

la Santé en action

PRÉVENTION/PROMOTION/ÉDUCATION



Urban planning dedicated to health

La Santé en action : à lire désormais sur téléphones portables et tablettes.



Vous êtes habitué à lire vos revues sur votre Smartphone ou sur votre tablette ? Depuis le premier trimestre 2019, *La Santé en action* est disponible en format spécifiquement adapté à ces supports.

La Santé en action – la revue trimestrielle de Santé publique France – est consacrée exclusivement à la prévention, l'éducation et la promotion de la santé. Elle est destinée à l'ensemble des professionnels concernés (éducation, santé, social, etc.).

Il suffit de télécharger une application compatible avec la lecture de ce format (epub) pour bénéficier en particulier :

- ➔ d'un sommaire interactif qui permet d'accéder de manière sélective à l'article choisi ;
- ➔ d'une ergonomie adaptée au plus grand nombre ;
- ➔ de nombreux liens qui facilitent la navigation vers les ressources.

La Santé en Action :

- ➔ est disponible gratuitement en format numérique, en version pdf téléchargeable depuis le site de Santé publique France. Il est possible de consulter à tout moment l'ensemble des numéros et des **articles parus depuis 2000** ou le **dernier numéro paru** ;
- ➔ est accessible en abonnement. Il suffit de quelques clics sur la **page du site de Santé publique France** pour recevoir dans sa boîte mail la revue trimestrielle dès sa parution ;
- ➔ existe en version papier gratuite. Celle-ci reste cependant réservée aux professionnels exerçant dans des lieux collectifs (établissements scolaires, centres de santé, hôpitaux, communes et collectivités, bibliothèques, etc.).

la Santé en action

est éditée par :

Santé publique France
12, rue du Val d'Osne
94415 Saint-Maurice Cedex – France
Tél. : 01 41 79 67 00
Fax : 01 41 79 67 67
www.santepubliquefrance.fr

Santé publique France est l'agence nationale de santé publique. Établissement public administratif sous tutelle du ministère chargé de la Santé, l'agence a été créée par le décret n° 2016-523 du 27 avril 2016 et fait partie de la loi de modernisation du système de santé (loi n°2016-41 du 26 janvier 2016).

Directrice de la publication :
Laetitia Huiart

RÉDACTION

Rédacteur en chef :
Yves Géry
Assistante de rédaction :
Danielle Belpaume
Coordination de traduction et correction de l'édition anglaise :
Chloé Chester

PHOTOS :

Couverture, p. 35 : *Besançon, cour de l'école Brossolette* – © JC Sexe / Ville de Besançon
p. 6 : *Grenoble, réaménagement du quartier de Bonne* – © Ville de Grenoble
p. 8 : *Toulouse, prairie des Filtres, en bordure Garonne au centre-ville* – © J. Falguière
p. 14 : *La-Chaux-de-Fonds, place piétonne* – © Ville de La-Chaux-de-Fonds, A. Henchoz
pp. 20 et 21 : *Pontevedra, une place avant et après la piétonnisation* – © Ville de Pontevedra
p. 24 : *Dunkerque : à la sortie du bus, 100 % gratuit 7 jours sur 7* – © CUD – AlphaStudio
p. 25 : *Miramas, végétalisation aux alentours du parc Carraire* – © Ville de Miramas
p. 28 : *Grenoble, aménagement du quartier caserne de Bonne* – © Ville de Grenoble
p. 32 : *Grenoble, quartier de Bonne, vue aérienne jardins* – © Ville de Grenoble
p. 37 : *La-Chaux-de-Fonds, place piétonne, centre-ville* – © Ville de La-Chaux-de-Fonds, A. Henchoz
p. 38 : *Pontevedra, vue aérienne du centre-ville* – © Ville de Pontevedra
p. 39 : *Pontevedra, une place rendue aux piétons* – © Ville de Pontevedra
p. 48 : © Corentin Fohlen / Divergence
p. 51 : © Jeff Gilbert / Alamy Images

FABRICATION

Conception graphique : **offparis.fr**
Réalisation graphique : **Desk**
Impression : **Imprimeries La Galiote Prenant**

ADMINISTRATION

Gestion des abonnements :
Marie-Josée Bouzidi (01 71 80 16 57)
sante-action-abo@santepubliquefrance.fr
N° ISSN : 2270-3624
Dépôt légal : 4^e trimestre 2022

Les titres, intertitres et chapeaux sont de la responsabilité de la rédaction.

URBAN PLANNING DEDICATED TO HEALTH

Coordinated by

Anne Roué Le Gall,

Teacher-Researcher, Department of Environmental Health Sciences, School of Advanced Studies in Public Health, Rennes 1 University, EHESP, CNRS, ARENES – UMR 6051, France,

Mathilde Pascal,

Climate Change and Health Project Manager, Occupational and Environmental Health Department, Santé publique France, France,

Thierno Diallo,

Assistant Professor, Faculty of Nursing Sciences, Laval University, Quebec,

Nina Lemaire,

Project Manager, WHO Healthy Cities French National Network.

Introduction: Urban planning dedicated to health

4 _ Nina Lemaire, Anne Roué-Le Gall, Mathilde Pascal, Thierno Diallo

STATE OF KNOWLEDGE

Transforming cities to preserve the health of present and future generations

5 _ Mathilde Pascal, Anne Roué-Le Gall, Nina Lemaire, Thierno Diallo

Healthy urban planning: taking action for health, the environment and social equality

10 _ Anne Roué-Le Gall, Nina Lemaire, Mathilde Pascal, Thierno Diallo

Impact assessment: a tool for healthy urban planning

16 _ Anne Roué-Le Gall, Thierno Diallo

Quebec: for a healthy urban environment

17 _ Sophie Paquin

Strengthening local action for global health: WHO's response to urban health challenges

19 _ Nathalie-Laure Roebbel, Tamitza Toroyan



© J.C. Sève / Ville de Besançon

FOCUS ON HEALTHY URBAN PLANNING PRACTICES IN FRANCE

Dunkirk Urban Community expects healthy urban planning to form an integral part of development projects

23 _ Interview with Anne-Cécile Gautier and Delphine Capet

In Miramas: "Renovating a neighbourhood while taking into account the health impact on inhabitants"

25 _ Interview with Jérôme Marciliac

Town planning and health in Grenoble: "Improving living conditions for city residents"

27 _ Interview with Françoise Berthet

An international research programme to drive change towards healthier and more sustainable cities

29 _ Martina Serra, Anne Roué-Le Gall, Lucy Bretelle, Mike Davies

In Rennes: "Integrating health into all public policies"

30 _ Interview with Frédéric Auffray and Audrey Martin

"The jurisdictions of urban planners and public health experts are complementary"

31 _ Interview with Damien Saulnier

Deprived neighbourhoods: how urban regeneration can help combat inequalities in health

32 _ Lucie Anzivino

A tool to identify the impact of urban projects on the health of inhabitants and inequalities

