around the world, the eight-domain framework of *Global age-friendly cities: a guide* has been examined by a range of published research (see, for example, the comparisons in Lui et al. (2009) of frameworks with alternative classifications of core items). Several reviews of the literature aim to summarize this empirical research to determine whether the eight-domain framework is still adequate for the

purposes for which it was designed. Recent summaries concluded that the research confirmed that the framework is still fit for purpose (Steels, 2015; Moulaert & Garon, 2016; Plouffe et al., 2016).

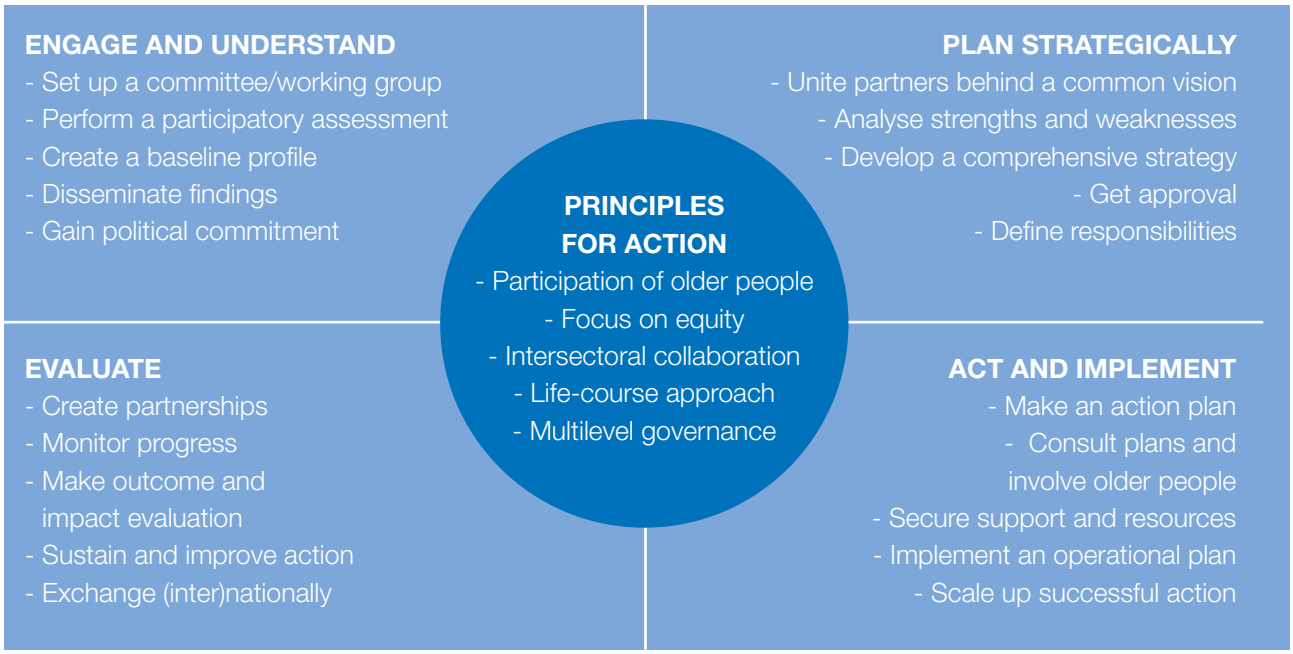
During the AFEE project, the framework was used for a major exercise that mapped existing practice examples in Europe to individual domains in order to update the methodology and the concepts of the original *Global age-friendly cities: a guide*, and to adapt it to the European context. This review confirmed the usefulness and validity of the framework in the European context. It was therefore maintained with only a limited number of changes in notion and definitions of domains, but with a major update of the range and the subcategories of policy actions under each of them (WHO Regional Office for Europe, 2017).

The following chapters discuss how to map indicators to individual domains, complemented by overarching measures of long-term outcomes that are usually driven by action in several domains or by broader determinants of health.

Assessing age-friendliness within a four-phase policy model

One of the goals of the AFEE project was the design of a practical tool for policy implementation to complement the AFEE handbook (WHO Regional Office for Europe, 2017). This policy tool (WHO Regional Office for Europe, 2016) proposes a model of four phases of the policy process, comprising 20 steps and a set of five overarching principles for action (Fig. 2).

Fig. 2. Model of principles and steps to create age-friendly environments



Source: WHO Regional Office for Europe (2016).

The important role of healthy ageing assessments, profiles and indicators to monitor and evaluate policy initiatives is a common theme of the principles and steps that constitute the central policy roadmap of the AFEE policy tool. Within the model of Fig. 2 – from engaging and understanding to strategic planning, implementation and evaluation – the tasks of assessment, measurement and use of indicators are relevant at various stages of the policy process.

During the **engage and understand** phase many communities undertake a participatory assessment, often using a mixed-method approach that builds on both a review of information from administrative data and statistics and learning directly from the views of older people and other stakeholders via focus groups, research walks

and other participatory methods. Some communities at this stage have already analysed the available evidence and created a comprehensive and systematic healthy ageing profile to support the public debate about priorities for age-friendly action, often based on a core set of topics proposed by WHO (WHO Regional Office for Europe, 2008; see also Chapter 8).

A thorough analysis of strengths and weaknesses is ideally informed by a range of core indicators as part of the decision-making process in the **plan strategically** phase. This can include the identification of gaps in information and planning how to fill these gaps in the mid and long terms. In the **act and implement phase**, operationalization of a strategic plan involves setting targets for expected outcomes and identification of indicators that will allow progress towards these goals to be measured (WHO Regional Office for Europe, 2016). During this phase, inputs and resource costs are elaborated in more detail. Baseline data are assessed for target indicators; where data gaps exist or measurement is difficult, strategies on how to address these are discussed.

The policy process and the relevance of proper action during the **evaluate** phase are described in detail in WHO Regional Office for Europe (2016: Chapter 6), and are further elaborated throughout this publication. At this stage of the policy implementation process, the use of indicators can be instrumental in helping to sustain policy support for continued action by showing achievements but also directions for adjustments in future action plans. Planning the scope and purpose of activities for evaluations that will be undertaken during this phase can be a critical success factor in the sustainability of an action plan (WHO Regional Office for Europe, 2016).

The model of Fig. 2 lists the following steps for successful action within this phase:

- create partnerships;
- monitor processes;
- make outcome and impact evaluation;
- sustain and improve action;
- exchange (inter)nationally.

Partnerships with universities and research institutions are especially relevant when monitoring and evaluation involves the design and implementation of surveys in the community, systematic stocktaking of available evidence or the reconciliation of evidence from different sources (see Chapter 5). Such institutes can also provide a lead function in bringing together other frameworks for evaluation, including the design of participatory assessment tools (see Chapter 7).

The steps of **monitoring processes continually** and **undertaking both outcome and impact evaluation** involve the definition of goals to be measured and the selection of indicators (see Chapter 3).

Periodic reviews of plans and targets support **sustaining and improving action informed by evidence**, for which indicators need to be tailored to the local context of action plans and be sensitive to changes over time. Effective communication of goals and indicator outcomes with the public can be critical to sustain political support.

The use of indicators to **learn from successful action in national and international networks** for international exchange (if not comparisons) is still in its infancy but could become more important in the future. Sharing healthy ageing profiles, for example, has been an influential communication tool for some cities and helped to inspire peers (WHO Regional Office for Europe, 2016).

Linking age-friendly initiatives to European indicator systems also supports communication between local initiatives and the five-step approach of the European scaling-up strategy of the European Innovation Partnership on

Active and Healthy Ageing (EIP on AHA, 2015; EIP on AHA, 2017). Where alternative indicator instruments were available to define specific items, the definition from the Active Ageing Index was suggested as preferred choice.

Overview and how to use this tool

The target audience for this publication is similar to that for *Creating age-friendly environments in Europe: a tool for local policy-makers and planners* (WHO Regional Office for Europe, 2016): policy-makers, seniors' organizations, planners and researchers engaged in improving the age-friendliness of local authorities, from the community to the regional level.

This complementary publication provides a synthesis of the current literature and practical guidance developed for and used by local authorities in Europe and other parts of the world to undertake monitoring and assessment of age-friendly initiatives, with a focus on selecting and using indicators. It should be read alongside the two main AFEE publications (WHO Regional Office for Europe, 2016; 2017), which explain the concepts and empirical underpinning of both the eight domains for policy action and the policy process to set up age-friendly initiatives. Readers are also recommended to use this publication alongside WHO's *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO, 2015a).

Box 2 provides an overview of a rich set of tools for indicators, monitoring and assessment that age-friendly initiatives at the local government level may wish to consider and refers the reader to the relevant chapter in this publication. How much to invest in each of these tools will depend on the local context.

Box 2. A proposed toolkit for age-friendly indicators, monitoring and assessment

The AFEE toolkit suggests a set of tools for cities/communities to develop and use:

- a sparse set of indicators to support the planning and monitoring of age-friendly initiatives at various levels of local government (Chapter 3), building on the framework outlined in Chapter 2;
- a rapid assessment tool for policy processes, briefly introduced in Chapter 2 and described in more detail in the AFEE policy tool (WHO Regional Office for Europe, 2016);
- a system of outcome and equity measures to map the socioeconomic context of a community initiative to monitor long-term trends, with links to national and subnational age-related statistics and to emerging European indicator systems – notably the Active Ageing Index (Chapter 4);
- tailored survey instruments as appropriate and depending on available resources (Chapter 5) to support the measurement of indicators outlined in Chapters 3 and 4;
- an information system for analysis of variations and inequalities on a geographical scale below the city level (Chapter 6);
- assessments that include participatory information collection (Chapter 7);
- a healthy ageing profile publication for initial assessment and for 3–5-year follow-up, both for planning and communication and to bring together information from the sources described in Chapters 3–7 (Chapter 8).

Factors to consider include:

- the scope of an initiative, strategy or action plan (such as geographical area covered and resources available);
- statistical capacity, infrastructure and initial data availability;
- partners at universities and research institutes;
- the planned/projected time span of action – for example, the goal may be to put in place a permanent information infrastructure for local government and public communication that will also support future policy development;
- the extent to which new data collections are intended to serve broader policy purposes in a life-course perspective, including all age groups of the population.

Following the chapters outlining the details of these tools, Annex 1 introduces the list of indicators from *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO, 2015a). Annex 2 presents a brief guide to European and international sources of demographic context information for regional and urban data on ageing.

2. A framework for age-friendly city indicators

This publication follows the framework for selecting age-friendly indicator sets developed during a global project of the WHO Centre for Health Development (Kobe, Japan) that was published as *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO, 2015a). This guide suggests a model (Fig. 3) that presents a frequently applied logical sequence from inputs to outputs, outcomes and impact (where the impact is defined as long-term changes in the health and well-being of older people).

