

Developing Global Indicators for Assessing the Age-Friendliness of Cities

Pilot Survey Report

March 2014

WHO Centre for Health Development, Kobe, Japan

Executive Summary

The WHO Centre for Health Development (Kobe, Japan) is currently leading a project to develop global core indicators for assessing the age-friendliness of cities. As part of this process, a pilot survey of indicators, which had been selected through a prior review and expert consultation, was conducted in 2013. The objective was to obtain a reality check of the technical and practical values of these indicators performed by local stakeholders who are the intended users of these indicators. Twenty-eight responses to this pilot survey were received from 18 cities in 15 countries around the world. As a result, 13 indicators consistently ranked high on various evaluative scores obtained from the survey. More than one of those indicators were in the domains of transportation, civic participation/employment, social participation and communication/information. The qualitative feedback on the indicators mainly focused on the need to improve the operational definitions of the indicators, the challenges in collecting data for the indicators, and the need for the core indicators to have some flexibility to be adaptable to different contexts. The results of this pilot survey provide a valuable input into the subsequent deliberations on specifying the core indicators.

1. Introduction

1.1 Background to Pilot Study

Ageing and urbanization are two current global trends that present policy and decision makers with unique developmental challenges. At present, ageing is primarily viewed as an issue of the developed world. However, as progress and development continue in low- and middle- income countries, the size of ageing populations will begin to increase. How well these populations age depends on whether or not communities can effectively adjust to the specific needs of older people. Local policies and plans should make the urban environment more adaptable to the needs of an older population and steer urban development in a direction that promotes *active ageing*, that is, the process of optimizing opportunities for health, participation and security in order to enhance quality of life as people age (WHO, 2002).

In 2007, the World Health Organization (WHO) published, “Global Age-friendly Cities: A Guide” (WHO, 2007), which was designed to support and strengthen health and social policies that are responsive to the two converging trends of population ageing and of urbanization. Subsequently, in 2010, the WHO launched the Global Network of Age-friendly Cities and Communities¹ to foster the exchange of experience and mutual learning between cities and communities worldwide. To join the Global Network, cities must commit to continually assess and improve their level of age-friendliness against a set of indicators. However, the current Guide does not specify or suggest indicators to monitor and evaluate the progress of age-friendly interventions.

In response to stakeholders’ requests for technical support from WHO on this issue, the WHO Department of Ageing and Life Course (Geneva) decided to develop a set of core indicators for assessing age-friendliness of cities. The WHO Kobe Centre (WKC) is leading this initiative, applying its expertise in urban health metrics development.

As a first step, the WKC conducted an extensive review of scientific literature, grey literature and websites of relevant indicator projects to compile a master list of existing indicators related to this topic. This resulted in a list of 195 indicators which correspond to the eight domains described in the Age-friendly Cities Guide (Outdoor Spaces and Buildings, Transportation, Housing, Respect and Social Inclusion, Civic Participation and Employment, Social Participation, Community and Health Services, and Communication and Information), as well as an additional domain of Health (risk factors and outcomes). In August 2012, in St. Gallen, Switzerland, the WKC brought together experts on ageing and metrics, Age-Friendly Cities (AFC) Network representatives and WHO officials, with the main objective of identifying a short list of potential core indicators that could be used to evaluate and monitor the age-friendliness of cities at the local level, using the master list as the main source of input.

The outcome of this first consultation was a list of 61 indicators across the aforementioned eight AFC domains described in the Guide and three additional domains suggested by the expert group: Health, Economic Security, and Governance. The expert group recommended that these indicators be further assessed in a pilot study by local health officials and other community representatives (i.e. the intended end-users of the core indicators) based on a set of technical and practical criteria which the experts also proposed (WHO, 2012).

¹ For more information on the Global Network: http://www.who.int/ageing/age_friendly_cities_process/en/index.html

This report presents a brief overview of the methodology used to conduct the pilot study and the results. The report highlights major findings and priority issues which emerged from the pilot study. These results will feed into subsequent rounds of deliberations about selecting the core indicators.

2. Methodology

A modified Delphi method is being used to develop the core indicators for AFCs. The Delphi method is an expert survey conducted in two or more rounds in which the results from the previous round are provided as feedback for the next. The key to the Delphi method is the anonymity provided by the elicitation of individual opinions outside of large discussion groups. This reduces the effect of certain biases, such as response bias and dominance bias (Brown, 1968; Hsu, 2010). In this indicator development project, instead of using the same panel of experts and officials throughout the entire process, each round consists of a different panel, including some of the same experts from a previous round.

The indicator pilot study was part of this process (i.e. Round 2; Refer to Figure 1 to view the breakdown of the modified-Delphi process used by WKC). It was derived from the inputs received from the previous consultation meeting, and it elicited inputs from a new panel of survey respondents. The objective of the pilot study was to obtain realistic assessments of the proposed indicators by local health officials and community members. This is to ensure that the final selection of indicators and domains takes into account the perspectives of the intended end-user groups (i.e. local health officials and community members). Below is a summary of the methods employed to develop, implement and analyse the results from the AFC indicator pilot study.