34 _ Geneviève Bretagne

Besançon: "An eco-friendly, gender-respectful and inclusive school playground"

35 _ Interview with Samuel Lelièvre

FOCUS ON HEALTHY URBAN PLANNING PRACTICES ABROAD

Glasgow: a tool supporting local communities to discuss climate change within a health and well-being framework

36 _ Sam Whitmore

La Chaux-de-Fonds, Switzerland: "Dramatically reducing car traffic in the city centre"

37 _ Interview with Philippe Carrard

Pontevedra, Spain: pedestrians rule the roads, relegating cars to the sidelines

38 _ Interview with Miguel Anxo Fernández Lores

Lahti, Finland: "Prevent non-communicable diseases and promote health and well-being while reducing biodiversity loss and climate change"

40 _ Riitta-Maija Hämäläinen, Hanna Haveri, Marju Prass, Minna-Maija Salomaa, Päivi Sieppi

Quebec: Sherbrooke assesses the impact of city-centre revitalization on health inequalities

41 _ Martine Shareck

Preserving the independence of older people

42 _ Identifying frailty to prevent the risk of falls in the elderly

Stéphanie Monnier-Besnard, Dagmar Soleymani, Marion Torres, Nathalie Beltzer, Laure Carcaillon-Bentata

45 _ An integrated care approach to prevent dependency in the elderly

Interview with Fati Nourhashemi

COVID-19 pandemic

47 _ COVID-19 vaccination among people experiencing homelessness: reviewing knowledge and practices

Jalpa Shah, Stéphanie Vandentorren and the MobCo group

50 _ Dublin, Ireland: individual accommodation for people experiencing homelessness during the COVID-19 pandemic

Interview with Austin O'Carroll

Urban planning dedicated to health

Nina Lemaire,

Project Manager, WHO Healthy Cities French National Network, France,

Anne Roué Le Gall,

Teacher-Researcher, Department of Environmental Health Sciences, School of Advanced Studies in Public Health, Rennes 1 University, EHESP, CNRS, ARENES – UMR 6051, France,

Mathilde Pascal,

Climate Change and Health Project Manager, Occupational and Environmental Health Department, Santé publique France, France,

Thierno Diallo,

Assistant Professor, Faculty of Nursing Sciences, Laval University, Quebec.

Seven years after the publication of the issue of *La Santé en action* devoted to “urban planning and health-promoting developments [1]”, this collection of articles testifies to the advances made towards integrating public health issues with development and urban planning projects and the areas for progress which remain. On the one hand, the context has evolved: climate change is not new, but we have more and more scientific evidence of its impact on physical and mental health, and on the quality of life of populations [2-4]. Its consequences are now more concrete, more visible, and form a part of people’s lives, with increasingly frequent and large-scale forest fires, floods, heat waves and droughts, for example. On the other hand, climate change has recently demonstrated even further-reaching implications through its role (amongst other factors) in COVID-19-type pandemics, diseases affecting animals and plants, etc.

Recognition of the complex interrelationships between human health, animal health, environmental and ecosystem health has led to the emergence and rise of the concepts known as Planetary Health and One Health [5], which are beginning to be integrated into public policies, for example in France’s fourth National Environmental Health Plan [6]. The first part of the special report – State of Knowledge – places healthy urban planning among these changes and

recalls the synergies between public health actions, approaches that protect the environment and biodiversity, and climate change adaptation and mitigation measures, highlighting the important convergences and co-benefits. Advances in recent years have thus shown that healthy urban planning is not an additional step or injunction, but a means of extending and strengthening considerations and efforts that favour the protection of the environment and the population’s quality of life. In particular, this involves offering a framework for understanding and grasping the interrelationships between development, determinants of health, health status, environmental state, and social and territorial inequalities in health, according to a “complex system” logic.

In other words, the concept of healthy urban planning was one that needed to be explained, one whose foundations and rationality had to be demonstrated. This has now been done, and the concept is being implemented encouragingly with an increasingly broad scope, meaning we now possess some feedback. This special issue of *La Santé en action* echoes the extent to which the subject has recently evolved in France. Beyond the integration of certain specific health determinants, for example active mobility or the presence of parkland, this report focuses on experiences of health integration in its global sense, i.e. via its multiple determinants, whether in the renovation of a school yard or an entire district, or even planning at municipal level. The examples also testify to the commitment of project stakeholders – commitment to building intersectoral collaboration between urban planning and public health, between researchers and field staff, between different institutions – which is necessary for the implementation of healthy urban planning. Finally, international examples bear witness to the global dynamics at work in moving towards healthy urban planning.

Faced with the technical nature of healthy urban planning, the feedback presented herein demonstrates the reciprocal value of collaboration between public health agents and planning stakeholders. This key report from *La Santé en action* therefore aims to reinforce the framework of such a shared culture.

It should be noted that, for all the examples presented in this report, the project leaders underline the difficulty of evaluating projects in robust scientific terms. If a great deal of feedback has been received, it does not necessarily have an analytical value in the sense of assessing the impact on the health of populations. The emerging message is that evaluation is complex and must be carried out over a long period of time. ■

REFERENCES

- [1] Héritage Z., Roué Le Gall A., César C. (coord.), Urbanisme et aménagements favorables à la santé, *La Santé en action*, December 2015, no. 434.
- [2] Kim K.-H., Kabir E., Ara Jahan S. A review of the consequences of global climate change on human health. *Journal of Environmental Science and Health Part C Environmental Carcinogenesis and Ecotoxicology Reviews*, 2014, vol. 32, no. 3: p. 299–318.
- [3] Watts N., Amann M., Arnell N., Ayeb-Karissou S., Milner J., Berry H. L. et al. The 2018 report of the Lancet Countdown on health and climate change: shaping the health of nations for centuries to come. *The Lancet*, 2018, vol. 392: p. 2479–2514.
- [4] Skea J., Shukla P. R., Reisinger A., Slade R., Pathak M., Al Khourdajie A. et al. *Climate Change 2022. Mitigation of Climate change. Summary for Policymakers*. Intergovernmental Panel on Climate Change (IPCC) 2022: 63 p.
- [5] Buse C. G., Oestreicher J. S., Ellis N. R., Patrick R., Brisbois B., Jenkins A.-P. et al. Public health guide to field developments linking ecosystems, environments and health in the Anthropocene. *Journal of Epidemiology and Community Health*, 2018, vol. 72, no. 5: p. 420–425.
- [6] French Ministry for Solidarity and Health. *Un environnement, une santé – 4th National health-environment plan – PNSE 4, 2021–2025*. Paris: MSS, May 2021.

Transforming cities to preserve the health of present and future generations

Mathilde Pascal,

Climate Change and Health Project Manager, Environmental and Occupational Health Department, Santé publique France, France,

Anne Roué Le Gall,

Teacher-Researcher, Department of Environmental Health Sciences, School of Advanced Studies in Public Health, Rennes 1 University, EHESP, CNRS, ARENES – UMR 6051, France,

Nina Lemaire,

Project Manager, WHO Healthy Cities French National Network, France,

Thierno Diallo,

Assistant Professor, Faculty of Nursing Sciences, Laval University, Quebec.