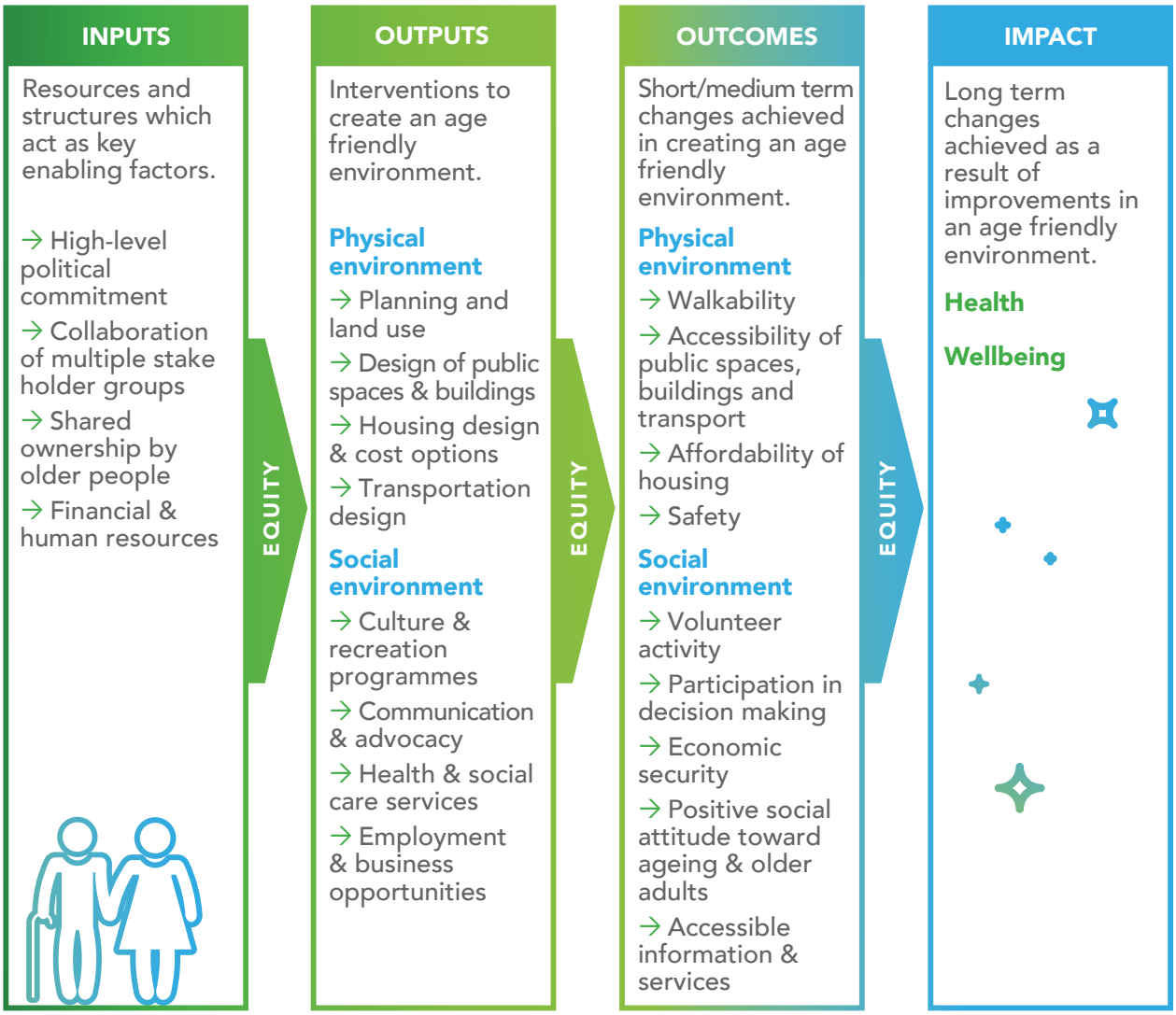
The concepts of input, output and outcome indicators, and how to characterize these for the context of age-friendly domains of policy action, have been outlined in detail in *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO, 2015a). Chapter 3 describes how to select indicators for the eight domains of age-friendly action (see Fig. 1), with a focus on input, output and (intermediate) outcome indicators. Chapter 4 addresses core socioeconomic context information for local initiatives and long-term trends in health and well-being, as well as indicators of equity, that are understood as impact indicators in the framework of Fig. 3.

Person–environment fit

The concept of person–environment fit is central to the design of policy initiatives for age-friendly environments (WHO Regional Office for Europe, 2017). It analyses the degree to which older people's capacities match the characteristics of their environment.

Person–environment fit is a concept on which other age-friendly approaches are based, such as walkability, livable communities and universal design (Ontario Seniors' Secretariat, 2013). Person–environment fit is therefore one of the approaches that should guide the selection of indicators for age-friendly assessments, looking at both the needs and the demands of older people, including those revealed by self-reported assessments and quality of life measures on the one hand and indicators of environmental characteristics on the other.

Fig. 3. A framework for selecting an age-friendly city indicators set



Source: WHO (2015a).

Coverage of age groups and definition of age limits

International datasets on older age groups usually refer to people aged 60 or 65 years and older. For the purpose of age-friendly environment planning and monitoring, however, health and socioeconomic observatories of local authorities frequently include the "young old" of 50 or 55 years and older. UNECE recommendations for ageing-related statistics likewise suggest reporting population data by five-year age groups, starting at 55 years, up to the group of those aged 85 years and older (UNECE, 2016a). For other indicators, such as life expectancy, reporting in ten-year intervals is suggested: 55, 65, 75 and 85 years. For all indicators it is essential to report not only by age group but also by sex.

Limitations of the framework and the lists of indicators

Because both the list of indicators and the exact operationalization of many indicators have to be tailored to the needs, context and data availability of local authorities, comparability across jurisdictions within countries and between communities across national borders will be limited. Although the use of common or similar instruments is suggested in many cases – as well as establishing links to national and international emerging indicator systems (such as the Active Ageing Index (UNECE, 2016b)) – the exchange of indicators and comparative assessments of age-friendly target domains is a fairly recent endeavour. It is hoped that this publication will contribute to supporting this practice in Europe.

It should also be noted that the indicators framework presented here frequently focuses on inputs and intermediary outputs or outcomes. It does not provide a framework for economic evaluation of individual age-friendly initiatives. For this latter approach see, for example, the social, economic and environmental impact tool (SEE-IT) developed under the Thematic Network on Innovation for Age-Friendly Environments (AFE-INNOVNET) (Bond et al., 2015) and the monitoring and assessment framework for the EIP on AHA (MAFEIP) (Boehler et al., 2015).

It was outside the scope of the AFEE project to establish a standard list of indicators or a new European survey module with detailed individual indicator definitions or survey questions. Instead, the reuse of existing instruments and their selective use is suggested here.

The indicator lists proposed here have been brought together with all 53 Member States in the WHO European Region in mind, although implementation of a number of them may be easier in more data-rich environments and the sources for the 28 European Union (EU) countries used for constructing the Active Ageing Index receive special attention.

An attempt has also been made to cover the situation of both urban and predominantly rural communities and local authorities, for which many challenges faced by older people and their families are similar. How to adapt target topics and operationalize tailored datasets for rural and remote areas, however, is currently less well researched. Fewer practical examples are available from these areas than from urban centres (Menec et al., 2015; Federal/Provincial/Territorial Ministers Responsible for Seniors, 2008).

A rapid assessment tool for monitoring policy processes

In addition to monitoring the indicators described in the following chapter, rapid municipal self-assessments of policy processes towards becoming more age-friendly have been found useful by a number of cities. These build on the main steps proposed in the model of Fig. 2. A corresponding checklist is provided in Annex 1 of *Creating age-friendly environments in Europe: a tool for local policy-makers and planners* (WHO Regional Office for Europe, 2016), which also provides examples of how cities and communities have addressed challenges at each stage of the policy process.

The rapid assessment tool can help with assessing the current status of policy planning for action plans and mobilization of resources for implementation and with charting progress over time. In comparisons among cities, it can show the individual success factors for setting up and maintaining age-friendly policy initiatives and how to make them sustainable for the future.

3. Indicators per domain

This chapter presents a list of indicators for each of the eight domains, brought together from five principal sets of guidance:

- the WHO global list of indicators in *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO 2015a): core [WHO MAFC Core] and supplementary indicators [WHO MAFC Supp];
- the Active Ageing Index (UNECE, 2016b) [AAI];
- healthy ageing profiles produced using WHO guidelines (WHO Regional Office for Europe, 2008) [HAP 2008];
- the Public Health Agency of Canada's (2015) *Age-friendly communities evaluation guide: using indicators to measure progress* [AFC-CAN];
- Standard indicator definitions from the new UNECE (2016a) *Recommendations on ageing-related statistics*, mainly for demographic and socioeconomic context variables [UNECE 2016].

The abbreviations [in brackets] are used to identify the relevant source within the tables throughout the chapter; where indicators are numbered in the original source, that number is also given.

In the "measurement and sources" columns the following European surveys are suggested to provide reference items used in constructing the Active Ageing Index (these are further discussed in Chapter 5):

- European Social Survey
- EU Labour Force Survey
- Eurostat Information and Communication Technology (ICT) Survey
- European Statistics on Income and Living Conditions (EU-SILC).

Indicators from the first three data sources have all been pilot tested with a range of countries or jurisdictions during their development. The fourth source is based on a broad review of available data sources and indicators that have been used in a large number of communities in Canada. For the fifth source, which covers topics and indicators originally proposed for statistics at the national/regional level of aggregation, this publication provides a three-tier grading, according to data availability and stage of (national) development in Europe (see Chapter 6).

Where indicators were proposed in the WHO global indicator list that are also items in the Active Ageing Index (AAI), the definitions from the original sources are provided. All 22 indicators from the AAI have thus been included in the model indicator set of this chapter. A number of pilots are available that illustrate how the AAI can be implemented at the subnational level (UNECE, 2016b; UNECE & European Commission, 2016). These provide ample additional practical information for linking local and subnational to national and international levels, which is relevant for implementing indicators at a local level.

The indicators proposed in the following have further been cross-checked against lists of indicators from two sources that publish comparisons across communities in the United States of America and use similar approaches to the eight domains of the AFEE handbook: livable community indicators for sustainable ageing in place and the AARP Livable Community Index (Harrell, 2014; Harrell et al., 2014; AARP Public Policy Institute, 2016). A somewhat different approach with a focus on a broad range of quality of life domains has been adopted for the index

of “best cities for successful aging” published by the Milken Institute. In 2017 this comparison covered 381 metropolitan statistical areas in the United States (Chatterjee and King, 2014).

Choosing among indicators and measurement methods

Different data sources and methods of measurement are suggested in the indicator tables in the following sections. These may be needed because of limited data availability, but also in order to adapt the indicators to the local context, especially in cases where the measurement for a number of topics will be highly context-specific.

An important source of information is **programme inventories**, understood in a broad sense as a review of available information about existing programmes and age-friendly action – both public and private. To arrive at estimates for indicator values, a programme inventory needs to list all available programmes and extract information according to well defined criteria, such as programme goals, target population (e.g. age range of seniors covered), location (geographical range), number of people served and resources available (paid staff and volunteers, funding, geographical range).

Data from **administrative sources** and statistical data that are routinely collected are suggested in many cases for the construction of local proxy variables for various topics. As with information from programme inventories, administrative sources can provide valuable insight into the service coverage of the target population, as well as access to infrastructure, expenditure and sources of funding. There is, however, a likely bias towards reporting about publicly administered activities and facilities, even where a statistical mandate also includes data collection about private sector activities. Where the reporting mandate is regulated nationally, uniform information might be available across geographical areas, allowing for comparative analysis. Measurement of quality of services, or the extent to which they correspond to the needs and expectations of older people and their families, is often very limited; this is where other sources of information have to step in, including surveys among users.

For more detailed and more comprehensive assessments, **surveys of older people** may be needed (see Chapter 5). In other cases, it is recommended to use nationally/subnationally available **assessment tools** as sources, such as for measuring levels of compliance to (national) standards of accessibility, universal design principles or other recommendations relevant for creating more age-friendly environments. These are increasingly becoming available, such as in the form of standards and guides with checklists for scoring the accessibility of public or private buildings. Composite scores may then provide the indicators in question.

A key principle of age-friendly action and policy planning is participatory approaches that directly involve older people, their families, nongovernmental organizations (NGOs) and other stakeholders in the assessment and measurement of community age-friendliness. **Participatory information collection and assessments** are flexible in the ways information is collected, and allow gaps to be filled with narrative data where quantitative measurement is costly or indicator definitions are currently underdeveloped (see Chapter 7 for more detail).

When choosing an appropriate mix of measurement methods for indicators for the context of a specific local initiative or action plan, several trade-offs should be kept in mind. For data from existing administrative sources, coverage of population and target topics might be well documented or accessible to the assessment team. Nevertheless, there may be gaps in the population or area covered, and the data available might rely on intermediary variables only, compared to tailored questions in population surveys. The focus is often on measuring inputs and outputs rather than changes in attributes of age-friendly environments per se.

