Supplementary material $S1$ – Analytical framework Indicators reference list

INPUTS		INDICADORES	REFERENCES
SOCIAL	1.1	Population ageing	[2][3][7][6][9][7][6]
	1.2	Feminisation of ageing	[2][3][7][6][9][7][6][4][19][20][6]
	1.3	Presence of migrant population	[9][7][6][7][6][9]
	1.4	Basic education of the population	[4][15][7]
	1.5	Household disposable income	[9][7]6][4][23][7]

INPUTS		INDICADORES	REFERENCES
HABITABILITY	1.1	Average living area per building	[3][5][6][2][3][6][3][6][7][6][26]
	1.2	Ratio of façade area to floor area of the building	[1][6][3][3][6][26][7]
	1.3	Percentage of façade openings	[1][6][3][3][6][26][7]
	1.4	Number of orientations	[1][6][3][6][26][7]
	1.5	Balconies and/or terraces considering those with a minimum depth and surfaces to be determined (4-5 m²).	[3][6][26][3][7]
	1.6	Existence of premises on the ground floor without determining the use.	[7]
	1.7	Constructive characteristics of the building	[7]
URBAN ENVIRONMENT	2.1	Spaciousness and perspective from inside the dwelling determined by the relationship between the floor level and its distance to nearby buildings.	[3]
	2.3	Accessibility to work, facilities, social spaces, public transport and basic services.	[1][7][6]
	2.4	Housing and residential environment. Perception of safety and fear of crime	[3][23]
FUNCTIONALITY	3.1	Accessibility of doorway	[3][6]
	3.2	Lift accessibility	
	3.3	Accessibility and usability. Housing for an independent living model	[3][6]
OTHER	4.1	Tenancy regime and housing prices	[1][5][6]

INPUTS		INDICADORES	REFERENCES
HYGROTHERMAL CONFORT	1.1	Ventilation capacity - Humidity determined by the typology	[6][20][9][15][9]
	1.2	Constructive characteristics of the envelope determined by the typology % openings U opaque façade U of openings	[6][19][15][9]
LIGHT CONFORT	2.1	Urban compactness	[3][5][6]
	2.2	Ratio of façade area to living area (m² façade/m² built area of dwelling)	[31][23]
	2.3	Orientation	[6][32][23]
ACOUSTIC CONFORT	3.1	CTE- maximum noise levels established in the different premises	[6][19][15][34][35][7][6][34]
	3.2	Acoustic map at urban level → R façade	

INPUTS		INDICADORES	REFERENCES
THERMAL DEMAND	1.1	Building demand. Thermal transmittance of the façade (U-value) (W/m²-K), openings, orientation, energy access.	[15][9][36][26][19][20][43][15][9][23][41][31][32][49][50][51]

Reference list

[1] ONU-Habitat. (1996). Declaración de Estambul sobre los Asentamientos Humanos y Programa de Hábitat Conferencia de Las Naciones Unidas Sobre Los Asentamientos Humanos.
https://gestionsostenibledelagua.files.wordpress.com/2014/07/1996-onu-declaracion-de-estambul-asentamientos-humanos-habitat.pdf

[2] Bonnefoy, X. (2007). Inadequate housing and health: An overview. International Journal of Environment and Pollution, 30(3–4), 411–429.
https://doi.org/10.1504/IJEP.2007.014819

[3] Suglia, S.F., Duarte, C.S., & Sandel, M.T. (2011). Housing quality, housing instability, and maternal mental health. Journal of Urban Health: Bulletin of the New York Academy of Medicine, 88(6), 1105–1116. https://doi.org/10.1007/S11524-011-9587-0

[4] World Health Organization. [2016]. Strategy on women's health and well-being in the WHO European Region.
https://www.euro.who.int/en/health-topics/health-determinants/gender/publications/2016/strategy-on-womens-health-and-well-being-in-the-who-european-region-2016

[5] Santa María R. (2008). La iniciativa de vivienda saludable en el Perú. Revista Peruana de Medicina Experimental y Salud Publica, 25(4).
http://www.scielo.org.pe/scielo.php?script=sci_arttext&pid=S1726-46342008000400013

[6] ONU-Habitat. (2018). Vivienda y ODS en México. Programa de Las Naciones Unidas Para Los Asentamientos Humanos.
http://70.35.196.242/onuhabitatmexico/VIVIENDA_Y_ODS.pdf