At the end of 2021, on the sidelines of COP26, an international alliance of non-governmental organizations representing healthcare professionals from all over the world prescribed climate action as “a remedy for patients” [1]. A symbolic way of emphasising that climate change is already claiming victims everywhere in the world, and that policies aimed at reducing greenhouse gas emissions and building adaptive capacities are essential to preserve health in all its dimensions, including mental health. The opinion of caregivers is consistent with that of researchers [2; 3] and public health agencies: climate action is public health action [4].

Unprecedented challenges

All of these communities agree on the need to act quickly, in a concerted and interdisciplinary manner. The unprecedented environmental, health and social challenges we face can no longer be addressed separately or on an *ad hoc* basis. The interdependence

between the environment and health is now widely recognized, especially through the concepts of Planetary Health¹ [5] and One Health² [6]. The implementation of integrated preservation actions is essential [7]. According to the Intergovernmental Panel on Climate Change (IPCC), climate change mitigation, adaptation, nature conservation and the reduction of inequalities are essential for a “viable future” [7].

In terms of environmental challenges, climate change associated with the destruction of biodiversity and the alteration (in quality and quantity) of natural resources constitute a unique situation in human history. The planetary boundary theory was developed to help grasp the extent of environmental issues: it assesses the state of nine natural processes considered essential to the stability of the biosphere [8]. Five of these nine³ processes are already in a state of imbalance that threatens the terrestrial ecosystem: climate change; loss of biodiversity; changes in land use; disruption of global phosphorus and nitrogen bio-geochemical cycles⁴; chemical pollution [9]. Thus, it is insufficient to act solely on the climate, for example by investing in future technological solutions for trapping greenhouse gases. Societies need systemic transformation to redress these five imbalances that are already having massive impacts. Outdoor air pollution alone is responsible for 4.2 million premature deaths per year worldwide [10], including 40,000 deaths in mainland France [11].

We do not yet have indicators to globally quantify the effects of other planetary imbalances on health, but

KEY POINTS

■ **According to the Intergovernmental Panel on Climate Change (IPCC), acting against climate change while protecting nature is essential to ensure a viable future. Urban areas, where 55% of the world's population lives, are particularly vulnerable to climatic (extreme events, systemic crisis) and environmental (air pollution, heat waves, noise) risks. Faced with this situation, there is no inevitability: adapting urban environments to new climate challenges, reducing road traffic, encouraging active mobility such as walking or cycling and developing green spaces are all accessible and effective climate, biodiversity and public health-friendly strategies. These initiatives represent major action points for local authorities, but strong determination in terms of intersectoral collaboration is required in order to achieve real transformation within cities.**

the IPCC already points to the dramatic impacts of climate change and its repercussions on natural and human ecosystems [7], via extreme climatic events, deterioration in the quantity and quality of food and water resources, mental health, certain infectious pathologies, or even migration. The World Health Organization (WHO) estimates that the health impacts are set to cost US\$2–4-billion per year by 2030. This is a minimum estimate that only takes into account a small number of impacts [12].

Faced with this sombre observation, hope comes from the fact that it is possible to transform lifestyles

Feature
Urban planning dedicated to health



© City of Grenoble

and environments to simultaneously meet environmental, health and social challenges [5; 13]. This means mobilising new, creative and experimental approaches to tackle complex problems and help accelerate change, especially at city level [14].

Acting on the urban environment to protect the health of humans and ecosystems

Urban territories are among the places targeted for action to carry out these transformations. In 2018, approximately 55% of the world's population lived in urban areas, a proportion that is expected to increase to 68% by 2050 [15]. These territories are also where the majority of economic wealth is concentrated [16]. Considered as complex socio-ecological systems, urban territories must be apprehended by adopting systemic approaches. However, the use of this type of approach and the importance of the repercussions in terms of health are still insufficiently considered by decision-makers [17].

Urban territories are now very sensitive to environmental issues

Climate change increases the risk of complex crises via extreme events that lead to massive disorganization within urban systems [7]. These events can have lasting impacts on mortality, health care utilization or mental health.

In these territories, populations are overexposed to major health risks. Four out of the nine⁵ main environmental determinants of health [18] are omnipresent in urban areas: air pollution; temperature; noise; urban characteristics (urban fabric, built environment, land use, chemical pollution, etc.). However, these exposures are directly linked to the city's organizational choices, particularly in terms of development, urban sprawl and transport, which also contribute to climate change. By acting on these choices, it is therefore possible to work both in favour of the environment and health, and to protect the health of current and future populations. This is, for example, the

case of interventions aimed at reducing motorized mobility in favour of active mobility (i.e. non-motorized mobility, such as walking or cycling), which helps to reduce greenhouse gas emissions, while generating very significant health benefits [19] via increasing physical activity and reducing exposure to noise and air pollutants from road traffic.

To illustrate the importance of overexposure in urban areas, and therefore the potential co-benefits of interventions, we can note the considerable impact of environmental pollution generated by motorized mobility, which is the main form of transport today. Chronic exposure to ambient air pollutants is associated with the development of many diseases such as respiratory, cardiovascular and neurodegenerative diseases, perinatal health problems, and cancers. Air pollution is the first environmental determinant of health, with a considerable impact on quality of life, life expectancy and the health system. In France, almost three-quarters of deaths due to air pollution occur

in urban communities (> 2,000 inhabitants) [20]. Noise, particularly related to traffic, is associated with one of the highest environmental disease burdens in Europe, after air pollution [21], mainly via the consequences of the discomfort caused, sleep disturbances and ischemic heart disease. It is also associated with learning disabilities in children.

