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HEALTH AND SCIENCE ON AGING

Building the Active Ageing Index with Italian sources

Technical report

Project: "National multilevel co-managed coordination of active ageing policies in Italy"

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INTRODUCTION

This technical report aims at providing the methodology for estimation of the Active Ageing Index (AAI[1]) with Italian national data sources. In order to measure the level of active ageing and degree of potential realization in all the 20 Italian regions, the data from Italian national surveys of the National Institute of Statistics (ISTAT) were used. The primary focus of the estimation was to reduce possible discrepancies of the Italian regional Index from the original UNECE Active Ageing Index.

Out of 22 indicators, 13 (from the sources SILC, LFS and mortality tables) were the same as the UNECE AAI[2]. The remaining nine were taken from the Italian ISTAT surveys Aspects of Daily Life (ADL), Family and Social Subjects (FSS), and European Health Interview Survey (EHIS) according to the recommendations of the Guidelines on the calculation of the AAI on a subnational level[3]. The differences and the potential consequences of the data source change are described in the following sections.

To grasp the trends in active ageing indicators, the estimation was provided for four different time points: 2007, 2009, 2012 and 2018. Since some of the surveys were not carried out in these years, in a few cases, the usage of data from other years (minimizing the time gap) was unavoidable, e.g. FSS survey has been conducted only in the years 2003, 2009 and 2016 (indicators 2.2, 2.3), EHIS was conducted in 2004/2005, 2013 and 2015 (indicator 4.3). The details are provided in the following sections. An exception concerns SILC 2018 data, as since 2015 the ISTAT did not release the variable concerning the Region (NUTS-2). Therefore, to develop the AAI for 2018, there was not an option different from using 2015 SILC data[4].

In the following sections, the AAI indicators are treated and explained sequentially. For each indicator, the analyses of the similarities and differences of the question wording and the underlying definition are provided, regarding the possible outcomes for the Index value and interpretation. The values of the indicators calculated along with the proposed methodology are compared with the original (UNECE) indicators, as well as with two other previous studies which applied the AAI in Italy, through Italian sources[5].

The comparison is based on the three following studies:

- Comparison with the UNECE original AAI (in the following: AAI-EU UNECE): AAI: Do it yourself[6],

[1] https://statswiki.unece.org/display/AAI/Active+Ageing+Index+Home

[2] https://statswiki.unece.org/display/AAI/IV.+Methodology

[3] UNECE / European Commission (2018) "Active Ageing Index (AAI) in non-EU countries and at subnational level: Guidelines", prepared by Maria Varlamova of the National Research University, Higher School of Economics (Moscow), under contract with United Nations Economic Commission for Europe (Geneva), co-funded by the European Commission's Directorate General for Employment, Social Affairs and Inclusion (Brussels).

[4] We contacted the ISTAT trying to obtain the SILC variable concerning the Region, for 2018. The ISTAT (rilasciomicrodati@istat.it) answered (13/07/2020) that for confidentiality reasons, in accordance with Eurostat rules, this was not possible. A possibility to analyse data by Region (i.e. by using that variable) for 2018, was to use the ISTAT ADELE Laboratory. Adele stands for Analisi dei Dati ELEmentari (elementary data analysis) and it is an ISTAT "safe" physical environment where under certain conditions (https://www.istat.it/it/dati-analisi-e-prodotti/microdati#adele) it is possible to use not publicly released data, after a positive evaluation (from ISTAT) of a specific application by a potential user, in this respect. However, we were informed (rilasciomicrodati@istat.it, the mentioned e-mail message of 13/07/2020) that when we needed it (July 2020), the ADELE Laboratory was not open to the public, probably due to Covid-19 issues. As an additional reason for which we decided not to use this Laboratory for having the variable "Regione" in the case of SILC 2018 data, these not released data could be only used in that ISTAT environment, while they could not be downloaded and used in another place. Under certain conditions (https://www.istat.it/it/files/2010/09/Regole-per-il-rilascio-ADELE.pdf) just the results of the elaborations carried out in ADELE, can be released. All this is very difficult to do when the aim is to build an index with 22 indicators from 5 different sources, and to carry out further studies based on that database. Thus, after an evaluation of the aspects just mentioned, we decided not to wait for a re-opening of ADELE, and to use 2015 SILC data in place of 2018 ones.

[5] https://statswiki.unece.org/display/AAI/V.+Documents+and+publications?preview=/76287849/260407736/AAI_Italy%20Final.pdf; and https://www.istat.it/it/files//2020/08/Invecchiamento-attivo-e-condizioni-di-vita-degli-anziani-in-Italia.pdf

[6] https://statswiki.unece.org/pages/viewpage.action?pageId=76287845

- Comparison with the AAI built for a UNECE study in Italy (in the following: AAI-IT UNECE): Principi, A., Tibaldi, M., Quattrociocchi, L., Checcucci, P. (2019)[7],
- Comparison with the AAI built from the ISTAT for a further study concerning Italy (in the following: AAI-IT ISTAT)[8].

AAI-IT UNECE measures AAI on the national level for four points in time between 2007 and 2016 for different population groups, based on sex, geographical macroarea, educational status, income, family context and type of locality. AAI-IT ISTAT aimed at ensuring the "robustness and replicablility" of the AAI on the regional level for 2007, 2012 and 2018. Indicators for both (as well as for the present study) were extracted from six national surveys: Labour Force Survey (LFS); Aspects of Daily Life (ADL); Family and Social Subjects (FSS); Statistics on Income and Living Conditions (SILC); Causes of Death (CoD); Health Conditions and Use of Health Services (HCUHS). Both studies state the deviation in results to be reduced to a minimum and do not in any way affect the analyzes conducted. The detailed overview of the robustness of this statement is provided further.

As a general point, we specify here that in cases when a certain indicator is built by using the same source and the same question the values obtained may differ slightly, which can be ascribed to procedures of applying weights and/or in processing missing values.

Concerning the AAI-EU UNECE study, years can be confusing, as the AAI-2018 is constructed mostly on 2016 data and AAI-2016 - on 2014 data. At the same time, e.g. in the second domain (i.e. Participation in society), both indices are based on EQLS-2016 study due to the frequency of its conduct. To remove possible difficulties in interpretation, the tables will indicate the year of the survey on which the indicator is estimated, except for domain values combining questions from different years - in this case; the year is indicated as the AAI-year minus two (e.g. for AAI-2018, the domain value would be marked as 2016).

