


# Newsletter *on Housing and Health*

 No. 30 – April 2019

## Editorial

Dear Reader,

we are pleased to send you our latest Newsletter No. 30 on Housing and Health!

Our Newsletter supports WHO projects in compilation and dissemination of housing and health information to the public, to scientific experts, and to policy-makers and provide a significant contribution towards strengthening interdisciplinary exchange and cooperation in the field of housing and urban health.

This edition comprises a summary of literature collection (indoor air, radon, respiratory diseases, microorganisms and dampness, ageing society, energy, urban planning and noise), information on WHO activities (message board) and an event calendar.

Herewith we inform you that new **WHO Environmental Noise Guidelines** for the European Region was published. The Guidelines provide the recommended exposure levels for protecting human health from exposure to environmental noise originating from various sources: transportation (road traffic, railway and aircraft) noise, wind turbine noise and leisure noise. Expert committees assessed the relation between environmental noise and several health outcomes: cardiovascular and metabolic effects; annoyance; effects on sleep; cognitive impairment; hearing impairment and tinnitus;

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adverse birth outcomes; and quality of life, mental health, and wellbeing.

Here you will find the Guideline [Environmental Noise Guidelines for the European Region \(2018\)](#).

Kind regards

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## News on Housing and Health

### Indoor Air

[Mögliche Auswirkungen des Klimawandels auf die Luftqualität in Innenräumen](#) 

Stellungnahme der Kommission  
Innenraumlufthygiene (IRK) am Umweltbundesamt  
Bundesgesundheitsbl 2019; 62: 232

[Gesundheitliche Bewertung von 1,2-Dichlorethan \(1,2-DCE\) in der Innenraumluft](#) 

Mitteilung des Ausschusses für  
Innenraumrichtwerte (AIR), 2018  
Bundesgesundheitsbl 2019; 62: 114

[Polycyclic aromatic hydrocarbons in a bakery indoor air: trends, dynamics, and dispersion](#)

Ielpo P, Taurino MR, Buccolieri R, Placentino CM, Gallone F, Ancona V, Di Sabatino S  
Environ Sci Pollut Res Int. 2018; 25(29):28760-28771

[Indoor air humidity, air quality, and health - An overview](#)

Wolkoff P  
Int J Hyg Environ Health. 2018; 221(3):376-390

[Bioaccessibility and bioavailability of environmental semi-volatile organic compounds via inhalation: A review of methods and models](#)

Wei W, Bonvallet N, Gustafsson Å, Raffy G, Glorennec P, Kraus A, Ramalho O, Le Bot B, Mandin C  
Environ Int. 2018; 113:202-213

[Electronics, interior decoration and cleaning patterns affect flame retardant levels in the dust from Dutch residences](#)

Sugeng EJ, de Cock M, Leonards PEG, van de Bor M  
Sci Total Environ. 2018; 645:1144-1152

[Presence of diphenyl phosphate and aryl-phosphate flame retardants in indoor dust from different microenvironments in Spain and the Netherlands and estimation of human exposure](#)

Björnsdotter MK, Romera-García E, Borrull J, de Boer J, Rubio S, Ballesteros-Gómez A  
Environ Int. 2018; 112:59-67

[Differential determination of plasticizers and organophosphorus flame retardants in residential indoor air in Japan](#)

Takeuchi S, Tanaka-Kagawa T, Saito I, Kojima H, Jin K, Satoh M, Kobayashi S, Jinno H  
Environ Sci Pollut Res Int. 2018; 25(8):7113-7120

[Indoor air quality of everyday use spaces dedicated to specific purposes-a review](#)

Marć M, Śmiełowska M, Namieśnik J, Zabiegała B  
Environ Sci Pollut Res Int. 2018; 25(3):2065-2082

[Presence and human exposure assessment of organophosphate flame retardants \(OPEs\) in indoor dust and air in Beijing, China](#)

Cao D, Lv K, Gao W, Fu J, Wu J, Fu J, Wang Y, Jiang G  
Ecotoxicol Environ Saf. 2019; 169:383-391

