

Theme	Country	Reference	Clipped "Quote"
DALYs & Nuero disease, general	Global	GBD 2016 Neurology Collaborators. Global, regional, and national burden of neurological disorders, 1990-2016: a systematic analysis for the Global Burden of Disease Study 2016. <i>Lancet Neurol.</i> 2019 May;18(5):459-480. doi: 10.1016/S1474-4422(18)30499-X. Epub 2019 Mar 14. PMID: 30879893; PMCID: PMC6459001.	The four largest contributors of neurological DALYs were stroke (42.2% [38.6–46.1]), migraine (16.3% [11.7–20.8]), Alzheimer's and other dementias (10.4% [9.0–12.1]), and meningitis (7.9% [6.6–10.4]). For the combined neurological disorders, age-standardised DALY rates were significantly higher in males than in females (male-to-female ratio 1:12 [1.05–1.20]),
General, dementia , lifestyle	日本	Chen F, Yoshida H. Lifestyle habits and the risk factors of dementia: Evidence from Japan. <i>Geriatr Gerontol Int.</i> 2021 Feb;21(2):203-208. doi: 10.1111/ggi.14116. Epub 2020 Dec 15. PMID: 33325103.	
dementia	International	World Health Organization. Dementia. https://www.who.int/news-room/fact-sheets/detail/dementia . Updated 2021. Accessed 12/7, 2021.	Currently more than 55 million people live with dementia worldwide, and there are nearly 10 million new cases every year. Dementia is currently the seventh leading cause of death among all diseases and one of the major causes of disability and dependency among older people globally. Dementia has physical, psychological, social and economic impacts, not only for people living with dementia, but also for their carers, families and society at large.
dementia	International	World Health Organization. Global action plan on the public health response to dementia 2017-2025. Geneva, Switzerland.; 2017. https://www.who.int/publications/i/item/global-action-plan-on-the-public-health-response-to-dementia-2017--2025 .	More details regarding dementia
LE and years lived without and with dementia	Netherlands	Wolters FJ, Tinga LM, Dhana K, Koudstaal PJ, Hofman A, Bos D, Franco OH, Ikram MA. Life Expectancy With and Without Dementia: A Population-Based Study of Dementia Burden and Preventive Potential. <i>Am J Epidemiol.</i> 2019 Feb 1;188(2):372-381. doi: 10.1093/aje/kwy234. PMID: 30299452.	<ul style="list-style-type: none"> • 48 million people worldwide live with dementia, and due to rapidly aging populations this number is expected to rise to 131 million by 2050 • To better allow health-care policy to adapt to these challenges, understanding the disease burden in terms of years lived with disability and healthy life years lost is paramount • Consequently, life expectancy without and with dementia has been less well studied than prognosis after disease onset. The few published studies date back to the 1970s and 1980s (11–13), were modeled using only prevalence data of dementia (13, 14) or follow-up data limited to 3 years (12), or rely in part on simulations rather than empirical data for calculation of life expectancy (15). • overall life expectancy at age 65 years, on average 5% is spent with dementia, increasing to about 40% of remaining life expectancy at age 95, varying by sex, educational attainment, and APOE genotype. • Higher educational attainment in our study related to lower shares of total life expectancy lived with dementia, in line with findings for individuals with at least a college education in the United States (15)....However, this would also imply increased mortality after diagnosis of dementia in highly educated individuals, for which we, similar to a systematic review in 2009 (33), found no evidence in the present study.
	日本	Sauvagat C, Tsuji I, Haan MN, Hisamichi S. Trends in dementia-free life expectancy among elderly members of a large health maintenance organization. <i>Int J Epidemiol.</i> 1999 Dec;28(6):1110-8. doi: 10.1093/ije/28.6.1110. PMID: 10661655.	
	France	Ritchie K, Robine JM, Letenneur L, Dartigues JF. Dementia-free life expectancy in France. <i>Am J Public Health.</i> 1994 Feb;84(2):232-6. doi: 10.2105/ajph.84.2.232. PMID: 8296946; PMCID: PMC1614984.	
Dementia, reason for restrict disease and severness	Netherlands	Perenboom RJ, Boshuizen HC, Breteler MM, Ott A, Van de Water HP. Dementia-free life expectancy (DemFLE) in The Netherlands. <i>Soc Sci Med.</i> 1996 Dec;43(12):1703-7. doi: 10.1016/s0277-9536(96)00058-5. PMID: 8961414.	<ul style="list-style-type: none"> • Priority has been given to dementia because the prevalence of dementia strongly increases with age [12], so that in the aging Western populations dementia is a problem of increasing proportions. • because estimation of the prevalence of mild dementia is problematic [12], and because of international comparability, 7-9, we restricted dementia moderate to severe dementia
Int J Environ Res Public Health (urban/rural)	China	Wu Y, Zheng H, Liu Z, Wang S, Liu Y, Hu S. Dementia-Free Life Expectancy among People over 60 Years Old by Sex, Urban and Rural Areas in Jiangxi Province, China. <i>Int J Environ Res Public Health.</i> 2020 Aug 5;17(16):5665. doi: 10.3390/ijerph17165665. PMID: 32764485; PMCID: PMC7460506.	In urban areas, DemFLE/LE was higher for women than for men; the opposite was observed in rural areas. Urban women had a higher DemFLE/LE than rural women did, urban men had a lower DemFLE/LE than rural men did.
Forecasted trends in disability and LE	UK	Guzman-Castillo M, Ahmadi-Abhari S, Bandosz P, Capewell S, Steptoe A, Singh-Manoux A, Kivimaki M, Shipley MJ, Brunner EJ, O'Flaherty M. Forecasted trends in disability and life expectancy in England and Wales up to 2025: a modelling study. <i>Lancet Public Health.</i> 2017 May 23;2(7):e307-e313. doi: 10.1016/S2468-2667(17)30091-9. PMID: 28736759; PMCID: PMC5500313.	<ul style="list-style-type: none"> • defined cognitive impairment without dementia as impairment in two or more domains of cognitive function tests applied to ELSA participants (such as orientation to time, immediate and delayed memory, verbal fluency, and numeracy function) • defined functional impairment or disability as the inability to independently do one or more activities of daily living, which included getting in or out of bed, walking across a room, bathing or showering, using the toilet, dressing, cutting food, and eating. This definition of disability captures numbers of individuals who have difficulty maintaining self-care independence and require supportive care. • defined dementia on the basis of the coexistence of cognitive impairment and functional impairment, or a report of a doctor diagnosis of dementia by the participant <p>• For people older than 85 years, future disability levels will be influenced mainly by the joint evolution of the burdens of dementia and cardiovascular disease over time.</p> <ul style="list-style-type: none"> • In developed countries, women have tended to live longer, but to have worse health than men.²¹ • Although women have poorer health than men, attributable to a higher prevalence of dementia and functional limitations, our results suggest the present sex difference in disabled life expectancy will diminish because men will have a relatively larger increase in the burden of disability.