[7] Principi, A., Tibaldi, M., Quattrociocchi, L., Checcucci, P. (2019). Criteria-specific analysis of the Active Ageing Index (AAI) in Italy. UNECE/European Commission (https://statswiki.unece.org/display/AAI/V.+Documents+and+publications?preview=/76287849/260407736/AAI_Italy%20Final.pdf).

[8] ISTAT (2020) Invecchiamento attivo e condizioni di vita degli anziani. ISTAT, Roma (https://www.istat.it/it/files//2020/08/Invecchiamento-attivo-e-condizioni-di-vita-degli-anziani-in-Italia.pdf)

EMPLOYMENT DOMAIN

All the indicators of this domain are estimated based on the same question of LFS by application corresponding age-group filters.

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Did you do any paid work in the 7 days ending Sunday the [date], either as an employee or as self-employed? **Yes**; No. Even though you were not doing paid work, did you have a job or business that you were away from in the week ending Sunday the [date] (and that you expect to return to)? **Yes**; No. (Labour Force Survey – LFS)			

Since indicators are the same, values across studies are expected to be the same in the corresponding years.

1.1 Employment rate 55-59

	2007	2009	2012	2018
AAI-EU UNECE	47.4 (2008)	52.7 (2010)	57.7	60.1 (2014) 62.2 (2016)
AAI-IT UNECE	46.0	50.6	57.7	62.2 (2016)
AAI-IT ISTAT	unavailable			
AAI-IT IRCCS INRCA	46.3	50.9	57.9	64.8

Data can be compared in 2007, 2009 and 2012 with the study AAI-IT UNECE. Values in our study (AAI-IT INRCA) are slightly higher

1.2 Employment rate 60-64

	2007	2009	2012	2018
AAI-EU UNECE	20.0 (2008)	20.4 (2010)	22.7	31.1 (2014) 36.9 (2016)
AAI-IT UNECE	19.4	20.2	22.7	36.9 (2016)
AAI-IT ISTAT	unavailable			
AAI-IT IRCCS INRCA	19.5	20.3	22.9	41.2

Data can be compared in 2007, 2009 and 2012 with the study AAI-IT UNECE. Values in our study (AAI-IT INRCA) are slightly higher.

1.3 Employment rate 65-69

	2007	2009	2012	2018
AAI-EU UNECE	7.6 (2008)	6.9 (2010)	7.9	8.3 (2014) 9.1 (2016)
AAI-IT UNECE	7.3	7.1	7.9	9.1 (2016)
AAI-IT ISTAT	unavailable			
AAI-IT IRCCS INRCA	7.3	7.2	8.0	12.3

Data can be compared in 2007, 2009 and 2012 with the study AAI-IT UNECE. Values in our study (AAI-IT INRCA) are slightly higher for 2009 and 2012.

1.4 Employment rate 70-74

	2007	2009	2012	2018
AAI-EU UNECE	3.2 (2008)	3.5 (2010)	3.5	3.9 (2014) 3.7 (2016)
AAI-IT UNECE	3.1	3.3	3.5	3.7 (2016)
AAI-IT ISTAT	unavailable			
AAI-IT IRCCS INRCA	3.1	3.3	3.5	4.1

Data can be compared in 2007, 2009 and 2012 with the study AAI-IT UNECE. Values in our study (AAI-IT INRCA) are identical.

DOMAIN EMPLOYMENT

	2007	2009	2012	2018
AAI-EU UNECE	19.6 (2008)	20.9 (2010)	23.0	25.9 (2014) 28.0 (2016)
AAI-IT UNECE	19.0	20.3	23.0	28.0 (2016)
AAI-IT ISTAT[9]	19.0	/	23.0	30.5
AAI-IT IRCCS INRCA	19.0	20.4	23.1	30.6

Values in our study (AAI-IT INRCA) are slightly higher for 2009, 2012 and 2018.

[9] This study provided mostly domain-specific scores, and did not report 2009 data.

PARTICIPATION IN SOCIETY DOMAIN

2.1 Voluntary activities

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
How often (55+) did you do unpaid voluntary work through the following organizations in the last 12 months? [list of organizations] **Every week**; Every month; Less often/ occasionally; Not at all. (European Quality of Life Survey - EQLS)	Did you (55+) do unpaid voluntary work for voluntary associations or groups in the last 12 months? **Yes**; No. (Aspects of Daily Life – ADL)	Same as AAI-IT UNECE	Same as AAI-IT UNECE

Differences from AAI-EU UNECE and probable consequences

1) AAI-EU UNECE considers volunteering "every week" while AAI-IT IRCCS INRCA considers volunteering in the last 12 months. This could imply an overestimation in the latter study.

2) The definition of AAI-IT INRCA also mentions "groups", this may also involve non-formal volunteering. This may imply an overestimation. However, in Italy non-formal groups of volunteering are not widespread, since non-formal volunteering is carried out mainly in the individual format.

3) AAI-EU UNECE mentions "organizations" while AAI-IT IRCCS INRCA "associations". This is not a substantial difference.

Due to the above, we could expect a higher value in AAI-IT IRCCS INRCA (compared to AAI-EU UNECE).

In the AAI-EU UNECE, the same values were used for AAI-2012 and AAI-2014, as well as AAI-2016 and AAI-2018, as EQLS is conducted once every four years only. In the tables, the actual years of the studies are shown to provide a comparison.

Since in all the Italian studies, indicators are the same, values in our study (AAI-IT INRCA) are close to other studies.