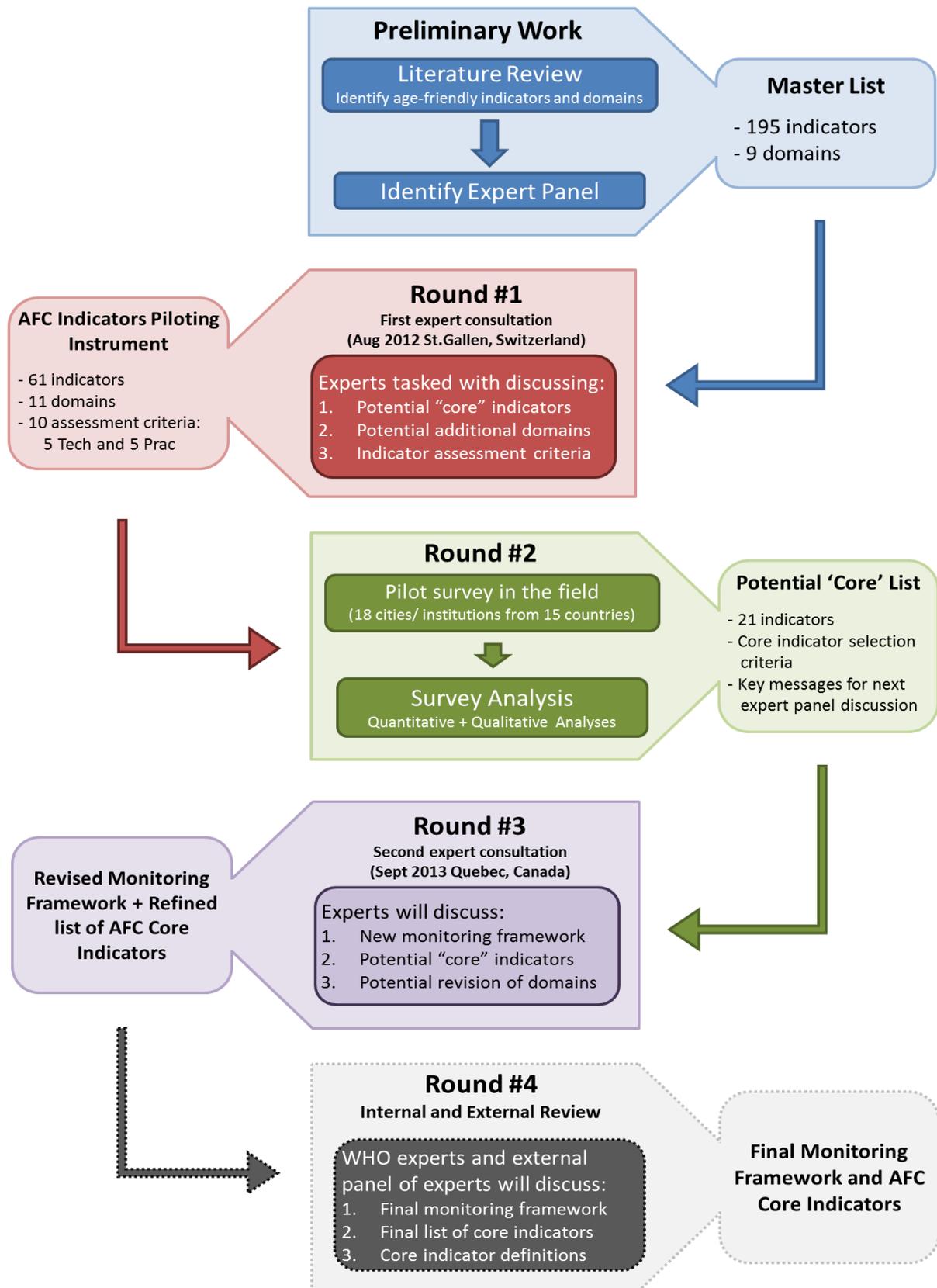


Figure 1: Process outline of the WKC modified-Delphi method

Note: The gray colouring and dotted line outlining Round #4 indicates that this step has not yet been completed as of January 2014

2.1 Pilot Instrument development and implementation

Results from the first round of discussions at the consultation meeting in St. Gallen, Switzerland produced a list of 61 indicators across the eight original AFC domains, plus three additional domains suggested by experts; Health, Economic Security, and Governance (WHO, 2012). Based on the inputs obtained from the first consultation meeting, a survey tool aimed at testing the relevance and appropriateness of the 61 indicators was developed for the pilot study.

One page in the piloting instrument was designated to each indicator (Refer to Annex 1 for sample page from piloting instrument). Each page was divided into three sections which set out the following:

1. **Indicator definition** - this included a proposed definition, which was derived from standard definitions, if available; a space to enter alternative definitions for the indicator that may have been used or preferred by local authorities; and a space to enter actual numerical values for the indicator for the pilot site, if available. (Please refer to WHO (2012) for the complete list of indicator sources and definitions.)
2. **Characteristics of indicators** – respondents were asked to rate each indicator on a 3-point scale (“Yes”, “Partly”, “No”) based on five technical criteria (measurability, validity, replicability, sensitivity to change, availability of disaggregated data) and five practical criteria (alignment with local goals, implication for action, within local influence, ease of timely data collection, social acceptability). (Explanations of each criteria can be found in the piloting instrument.)
3. **Additional comments** – a space for respondents to provide any additional comments.

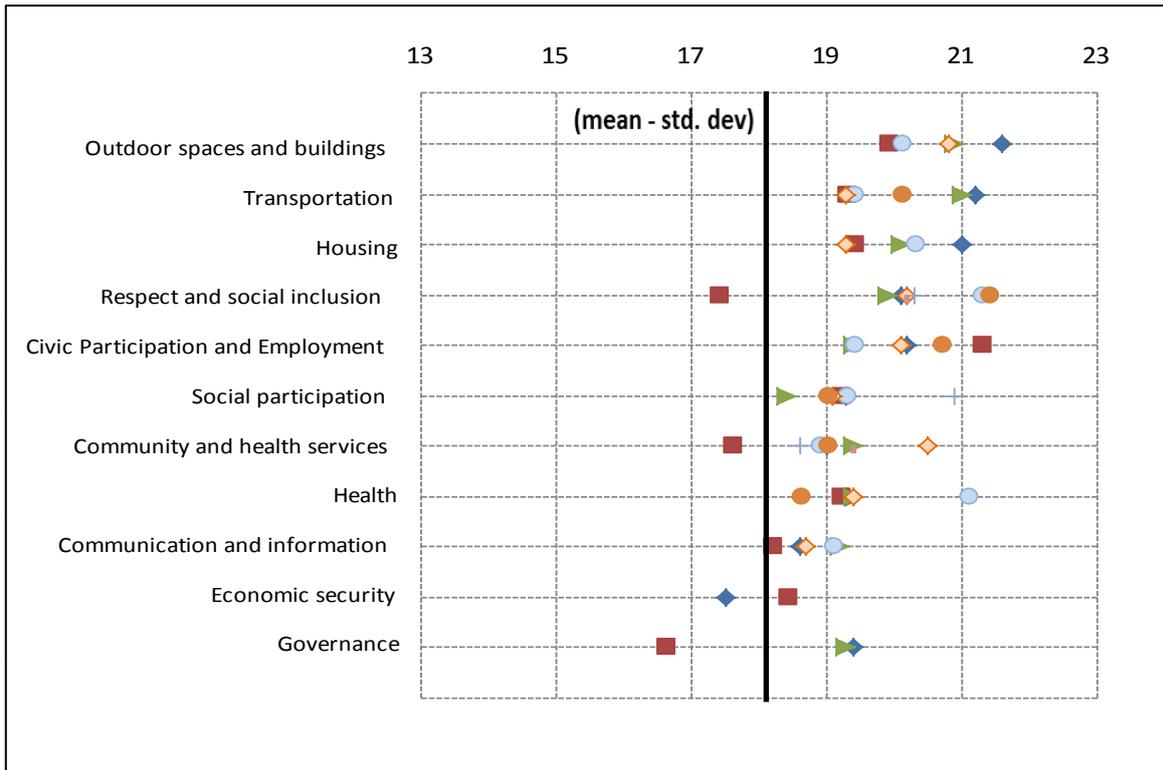
Starting in January 2013, pilot surveys were emailed by the WKC to individuals identified through professional networks to participate in the piloting of the first draft of core indicators. Local government officials as well as civil society members with experience or interest in Age-friendly City initiatives were sought. Individuals that agreed to take part were requested to self-complete the questionnaire.

