Table S1 Summary of identified mold risk factors associated with housing characteristics.

Reference	Location	Methodology	Identified Mold risk factors	Identified Remediation Strategies
[1]	Europe	Selection of studies and databases providing relevant information: large population-based studies and large data sources.	1. Temperate and warm climates, water damage and combination 2. Northern European regions (lowest temperature)	None
[2]	Shanghai, China	Self-reporting questionnaire survey filled in by children's parents	1. Living on the ground floor or top floor 2. Fish-keeping	Opening the windows or increasing the frequency of cleaning
[3]	Sweden	Questionnaire in 8.918 Swedish dwellings	1. Single-family houses 2. Older houses 3. Flat-roofed houses built in the 1960s and 1970s 4. Houses with a concrete slab on the ground built before 1983 5. Tenancy 6. Renovation due to mold or moisture problems	None
[4]	Northeast Texas	Self-reported questionnaires on home characteristics, by parents of children aged between 1 and 8 years old	1. Flat roof 2. Pier or beam foundations	Central air-conditioning system with indoor air recirculating
[5]	Tianjin, China	A cross-sectional study was performed through questionnaires to find associations between home dampness and asthma	1. Water leakage	None

[6]	Chongqing, China	A cross-sectional questionnaire was distributed to parents in 55 randomly selected kindergartens. 4754 questionnaires collected	1. Building construction period, house site and home position 2. High temperatures and humidity levels throughout the year	Putting bedding to sunshine frequently
[7]	38 study centres from the European Community Respiratory Health Survey	To investigate the associations between several housing characteristics and dampness, mold and dust mite levels	1. Heating 2. Floor coverings 3. Type of glazing Other characteristics	Fitted carpets and rugs in the bedrooms
[8]	Värmland, Sweden	Cross-sectional questionnaire on housing and health involving 14,077 preschool children in the county of Värmland	1. Older buildings 2. Use of natural ventilation systems	None
[9]	Sweden	Questionnaires were distributed to the parents of 10,851 children	1. Water leakage, condensation on windows 2. Water leakage in the home and PVC as a flooring material	None
[10]	Stockholm, Sweden	14,235 dwellings from 609 multi-family buildings were identified, and selected by stratified random sampling, for a postal questionnaire.	1. Older buildings, mostly stone buildings, many without mechanical ventilation 2. Buildings not owned by the inhabitants 3. High population density	1. Keeping a sufficient air-exchange rate for the production of humidity by the occupants 2. Preventive and adequate maintenance 3. Quick repair of water leakage 4. Avoid constructions with increased risk of building dampness

[11]	Stockholm, Sweden	A questionnaire was sent to a random sampling for assessing symptoms of Sick Building Syndrome and reporting building dampness and odours	1. Association of odour and signs of high humidity 2. The combination of odour and history of water leakage in the past 5 years	None
[12]	Stockholm, Sweden	A questionnaire was sent to a random sample of 231 multifamily buildings built before 1961 with a response rate of 77%.	1. Older multifamily houses 2. High indoor air humidity 3. Water leakage 4. Odors	Assure sufficient air exchange rate to reduce indoor air humidity and rapid repair of water leakage
[13]	Netherlands	Investigation of the occurrence of mold and 75 housing characteristics in 186 dwellings, to formulate measures that avoid mold growth in bathrooms	1. The number of showers taken by the occupants (>14 per week) 2. The age of the ventilation box	None
[14]	Austria	Evaluation of visible growth of mold indoors and its influence on the concentration of fungal spores and the variety of their species	1. Rooms with plastic floors, wall-to-wall carpet or tile floors 2. Rooms with water damage due to dampness 3. Buildings with external dampness damages	None
[15]	Burgas and Sofia, Bulgaria	An epidemiological cross-sectional study was performed through a questionnaire on housing and health sent by post to the parents of 12,982 children. Data for 4479 children were collected, corresponding to a response rate of 34.5%.	1. Type of house 2. Residential situation 3. Type of flooring material	None

[16]	Several European countries	A study across Europe on 7127 homes, from which a subsample of 3110 homes was inspected.	1. Older buildings	None
[17]	France	Fungi air sampling and on-site inspections performed in 128 French dwellings	1. Occupancy density 2. Ground apartments 3. Electrical heating 4.No ventilation systems 5. Water damage	None
[18]	Seoul, Korea	A cross-sectional, questionnaire-based study was conducted from 2009 to 2010. A total of 2755 questionnaires were completed, with a response rate of 54%.	1. Older buildings 2. Apartments that had undergone balcony alteration 3. Type of house (apartments, row houses, single-family houses)	None
[19]	Chongqing, China	A cross-sectional survey of indoor environments in children's homes using multistage cluster sampling and building hygrothermal performance simulation for a typical residence A questionnaire in two phases was carried out in 2010, and 2019. Phase I was conducted from Oct 2010 to Apr 2011. Phase II was conducted from Apr 2019 to Aug 2019. In Phase I 5299 were returned and in Phase II 4943 questionnaires were returned	1. Higher prevalence in pre-2001 buildings. 2. Significant differences in dampness-related indicators among different construction periods.	In the future is necessary to trade off between building high-energy efficient designs and indoor environments.