	2007	2009	2012	2018
AAI-EU UNECE	11.5	10.9 (2012)	10.9	5.8 (2016)
AAI-IT UNECE	7.8	8.5	8.6	9.6 (2016)
AAI-IT ISTAT	7.8	/	8.6	9.8
AAI-IT IRCCS INRCA	7.9	8.4	8.6	10.1

2.2 Care to children, grandchildren

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
In general, how often are you involved in any of the following activities outside of paid work? a. Caring for and/or educating your children b. Caring for and/or	Did you (55+) provide some of the following types of unpaid help to individuals (relatives and not) that do not live with you, in the last four weeks? (multi-response,	Same as AAI-IT UNECE (not specified in the methodology that the share is calculated on the total of 55+ who gave at least one help)	Did you provide some of the following types of unpaid help to individuals (relatives and not) that do not live with you, in the last four weeks? (multi-response, concerning 11 possible

educating your grandchildren (**Every day**; **Several days a week**; **Once or twice a week**; Less often; Never) Before 2016: In general, how often are you (55+) involved in any of the following activities outside of work? Caring for your children, grandchildren (**Every day**; **Several days a week**; **Once or twice a week**; Less often; Never) (European Quality of Life Survey - EQLS)	concerning 11 possible types of help): **care and assistance to children**. (Share calculated on the total of 55+ who gave at least one help) (Family and Social Subjects – FSS)		types of help): **care and assistance to children**. (Family and Social Subjects – FSS)

Differences from AAI-EU UNECE and probable consequences

1) AAI-EU UNECE considers care independent from the co-habitation status, while AAI-IT IRCCS INRCA considers only non-cohabiting care. This implies a considerable underestimation in AAI-IT IRCCS INRCA.

2) AAI-EU UNECE considers care "in general" provided once or twice a week or more often. In contrast, AAI-IT IRCCS INRCA considers care also provided possibly less frequently than once a week. This may imply an overestimation in AAI-IT IRCCS INRCA.

3) AAI-IT IRCCS INRCA only refers to the last four weeks (rather than in general as - AAI-EU UNECE), but this probably does not have a great impact in terms of an overestimation, since it is likely that people providing care during last four weeks may have also provided care every week.

In sum, it is not clear whether AAI-IT IRCCS INRCA underestimates or overestimates provided care compared to AAI-EU UNECE; however, most probably it underestimates the value due to point 1) above.

Differences from other AAI-IT studies and probable consequences

Other AAI-IT studies restrict the exploration to 55+ who reported giving at least one type of care among the 11 explored. At the same time, this restriction is not present in AAI-EU UNECE (i.e., this study includes also individuals who declared not providing any kind of help). For the comparability reasons, in AAI-IT IRCCS INRCA this restriction was also not adopted. This would mean that values in AAI-IT IRCCS INRCA will be lower than in the other AAI-IT studies.

	2007	2009	2012	2018
AAI-EU UNECE	25.6	53.3 (2012)	53.3	29.9 (2016)
AAI-IT UNECE	30.4 (2003)	31.4	31.4 (2009)	26.8 (2016)
AAI-IT ISTAT	30.4 (2003)	/	31.4 (2009)	26.8 (2016)
AAI-IT IRCCS INRCA	9.5 (2003)	11.7	11.7 (2009)	8.5 (2016)

As expected, values in AAI-IT IRCCS INRCA are lower than in the other AAI-IT studies.

2.3 Care to older adults

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
In general, how often are you involved in any of the following activities outside of paid work? d. Caring for disabled or infirm family members, neighbours or friends under 75 years old e. Caring for disabled or infirm family members, neighbours or friends aged 75 or over (**Every day**; **Several days a week**; **Once or twice a week**; Less often; Never) Before 2016: In general, how often are you (55+) involved in any of the following activities outside of work? Caring for elderly or disabled relatives (**Every day**; **Several days a week**; **Once or twice a week**; Less often; Never) (European Quality of Life Survey - EQLS)	Did you (55+) provide some of the following types of unpaid help to individuals (relatives and not) that do not live with you, in the last four weeks? (multi-response, concerning 11 possible types of help): **care and assistance to adult individual (help in washing, dressing, eating, etc.)**. (Share calculated on the total of 55+ who gave at least one help) (Family and Social Subjects – FSS)	Same as AAI-IT UNECE (not specified in the methodology that the share is calculated on the total of 55+ who gave at least one help)	Did you (55+) provide some of the following types of unpaid help to individuals (relatives and not) that do not live with you, in the last four weeks? (multi-response, concerning 11 possible types of help): **care and assistance to adult individual (help in washing, dressing, eating, etc.)**. (Family and Social Subjects – FSS)

Differences from AAI-EU UNECE, other AAI-IT studies and probable consequences

The differences and the consequences are identical to the 2.2 Care to children, grandchildren.

	2007	2009	2012	2018
AAI-EU UNECE	19.1	16.9 (2012)	16.9	18.0 (2016)
AAI-IT UNECE	11.5 (2003)	10.2	10.2 (2009)	13.2 (2016)
AAI-IT ISTAT	11.5 (2003)	/	10.2 (2009)	13.2 (2016)
AAI-IT IRCCS INRCA	4.3 (2003)	5.1	5.1 (2009)	7.8 (2016)

As expected, values in AAI-IT IRCCS INRCA are lower than in other AAI-IT studies.

2.4 Political participation

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Over the last 12 months, have you (55+)…? A) Attended a meeting of a trade union, a political party or political action group; or B) Attended a protest or demonstration; or C) Signed a petition, including an e-mail or on-line petition; or D) Contacted a politician or public official (other than routine contact arising from use of public services) **Yes**; No. (European Quality of Life Survey - EQLS)	Did you (55+) A) not included; B) Participate in a rally or a protest demonstration; C) not included; D) not included. Additional: or heard a political debate or did free activities for a party or a trade union, in the last 12 months? **Yes**; No. (Aspects of Daily Life - ADL)	Did you (55+) A) participate in meetings of a trade union, political party; B) or in a rally or a protest demonstration, C) not included; D) not included. Additional: or did free activity for a trade union or a political party, in the last 12 months? **Yes**; No. (Aspects of Daily Life - ADL)	Did you (55+) A) participate in meetings of a trade union, political party, ecological associations, for civil rights or for peace; B) or in a rally or a protest demonstration, C) not included; D) not included; in the last 12 months? **Yes**; No. (Aspects of Daily Life - ADL)

Differences from AAI-EU UNECE and probable consequences

Parts A) and B) of the question are adequately replicated by AAI-IT INRCA (with the small difference of "ecological associations, for civil rights or for peace" which are considered "political action groups"). Aspects C) and D) are missing. This would imply an underestimation in AAI-IT INRCA. It was chosen not to include additional elements in substitution of aspects C) and D) since this would have indicated a conceptual shift from AAI-EU UNECE.