[Indoor air quality of newly built low-energy preschools – Are chemical emissions reduced in houses with eco-labelled building materials?](#)

Persson J, Wang T, Hagberg J  
Indoor Built Environ. 2019; 28(4):506–519

[Preparation of a polyacrylonitrile/polyurethane nanofibrous membrane with antibacterial function and measurement of its air filtration performance](#)

Wu Y, Lu Y, Cao G  
Indoor Built Environ. 2018

[A review of green systems within the indoor environment](#)

Moya TA, den Dobbelsteen A van, Ottelé M, Bluysen PM  
Indoor Built Environ, 2019; 28(3):298–309

[Source apportionment and influencing factor analysis of residential indoor PM2.5 in Beijing](#)

Yang Y, Liu L, Xu C, Li N, Liu Z, Wang Q, Xu D  
Int J Environ Res Public Health. 2018; 15(4). pii: E686

[Inhibitory effect of mould growth on formaldehyde emissions from medium-density fibreboards:](#)[Evidence from field observations in three experimental houses](#)

Liang W, Lv M, Yang X  
Indoor Built Environ, 2018

[The exposure of children to PM2.5 and dust in indoor and outdoor school classrooms in Kuala Lumpur City Centre](#)

Othman M, Latif MT, Matsumi Y  
Ecotoxicol Environ Saf. 2019; 170:739-749

## Light and Radiation

[Estimation of residential radon exposure and definition of radon priority areas based on expected lung cancer incidence](#)

Elío J, Crowley Q, Scanlon R, Hodgson J, Zgaga L  
Environ Int. 2018; 114:69-76

[Radon and thoron progeny in Dutch dwellings](#)

Smetsers RCGM, Blaauboer RO, Dekkers F, Slaper H  
Radiat Prot Dosimetry. 2018; 181(1):11-14

[Assessment of residential radon exposure in Bulgaria](#)

Kunovska B, Ivanova K, Badulin V, Cenova M, Angelova A  
Radiat Prot Dosimetry. 2018; 181(1):34-37

[Radon risk communication in Bulgaria](#)

Makedonska G1, Djounova J1, Ivanova K1.  
Radiat Prot Dosimetry. 2018; 181(1):26-29

[A cost-effectiveness analysis of lowering residential radon levels in Sweden - Results from a modelling study](#)

Svensson M, Barregård L, Axelsson G, Andersson E  
Health Policy. 2018; 122(6):687-692

[Cancer risk following alpha-emitter exposure](#)

Tirmarche M  
Ann ICRP. 2018; 47(3-4):115-125

[Radon levels in indoor environments of the university hospital in Bari-Apulia region southern Italy](#)

Vimercati L, Fucilli F, Cavone D, De Maria L, Birtolo F, Ferri GM, Soleo L, Lovreglio P  
Int J Environ Res Public Health. 2018; 15(4). pii: E694

[Radon and PM10 concentrations in underground parking lots and subway stations with health risks in South Korea](#)

Hwang SH, Park WM  
Environ Sci Pollut Res Int. 2018; 25(35):35242-35248

[A review of indoor and outdoor radon equilibrium factors-part II: 220Rn](#)

Chen J, Harley NH  
Health Phys. 2018; 115(4):500-506

[A review of indoor and outdoor radon equilibrium factors-part I: 222Rn](#)

Chen J, Harley NH  
Health Phys. 2018; 115(4):490-499

[Indoor radon gas \(<sup>222</sup>Rn\) levels in homes in Aldama, Chihuahua, Mexico and the risk of lung cancer](#)

Lerma-Treviño C, Rubio-Arias H, Colmenero-Sujo LH, de Lourdes Villalba M, Ochoa-Rivero JM  
Int J Environ Res Public Health. 2018; 15(7). pii: E1337

[Indoor radon exposure in Italian schools](#)

Azara A, Dettori M, Castiglia P, Piana A, Durando P, Parodi V, Salis G, Sadari L, Sotgiu G  
Int J Environ Res Public Health. 2018; 15(4). pii: E749