2.2 Data management and coding

Between May and December 2013, twenty-three surveys representing 17 cities from 14 countries were received. In addition to the completed pilot instruments, WKC received general comments by e-mail regarding the list of indicators and domains, including suggestions for additional indicators or alternative definitions. In some cases, the response was representative of the opinions of officials from multiple cities, such as in the case of the collective response from local health officials representing over 23 local city/prefectural governments in Japan. Thus, in total, WKC received feedback from 28 participants in at least 18 cities (but representative of over 40 cities) across 15 countries. A full list of respondents which includes country, city, and institution/organization name is available in Annex 2.

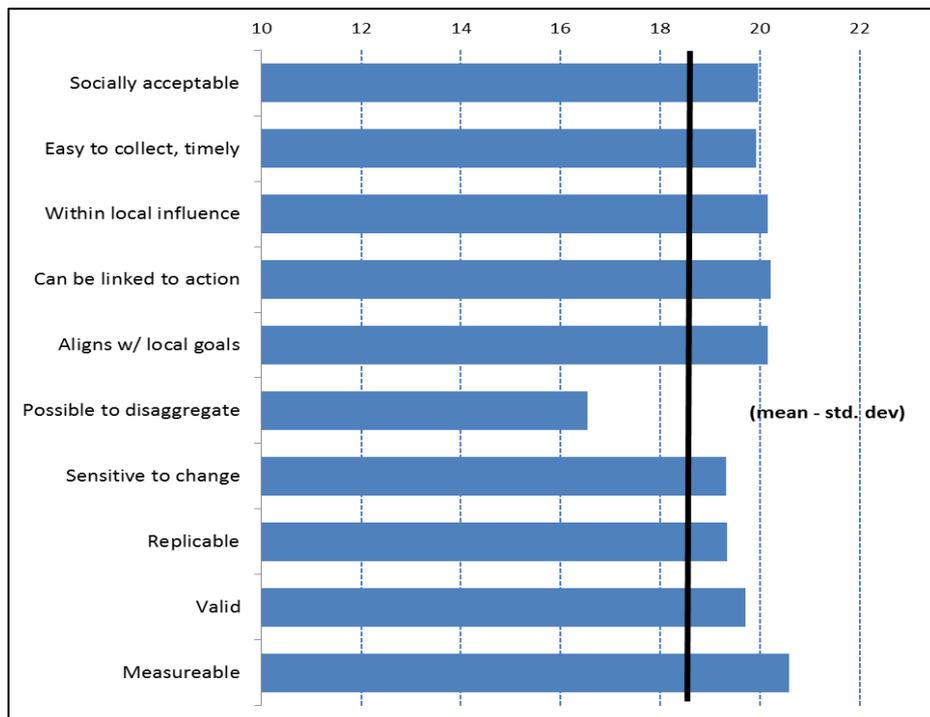
Pilot survey responses were manually entered into an Excel spread sheet. The responses to the indicator ratings were coded as follows in order to convert them into quantitative data:

1. “Yes” = 2
2. “Partly” = 1
3. “No” = 0



Note: Domains are listed in order of how they appeared in the survey. Each marker represents the response rate for a specific indicator within each domain. The black line indicates the mean minus one standard deviation.

Figure 2: Mean item response rate (number of actual responses out of a possible 23) for each of the 61 indicators across the 11 domains



Note: The first five criteria listed are the Practical Criteria. The bottom five criteria listed are the Technical Criteria. The black line indicates the mean minus one standard deviation.

Figure 3: Mean item response rate (number of actual responses out of a possible 23) averaged across each of the ten assessment criteria

Criteria that were not marked were coded as missing values. Standard procedures for data cleaning and checking were performed. Item response rates were calculated by domain, by indicator, and by individual assessment criteria.

Overall, there was a visible decrease in the item response rate (i.e. number of actual responses to a questionnaire item, out of a possible 23) in the latter sections of the survey (Figure 2). In addition, there was a difference in item response rate between individual indicators within a domain.

Across the ten indicator assessment criteria, the one on “possible to disaggregate” had the lowest response (Figure 3). Otherwise, there was little variation among the mean item response rates across the ten criteria, which were generally around 20 responses out of a possible 23.

Figure 4 illustrates the data preparation and analysis process for the open-ended comments from the pilot study. This qualitative information was of three broad types. The first type was indicator-specific comments, the second type was general comments about the indicators, not specific to any indicator, and the third type was alternative indicators suggested by the respondent. In addition, general comments sent by email were added to the database. Personally identifiable information, such as names, was removed to anonymize the data.