Differences from other AAI-IT studies and probable consequences

AAI-IT UNECE did not consider part A) and included as additional items (not contemplated in AAI-EU UNECE) "heard a political debate" or "did free activities for a party or a trade union". The first aspect implies an underestimation compared to AAI-IT IRCCS INRCA, while the latter - an overestimation.

AAI-IT ISTAT in part A) did not consider "political action groups", and included as additional items (not contemplated in AAI-EU UNECE) "did free activity for a trade union or a political party". The first aspect implies an underestimation compared to AAI-IT IRCCS INRCA, while the latter an overestimation.

	2007	2009	2012	2018
AAI-EU UNECE	14.7	13.6 (2012)	13.6	15.1 (2016)
AAI-IT UNECE	24.0	23.8	21.4	21.5 (2016)
AAI-IT ISTAT	10.0	/	9.5	9.3
AAI-IT IRCCS INRCA	11.0	11.6	9.9	10.9

Values of AAI-IT UNECE are very high due to the inclusion of the additional aspects (especially the case for "heard a political debate", that you can do from home, e.g. watching the TV). The values of the other two studies (ISTAT and IRCCS INRCA) are quite similar. However, the consideration of "political action groups" in AAI-IT IRCCS INRCA, seems to overweight the additional aspect included in AAI-IT ISTAT "did free activity for a trade union or a political party".

DOMAIN PARTICIPATION IN SOCIETY

Since the domain contains survey questions from different years, it is not possible to unambiguously determine the year the value for the entire domain. The following information should be taken with these limitations in mind.

	2007	2009	2012	2018
AAI-EU UNECE	17.9 (2008)	23.9 (2010)	24.1	17.3 (2014) 17.3 (2016)
AAI-IT UNECE	17.8	17.8	17.3	17.4 (2016)
AAI-IT ISTAT	15.0	/	15.0	15.0
AAI-IT IRCCS INRCA	7.8	8.9	8.6	9.2

Not surprisingly, in AAI-IT IRCCS INRCA the values seem to be lower than in AAI-EU UNECE (comparing 2016 data of AAI-EU UNECE with 2018 data of AAI-IT IRCCS INRCA), especially due to the underestimations described in point 1 above regarding indicators 2.2 and 2.3. Additionally, in AAI-IT IRCCS INRCA, the values are lower than in the other AAI-IT studies, due to different choices (described above) in the indicators 2.2, 2.3 and 2.4.

INDEPENDENT LIVING DOMAIN

3.1 Physical exercise

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
How frequently do you (55+) do each of the following? **c. Take part in sports or physical exercise.** **Every day or almost every day** (European Quality of Life Survey - EQLS)	Do you (55+) practice one or more type of sports continuously or occasionally, or do you do physical activity (e.g. walking at least two kilometres, swimming, cycling, or other) one or more time a week? **Yes**; No. (Aspects of Daily Life - ADL)	Do you (55+) practice one or more type of sports continuously? **Yes**; No. (Aspects of Daily Life - ADL)	Do you (55+) practice one or more type of sports continuously, or do you do physical activity (e.g. walking at least two kilometres, swimming, cycling, or other) one or more time a week? **Yes**; No. (Aspects of Daily Life - ADL)

Differences from AAI-EU UNECE and probable consequences

Although AAI-IT IRCCS INRCA considers both sports and physical activity as AAI-EU UNECE, in the former, there is no possibility to identify the frequency. While "sports continuously" (AAI-IT IRCCS INRCA) may be compared with "sports almost every day" (AAI-EU UNECE), "physical activity once a week" (AAI-IT IRCCS INRCA) overestimates the indicator's value compared to "physical activity almost every day" (AAI-EU UNECE).

Differences from other AAI-IT studies and probable consequences

AAI-IT UNECE considers occasional sports. Occasional sports are not considered by AAI-EU UNECE and lead to significant overestimation.

AAI-IT ISTAT does not consider occasional sports; however, it neither considers physical activity (compared to AAI-EU UNECE and AAI-IT IRCSS INRCA), and this implies an underestimation in this study.

	2007	2009	2012	2018
AAI-EU UNECE	5.4	5.4 (2012)	5.4	4.3 (2016)
AAI-IT UNECE	35.0	35.0	36.0	36.8 (2016)
AAI-IT ISTAT	/	/	/	11.7
AAI-IT IRCCS INRCA	29.9	29.8	31.2	29.8

The expected overestimation in AAI-IT IRCSS INRCA compared to AAI-EU UNECE is visible.

As also expected, by comparing the values of the corresponding years, the overestimation of AAI-IT UNECE and the underestimation of AAI-IT ISTAT compared to AAI-IT IRCSS INRCA is obvious.

3.2 Access to health services

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
The indicator refers to respondents (55+) who say that there was no occasion when the person really needed medical or dental examination or treatment but was not able to receive it. (EU-SILC)			

Since indicators are the same, values across studies should be identical in the corresponding years.

It has to be noted that, for a reason mentioned in the Introduction, in AAI-IT IRCCS INRCA, we used 2015 data in replacement of 2018 data. For the study AAI-IT ISTAT, 2018 data were available, by Region.

	2007	2009	2012	2018
AAI-EU UNECE	84.5 (2008)	85.5 (2010)	86.7	89.4 (2014) 82.0(2016)
AAI-IT UNECE	86.1	85.4	82.6	83.3 (2016)
AAI-IT ISTAT	/	/	/	91.3
AAI-IT IRCCS INRCA	86.0	85.3	86.7	84.6 (2015)

Values in our study (AAI-IT IRCCS INRCA) are very close to AAI-IT UNECE in 2007 and 2009, and to AAI-EU UNECE in 2012.

3.3 Independent living

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Percentage of people aged 75 and over who live in a single-person household or who live as a couple (2 adults with no dependent children). (EU-SILC)			

The note for 3.2 Access to health services is fully applicable here.