[Radon in schools: A brief review of state laws and regulations in the United States](#)

Gordon K, Terry PD, Liu X, Harris T, Vowell D, Yard B, Chen J  
Int J Environ Res Public Health. 2018; 15(10). pii: E2149

## Allergies and Respiratory Diseases

[Impact of indoor air quality on respiratory health: results of a local survey on housing environment](#)

Lévesque B, Huppé V, Dubé M, Fachehoun RC  
Public Health. 2018; 163:76-79

[Allergie - eine Umwelterkrankung !\[\]\(0b26ca95b2506f3d48aafc7555f0ad20\_img.jpg\)](#)

Traidl-Hoffmann C  
UMID 02/2018, 47-55

[Elektronisches Polleninformationsnetzwerk in Bayern kurz vor dem Start !\[\]\(0b40415554ac87b98a2b5bc91bf681dc\_img.jpg\)](#)

Deutsches Ärzteblatt, 2019

[Asthma risk associated with indoor mold contamination in Hispanic communities in Eastern Coachella Valley, California](#)

Sinclair R, Russell C, Kray G, Vesper S  
J Environ Public Health. 2018; 2018:9350370

[Physical and chemical trigger factors in environmental intolerance](#)

Claeson AS, Palmquist E, Nordin S  
Int J Hyg Environ Health. 2018; 221(3):586-592

[Domestic exposure to moulds and mite allergens in Parisian patients !\[\]\(052b22075f87afbc95db3dede84f7578\_img.jpg\)](#)

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Rev Mal Respir. 2018; 35(9):907-918

[Impact of indoor air quality on respiratory health: results of a local survey on housing environment](#)

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Public Health. 2018; 163:76-79

[Exposure to volatile organic compounds and airway inflammation](#)

Kwon JW, Park HW, Kim WJ, Kim MG, Lee SJ  
Environ Health. 2018; 17(1):65

[Background factors of chemical intolerance and parent-child relationships](#)

Azuma K, Ohyama M, Azuma E, Nakajima T  
Environ Health Prev Med. 2018; 23(1):52

## Bacteria, Mould and Dampness

### [Indoor air humidity, air quality, and health - An overview](#)

Wolkoff P

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### [Asthma risk associated with indoor mold contamination in Hispanic communities in Eastern Coachella Valley, California](#)

Sinclair R, Russell C, Kray G, Vesper S

J Environ Public Health. 2018; 2018:9350370

### [Observed home dampness and mold are associated with sustained spikes in personal exposure to particulate matter less than 10 µm in diameter in exacerbation-prone children with asthma](#)

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Ann Am Thorac Soc. 2018;

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### [Microbial growth in building material samples and occupants' health in severely moisture-damaged homes](#)

Järvi K, Hyvärinen A, Täubel M, Karvonen AM, Turunen M, Jalkanen K, Patovirta R, Syrjänen T, Pirinen J, Salonen H, Nevalainen A, Pekkanen J

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### [Quantitative assessment of microbes from samples of indoor air and dust](#)

Leppänen HK, Täubel M, Jayaprakash B,

Vepsäläinen A, Pasanen P, Hyvärinen A

J Expo Sci Environ Epidemiol. 2018; 28(3):231-241

### [Dampness and mold in homes across China: Associations with rhinitis, ocular, throat and dermal symptoms, headache and fatigue among adults](#)

Zhang X, Norbäck D, Fan Q, Bai X, Li T, Zhang Y, Li B, Zhao Z, Huang C, Deng Q, Lu C, Qian H, Xu Y, Sun Y, Sundell J, Wang J

Indoor Air. 2019; 29(1):30-42

### [Pets \(dogs/cats\) as a possible source of opportunistic pathogenic fungi in humans \[Article in Czech\]](#)

Čermáková Z, Wipler J, Hanzálek T, Horáková H, Buchta V

Klin Mikrobiol Infekc Lek. 2018; 24(2):41-49.