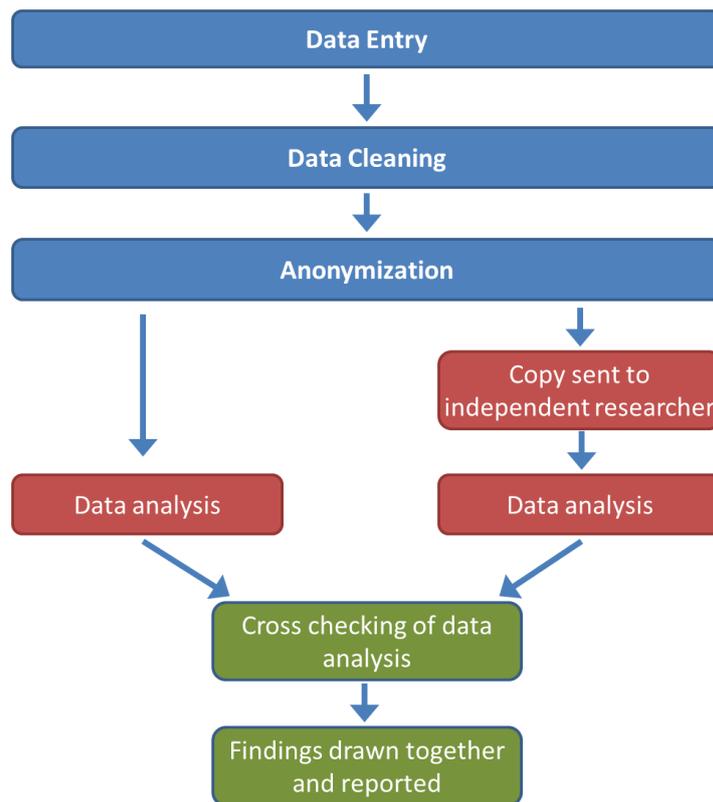


Figure 4: Process for data preparation and analysis of open-ended pilot survey comments

Themes for coding the qualitative comments were determined by reviewing the open-ended comments in detail and over multiple times. This allowed key issues and themes to be identified. Four key themes emerged through this process, which were then used for the coding process:

1. Definition improvement
2. Data availability
3. Alternative definitions
4. Local characteristics

All of the comments related to the original list of 61 indicators were then coded according to these four themes. The same process was applied to the general comments, not pertaining to a specific indicator, which were received from participants by email as well as those from the survey.

Comments that could not be classified under any of the four themes were left aside for further consideration during the analysis stage. Finally, comments were consolidated by theme and then sorted by the indicators to which they specifically referred (only applicable to the indicator-specific comments), by city and by country.

2.3 Data analysis

Table 1 lists all participating cities of the pilot study, the type of feedback they provided, and the type of analysis into which their feedback was incorporated.

Table 1: List of participating cities, type of feedback received, and their inclusion in the quantitative and qualitative data analysis

City/Institution*	Type of feedback	Quantitative analysis	Qualitative analysis
La Plata, Argentina	• Survey response	✓	✓
Melbourne, Australia	• Survey response	✓	✓
Ottawa, Canada (City government)	• Survey response • General comments • Alternative indicator list	✓	✓
Ottawa, Canada (Council on Ageing of Ottawa)	• Survey response • General comments • List of data sources • Alternative indicator list	✓	✓
Ottawa, Canada (Individual researcher)	• Survey response	✓	✓
Public Health Agency of Canada	• Survey response • General comments	✓	✓
Shanghai, China	• Survey response	✓	✓
San Jose, Costa Rica	• Survey response	✓	✓
Besancon, France	• Survey response	✓	✓
Dublin, Ireland (Ageing Well Network)	• Survey response	✓	✓
Dublin, Ireland (Dublin Age Friendly City Programme City Council)	• Survey response	✓	✓
Dublin, Ireland (Representative of the North Eastern Region of Dublin)	• Survey response	✓	✓

City/Institution*	Type of feedback	Quantitative analysis	Qualitative analysis
Dublin, Ireland (Fingal Local Authority)	• General comments		✓
Kilkenny, Ireland	• Survey response	✓	✓
Akita, Japan	• Survey response • General comments	✓	✓
Japan Gerontological Evaluation Study, Japan	• Results of own collective ranking of the indicators		✓
Nairobi, Kenya	• Survey response • General comments	✓	✓
Jejo-Do, Korea	• Survey response	✓	
Seoul, Korea	• Survey response	✓	
Tuymazy, Russia	• Survey response	✓	✓
National AFC Programme, Spain	• General comments		✓
Wellawaya, Sri Lanka	• Survey response	✓	✓
WHO Country Office of Sri Lanka	• Survey response • General comments	✓	✓
Manchester, United Kingdom	• Survey response • General comments	✓	✓
Sheffield, United Kingdom	• General comments		✓
American Association of Retired People, USA	• General comments		✓
Bowling Green, Kentucky, USA	• Survey response	✓	✓
Portland, Oregon, USA	• Survey response • List of data sources	✓	✓

*In some cases inputs were received from multiple sources from the same city or institution. The different respondents from the same city are noted where possible.

Quantitative analysis

The following quantitative analysis was applied to the data obtained from the 23 completed survey questionnaires. The types of scores and rankings generated are shown in Figure 5.