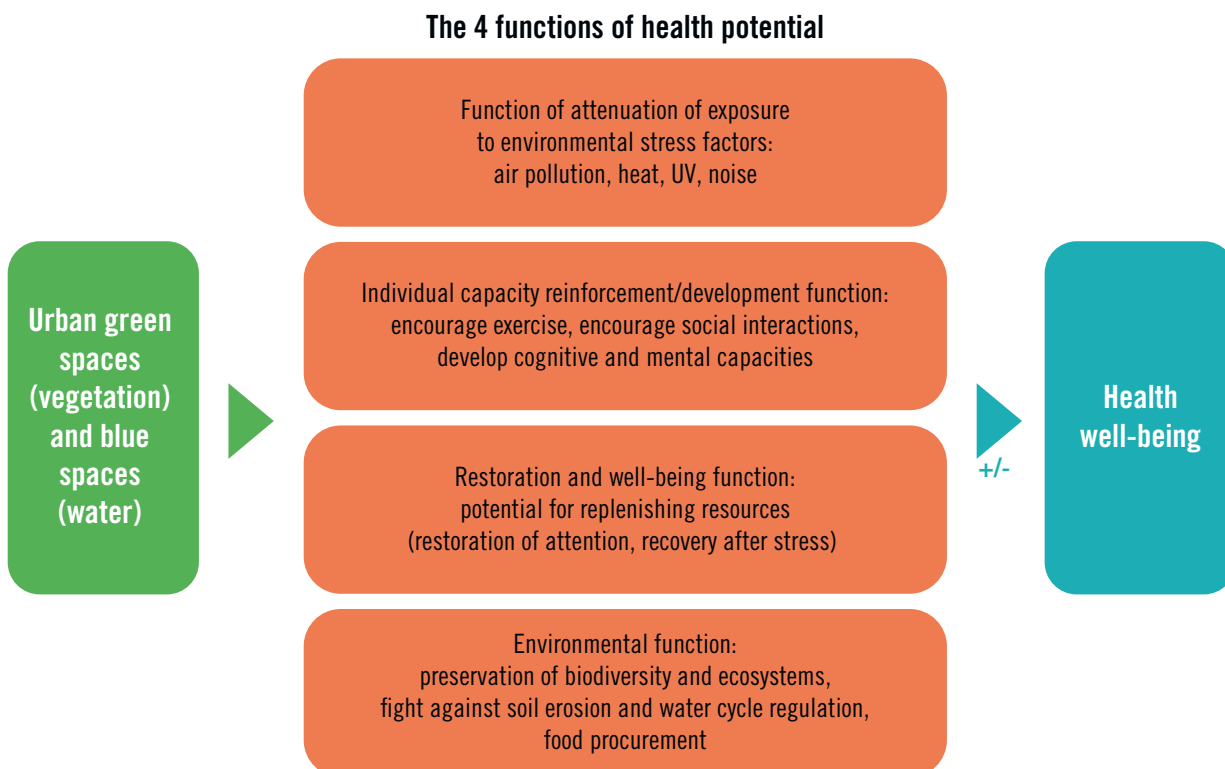
Another example is how the lack of nature in the city aggravates exposure to heat. The latter is associated with the deterioration of many conditions such as mental health, cardiovascular, respiratory and renal diseases, and pre- or post-natal pregnancy-related pathologies affecting both mother and infant. The risk is exacerbated by the effects of urban heat islands (UHI) [22]. Heat waves are the deadliest extreme weather event in France today, totalling more than 39,500 deaths since 1974⁶. The IPCC considers heat as one of the most important structural risks that Europe will face in the coming years [7].

In addition to their cooling effect on cities, green spaces are associated with an improvement in the overall state of health, mental health and even the behavioural development of children [23]. They also lead to a decrease in all-cause mortality [24; 25]. By analysing different conceptual frameworks that illustrate how urban green spaces can contribute to health [26; 30], it is possible to assess the health potential of green spaces according to four main functions (see figure below). Although all of the mechanisms that could explain these benefits have not yet been fully elucidated, the conceptual frameworks proposed and the results of epidemiological studies are sufficiently robust to consider that lack of green space is one of the factors influencing mortality [31]. Urban green spaces thus represent major potential as a community intervention that simultaneously addresses public health issues (in particular the reduction of chronic diseases and their associated symptoms) and challenges linked to serious

environmental changes, i.e. the fight against the effects of climate change and the protection of water resources and biodiversity [32; 33]. Thus, their implementation at all levels of urban land development has been strongly encouraged in recent years, as proved by the growing availability of documents supporting such action [34; 35].

Finally, there is a notable scarcity of scientific studies focusing on the health effects of biodiversity within cities (diversity of living species, wild fauna and flora). Also, the majority of existing studies analyse the risks (e.g. allergenic, stinging species, risks of zoonoses) and not the benefits. Some studies, however, point to co-benefits for mental health through actions that protect wildlife in the city [36]. Yet the deterioration of mental health is also one of the major impacts highlighted by the IPCC [7], as associated with extreme events but also with increasing anxiety about current environmental changes.

Figure. Effects of green spaces on health [37]



Feature
Urban planning dedicated to health



© J. Falgaire

Outlook

There is no turnkey solution to the current challenges, but there are many opportunities for action favourable to health, climate and biodiversity.

For researchers, it is a matter of supporting these developments via the dissemination of knowledge; through the co-production of tools adapted to the evaluation of these interdependent issues and decision-making; by the construction of productive interactions between scientists, decision-makers and society. The objective must be to better consider knowledge, as applied to a specific context, for decision-making [38]. These activities, called “*boundary spanning*”, go far beyond a simple process of disseminating science (via communication, applied science and advocacy).

For elected officials and municipal engineering services, as for other stakeholders in regional planning,

priority should be given to setting up decision-making organizations and processes that tackle climate change adaptation and mitigation issues, protection of biodiversity and public health in a concerted manner. They must propose creative and evidence-based solutions that are adapted to the local context. This is all the more important since, in terms of healthy urban planning, adaptation and mitigation of climate change, and preservation of biodiversity, the several regulatory tools that exist too often operate in a disconnected way. The concept of health within all WHO policies aims to promote and facilitate inclusive and collaborative approaches [39] (see article “Urban health challenges: WHO findings and proposals” in this issue). ■

1. Planetary Health integrates the health of human civilizations and the ecosystems on which it depends, in a cross-disciplinary approach.

2. One Health is an integrated and unifying approach that aims to sustainably balance and optimize the health of people, animals and ecosystems.

3. Other processes studied are ocean acidification, stratospheric ozone depletion, global freshwater use and aerosol loading.

4. Transport and transformation of a chemical element between the atmosphere, the hydrosphere, the geosphere and the biosphere.

5. The five other environmental determinants of health proposed by Rojas-Rueda *et al.* (2021) are environmental tobacco smoke, radon, heavy metals, radiation and chemical pollutants.

6. Departmental data available on Géodes.santepubliquefrance.fr/Health determinants/Climate/Heat wave section

<https://geodes.santepubliquefrance.fr/>

<https://geodes.santepubliquefrance.fr/#view=map2&c=indicator>

For more information

Seminar dedicated to climate change and public health. Organized by Santé Publique France and the International Association of National Public Health Institutes:

<https://www.santepubliquefrance.fr/en/health-as-a-lever-for-action-on-climate-change>