[20]	Tianjin and Cangzhou, China	A cross-sectional study carried out using a questionnaire survey in Tianjin city and the surrounding rural areas from 2013 to 2014	1. Natural ventilation without fans 2. Older dwellings 3. Coal stove or Kang heating system 4. Older building technologies including non-insulated external walls, wooden frame windows, electric fans for cooling and no exhaust fan ventilation	1. Frequent window opening 2. Daily cleaning
[21]	Korea	Statistical analysis of 314 occupants' self-reported questionnaires	1. Older dwellings with north-oriented facades and poorly maintained properties 2. Activities such as bathing, washing and drying clothes	Ventilation through opening windows
[22]	Shanghai, China	Collection of air samples of airborne culturable fungi in 454 residences	1. Residences in a rural areas 2. Residences constructed before 2000 3. Residences located on the ground floors 4. Living rooms with an area inferior to 10 m^2 5. Bedrooms with wooden window frames 6. Bedrooms with ceramic tile floors	None

			7. Windows closed during daytime 8. Bedrooms without mechanical ventilation	
[23]	China (Six cities study)	A questionnaire study was performed in six cities including 36 541 randomized parents of young children. Seven self-reported signs of dampness were evaluated	1. Construction year 2. Size of the home 3. Ownership of the home 4. Less ventilation, with tighter building constructions and fewer window openings, especially in winter	None
[24]	Quebec, Canada	A web survey was conducted in 2014 among the 26,676 students registered at the Université de Sherbrooke (QC, Canada).	1. Campus affiliation 2. Household composition 3. the number of residents per building 4. Older buildings, 5. Buildings in need of renovations 6. Lacking proper ventilation 7. Low family income	None
[25]	Central Connecticut, USA	A cross-sectional study was conducted in 64 households by trained expetor to assess if house indicators were associated with higher fungal levels	1. Basement water sources	None
[26]	Cincinnati, Ohio	On-site home visits when the infants were about eight months old to collect floor dust samples and information on home characteristics including visible mold	1. Older homes had a higher moldiness index	Air conditioning and carpeting

		contamination, presence of air conditioning, dehumidifier carpet and the age of the home.		
[27]	New Zealand	A random telephone survey with 613 responses	1. Poorer conditions of the house, older house age (with more than 22 years), lack of exposure to sunlight and having no insulation 2. High locality rainfall and living in the northern part of the country as well as several behaviours such as the frequency of baths, showering and clothes washing 3. The number of residents 4. Unflued gas heaters may be responsible for the production of water vapour that may contribute to humidity and dampness in the house	1. Changing in regulations about housing design and position should be considered, as well as the access to sunlight, the level of insulation and site drainage 2. For the previous purpose low-interest loans for insulation or subsidized installation should be considered
[28]	New Zealand	Three consecutive house condition surveys conducted in 2005, 2010, and 2015, examined associations between a wide range of housing characteristics and inspector-reported indoor mold and musty odour (both strongly associated with indoor dampness).	1. Tenure 2. Ventilation 3. Insulation 4. Building envelope defects 5. Musty odour	1. Mechanical extract ventilation in kitchens and bathrooms 2. Regular maintenance of the building envelope, with attention to spouting, wall and window condition