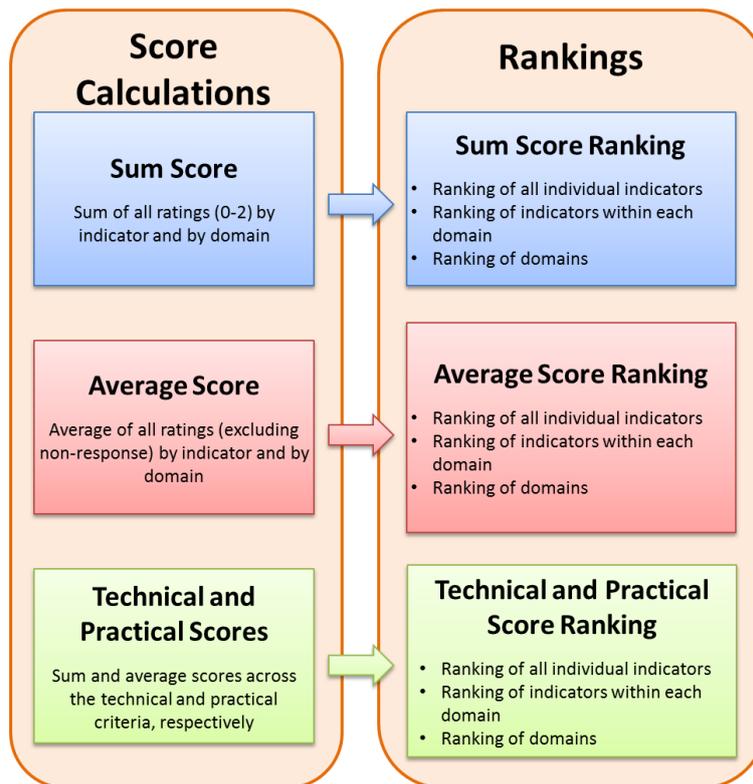


Figure 5: Types of scores and rankings generated for the quantitative analysis

The basis for the score calculations was the 3-point (0, 1, 2) scale which survey respondents used to rate each indicator on ten criteria, respectively. First, a sum score was calculated as the sum of points given to an indicator by all 23 respondents. Thus, the possible range of a sum score for a given indicator was 0 to 460. The sum score for each domain was the sum of points given to all the indicators within a specific domain. The possible range of a sum score for a domain depended on the number of indicators within a given domain. Secondly, an average score was calculated as the arithmetic mean, or simply the average, of the sum of points given to an indicator divided by the number of valid responses (i.e. non-responses were excluded from the denominator). The average score was also calculated for each domain by taking the mean of the average scores of the indicators within a domain. The possible range of an average score for a given indicator or a domain was 0 to 2. Compared to sum scores, average scores are not as influenced by the variation in response rates across indicators and criteria, nor by the differences in the number of indicators per domain when calculating domain scores. Finally, Technical and Practical scores were separately calculated by taking the sum of scores given to an indicator across the five Technical criteria and across the five Practical criteria, respectively. Technical and Practical scores were also calculated using average scores, and also computed by domain.

Based on each type of score, several rankings were performed: ranking of all indicators, ranking of indicators within each domain, and ranking of domains. For purposes of narrowing down the list of potential core indicators, those that consistently ranked within the top 50% of Overall, Technical and Practical score rankings, using the sum scores as well as the average scores, were highlighted as priority indicators.

Qualitative analysis

The qualitative analysis was applied to all the written responses to the open-ended questions in the survey as well as additional comments received by e-mail. To reduce error and bias, two researchers independently coded and analysed the qualitative data. Any discrepancies were resolved through discussion of the two researchers and, if necessary, a third person.

The analysis focused on identifying common issues that emerged within the four main themes - alternative definitions, data availability, definition improvement and local characteristics. In the case of the theme on data availability, the comments were further coded using the following subcategories to capture some notably recurrent issues within this theme: “data availability”, “data accessibility at local level” and “requirement of a customized survey”. Comments related to the theme of local characteristics were stratified by indicator and by city to identify which specific city context to which they referred.

For the comments coded as relating to the theme on alternative definitions, all alternative definitions suggested for an indicator were examined to identify any frequently mentioned ones among them. They were also checked against the definitions used for other related indicators included in the pilot survey to identify potential duplicates. Specific suggestions on how to improve indicators were also highlighted. In addition to analysing these responses, such concrete suggestions were noted to be taken into consideration at a later stage in refining the operational definitions for the core indicators.

All other comments that were not coded as being related to one of the four main themes were also analysed to find any other recurrent issues.

3. Results

3.1 Quantitative findings

Based on the sum scores analysis, a total of 21 indicators spanning across all domains, except in the domains of Economic Security and Governance, were consistently ranked in the top 50% across the three indicator rankings (i.e. Technical, Practical, Overall) (Annex 3). The top five ranking domains, from highest to lowest overall score, were Outdoor Spaces and Buildings, Civic Participation and Employment, Communication and Information, Transportation, and Social Participation.

The results based on the average scores showed a somewhat different set of 21 indicators from across all domains, except Housing, Respect and Social Inclusion, and Economic Security, which consistently ranked in the top 50% across all three indicator rankings (Annex 3). The top five domains, from highest to lowest overall score, were Communication and Information, Outdoor Spaces and Buildings, Social Participation, Governance, and Civic Participation and Employment.

Indicators that consistently ranked high across all three ranking categories in terms of both the sum scores and the average scores are presented in Table 3.

Table 3: Indicators which consistently ranked in the top 50% across all three rankings (Technical, Practical and Overall) based on both the sum scores and the average scores

Domain	Indicator	Definition
Outdoor Spaces and Buildings	Accessibility of public toilets	Perceived accessibility of public toilets when outside of the home (among older residents*)
Transportation	Frequency of public transportation use	Self-reported frequency of trips taken on public transportation (by older adults)
	Quality: Accessibility of buses for people with disabilities	Proportion of buses which are made accessible for people with disabilities
	Availability of priority parking	Availability of priority parking areas provided close to buildings and transport stops
Civic Participation and Employment	Volunteering (A): Engagement	Proportion of older residents who engage in volunteer activities
	Volunteering (B): Satisfaction	Proportion of older residents who feel satisfied with availability of volunteer opportunities for older people
	Paid employment rate	Proportion of older residents with paid employment
Social Participation	Culture and sports activity	Proportion of older residents who participate in sports activities
	Frequency of participation	Proportion of older residents who regularly participate in social activities
Community and Health Services	Accessibility of home-based care and assistance	Proportion of older residents who received in their own home any kind of health care or assistance for domestic tasks they could not perform due to health problems during the last 12 months
Health	Risk factor: Physical activity	Proportion of older residents who engage in daily or weekly physical activity
Communication and Information	Availability of information on leisure/recreation	Whether or not the local government publishes resource guide(s) on leisure-recreation programs that are accessible and tailored to older people
	Availability of information on health concerns and service needs	Whether or not the local government provides a source of information about health concerns and service needs that are accessible and tailored to older people

*"Older residents" was operationally defined in the pilot survey as someone 65 years of age or older.