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education, race	US	Farina MP, Hayward MD, Kim JK, Crimmins EM. Racial and Educational Disparities in Dementia and Dementia-Free Life Expectancy. <i>J Gerontol B Psychol Sci Soc Sci.</i> 2020 Aug 13;75(7):e105-e112. doi: 10.1093/geronb/gbz046. PMID: 31111926; PMID: PMC7530490.	The life table results document notable race—education differences in dementia and dementia-free life expectancy, as well as stark differences in implied dementia prevalence.
stroke and dementia	China	Han Y, Hu K, Wu Y, Fang Y. Future life expectancy with disability among elderly Chinese individuals: a forecast based on trends in stroke and dementia. <i>Public Health.</i> 2021 Sep;198:62-68. doi: 10.1016/j.puhe.2021.06.013. Epub 2021 Aug 5. PMID: 34364000.	
Abstract	France	Grasset L, Pérès K, Joly P, Sabathé C, Foubert-Samier A, Dartigues JF, Helmer C. Secular trends of mortality and dementia-free life expectancy over a 10-year period in France. <i>Eur J Epidemiol.</i> 2019 Feb;34(2):115-123. doi: 10.1007/s10654-019-00482-w. Epub 2019 Jan 16. PMID: 30649704.	Total LE and DemFreeLE have increased between the 1990s and the 2000s populations (total LE: +2.5 years; DemFreeLE: +2.2 years); DemLE only slightly increased between the populations (DemLE: +0.3 years). For survival with dementia, an increase in survival has been evidenced (mean survival: +1.3 years) for women only. The improvement in DemFreeLE is promising. However, as the duration of life with dementia tends to increase for women, efforts to delay the onset of dementia should be reinforced.
Abstract	HK	Cheung SL, Yip SF, Branch LG, Robine JM. Decreased Proportion of Dementia-Free Life Expectancy in Hong Kong SAR. <i>Dement Geriatr Cogn Disord.</i> 2015;40(1-2):72-84. doi: 10.1159/000381848. Epub 2015 Jun 5. PMID: 26066480.	The percentage of life expectancy without dementia ...is always lower for women, because of their higher total life expectancy. This indicates that the burden of dementia in absolute and relative terms is higher for women.
Abstract(LE, function, dementia)	Finland	Enroth L, Raitanen J, Halonen P, Tiainen K, Jylhä M. Trends of Physical Functioning, Morbidity, and Disability-Free Life Expectancy Among the Oldest Old: Six Repeated Cross-Sectional Surveys Between 2001 and 2018 in the Vitality 90+ Study. <i>J Gerontol A Biol Sci Med Sci.</i> 2021 Jun 14;76(7):1227-1233. doi: 10.1093/gerona/glaa144. PMID: 32506117.	<ul style="list-style-type: none"> • Over time, functioning improved, especially, in women, and morbidity increased in men. • LE without cardiovascular and dementia morbidity decreased for men (2.6 months) and increased for women (1.9 months).
Abstract(Dementia&LE,deprived area)地域	UK	Vestergaard AHS, Sampson EL, Johnsen SP, Petersen I. Social Inequalities in Life Expectancy and Mortality in People With Dementia in the United Kingdom. <i>Alzheimer Dis Assoc Disord.</i> 2020 Jul-Sep;34(3):254-261. doi: 10.1097/WAD.0000000000000378. PMID: 32332202.	<ul style="list-style-type: none"> • Among 166,268 people with dementia there were no differences in life expectancy and mortality in the most deprived compared with the least deprived. This pattern has been stable during the study period, as no increasing inequalities in life expectancy and mortality according to social deprivation were found. • Contrary to the general population, there were limited inequalities in life expectancy and mortality according to social deprivation for people with dementia.
Abstract (HLE, cognitive, urban/rural)地域	China	Huang G, Guo F, Chen G. Multidimensional healthy life expectancy of the older population in China. <i>Popul Stud (Camb).</i> 2021 Nov;75(3):421-442. doi: 10.1080/00324728.2021.1914854. Epub 2021 Apr 27. PMID: 33904368.	Among China's older people, males and those living in urban areas experience higher cognitive-impairment-free life expectancy (CIFLE), and those who live with a spouse, are more educated, and are healthy at age 60 expect more years in good health according to all three HLE measures.
inequalities in disability-free life expectancy , Cognitive Function,地域	UK(England)	Bennett HQ, Kingston A, Lourida I, Robinson L, Corner L, Brayne CE, Matthews FE, Jagger C. The contribution of multiple long-term conditions to widening inequalities in disability-free life expectancy over two decades: Longitudinal analysis of two cohorts using the Cognitive Function and Ageing Studies. <i>EClinicalMedicine.</i> 2021 Jul 31;39:101041. doi: 10.1016/j.eclinm.2021.101041. PMID: 34386756; PMID: PMC8342913.	
Abstract(dementia-free LE,男女差)	Australia	Ritchie K, Mathers C, Jorm A. Dementia-free life expectancy in Australia. <i>Aust J Public Health.</i> 1994 Jun;18(2):149-52. doi: 10.1111/j.1753-6405.1994.tb00216.x. PMID: 7948330.	<ul style="list-style-type: none"> • Dementia-free life expectancy is a synthetic indicator of an important aspect of mental health which may have considerable use in public health decision making • Dementia-free life expectancy for Australian women aged 70 years was found to be 14 years within a total life expectancy of 15 years, and 11 years for men within a total life expectancy of 12 years. Between 70 and 85 years there is a constant average expectation of about one year of life expectancy with dementia.
Abstract(dementia-free LE,男女差)	US	Tom SE, Hubbard RA, Crane PK, Haneuse SJ, Bowen J, McCormick WC, McCurry S, Larson EB. Characterization of dementia and Alzheimer's disease in an older population: updated incidence and life expectancy with and without dementia. <i>Am J Public Health.</i> 2015 Feb;105(2):408-13. doi: 10.2105/AJPH.2014.301935. PMID: 25033130; PMID: PMC4318311.	Life expectancy without dementia and percentage of total life expectancy without dementia decreased with age. Life expectancy with dementia was longer in women and people with at least a college degree. Percentage of total life expectancy without dementia was greater in younger age groups, men, and those with more education.
Abstract(dementia-free LE,男女差)	日本	Sauvaget C, Tsuji I, Minami Y, Fukao A, Hisamichi S, Asano H, Sato M. Dementia-free life expectancy among elderly Japanese. <i>Gerontology.</i> 1997;43(3):168-75. doi: 10.1159/000213846. PMID: 9142511.	At 65 years, the dementia-free life expectancy represented 89% of the total life expectancy for males and 79% for females. Total life expectancy and dementia-free life expectancy were longer among females than among males. However, the life-years with dementia were longer among females. This result would be attributable to a higher incidence of dementia and a lower mortality among females.
cognitive LE	US	Garcia MA, Downer B, Chiu CT, Saenz JL, Rote S, Wong R. Racial/Ethnic and Nativity Differences in Cognitive Life Expectancies Among Older Adults in the United States. <i>Gerontologist.</i> 2019 Mar 14;59(2):281-289. doi: 10.1093/geront/gnx142. PMID: 28958071; PMID: PMC6417765.	
cognitive LE, disability-free	UK	Jagger C, Matthews FE, Wohland P, Fouweather T, Stephan BC, Robinson L, Arthur A, Brayne C; Medical Research Council Cognitive Function and Ageing Collaboration. A comparison of health expectancies over two decades in England: results of the Cognitive Function and Ageing Study I and II. <i>Lancet.</i> 2016 Feb 20;387(10020):779-86. doi: 10.1016/S0140-6736(15)00947-2. Epub 2015 Dec 9. PMID: 26680218; PMID: PMC4761658.	<ul style="list-style-type: none"> • cognitive impairment (defined as moderate-severe, mild, or none, as assessed by Mini-Mental State Examination score); and disability in activities of daily living (defined as none, mild, or moderate-severe). • (Between 1991 and 2011)Gains in disability-free years were much smaller than those in excellent-good self-perceived health or those free from cognitive impairment, especially for women (0-5 years [0-2-0-9] compared with 2-6 years [2-3-2-9] for men), mostly because of increased mild disability.
Foreign-born vs. US-born Mexican, LE w/ and w/o dementia	US	Garcia MA, Saenz JL, Downer B, Chiu CT, Rote S, Wong R. Age of Migration Differentials in Life Expectancy With Cognitive Impairment: 20-Year Findings From the Hispanic-EPESE. <i>Gerontologist.</i> 2018 Sep 14;58(5):894-903. doi: 10.1093/geront/gnx062. Erratum in: <i>Gerontologist.</i> 2017 Oct 1;57(5):1008. PMID: 28486598; PMID: PMC6137351.	: Foreign-born Mexican immigrants have longer total life expectancy and comparable cognitive healthy life expectancy regardless of gender compared to U.S.-born Mexican-Americans. However, the foreign-born spend a greater number of years after age 65 with cognitive impairment relative to their U.S.-born counterparts. Furthermore, we document an advantage in life expectancy with cognitive impairment and proportion of y
CognitiveLE, education	US	Garcia MA, Downer B, Chiu CT, Saenz JL, Ortiz K, Wong R. Educational Benefits and Cognitive Health Life Expectancies: Racial/Ethnic, Nativity, and Gender Disparities. <i>Gerontologist.</i> 2021 Apr 3;61(3):330-340. doi: 10.1093/geront/gnaa112. PMID: 32833008; PMID: PMC8023372.	
Abstract(Cognitive LE, education)	Brasil	Andrade FCD, Corona LP, de Oliveira Duarte YA. Educational Differences in Cognitive Life Expectancy Among Older Adults in Brazil. <i>J Am Geriatr Soc.</i> 2019 Jun;67(6):1218-1225. doi: 10.1111/jgs.15811. Epub 2019 Feb 4. PMID: 30715738.	Adults older than 60 years with no education live shorter lives and with longer periods of CI than those with education. Women in São Paulo live longer lives than men, but they live with CI for a greater number of years.

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LE, cognitive impairment	Chili	Moreno X, Lera L, Moreno F, Albala C. Life expectancy with and without cognitive impairment among Chilean older adults: results of the National Survey of Health (2003, 2009 and 2016). BMC Geriatr. 2019 Dec 26;19(1):374. doi: 10.1186/s12877-019-1387-5. PMID: 31878877; PMCID: PMC6933700.	Longer life expectancy in women was accompanied by more years free of cognitive impairment. Men expected to live a similar proportion of years free of cognitive impairment, compared to women.
cognitive		Ashby-Mitchell K, Jagger C, Fouweather T, Anstey KJ. Life expectancy with and without cognitive impairment in seven Latin American and Caribbean countries. PLoS One. 2015 Mar 23;10(3):e0121867. doi: 10.1371/journal.pone.0121867. PMID: 25799186; PMCID: PMC4370415.	

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(mortality) municipal age structures	Finland	Suulamo U, Tarkiainen L, Remes H, Martikainen P. Changes in regional variation in mortality over five decades - The contribution of age and socioeconomic population composition. <i>SSM Popul Health</i> . 2021 Jun 19;15:100850. doi: 10.1016/j.ssmph.2021.100850. PMID: 34222608; PMCID: PMC8242998.	" there is not much reason to expect mortality differentials between areas to decrease since spatial differentiation is likely to continue as the population continues concentrating in a few growth centres. " "In Finland, recessionary periods, industrial restructuring and increasing unemployment have hit some areas harder than others and led to increasing regional differentiation with important implications for population structures at subnational levels (Grunfelder et al., 2020). Remote rural municipalities and smaller towns in particular have been losing young and working-age people moving to urban centres with better education and employment prospects."
(lung cancer) means of commuting	UK	Wong JYY, Jones RR, Breeze C, Blechter B, Rothman N, Hu W, Ji BT, Bassig BA, Silverman DT, Lan Q. Commute patterns, residential traffic-related air pollution, and lung cancer risk in the prospective UK Biobank cohort study. <i>Environ Int</i> . 2021 Oct;155:106698. doi: 10.1016/j.envint.2021.106698. Epub 2021 Jun 15. PMID: 34139591; PMCID: PMC8292218.	Compared to regular automobile use, commuting often by public transportation was associated with increased lung cancer risk
(health complaints) means of commuting	India	Ali M, Uddin Z, Ahsan GU, Hossain A. Association between daily commute and subjective health complaints among the office workers in an urban community. <i>Heliyon</i> . 2021 Aug 19;7(8):e07841. doi: 10.1016/j.heliyon.2021.e07841. PMID: 34466705; PMCID: PMC8383055.	A significant prevalence of health complaints was related to traffic congestion, long commutes, and use of public transportation. Reducing daily commuting time, switching modes of transportation, and avoiding traffic congestion could help to alleviate the burden of health concerns experienced by regular office commuters.
(physical activity) neighborhood built environment factors	US	Shams-White MM, D'Angelo H, Perez LG, Dwyer LA, Stinchcomb DG, Oh AY. A national examination of neighborhood socioeconomic disparities in built environment correlates of youth physical activity. <i>Prev Med Rep</i> . 2021 Mar 12;22:101358. doi: 10.1016/j.pmedr.2021.101358. PMID: 33854906; PMCID: PMC8024702.	Adolescents living in lower SES neighborhoods may benefit more from physical activity interventions and environmental supports that provide opportunities to be active beyond neighborhood walkability.
(dementia) a community-based physical exercise and/or dementia risk factor-reduction curriculum	US	Blocker EM, Fry AC, Luebbbers PE, Burns JM, Perales-Puchalt J, Hansen DM, Vidoni ED. Promoting Alzheimer's Risk-Reduction through Community-Based Lifestyle Education and Exercise in Rural America: A Pilot Intervention. <i>Kans J Med</i> . 2020 Jul 10;13:179-185. PMID: 32695261; PMCID: PMC7363174.	The results suggested dementia risk-reduction education, both with and without structured exercise, leads to improvements in dementia knowledge. When coupled with regular, supervised exercise, this education intervention also helped participants increase engagement in physical activity over 10 weeks. Tailored interventions that combine Alzheimer's disease education and regular, supervised exercise may help reduce dementia risk in rural communities.
(life expectancy) Local government funding	UK	Alexiou A, Fahy K, Mason K, Bennett D, Brown H, Bamba C, Taylor-Robinson D, Barr B. Local government funding and life expectancy in England: a longitudinal ecological study. <i>Lancet Public Health</i> . 2021 Sep;6(9):e641-e647. doi: 10.1016/S2468-2667(21)00110-9. Epub 2021 Jul 12. PMID: 34265265; PMCID: PMC8390384.	Funding reductions were greater in more deprived areas and these areas had the worst changes in life expectancy. We estimated that cuts in funding were associated with an increase in the gap in life expectancy between the most and least deprived quintiles by 3% for men and 4% for women. Overall reductions in funding during this period were associated with an additional 9600 deaths in people younger than 75 years in England (3800–15 400), an increase of 1.25%.
(population health) Political Economy	Scotland	McCartney G, Hearty W, Arnot J, Popham F, Cumbers A, McMaster R. Impact of Political Economy on Population Health: A Systematic Review of Reviews. <i>Am J Public Health</i> . 2019 Jun;109(6):e1-e12. doi: 10.2105/AJPH.2019.305001. PMID: 31067117; PMCID: PMC6507992.	Politics, economics, and public policy are important determinants of population health. Countries with social democratic regimes, higher public spending, and lower income inequalities have populations with better health.
(aged care use) living areas	Australia	Rahman M, Efid JT, Byles JE. Patterns of aged care use among older Australian women: A prospective cohort study using linked data. <i>Arch Gerontol Geriatr</i> . 2019 Mar-Apr;81:39-47. doi: 10.1016/j.archger.2018.11.010. Epub 2018 Nov 19. PMID: 30502568.	Our study observed that baseline sociodemographic predisposing and enabling factors were associated with membership of different latent patterns. Those who lived in inner/outer/remote areas, were widowed, had difficulty managing income, and lived alone were more likely to be a member either of the moderate to high-level HACC/CACP or increasing RAC or early mortality classes than the mostly non-user class.
(healthy lifestyle) population size	Brazil, Sweden, and the USA	Rocha LE, Thorson AE, Lambiotte R. The Non-linear Health Consequences of Living in Larger Cities. <i>J Urban Health</i> . 2015 Oct;92(5):785-99. doi: 10.1007/s11524-015-9976-x. PMID: 26245466; PMCID: PMC4608943.	Preliminary data in the context of Brazil however indicate that smoking increases super-linearly with population size, suggesting that healthy lifestyle may not be a universal characteristic of larger cities. Furthermore, previous studies found that the incidence of psychosis and depression increases with the population density ^{40,41} suggesting that mental health is more sensitive to urban living. Lung cancer and chronic respiratory insufficiency are both relatively more likely in larger cities of Brazil whereas they are relatively less likely in larger cities of Sweden. Lung cancer is linked to smoking that is weakly super-linear in Brazil.
(psychosis and depression) urbanisation	Sweden	Sundquist K, Frank G, Sundquist J. Urbanisation and incidence of psychosis and depression: follow-up study of 4.4 million women and men in Sweden. <i>Br J Psychiatry</i> . 2004 Apr;184:293-8. doi: 10.1192/bjp.184.4.293. PMID: 15056572.	With increasing levels of urbanisation the incidence rates of psychosis and depression rose. In the full models, those living in the most densely populated areas (quintile 5) had 68–77% more risk of developing psychosis and 12–20% more risk of developing depression than the reference group (quintile 1).
(adult obesity, diabetes, fair or poor health, physical inactivity, physical and mental distress) full service restaurants and fitness centers	USA	Dwivedi P, Huang D, Yu W, Nguyen Q. Predicting geographical variation in health-related quality of life. <i>Prev Med</i> . 2019 Sep;126:105742. doi: 10.1016/j.jpmed.2019.05.030. Epub 2019 May 31. PMID: 31158399; PMCID: PMC6697589.	Density of full service restaurants and fitness centers was associated with a significant decrease in adult obesity, diabetes, fair or poor health, physical inactivity, physical and mental distress. Conversely, density of payday loan centers was associated with an increase in these adverse health outcomes. However, our GWR models revealed substantial geographical variations in these relationships across the U.S. counties. Better understanding of the association between area-level structures and important health outcomes at the local level is important for developing targeted context-specific policy interventions.
(health care expenditure) spouse state	Netherlands	Rolden HJ, van Bodegom D, Westendorp RG. Changes in health care expenditure after the loss of a spouse: data on 6,487 older widows and widowers in the Netherlands. <i>PLoS One</i> . 2014 Dec 23;9(12):e115478. doi: 10.1371/journal.pone.0115478. PMID: 25536040; PMCID: PMC4275307.	Mean monthly health care expenditure in married subjects was € 502 in the 42 months before the death of the spouse, and expenditure levels rose by € 239 (48%) in the 42 months after the death of the spouse. The increase in expenditure after the death of the spouse was highest for men (€ 319; 59%) and the oldest old (€ 553; 82%). Expenditure levels showed the highest increase for hospital and home care services (together € 166).
(the probability of NH admission) education	Norway	Mjørud M, Selbæk G, Bjertness E, Edwin TH, Engedal K, Knapskog AB, Strand BH. Time from dementia diagnosis to nursing-home admission and death among persons with dementia: A multistate survival analysis. <i>PLoS One</i> . 2020 Dec 4;15(12):e0243513. doi: 10.1371/journal.pone.0243513. PMID: 33275638; PMCID: PMC7717539.	The probability of NH admission was greater for women than men due to women's lower mortality rate. Persons living alone, particularly men, had a higher probability of NH admission than cohabitants. Age, dementia aetiology and severity of cognitive impairment at time of diagnosis did not influence the probability of NH admission. Those with fewer than 10 years of education had a lower probability of NH admission than those with 10 years or more, and this was independent of the excess mortality in the less-educated group.