Surveys, however, usually come at considerable cost, and if their sample sizes are rather limited (as is often the case), any conclusions have to be drawn with caution, including when comparisons over time are a goal. When surveys are conducted, the scope of statistical variation has to be considered to prevent results being over-interpreted and trends asserted when relatively small changes are measured – changes that may not be statistically significant in the light of the statistical noise inherent in the results from limited-scale surveys. Caution is also needed when survey questions address subjective perception because the response to subjective scales may not be stable between geographical areas or over time.

Alternative indicators are proposed for a number of topics within each domain. These usually differ in the ways they are measured. Caution is thus required in the way results are interpreted if results from both "objective" data sources (such as administrative records) and survey questions (which ask for subjective assessments) are available. In general, different assessment methods can lead to substantial differences in results. These, however, can complement each other if the reasons for the differences can be identified. Examples are objective versus subjective assessments of safety of the outdoor or home environments. While crime statistics may provide a more objective measure, (relatively) limited crime numbers may not be the most relevant measures from the point of view of older people. What prevents older people from leaving their homes or feeling safe in some environments is often based more on subjective feelings resulting from observations such as dirty environments or environments felt to be hostile for other reasons, including poorly lit streets with potholes and litter, graffiti on walls and similar.

Different assessments from objective or expert reviews (by city planners) versus subjective responses from older people who have used participatory assessments tools have also been reported for the related topic of walkability of neighbourhoods. Differing results from different assessment methods can be seen as opportunities to reach a deeper understanding of the needs of older people that can lead to a wider range of policy responses.

At the end of each of the following sections, a table groups indicators under target topics that measure certain aspects of age-friendly environments relevant to the domain in question. In using the tables the local context should always be kept in mind, and adaptations will be needed – in particular for cases that are highly context dependent. One limitation of the indicators suggested is their potential bias towards high-income countries and more data-rich environments.

For each indicator measurement methods are suggested and a reference to a source document shows the context in which the indicator was developed. These sources provide further guidance and references to relevant literature that explains their rationale in more detail. Further references and tools for each of the eight domains for policy action are also available in the AFEE handbook (WHO Regional Office for Europe, 2017), which should be consulted alongside this publication.

Domain 1. Outdoor environments

Investments in improving outdoor environments can result in major gains for older people in terms of neighbourhood walkability, accessibility of public space and feelings of safety (WHO Regional Office for Europe, 2016). This in turn can contribute to a number of intermediary and final outcomes and impacts, such as maintaining healthy levels of physical activity, increased participation in the neighbourhood and higher levels of social interaction.

> *The goal of interventions in this domain is to plan and design the built environment and public spaces with awareness of the needs of – and in consultation with – older people, recognizing their diversity. To support ageing in place, initiatives to create age-friendly outdoor environments focus on retrofitting existing neighbourhoods in addition to following good practice in the design of new neighbourhoods.*
>
> (WHO Regional Office for Europe, 2017)

Many of these investments, however, require action in the mid to long term, often in consultation with city planners from various departments, and can require considerable human and financial resources. A number of assessment tools for planning and sound age-friendly assessments and monitoring of progress have been developed in local contexts to support these tasks. This makes the existing toolkit for domain 1 indicators, from which age-friendly initiatives and action plans can choose in order to adapt them for their specific local needs, rich.

Mapping policy initiatives and fields to the AFEE handbook domains (WHO Regional Office for Europe, 2017) reveals the many synergies between actions to improve aspects under each of the three domains of the physical environment. Many assessments and initiatives address a set of concerns that jointly support aspects under two or three of these domains. In order not to be repetitive, some indicators have been kept together and listed here

under domain 1, although they clearly cover aspects that are also relevant for the following two domains as well. The concept and related indicators of walkability is an example of this approach.

Three target topics are the best documented and most frequently used for domain 1 (Table 1):

- neighbourhood walkability
- accessibility of public spaces and buildings
- public safety.

Neighbourhood walkability

A number of walkability assessment tools have been developed and tested locally (see, for example, Belfast Healthy Cities, 2016) and can be consulted for local adaptation to other communities. Walkability depends on a range of features of the built environment, and a mix of measurement methods is required for a comprehensive picture (Weiss et al., 2010). Besides a stocktake of existing locally/nationally developed assessment tools and a review of information from city planning departments, participatory geographical information systems (GISs) and more informal methods like walking assessments (see Chapter 7) have been found useful in many cases. The indicators proposed by *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO 2015a) are complemented here by a number of additional indictors from the *Age-friendly communities evaluation guide* (Public Health Agency of Canada, 2015) for a more comprehensive assessment of various aspects of walkability. The list of concrete indictors may need further complementing or selection, based on initial "problem sets" identified for individual neighbourhoods and communities.

Accessibility of public spaces and buildings

Where available, locally/nationally developed accessibility standards, including universal design principles (see, for example, Oslo City Council, 2014), provide an important starting-point. These can be combined with participatory assessments, as with the walkability topic. An initial participatory assessment may, in fact, combine all the major topics for domain 1 indicators/targets.

Public safety

This is an important attribute under domain 1, for which both subjective measures from surveys/participatory assessments and administrative data (such as crime statics) are worth considering. For the numbers of falls and other injuries that occur in public places, data from local public health units (in cooperation with police and health care providers) or self-reported data on injuries are relevant (see, for example, Bruce et al., 2014). The first source may miss a (large number) of falls that do not result in major injuries but that can point to potential issues and risk factors that need more attention. A potential way to shed some light on the latter can be participatory assessments, such as research walks with older people.

Table 1. Domain 1 indicators: outdoor environments

Target topic	Indicator	Measurement and data sources	Usage
Neighbourhood walkability	Proportion of streets in the neighbourhood with pedestrian paths that meet locally accepted standards	Field survey of city streets – administrative data on city planning, roads and infrastructure	WHO MAFC Core
	Proportion of older people who report that their neighbourhood is suitable for walking, including for those who use wheelchairs and other mobility aids	Survey of older residents; walking assessment tools	WHO MAFC Core
	Number of rest places and distance between rest places	Walkability assessment tools	AFC-CAN #1
	Number of accessible washrooms	Walkability assessment tools; participatory GISs	AFC-CAN #2
	Safe crosswalks (e.g. with appropriate crossing times, mid-block crosswalks on long streets, median rest stops, good visibility)	Walkability assessment tools; participatory assessments	AFC-CAN #3
	Sidewalks, trails and walkways present and in a safe condition (e.g. with smooth surfaces, curb cuts, separate bike lanes; wide, well lit, clear of ice and snow)	Walkability assessment tools; environmental assessment tools; participatory assessments	AFC-CAN #4
	Streets with clear and appropriate street signage and lane markers	Participatory assessments	AFC-CAN #12
Accessibility of public spaces and buildings	Proportion of new and existing public spaces and buildings that are fully accessible by wheelchair	Field survey of new and existing public spaces and buildings; administrative data on city planning, building safety/permits, and parks	WHO MAFC Core
	Proportion of older people who report that public spaces and buildings in their community are accessible for all people, including those with limitations in mobility, vision or hearing	Survey of older residents	WHO MAFC Core
	Proportion of public buildings (of a certain type/function) that have adequate access and manoeuvrability (e.g. access at ground level, level entry, wheelchair ramps, automatic doors, wide aisles to accommodate scooters and wheelchairs)	Proportion of public buildings that fulfil locally/nationally endorsed accessibility standards, such as universal design principles; participatory assessments, such as participatory GISs/maps	AFC-CAN #5

Table 1. contd.

Target topic	Indicator	Measurement and data sources	Usage
Public safety	Reported rate of crimes (per year) committed against older people	Crime statistics – local police reports	WHO MAFC Supp
	Percentage of people aged 55 years and older who feel very safe or safe to walk after dark in their local area	(Local adaptation of) European Social Survey	AAI (3.7) (similar to WHO MAFC Supp and HAP 2008)
	Availability of crime prevention strategies, courses and programmes for seniors (including those focusing on fraud and elder abuse)	Programme review; administrative data	AFC-CAN #7
	Numbers of falls and other injuries of older people (occurring in public places)	Data from local public health units or self-reported data on injuries at the community level	AFC-CAN #6

Domain 2. Transport and mobility

As with action on the age-friendliness of community features of the built environment, action in this domain can involve considerable mid-term investments and call for cooperation with a number of community departments and stakeholders, often supported by mixed methods of age-friendly assessments and ways of measurement.

> *The goal of interventions in this domain is to promote safe, accessible, appropriate and reliable transport services and infrastructure for active living. The aim is to enable people to maintain their mobility, independence and connections as they get older.*
>
> (WHO Regional Office for Europe, 2017)

Proposed indicator sets in this domain often have a focus on availability, accessibility and affordability of transport choices for older people, for which four target topics are proposed (Table 2):

- availability and accessibility to public transport
- accessibility of public transportation vehicles
- accessibility of public transportation stops
- accessibility of priority vehicle parking.

Different types of measurement methods are relevant or appropriate, depending on the questions asked in age-friendly community assessments and the nature of actions considered for inclusion in an action plan, for which an initial assessment or subsequent monitoring of implementation is undertaken.

- Participatory assessments can provide a good starting-point for identifying areas where action is most in need, listening to the concerns of older people in a city or neighbourhood. For example, this could be in the form of a walking assessment to identify accessibility issues and the quality of public transport available.
- Programme and resource inventories and community information and data sources are needed to start a more formal assessment and planning process.

- Data that measure current use of transport by older people can come from surveys undertaken by public transport authorities, data on users of monthly transport cards and the like, but can also be based on special survey questions on transport usage and barriers faced that have older people among the target group.

It should be noted that several relevant indicators for transport and mobility have already been covered under domain 1 – namely walkability and quality of streets that meet locally accepted standards and the safety of street crossings.

Table 2. Domain 2 indicators: transport and mobility

Target topic	Indicator	Measurement and data sources	Usage
Availability and accessibility of public transport	Proportion of people aged 65 years and older who have access to and use public transportation	Survey of older residents; administrative data and GIS modelling	WHO MAFC Core
	Availability of a range of affordable options for transportation (including public/private partnerships, volunteering driving programme, park and go, shuttles)	[Specific indicators and ways of measurement depending on the local context]	AFC-CAN #8
Accessibility of public transportation vehicles	Proportion of public transport vehicles with designated places for older people or people with disabilities	Administrative data from local transport authority	WHO MAFC Core
	Proportion of older people who report that public transport vehicles (e.g. train carriages, buses) are physically accessible for all people, including those with limitations in mobility, vision or hearing	Survey of older residents	WHO MAFC Core
	Proportion (or number) of buses that are accessible and clean and have destination and number clearly displayed	Administrative data from local transport authority; participatory assessments	AFC-CAN #9
Accessibility of public transportation stops	Proportion of housing within walking distance (500 metres) of a public transportation stop	Administrative data from local transport authority or city planning department	WHO MAFC Core
	Proportion of older people who report that public transportation stops are accessible	Survey of older residents	WHO MAFC Core
	Safe and accessible bus stops/shelters (e.g. with seating, well lit, covered, snow removed, close to senior's residences)	Administrative data from local transport authority; participatory assessments	AFC-CAN #10

Table 2. contd.

Target topic	Indicator	Measurement and data sources	Usage
Accessibility of priority vehicle parking	Proportion of priority parking spaces at new and existing public facilities designated for older people or people with disabilities	Administrative data on city planning, building safety/permits and parks	WHO MAFC Supp
	Proportion of older people with a special parking permit for older or disabled drivers who report that designated priority parking spaces are adequately designed and available	Survey of older residents	WHO MAFC Supp
	Parking lots and spaces kept clear of snow and ice	Participatory assessments	AFC-CAN #13

Domain 3. Housing

Affordable housing in which older people feel safe and that allows them to stay in their own home even after the onset of some degree of mobility or other functional limitations is key for their ability to age in place. This is an important aspect of quality of life for many people.

> *The goal of interventions in this domain is to provide adequate, accessible, safe and affordable housing; a more seamless continuum of housing choices; and support for ageing in place through measures modifying the existing housing stock and making newly built houses better adjusted to older people's needs.*
>
> (WHO Regional Office for Europe, 2017)

The following target topics are suggested for the selection of indicators; they need to be adapted to the local context and data availability (Table 3):

- availability and affordability of housing
- accessibility of housing
- housing programmes and resources
- ability to age in place
- safety at home.