REFERENCES

- [1] The Global Climate and Health Alliance. #ClimatePrescription Video: Why world leaders must take climate action to protect our health. 09 November 2021.
- [2] Atwoli L., Baqui A. H., Benfield T., Bosurgi R., Godlee F., Hancocks S. *et al.* Call for emergency action to limit global temperature increases, restore biodiversity, and protect health. *The Lancet*, 2021, vol. 398, no. 10304: p. 939–941.
- [3] Romanello M., McGushin A., Di Napoli C., Drummond P., Hughes N., Jamart L. *et al.* The 2021 report of *The Lancet* countdown on health and climate change: code red for a healthy future. *The Lancet*, 2021, vol. 398, no. 10311: p. 1619–1662.
- [4] Pascal M. *IANPHI roadmap for action on health and climate change engaging and supporting National Public Health Institutes as key climate actors*. [Technical report] International Association of National Public Health Institutes (IANPHI), Novembre 2021: 8 p.
- [5] Whitmee S., Haines A., Beyrer C., Boltz F., Capon A. G., Ferreira de Souza Dias B. *et al.* Safeguarding human health in the Anthropocene epoch: report of The Rockefeller Foundation – *Lancet* Commission on planetary health. *The Lancet*, 2015, vol. 386, no. 10007: p. 1973–2028.
- [6] World Health Organization. *Tripartite and UNEP support OHHLEP's definition of "One Health"*. [Press release] WHO, 1st December 2021.
- [7] Pörtner H. O., Roberts D. C., Adams H., Adler C., Aldunce P., Ali E. *et al.* *Climate Change 2022: Impacts, Adaptation, and Vulnerability. Working Group II contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change*. [Technical Summary] New York: Cambridge University Press, 2022.
- [8] Rockström J., Steffen W., Noone K., Persson A., Chapin F. S., Lambin E. *et al.* Planetary boundaries: Exploring the safe operating space for humanity. *Ecology and Society*, 2009, vol. 14, no. 2.
- [9] Persson L., Carney Almroth B. M., Collins C. D., Cornell S., de Wit C. A., Diamond M. L. *et al.* Outside the safe operating space of the planetary boundary for novel entities. *Environmental Science & Technology*, 2022, vol. 56: p. 1510–1521.
- [10] World Health Organization. *Ambient (outdoor) air pollution data 2022*. September 2021.
- [11] Medina S., Adélaïde L., Wagner V., de Crouy Chanel P., Real E., Augustin C. *et al.* *Impact de pollution de l'air ambiant sur la mortalité en France métropolitaine. Réduction en lien avec le confinement du printemps 2020 et nouvelles données sur le poids total pour la période 2016–2019*. Saint-Maurice: Santé publique France, coll. Studies and surveys, 2021: 64 p.
- [12] World Health Organization. *Climate change and health 2021*. 30 October 2021.
- [13] Intergovernmental Panel on Climate Change (IPCC). *Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty*. 2018.
- [14] Grant M., Brown C., Calaffa W. T., Capon A., Corburn J., Coutts C. *et al.* Cities and health: an evolving global conversation. *Cities & Health*, 2017, vol. 1, no. 1: p. 1–9.
- [15] United Nations. *World urbanization prospects: The 2018 revision*. [Press Release] New York, USA: United Nations Department of Economic and Social Affairs, Population Division, 2019.
- [16] Rosenzweig C., Solecki W., Romero-Lankao P., Mehrotra S., Dhakal S., Bowman T. *et al.* *Climate change and cities: second assessment report of the urban climate change research network*. New York: Cambridge University Press, 2018.
- [17] Chapman R., Howden-Chapman P., Capon A. Understanding the systemic nature of cities to improve health and climate change mitigation. *Environment international*, 2016, vol. 94: p. 380–387.
- [18] Rojas-Rueda D., Morales-Zamora E., Alsufyani W. A., Herbst C. H., AlBalawi S. M., Alsukait R. *et al.* Environmental risk factors and health: An umbrella review of meta-analyses. *International Journal of Environmental Research and Public Health*, 2021, vol. 18, no. 2: p. 1–38.
- [19] Nieuwenhuijsen M. J. Urban and transport planning pathways to carbon neutral, liveable and healthy cities: A review of the current evidence. *Environment International*, 2020, no. 140.
- [20] Pascal M., de Crouy Chanel P., Corso M., Medina S., Wagner V., Gorla S. *et al.* *Impacts de l'exposition chronique aux particules fines sur la mortalité en France continentale et analyse des gains en santé de plusieurs scénarios de réduction de la pollution atmosphérique*. Saint-Maurice: Santé publique France, 2016: 158 p.
- [21] Hänninen O., Knol A. B., Jantunen M., Lim T.-A., Conrad A., Rappolder M. *et al.* Environmental burden of disease in Europe: assessing nine risk factors in six countries. *Environmental Health Perspectives*, 2014, vol. 122, no. 5: p. 439–446.
- [22] Laaidi K., Zeghnoun A., Dousset B., Bretin P., Vandentorren S., Giraudet E. *et al.* The impact of heat islands on mortality in Paris during the August 2003 heat wave. *Environmental Health Perspectives*, 2012, vol. 120, no. 2: p. 254–259.
- [23] World Health Organization, Regional Office Europe. Urban green spaces and health: A review of evidence, 2016.
- [24] Rojas-Rueda D., Nieuwenhuijsen M. J., Gascon M., Perez-Leon D., Mudu P. Green spaces and mortality: A systematic review and meta-analysis of cohort studies. *The Lancet Planet Health*, 2019, vol. 3, no. 11: e469–e477.
- [25] Twohig-Bennett C., Jones A. The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes. *Environmental Research*, 2018, vol. 166: p. 628–637.
- [26] Lachowycz K., Jones A. P. Towards a better understanding of the relationship between greenspace and health: Development of a theoretical framework. *Landscape and Urban Planning*, 2013, vol. 118: p. 62–69.
- [27] Hartig T., Mitchell R., de Vries S., Frumkin H. Nature and Health. *Annual Review of Public Health*, 2014, vol. 35: p. 207–228.
- [28] Kuo M. How might contact with nature promote human health? Promising mechanisms and a possible central pathway. *Frontiers in Psychology*, 2015, vol. 6, no. 1093.
- [29] Milvoy A., Roué-Le Gall A. Aménager des espaces de jeux favorables à la santé. *La Santé en action*, 2015, no. 434: p. 38–39.
- [30] Markevych I., Schoierer J., Hartig T., Chudnovsky A., Hystad P., Dzhambov A. M. *et al.* Exploring pathways linking greenspace to health: Theoretical and methodological guidance. *Environmental Research*, 2017, vol. 158: p. 301–317.
- [31] Bertrand C., Pascal M., Médina S. Do we know enough to quantify the impact of urban green spaces on mortality? An analysis of the current knowledge. *Public Health*, 2021, vol. 200: p. 91–98.
- [32] Kingsley M. Climate change, health and green space co-benefits. *Health Promotion and Chronic Disease Prevention in Canada*, 2019, vol. 39, no. 4.
- [33] Hunter R. F., Cleland C., Cleary A., Droomers M., Wheeler B. W., Sinnett D. *et al.* Environmental, health, wellbeing, social and equity effects of urban green space interventions: A meta-narrative evidence synthesis. *Environment International*. 2019, vol. 130.
- [34] Roué Le Gall A., Thomas M.-F., Deloly C., Romagon J., Clément B., Nassiet C. *Fiche Espace vert du guide ISadOrA (clef 12) Le guide ISadOrA, une démarche d'accompagnement à l'intégration de la santé dans les opérations d'aménagement urbain*. EHESP, A-urba, FNAU, ADEME, DGS and DGALN, 2020: p. 249–280.
- [35] Porcherie M., Roué-Le Gall A., Thomas M.-F., Faure E., Rican S., Vaillant Z. *et al.* *Espaces verts urbains. Promouvoir l'équité et la santé*. Rennes: French Network of Healthy Cities of the World Health Organization, 2020: 74 p.
- [36] Aerts R., Honnay O., Van Nieuwenhuyse A. *et al.* Biodiversity and human health: Mechanisms and evidence of the positive health effects of diversity in nature and green spaces. *British Medical Bulletin*, 2018, vol. 127, no. 1: p. 5–22.
- [37] Roué-Le Gall A. *et al.* Des espaces verts urbains favorables à la santé: De la théorie à l'action. In: Questionner l'évaluation : pour des stratégies et des actions favorables à la nature en ville. *Plante & Cité*, 2019, vol. 5: p. 32.
- [38] Bednarek A. T., Wyborn C., Cvitanovic C., Meyer R., Colvin R. M., Addison P. *et al.* Boundary spanning at the science-policy interface: The practitioners' perspectives. *Sustainability Science*, 2018, vol. 13, no. 1.
- [39] Vallet B., Guilbert P. Prendre en compte la santé dans toutes les politiques publiques. *La Santé en action*, 2016, no. 435: p. 51–52.