## Smoking / Environmental Tobacco Smoke

### [Exposures to e-cigarettes and their refills: calls to Australian poisons information centres, 2009-2016](#)

Wylie C, Heffernan A, Brown JA, Cairns R, Lynch AM, Robinson J

Med J Aust. 2019; 210(3):126

### [Second-hand smoke exposure in homes with children: assessment of airborne nicotine in the living room and children's bedroom](#)

Arechavala T, Continente X, Pérez-Ríos M, Schiaffino A, Fernandez E, Cortés-Francisco N, Centrich F, Muñoz G, López MJ

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[E-Cigarette and liquid nicotine exposures among young children](#)

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Pediatrics. 2018; 141(5). pii: e20173361

[Tobacco control policies to promote awareness and smoke-free environments in residence and workplace to reduce passive tobacco smoking in Bangladesh and its correlates](#)

Sultana P, Rahman MT, Roy DC, Akter S, Jung J, Rahman MM, Akter J  
PLoS One. 2018; 13(6):e0198942

[The influence of three e-cigarette models on indoor fine and ultrafine particulate matter concentrations under real-world conditions](#)

Volesky KD, Maki A, Scherf C, Watson L, Van Ryswyk K, Fraser B, Weichenthal SA, Cassol E, Villeneuve PJ  
Environ Pollut. 2018; 243(Pt B):882-889

[Complete smokefree policies in mental health inpatient settings: results from a mixed-methods evaluation before and after implementing national guidance](#)

Huddleston L, Sohal H, Paul C, Ratschen E  
BMC Health Serv Res. 2018; 18(1):542

## Ageing Society

[Solid fuel use for cooking and its health effects on the elderly in rural China](#)

Liu J, Hou B, Ma XW, Liao H  
Environ Sci Pollut Res Int. 2018; 25(4):3669-3680

[Falls among physically active elderly in senior housings, Bangkok, Thailand: situations and perceptions](#)

Maneeprom N, Taneepanichskul S, Panza A  
Clin Interv Aging. 2018; 13:2149-2159

[Interventions targeting sedentary behavior in non-working older adults: a systematic review](#)

Aunger JA, Doody P, Greig CA  
Maturitas. 2018; 116:89-99

[Bathing adaptations in the homes of older adults \(BATH-OUT\): results of a feasibility randomised controlled trial \(RCT\)](#)

Whitehead PJ, Golding-Day MR, Belshaw S, Dawson T, James M, Walker MF  
BMC Public Health. 2018; 18(1):1293

[Social disconnection among older adults receiving care in the emergency department](#)

Kandasamy D, Platts-Mills TF, Shah MN, Van Orden KA, Betz ME  
West J Emerg Med. 2018; 19(6):919-925

[Osteoporosis and low bone mineral density \(osteopenia\) in rural and remote Queensland](#)

Macgregor CB, Meerkin JD, Alley SJ, Vandelanotte C, Reaburn PJ  
Aust J Rural Health. 2018; 26(5):369-374

## Social Inequality

[Reporting to parents on children's exposures to asthma triggers in low-income and public housing, an interview-based case study of ethics, environmental literacy, individual action, and public health benefits](#)

Perovich LJ, Ohayon JL, Cousins EM, Morello-Frosch R, Brown P, Adamkiewicz G, Brody JG  
Environ Health. 2018; 17(1):48

[Food insecurity among formerly homeless individuals living in permanent supportive housing](#)

Bowen EA, Lahey J, Rhoades H, Henwood BF  
Am J Public Health. 2019; e1-e4

[Perceived roles and barriers in caring for the people who are homeless: a survey of UK community pharmacists](#)

Paudyal V, Gibson Smith K, MacLure K, Forbes-McKay K, Radley A, Stewart D  
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[Efficacy of a horticultural activity program for reducing depression and loneliness in older residents of nursing homes in Taiwan](#)

Chu HY, Chen MF, Tsai CC, Chan HS, Wu TL  
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[Perceptions of service use among currently and formerly homeless adults with mental health problems](#)

Kerman N, Gran-Ruaz S, Lawrence M, Sylvestre J  
Community Ment Health J. 2019; doi: 10.1007/s10597-019-00382-z. [Epub ahead of print]