References

1. Haverinen-Shaughnessy U, Borras-Santos A, Turunen M, Zock JP, Jacobs J, Krop EJ, et al. Occurrence of moisture problems in schools in three countries from different climatic regions of Europe based on questionnaires and building inspections-the HITEA study. Indoor Air. 2012; 22: 457-466.
2. Liu W, Huang C, Hu Y, Zou Z, Shen L, Sundell J. Associations of building characteristics and lifestyle behaviors with home dampness-related exposures in Shanghai dwellings. Build Environ. 2015; 88: 106-115.
3. Hägerhed-Engman L, Bornehag CG, Sundell J. Building characteristics associated with moisture related problems in 8,918 Swedish dwellings. Int J Environ Health Res. 2009; 19: 251-265.
4. Sun Y, Sundell J. On associations between housing characteristics, dampness and asthma and allergies among children in Northeast Texas. Indoor Built Environ. 2013; 22: 678-684.
5. Sun Y, Hou J, Wang P, Zhang Q, Kong X, Sheng Y, et al. Dampness problem in dwellings at Tianjin and its association with asthma and allergy among children. Procedia Eng. 2015; 121: 2163-2167.
6. Wang H, Li B, Yang Q, Yu W, Wang J, Liu Y, et al. Dampness in dwellings and its associations with asthma and allergies among children in Chongqing: A cross-sectional study. Chin Sci Bull. 2013; 58: 4259-4266.
7. Zock JP, Jarvis D, Luczynska C, Sunyer J, Burney P, European Community Respiratory Health Survey. Housing characteristics, reported mold exposure, and asthma in the European community respiratory health survey. J Allergy Clin Immunol. 2002; 110: 285-292.
8. Bornehag CG, Sundell J, Sigsgaard T. Dampness in buildings and health (DBH): Report from an ongoing epidemiological investigation on the association between indoor environmental factors and health effects among children in Sweden. Indoor Air. 2004; 14: 59-66.
9. Bornehag CG, Sundell J, Hagerhed-Engman L, Sigsggard T, Janson S, Aberg N. ÔDampnessÕ at home and its association with airway, nose, and skin symptoms among 10,851 preschool children in Sweden: A cross-sectional study. Indoor Air. 2005; 15: 48-55.
10. Engvall K, Norrby C, Norbäck D. Asthma symptoms in relation to building dampness and odour in older multifamily houses in Stockholm. Int J Tuberc Lung Dis. 2001; 5: 468-477.
11. Engvall K, Norrby C, Norbäck D. Sick building syndrome in relation to building dampness in multi-family residential buildings in Stockholm. Int Arch Occup Environ Health. 2001; 74: 270-278.
12. Engvall K, Norrby C, Norbäck D. Ocular, airway, and dermal symptoms related to building dampness and odors in dwellings. Arch Environ Health. 2002; 57: 304-310.
13. Ginkel JT, Hasselaar E. Housing characteristics predicting mould growth in bathrooms. Proc Indoor Air. 2005; 2425-2429. Available from: https://www.researchgate.net/publication/27342554_Housing_characteristics_predicting_mould_growth_in_bathrooms.
14. Haas D, Habib J, Galler H, Buzina W, Schlacher R, Marth E, et al. Assessment of indoor air in Austrian apartments with and without visible mold growth. Atmos Environ. 2007; 41: 5192-5201.

15. Naydenov K, Melikov A, Markov D, Stankov P, Bornehag CG, Sundell J. A comparison between occupants' and inspectors' reports on home dampness and their association with the health of children: The ALLHOME study. Build Environ. 2008; 43: 1840-1849.
16. Norbäck D, Zock JP, Plana E, Heinrich J, Tischer C, Jacobsen Bertelsen R, et al. Building dampness and mold in European homes in relation to climate, building characteristics and socio-economic status: The European community respiratory health survey ECRHS II. Indoor Air. 2017; 27: 921-932.
17. Roussel S, Reboux G, Bellanger AP, Sornin S, Grenouillet F, Dalphin JC, et al. Characteristics of dwellings contaminated by moulds. J Environ Monit. 2008; 10: 724-729.
18. Choi J, Chun C, Sun Y, Choi Y, Kwon S, Bornehag CG, et al. Associations between building characteristics and children's allergic symptoms-a cross-sectional study on child's health and home in Seoul, South Korea. Build Environ. 2014; 75: 176-181.
19. Du C, Li B, Yu W, Cai J, Wang L, Li X, et al. Evaluating the effect of building construction periods on household dampness/mold and childhood diseases corresponding to different energy efficiency design requirements. Indoor Air. 2021; 31: 541-556.
20. Kong X, Sun Y, Weschler LB, Sundell J. Dampness problems in Tianjin dwellings: A cross-sectional study of associations with building characteristics and lifestyles. Indoor Built Environ. 2019; 28: 132-144.
21. Moon HJ, Yoon YR. Investigation of physical characteristics of houses and occupants' behavioural factors for mould infestation in residential buildings. Indoor Built Environ. 2010; 19: 57-64.
22. Wang X, Liu W, Huang C, Cai J, Shen L, Zou Z, et al. Associations of dwelling characteristics, home dampness, and lifestyle behaviors with indoor airborne culturable fungi: On-site inspection in 454 Shanghai residences. Build Environ. 2016; 102: 159-166.
23. Zhang X, Norbäck D, Fan Q, Bai X, Li T, Zhang Y, et al. Dampness and mold in homes across China: Associations with rhinitis, ocular, throat and dermal symptoms, headache and fatigue among adults. Indoor Air. 2019; 29: 30-42.
24. Lanthier-Veilleux M, Généreux M, Baron G. Prevalence of residential dampness and mold exposure in a university student population. Int J Environ Res Public Health. 2016; 13: 194.
25. Mahooti-Brooks N, Storey E, Yang C, Simcox NJ, Turner W, Hodgson M. Characterization of mold and moisture indicators in the home. J Occup Environ Hyg. 2004; 1: 826-839.
26. Reponen T, Levin L, Zheng S, Vesper S, Ryan P, Grinshpun SA, et al. Family and home characteristics correlate with mold in homes. Environ Res. 2013; 124: 67-70.
27. Howden-Chapman P, Saville-Smith K, Crane J, Wilson N, Howden-Chapman P, Saville-Smith K, et al. Risk factors for mold in housing: A national survey. Indoor Air. 2005; 15: 469-476.
28. Taptiklis P, Phipps R, Jones M, Douwes J. House characteristics and condition as determinants of visible mold and musty odor: Results from three New Zealand house condition surveys in 2005, 2010, and 2015. Indoor Air. 2021; 31: 832-847.