Healthy urban planning: taking action for health, the environment and social equality

Anne Roué Le Gall,

Teacher-Researcher, Department of Environmental Health Sciences, School of Advanced Studies in Public Health, Rennes 1 University, EHESP, CNRS, ARENES – UMR 6051, France,

Nina Lemaire,

Project Manager, WHO Healthy Cities French National Network, France,

Mathilde Pascal,

Climate Change and Health Project Manager, Environmental and Occupational Health Department, Santé publique France, France,

Thierno Diallo,

Assistant Professor, Faculty of Nursing Sciences, Laval University, Quebec.

Although public health played a major role in the establishment of urban planning practices, starting in the 19th century (hygienic urbanism) and continuing until the first half of the 20th century (functional urbanism) [1], the two disciplines tended to drift apart in the second half of the 20th century, giving way to an approach that was more focused on sustainable development in the early 2000s. However, by analysing the interrelationships between the issues faced by public authorities in the 21st Century [2], in terms of both public health and environmental changes, it emerges that urban planning and regional development represent pivotal action points (see Figure 1). For example, among the significant environmental challenges resulting from human activities, climate change and the increasing urbanization of territories are major issues, the effects of which constitute

an immediate threat to health and human well-being, aggravating health inequity [3-5] via escalations in extreme climatic events, soil sealing, increased air pollution or even lifestyle factors such as mobility and diet. In fact, climate change and growing urbanization are exacerbating the pathologies and health problems of populations by causing chronic diseases or accentuating them (cardiovascular diseases, tumours, diabetes, asthma, mental health disorders, etc.). They also have an amplifying effect on vector-borne diseases and the risk of infection, as well as social isolation. These risks, be they new or increased, partly result from erroneous choices in development, urban planning and urban management as endorsed by previous public policies. They can now be corrected, to a certain extent, by the implementation of healthy urban planning.

Healthy urban planning: a concept that repositions development and urban planning choices as pivotal action points for well-being, health and the environment

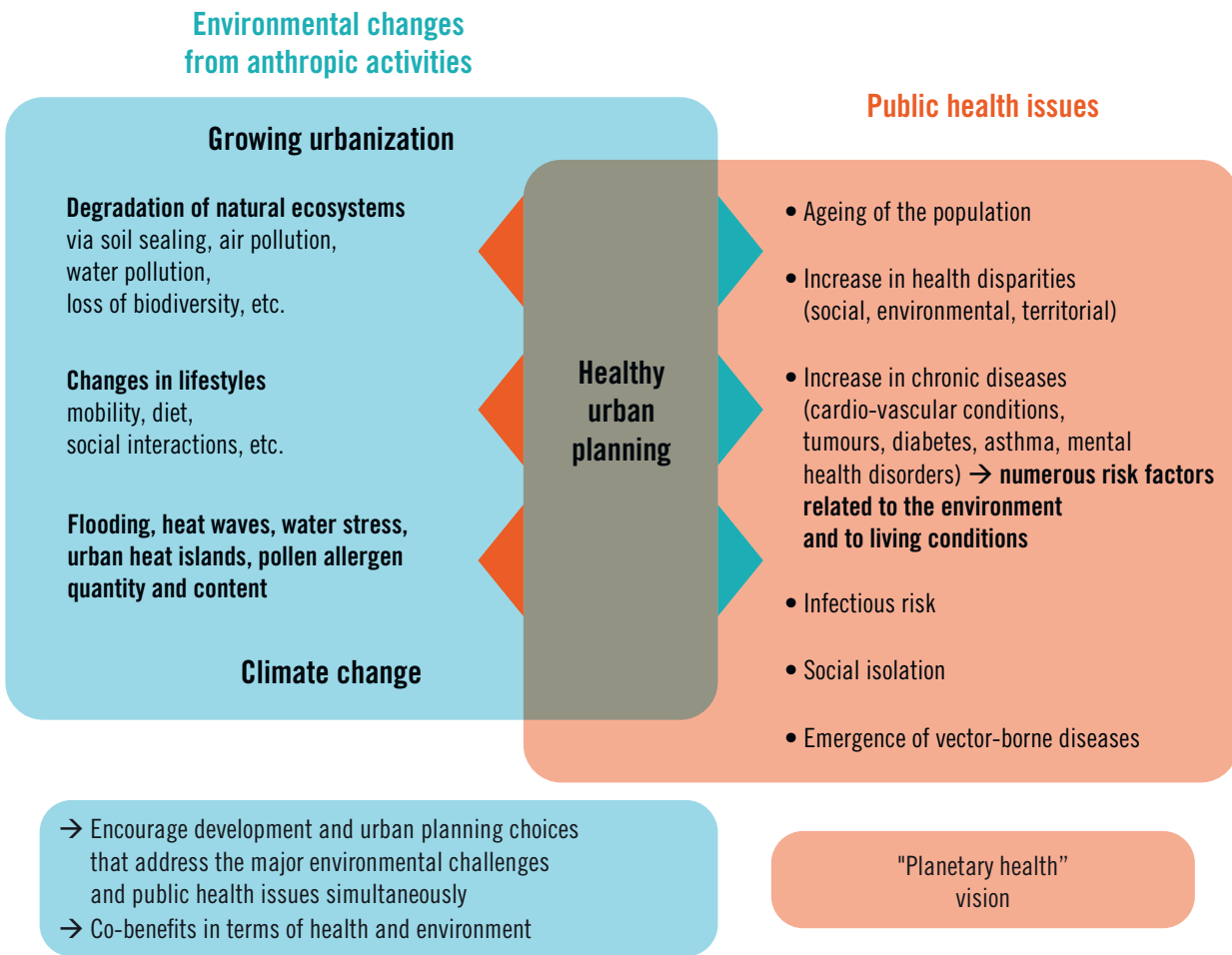
Faced with this analysis, we can no longer consider health and environmental issues separately: we must instead adopt practices that are less compartmentalized and use public action to propose integrated solutions. This is consistent with the concept of *Planetary Health*, initiated in 2010, which offers promising prospects for public health and the environment through a shift from individual objectives towards integrated approaches [7].