Most of these high-ranking indicators and domains tended to be rated higher on the practical criteria than on the technical criteria. On the other hand, lower-ranking indicators and domains, as with most of them in general, scored relatively higher on the technical criteria than on the practical criteria. This suggests that the majority of high-ranking indicators and domains were considered to be of more practical value (e.g. relevant to current local policies and goals), but with some technical challenges (e.g. lack of relevant and valid existing data) to be used for monitoring and evaluating age-friendly interventions.

3.2 Qualitative findings

Four key themes emerged from the analysis of indicator-specific comments.

a. Definition improvement

Most open-ended comments revolved around further clarification of numerator and denominator in the operational definitions of the indicators. Participants felt that subjective terms, such as “suitable”, “acceptable”, or “too far”, needed to be clearly defined in order to make the indicators more measurable, accurate and comparable. There were a number of issues with indicator definitions that included multiple clauses, elements or concepts (i.e. compound definitions). Respondents noted that this could actually hinder data collection and analysis, and reduce the usability of indicators in different cities. Another common concern was regarding the apparent lack of relevance of certain indicators to the concept of age-friendliness, or whether the indicator could be linked to an appropriate action or intervention.

b. Data availability

Comments concerning data availability centered on whether or not data were available, easily accessible at the local level, spread across multiple sources (e.g. shared between both the public and private sector), or a custom survey would be required. In addition, some respondents felt it would be difficult to obtain disaggregated data, and that within the current economic climate, developing a new survey or replicating past surveys would be difficult.

c. Alternative definitions

Alternative definitions were usually proposed based on participants’ own experience using similar indicators in their city assessments. In rare cases, participants proposed new definitions when they felt the indicator concept was appropriate but the wording of it was not quite relevant to their local context. In addition, alternative definitions given by most participants defined the elderly population using an age cut-off of 50 or 60, which was lower than the 65 year-old cut-off used in the pilot study.

d. Local characteristics

The fourth theme that emerged consisted of concerns related to specific local circumstances. These comments focused on the issue of how specific weather/seasonal patterns, geographic locations, cultural norms and values, or city socio-economic/development levels affect the relevance of different indicators.

General remarks received by participants reiterated indicator-specific concerns. In particular, comments emphasized the need to improve definitions, and the challenges in collecting or accessing

data, including the fact that many of the proposed indicators would require a new survey which is likely to be costly. In addition, several participants made the following recommendations:

- To further disaggregate data by age groups beyond the standard definition of the elderly population as “65 and over”, in order to obtain a more nuanced understanding of the older population
- To select indicators that better measure and encourage progress towards active ageing, as defined by WHO
- To ensure a mixture of indicators in the core set that measure short-, medium-, and long-term outcomes of interventions and policies
- To allow flexibility of the indicators to be able to account for variations in size of city, data availability, and local priorities for addressing ageing and health issues
- To account for the differences between developed and developing countries in terms of ageing, health and development (e.g. definition of the “elderly population”)

While this report only presents the summary of findings, the detailed comments will also be revisited in the process of refining the core indicator set and their definitions.

4. Implications for the selection of core indicators for Age Friendly Cities

Preference should be given to indicators already grounded in existing data. Indicators which are already routinely collected, either administratively or otherwise, generally have a pre-established degree of validity and reliability, which in turn lends credibility. It also provides a baseline for comparisons across time and place. Furthermore, developing and implementing new surveys would be very costly and time consuming. This preference, however, creates a hindrance for the measurement of many of the subjective or attitudinal indicators or relatively novel concepts, which are often not available from routine sources. While public views and innovation are important to consider in policy and intervention development, the pilot survey results indicate that it would not be a realistic expectation for cities with many competing priorities to conduct new surveys focusing on age-friendliness. Thus, indicators that can be obtained or generated from routinely available data sources are preferred.

Preference should be given to indicators which possess a good balance between technical and practical strengths. The core indicators should be technically sound but also feasible to measure and relevant to the local context. The higher ranked indicators in the pilot study did not always have this perfect balance. Ways of rectifying technical and/or practical shortcomings of an indicator should be sought, for example, through modifications in the proposed indicator definitions.

Indicator definitions should be refined to provide better clarity. The pilot study results identified several indicators which require improvement of definitions, especially those compound definitions which touch upon more than one issue. The clarity of definitions will affect the accuracy of measurement as well as the availability of data. In addition, clearer definitions would make the indicators more understandable by a larger number of people. This is especially important for communicating about the indicators with individuals who either have little knowledge regarding the concept of age-friendliness and active ageing, or for whom English is not their native language.

Indicators should be adaptable to different urban environments. While population ageing is currently most advanced in the more developed parts of the world, the trends of ageing and

urbanisation are affecting both the developed and developing areas, albeit to varying degrees. Feedback obtained in the pilot study, especially from the developing regions, revealed the need to ensure that the core indicators have the flexibility to be adapted to urban environments at different stages of development and population ageing. Another key factor that should be taken into consideration is the cultural context surrounding ageing. Different countries may find different indicators to be more socially and locally relevant based on their social norms and values. Even within the same country or city, there may be such variations among sub-population groups (e.g. racial or ethnic minorities).

Indicators should encourage progress and be linked to an appropriate action. The pilot study results indicated that some of the proposed indicators do not have clear links to, or implications for, action and are not suitable for measuring progress. Pilot study respondents were primarily concerned with the indicators worded in a “Yes/No” format which are not sensitive to varying degrees of implementation or achievement, and, thus, do not easily translate into progressive steps of action. Many respondents agreed that such indicators may be easier to measure in some cases, but would not necessarily encourage action or progress. The core indicators should account for the milestones toward becoming an age-friendly city and include a mixture of short-, medium-, and long-term indicators which would allow cities to assess the course of gradual progress.

4.1 Limitations

This section notes some of the limitations of the methods used in this pilot survey.