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(dementia) education, occupation	Japan	Nakahori N, Sekine M, Yamada M, Tatsuse T, Kido H, Suzuki M. A pathway from low socioeconomic status to dementia in Japan: results from the Toyama dementia survey. BMC Geriatr. 2018 Apr 27;18(1):102. doi: 10.1186/s12877-018-0791-6. PMID: 29703157; PMCID: PMC5923187.	The odds ratio (OR) for dementia was higher for participants with low educational attainment (6 years or less) than for highly educated participants [age- and sex-adjusted OR 3.27; 95% confidence interval (CI) 1.84-5.81]; it was also higher for participants with a blue-collar job history than a white-collar job history (age- and sex-adjusted OR 1.26; 95% CI 0.80-1.98).
(mental disorder) being a housewife	international	Bezerra HS, Alves RM, Nunes ADD, Barbosa IR. Prevalence and Associated Factors of Common Mental Disorders in Women: A Systematic Review. Public Health Rev. 2021 Aug 23;42:1604234. doi: 10.3389/phrs.2021.1604234. PMID: 34692182; PMCID: PMC8419231.	The prevalence of CMD ranged from 9.6% to 69.3%. The main associated factors were unemployment, indebtedness, low income, being a housewife, smoking, low education, poor self-rated health, being single, divorced or widowed.
(health and well-being of populations) housing	Singapore, the UK, and Kenya	Mwoka M, Biermann O, Ettman CK, Abdalla SM, Ambuko J, Pearson M, Rashid SF, Zeinali Z, Galea S, Valladares LM, Mberu B. Housing as a Social Determinant of Health: Evidence from Singapore, the UK, and Kenya: the 3-D Commission. J Urban Health. 2021 Aug;98(Suppl 1):15-30. doi: 10.1007/s11524-021-00557-8. Epub 2021 Sep 3. PMID: 34480327; PMCID: PMC8415197.	This analysis demonstrates the value of viewing housing policies as public health policies that could significantly impact the health and well-being of populations, especially vulnerable groups. Moreover, the findings highlight the importance of the Health in All Policies approach to facilitate integrated policy responses to address social determinants of health such as housing.

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健康余命尺度・定義関連	日本	岩井 彦彦, 青柳 陽一郎, 認知症を有する脳卒中および大腿骨頭部骨折患者のADL構造, 理学療法科学, 2014, 29 巻, 1 号, p. 123-129, 公開日 2014/03/26, Online ISSN 2434-2807, Print ISSN 1341-1667, https://doi.org/10.1589/rika.29.123 , https://www.jstage.jst.go.jp/article/rika/29/1/29_123/_article/-char/ja	P128 認知症高齢者の日常生活自立度鑑定基準：介護の必要度を示すもの。認知機能障害を反映するものではないと一概には言えないが、認知症の程度の医学的判断とは必ずしも一致しない。むしろ、認知症によるADL障害を簡略に把握できる評価指標としては有用である。
cognitive LE, disability-free	UK	Jagger C, Matthews FE, Wohland P, Fouweather T, Stephan BC, Robinson L, Arthur A, Brayne C; Medical Research Council Cognitive Function and Ageing Collaboration. A comparison of health expectancies over two decades in England: results of the Cognitive Function and Ageing Study I and II. <i>Lancet</i> . 2016 Feb 20;387(10020):779-86. doi: 10.1016/S0140-6736(15)00947-2. Epub 2015 Dec 9. PMID: 26680218; PMCID: PMC4761658.	<ul style="list-style-type: none"> ・上の文献と併せて読む ・cognitive impairment (defined as moderate-severe, mild, or none, as assessed by Mini-Mental State Examination score); and disability in activities of daily living (defined as none, mild, or moderate-severe). ・(Between 1991 and 2011)Gains in disability-free years were much smaller than those in excellent-good self-perceived health or those free from cognitive impairment, especially for women (0-5 years [0-2-0-9] compared with 2-6 years [2-3-2-9] for men), mostly because of increased mild disability.
健康余命尺度・定義関連	日本	Taira K, Ogata S, Kamide K. Comparing the differences in three measures of healthy life expectancy among prefectures in Japan. <i>BMC Res Notes</i> . 2020 Aug 5;13(1):371. doi: 10.1186/s13104-020-05213-z. PMID: 32758291; PMCID: PMC7404923.	Three measures of HLE calculated by the Sullivan method [2] that differed according to the definition of unhealthiness have been used as target values of local government policy [3]. These HLEs, selected for this study are as follows: (i) disability-free life expectancy without activity limitation (DFLE-AL), (ii) life expectancy with self-perceived health (LE-SH), and (iii) disability-free life expectancy without care need (DFLE-CN) (Additional file 1).
健康余命尺度・定義関連	UK	Welsh CE, Matthews FE, Jagger C. Trends in life expectancy and healthy life years at birth and age 65 in the UK, 2008-2016, and other countries of the EU28: An observational cross-sectional study. <i>Lancet Reg Health Eur</i> . 2021 Mar;2:100023. doi: 10.1016/j.lanep.2020.100023. PMID: 33870247; PMCID: PMC8042672.	The concept of healthy life expectancy is therefore of interest to health and economy stakeholders. This indicator has been in use for several years, but differing definitions of 'disability' and calculation methods have hampered between-country comparisons [9]. Since 2005, the EU has reported healthy life years (HLY), a disability-free life expectancy based on the Statistics on Income and Living for all EU28 countries over the same period [10]. Healthy life was defined using the survey question PH030, 'For at least the last 6 months have you been limited in activities people usually do, because of a health problem?' with responses: 1) yes, strongly limited, 2) yes, limited or 3) not limited.
健康余命尺度・定義関連	Netherlands	Bogaert, P., Van Oyen, H., Beluche, I. <i>et al.</i> The use of the global activity limitation Indicator and healthy life years by member states and the European Commission. <i>Arch Public Health</i> 76 , 30 (2018). https://doi.org/10.1186/s13690-018-0279-z	<ul style="list-style-type: none"> ・ In 2005, the European Union (EU) started to use a disability-free life expectancy, known as Healthy Life Years (HLY), to monitor progress in the strategic European policies such as the 2000 Lisbon strategy. HLY are based on the underlying measure: the Global Activity Limitation Indicator (GALI). Twelve years after its implementation, this study aims to assess its current use in EU Member States and the European Commission. ・ HLY is an indicator that is systematically used to monitor health developments in most EU countries. The SHARE, EU-SILC and EHIS are commonly used to assess HLY through the GALI
Health Indicator	EU	Mäki N, Martikainen P, Eikemo T, Menvielle G, Lundberg O, Ostergren O, Jasilionis D, Mackenbach JP; EURO-GBD-SE consortium. Educational differences in disability-free life expectancy: a comparative study of long-standing activity limitation in eight European countries. <i>Soc Sci Med</i> . 2013 Oct;94:1-8. doi: 10.1016/j.socscimed.2013.06.009. Epub 2013 Jun 25. PMID: 23931939.	The Global Activity Limitation Indicator (GALI), which was used as the health indicator in this study, is an evaluated (Jagger et al., 2010; van Oyen, van der Heyden, Perenboom, & Jagger, 2006) indicator, even though it has not been used extensively or used to examine socioeconomic differences. Yet, this single item instrument is based on health-related long-term limitations on daily activities. The single item is, "For the past 6 months or more have you been limited in activities people usually do because of a health problem?" to which there are three answer categories: "Yes, severely", "Yes, moderately" and "No". In this study, the category "Yes, severely" described a disability. Instead of any level of activity limitation, we focused on measuring severe limitation for two reasons
HLE	International	World Health Organization (WHO). (2015). Healthy life expectancy at 60. http://apps.who.int/gho/indicatorregistry/App_Main/view_indicator.aspx?iid=66 . Accessed December 7, 2021.	Healthy life expectancy (HALE) at 60 (years) Data Type Representation Statistic Definition The average number of years in full health a person (usually at age 60) can expect to live based on current rates of ill-health and mortality. Disaggregated by gender
HLE	International	World Health Organization (WHO). (2015). Healthy life expectancy at birth. http://apps.who.int/gho/indicatorregistry/App_Main/view_indicator.aspx?iid=66 . Accessed December 7, 2021.	Healthy life expectancy (HALE) at birth: Average number of years that a person can expect to live in "full health" by taking into account years lived in less than full health due to disease and/or injury.
HLE定義	WHO	WHO. World Health Report 2001. Geneva: WHO; 2001.	To better reflect the inclusion of all states of health in the calculation of healthy life expectancy, the name of the indicator used to measure healthy life expectancy has been changed from disability-adjusted life expectancy (DALE) to health-adjusted life expectancy (HALE). HALE is based on life expectancy at birth (see Annex Table 1) but includes an adjustment for time spent in poor health. It is most easily understood as the equivalent number of years in full health that a newborn can expect to live based on current rates of ill-health and mortality.