KEY POINTS

Based on the “Health in All Policies” approach promoted by the World Health Organization (WHO), the concept of healthy urban planning aims to systematically and simultaneously consider the health implications and environmental consequences of any urban planning project. This involves encouraging development and urban planning choices that minimize the population’s exposure to risk factors such as air pollution, noise pollution and social isolation, while maximizing health protection and promotion factors such as physical activity, access to care or green spaces, all with a view to reducing social inequalities in health.

It is precisely within this vision that the concept of healthy urban planning finds its place. Present in France since early 2010, the main objective is to push development and urban planning practices towards better consideration for public health and environmental issues. Although the links between urban planning, health and the environment are now widely recognized and documented by the scientific community [8-11], it remains complicated for the various territorial actors to assimilate them into planning documents and development projects, where they are still only marginally considered. Here again, the highly sectoral organization of institutions combined with the complex governance system behind

Figure 1. Healthy urban planning: at the crossroads between environmental and public health issues



Source: adapted from internal productions of the EHESP – UrbASET group (Urbanisme Aménagement Santé Environnements Territoires)

local public policies [12] has led many territorial stakeholders to operate in silos. Opportunities to work together are often limited, despite their shared goals: health, quality of life and protection of the environment.

In this respect, better integration of health and environmental issues on different territorial scales requires improving collaboration between all stakeholders (especially professionals in the fields of planning, urban development and public health), as well as a shift towards approaches that are more fully integrated in terms of public health and the environment.

Healthy urban planning: origins, definition and key principles

Healthy urban planning is part of an approach to promote the health and well-being of all, while seeking co-benefits in terms of environmental health.

Based on the Health in All Policies approach, promoted by WHO since the Ottawa Charter (1986) [13] and more explicitly since the Adelaide Statement (2010) [14] and the Shanghai Declaration (signed in 2016) [15], healthy urban planning aims to systematically and simultaneously take into account the health and environmental consequences of any urban planning project (planning and operational). This involves encouraging development and urban planning choices that minimize the exposure of populations to risk factors such as air pollution, noise pollution, social isolation, etc., while maximizing their exposure to health prevention and promotion opportunities such as exercise, access to care or green spaces, etc., all with a view to reducing social inequalities in health.

Initiated by the WHO Healthy Cities network in 1987, the healthy urban planning concept has been

reinstated in France since the early 2010s, first by public health professionals, then more recently by those in development and urban planning [16]. On a national scale, the deployment of healthy urban planning is based on three key principles: first of all, a globally proactive and positive approach to health, which is considered a result of cumulative exposure to a large panel of environmental, socio-economic and individual determinants of health that can have a positive or negative influence on it; then, an integrated approach to public health and environmental issues which aims to promote the health and environmental co-benefits of development and urban planning choices; finally, a “system” approach that considers any territory of life¹ as a dynamic, complex system and thus takes into account all interactions between the components of this territory, the determinants of health

and health [17-19]. *Figure 2* shows the conceptual model that illustrates these principles, providing a glimpse of the complex territories of life, and touching on total exposures that have an impact on health and health equity.

Implementation of healthy urban planning: coordinating a multitude of action strategies and stakeholders to achieve more integrated and collaborative practices

The challenge of implementing healthy urban planning is, on one hand, to encourage and support a change in practices that places health and the environment at the heart of planning and policies and, on the other hand, to succeed in making these policies into drivers

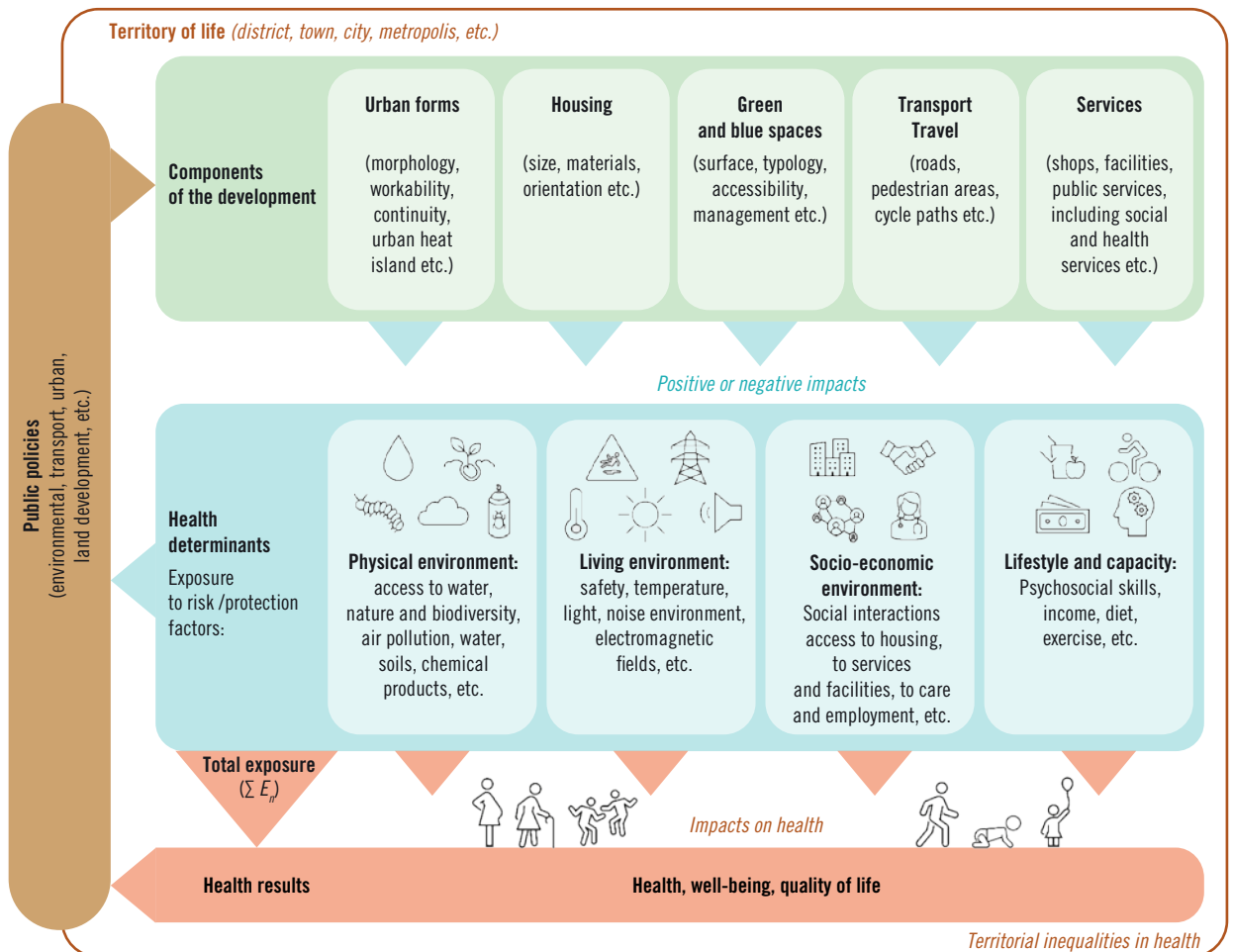
for improving health and reducing health inequalities. This ambitious mission is not the result of a single action, but above all of the coordination of a set of actions and stakeholders at different scales within a territory. The theoretical framework developed to organize these actions is based on three major strategies to be implemented simultaneously [16] (*Figure 3*).