[7] Mackenbach, J., Mc, E., & Howden-Chapman, P. (2002). Houses, neighbourhoods and health. European Journal of Public Health, 12, 161–162.
https://doi.org/10.1093/eurpub/12.3.161

[8] Bonnefoy, X., Braubach, M., Krapavickaite, D., Ormandy, D., & Zurlyte, I. (2003). Housing conditions and self-reported health status: A study in panel block buildings in three cities of Eastern Europe. Journal of Housing and the Built Environment, 18, 329–352.
https://link.springer.com/content/pdf/10.1023/B:JOHO.0000005757.37088.a9.pdf

[9] Evans, G. W. (2003). The Built Environment and Mental Health. Journal of Urban Health: Bulletin of the New York Academy of Medicine, 80(4).
https://link.springer.com/content/pdf/10.1093/jurban/jtg063.pdf

[10] Thomson, H., Petticrew, M., & Morrison, D. (2001). Health effects of housing improvement: systematic review of intervention studies. British Medical Journal, 323, 187–190.
https://doi.org/10.1136/bmj.323.7306.187

[11] Shaw, M. (2004). Housing and Public Health. Annu. Rev. Public Health, 25, 81–82.
https://doi.org/10.1146/annurev.publhealth.25.101802.123036

[12] M. Stafford, M., M. Marmot. (2003) "Neighbourhood deprivation and health: does it affect us all equally?", International Journal of Epidemiology, Vol. 32, pp.357-366
https://academic.oup.com/ije/article/32/3/357/637091

[13] Basolo V, & Strong D. (2001). Understanding the neighbourhood: from residents' perceptions and needs to action. Housing Policy Debate, 13(1), 83–105.
https://doi.org/10.20868/ade.2019.4042

[14] Morrow, Virginia. (2001). Networks and neighbourhoods : children's and young people's perspectives. NHS. Health Development Agency, 51.
https://www.researchgate.net/publication/255554678_Networks_and_Neighbourhoods_Children%27s_and_Young_People%27s_Perspectives

[15] Ellaway, A., Macintyre, S., Kearns, A. (2001) "Perceptions of place and health in socially contrasting neighbourhoods", Urban Studies, Vol. 38, No 12, pp.2299-2316
https://journals.sagepub.com/doi/pdf/10.1080/00420980120087171

[16] Bacallao, J., Castillo-Salgado, C., Schneider, M. C., Mujica, O. J., Loyola, E., & Manuel, V. (2002). Índices para medir las desigualdades de salud de carácter social basados en la noción de entropía. Revista Panamericana de Salud Pública, 12(6), 429–435.
https://doi.org/10.1590/S1020-49892002001200008

[17] Rojas, M. del C., Meichtry, N. C., Ciuffolini, M. B., Vázquez, J. C., & Castillo, J. (2008). Repensando de manera holística el riesgo de la vivienda urbana precaria para la salud: un análisis desde el enfoque de la vulnerabilidad sociodemográfica. Salud Colectiva, 4(2), 187–201.
https://doi.org/10.1590/S1851-82652008000200009

[18] World Health Organization. (2007b). Large analysis and review of European housing and health status (LARES). World Health Organization Europe.
http://www.euro.who.int/pubrequest

[19] ONU. (1996). Report of the Fourth World Conference on Women. United Nations·New York.
https://www.un.org/womenwatch/daw/beijing/pdf/Beijing%20full%20report%20E.pdf

[20] ONU-Mujeres. (2015). Declaración política con ocasión del vigésimo aniversario de la cuarta Conferencia Mundial sobre la Mujer. Comisión de La Condición Jurídica y Social de La Mujer.
https://www.unwomen.org/-/media/headquarters/attachments/sections/csw/59/declaration-sp.pdf?la=en&vs=4800

[21] Harris, J., Hall, J., Meltzer, H., Jenkins, R., Oreszczyn, T.,& McManus, S. (2010). Mental health and housing conditions in England. Research for the EAGA Charitable Trust by the National Centre for Social Research
https://scholar.google.fr/scholar?q=Health,+mental+health+and+housing+conditions+in+England&hl=es&as_sdt=0&as_vis=1&oi=scholart

[22] La Barbera, M. (2016). Interseccionalidad, un "concepto viajero": orígenes, desarrollo e implementación en la Unión Europea. INTERdisciplina, 4(8), 103–120.
https://doi.org/10.22201/CEIICH.24485705E.2016.8.54971