First, as described in the Methods, there was a noticeable decrease in the item response rate towards the latter part of the survey (Figure 2). This could be due to a number of different issues, such as survey fatigue, less interest or understanding of the domains and indicators listed later in the survey instrument (the newly suggested domains were listed last), or a misunderstanding of the survey instrument format and requirements. The item response rate also varied among the 10 assessment criteria with the one on availability of disaggregated data having the lowest number of responses across all indicators (Figure 3). Qualitative comments did reveal that participants would skip certain criteria or an indicator if they felt it was inappropriate or that it was not relevant to their context. These varying response rates may have impacted the results, although it is not clear in what way they would have biased the results.

Second, a number of participants stated they did not completely understand the indicator characteristic rating system (3-point scale of “Yes”, “Partly” and “No”), particularly with regard to the response, “Partly”, in the pilot survey. Some participants avoided using this response, and only used “Yes” or “No”, or otherwise did not provide a response. This misunderstanding of the rating system may have also had some unknown impact on the results.

Third, the participating cities were not evenly representative of the various geographic, socioeconomic, demographic and cultural contexts of cities experiencing population ageing across the world. The cities and institutions which provided feedback were located across fifteen countries, mostly in the highly developed parts of the world: five in Europe (France, Ireland, Russia, Spain, UK), four in the Americas (Argentina, Canada, Costa Rica, USA), four in the Western Pacific (Australia, China, Japan, Korea), one in Africa (Kenya), one in South East Asia (Sri Lanka) and none in the Eastern Mediterranean region. This partly reflects the higher level of interest and experience in issues related to ageing in cities, or ageing in general, in some parts of the world compared to others.

Furthermore, multiple responses to the survey were submitted by cities like Ottawa (Canada) and Dublin (Ireland), three from each city. These multiple responses allow a richer understanding of the issue in that particular context (for example, when the responses came from both government and non-government entities). However, since none of the responses were given differential weights when included in the overall analysis, some cities/countries are over-represented in the data, and thus, caution must be taken in interpreting the findings.

Finally, there was an uneven representation of domains in terms of the number of indicators. In the draft list of core indicators proposed by the expert group at the first consultation in August 2013, and which were included in the pilot study, the domains of Community and Health Services and Respect and Social Inclusion each had the highest number of indicators, which was eight, while the domain of Economic Security had only two indicators, the lowest number of indicators for any domain. The disparities in domain representation by indicators influenced the comparability of the scoring and ranking of domains, and also affected the amount of both quantitative and qualitative information that could be used to assess the domains.

It should also be mentioned that some of the pilot study respondents expressed concern about the applicability of the indicators to rural contexts. While this may have been viewed as a limitation of the pilot survey design, the primary objective of the broader project is to develop a core set of indicators to assess the age-friendliness of urban settings; thus, it is by design that the indicators are generally more applicable to urban than to rural settings.

4.2 Guidance for further selection of core indicators

Taking into consideration the final observations of the quantitative and qualitative results of the pilot study presented in this document and their implications, the following guidance is suggested for further selection of core indicators:

1. Aim to select a total of 10-20 core indicators
2. Select one or two indicators representing each of the domains
3. Select from among the high-ranking indicators in each domain
4. Select at least one indicator that can be globally comparable
5. Select indicators that are likely to have data disaggregated by age group
6. Identify indicators that may not be recommended for inclusion in the core set but are nevertheless highly recommendable

5. Conclusions

As the global population continues to age in an increasingly urban world, cities and local policy makers will be presented with a number of new and unique challenges in the 21st century. WHO encourages cities and communities to implement age-friendly initiatives as one approach to dealing with such challenges. This report, which presents the final results of a pilot survey of indicators for Age-friendly Cities, provides a key input to the ongoing process of developing a core indicator set. It builds upon previous inputs received through an expert consultation, and captures a broader range of perspectives from people representing the intended end-users of the indicators. The further selection of core indicators should be guided in part by this report, with the aim to choose a relatively small set of indicators which are adaptable to varying urban environments for assessing

the current situation, monitoring and evaluating interventions, measuring progress and planning future action.

6. References

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7. Annexes

Annex 1: Sample page from pilot study survey questionnaire

DOMAIN		OUTDOOR SPACES AND BUILDINGS					
INDICATOR		Walkability		<i>Proportion of older residents who report that roads in their neighborhood are suitable for walking</i>			
Numerator	Denominator	Alternative definition (if different used)		Value			
Number of residents (65+) who report that roads in their neighborhood are suitable for walking	Total number of residents (65+)						
CHARACTERISTICS OF INDICATOR							
TECHNICAL			PRACTICAL				
Measurable	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly	Aligns with local goals	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly
Valid	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly	Can be linked to action	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly
Replicable	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly	Within local influence	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly
Sensitive to change	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly	Easy to collect, timely	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly
Disaggregation available	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly	Socially acceptable	<input type="radio"/> Yes	<input type="radio"/> No	<input type="radio"/> Partly
ADDITIONAL COMMENTS (Please provide any additional comments to clarify your responses above)							