Theme	Country	Reference	Clipped "Quote"
HALE	WHO	WHO. THE GLOBAL HEALTH OBSERVATORY https://www.who.int/data/gho/indicator-metadata-registry/imr-details/66	Healthy life expectancy (HALE) at birth Definition: Average number of years that a person can expect to live in "full health" by taking into account years lived in less than full health due to disease and/or injury. Method of estimation: The equivalent lost healthy year fractions required for the HALE calculation are estimated as the all-cause years lost due to disability (YLD) rate per capita, adjusted for independent comorbidity, by age, sex and country. Sullivan's method uses the equivalent lost healthy year fraction (adjusted for comorbidity) at each age in the current population (for a given year) to divide the hypothetical years of life lived by a period life table cohort at different ages into years of equivalent full health and equivalent lost healthy years. Predominant type of statistics: Predicted Comments: Because these estimates draw on new data and on the results of the GBD 2010 study, and there have been substantial revisions to methods for many causes, and to the methods for dealing with comorbidity, these HALE estimates for the years 2000-2012 are not directly comparable with previous WHO estimates of HALE for earlier years.
HALE	USA	Labbe J.A. (2010) Health-Adjusted Life Expectancy: Concepts and Estimates. In: Preedy V.R., Watson R.R. (eds) Handbook of Disease Burdens and Quality of Life Measures. Springer, New York, NY. https://doi.org/10.1007/978-0-387-78665-0_23	Health-adjusted life expectancy (HALE), formerly denominated DALE, is a health expectancy measure which value several health states capturing the full health experience of the population. The indicator is especially useful in countries where health improvement is based on the increase of the well being such as European countries (OECD Health Data, 2001).
Disability-free life expectancy	USA	Paola Zaninotto, PhD, George David Batty, PhD, Sari Stenholm, PhD, Ichiro Kawachi, PhD, Martin Hyde, PhD, Marcel Goldberg, PhD, Hugo Westerlund, PhD, Jussi Vahtera, MD, Jenny Head, MSc, Socioeconomic Inequalities in Disability-free Life Expectancy in Older People from England and the United States: A Cross-national Population-Based Study, The Journals of Gerontology: Series A, Volume 75, Issue 5, May 2020, Pages 906–913, https://doi.org/10.1093/gerona/glz266	The health indicators that have commonly been used to compute health expectancy include, among others, self-rated health (referred to as "healthy life expectancy"), activities of daily living (ADL) and/or instrumental activities of daily living (IADL) (referred to as "disability-free life expectancy"), and chronic morbidity (referred to as "chronic disease-free or morbidity-free life expectancy") (17,22– 24). However, self-rated health is based on subjective health status and identical questions may not mean the same to people across different cultures. Disability-free life expectancy is one of the most widely accepted measure of health expectancy (22) and has been recommended in cross-country comparative studies (17) because it is less sensitive to cultural factors.
Health Expectancy	Review	Pongiglione B, De Stavola BL, Ploubidis GB. A Systematic Literature Review of Studies Analyzing Inequalities in Health Expectancy among the Older Population. PLoS One. 2015 Jun 26;10(6):e0130747. doi: 10.1371/journal.pone.0130747. PMID: 26115099; PMCID: PMC4482630.	Type of Health Expectancy measures
IADL, ADL,	医療経済	Ishizaki T, Kai I, Kobayashi Y, Imanaka Y. Functional transitions and active life expectancy for older Japanese living in a community. Arch Gerontol Geriatr. 2002 Sep-Oct;35(2):107-20. doi: 10.1016/s0167-4943(02)00002-x. PMID: 14764349.	<ul style="list-style-type: none"> Because ADL was originally developed to examine the effects of treatment on older and chronically ill people living in institutions, it cannot measure the ability to sustain an independent life in a community (Koyano et al., 1991). Spector et al. (1987) hypothesized that disabilities in instrumental activities of daily living (IADL), which include the most relevant capacities needed to live in a community independently, would be a more sensitive predictor of functional decline and death than disability in ADL alone, because of the hierarchical relationship between ADL and IADL. ALE based on IADL as well as on ADL might be more useful indexes for an aging population. physically inactive life expectancy (PILE) as the average number of years for which an individual of a given age was expected to live with dependence in ADL, and instrumentally inactive life expectancy (IILE) as the average number of years for which an individual of a given age was expected to live with dependence in IADL.
要介護認定？	日本	Hosokawa R, Ojima T, Myojin T, Aida J, Kondo K, Kondo N. Associations Between Healthcare Resources and Healthy Life Expectancy: A Descriptive Study across Secondary Medical Areas in Japan. Int J Environ Res Public Health. 2020 Aug 29;17(17):6301. doi: 10.3390/ijerph17176301. Erratum in: Int J Environ Res Public Health. 2020 Oct 16;17(20): PMID: 32872538; PMCID: PMC7503367.	The Japanese care system is divided into care levels from 1 through 5, based on individuals' care needs as certified by Japan's long-term care insurance system (see Table S1) [41,42]. Data on unhealthy people, which included those at care level 2 (almost bedridden) and higher, were obtained from the 2017 long-term care insurance data [43]. The present study classified those at level 2 or greater as "having care needs" (i.e., unhealthy); all other levels were classified as "almost no care needs" (i.e., healthy).
DFLE定義	OECD	OECD.Last updated on Tuesday, March 4, 2003 Glossary of Statistical terms DISABILITY-FREE LIFE EXPECTANCY. Accessed on January 25, 2022 https://stats.oecd.org/glossary/detail.asp?ID=632	Disability-free life expectancy is the average number of years an individual is expected to live free of disability if current patterns of mortality and disability continue to apply. This indicator has been developed in a number of OECD countries since the 1970's, and available estimates are reported here.
DFLE説明	OECD	OECD. 2017. Health at a Glance 2017. 11. AGEING AND LONG-TERM CARE Life expectancy and healthy life expectancy at age 65	Disability-free life expectancy (or "healthy life years") is defined as the number of years spent free of activity limitation. In Europe, this indicator is calculated annually by Eurostat for EU countries and some EFTA countries. The disability measure is based on the Global Activity Limitation Indicator (GALI) question, which comes from the European Union Statistics on Income and Living Conditions (EU-SILC) survey. The question asks: "For at least the past six months, have you been hampered because of a health problem in activities people usually do? Yes, strongly limited / Yes, limited / No, not limited". While healthy life years is the most comparable indicator to date, there are still problems with translation of the GALI question, although it does appear to satisfactorily reflect other health and disability measures (Jagger et al., 2010).

Theme	Country	Reference	Clipped "Quote"
HALE計算方法	USA	Labbe J.A. (2010) Health-Adjusted Life Expectancy: Concepts and Estimates. In: Preedy V.R., Watson R.R. (eds) Handbook of Disease Burdens and Quality of Life Measures. Springer, New York, NY. https://doi.org/10.1007/978-0-387-78665-0_23	<p>2.3 Calculating Hale</p> <p>HALE is based on life expectancy (LE) but includes an adjustment for time spent in poor health. The calculation can be separated in two stages:</p> <ol style="list-style-type: none"> 1. Life expectancy calculation at age X, and 2. Adjustment of years lived by the frequency of the health states <p>1. Life expectancy calculation: Life expectancy at birth is the number of years a person would be expected to live, starting at birth, if the age and sex specific mortality rates for a given observation period were held constant over the estimated life span. Standard methods for measuring LE are based on abridged life tables. They are constructed from population census data and registrations of deaths. > Table 23-2 presents and example of the calculation of Life Expectancy.</p> <p>To calculate life expectancy data from Chile is used. The calculation includes (1) a computation of age-specific death rates, (2) computing the survivorship function from the observed age-specific death rates and populations, (3) estimation of the main life table functions (Armitage, 2002). Detailed information of life table calculation can be obtained elsewhere.</p> <p>2. Adjustment of years lived by the health states: Information on health status include the measure of health status and definitions of health states. Measures of health status can refer to one aspect of health or be more generic such as self-assessed health and disability measures. Self-assessed health is a measure of perceived health status that is collected in surveys and capture the prevalence of a variety of health conditions (Clark et al., 2004; Mont, 2007). Examples of disability measures include activities of daily living (ADL) that reflects individuals ability to perform basic physical tasks. Also, WHO has developed protocols that include 11 states and 7 domains (mobility, self-care, usual activities, pain and discomfort, cognition, anxiety and depression, social participation). The states are weighted from 100 to full health and 0 to death (WHO, 2000, 2002).</p> <p>To calculate years lived by the health states two methods are used; Sullivan's method and Multi-State Life Table Method. This last method is based on period transition rates whereas the Sullivan's method gives the average health expectancy (Mathers, 2001, 2006). > Table 23-3 shows an example of the calculation of HALE using Sullivan's method.</p>
ADLs,IADLs		<p>Jeffrey Mariano, Lillian C. Min, Chapter 4 - Assessment, Editor(s): Arash Naeim, David B. Reuben, Patricia A. Ganz, Management of Cancer in the Older Patient, W.B. Saunders, 2012, Pages 39-50, ISBN 9781437713985, https://doi.org/10.1016/B978-1-4377-1398-5.10004-9. (https://www.sciencedirect.com/science/article/pii/B9781437713985100049)</p>	<p>Self-Reported Tools to Measure Functional Status</p> <p>Activities of Daily Living (ADLs and IADLs, Tables 4-2 and 4-3) 73</p> <p>Most commonly, older adults' functional status is assessed at two levels: activities of daily living (ADLs) and instrumental activities of daily living (IADLs). ADLs are self-care tasks, such as:</p> <ul style="list-style-type: none"> • bathing • dressing • toileting • maintaining continence • grooming • feeding • transferring <p>Questions about functional ability may be valuable if posed in reference to recent activities: for example, "Did you dress yourself this morning?" rather than "Do you dress yourself?"</p> <p>An inability to perform basic ADLs alone implies a higher risk for functional decline, hospitalization, and poor outcomes leading to delirium and or death. Dependency in these tasks, which is present in up to 10% of persons aged 75 years or older, usually requires full-time help at home or placement in a nursing home.72</p> <p>IADLs are tasks that are integral to maintaining an independent household, such as:</p> <ul style="list-style-type: none"> • using the telephone • shopping for groceries • preparing meals • performing housework • doing laundry • driving or using public transportation
International Classification of Functioning, Disability and Health (ICF)	WHO	<p>WHO https://www.who.int/standards/classifications/international-classification-of-functioning-disability-and-health</p>	<p>ICF is the WHO framework for measuring health and disability at both individual and population levels.</p> <p>ICF was officially endorsed by all 191 WHO Member States in the Fifty-fourth World Health Assembly on 22 May 2001(resolution WHA 54.21) as the international standard to describe and measure health and disability.</p> <p>ICF is based on the same foundation as ICD and ICHI and share the same set of extension codes that enable documentation at a higher level of detail.</p>