	2007	2009	2012	2018
AAI-EU UNECE	81.3 (2008)	82.0 (2010)	83.1	84.3 (2014) 84.4(2016)
AAI-IT UNECE	72.4	72.8	74.4	75.1 (2016)
AAI-IT ISTAT	/	/	/	85.3
AAI-IT IRCCS INRCA	82.4	81.8	83.1	84.6 (2015)

In 2012 values in our study (AAI-IT IRCCS INRCA) are the same as AAI-EU UNECE. In general, our results are aligned to AAI-EU UNECE (while they are higher than in AAI-IT UNECE).

3.4 Relative median income

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
The relative median income ratio is defined as the ratio of the median equivalised disposable income of people aged 65 and over to the median equivalised disposable income of those aged below 65. Household disposable income is established by summing up all monetary incomes received from any source by each member of the household (including income from work, investment and social benefits) – plus income received at the household level – and deducting taxes and social contributions paid. In order to reflect differences in household size and composition, this total is divided by the number of 'equivalent adults' using a standard (equivalence) scale, the so-called 'modified OECD' scale, which attributes a weight of 1 to the first adult in the household, a weight of 0.5 to each subsequent member of the household aged 14 and over, and a weight of 0.3 to household members aged less than 14. The resulting figure is called equivalised disposable income and is attributed to each member of the household. (EU-SILC)			

Since indicators are the same, values across studies should be identical in the corresponding years.

It has to be noted that, for a reason mentioned in the Introduction, in AAI-IT IRCCS INRCA, we used 2015 data in replacement of 2018 data. For the study AAI-IT ISTAT, 2018 data were available, by Region.

	2007	2009	2012	2018
AAI-EU UNECE	88.0 (2008)	91.7 (2010)	95.7	98.9 (2014) 100.0(2016)
AAI-IT UNECE	85.6	89.3	95.7	101.3 (2016)
AAI-IT ISTAT	/	/	/	101.2
AAI-IT IRCCS INRCA	85.4	88.4	94.4	99.9 (2015)

Although a bit lower, values in our study (AAI-IT IRCCS INRCA) are very close to those of other studies. Differences from AAI-EU UNECE could also be due to the sensitivity of the information. The variable HX090 (equivalised disposable household income) and/or the variables it is calculated from are anonymized at the national level (and so top-coded/perturbed/rounded). In contrast, in the study AAI-EU UNECE, the indicator was calculated from the exact data.

3.5 No poverty risk

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Percentage of people aged 65 and over who are not at risk of poverty (people at risk of poverty are defined as those with an equivalised disposable income after social transfers below the at-risk-of-poverty threshold, which is set at 50% of the national median equivalised disposable income after social transfers). (EU-SILC)			

Notes from 3.4 Relative median income on data availability and discrepancies are fully applicable here.

	2007	2009	2012	2018
AAI-EU UNECE	88.5 (2008)	92.1 (2010)	93.1	93.9 (2014) 92.5(2016)
AAI-IT UNECE	87.7	89.7	93.1	92.5 (2016)
AAI-IT ISTAT	/	/	/	92.4
AAI-IT IRCCS INRCA	86.5	88.4	90.4	89.9 (2015)

3.6 No material deprivation

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Data on the material items mentioned in the following is collected using a direct question at the household level. Severe material deprivation refers to a state of economic and durable strain of individuals 65+, defined as the enforced inability (rather than the choice not to do so) to afford at least four out of the following nine items: 1) to pay their (a) rent, (b) mortgage or (c) utility bills; 2) to keep their home adequately warm; 3) to face unexpected expenses; 4) to eat meat or proteins regularly; 5) to go on holiday; 6) a television set; 7) a washing machine;8) a car; 9) a telephone. (EU-SILC)			

Notes from 3.4 Relative median income on data availability are fully applicable here.

	2007	2009	2012	2018
AAI-EU UNECE	93.3 (2008)	93.7 (2010)	87.3	91.2 (2014) 88.9(2016)
AAI-IT UNECE	93.5	94.1	87.3	88.9 (2016)
AAI-IT ISTAT	/	/	/	92.8
AAI-IT IRCCS INRCA	93.5	94.1	87.3	91.8 (2015)

Values in our study (AAI-IT IRCCS INRCA) are equal to those of other studies, in the same years.

3.7 Physical safety

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
'How safe do you (55+) – or would you - feel walking alone in this area (Respondent's local area or neighbourhood) after dark? Do – or would – you feel' **Very safe; Safe**. (European Social Survey - ESS)	Does the living area of your family have crime risks? **Few; Not at all; Do not know.** (Aspects of Daily Life - ADL)	Does the living area of your family have crime risks? **Not at all.** (Aspects of Daily Life - ADL)	Does the living area of your family have crime risks? **Few; Not at all.** (Aspects of Daily Life - ADL)

Differences from AAI-EU UNECE and probable consequences

There are considerable differences since although both questions concern perceptions about the residential area, AAI-EU UNECE explores the sense of security when it is dark, while AAI-IT IRCCS INRCA the crime risk. They are evidently different issues; however, it is not possible to find a more accurate indicator.

The major issue concerning this indicator, is that in the ADL 2009, 2012 and 2018 surveys, the questionnaires included the question: "How safe you feel walking alone down the street in your living area after dark?", which is very similar if not equal to the AAI-EU UNECE question. However, the ISTAT released data for that variable only in 2012. ISTAT formulated the reason as follows: "The variables which are not present in the file, are not released variables because they are not valid. We invite users to refer to the attached metadata, while not to the questionnaires".

Differences from other AAI-IT studies and probable consequences

In the three AAI-IT studies, the definition is very similar, but there are differences in the choice of the answer categories. AAI-EU IRCCS INRCA includes "Not at all" and "Few", however, did not include "Do not know" as it did AAI-IT UNECE. AAI-IT ISTAT defined this indicator, including just "Not at all".

	2007	2009	2012	2018
AAI-EU UNECE	65.6 (2004)	65.6 (2004)	65.9	57.3(2016)
AAI-IT UNECE	64.2	70.0	72.6	59.0 (2016)
AAI-IT ISTAT	/	/	/	66.1
AAI-IT IRCCS INRCA	66.1	70.8	72.5	69.4

The use of a different question in AAI-IT studies seems to have led to an overestimation, concerning AAI-EU UNECE. However, the use of 2004 wave for calculation of the AAI-EU UNECE stifles comparison.

Values in our study (AAI-IT IRCCS INRCA) are very close to those of other AAI-IT studies.