Indicators under these target topics require different measurement methods and data sources: subjective measures such as perception of safety or the confidence to age in place need to be assessed by surveys, or – in a more anecdotal way – by personal assessments with older people as co-researchers. Subjective data on safety at home can be complemented by and compared with data from crime statistics.

Depending on the public/private mix of housing, both local housing administration and information from real estate companies can provide valuable data sources. Availability of supportive services usually comes from administrative records and programme inventories.

Table 3. Domain 3 indicators: housing

Target topic	Indicator	Measurement and data sources	Usage
Availability and affordability of housing	Availability of affordable multipurpose and ageing in place housing options	Administrative data from department of housing	AFC-CAN #15
	Availability of affordable housing that is appropriately located, well built, well designed and secure, and for which waiting times are short	Administrative data from department of housing	AFC-CAN #14
	Proportion of housing within walking distance (500 metres) of a public transportation stop	Administrative data from local transport authority or city planning department	WHO MAFC Core
	Proportion of older people who report that public transportation stops are accessible	Survey of older residents	WHO MAFC Core
Accessibility of housing	Proportion of new and existing houses that have wheelchair-accessible entrances (i.e. sufficient width, ramp)	Administrative data from department of housing	WHO MAFC Supp
	Proportion of older people who report that their house is adapted, or can be adapted, to their needs to facilitate ageing at home	Survey of older residents	WHO MAFC Supp
Housing programmes and resources	Availability of programmes for increasing accessibility, safety and adaptability of housing (e.g. hand rails, ramps, smoke detectors)	Administrative data, highly dependent on local context	AFC-CAN #16
	Availability of a resource listing age-friendly home maintenance, support and care-giving services	Programme information	AFC-CAN #17
Ability to age in place	Proportion of people aged 65 years and older who want to remain in their current residence and are confident they will be able to afford to do so	Survey of older residents	AFC-CAN #18
Safety at home	Proportion of people aged 65 years and older who report feeling safe home alone at night	Survey of older residents	HAP 2008

Domain 4. Social participation

Activities that provide a range of choices for social participation for older adults have a prominent part in age-friendly initiatives and there are multiple ways of monitoring their implementation. These usually focus on the number of participants and the availability and accessibility of programmes/initiatives. A number of indicators suggested in this domain focus on the two groups of activities most frequently covered in local initiatives: activities to increase physical activity and engagement in lifelong learning, such as activities of “universities of the third age”.

The goal of interventions in this domain is to promote older people's participation in social life and to combat loneliness and isolation. This can be achieved by creating, maintaining and promoting supportive environments that enable social interaction and active lifestyles and by providing opportunities for meaningful social activities that encourage older people to leave their homes and maintain supportive social networks.

(WHO Regional Office for Europe, 2017)

Initiatives in this domain are arguably among the most popular with older people and there is evidence of their contribution to increased physical and mental health. Nevertheless, there is also concern that they do not reach out to all older people in the community in the same way, with older men living alone and other groups at risk of social isolation less likely to get involved. Five target topics are suggested in this domain (Table 4):

- engagement in sociocultural activity
- participation in leisure-time physical activity
- engagement in lifelong learning
- opportunities for participation
- accessibility of participation opportunities.

Information from programme inventories and records of NGOs and other stakeholders mainly focus on measuring activities sponsored and numbers of participants. Ideally this information should be complemented by information that provides a broader picture of both participants and non-participants in the population. This can be covered by community-wide surveys, but also with the help of participatory assessment tools and research, such as by gathering narrative data from both participants and non-participants in social initiatives about their motives for or barriers to getting involved.

Table 4. Domain 4 indicators: social participation

Target topic	Indicator	Measurement and data sources	Usage
Engagement in sociocultural activity	Proportion of older adults among all reported visitors to local cultural facilities and events	Administrative data from city department of cultural affairs or demographic data of visitors reported by cultural facilities and events	WHO MAFC Core
	Proportion of older people who report participating in sociocultural activities at their own discretion at least once in the last week (e.g. meeting friends/neighbours; taking part in civic, spiritual or cultural activities; volunteering or working)	Survey of older residents	WHO MAFC Core; AFC-CAN #20

Table 4. contd.

Target topic	Indicator	Measurement and data sources	Usage
Participation in leisure-time physical activity in a group	Proportion of older people who are members of a self-organized or institutionalized leisure-time physical activity group	Demographic data of members reported by local clubs, associations or facilities for group sports and other physical activities	WHO MAFC Supp
	Proportion of older people who report participating in group physical activities in their leisure time	Survey of older residents	WHO MAFC Supp
Engagement in lifelong learning	Proportion of older people who enrolled in education or training, either formal or non-formal, in the past year	Administrative data from city department of education – enrolment data of private and public education and training institutes	WHO MAFC Supp
	Proportion of people aged 55–74 years who state that they received education or training in the four weeks preceding the survey	(Local adaptation of) EU Labour Force Survey	AAI (3.8)
	(alternatively) Proportion of older people who report being enrolled in education or training, either formal or non-formal, in the past year	Survey of older residents	WHO MAFC Supp
Opportunities for participation	Availability of recreation and learning programmes specifically for seniors (e.g. computer courses, community gardens, crafts, games, exercise classes)	Programme information	AFC-CAN #21
	Availability of intergenerational recreation and social programmes	Programme information	AFC-CAN #21
	Availability of opportunities for social participation in leisure, social, cultural and spiritual activities with people of all ages	Programme information	AFC-CAN #23
	Affordability of seniors' recreation programmes	Programme information	AFC-CAN #24
Accessibility of participation opportunities	Accessible public venues for community-based activities (e.g. adapted washrooms, ramp to enter the building, adequate lightning, temperature control)	Assessments against locally available /developed accessibility standards	AFC-CAN #25

Domain 5. Social inclusion and non-discrimination

Social inclusion, respect and non-discrimination are central aspects of the age-friendliness of a community, contributing to the quality of life and health of older people. Some relevant aspects are, moreover, linked to broader socioeconomic outcomes (such as employment and volunteering); community actions in this domain frequently overlap with concerns of the other domains of the social environment (domains 4 and 6). Supportive actions in other domains include combating social isolation by community participation (domain 4), supporting family care givers and providing other social support to people in need of social care and health services.

> *The goal of interventions in this domain is to create environments that are socially inclusive places, where all people – regardless of age, gender, social position, health or disability – are respected and have opportunities to participate and contribute. To enhance equity, it is crucial to complement population-based interventions with targeted efforts, reaching out to people most at risk of poor health and exclusion, understanding their specific needs and promoting their health and quality of life.*
>
> (WHO Regional Office for Europe, 2017)

The concepts of respect and non-discrimination have many facets and can be difficult to conceptualize. Data availability may be poor in general.

Four target topics have received special attention for indicator development, monitoring and local research and adaptation to improve measurement concepts (Table 5):

- positive social attitude towards older people
- availability of intergenerational activities
- sense of belonging
- influence in the community.

While data for some indicators may be available from administrative records (such as age structure and political representation of older people in local policy or information about elder abuse), other indicators – such as sense of belonging and positive attitude towards older people – may need surveys, or could be based on narrative data for a more qualitative assessment. Availability of intergenerational activities usually relies on a programme inventory.

Table 5. Domain 5 indicators: social inclusion and non-discrimination

Target topic	Indicator	Measurement and data sources	Usage
Positive social attitude towards older people	Number of reported cases of maltreatment of older people (as a proportion of the total number of older people)	Data collected by local law enforcement authorities, health/social service providers or community groups addressing (elder) abuse prevention	WHO MAFC Core
	Proportion of older people who report feeling respected and socially included in their communities	Survey of older residents; participatory assessments	WHO MAFC Core
Availability of intergenerational activities	Availability of intergenerational family activities	Programme inventory	AFC-CAN #26

Table 5. contd.

Target topic	Indicator	Measurement and data sources	Usage
Sense of belonging	Level of sense of belonging in the community	Survey of older residents; participatory assessments	AFC-CAN #27
Influence in the community	Age structure of elected community assembly	Administrative records	HAP 2008

Domain 6. Civic engagement and employment

Indicators in this domain measure the degree to which older people remain active and engaged in civic life, as volunteers, in paid employment and in local decision-making.

> *The goal of interventions in this domain is to make better use of the potential of ageing societies by creating more and better opportunities for older people to engage in political, economic and public life and to increase employment, social engagement and volunteering opportunities for older people.*
>
> (WHO Regional Office for Europe, 2017)

There is a considerable agreement in available indicator systems about the target topics to be covered and to a certain degree also about the ways indicators should be measured. For a comprehensive picture and the correct interpretation of the indicators suggested here, related target topics covered under other domains have to be considered, such as accessibility of buildings (for age-friendly action or employment) and other indicators on social participation (domains 4 and 5).

Three target topics are suggested (Table 6), for their relevance and for availability of data and corresponding measurement instruments:

- engagement in paid employment
- engagement in volunteering activity
- participation in local decision-making.

The main sources of indicator definitions are the core indicators of *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO 2015a), complemented by definitions from the Active Ageing Index. Measuring relevant indicators requires cooperation with official labour statistics and stocktaking of information on volunteer activity (programme inventory) at the local level. Initial measures of participation in local decision-making can be measures from administrative records, such as the age and sex of representatives in local government. A more comprehensive/complementary picture needs local adaptations of relevant survey instruments, such as relevant questions from the European Quality of Life Survey (Eurofound, 2016: the recommended measurement of the Active Ageing Index).

An additional target topic is the availability of training and support for volunteers, which is an important success factor in sustainable volunteer engagement in the community (WHO Regional Office for Europe, 2016). When resources and available information permit, both training of older people as volunteers and training directed at coordinators of volunteer activity can be considered. Additional indicators are used to monitor age-friendly business initiatives at the local level, such as training opportunities or the age structure of various categories of public sector employees.

Table 6. Domain 6 indicators: civic engagement and employment

Target topic	Indicator	Measurement and data sources	Usage
Engagement in care and volunteer activity	Proportion of older people providing care to children and grandchildren (at least once a week)	(Local adaptation of) European Quality of Life Survey	AAI (2.2)
	Proportion of older people providing care to older adults (at least once a week)	(Local adaptation of) European Quality of Life Survey	AAI (2.3
	Proportion of older population (aged 55 years and older) providing unpaid voluntary activity through organizations (at least once a week)	(Local adaptation of) European Quality of Life Survey	AAI (2.1) WHO MAFC Core
Engagement in paid employment	Proportion of older people who are currently unemployed	Labour statistics	WHO MAFC Core
	Proportion of older people who are currently employed (in five-year age groups, 55–74)	Labour statistics: EU Labour Force Survey	AAI (1.1 to 1.4)
	Proportion of older people who report having opportunities for paid employment	Survey of older residents	WHO MAFC Core
Participation in local decision-making	Proportion of eligible older voters who voted in the most recent local election or legislative initiative	Administrative data from local government	WHO MAFC Core
	Proportion of older people who report being involved in decision-making about important political, economic and social issues in the community	Survey of older residents	WHO MAFC Core
	(alternatively) Proportion of older population aged 55 years and older taking part in the activities or meetings of a trade union, political party or political action group	(Local adaptation of) European Quality of Life Survey	AAI (2.4)
Training and support	Availability of support for volunteers (e.g. training, transportation, reimbursement of expenses, method of appreciation)	Programme information	AFC-CAN #29
	Availability of training opportunities related to the accommodation of seniors' needs in the workspace	Programme information	AFC-CAN #30

Domain 7. Communication and information

Local age-friendly initiatives have developed many innovative ways for reaching out to older people, their families and other stakeholders with targeted and tailored information and general communication channels. These range from one-stop-shop community centres or call-in centres to annual festivals. The initiatives are often firmly linked to the local context, and indictors and monitoring over time need to be tailored to the needs of the local situation.

