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COMMENTARY

Key challenges of housing and health from WHO perspective

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Housing and health, often referred to in more general terms as "healthy buildings", is an area of work that is based on contributions from many technical and professional disciplines: housing, engineering and construction, public health, environment, social welfare, urban planning, and building management. The combination of actions from all these sectors is necessary to provide healthy housing and shows the complexity of the subject, as well as its great potential to increase the quality of life of citizens through providing adequate and safe homes.

In historic perspective, the housing improvement campaigns undertaken in many European countries during the 19th century to respond to inadequate housing conditions in relation to crowding, hygiene and sanitation, and the lack of ventilation and light can be recognized as some of the early large-scale public health interventions of modern times. However, notwithstanding the large health improvements that were associated with the quality increase in housing and urban settlements, we still face large challenges in identifying and documenting the impact of housing on health, and especially in assessing health benefits associated with housing improvement schemes (see recently published WHO (2011) report on the environmental burden of disease associated with inadequate housing).

Without doubt, housing and health has received increasing interest by the public health community in recent years, and is now considered one of the major environmental, as well as social determinants of population health. This increasing interest follows two recent trends in public health sciences (the rising concern on indoor exposures as a public health risk, and the rediscovery of setting approaches to target health action) and is further enhanced by the report of the WHO Commission on the Social Determinants of Health which identified daily living conditions as a major cause of inequalities (WHO 2008).

Public health actors interested in this field will have recognized that during the last decade, the availability of housing and health information and the publication of associated evidence have increased significantly. National reports, reviews and surveys have added to the evidence base as have sophisticated academic research work and contributions from international agencies such as UN and EU. Most of the work on the health relevance of housing seems to be contributed from health-focused actors who are increasingly aware of the negative health impacts of inadequate housing conditions. In contrast, there seems much less evidence generated from the typical "building-related" professions such as engineering, construction, architecture etc., who are in a better position to shape a healthy building stock than the public health actors. However, the wealth of available evidence provides various new opportunities to the housing and health community, as it enables a more detailed housing and health risk assessment, which must form the basis for adequate and targeted risk management on technical as well as policy level.

Based on the available evidence, we can identify and confirm a range of housing and health challenges that we

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need to tackle in the future. While climate change considerations drive the work on temperature extremes and energy consumption (in relation to indoor thermal comfort) as well as safety (in relation to natural disasters), we still face traditional issues related to crowding, hygiene and sanitation, and indoor air pollution (including asbestos, lead and radon). Home injuries—in many countries matching or exceeding the number of traffic injuries—have emerged as a paramount priority, while residential noise exposure has been defined as a re-emerging issue in many densely populated settlements. Increased attention has recently also been given to specific indoor pollutants such as dampness and mould, combustion of solid fuels, and the indoor use and emission of chemicals and products containing nanoparticles. The discussion of public smoking bans also brings about potential risks for children being increasingly exposed to "passive smoking" in homes of smokers, while the rising number of elderly residents calls for modification of the housing stock to match the needs of ageing societies characterized by a higher prevalence of physical and mental constraints.

Despite all evidence, the implementation of knowledge remains weak. Housing construction as well as rehabilitation still does not fully capitalize on the available theoretical knowledge, and transfer of this knowledge into action must be considered the housing and health challenge of our time. Indeed, we know enough to build better homes, and we know enough to educate building producers, as well as building users on how to create, maintain and reside in healthier homes.

While more research and new evidence will always be needed, public health gains can only be achieved by action, and thus the housing and health community must increasingly turn toward the challenge of applying rather than purely accumulating knowledge. In doing so, the challenges faced will go beyond the recent consideration of housing and health as a puzzle of "risk factors". Instead of looking at individual risks associated with housing, the housing and health community must accept and tackle new, larger, and more general challenges that will force each actor to consider housing and health in holistic terms. The objective is the provision of healthy buildings to all population groups, rather than the reduction of individual risk factors related to specific building components only.

If we accept this challenge, the new priorities will not be related to risk factors anymore. Instead, they will be related to a number of issues described below.

1. Housing quality: standards and minimum requirements need to be identified and translated into building codes to assure that any building, irrespective of size and cost, meets fundamental health protection criteria.
2. Inequalities: the distribution of housing quality is showing strong social gradients, with the most vulnerable population groups being most affected by inadequate housing conditions. Targeted research and action is necessary to disconnect poverty and social disadvantage from the experience of harmful housing conditions.
3. Health in all policies: Housing and health improvements highly depend on actions taken in non-health sectors such as urban planning, transport, social welfare, environment, and especially housing and construction. Increased collaboration between health and non-health sectors will be crucial for creating stocks of healthier housing.
4. Focus on rehabilitation: buildings are built for generations to come and built features are not easy to modify. More work needs to be invested in assuring that building renovation and rehabilitation, as currently taking place in relation to energy-saving measures, contributes to the provision of healthy housing. National rehabilitation campaigns offer a wide range of opportunities in that context.
5. Applying "real-world" research: much of the evidence on housing and health is based on surveys documenting housing and health associations, while intervention studies, aiming at the assessment of health effects of building modifications, are rare. More large-scale natural experiments, based on housing projects undertaken in communities, are needed to document which housing changes can provide which health benefits.
6. Building regulations: housing and health is, to a large extent, the outcome of regulations. However, building codes and construction regulations are mostly based on experience in the building community than on health-based evidence. Reviews of such regulations and integration of health evidence are necessary.

If housing and health actors deal with these challenges constructively, and manage to better link the involved scientific communities to enable the integration of health aspects in the construction world, academic and scientific advances could be made in parallel with what we really seek for: the improvement of population health through better and equally distributed housing conditions.

Reference

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