[23] Novoa, A. M., Bosch, J., Díaz, F., Malmusi, D., Darnell, M., & Trilla, C. (2014). El impacto de la crisis en la relación entre vivienda y salud. Políticas de buenas prácticas para reducir las desigualdades en salud asociadas con las condiciones de vivienda. Gaceta Sanitaria, 28(S1), 44–50.
https://doi.org/10.1016/J.GACETA.2014.02.018

[24] B. Giles-Corti, R. J. Donovan. (2003). "Relative Influences of Individual, Social Environmental, and Physical Environmental Correlates of Walking". American Journal of Public Health, No. 93
https://www.researchgate.net/publication/10588581_Relative_Influences_of_Individual_Social_Environmental_and_Physical_Environmental_Correlates_of_Walking

[25] Amerigo, M. (1995). Satisfacción residencial. Un análisis psicológico de la vivienda y su entorno. In The Qualitative Report (Vol. 25, Issue 7).
https://doi.org/10.46743/2160-3715/2020.4690

[26] Braubach, M., Jacobs, D. E., & Ormandy, D. (2011). Environmental burden of disease associated with inadequate housing: A method guide to the quantification of health effects of selected housing risks in the WHO European Region. World Health Organization.
www.who.int/phe

[27] Observatorio de Salud y Medioambiente de Andalucía: OSMAN. (2020). Urbanismo, medio ambiente y salud .Junta de Andalucía.
https://www.osman.es/project/urbanismo-medio-ambiente-y-salud/

[28] Ortiz, J. & Salom, J. (2016). Estimación del efecto de la rehabilitación energética en la salud de las personas. Enfoque económico. IREC
http://www.lacasaqueahorra.org/documentos/estimacionEfectoRehabilitacionSalud.pdf

[29] Hamilton, I. G., O'Sullivan, A., Huebner, G., Oreszczyn, T., Shipworth, D., Summerfield, A., & Davies, M. (2017). Old and cold? Findings on the determinants of indoor temperatures in English dwellings during cold conditions. Energy and Buildings, 141, 142–157.
https://doi.org/10.1016/J.ENBUILD.2017.02.014

[30] Lloyd, E. L., McCormack, C., McKeever, M., & Syme, M. (2008). The effect of improving the thermal quality of cold housing on blood pressure and general health: a research note. Journal of Epidemiology & Community Health, 62(9), 793–797.
https://doi.org/10.1136/JECH.2007.067835

[31] Calvillo Cortés, A.B. (2010). Luz y Emociones: Estudio sobre La Influencia de la Iluminación Urbana en las Emociones; tomando como base el Diseño Emocional. UPVD, Departamento de Construcciones Arquitectónicas
https://upcommons.upc.edu/bitstream/handle/2117/93450/TABCC1de1.pdf

[32] Martinez, I. (2002). Resaltan Espacios con Luz. Mexico City

[33] SCENIHR (Scientific Committee on Emerging and Newly Identified Health Risks). (2012). Health Effects of Artificial Light. European Commission.
https://doi.org/10.2772/8624

[34] Goines, L. & Hagler, L. (2007). Noise pollution: a modem plague. Southern Medical Journal, 100(3), 287–294.
https://doi.org/10.1097/SMJ.0B013E3180318BE5

[35] Maschke, C., Rupp, T., & Hecht, K. (2000). The influence of stressors on biochemical reactions--a review of present scientific findings with noise. International Journal of Hygiene and Environmental Health, 203(1), 45–53.
https://doi.org/10.1078/S1438-4639(04)70007-3

[36] Wolkf, R. (2005). "Environ Health Perspect". Noise Heal., vol. 113, no. 1

[37] World Health Organization. (1999). Guidelines for Community Noise. World Health Organization.
https://apps.who.int/iris/

[38] Healy, J. D. (2003). Excess winter mortality in Europe: a cross country analysis identifying key risk factors. J Epidemiol Community Health, 57, 784–789.
https://doi.org/10.1136/jech.57.10.784

[39] Liddell, C., & Morris, C. (2010). Fuel poverty and human health: A review of recent evidence. Energy Policy, 38(6), 2987–2997.
https://doi.org/10.1016/J.ENPOL.2010.01.037

[40] Dear, K. B. G., & McMichael, A. J. (2011). The health impacts of cold homes and fuel poverty. BMJ, 342(7).
https://doi.org/10.1136/BMJ.D2807