Annex 2: Additional information about the pilot study participants

Country	City	Institution	KEY PARTNERING INSTITUTIONS*
Argentina	La Plata	Isalud	
Australia	Melbourne	City of Melbourne	
Canada	Ottawa	City of Ottawa	The Council on Aging of Ottawa
		The Council on Aging of Ottawa	<ul style="list-style-type: none"> The City of Ottawa Public Health Agency of Canada
		The International Longevity Centre (Rio de Janeiro, Brazil)	<ul style="list-style-type: none"> City of Ottawa The Council on Aging of Ottawa The International Longevity Centre
	N/A	Public Health Agency of Canada	Canadian Mortgage and Housing Corporation
China	Shanghai	Jing'an District Health Bureau Shanghai	
Costa Rica	San Jose	Hospital Nacional de Geriatria y Gerontología	Consejo Nacional de la Persona Adulta Mayor
France	Besancon	Ville et CCAS de Besancon	
Ireland	Dublin	Dublin Age Friendly City Programme City Council	Dublin City Council
		Ageing Well Network (representing Eastern Dublin)	
		Individual researcher** (representing North Eastern Dublin)	<ul style="list-style-type: none"> Dundalk Institute of Technology NUI Maynooth DCU
		Fingal Local Authority (representing Northern Dublin)	
	Kilkenny	Ageing Well Network	<ul style="list-style-type: none"> Local Government Health Service Executive Law Enforcement
Japan	Akita	City of Akita, Welfare and Health Department, Elderly Welfare Unit	
	N/A	Japan Gerontological Evaluation Study (JAGES)***	Centre for Wellbeing and Society, Nihon Fukushi University (JAGES Secretariat)
Kenya	Nairobi (Korogocho Slum)	African Population and Health Research Center	
Korea	Jeju	Jeju Development Institute	
	Seoul	Seoul Welfare Foundation	
Russia	Tuymazy	Organization of Retired Persons	
Spain	N/A	National Age-friendly City Programme	
Sri Lanka	Wellawaya	Uva Provincial Council	<ul style="list-style-type: none"> Ministry of Social Services Ministry of Health
	N/A	World Health Organization, Sri Lanka Country Office	<ul style="list-style-type: none"> Uva Provincial Council Ministry of Health Ministry of Social Services
United Kingdom	Sheffield	Sheffield City Council	
	Manchester	VOP, Public Health Manchester, Manchester City Council	<ul style="list-style-type: none"> University of Manchester UK Urban Ageing Consortium
United States of America	Bowling Green, Kentucky	City of Bowling Green	<ul style="list-style-type: none"> Western Kentucky University City of Bowling Green Neighborhood AARP Kentucky
	Portland, Oregon	Portland State University - Institute on Aging	<ul style="list-style-type: none"> City of Portland Bureau of Planning and Sustainability Multnomah County Aging and Disability Services Division Metro Portland's regional government
	N/A	American Association of Retired People	

*Key partnering institutions as mentioned by the survey respondent.

**Individual respondent's names are not revealed in order to protect their privacy.

***JAGES provided the collective response of a total of 38 local health officials representing 23 local city/prefectural governments from across Japan.

Annex 3: Indicators which consistently ranked within the top 50% of Overall, Technical and Practical score rankings based on sum and average scores, respectively

DOMAIN	SUM SCORE RANKING			AVERAGE SCORE RANKING				
	INDICATOR	OVERALL RANK	TECHNICAL RANK	PRACTICAL RANK	INDICATOR	OVERALL RANK	TECHNICAL RANK	PRACTICAL RANK
Outdoor Spaces and Buildings	Walkability	2	8	1				
	Neighbourhood safety	22	18	17				
	Accessibility of public toilets	6	18	9	Accessibility of public toilets	17	28	14
	Accessibility of public buildings	15	15	2				
Transportation	Frequency of public transportation use	9	6	13	Frequency of public transportation use	18	8	26
	Quality: Accessibility of buses for people with disabilities	8	9	7	Quality: Accessibility of buses for people with disabilities	6	4	10
					Quality: Accessibility of transportation stops from home	19	25	22
	Availability of priority parking areas	11	14	6	Availability of priority parking areas	11	21	11
Housing	Choice: Proportion of older residents by housing type	12	3	20				
	Policy exists to guide the planning of new housing construction that ensures accessibility	16	17	10				
Respect and Social Inclusion	Ageism: Older residents feeling alienated because of their age	13	5	19				
	Positive relations: Older residents' satisfaction with availability of opportunities to interact with younger people	20	19	14				
Civil Participation and Employment	Volunteering (A): Engagement in volunteer activities	1	4	4	Volunteering (A): Engagement in volunteer activities	2	2	9
	Volunteering (B): Older residents' satisfaction with availability of volunteer opportunities for older people	10	2	16	Volunteering (B): Older residents' satisfaction with availability of volunteer opportunities for older people	20	8	30
	Paid employment rate of older residents	4	1	18	Paid employment rate of older residents	9	1	28

DOMAIN	SUM SCORE RANKING			AVERAGE SCORE RANKING				
	INDICATOR	OVERALL RANK	TECHNICAL RANK	PRACTICAL RANK	INDICATOR	OVERALL RANK	TECHNICAL RANK	PRACTICAL RANK
Social Participation	Culture and Sports (A): Older residents' regular participation in sports activities	7	11	5	Culture and Sports (A): Older residents' regular participation in sports activities	3	7	6
					Culture and Sports (A): Older residents' regular participation in cultural and arts activities	25	29	21
	Older residents' frequency of participation in social activities	14	9	13	Older residents' frequency of participation in social activities	8	3	15
					Life-long learning: Older residents' enrolment in formal education	26	26	24
					Community Engagement: (A); # who have access from their home to a community centre	12	20	12
	Community Engagement (B): Older residents' satisfaction with availability of social gathering places	22	17	18				
Community and Health Services	Accessibility (A): Older residents' use of home-based care/assistance	18	9	19	Accessibility (A): Older residents' use of home-based care/assistance	12	9	18
					Health (B): Proportion of older residents with functional limitations	23	11	29
Health	Risk Factor: Proportion of older residents who engage in regular physical activity	20	17	15	Risk Factor: Proportion of older residents who engage in regular physical activity	15	14	19
Communication and Information	Local government publishes a leisure/recreation resource guide accessible and tailored to older people	14	17	8	Local government publishes a leisure/recreation resource guide accessible and tailored to older people	4	15	2
					Local government provides information about employment and volunteering opportunities for older people	7	23	7
	Local government provides information, accessible and tailored to older people, about health concerns and service needs	3	10	3	Local government provides information, accessible and tailored to older people, about health concerns and service needs	1	10	1
					Older residents' satisfaction with computer and internet access in public spaces	27	22	27

		SUM SCORE RANKING			AVERAGE SCORE RANKING			
DOMAIN	INDICATOR	OVERALL RANK	TECHNICAL RANK	PRACTICAL RANK	INDICATOR	OVERALL RANK	TECHNICAL RANK	PRACTICAL RANK
Governance	N/A				Resources: Proportion of local government spending on health	5	13	3

Note: The highlighted (shaded) indicators are those which consistently ranked within the top 50% of Overall, Technical and Practical score rankings based on *both* sum and average scores.