Theme	Country	Reference	Clipped "Quote"
International Classification of Functioning, Disability and Health (ICF)	WHO	World Health Organization. (2002). The World Health Report Reducing Risks. Promoting Health Life. Available at: http://www.who.int/whr/2002/en/ .	Analyses of over 50 national health surveys for the calculation of healthy life expectancy in The World Health Report 2000 identified severe limitations in the comparability of self-reported health status data from different populations, even when identical survey instruments and methods are used.19, 20 The WHO Household Survey Study21 carried out 69 representative household surveys in 60 Member States in 2000 and 2001 using a new health status instrument based on the International Classification of Functioning, Disability and Health,22 which seeks information from a representative sample of respondents on their current states of health according to six core domains. These domains were identified from an extensive review of the currently available health status measurement instruments. To overcome the problem of comparability of self-report health data, the WHO survey instrument used performance tests and vignettes to calibrate self-reported health on selected domains such as cognition, mobility and vision. WHO has developed several statistical methods for correcting biases in self-reported health using these data, based on the hierarchical ordered probit (HOPIT) model.23-25 The calibrated responses are used to estimate the true prevalence of different states of health by age and sex.
健康寿命尺度	日本	厚生労働科学研究費補助金（循環器疾患・糖尿病等生活習慣病対策総合研究事業）2013 研究報告書 健康寿命の国際的な指標化に関する検討	<ul style="list-style-type: none"> ・健康寿命は、健康日本21(第二次)で使用されている「日常生活に制限のない期間の平均」や、「自分が健康であると自覚している期間の平均」の他にも、何を健康/不健康と定義するかによって、さまざまな指標の算定が可能である。どのような健康寿命が有用であるかについては、保健医療状況の変化など時代の変遷にもよって変わってくる可能性がある。 ・JA EHLEIS (健康・平均寿命情報システムに関する欧州共同事業)では欧州各国の健康寿命について、「日常生活に制限のない期間の平均」(Global Activity Limitation Indicator (GALI) に基づく Life expectancy without activity limitation)、「慢性疾患の無い期間の平均」(Life expectancy without chronic morbidity)、「自分が健康であると自覚している期間の平均」(Life expectancy in very good or good perceived health)の3つの指標について、毎年算定している。 ・ICF (International Classification of Functioning, Disability and Health) における参加(participation)に焦点をあてた総合健康指標の開発が重要ではないかという議論が出た
cognitive LE, disability-free	OECD	Robine JM, Romieu I, Jee M. Health expectancies in OECD countries. Reves Report No. 317; April 1998.	<p>The first indicator proposed was disability-free life expectancy [Sullivan, 1971], followed by active life expectancy [Katz et al., 1983]. The introduction of concepts from the International Classification of Impairments, Disabilities, and Handicaps (ICIDH) [WHO, 1980] enables us to differentiate among impairment-free, disability-free, and handicap-free life expectancies. Until now, disability-free life expectancy (DFLE) has been the most frequently used expression, often without explicit reference to the WHO-ICIDH concepts and sometimes as the generic term for health expectancies.</p> <p>According to the ICD framework:</p> <ul style="list-style-type: none"> - Disease-free life expectancy, the average number of years an individual is expected to live free of disease if current patterns of mortality and morbidity continue to apply. A well known example of a specific disease-free life expectancy is dementia-free life expectancy. - Dementia-free life expectancy is a specific disease-free life expectancy, as dementia is a medical diagnosis. It reflects the average number of years an individual is expected to live without senile dementia if current patterns of mortality and morbidity continue to apply. A calculation using the loss of cognitive function would of course result in an impairment-free life expectancy. <p>According to the ICIDH framework, health expectancies are differentiated into:</p> <ul style="list-style-type: none"> - Impairment-free life expectancy, the average number of years an individual is expected to live free of impairment if current patterns of mortality and impairment continue to apply. - Disability-free life expectancy, the average number of years an individual is expected to live free of disability if current patterns of mortality and disability continue to apply. - Handicap-free life expectancy, the average number of years an individual is expected to live free of handicap if current patterns of mortality and handicap continue to apply. The ICIDH distinguishes between seven main dimensions of handicap: orientation, physical independence, mobility, occupation, social integration, economic self sufficiency and other handicaps. The REVES classification system distinguishes independent life expectancy, mobility handicap-free life expectancy and occupational handicap-free life expectancy. When the handicap is assessed in a global manner, the indicator is reported as a general handicap-free life expectancy. <p>However, one should realize that handicap is - next to the presence of disabilities - to a large extent determined by the environment one lives in. Therefore differences in (cultural) environment will always have to be taken into account when making geographical (for instance international) comparisons.</p>

Theme	Country	Reference	Clipped "Quote"
cognitive LE, disability-free	OECD	Robine JM, Romieu I, Jee M. Health expectancies in OECD countries. <i>Reves Report No. 317</i> ; April 1998.	<p>According to the REVES committee on conceptual harmonization [Chamie, 1990], the ICIDH disability-free life expectancy should be differentiated into:</p> <ul style="list-style-type: none"> - Functional limitation-free life expectancy, the average number of years an individual is expected to live free of functional limitation if current patterns of mortality and disability continue to apply. Functional limitations mean restrictions in abilities, for instance, to bend forward and pick up something, or the ability to walk. - Activity restriction-free life expectancy, the average number of years an individual is expected to live free of activity restriction if current patterns of mortality and disability continue to apply. <p>Activity restrictions mean problems in the performance of complex normal human activities like cooking and dressing.</p> <hr/> <p>According to Katz et al. [Katz et al., 1983] and subsequent authors:</p> <ul style="list-style-type: none"> - Active life expectancy was built to measure independence through the calculation of the average number of years an individual is expected to live without restrictions in a number of activities of daily living (ADL) or instrumental activities of daily living (IADL) if current patterns of mortality and ADL/IADL problems continue to apply. So, given the intention of these authors, active life expectancy is an example of a specific handicap-free life expectancy. <p>Although meant to be an indicator of independent life, the fact that active life expectancy is built with activity restriction data, will always make it difficult to classify. Dependency is not necessarily reflected by the number of inabilities. One could imagine more direct assessments of dependency through one or two general questions leading to other indicators of independent life expectancy.</p> <hr/> <p>Perceived health expectancy is a generic term for health expectancies calculated for health states defined using population data on perceived health status [Mathers et al., 1994]. So:</p> <ul style="list-style-type: none"> - healthy life expectancy, or life expectancy in good health, is the average number of years an individual is expected to live in a health state defined as the "favorable part" part of the distribution of perceived health status (usually self-rated on a scale of the form excellent/good/fair/poor, or alternatively, very good/good/fair/bad/very bad). <p>Health-adjusted life expectancy is a generic term for a weighted expectation of life summed over a complete set of health states. Weights for health states typically range from zero (death) to unity (optimal health). Health-adjusted life expectancy is a statistical abstraction based on health expectancies in a number of discrete health states and explicit weights for each of those health states. The weights may be empirically derived, based on expert opinion, or arbitrarily chosen [Mathers et al., 1994].</p> <p>Historic indicators without any explicit reference to the WHO - ICIDH conceptual framework and which cannot be classified according to classification system are referred to as "unclassified disability"-free life expectancy. Thus:</p> <ul style="list-style-type: none"> - "Unclassified disability"-free life expectancy is the average number of years an individual is expected to live free of "disability" (generic or historic term) if current patterns of mortality and "unclassified disability" continue to apply. This indicator is a combination of mortality and morbidity data without reference to any distinguishable section of the ICIDH. <p>The REVES classification system is summarized in table 1. Because some conceptual points need more clarification and because ICIDH is currently being revised, a further evolution of it is expected.</p>

Theme	Country	Reference	Clipped "Quote"
HE尺度	WHO	Colin D Mathers Ritu Sadana Joshua A Salomon	<p>(historical background of measurement is discussed in 1.Introduction and 2. Background)</p> <p>Health state expectancies and disability-adjusted life expectancies</p> <p>We can categorise health expectancies into two main classes: those that use dichotomous health state weights and those that use health state valuations for an exhaustive set of health states. Examples of the first class include:</p> <p>Disability-free life expectancy: This health expectancy gives a weight of 1 to states of health with no disability (above an explicit or implicit threshold) and a weight of 0 to states of health with any level of disability above the threshold. Other examples of this type of health expectancy include active life expectancy, independent life expectancy and dementia-free life expectancy.</p> <p>Life expectancy with disability: This is an example of a health expectancy which gives 0 weight to all states of health apart from one specified state of less than full health (in this case, disability above a certain threshold of severity). If health state 3 in Figure 2 is 'moderate disability' then the area under the survival curve corresponding to health state 3 represents life expectancy with moderate disability. Other examples of this type of health expectancy include handicap expectancy, severe handicap expectancy and unhealthy life expectancy.</p> <p>Examples of the second type of indicator include:</p> <p>Health-adjusted life expectancies: These have been calculated for Canada and Australia using population survey data on the prevalence of disability at four levels of severity together with more or less arbitrary severity weights [53–55]. More recently, Canada has produced the first estimates of health-adjusted life expectancy based on population prevalence data for health states together with measured utility weights [56].</p> <p>Disability-adjusted life expectancy: This was calculated for the Global Burden of Disease Study using disability weights reflecting social preferences for seven severity levels of disability [7]. DALE has also been calculated for Australia using prevalence data from the Australian Burden of Disease Study [46] and preference weights derived from the Global Burden of Disease Study and from a Dutch study using similar valuation methods [57].</p>
Terminology	WHO		<p>Health expectancy (HE): Generic term for summary measures of population health that estimate the expectation of years of life lived in various health states.</p> <p>Health state expectancy: Generic term for health expectancies which measure the expectation of years lived in a single specified health state (eg. Disability-free).</p> <p>Disability-adjusted life expectancy (DALE): General term for health expectancies which estimate the expectation of equivalent years of good health based on an exhaustive set of health states and weights defined in terms of health state valuations. Health-adjusted life expectancy (HALE) is a synonym for DALE.</p> <p>Healthy life expectancy: Used as a simple synonym for DALE.</p>
3種類の計算方法	Greek	Bagavos C. Gender and regional differentials in health expectancy in Greece. J Public Health Res. 2013 Sep 2;2(2):e12. doi: 10.4081/jphr.2013.e12. PMID: 25170483; PMCID: PMC4147731.	<p>mainly three methods are used to calculate that measure.²⁰ The first is based on the general self-perceived or self-rated health (very good, good, fair, bad, very bad), the second on chronic health problems (yes, no) and the third on the global activity limitation indicator (strongly limited, limited, not limited).</p>