[41] Wilkinson, P., Armstrong, B., Landon, M., & Stevenson, M. (2001). Cold comfort : the social and environmental determinants of excess winter deaths in England, 1986-96. The Policy Press, 24.
https://www.researchgate.net/publication/291430980_Cold_comfort_the_social_and_environmental_determinants_of_excess_winter_death_in_England_1986-1996

[42] World Health Organization. (2005). Environmental burden of disease associated with inadequate housing. World Health Organization Europe.
https://www.euro.who.int/__data/assets/pdf_file/0010/87643/EDB_mtgrep.pdf

[43] Marmot Review Team. (2011). Direct health impacts of living in a cold home and fuel poverty. United Nations-The Sustainable Development Goals.
https://unstats.un.org/sdgs/report/2020/

[44] Crawford, V. L. S., Mccann, M., & Stout, R. W. (2003). Changes in seasonal deaths from myocardial infarction. QJM: An International Journal of Medicine, 96(1), 45–52.
https://doi.org/10.1093/QJMED/HCG005

[45] Howieson, S.G., & Hogan, M. (2005). Multiple deprivation and excess winter deaths in Scotland. The Journal of the Royal Society for the Promotion of Health, 125(1), 18–22.
https://doi.org/10.1177/146642400512500110

[46] Hajat, S., Vardoulakis, S., Heaviside, C., & Eggen, B. (2014). Climate change effects on human health: Projections of temperature-related mortality for the UK during the 2020s, 2050s and 2080s. Journal of Epidemiology and Community Health, 68(7), 641–648.
https://doi.org/10.1136/JECH-2013-202449

[47] Keatinge, W. R. (1997). Cold exposure and winter mortality from ischaemic heart disease, cerebrovascular disease, respiratory disease, and all causes in warm and cold regions of Europe. The Lancet, 349(9062), 1341–1346.
https://doi.org/10.1016/S0140-6736(96)12338-2

[48] Butcher, K. (2005). Guide A: Environmental Design. CIBSE.
www.cibse.org

[49] McMichael, A.J., Woodruff, R.E. & Hales, J. (2006). Climate change and human health: present and future risks. The Lancet, Vol 367, pp 859-869
https://pubmed.ncbi.nlm.nih.gov/16530580/

[50] Kovats R. S., & Hajat, S. (2008). Heat stress and public health: a critical review. Annual Review of Public Health, 29, 41–55.
https://doi.org/10.1146/ANNUREV.PUBLHEALTH.29.020907.090843

[51] Brown, S., & Walker, G. (2008). Understanding heat wave vulnerability in nursing and residential homes. Building Research & Information, 36(4), 363–372.
https://doi.org/10.1080/09613210802076427

GENERAL REFERENCES

These documents have informed the entire work process and have served as basic references for the search for specific references, the definition of terminology and the design of indicators.

Ubrich T. (2018). Cuando la casa nos enferma 1. La vivienda como cuestión de Salud Pública. Asociación Provivienda.
https://www.provivienda.org/wp-content/uploads/INFORME-CUANDO-LA-CASA-NOS-ENFERMA-1.pdf

Asociación Provivienda. (2019). Cuando la casa nos enferma 2. Impactos en el bienestar social y emocional. Asociación Provivienda.
https://www.provivienda.org/wp-content/uploads/Informe-Cuando-la-casa-nos-enferma-II.pdf

Brey E, & Cáceres P. (2020). Cuando la casa nos enferma 3. Redes de apoyo en tiempos de crisis. Asociación Provivienda.
https://www.provivienda.org/wp-content/uploads/Informe_Cuando-la-casa-nos-enferma-3.pdf

García D, Marrot J, Monzón M, Chavarrías M, Payán A, Fernandéz M, & Lopéz J. (2019). Edificios y Salud 7. Llaves para un edificio saludable. Consejo General de La Arquitectura Técnica de España.
https://www.cgate.es/pdf/Gu%EDa%20Siete%20Llaves%20CGATE-OMC.pdf

Green Building Council España. Salud. Espacios, personas
https://gbce.es/recursos/salud-espacios-personas/

Fariña J, Higueras E, & Román E. (2019). Ciudad Urbanismo y Salud. Documento Técnico de criterios generales sobre parámetros de diseño urbano para alcanzar los objetivos de una ciudad saludable con especial énfasis en el envejecimiento activo.
https://www.mscbs.gob.es/profesionales/saludPublica/prevPromocion/Estrategia/docs/ImplementacionLocal/Ciudad_urbanismo_y_salud.pdf