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[The influence of psychosocial stressors and socioeconomic status on sleep among caregivers of teenagers with asthma, the Puff City study](#)

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[Physical and mental health impacts of household gardens in an urban slum in Lima, Peru](#)

Korn A, Bolton SM, Spencer B, Alarcon JA, Andrews L, Voss JG  
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[Close proximity to roadway and urbanicity associated with mental ill-health in older adults](#)

Pun VC, Manjourides J, Suh HH  
Sci Total Environ. 2019; 658:854-860

[Mental health and quality of life among asylum seekers and refugees living in refugee housing facilities in Sweden](#)

Leiler A, Bjärtå A, Ekdahl J, Wasteson E  
Soc Psychiatry Psychiatr Epidemiol. 2018; doi: 10.1007/s00127-018-1651-6

[Negative impact of noise and noise sensitivity on mental health in childhood](#)

Lim J, Kweon K, Kim HW, Cho SW, Park J, Sim CS  
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[Aircraft noise and self-assessed mental health around a regional urban airport: a population based record linkage study](#)

Wright DM, Newell K, Maguire A, O'Reilly D  
Environ Health. 2018; 17(1):74

[WHO Environmental Noise Guidelines for the European Region: A systematic review on environmental noise and quality of life, wellbeing and mental health](#)

Clark C, Paunovic K  
Int J Environ Res Public Health. 2018; 15(11). pii: E2400

[Empirical evidence of mental health risks posed by climate change](#)


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## Housing Conditions and Home Safety

[Knopfzellen: Verschlucken kann zu schweren Gesundheitsschäden bei Kleinkindern führen](#) 

Bundesinstitut für Risikobewertung, 2018


Accidental intoxication by outdoor and garden plants

[Akzidentelle Vergiftungen mit Gartenpflanzen und Pflanzen in der freien Natur](#) 

Hermanns-Clausen M, Koch I, Pietsch J, Andresen-Streichert H, Begemannet K  
Bundesgesundheitsbl 2019; 62: 73

[Hazardous noise exposure from noisy toys may increase after purchase and removal from packaging: A call for advocacy](#)

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Int J Pediatr Otorhinolaryngol. 2019; 116:84-87


[Vergiftungsunfälle bei Kindern: Kostenloses Material informiert zu BfR-App](#) 

Bundesinstitut für Risikobewertung, 2019

[Changes in Physical Activity After Installation of a Fitness Zone in a Community Park](#)

Sami M, Smith M, Ogunseitán OA  
Prev Chronic Dis. 2018; 15:E101

[Treatment of carbon monoxide poisoning in Germany : A retrospective single center analysis](#)

Behandlung von Kohlenmonoxidvergiftungen in Deutschland 

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Anaesthesist. 2019 Feb 21. doi: 10.1007/s00101-019-0544-8. [Epub ahead of print]


[Assessment of the ventilation efficiency in the breathing zone during sleep through computational fluid dynamics techniques](#)

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J Build Phys 2019; 42(4): 458–483

[Window/door opening-mediated bedroom ventilation and its impact on sleep quality of healthy, young adults](#)

Mishra AK, van Ruitenbeek AM, Loomans MGLC, Kort HSM  
Indoor Air. 2018; 28(2):339-351

## Thermal Comfort / Energy

[Auswertung Hitze-bezogener Indikatoren als Orientierung der gesundheitlichen Belastung](#) 

Krug A, Mücke H-G  
UMID 02/2018, 67-79

[Occupant satisfaction with indoor environmental quality and health after energy retrofits of multi-family buildings: Results from INSULAtE-project](#)

Haverinen-Shaughnessy U, Pekkonen M, Leivo V, Prasauskas T, Turunen M, Kiviste M, Aaltonen A, Martuzevicius D  
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[Optimum external wall insulation thickness considering the annual CO<sub>2</sub> emissions](#)

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J Build Phys 2019; 42(4): 527–544

[The environmental temperature of the residential care home: role in thermal comfort and mental health?](#)