> *The goal of interventions in this domain is to assist older adults in accessing timely, reliable, relevant and understandable information about their community, ways of engagement, available services and health topics through word of mouth, general press or the use of information technology.*
>
> (WHO Regional Office for Europe, 2017)

A number of aspects have entered indicator systems proposed for consideration for age-friendly assessments by communities and can be used in many cases. These include target topics where measurement is more standardized, such as indicators for bridging digital gaps or age-friendliness of printed and other media, to which a number of (locally/nationally available) universal design principles can be applied. The following four target topics are suggested (Table 7):

- availability of information
- usability of information material
- Internet access
- assistance available (including with e-governance).

"Availability of information" is a broad concept. Its measurement will often have to rely on available information from administrative data and programme reviews. Bridging digital gaps and making sure more older people have access to the Internet has received special attention from national and European policies, and local provider data may be the source of first choice before investing in a (household) survey that includes older people.

Receiving help with Internet use and filling in of administrative (online) forms, and finding one's way through the range of services and initiatives on offer for older people can be a challenge, in particular for those living alone and at risk of social isolation. Corresponding indicators that monitor the assistance available are therefore a valuable investment.

Table 7. Domain 7 indicators: communication and information

Target topic	Indicator	Measurement and data sources	Usage
Availability of information	Availability of local sources providing information about health concerns and service referrals, including by phone	Administrative data from city health department	WHO MAFC Core
	Proportion of older people who report that they know who to call if they need information about health concerns and relevant services in their communities	Survey of older residents	WHO MAFC Core
Internet access	Proportion of older people living in a household with Internet access at home	Demographic data of Internet users reported by public and/or private Internet providers	WHO MAFC Supp
	Proportion of people aged 55–74 years using the Internet at least once a week	(Local adaptation of) Eurostat ICT Survey	AAI (4.4)
	(alternatively) Proportion of older people who report having access to the Internet at home	Survey of older residents	WHO MAFC Supp
Assistance available	Availability of assistance for seniors with filling out forms	Programme information; administrative data	AFC-CAN #32
	Availability of a live person option on telephone calls	Programme information; administrative data	AFC-CAN #33
Usability of information materials	Materials for the public produced in large print, plain language and/or with age-friendly considerations	Programme information; participatory assessments	AFC-CAN #34

Domain 8. Community and health services

Person-centred community and health services fit for ageing populations are indispensable for healthy ageing in the community. Community services also support families and older people in the care that they provide informally, including social services, respite, fostering healthy literacy and empowerment. Measuring the performance of these services, however, remains a challenge in many instances due to often fragmented care and service provision.

> *The goal of interventions in this domain is to promote and provide older adults with a broad range of well located, easily accessible health and community services. These include preventive, nutritional guidance and mental health services, affordable meals and help with everyday activities, home care arrangements and person-centred health services and residential care facilities.*
>
> (WHO Regional Office for Europe, 2017)

Important services for older people may not be the direct responsibility of local government, making the design of local age-friendly action in domain 8 very context-specific. The same is true of the task of designing appropriate indicators. Four clusters of services are proposed as target topics in this domain (Table 8):

- access to health and dental care
- supportive health services

- availability of home- or community-based services
- emergency preparedness.

Measurement and data sources on community and health services comprise existing administrative records of service providers and programme inventories, possibly complemented by summary statistics from insurance records about local patterns of service use by age, sex and geographical location (of facilities or residence of users). Where these data have important gaps, local adaptations of health or household surveys may become important sources, keeping in mind the extra costs involved in surveys.

Emergency preparedness is included in this list, following *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO 2015a), because older people are a vulnerable group in this respect, as a number of recent events – natural, technological and in conflicts – have shown (WHO Regional Office for Europe, 2017). A first step towards an indicator on emergency preparedness will be to establish to what extent older people are specifically covered in existing emergency plans, in order to learn of gaps by various types of risk.

Table 8. Domain 8 indicators: community and health services

Target topic	Indicator	Measurement and data sources	Usage
Access to health and dental care	Proportion of people aged 55 years and older who report no unmet need for medical and dental examination or treatment during the 12 months preceding the survey	(Local adaptation of) EU-SILC	AAI (3.2)
	(alternatively) Proportion of seniors with a primary care physician	Administrative data; survey of older residents	AFC-CAN #35
Supportive health services	Availability of prevention programmes related to health issues of high relevance to seniors	Administrative data; programme information	AFC-CAN #36
	Availability of end-of-life support for seniors, their families and caregivers	Administrative data; programme information	AFC-CAN #37
Availability of home- or community-based services	Proportion of older people with personal care or assistance needs that are receiving formal (public or private) home- or community-based services	Administrative data from city government on health and social services; official reports from local home- and community-based health and social service providers	WHO MAFC Core
	Proportion of older people who report having their personal care or assistance needs met in their home or community through the use of formal (public or private) services	Survey of older residents	WHO MAFC Core
	Availability of low-cost food programmes (e.g. meals on wheels, wheels to meals, food bank)	Administrative data; programme information	AFC-CAN #38
	Availability of assistance for activities of daily living (e.g. yard work, shopping, snow removal, garbage collection)	Administrative data; programme information	AFC-CAN #39

Table 8. contd.

Target topic	Indicator	Measurement and data sources	Usage
Emergency preparedness	Proportion of employees of local government agencies, community organizations and service providers who participated in emergency response training or drills that addressed the needs of older residents in the past year	Reports by local authorities who conduct regular emergency response trainings or drills (e.g. local emergency management office, local fire department); survey of relevant local government agencies, community organizations and service providers	WHO MAFC Supp
	Proportion of older people who report participating in emergency response training or drills in the past year that addressed the needs of older residents	Survey of older residents	WHO MAFC Supp

4. Health and social outcomes for older people

All frameworks on which the synthesis in this publication builds recommend a sparse set of indicators for broader health and social outcomes for older people. In addition, *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO, 2015a) recommends that equity measures are considered wherever the indicators for the eight domains (see Chapter 3) provide sufficient disaggregation.

Indicators of health and social outcomes

Indicators of health-related quality of life, economic security, noncommunicable disease risk factors and social connectedness provide important contextual information for the design of age-friendly initiatives. Moreover, positive trends among these variables can also be partly correlated to the success of age-friendly policies or community attributes that contribute to improving the health and well-being among their older adults. The following target topics are suggested:

- economic security (measured by income level)
- quality of life (health-related and general quality of life)
- social connectedness
- health behaviour and risk factors
- independent living
- educational attainment.

The list of target topics covered in the chapter is far from comprehensive. It mainly provides a synthesis from the lists of indicators developed by and documented in the sources for the list of indicators in each domain (see

Chapter 3). Most of these will require surveys among the older population and may thus only be available or feasible for larger local authorities (major cities or metropolitan areas; regions within countries) because of the cost. For the majority of indicator definitions provided in Table 9, however, a corresponding indicator definition from the Active Ageing Index has been chosen as a reference. Its EU data source may provide for a geographical disaggregation that covers at least some major metropolitan areas with sufficient sample size.

Where these data are not available in the data sources specified in Table 9 or local surveys are too costly, however, there may be other national or subnational (regional level) data sources available for some countries that could provide this useful context information, even if no full breakdown to the local level of a regional authority is available. For those indicators that rely on surveys as a measurement method, national or European-wide survey modules can at least be consulted for the design of survey questions, such as the Survey of Health, Ageing and Retirement in Europe (SHARE, 2016) or the European Quality of Life Survey (Eurofound, 2016; see also Chapter 5).

Table 9. Outcome indicators: health and well-being of older people

Target topic	Indicator	Measurement and data sources	Usage
Financial security	Proportion of people aged 65 years and older who are not at risk of poverty; alternatively: relative median income (see AAI (3.4))	Labour statistics (e.g. EU-SILC) or administrative data from economic affairs department	AAI (3.5)
	Proportion of people aged 65 years and older who are not severely materially deprived	(Local adaption of) EU-SILC	AAI (3.6)
Quality of life	Remaining life expectancy at age 55	European Health and Life Expectancy Information System (EHLEIS)	AAI (4.1)
	Proportion of older people who self-rate their overall quality of Life as “very good (5)” or “good (4)” on a scale ranging from “very poor (1)” to “very good (5)”	Survey of older residents	WHO MAFC Core
	Share of healthy life expectancy at age 55	European Health and Life Expectancy Information System (EHLEIS)	AAI (4.2)
	Mental well-being		AAI (4.3)
Social connectedness	Proportion of people aged 55 years and older that meet socially with friends, relatives or colleagues at least once a week (contacts outside the household)	(Local adaptation of) European Social Survey question	AAI (4.5)
Health behaviour & risk factors	Proportion of people aged 55 years and older undertaking physical exercise or sport almost every day	(Local adaptation of) European Quality of Life Survey	AAI (3.1) HAP 2008
Independent living	Proportion of people aged 75 years and older who live in a single-person household or who live as couple (two adults with no dependent children)	(Local adaption of) EU-SILC	AAI (3.3)

Table 9. contd.

Target topic	Indicator	Measurement and data sources	Usage
Educational attainment	Proportion of people aged 55–74 years with upper secondary or tertiary educational attainment.	(Local adaption of) EU Labour Force Survey (EU-LFS)	AAI (4.6)

Equity measures

The benefits of age-friendly initiatives do not always reach all older adults in the community or neighbourhood equally. For example, evidence shows that relatively healthy older people from the middle classes are often over-represented among the participants of social activities in domains 4 and 5, such as universities of the third age or initiatives to engage in physical activities. Moreover, many initiatives have found older men more difficult to reach, as well as people with health or functional limitations or those in more deprived neighbourhoods (WHO Regional Office for Europe, 2017).

To measure equity, disaggregation is needed by one or a combination of factors, such as socioeconomic stratum, age, sex and location within the community. Several main types of equity measure are suggested by *Measuring the age-friendliness of cities: a guide to using core indicators* (WHO, 2015a):

- comparisons of population subgroups with the best and worst outcome (for example, by type of neighbourhood or age and sex);
- comparisons by wealth or income quintile;
- comparisons of subgroups with the group with the best outcome.

These and other aspects of measurement, policy application and communication are described in more detail in the Urban Health Equity Assessment and Response Tool (Urban HEART) publication (WHO, 2010).

5. Investing in surveys and research partnerships

Data from administrative and other data sources available at the community level and participatory assessments cannot answer all the questions relevant for a baseline assessment. They may also be of limited value to assess numerical trends for follow-up monitoring on age-friendly environments. Surveys among the older population, or population-wide surveys including and disaggregated by higher age groups, play an important role in complementing the statistical picture that local health policy-makers use to monitor policy initiatives. Surveys are usually needed for local public health observatories to monitor population health trends and for subjective quality of life measures, including for older people.

Embarking on a population survey, however, is a substantial investment. It requires cooperation with experts in survey methodology and social research; this often happens in the form of partnerships with research institutes and local universities (WHO Regional Office for Europe, 2016).

To conduct surveys tailored to the needs of a local authority, existing survey instruments that have been used elsewhere, such as at the national or European level, can be used as a starting-point. For example, the Active Ageing Index includes a number of variables measured by surveys at the European level, some of which are suggested among the variables listed in the previous two chapters. For local adaptation of corresponding indicators, the survey questions of corresponding European survey instruments may be used as a starting-point in cases where the community in question is not big enough to allow for a corresponding regional disaggregation (which, however, may be possible for large metropolitan areas, such as capital city areas).

The individual surveys and instruments described here have all been tested and validated. Nevertheless, if a survey is constructed that combines questions borrowed or adapted from these existing survey instruments, it must be borne in mind that the newly created instrument will need to be tested and piloted with members of the final audience and user groups, and with those administering the questions and conducting the survey. This is especially the case when questions initially used for a survey among all age groups are used specifically to target older age groups, perhaps with a special view to including a representative sample of people in higher age groups, which can pose special challenges (Ontario Seniors' Secretariat, 2013).

The approach suggested in the following is similar to that recommended in the Ontario Seniors' Secretariat guide. This brought together a collection of 16 instruments from the English-speaking world, from which model survey questions could be chosen. These instruments are classified in two main categories: tools that include general measures of quality of life and instruments that cover items and domains to evaluate age-friendly cities more specifically.