We also attempted to consider the answer category "Not at all", and we obtained results much lower (about 30%). Thus we can hypothesize that in AAI-IT ISTAT for 2018 the category "few" was also considered, despite a different definition provided in this study.

3.8 Lifelong learning

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Did you attend any courses, seminars, conferences, or received private lessons or instructions within or outside the regular education system within the last 4 weeks? **Yes**; No (Labour Force Survey – LFS)			

Since indicators are the same, values across studies should be the same in the same years.

	2007	2009	2012	2018
AAI-EU UNECE	1.6 (2008)	1.9 (2010)	2.3	3.3 (2014) 3.8 (2016)
AAI-IT UNECE	1.5	1.7	2.3	3.8 (2016)
AAI-IT ISTAT	/	/	/	3.6
AAI-IT IRCCS INRCA	1.5	1.7	2.3	3.5

Values in our study (AAI-IT IRCCS INRCA) are the same or very close to those of the other studies.

DOMAIN INDEPENDENT LIVING

Along with the previous domain, since the domain value consists of indicators estimated on survey questions from different years, it is not possible to unambiguously determine the year of the entire domain. The following information should be taken with these limitations in mind.

	2007	2009	2012	2018
AAI-EU UNECE	67.4 (2008)	68.5 (2010)	68.9	70.5 (2014) 68.0 (2016)
AAI-IT UNECE	68.4	69.6	70.1	69.9 (2016)
AAI-IT ISTAT	67.4	/	68.8	72.1
AAI-IT IRCCS INRCA	70.0	70.7	71.8	72.3

Due to the changes described above concerning the indicators of the third AAI domain, the results obtained by our AAI-IT IRCSS INRCA study are a bit higher than in the other AAI-IT studies and AAI-EU UNECE (the latter, probably due to the amendment of 3.1, which concerned an overestimation).

CAPACITY FOR ACTIVE AGEING DOMAIN

4.1 Remaining life expectancy at age 55

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Remaining life expectancy (RLE) at 55 divided by 50 to calculate the proportion of life expectancy achievement in the target of 105 years of life expectancy. (Mortality Tables)			

Since indicators are the same, values across studies should be the same in the same years.

	2007	2009	2012	2018
AAI-EU UNECE	57.2 (2008)	58.2 (2010)	58.2	59.8 (2014) 60.0 (2016)
AAI-IT UNECE	56.4	56.7	57.5	58.9 (2016)
AAI-IT ISTAT	/	/	/	59.3
AAI-IT IRCCS INRCA	56.4	56.7	57.5	59.3

Values in our study (AAI-IT IRCCS INRCA) are identical to those obtained in other AAI-IT studies. The small difference with respect to the 2012 value of the study AAI-EU UNECE may be due to the fact that the latter are based on five-year life tables while in AAI-IT study they are based on simple age.

4.2 Share of healthy life expectancy at age 55

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
The indicator is calculated applying the Sullivan method based on the life tables and an indicator of self-perceived long-standing limitations in usual activities due to health problem. The indicator is: Limitation in activities because of health problems [General activity limitation: Limitation in activities people usually do because of health problems for at least the past six months]. **Yes, strongly limited; Yes, limited**. (Mortality Tables and EU-SILC)			

Since indicators are the same, values across studies are expected to be the same in the years 2007, 2009 and 2012. For 2018 we were forced to use SILC 2015 data for a reason explained above. For unity, we also used 2015 Mortality Tables to obtain the indicator for 2018.

It has to be noted that, for the study AAI-IT ISTAT, 2018 SILC data were available by Region.

	2007	2009	2012	2018
AAI-EU UNECE	46.4(2008)	58.2 (2010)	45.5	45.8(2014) 57.0 (2016)
AAI-IT UNECE	47.6	46.6	43.6	56.0 (2016)
AAI-IT ISTAT	/	/	/	54.8
AAI-IT IRCCS INRCA	56.4	56.7	57.5	59.3 (2015)

The values obtained in our AAI-IT IRCCS INRCA study are a bit higher compared to those obtained in the other studies, the trend is similar to that obtained in the AAI-IT UNECE study.

4.3 Mental wellbeing

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
Over the last two weeks (55+): 1 - I have felt cheerful and in good spirits 2 - I have felt calm and relaxed 3 - I have felt active and vigorous 4 - I woke up feeling fresh and rested 5 - My daily life has been filled with things that interest me Response categories of each of these five survey questions are: 1. All of the time 2. Most of the time 3. More than half of the time 4. Less than half of the time 5. Some of the time 6. At no time The raw score is calculated by reversing the value order of the variable, and then totalling the figures of the five answers. The raw score converted so as to range from 0 to 25, 0 representing worst possible and 25 representing best possible quality of life. According to WHO, a raw score below 13 indicates poor wellbeing and is an indication for testing for depression under the Major Depression (ICD-10) Inventory. (European Quality of Life Survey - EQLS and WHO's ICD-10 measurement model)	In the last 4 weeks you (55+) felt: 1) happy 2) calm and/or peaceful 3) very agitated (scale reversed) 4) very down to earth (scale reversed) 5) discouraged and sad (scale reversed) Response categories of each of these five survey questions are: 1. Always = 5 2. Almost always = 4 3. A lot of time = 3 4. Some of the time = 2 5. Almost never = 1 6. Never = 0 The range is from 0 to 25, 0 representing worst possible and 25 representing best possible quality of life, and it has been converted to range from 0 to 100. (European Health Interview Survey - EHIS, from the SF36 questionnaire - Mental Health)	Currently, how satisfied you (55+) are with your life as a whole? (Scale 0 to 10, selected 8+) (Aspects of Daily Life - ADL)	In the last 4 weeks you (55+) felt: In the last 4 weeks you (55+) felt: 1) happy 2) calm and/or peaceful 3) full of energy 4) very down to earth (scale reversed) 5) discouraged and sad (scale reversed) Response categories of each of these five survey questions are: 1. Always = 5 2. Almost always = 4 3. A lot of time = 3 4. Some of the time = 2 5. Almost never = 1 6. Never = 0 The range is from 0 to 25, 0 representing worst possible and 25 representing best possible quality of life, and it has been converted to range from 0 to 100. (European Health Interview Survey - EHIS, from the SF36 questionnaire - Mental Health)

Differences from AAI-EU UNECE and probable consequences

1) AAI-EU UNECE variable is derived using WHO's ICD-10 measurement. In contrast, the variable of AAI-IT IRCCS INRCA is derived using SF36 (Short Form Health Survey) measurement, selecting five items similar to those used in AAI-EU UNECE. Three items are similar. Two items state exactly (as much as possible) the contrary of the two items of AAI-EU UNECE, and the scale was reversed.