Theme	Country	Reference	Clipped "Quote"
Regional difference in HE 地域間の社会的条件やライフスタイルの違いによる	Netherlands	Groenewegen PP, Westert GP, Boshuizen HC. Regional differences in healthy life expectancy in The Netherlands. Public Health. 2003 Nov;117(6):424-9. doi: 10.1016/S0033-3506(03)00100-8. PMID: 14522158.	Social conditions and lifestyle differences between regions are negatively associated with healthy life expectancy in Dutch regions. Healthcare supply variables show no clear relationship. As a first step in the exploration of correlates of health life expectancy, correlations and regressions with socio-economic, life style and healthcare supply variables were calculated. Healthy life expectancy shows a regional pattern, slightly different from that found in life expectancy and self-reported health. The regional distribution of male and female healthy life expectancy is different, especially at 65 years. Healthy life expectancy of women aged 65 years is independent of their total life expectancy. Social conditions and lifestyle differences between regions are negatively associated with healthy life expectancy in Dutch regions. Healthcare supply variables show no clear relationship.
Regional difference in HE	Spain	Gutiérrez-Fisac JL, Gispert R, Solà J. Factors explaining the geographical differences in disability free life expectancy in Spain. J Epidemiol Commun Health 2000;54:451-5	<ul style="list-style-type: none"> The possible geographical differences among areas within a country are of great interest in public health and health policy as they show the potential for prevention that still exists. Information on permanent disability was taken from the survey on disabilities, impairments and handicaps that the National Institute of Statistics (INE in Spanish) carried out in 1986.7 In this survey disability was considered to be any permanent limitation of activity that lasted or was expected to last for more than one year. The survey included basic activities in accordance with the criteria of the International Classification of Impairments, Disabilities and Handicaps.8 <p>The statistical analysis was made separately for each of the two dependent variables: DFLEb and DFLE65. Basic descriptive statistics were calculated. Pearson correlation coefficients were calculated. The multiple linear regression analysis</p>
Regional difference in HE	OECD	Robine JM, Romieu I, Jee M. Health expectancies in OECD countries. Reves Report No. 317; April 1998.	Reves Report on Health Expectations in OECD Countries gives regional data for the UK, Canada, Australia and Spain. <ul style="list-style-type: none"> Several countries have computed estimates in order to make geographic comparisons across provinces (Canada, [Wilkins and Adams, 1983a; Wilkins and Adams, 1983b; Wilkins, 1991]); states or territories (Australia, [Mathers, 1991]); regional and local authority areas (United Kingdom, [Bone et al, 1995]); autonomous communities (Spain, [Regidor et al., 1995]); and community size (Canada, [Wilkins and Adams, 1983a; Wilkins and Adams, 1983b]). Annex 4 presents the results for Australia, Canada, Spain, and the United Kingdom. A study of the trends in disability-free life expectancy across regions is currently being conducted in France [Robine et al., 1998].
HE and deprived area	UK	Smith MP, Olatunde O, White C. Inequalities in disability-free life expectancy by area deprivation: England, 2001-04 and 2005-08. Health Stat Q. 2010 Winter;(48):36-57. doi: 10.1057/hsq.2010.20. PMID: 21131986.	<ul style="list-style-type: none"> prevalence of self-reported limiting long-standing illness or disability. Prevalence data were combined with mortality and mid-year population estimates (MYPE) over the same periods to calculate estimates of LE and DFLE at birth and at age 65 for males and females in each deprivation quintile. (IMDを5段階、男女別にしてHEとDFLE比較) using Index of Multiple Deprivation(2007) and compare two four-year time periods, 2001-04 and 2005-08, to assess any change in the inequality in LE and DFLE Males and females at birth and at age 65 in the less deprived areas could expect longer, healthier lives than their counterparts in more deprived areas in both 2001-04 and 2005-08. This analysis suggests that the inequality in DFLE between deprived and affluent area clusters has increased during the first decade of the 21st century. By quintile, the greatest inequality in LE and DFLE lay between the most deprived and next most deprived quintiles.
Urban Rural	Bangladesh	Islam MS, Tareque MI, Mondal MNI, Fazle Rabbi AM, Khan HTA, Begum S. Urban-rural differences in disability-free life expectancy in Bangladesh. J Epidemiol Commun Health 2002;56:1000-4.	Statistically significant differences in DFLE were revealed from birth to age 15 years for both sexes between urban and rural areas.
JPN DI	日本	Kataoka A, Fukui K, Sato T, Kikuchi H, Inoue S, Kondo N, Nakaya T, Ito Y. Geographical socioeconomic inequalities in healthy life expectancy in Japan, 2010-2014: An ecological study. Lancet Reg Health West Pac. 2021 Jul 15;14:100204. doi: 10.1016/j.lanwpc.2021.100204. PMID: 34527999; PMCID: PMC8355904.	<ul style="list-style-type: none"> In England, regional differences in HLE were considered based on small units, and inequalities in HLE based on geographical deprivation were observed. However, very few studies have focused on HLE in small geographical units as in the English studies; most were based on large geographical units such as country, state, and prefecture. 長期介護保険(要介護2-5を unhealthy years) The estimated LE, HLE, and NHLE became lower as the deprivation index worsened: the differences between the most and least deprived areas for HLE were 2.49 years for LE and 2.32 years for HLE in males; 1.22 years for LE and 0.93 years for HLE in females.
Similar to values at birth, LE and DFLE at age 85 both increased	UK	Wohland P, Rees P, Gillies C, Alvanides S, Matthews FE, O'Neill V, Jagger C. Drivers of inequality in disability-free expectancy at birth and age 85 across space and time in Great Britain. J Epidemiol Commun Health. 2014 Sep;68(9):826-33. doi: 10.1136/jech-2014-204083. Epub 2014 Jun 6. PMID: 24907279; PMCID: PMC4145463.	Similar to values at birth, LE and DFLE at age 85 both increased between 1991 and 2001 (though DFLE increased less than LE) and gaps across local areas widened (and more for DFLE than LE).

Theme	Country	Reference	Clipped "Quote"
解析方法 説明変数の扱い方	Spain	Gutiérrez-Fisac JL, Gispert R, Solà J. Factors explaining the geographical differences in Disability Free Life Expectancy in Spain. J Epidemiol Community Health. 2000 Jun;54(6):451-5. doi: 10.1136/jech.54.6.451. PMID: 10818121; PMCID: PMC1731685.	<ul style="list-style-type: none"> Both DFLEb and DLFE65 vary widely among provinces. The independent variables considered were socioeconomic factors, variables related with the health system and certain risk factors associated with lifestyle. The socioeconomic factors used were the illiteracy rate per 1000 population, the percentage of the unemployed population and the percentage of rural population (those living in towns with fewer than 50 000 inhabitants), all of this information was obtained from the 1986 Municipal Census of the population.¹⁰ We also used the number of immigrants per 100 000 population, the number of automobiles per capita and the number of telephone lines per 1000 population, information that was obtained from the Annual Statistics of the INE.¹¹ The variables related to the health care system were the number of hospital beds per 1000 population and the mean hospital stay, both of which were obtained from the Statistics of Inpatient Health Facilities.¹² We also used the number of physicians per 1000 population published in the Annual Statistics of the INE.¹¹ The risk factors related to behaviour and lifestyle were the percentage of smokers in the population and the percentage of the population that consumes alcohol, both indicators obtained from the National Health Survey carried out by the Ministry of Health in 1987 in a representative sample of the non-institutionalised Spanish population.¹³ Finally, we included as an independent variable the percentage of the population 65 years of age and older, as an indicator of a type of society.
医療提供体制による地域差	日本	Hosokawa R, Ojima T, Myojin T, Aida J, Kondo K, Kondo N. Associations Between Healthcare Resources and Healthy Life Expectancy: A Descriptive Study across Secondary Medical Areas in Japan. Int J Environ Res Public Health. 2020 Aug 29;17(17):6301. doi: 10.3390/ijerph17176301. Erratum in: Int J Environ Res Public Health. 2020 Oct 16;17(20): PMID: 32872538; PMCID: PMC7503367.	The findings revealed significant regional disparities. The number of doctors and therapists, support clinics for home healthcare facilities and home-visit treatments, and dentistry expenditure per capita were positively correlated with life expectancy and healthy life expectancy (correlation coefficients > 0.2). They also revealed gender differences. Despite controlling for population density, inequalities in healthy life expectancy were observed, highlighting the need to promote social policies to reduce regional disparities.
SESによる地域差	Brazil	Szwarcwald CL, Souza Júnior PR, Marques AP, Almeida WD, Montilla DE. Inequalities in healthy life expectancy by Brazilian geographic regions: findings from the National Health Survey, 2013. Int J Equity Health. 2016 Nov 17;15(1):141. doi: 10.1186/s12939-016-0432-7. PMID: 27852270; PMCID: PMC5112675.	Marked regional inequalities in HLE were found, with the loss of healthy life much higher among residents of the poorest regions, especially among the elderly.
平均寿命の差は、健康寿命の差 国際比較	Greek	Bagavos C. Gender and regional differentials in health expectancy in Greece. J Public Health Res. 2013 Sep 2;2(2):e12. doi: 10.4081/jphr.2013.e12. PMID: 25170483; PMCID: PMC4147731.	<ul style="list-style-type: none"> First, the differences in terms of life expectancy and of healthy life years do not move in the same direction. For instance, at NUTS_2 regions, the lowest level of life expectancy is found in Eastern Macedonia and Thrace (78.7) and the highest in Epirus (82.2). However, those regions are in a rather intermediate position in terms of healthy life years (63.4 and 65.3 years respectively) whereas Western Greece (57.5) and Ionian Islands (69.2) represent the two extremes. Second, life expectancy differentials are less pronounced than those in healthy life years. In fact, the maximum difference among regions in the expected number of life-years is 3.5 (4.5%) whereas in years without disability is 11.7 (20.4%). When gender dimension is combined with age, we observe that women of all ages live a greater number of years with limited or severely limited activity limitation, despite living longer. In fact, the gender gap in life expectancy decreases with age, while the differences in healthy life years remain rather constant (at around 3.0 years) between 20 and 59 years of age at the benefit of men and start decreasing at age 60 and over
地域差	USA	Chang MH, Molla MT, Truman BI, Athar H, Moonesinghe R, Yoon PW. Differences in healthy life expectancy for the US population by sex, race/ethnicity and geographic region: 2008. J Public Health (Oxf). 2015 Sep;37(3):470-9. doi: 10.1093/pubmed/fdu059. Epub 2014 Aug 30. PMID: 25174043.	Northeast had the longest HLE and the South had the shortest.
SESによる差	Vietnam	Hoi le V, Phuc HD, Dung TV, Chuc NT, Lindholm L. Remaining life expectancy among older people in a rural area of Vietnam: trends and socioeconomic inequalities during a period of multiple transitions. BMC Public Health. 2009 Dec 17;9:471. doi: 10.1186/1471-2458-9-471. PMID: 20017933; PMCID: PMC2803493.	There is a trend of increasing life expectancy among older people in rural areas of Vietnam. Inequalities in life expectancy exist between socioeconomic groups, especially between different poverty levels and also patterns of living arrangements.