For the use of local authorities in Europe, a different list of model surveys to assess age-friendly environments is suggested in the following, with Europe-wide and WHO globally developed instruments given preference. The following surveys are suggested in Tables 1–9 for individual indicators:

- European Quality of Life Survey
- European Statistics on Income and Living Conditions (EU-SILC)
- WHO QOL-AGE (Caballero et al., 2013)
- European Social Survey

- EU Labour Force Survey
- Eurostat ICT Survey.

Besides the survey instruments listed above, at least two large-scale longitudinal survey instruments have been more widely used, with the advantage of translations of questionnaires into a range of European languages:

- Survey of Health, Ageing and Retirement in Europe (SHARE)
- Study on global AGEing and adult health (SAGE).

Since this latter group of surveys is for longitudinal studies, however, the underlying questionnaires are of considerable extra complexity, making the task of extracting and reusing of individual questions potentially more demanding.

6. Observatories on public health and public sector policies: from local to European level

Public health and public sector policy observatories bring together information and intelligence about local authorities at different levels of government. An increasing number of local authorities now host gateways to a range of information relevant for age-friendly initiatives. This chapter provides an overview of observatories as homes for intelligence on age-friendly environments with illustrative examples.

The strategies suggested in this chapter build on recent progress and good practice from a number of local authorities that have put in place information systems, including GISs, and started to define indicators and targets for planning and accountability, sometimes with the help of specialized surveys.

As institutional entities, observatories comprise a range of resources, communication tools, publications and services. In general, they use a central website as a gateway source for evidence-informed policy-making and for communication with the public and stakeholder organizations. To fulfil this function, observatories house services of data collection, research and analysis, as well as information technology (IT) support and special tools, such as GIS systems.

For many local authorities, public health and public sector observatories have become important tools to support age-friendly policy-making, assessments and monitoring. This can come in different forms: a way of applying a healthy ageing lens within an existing general-purpose public (health) observatory or a healthy ageing observatory in its own right. This chapter provides examples of both types and describes the functions and success factors of healthy ageing observatories.

Core functions of observatories

In applying a healthy ageing lens, an existing observatory fulfils one of its main goals: to transform raw data and evidence into health, urban and social policy intelligence for local health decision-makers (see WHO (2014) for the basic functions of a public health observatory). Observatories usually rely heavily on cross-sectoral cooperation with other local government departments, whose functions they support but on whose cooperation and data exchange they also depend. In combining research, information and policy analysis functions, they are often broader in scope than statistical offices or local planning agencies.

Public health observatories are also different in scope from more general local government observatories, with a focus on population health plus demographic information. Nevertheless, because they frequently include information on a broad range of social determinants, on this they can convergence in coverage with the more general observatories (for example, by including multidimensional self-reported quality of life data). Observatories (of both types) differ in their roles as primary data collectors, such as when conducting original (population) surveys.

There is wide variation in the areas covered and populations served by observatories, from urban to local or subregional and regional observatories. They can also differ in their division of labour in providing intelligence for local governance with other researcher institutes or universities. Similarly, they may operate in different institutional settings: they may be part of local authority statistical or planning bureaus or be hosted externally with a public health agency or within a university or other independent research institution.

Relevant observatories to support age-friendly policy-making and monitoring may either cover individual local authorities or be organized at a regional or national level within a country, providing a uniform data framework but with disaggregation to the local level. In the latter case, much of the information available will stem from joint surveys or commonly available administrative data, allowing for a good deal of comparability between areas and communities, sometime down to the level of neighbourhoods.

Corresponding information gateways usually allow researchers to “drill down” from larger geographical entities to smaller ones. On the other hand, the list of available data items is sometimes more limited at the local level, and for policy-making needs additional information and data sources (WHO, 2014: Table 1). Local government observatories rely on technology to bring data together in a data warehouse and to establish links to GISs. They build on an inventory of available data and maintain close cooperation with data producers and users in other agencies and organizations.

There are pros and cons for both a “cradle to grave” approach for whole populations and specialized observatories (WHO, 2014). For example, larger-scale observatories allow for pooling of resources such as statistical expertise and IT infrastructure. Observatories that are specialized in the topic of ageing may be more efficient to attract attention from users or dedicated financial resources. They can produce regular reports relevant to active and healthy ageing policies as added value – for example, reports in the form of healthy ageing profiles (see Chapter 8).

Examples of national themed observatories

For cities and communities to assess their situations, comparisons with larger geographical entities can be vital. Even where locally available information sources may not follow the exact same definitions used in national or regional statistics, there may at least be the opportunity to compare magnitudes and to see whether trends over time go in the same direction and follow similar patterns of changes.

Some countries in the EU have put in place interactive information systems that bring together data on the situation of older people from administrative sources on the smallest scale of available administrative boundaries. Corresponding national demographic observatories that allow the visualization of demographic trends and projections for communities and other levels or local authorities have become available for a number of countries.

These include:

- a community guide including data and visualizations for Germany (Bertelsmann Stiftung, 2016);
- the AgeStats.ie (2014) information gateway on ageing in Ireland;
- the Italian National Institute of Statistics's web portal ANZIANI [older people] (ISTAT, 2017);
- West Midlands Public Health Observatory (2013);
- Public Health England's (2017) web portal: Older People's Health and Wellbeing.

This last example from the United Kingdom is an online tool that provides snapshot profiles of the health and well-being of older people for each local authority in England. Communities can use this to investigate data further at a smaller scale, and to make comparisons with local trends (Fig. 4). The accessibility and user-friendliness of such web pages has to be carefully planned, not least because older people themselves are among the target audience, who may have lower levels of computer literacy than other user groups or reduced eye-sight. Publishing a separate brief users' guide in printable form (see, for example, the AgeStats.ie website user guide (CARDI, 2013)) is one way of increasing accessibility.

Fig. 4. Public Health England's web portal: Older People's Health and Well-being

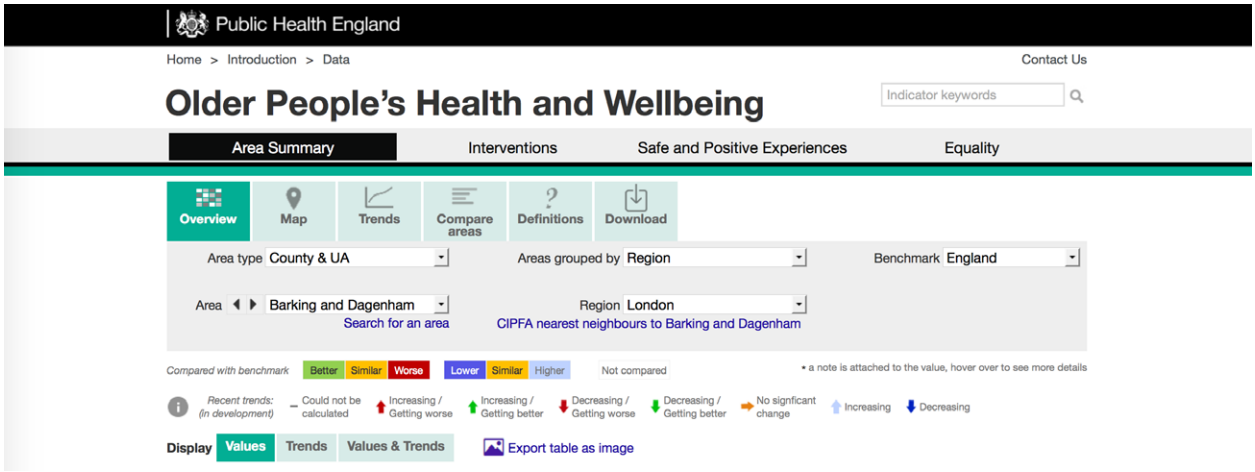


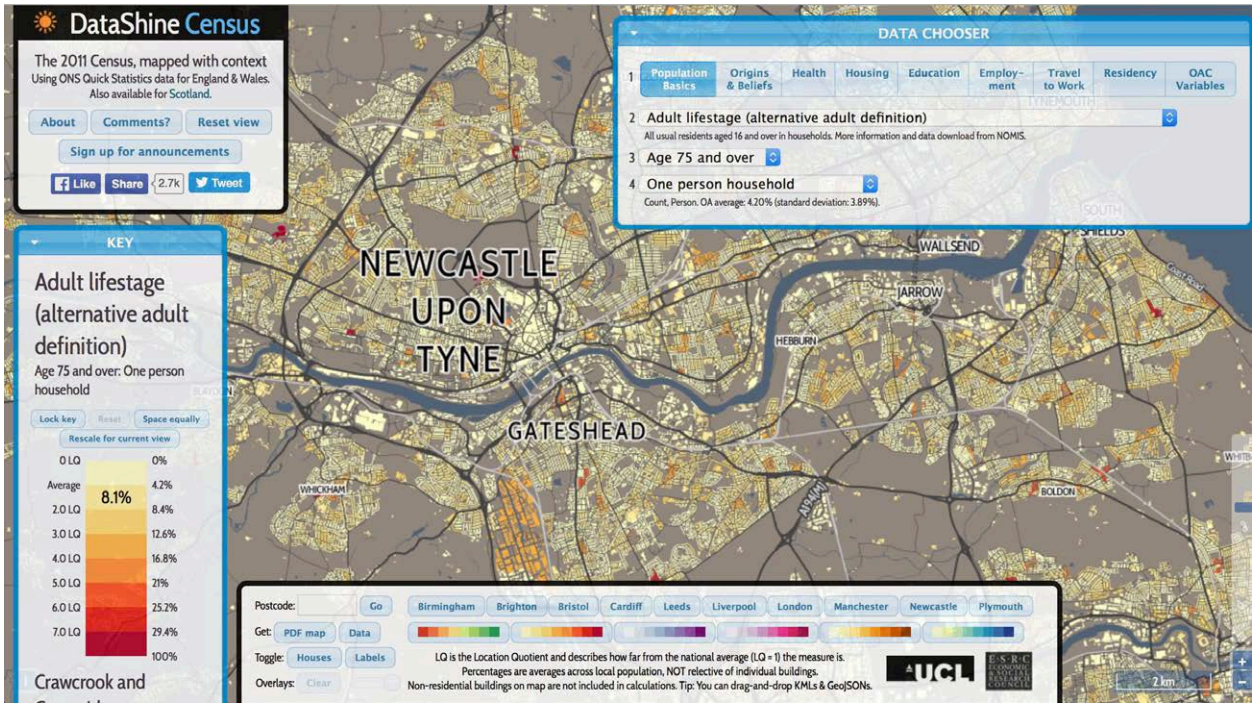
Fig. 4. Public Health England's web portal: Older People's Health and Well-being (cont.)