2) AAI-EU UNECE measures "over the last two weeks" while AAI-IT IRCCS INRCA "over the last four weeks", thus implying a possible difference between the two studies.

Differences from other AAI-IT studies and probable consequences

The study AAI-IT UNECE did almost the same things as our study AAI-IT IRCCS INRCA, with the only difference of item 3 of the original AAI-EU UNECE (I have felt active and vigorous), AAI-IT UNECE used "very agitated" with the scale reversed, while in AAI-IT IRCCS INRCA it was preferred "full of energy" that is closer to the AAI-EU UNECE item.

Instead, AAI-IT ISTAT made a completely different choice regarding this indicator, which conceptually is quite far from AAI-EU UNECE.

	2007	2009	2012	2018
AAI-EU UNECE	63.1	73.6 (2012)	73.6	64.8 (2016)
AAI-IT UNECE	65.7 (2004-2005)	65.7 (2004-2005)	65.1 (2013)	65.1 (2013)
AAI-IT ISTAT	/	/	/	38.6
AAI-IT IRCCS INRCA	71.0 (2004-2005)	71.0 (2004-2005)	69.6 (2013)	69.6 (2013)*

* EHIS was carried out also in 2015, and the questions concerned were included in the questionnaire. There was however the following double problem: 1) the variables concerned have not been released by the ISTAT; 2) even in case they were, the variable Region was not released by the ISTAT. For this reason, in the AAI-IT IRCCS INRCA study we were forced to use 2013 data for 2018.

Due to the mentioned difference from AAI-IT UNECE, values in AAI-IT IRCCS INRCA are slightly higher.

4.4 Use of ICT

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
How often on average have you (55-74) used Internet in the last 3 months? **Every day or almost every day**; **At least once a week (but not every day)** (Eurostat ICT survey)	How often on average have you (55-74) used Internet in the last 3 months? **Every day; Almost every day**; **Once a week** (Aspects of Daily Life - ADL)	Same as AAI-IT UNECE	How often on average have you (55-74) used Internet in the last 12 months (3 months in 2007)? **Every day; Almost every day**; **Once a week** (Aspects of Daily Life - ADL)

Differences from AAI-EU UNECE and probable consequences

In AAI-EU UNECE the use of the Internet is investigated in the last three months, while in AAI-IT IRCCS INRCA in the previous 12 months. We checked that this does not overestimate the value, most probably since people using the Internet once a week would be the same both when investigating the last three months and the previous 12 months.

It has to be said that in our AAI-IT IRCCS INRCA study we made a specific choice here. The reason is that in 2007 the use of the Internet was investigated just in the "last three months", while in 2009, 2012 and 2018 both "in the last three months" and "in the last 12 months". However, for 2018 the variable concerned the use of the Internet "in the last three months" was not released by the ISTAT.

So we had two possible options: 1) to use the variable concerning the use of the Internet "in the last three months" for 2007, 2009 and 2012 and to repeat the latter also for 2018, so renouncing at grasping the trend between 2012 and 2018, or 2) to do what we have done, since we think that having the trend between 2009 and 2012 is important, giving the acceleration of the Internet use among older people.

Differences from other AAI-IT studies and probable consequences

No particular differences other than the investigation "in the last 12 months" (AAI-IT IRCCS INRCA) and "in the last 3 months" (other studies). It has to be noted that in 2018 the variable that ISTAT did not release to the public, was available for the study AAI-IT ISTAT.

	2007	2009	2012	2018
AAI-EU UNECE	13.0 (2008)	20.0 (2010)	24.0	32.0 (2014) 40.0 (2016)
AAI-IT UNECE	11.1	15.6	24.2	39.9 (2016)
AAI-IT ISTAT	/	/	/	48.3
AAI-IT IRCCS INRCA	10.1	15.1	23.0	53.1

Values in our study (AAI-IT IRCCS INRCA) are very close to those of the other AAI-IT studies.

4.5 Social connectedness

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	Same as AAI-IT UNECE
How often socially (55+) meet with friends, relatives or colleagues? **Once a week; several times a week; every day.** (European Social Survey - ESS)	How often you (55+) meet friends in your free time? **Every day; more than once a week; once a week.** (Aspects of Daily Life - ADL)	Same as AAI-IT UNECE	Same as AAI-IT UNECE

Differences from AAI-EU UNECE and probable consequences

AAI-EU UNECE beyond friends also considers meeting "relatives and colleagues". This may imply an underestimation in AAI-IT IRCCS INRCA (and others AAI-IT) studies.

Since across AAI-IT studies, indicators are the same, values across AAI-IT studies should be similar in the corresponding years.

	2007	2009	2012	2018
AAI-EU UNECE	59.1 (2004)	59.1 (2004)	59.4	48.3(2016)
AAI-IT UNECE	59.5	58.4	56.3	53.8 (2016)
AAI-IT ISTAT	/	/	/	52.1
AAI-IT IRCCS INRCA	61.0	60.4	57.7	53.1

Although a bit higher, values in our study (AAI-IT IRCCS INRCA) are very close to those of other AAI-IT studies.

4.6 Educational attainment

AAI-EU UNECE	AAI-IT UNECE	AAI-IT ISTAT	AAI-IT IRCCS INRCA
The indicator measures relatively high levels of education. Highest ISCED level attained (55-74)? 0 pre-primary, 1 primary, 2 lower secondary, **3 (upper) secondary,**			

4 post-secondary non-tertiary, **5+ tertiary** (Labour Force Survey - LFS)

Since indicators are the same, values across studies should be identical in the corresponding years.