Theme	Country	Reference	Clipped "Quote"
Leading causes of DALYs and changes during 1990–2017	Global	Kyu, H. H., Abate, D., Abate, K. H., Abay, S. M., Abbafati, C., Abbasi, N., . . . Murray, C. J. L. (2018). Global, regional, and national disability-adjusted life-years (DALYs) for 359 diseases and injuries and healthy life expectancy (HALE) for 195 countries and territories, 1990–2017: A systematic analysis for the global burden of disease study 2017. <i>The Lancet</i> , 392(10159), 1859–1922. doi:https://doi.org/10.1016/S0140-6736(18)32335-3	<ul style="list-style-type: none"> • We used data for age-specific mortality rates, years of life lost (YLLs) due to premature mortality, and years lived with disability (YLDs) from the Global Burden of Diseases, Injuries, and Risk Factors Study (GBD) 2017 to calculate HALE and DALYs from 1990 to 2017. • Our results showed disparities in disease burden between males and females. Females are more likely than males to have a higher burden from disabling conditions such as most musculoskeletal disorders except for gout, iron-deficiency anaemia, and major depressive disorder. Iron-deficiency anaemia is common especially at reproductive ages for females, and for boys and girls (aged 5–14 years) equally (appendix 2). Males are more likely than females to be affected by fatal conditions including different types of cancer, injuries, and ischaemic heart disease. <p>In several high Socio-demographic Index (SDI) countries, the difference between male and female HALE has decreased over time, which could partly be attributable to the decreasing gap between the sexes in the prevalence of specific risk factors—eg, smoking and alcohol use. 24,25</p> <p>Our results show increased life expectancy and more years lived in poor health for women than men in most countries. This finding could be attributable to sex differences in the patterns of disease burden. For example, women are more likely than men to have a higher burden from disabling conditions (eg, most musculoskeletal disorders except for gout, iron-deficiency anaemia, and major depressive disorder), whereas men are more likely than women to be affected by fatal conditions including different types of cancer (eg, liver cancer, lung cancer, leukaemia, colorectal cancer, and pancreatic cancer), injuries, and ischaemic heart disease. Various explanations have been suggested for the sex difference in disease risk, including social norms (eg, heavy drinking is socially acceptable for men in Russian tradition), health-related beliefs and behaviours, and biological factors (eg, sex hormones). 22,26</p>
falls	Global	WHO Global Report on Falls Prevention in Older Age 2007	<p>As is outlined in Chapter 1, women are more likely than men to fall and sustain fracture (1), resulting in twice more hospitalizations and emergency department visits than men (2). However, fall-related mortality disproportionately affects men.</p> <p>The difference in falls in older age may stem from the gender-related factors, such as women being inclined to make greater use of multiple medications and living alone (3). In addition, biological difference also contributes to greater risk, for instance, women's muscle mass declines faster than that of men, especially in the immediate few years after menopause. To some extent this is gender-related as women are less likely to engage into the practice of muscular building physical activity though the life course e.g. sports.</p> <p>Health seeking behaviour differs according to gender. Culturally-oriented expectations to gender roles affect behaviour when seeking medical care. Male higher fatality rates may be due in part to the tendency of men not seeking medical care until a condition becomes severe, resulting in substantial delay to the access to prevention and management of diseases. Further, men are more likely to be engaged in intense and dangerous physical activity and risky behaviours such as climbing high ladders, cleaning roofs or ignoring the limits of their physical capacity.</p>
疾病、男女差	日本	大内 耐義 (2005) 性差から見た老化と疾病・性差に着目した老年医学の重要性と今後の展望, 日老医誌 2005;42:616-623)	<ul style="list-style-type: none"> • 男性において自殺, 事故, 肝硬変, 肝癌が女性よりも圧倒的に多いことが統計から示されている13). • この報告では平均自立期間を平均余命で割った値を「お達者度」と呼んでいるが, この「お達者度」は女性では76.4%と男性(85.9%)に比べて低いのである。この成績は, 女性は長生きではあるが, 必ずしも自立した健康寿命はそれに比例して長くなっていないことを示しており, 女性において自立期間が相対的に短い原因の究明と対策が重要であることが理解される。 <p>女性の平均寿命は男性に比して長い, 健康寿命は短いということについてはさまざまな研究がなされている。高知大学による河北町研究では, 10年間の縦断経過によりADL低下の要因を解析し, 男性に比して女性は1.74倍ADLが低下しやすいという成績が示されている15)。これはおそらく, 女性には自律神経失調症, 白内障, 関節リウマチ, 肩凝り, 骨折など, 直接的には死に至らずともQOLを低下させる疾病が多いことが関係していると考えられる。</p>
転倒、ロコモティブシンドローム	日本	中村 耕三(2017) ロコモティブシンドロームの概念・現状と将来の展望, pharma Medica Vol.35 No.10201	<ul style="list-style-type: none"> • 転倒は重要な移動機能障害である。一般住民(平均68.5歳)の3年間の経過での調査では, 男性の18.9%, 女性の24.6%が少なくとも1回転倒している。 • ロコモの臨床判断値によるロコモの初期段階であるロコモ度1の有病率は69.8%で, 男性68.4%, 女性70.5%である。ロコモの進行した状態であるロコモ度2の有病率は25.1%で, 男性22.7%, 女性26.7%である。やや女性に多く, また70歳80歳以上で急激に増加する(図

Theme	Country	Reference	Clipped "Quote"
フレイル、サルコペニア	日本	吉村 典子(2021) ロコモティブシンドローム、フレイル、サルコペニアの性差, Geriatr. Med.59(1):49~54, 2021	<ul style="list-style-type: none"> ・フレイルの有病率は5.6%(男性3.8%、女性6.6%)であると推定された[フレイルの有病率は年齢とともに高くなるが、男女差はなかった。この性・年代別分布を「平成22年国勢調査人口等基本集計」¹⁾]に当てはめてフレイルの有病者数(60歳以上)を推定したところ、総数220万人(男性164万人、女性164万人)となり、有病率の有意差はないが、高齢者に占める性差の影響でフレイルの有病者は女性に多いことがわかった。 ・サルコペニアの有病率は8.2%(男性8.5%、女性8.0%)であると推定された³⁾。サルコペニアの有病率は年齢とともに高くなるが男女差はなかった。この性・年代別分布を「平成22年国勢調査人口等基本集計」¹⁾]に当てはめてサルコペニアの有病者数(60歳以上)を推定したところ、総数370万人(男性120万人、女性250万人)となった。 ・ロコモもフレイルもサルコペニアも、いずれも有病率では有意な男女差は認められなかったが、高齢者に多い状態であり、高齢者における女性の占める割合が高いことから、これらの有病者数は明らかに女性に多かった。またサルコペニアについては、そもそも診断基準の段階で握力、筋量に男女差が設けられているので、同じ基準を適用した場合は女性の方が多くと考えられる。
骨粗鬆症、骨折	日本	藤原 佐枝子 (2018)骨粗鬆症の疫学、特集 骨粗鬆症の Up to date,成人病と生活習慣病 48 巻 9 号	<ul style="list-style-type: none"> ・わが国の骨粗鬆症推計人口は1280万人で、女性は男性の約3倍多く罹患している。 ・椎体骨折の発生率は、主要な骨粗鬆症性骨折の中でもっとも高く(図3)5)、女性は男性の2倍であり、年齢が10歳高くなると1.5~2倍増加する
転倒、骨折	日本	萩野 浩(2007)転倒・骨折予防の重要性―疫学データから―、ジェントロジーニューホライズンVol. 79 No.32007-	<ul style="list-style-type: none"> ・わが国では年間に地域在宅高齢者の10~20%が、施設入所者では30%以上が転倒する¹⁾。女性は、男性に比較して転倒率が高い。 ・脊椎骨折のない高齢者に比較して、1つでも脊椎骨折を生じると、1日以上臥床する割合は4.8倍、1週間以上活動が制限される割合が2.8倍に、骨折が2カ所以上になるとそれぞれ10.5倍、5.3倍に達する¹⁹⁾。
大腿骨頸部骨折	日本	折茂 肇, 坂田清美:第四回大腿骨頸部骨折全国調査成績―2002年における新発症患者数の推定と15年間の推移―.日本医事新報4180:25-30, 2004	<ul style="list-style-type: none"> ・全国で整形外科を標榜する九四二二施設のうち、対象として全国推計用に抽出されたのは四五〇〇施設、ブロック別推計に抽出されたのは五九九九施設であった。 ・2002年大腿骨頸部骨折年間累計発生患者数は男性(25,300)より女性(92,600)に多かった
転倒、転倒後の死亡	日本	加藤 龍一* 高城 智圭2* 櫻井 尚子3* 星 旦二、(2012)地域在住高齢者の転倒の関連要因と3年後の生存、第59巻 日本公衛誌 第5号	<ul style="list-style-type: none"> ・転倒状況についてもれなく回答が得られたのは6,420人(男性3,127人、女性3,293人)で、転倒率、転倒による骨折率は、男性16.4%、2.1%、女性27.8%、6.2%と女性に高率であった(P<0.001)。また転倒率は男女とも、年齢階層の上昇とともに増加する傾向を示した。 ・本邦における地域在住高齢者の転倒後の生存率は明らかでなく、わずかに海外での報告が見られるのみであった。 ・Campbellらは、ニュージーランドにおける70歳以上の高齢者761人1年間の調査の結果、男性は転倒後の死亡が非転倒者より3.2倍高く(95%CI 1.7-6.0)、女性も高い傾向であったが、統計学的に有意ではなかったとしていた²⁷⁾ ・ノルウェーにおける地域在住の75歳以上の高齢女性300人の9年間の縦断研究で検討した結果、頻回の転倒、高齢、主観的健康感の悪化が死亡と有意に関連し、それぞれ独立した危険因子であり、最低2回の転倒は、転倒なしに比べ、比例ハザード比が1.6(95%CI 1.1-2.4)であった
LEの差	日本	厚生労働省第16回健康日本21(第二次)推進専門委員会 (2021)健康寿命の令和元年値について	<ul style="list-style-type: none"> ・2016年「日常生活に制限のない期間の平均(年)」男性は推定値72.14、女性は74.79
有病率と人口学的効果	Greek	Bagavos C. Gender and regional differentials in health expectancy in Greece. J Public Health Res. 2013 Sep 2;2(2):e12. doi: 10.4081/jphr.2013.e12. PMID: 25170483; PMCID: PMC4147731.	<ul style="list-style-type: none"> ・Firstly, we have to consider that, if there is a (negative) relationship between age and good health, the fact that women live longer than men might be reflected in the longer period they live with functional limitations compared to men. At population level, this is appreciated through the differential ageing of female and male population. In order to estimate the impact of this demographic dimension on the differences in (weighted) prevalence rates without any activity limitation between men and women, we have calculated the corresponding standardized (weighted) prevalence rates for women. ・Those standardized rates are obtained by applying the prevalence rates of women to the age structure of the male population aged 15 years and over. The results indicate that, if the male and the female age distributions were identical, prevalence rates for women without disability could be 74.6% instead of 72.7%. Taking into account that, at national level, the prevalence rates without disability for men is 82%, we can conclude that around 21% of the difference between men and women as regards their health status, namely without any activity limitation, could be attributed to a pure demographic effect (i.e. to the fact that women live longer than men and therefore aging is more pronounced for the female rather than for male population). This demographic effect also holds for regional inequalities in health status, because of the unequal distribution of ageing across regions

表1-1 「日常生活に制限のない期間の平均」と「日常生活に制限のある期間の平均」

性別	年次	日常生活に制限のない期間の平均(年)		日常生活に制限のある期間の平均(年)		男の割合(%)	
		推定値	95%信頼区間	推定値	95%信頼区間	推定値	95%信頼区間
男性	2010年	70.42	70.208	70.515	70.222	70.400	70.315
	2015年	71.13	71.077	71.312	71.014	71.009	70.914
	2016年	72.14	72.014	72.277	72.014	72.1	72.005
女性	2010年	72.60	72.515	72.811	72.773	72.600	72.511
	2015年	73.62	73.440	73.777	73.777	73.612	73.512
	2016年	74.79	74.677	74.815	74.815	74.79	74.79

基礎資料として、健康情報は国民生活基礎調査、死亡情報は人口動態統計を用いた。2016年の健康情報は、国民生活基礎調査の国地域別より国全体を調査していただいた。国全体を除く全国のものを用いた。