Indicator	Period	England	London region	Barking and Dagenham	Barnet	Bexley	Brent	Bromley	Camden	City of London	Croydon	Ealing	Enfield	Greenwich	Hackney	Hammersmith and Fulham	Haringey	Harrow	Havering	Hillingdon	Hounslow	Islington	Kensington and Chelsea	Kingston upon Thames	Lambeth
Supporting information - % population aged 65+	2015	17.7	11.5	9.7	14.0	16.6	11.3	17.5	11.7	15.5	13.0	11.8	12.8	10.4	7.2	10.3	9.3	15.0	18.4	13.1	11.3	8.8	14.3	13.2	7.8
0.1ii - Life expectancy at 65 (Male)	2013 - 15	18.7	19.1	17.2	20.1	18.6	19.0	19.5	20.3	*	19.2	19.6	19.0	18.0	18.6	18.3	19.2	20.9	18.9	19.3	18.6	18.2	21.4	19.7	18.2
0.1ii - Life expectancy at 65 (Female)	2013 - 15	21.1	21.7	20.2	22.5	21.5	22.5	22.3	23.9	*	21.3	21.6	21.8	20.7	21.0	21.7	22.4	23.1	21.6	21.4	21.7	21.2	23.6	21.9	21.3
Supporting information - Deprivation score (IMD 2015)	2015	21.8	-	34.6	17.8	16.2	26.7	15.2	25.0	13.6	23.6	23.6	27.0	25.5	35.3	24.4	31.0	14.3	17.9	18.1	22.5	32.5	23.4	11.1	28.9
Percentage of deaths in usual place of residence among people aged 65 years and over	2015	47.5	39.3	42.0	44.1	39.2	34.4	45.1	40.1	24.1	40.5	42.8	40.2	41.0	31.7	40.4	30.1	36.9	47.5	39.3	34.9	41.5	42.6	44.3	41.8
Rate of deaths from Cardiovascular Disease among people aged 65 years and over	2013 - 15	1191.9	1161.3	1281.0	1226.3	1140.4	1341.9	1091.6	860.7	*	1161.3	1180.6	1364.8	1088.5	1300.5	1202.9	1195.4	1129.0	1052.3	1250.2	1158.0	1215.8	828.2	1127.2	1164.2
Rate of deaths from Cancer among people aged 65 years and over	2013 - 15	1122.0	1046.1	1276.2	901.7	1182.2	948.1	1027.9	973.5	*	976.8	978.1	1032.0	1128.4	1172.9	1160.4	1001.0	894.3	1091.3	1095.2	1044.8	1194.7	949.0	973.8	1137.9
Rate of deaths from Respiratory Disease among people aged 65 years and over	2013 - 15	646.2	606.1	858.9	504.6	576.0	538.9	541.5	489.2	*	651.0	598.4	597.7	700.3	601.1	544.4	578.4	567.7	682.6	656.1	653.6	652.1	407.6	589.3	550.5
Dementia: Recorded prevalence (aged 65+)	Sep 2016	4.31	4.54	4.32	5.25	4.78	5.05	4.40	4.89	3.23	4.24	4.80	4.62	4.30	4.47	4.44	4.01	4.21	4.17	4.40	4.23	5.07	4.41	3.91	4.55
4.12i - Preventable sight loss - age related macular degeneration (AMD)	2014/15	118.1	84.9*	76.3	92.8	85.4	90.0	74.5	77.1	*	72.1	68.3	79.3	92.3	42.4	77.8	56.8	140.3	79.0	57.2	165.8	51.0	59.7	142.2	101.0

Source: Public Health England (2017).

Another United Kingdom information system, DataShine (University College London, 2011), makes available data from the 2011 census round, again allowing the display of data at the smallest scale of administrative units within communities. As an example, Fig. 5 gives a snapshot of the geographical distribution of one-person households aged 75 years and older in Newcastle upon Tyne.

Fig. 5. DataShine Census information web portal for area-level data

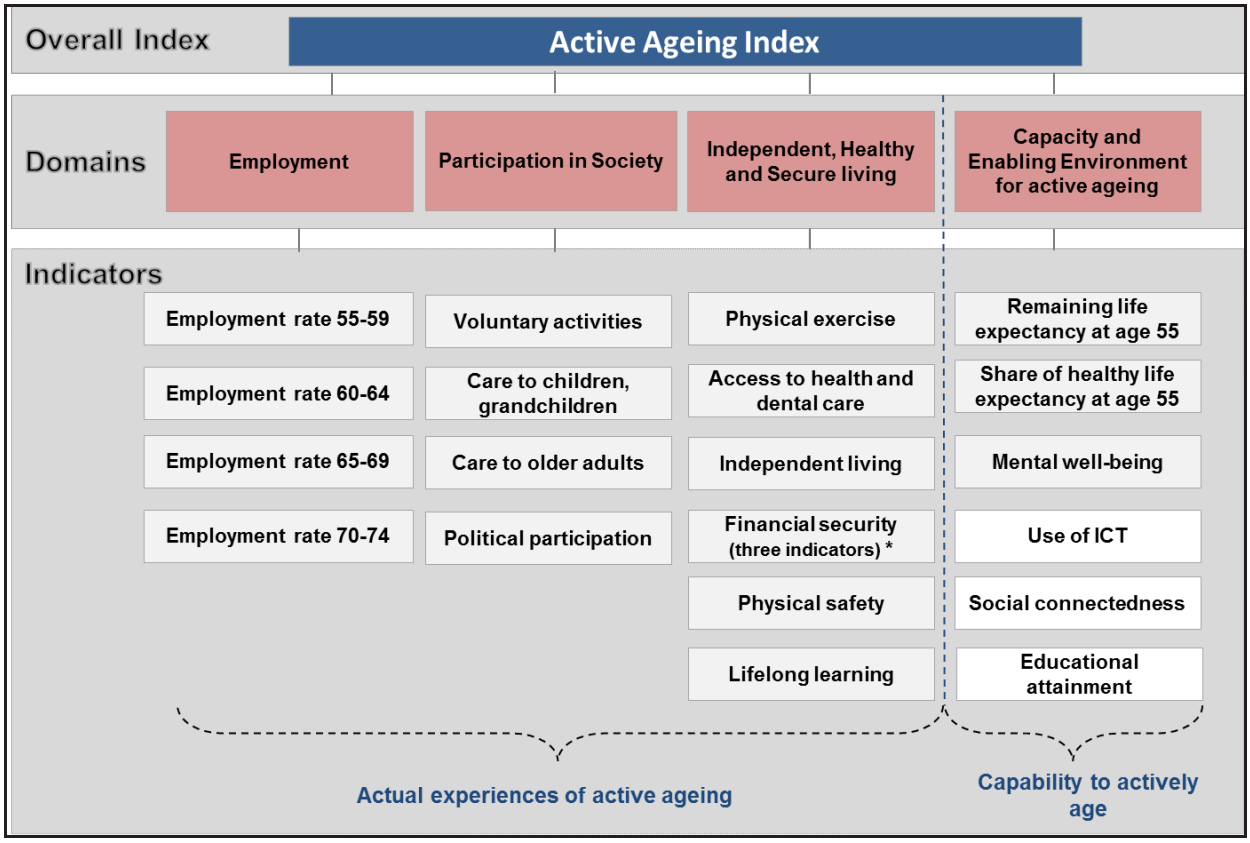


Source: University College London (2011).

European observatories on active and healthy ageing

Europe-wide observatories on active and healthy ageing are still a relatively new development. The Active Ageing Index initiative is a recent example that has also seen local implementation/adaptation at the subnational level. The indicators of the Active Ageing Index are used as a reference list for possible indicator definitions under various age-friendly domains (Chapter 3). Fig. 6 provides an overview of these (see also Zaidi et al., 2016). A number of recent projects have explored the feasibility of implementing the Active Ageing Index at the local level and it has been found useful in supporting policy-making at various levels of local authorities. It may therefore be a source of local information in the future (see, for example, European Social Policy Network, 2016; UNECE, 2016b; UNECE & European Commission, 2016).

Fig. 6. Active Ageing Index: domains and indicators



Source: UNECE (2016b).

7. Participatory assessments and data collections

Among the core principles introduced in Chapter 2 within the model of successful age-friendly action is the active engagement of older people, their family members or carers and organizations in age-friendly assessments. A number of qualitative research tools have been developed for participatory assessments. Some of the most frequently used are outlined in this chapter.

From the start of the global movement of age-friendly cities, participatory information collection and assessments have been key to establishing local initiatives and are now a core element of many age-friendly projects and action plans. This recognizes that older people and their organizations are often in a position to offer perspectives on and insight into gaps and perceived needs that might go undetected or neglected if administrative and policy processes, including research design, are developed without broad and systematic consultation. It responds to the request to do "nothing about us without us".

Participatory approaches come in various forms and under different labels. Co-production (sometimes called co-investigation) approaches have received close attention and been researched during practical application in a number of places for various initiatives (Goulding, 2016; AFE-INNOVNET, 2015; Buffel, 2015).

Co-production has been defined as an approach that "offers older people greater control over the research and design process, with the aim of developing sustainable projects that are relevant to the needs that they identify" (Goulding, 2016). One of its common principles is that older people and their relevant NGOs should be included in all stages of a project (development, implementation and evaluation). This is one of the core principles of the core policy model described in the AFEE policy tool (WHO Regional Office for Europe, 2016). This involvement is engaging, transparent, accessible and works in ways that empower older people and their organizations.

Older people as volunteers can themselves become important players in information gathering and as co-researchers, as in the example of the Belgium Ageing Study (WHO Regional Office for Europe 2016: Box 20; De Donder et al., 2013). This can take various forms, including community conversations (Elders Council of Newcastle, 2016; Riseborough & Jones, 2016).

This chapter provides practice examples and a list of tools used in a number of locations and settings.

Focus groups and community forums

Focus groups have become a standard instrument of citizen engagement in age-friendly assessments and planning. They can be used in traditional settings of older people's clubs and centres or in new ways, such as walking interviews or research walks (Hammond, 2013; Clark & Emmel 2010). A number of walkability assessments have been developed in this way (see, for example, Belfast Healthy Cities, 2016).

General information on how to conduct focus groups is available, for example, on the University of Kansas (2016) webpage of community toolkits. Beside tools on conducting focus groups, this online resource contains other practical information for promoting community health and development and for the engagement of grass roots groups. A list of assessment tools by domains that involve citizens and older people was brought together in Ontario Seniors' Secretariat's (2013) publication *Finding the right fit*. Another example is the focus group techniques for age-friendly action recently undertaken by the World Café initiative (World Café Community Foundation, 2017).

Vancouver Protocol

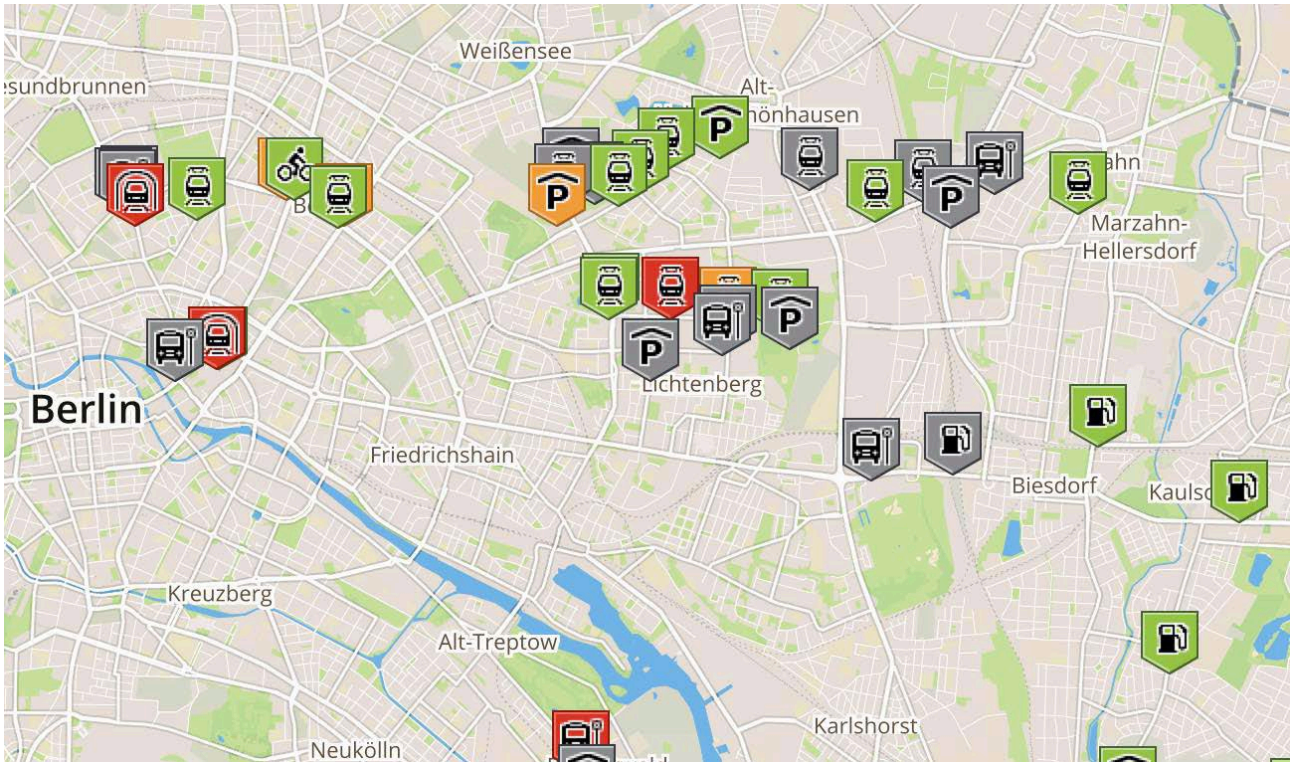
The Vancouver Protocol was used to bring together the original list of subtopics of WHO's *Global age-friendly cities: a guide*, with the participation of 33 cities globally (WHO, 2007a; 2007b). It provides a standardized method to assess a community's age-friendliness, examining the essential features that constitute an age-friendly city and identifying priority areas for action. The Protocol requires a minimum of material and technical resources, and is adaptable to different cultural and economic contexts. It has been widely used by cities and communities in Europe and across the world, assisting them in conducting assessments of their age-friendliness. The bottom-up approach of the Vancouver Protocol is a way to give older citizens an active role to play.