	2007	2009	2012	2018
AAI-EU UNECE	27.8 (2008)	30.6 (2010)	34.4	37.7 (2014) 40.5 (2016)
AAI-IT UNECE	26.4	29.0	34.4	40.5 (2016)
AAI-IT ISTAT	/	/	/	43.4
AAI-IT IRCCS INRCA	26.4	29.0	34.2	43.2

Values in our study (AAI-IT IRCCS INRCA) are very close to those of other AAI-IT studies.

DOMAIN CAPACITY FOR ACTIVE AGEING

The note concerning years of the domain values written for the previous two domains is fully applicable here.

	2007	2009	2012	2018
AAI-EU UNECE	51.0 (2008)	56.5 (2010)	54.1	54.0 (2014) 55.9 (2016)
AAI-IT UNECE	51.3	51.5	51.6	56.1 (2016)
AAI-IT ISTAT	47.3	/	46.5	52.1
AAI-IT IRCCS INRCA	56.4	53.2	51.3	55.9

OVERALL AAI

	2007	2009	2012	2018
AAI-EU UNECE	30.1 (2008)	33.8 (2010)	34.1	33.0 (2014) 33.8 (2016)
AAI-IT UNECE	30.0	30.6	31.4	34.1 (2016)
AAI-IT ISTAT	28.1	/	29.5	33.6
AAI-IT IRCCS INRCA	27.0	28.0	28.9	32.3

In all, overall scores in our AAI-IT IRCCS INRCA study are slightly different (lower) than those of other studies. This would be due to the differences mentioned above and particularly our choice concerning indicators 2.2 and 2.3, which have the explicit weight of 25% each in the relevant domain.

BUILDING OTHER VARIABLES TO BE USED IN THE AAI-IT IRCCS-INRCA STUDY

The main interest of the study is to calculate the AAI by regions. Additionally, we also explored AAI values by gender and educational level. These three variables were present in all the microdata we used to calculate the AAI. While no additional re-coding was needed in the case of the variable gender, the following paragraphs explain how we worked on the variables "region" and "educational level".

REGION

The 20 Italian Regions are: Piemonte, Valle d' Aosta, Lombardia, Trentino Alto-Adige, Veneto, Friuli Venezia Giulia, Liguria, Emilia Romagna, Toscana, Umbria, Marche, Lazio, Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, Sardegna.

Trentino Alto Adige is formed by two Autonomous Provinces: Bolzano (Alto Adige) and Trento (Trentino), so the maximum possible level of detail could have been reached by splitting "Trentino Alto Adige", in "Bolzano" and "Trento". Unfortunately, this was not possible since the ISTAT did not release microdata for Bolzano and Trento in the surveys: Aspects of Daily Life – ADL; Family and Social Subject – FSS (years 2009 and 2012); Labour Force Survey – LFS. For this reason, we did not investigate Bolzano and Trento separately.

Valle d'Aosta is the smallest Italian Region, and in some cases the ISTAT did not release microdata for Valle d'Aosta. In these cases, data about Valle d'Aosta were merged by the ISTAT with data about Piemonte, through the variable "Piemonte/Valle d'Aosta". This concerned the following surveys: ADL (2007, 2009, 2012); FSS (2009, 2012); LFS (2007; 2009; 2012). For this reason, Piemonte and Valle d'Aosta are investigated jointly, in this study. Consequently the variable Region included the following 19 modalities: Piemonte/Valle d'Aosta, Lombardia, Trentino Alto-Adige, Veneto, Friuli Venezia Giulia, Liguria, Emilia Romagna, Toscana, Umbria, Marche, Lazio, Abruzzo, Molise, Campania, Puglia, Basilicata, Calabria, Sicilia, Sardegna.

It has to be noted, that in the study AAI-IT ISTAT, the variable Region was available in all the 21 modalities (including Trento and Bolzano), despite this was not possible to users of ISTAT microdata.

EDUCATIONAL LEVEL

We distinguished three levels of educational attainment: Low (ISCED 0-2); Intermediate (ISCED 3-4); High (5+). Since the available data from the Mortality Tables did not include the educational level, the breakdown by educational level was not possible for indicators 4.1 and 4.2.

CONCLUSIONS

The AAI-IT IRCCS INRCA study asserted the feasibility to calculate to a large degree accurate version of the AAI for the Italian regions over time. In this work, the aim was set to maximize equality with AAI-EU UNECE. Certain indicators (and domains) values showed a high degree of similarity; however, the primary concern was to ensure the identity or best achievable similarly to the definitions and concepts, used by AAI-EU UNECE, even if it leads to high discrepancies on the value level, as it happened in indicators 2.2 and 2.3.

Although we did the best possible work (in terms of closeness to the AAI-EU UNECE), data unavailability, as anticipated, appeared to be a significant challenge. In particular:

The variable "Region" tend not to be released any more by the National Institute of Statistics (ISTAT) for microdata users, including the research community (see the note above concerning the surveys SILC and EHIS). The absence of the variable jeopardizes continuation of the study of active ageing trends in Italian regions. Action at the policy level is strongly required to allow the researcher to analyze the regional data of the national surveys. The answer ISTAT gave ("for confidentiality reasons, in accordance with Eurostat rules, this was not possible") is not justified enough. Further details are needed to understand how such a variable as "region" could be a matter of confidentiality in large samples employed in ISTAT surveys. The SILC survey in Italy, e.g. investigates 26.000 individuals. De facto, it prevents the research community from carrying out analyses by using data that should be open access or made publicly available.

Another aspect concerned non-valid data (e.g. too small numbers: questions were in the questionnaires, but data for these questions was not released). This influenced, for example, indicator 3.7: there was a question very similar if not equal to the AAI-EU UNECE question; however, the ISTAT released required data only for 2012. This also concerned indicator 4.4: for 2018, the variable on the use of the Internet "in the last three months" was not released by the ISTAT. The surveys ADL, FSS and LFS, for most of the considered years, did not release separate data for Valle d'Aosta, Trento and Bolzano. Again, as in the case of data unavailability due to confidentiality reasons, it is not clear why, except for indicator 3.7, these data were not valid for ISTAT users of microdata, while the same data were valid for the ISTAT itself (see AAI-IT ISTAT)[10].

Internet site: http://invecchiamentoattivo.gov.it

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[10] https://www.istat.it/it/files//2020/08/Invecchiamento-attivo-e-condizioni-di-vita-degli-anziani-in-Italia.pdf