Theme	Country	Reference	Clipped "Quote"
HLE関連要因	EU	Mäki N, Martikainen P, Eikemo T, Menvielle G, Lundberg O, Ostergren O, Jasilionis D, Mackenbach JP; EURO-GBD-SE consortium. Educational differences in disability-free life expectancy: a comparative study of long-standing activity limitation in eight European countries. <i>Soc Sci Med</i> . 2013 Oct;94:1-8. doi: 10.1016/j.socscimed.2013.06.009. Epub 2013 Jun 25. PMID: 23931939.	Life expectancy and disability-free life expectancy were directly related to the level of education, but the educational differences were much greater in the latter in all countries.
HLE関連要因	Korea	Kim, J. I., & Kim, G. (2017). "Country-level socioeconomic indicators associated with healthy life expectancy: Income, urbanization, schooling, and internet users: 2000–2012": Erratum. <i>Social Indicators Research</i> , 131(3), 1269. https://doi.org/10.1007/s11205-016-1295-4	HLE and the income index as a measure of gross national income per capita (INI), percentage of the urban population (UP) as a measure of urbanization, mean years of adult schooling (MYS) as a measure of educational attainment, and number of internet users (IU).
DFLE関連要因	France	Laborde, C., Crouzet, M., Carrère, A. <i>et al.</i> Contextual factors underpinning geographical inequalities in disability-free life expectancy in 100 French <i>départements</i> . <i>Eur J Ageing</i> 18, 381–392 (2021). https://doi.org/10.1007/s10433-020-00589-0	<ul style="list-style-type: none"> Local context can promote or reduce DFLE or DLE via different dimensions: economic factors (Jagger et al. 2008; Liu et al. 2010; Fouweather et al. 2015; Szwarcwald et al. 2017), social factors (Mäki et al. 2013; Minagawa and Saito 2017; Brønnum-Hansen et al. 2017), policy decisions (Bergqvist et al. 2013; Minagawa and Saito 2017), urban or rural profile (Liu et al. 2010; Islam et al. 2017), or even access to and use of health services (Liu et al. 2010; Szwarcwald et al. 2016; Kondo et al. 2018). Our results suggest that geographical inequalities in health expectancies are significantly correlated with socioeconomic status and with healthcare supply, support for older persons, and urban environments, particularly among women. <p>DFLE is positively associated with per capita GDP (Jagger et al. 2008; Liu et al. 2010; Fouweather et al. 2015), mean income (Groenewegen et al. 2003; Minagawa and Saito 2017), mean educational level (Jagger et al. 2008; Mäki et al. 2013; Wohland et al. 2014; Szwarcwald et al. 2016) and life-long learning (Jagger et al. 2008). Negative relationships have been found with the unemployment rate among the general population (Gutierrez-Fisac et al. 2000; Groenewegen et al. 2003; Minagawa and Saito 2017) or among men alone (Jagger et al. 2008), and with illiteracy rates (Gutierrez-Fisac et al. 2000). In addition, some studies show an association with the urban–rural distribution of the population (Liu et al. 2010; Islam et al. 2017; Tareque et al. 2019) which can be an indirect indicator of ease of access to shops and services.</p>
DFLE関連要因	日本	Naoki Kondo, Takashi Mizutani, Junko Minai, Mari Kazama, Hisashi Imai, Yasuhisa Takeda, Zentaro Yamagata, Factors Explaining Disability-free Life Expectancy in Japan: the Proportion of Older Workers, Self-reported Health Status, and the Number of Public Health Nurses, <i>Journal of Epidemiology</i> , 2005, Volume 15, Issue 6, Pages 219-227, Released November 07 2005, Online ISSN 1349-9092, Print ISSN 0917-5040, https://doi.org/10.2188/jea.15.219 , https://www.jstage.jst.go.jp/article/jea/15/6/15_6_219/_article/-char/en ,	after adjusting for confounding factors, only the human resource factors of the number of PHNs and physicians were associated with DFLE65s; however, medical infrastructure such as hospitals, clinics, and beds were not significantly associated with them. Particularly, the number of PHNs contributed the most to the DFLE65 differences. The ecological study in Spain showed that the large number of physicians was significantly correlated with long DFLE65,18 but it was insignificant in multivariate analysis. Further, the number of beds and the average length of stay in hospitals were not correlated with DFLE65s. The present study is in good agreement with this data. Therefore, medical human resources may be more important than medical infrastructure.
DFLE関連要因	China	Liu, J., Chen, G., Chi, I. <i>et al.</i> Regional variations in and correlates of disability-free life expectancy among older adults in China. <i>BMC Public Health</i> 10, 446 (2010). https://doi.org/10.1186/1471-2458-10-446	DFLE at age 60 varied widely by region, from 11.2 to 20.8 years in 2006. Per capita gross domestic product, proportion of urban residents, and access to health care were the primary factors associated with geographical variations in DFLE.
HLE&DFLE関連要因	EU	Head J, Chungkham HS, Hyde M, Zaninotto P, Alexanderson K, Stenholm S, Salo P, Kivimäki M, Goldberg M, Zins M, Vahtera J, Westerlund H. Socioeconomic differences in healthy and disease-free life expectancy between ages 50 and 75: a multi-cohort study. <i>Eur J Public Health</i> . 2019 Apr 1;29(2):267-272. doi: 10.1093/eurpub/cky215. PMID: 30307554; PMCID: PMC6426044.	<ul style="list-style-type: none"> people with higher education not only live longer but spend more years in better health than those with a lower education.8–12 Even fewer studies have investigated occupational socioeconomic position, a more proximal measure which may better reflect adulthood circumstances,13 and these also suggest that there are socioeconomic Occupational socioeconomic position may be a more relevant measure, particularly in the context of extending working lives.
HLE	日本	Hosokawa R, Ojima T, Myojin T, Aida J, Kondo K, Kondo N. Associations Between Healthcare Resources and Healthy Life Expectancy: A Descriptive Study across Secondary Medical Areas in Japan. <i>Int J Environ Res Public Health</i> . 2020 Aug 29;17(17):6301. doi: 10.3390/ijerph17176301. Erratum in: <i>Int J Environ Res Public Health</i> . 2020 Oct 16;17(20): PMID: 32872538; PMCID: PMC7503367.	<ul style="list-style-type: none"> home healthcare service, there were no significant correlations with LE and HLE for males. However, support hospitals for home healthcare per 1000 residents tended to correlate positively with HLE ($r = 0.106$, $p = 0.049$). Moreover, support clinics for home healthcare and home-visit care facilities per 1000 residents tended to correlate positively with LE ($r = 0.155$, $p = 0.004$ and $r = 0.145$, $p = 0.007$, respectively) and HLE For healthcare expenditure, for males, dentistry expenditure per capita was significantly positively correlated with both LE ($r = 0.228$, $p < 0.001$) and HLE ($r = 0.237$, $p < 0.001$), while outpatient expenditure per capita tended to correlate positively with LE ($r = 0.180$, $p < 0.001$) and HLE
self-reported disability,	USA	Murray CJ, Lopez AD. Regional patterns of disability-free life expectancy and disability-adjusted life expectancy: global Burden of Disease Study. <i>Lancet</i> . 1997 May 10;349(9062):1347-52. doi: 10.1016/S0140-6736(96)07494-6. PMID: 9149696.	When measurements are based on self-reported disability, trends in health expectancies may be affected by changes in the perception of illness, the willingness to take on the sick role, and the cost to the individual of missing work or school.7–9
Inequalities in DFLE between ethnic groups	UK	Wohland P, Rees P, Nazroo J, Jagger C. Inequalities in healthy life expectancy between ethnic groups in England and Wales in 2001. <i>Ethn Health</i> . 2015;20(4):341-53. doi: 10.1080/13557858.2014.921892. Epub 2014 Jun 4. PMID: 24897306; PMCID: PMC4648377.	Inequalities in DFLE between ethnic groups are large and exceed those in LE. Moreover, certain ethnic groups have a larger burden of disability that does not seem to be associated with shorter LE.

Theme	Country	Reference	Clipped "Quote"
2次医療圏	日本	Hosokawa R, Ojima T, Myojin T, Aida J, Kondo K, Kondo N. Associations Between Healthcare Resources and Healthy Life Expectancy: A Descriptive Study across Secondary Medical Areas in Japan. <i>Int J Environ Res Public Health</i> . 2020 Aug 29;17(17):6301. doi: 10.3390/ijerph17176301. Erratum in: <i>Int J Environ Res Public Health</i> . 2020 Oct 16;17(20): PMID: 32872538; PMCID: PMC7503367.	Primary medical service areas consist of approximately 1700 districts; secondary medical areas consist of 344 jurisdictions; and tertiary medical service areas consist of 52 areas. The secondary medical area is a region where general inpatient medical care can be provided. In addition, the medical provision system is planned based on area unit to maintain medical resources (e.g., number of beds and number of clinic facilities). The characteristics of each region with respect to HLE by prefecture levels have been reported in multiple studies. However, these studies have focused on health promotion and care prevention measures. There is a lack of assessment in units of administrative districts that are directly linked to administrative activities.
2次医療圏	日本		the characteristics of population aging and epidemiological transition differ by region, which can have a significant impact on healthcare system performance [29]. These factors influence the social determinants of health and may increase imbalances within the healthcare system [30]. Thus, it is important to develop a healthcare system that matches the actual conditions of each region. However, the actual distribution of the difference in HLE among secondary medical areas has yet to be clarified. Therefore, understanding the regional characteristics of the medical service system related to HLE in secondary medical areas is important to have a more effective approach in extending HLE and healthy aging policies.
研究意義	日本		Although Japan's healthcare system is the most organized in the world, there are functional differences between regions that need to be addressed [37]. There is a gap in terms of equal distribution of beds, staff, and doctors among all prefectures. Thus, it is necessary to clarify the relationship between medical care resources (i.e., hospital beds, healthcare workforce, home healthcare service, and healthcare expenditure) and HLE to contribute to developing effective policies to extend HLE.
HLE意義	WHO	Murray, Christopher & Lopez, Alan & Salomon, Joshua & Sadana, Ritu & Tandon, Ajay & Ustün, Bedirhan & Chatterj, Somnath. (2000). Estimates of healthy life expectancy for 191 countries in the year 2000: methods and results.	Health policy is not aimed only at reducing mortality. Substantial resources are devoted to reducing the incidence of conditions that cause ill health but not death and to reducing their impact on people's lives. So it is important to capture both fatal and non-fatal health outcomes in any measure of population health. For this reason, the World Health Organization uses healthy life expectancy as a summary measure of level of population health that captures the full health experience of the population and not just mortality.
Tresnd HE, review	international	Spiers GF, Kunonga TP, Beyer F, Craig D, Hanratty B, Jagger C. Trends in health expectancies: a systematic review of international evidence. <i>BMJ Open</i> . 2021 May 25;11(5):e045567. doi: 10.1136/bmjopen-2020-045567. PMID: 34035101; PMCID: PMC8154999.	In most countries, gains in healthy and disability-free life expectancy do not match the growth in total life expectancy. Exceptions were demonstrated for women in Sweden, where there were greater gains in disability-free years than life expectancy. Gains in healthy and disability-free life expectancy were greater for men than women in most countries except the USA (age 85), Japan (birth), Korea (age 65) and Sweden (age 77).
Abstract(LE, function, dementia)	Finland	Enroth L, Raitanen J, Halonen P, Tiainen K, Jylhä M. Trends of Physical Functioning, Morbidity, and Disability-Free Life Expectancy Among the Oldest Old: Six Repeated Cross-Sectional Surveys Between 2001 and 2018 in the Vitality 90+ Study. <i>J Gerontol A Biol Sci Med Sci</i> . 2021 Jun 14;76(7):1227-1233. doi: 10.1093/gerona/glaa144. PMID: 32506117.	<ul style="list-style-type: none"> • Over time, functioning improved, especially, in women, and morbidity increased in men. • LE without cardiovascular and dementia morbidity decreased for men (2.6 months) and increased for women (1.9 months).