Cleary M, Raeburn T, West S, Childs C  
Contemp Nurse. 2019; 13:1-19



[Hygrothermal performance of various Typha–clay composite](#)

Niang I, Maalouf C, Moussa T, Bliard C, Samin E, Thomachot-Schneider C, Lachi M, Pron H, Hoang Mai T, Gaye C  
J Build Phys 2018; 42(3): 316–335

[Climate change and temperature extremes: A review of heat- and cold-related morbidity and mortality concerns of municipalities](#)

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Maturitas. 2018; 114:54-59


## Urban Planning / Built Environment

[Ruhige Gebiete - Eine Fachbroschüre für die Lärmaktionsplanung](#) 

Umweltbundesamt, 2018

[Open-Air-Labor Dachbegrünung: TH Bingen sucht das ideale Gründach](#) 

Umweltbundesamt, 2018

[Grüne Dächer und Stadtklima – Kompetenzzentrum gegründet](#) 

Hochschule für Wirtschaft und Umwelt Nürtingen-Geislingen (HfWU), 2018

[Domestic gardens and self-reported health: a national population study](#)

Brindley P, Jorgensen A, Maheswaran R  
Int J Health Geogr. 2018; 17(1):31

[Urban Environmental Protection - The strategic research agenda of the German Environment Agency](#)

Umweltbundesamt, 2019

[Was tun – im Wohnungsbau?](#) 

Umweltbundesamt, 2019

[Environmental public health risks in European metropolitan areas within the EURO-HEALTHY project](#)

Mitsakou C, Dimitroulopoulou S, Heaviside C, Katsouyanni K, Samoli E, Rodopoulou S, Costa C, Almendra R, Santana P, Dell'Olmo MM, Borrell C, Corman D, Zengarini N, Deboosere P, Franke C, Schweikart J, Lustigova M, Spyrou C, de Hoogh K, Fecht D, Gulliver J, Vardoulakis S  
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[Associations of greenness, greyness and air pollution exposure with children's health: a cross-sectional study in Southern Italy](#)

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Environ Health. 2018; 17(1):86

[Green roofs and green walls and their impact on health promotion](#)

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Cad Saude Publica. 2018; 34(7):e00003618

## Noise

[Leitfaden: Information und Mitwirkung der Öffentlichkeit bei der Lärmaktionsplanung](#) 

UBA, 2018

[WHO Environmental Noise Guidelines for the European Region: A systematic review on environmental noise and quality of life, wellbeing and mental health](#)

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Int J Environ Res Public Health. 2018; 15(11). pii: E2400

[Health effects of wind turbines on humans in residential settings: Results of a scoping review](#)

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Environ Res. 2019; 169:446-463

[Wind turbine noise and sleep: pilot studies on the influence of noise characteristics](#)

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Environ Int. 2018; 121(Pt 1):207-215

[Long-term exposure to wind turbine noise at night and risk for diabetes: A nationwide cohort study](#)

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[Influence of noise exposure on cardiocerebrovascular disease in Korea](#)

Oh M, Shin K, Kim K, Shin J

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[A procedure for deriving wind turbine noise limits by taking into account annoyance](#)

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Sci Total Environ. 2019; 648:728-736

[Strategic noise maps and action plans for the reduction of population exposure in a Mediterranean port city](#)

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Sci Total Environ. 2018; 654:144-153

[Effects of stimulus intensity and auditory white noise on human somatosensory cognitive processing: a study using event-related potentials](#)

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Exp Brain Res. 2018; doi: 10.1007/s00221-018-5443-8

[Efficacy of hearing conservation education programs for youth and young adults: a systematic review](#)

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BMC Public Health. 2018; 18(1):1286

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[The effect of language, spatial factors, masker type and memory span on speech-in-noise thresholds in sequential bilingual children](#)

MacCutcheon D, Pausch F, Fels J, Ljung R

Scand J Psychol. 2018; 59(6):567-577

[Pregnancy exposure to wind turbine noise and adverse birth outcomes: a nationwide cohort study](#)

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## Miscellaneous

[Deutsche Umweltstudie zur Gesundheit von Erwachsenen – GerES VI](#) 

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[Ultrafeine Partikel in der Umgebungsluft](#) 

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## Event Announcements

Hereby we inform you about the conferences and meetings in the disciplines relevant to *Housing and Health*. We request you to validate the correctness of the information. The *WHO Collaboration Centre for Housing and Health* does not take responsibility for the authenticity of the information provided herein.