Participatory asset mapping

A number of innovative models now allow older people or people living with a disability and volunteer organizations to participate in the creation of information tools. Improving information for urban/rural planners and the consultation process with citizens can thus work in parallel to match needs with service provision.

Several innovative examples and tools from the "open data movement" are also available to promote integrated shared access to administrative data and to combine them with other sources, including from bottom-up and volunteer activities. An example originally started in Germany is Wheelmap.org, an Internet-based map to find wheelchair-accessible places, which users complement with the help of a dedicated app on a tablet device (Fig. 7). Public places are added to the map and rated according to a simple traffic light system. This initiative has now expanded worldwide.

Fig. 7. Wheelmap.org accessibility map



Source: Sozialhelden (2017).

Photovoice

Photovoice is a community-based methodology for participatory action of neighbourhood assessments (Catalani & Minkler, 2010). Under the guidance of a project support group, older people take pictures of their communities that illustrate the main weaknesses and strengths of their environment, usually based on an initial set of questions (Novek et al., 2012).

Photovoice has been used in different contexts, in particular in resource-constrained settings. It can be used both as part of a more comprehensive community needs assessment and as a method for trust-building and forming groups in the community for further engagement and volunteering (Palibroda et al., 2009). This can be targeted at groups with special needs – such as older people living with diabetes – in order to document challenges and offer support to take care of their condition and to embark on a healthy diet.

Photovoice initiatives have been used in different contexts and for a variety of purposes – for example, to explore the housing environment (Chan et al., 2016) and to gain more insight into the experiences of older adults with chronic pain (Baker & Wang, 2016) or those living with diabetes (Yankeelov et al., 2013).

8. Healthy ageing profiles: charting the status quo

A healthy ageing profile is a publication that blends statistical information on the situation of older people in a community with age-friendly assessments and more general contextual information to set the scene for policies to improve the age-friendliness of community environments. It can be a standalone publication, in particular at an early stage of putting ageing policies on the political agenda of a community, as a stocktake of available evidence. This may be in the form of a report commissioned from a research institute or one produced by a coalition of main departments and stakeholders in the community. At a later stage, the publication can be integrated into the broader remit of a public health observatory of ageing populations or become a regular instrument to report on progress with policy implementation (see, for example, the comprehensive data inventory undertaken by Manchester City Council (Morris, 2008)).

To propagate the use of healthy ageing profiles and foster communication between cities and communities within a country and across borders, the WHO Regional Office for Europe published a template for healthy ageing profile publications (2008). This includes 22 topics organized into three main categories, which are further outlined in this chapter:

- population profile
- socioeconomic portrait
- health and social systems.

Healthy ageing profiles have been used as tools for health development planning and for progress monitoring in a number of cities. Examples include:

- Brno healthy ageing profile (City of Brno, 2014);
- 50+ in Rijeka: healthy ageing profile (Dankićet al.,2006);
- Udine healthy ageing profile (City of Udine, 2008);
- Riga City public health profile (Riga City Council, 2014).

Population profile

A population profile brings together at least two clusters: (1) demographic indicators and (2) health status, risk factors and health behaviour.

Demography

Demographic measures of ageing have a prominent place in any healthy ageing profile publication. UNECE's table of recommended demographic indicators (2016a: Table 1) can inform the design of this section of a healthy ageing profile. Although this list refers to national statistics, most of the items are also worth considering to inform local policy-making, stakeholder consultations and communication with the public. The detailed breakdowns used by these indicators can usually be calculated from detailed census datasets, but may not be available in full detail for annual time series from regional data in national statistical databases.

To complement basic demographic measures, the calculation and use of innovative measures of ageing is encouraged. These include modified dependency ratios (Zamaro et al., 2008) and perspective measures of ageing that look at the expected number of years of remaining life expectancy at different ages, and at dynamic age thresholds (over time and space), such as the age when remaining life expectancy is 15 years (Sanderson & Scherbov, 2005; 2008; 2010). When these newer concepts are used, their understanding and interpretation by a broader audience needs to be fostered through good communication and dissemination practices (UNECE, 2016a: section 2.3.4).

Data on living arrangements are crucial but may require special attention by statisticians for cross-checking between census data and data from administrative sources (such as those on people living in institutional households by type of institution) to see whether census information adequately reflects the mix of different housing and living arrangement choices available in the community.

For presentation, communication and planning purposes, many of these indicators are for large communities and cities ideally available disaggregated by city districts, or other geographical sub-items, and the use of a GIS can greatly enhance their usability. As well as administrative entities, other geographical clusters may help in understanding issues of age-friendly planning, such as clustering of neighbourhoods by socioeconomic characteristics or vulnerabilities.

Health status, risk factors and behaviour

This section includes the following main topics (WHO Regional Office for Europe, 2008):

- mortality by cause, age and sex (data from death registries);
- morbidity, including mental health status (data from administrative records of health care providers, such as hospitals, depending on the organization of national/local health care systems, or from sample surveys of overall health status; see the Chapter 4 list of indicators for more detail);
- functional impairment (data from administrative sources, such as care needs assessed as eligibility to public long-term care; self-rated health/functional status from survey data);
- health-relevant behaviour (see Chapters 3 and 4 for relevant indicators of physical activity among older people as a tracer variable).

For more data-rich environments a number of items may be considered for inclusion and special monitoring, and to study how they may correlate to changes in the characteristics of age-friendly environments over time (for which data should ideally be available by five-year age groups and by sex). These include:

- accidental falls among older people; preferably morbidity (data from hospital discharge notes but also potentially from specialized, more detailed injury registries now emerging in Europe);

- road traffic accidents involving older people (from road safety datasets);
- femur and hip fracture (data from hospital discharge notes);
- number of knee and hip replacements (which vary with morbidity/numbers of injuries but also show wide variation depending on resources available and variations in medical practice).

Items that need special surveys should aim to measure conditions such as lower back pain, other musculoskeletal conditions and more detailed mental health assessments.

Socioeconomic portrait: vulnerabilities and strengths

A social portrait section provides information regarding the wider determinants of health and the participation of the older people in the community. Where a data system based on the indicators suggested in Chapter 3 has already been put in place, the corresponding target topics can be used as a starting-point.

Employment, income and social position
This section comprises labour market participation, employment rate, unemployment rate, long-term unemployment rate and incidence, for which the indicators list for domain 6 (Chapter 3) can serve as a model.

The physical environment: outdoor environment, transport and mobility, housing
Beside narrative context, this section of a healthy ageing profile mainly relies on target topics and indicators like those described for domains 1, 2 and 3 (Chapter 3).

The social environment: social participation, social inclusion and non-discrimination, civic engagement
For indicators, this section of a healthy ageing profile corresponds to domains 4, 5 and (partially) domain 6. It also provides qualitative contextual information on the local environment and can be illustrated by narratives and personal stories from older people in the community.

Health and social systems

As a template, healthy ageing profiles have been designed for a range of cities to use, so a sparse set of core items is suggested. Actual implementations have often expanded this list, depending on data availability.

Social risk factors and health behavioural and related questions can be included in healthy ageing profiles if the resources and the determination to conduct special surveys are available. Important items can be deduced from corresponding questions of Europe-wide surveys – such as from special Eurobarometer surveys, SHARE and the European Social Survey (ESS) – perhaps with local adaptations.

This list provides examples from the 2010 edition of the ESS:

- risk of social isolation (ESS-2010);
- lack of emotional support (ESS-2010);
- level of physical activity (European Health Interview survey);
- civic participation (ESS-2010).

For the general population profile of the community, other characteristics that relate to specific age-friendly domains can be considered for local adaptation (see the section on domain 7 in Chapter 3):

- Internet access by age groups and kind of use (Eurostat ICT Survey – an indicator included in the AAI);

- other ICT usage by age groups (Eurostat ICT Survey).

As all these elements require surveys, the corresponding questions from EU questionnaires can in principle also be adapted to the context of communities in countries beyond the EU, if the resources for tailored surveys are available.

Although the indicator tables in Chapter 3 suggest a number of additional target topics and indicators compared to the original list in the healthy ageing profile guidance publication (WHO Regional Office for Europe, 2008) this shorter list of 22 core items is still relevant as a starting-point.

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Annex 1. Global guide to measuring the age-friendliness of cities

This annex sets out the original list of core indicators proposed for age-friendly cities.[1]

Equity measures

- Differences between population average and highest attainable level of outcome
- Difference between two reference groups

Age-friendly environment outcomes

- Accessible physical environment

Neighbourhood walkability

Accessibility of public spaces and buildings

Accessibility of public transportation vehicles

Accessibility of public transportation stops

Affordability of housing

Inclusive social environment

Positive social attitude towards older people

Engagement in volunteer activity

Engagement in paid employment

Engagement in sociocultural activity

Participation in local decision-making

Availability of information

Availability of health and social services

Economic security

Impact on well-being

Quality of life

[1] WHO (2015). Measuring the age-friendliness of cities: a guide to using core indicators. Kobe: World Health Organization (http://www.who.int/kobe_centre/publications/AFC_guide/en/, accessed 3 April 2017).

Annex 2. European and other international data sources on regional and urban trends in ageing

European and international data sources can inform comparisons across countries and provide additional insight, such as on projected demographic trends and broader European and international trends of urbanization and migration, both within countries (e.g. from rural to urban areas) and across borders. This annex lists a number of potential data sources for these purposes.

United Nations Population Division

The United Nations Population Division in the Department of Economic and Social Affairs provides detailed population data on a regular basis (UNDESA, 2017). This includes comparative tables for major cities in the world as well as population data separate for predominantly urban versus rural areas.

Eurostat regional and urban statistics

Eurostat regularly publishes a number of publications on urban population and trends in ageing and living standards, the health and quality of life of older people as well as other data relevant for regional policies (see the overview guide Eurostat, 2016a and 2016b–2016e). These publications are based on several databases for regional and city data that Eurostat hosts; these usually cover the EU Member States, European Free Trade Association and candidate countries.

These regional and urban datasets provide background information on demographic trends that local authorities can use, including on ageing and migration (Eurostat 2016 b–c; e). Moreover, Eurostat provides methodological manuals on regional and urban statistics that provide statistical standards for defining regional and urban classifications (Eurostat, 2016d).

Datasets can be explored in interactive ways, as statistical observatories – as with on the Regions and Cities Illustrated (RCI) website (Eurostat, 2016e) – or via the Eurostat geographical information system, GISCO (Eurostat, 2015).

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UNDESA (2017). United Nations Population Division [website]. New York: United Nations Department of Economic and Social Affairs (http://www.un.org/en/development/desa/population/, accessed 6 April 2017).

The WHO Regional Office for Europe

The World Health Organization (WHO) is a specialized agency of the United Nations created in 1948 with the primary responsibility for international health matters and public health. The WHO Regional Office for Europe is one of six regional offices throughout the world, each with its own programme geared to the particular health conditions of the countries it serves.

Member States

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Belarus
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Finland
France
Georgia
Germany
Greece
Hungary
Iceland
Ireland
Israel
Italy
Kazakhstan
Kyrgyzstan
Latvia
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