### Healthy Cities 2019

1st - 3rd of May 2019

University of Manchester, UK

Further information: [Healthy Cities 2019](#)

### Hitze in der Stadt - kommunale Klimavorsorge

22nd - 23rd of May 2019

Düsseldorf, Germany

Further information: [Hitze in der Stadt - kommunale Klimavorsorge](#)

### European International Conference on Transforming Urban Systems (EICTUS-2019)

26th - 28th of June 2019

Strasbourg, France

Further information: [EICTUS-2019](#)

### 16th International Conference on Urban Health

4th - 8th of November 2019

Xiamen, China

Further information: [16th International Conference on Urban Health](#)

## Message Board

In this section we will inform you about activities and projects related to housing and health that are being carried out by WHO or the WHO CC. This may relate to ongoing activities and projects, as well as invitations to participate in data collections or case study projects.

### WHO work on indoor, built and urban environments

#### Health Equity and environmental inequalities

The WHO Regional Office for Europe is organizing a high level conference on health equity, planned for 11-13 June in Ljubljana, Slovenia, to address the increasing concern over the unequal distribution of risk factors, health determinants and health outcomes. Given the focus on equity issues in the WHO European Health 2020 policy and the “leaving no one behind” approach of the 2030 Agenda for Sustainable Development (2030 Agenda), there is an increasing interest in documenting the magnitude of environmental inequalities as well. To document and quantify environmental exposure inequalities and the related health impacts, WHO is currently preparing an update of its **Environmental health inequalities in Europe assessment report** published in 2012 (access the report [here](#)).

#### Imagining a better world through the SDGs

The 2030 Agenda for Sustainable Development helps us to imagine a better world, one where there is peace, partnership and prosperity for everybody and for the planet. WHO/Europe has developed a roadmap to assist countries in implementing the 2030 Agenda, building on Health 2020, the European policy for health and well-being.

The goal of health and well-being for all at all ages (Goal 3) may be the most obviously relevant for WHO. But it cannot be reached without addressing the major health determinants that feature in other goals, for example: taking urgent action to combat climate change (Goal 13); achieving gender equality and empowering women and girls (Goal 5); ending poverty in all forms (Goal 1); reducing inequalities within and between countries (Goal 10); making cities inclusive, safe, resilient and sustainable (Goal 11); ensuring quality education (Goal 4); and more. Promoting good health contributes to many of the Global Goals, as they in turn contribute to better health and well-being.

To learn more about the SDGs’ relevance in the WHO European Region and what progress is being made to achieve them, visit the WHO/Europe [Sustainable Development Goals site](#).

#### WHO provides health-based arguments and tools to support policy-making on climate change

WHO provided health-based arguments for action on climate change as well as tools to quantify the physical and economic benefits of improving air quality at the 24th Conference of the Parties (COP24) to the United Nations Framework Convention on Climate Change (UNFCCC).

Three products were launched at the event in Katowice, Poland (December 2018) will support Member States in developing policies to tackle climate change and its effect on health and well-being. One tool specifically addresses the quantification of health benefits from carbon reductions and shows that switching to low-carbon energy sources not only delivers direct health benefits through better air quality, but also offers many other opportunities to improve health. For example, introducing active transport options such as cycling helps to increase physical activity, which can help prevent noncommunicable diseases such as diabetes, cancer and heart disease.

The Carbon Reduction Benefits on Health (CaRBonH) calculation tool, developed by WHO and launched at COP24, allows for the quantification of the positive physical and economic consequences for health achieved through improvements in air quality from carbon reduction. As such, the tool aims to support Member States in developing informed policies for national mitigation actions and measures.

For further information and access to the tools and reports, please see [here](#).

**Imprint****Publisher**

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