The first strategy emphasises the importance of considering any project or policy related to urban development and management by adopting an ecosystem approach to health, that is to say by taking into account the multiple links between a large panel of health determinants (environmental, socio-economic and individual) and the project.

This way of considering projects or policies, as well as the elements that prove links between town planning and health, must be shared by a maximum of territorial stakeholders, which leads to a second strategic area: establishing a common culture for healthy urban planning and its advocacy. This includes encouraging multi-stakeholder exchanges by promoting meetings, shared training and all forms of multi-partner arrangements to facilitate acculturation to healthy urban planning principles and stimulate initiatives in the territory.

Finally, local authorities and any stakeholder wishing to engage in a healthy urban planning initiative must possess the appropriate tools and methodologies for making health a tangible element, and to help them

Figure 2. Conceptual model to touch on the complexity of the relations between the various components of a territory of life, total exposure to different health determinants, and health according to a system approach



Source: adapted from internal publications by the EHESP – UrbASET Group and French Network of Healthy Cities (RFVS), 2022.

translate this into their development and urban planning practices. This third strategy brings together a series of procedures, tools and approaches to choose from according to the initiative undertaken. Indeed, there are multiple complementary steps that favour the implementation of a healthy urban planning concept. The various tools developed and released in recent years, such as the guide *Agir pour un urbanisme favorable à la santé* [20; 21] and *Le Guide ISad-OrA* [22] published in 2020, can help structure the support for healthy urban planning that is offered within a territory. Other approaches can also be used, such as the procedure for environmental assessments of town planning documents and development projects (impact studies), for which the opinion of the regional health

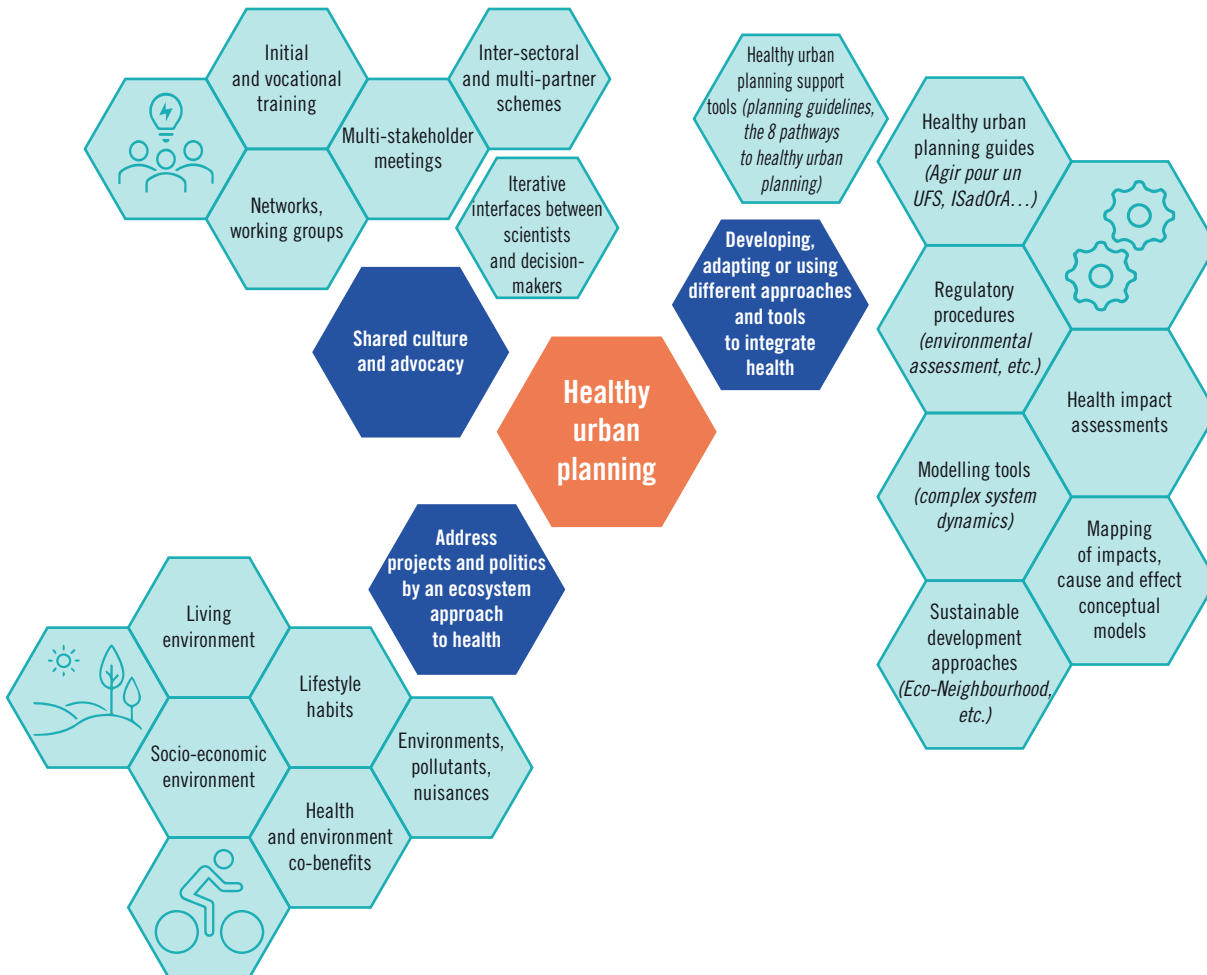
agencies (ARS) is required since regulatory changes in 2011, thus affirming the legitimacy of ARS as key players in promoting healthy urban planning [23]. In parallel, numerous health impact assessment (HIA) approaches to urban planning projects have been deployed since 2010 [24; 25] (editor's note: see the article "Health impact assessment: a tool for healthy urban planning"). A veritable methodology to aid decision-making, this non-regulatory approach, framed during the Gothenburg consensus in 1999, aims to anticipate the health consequences of policies, programmes or projects before their implementation and to suggest readjustments with a view to limiting negative impacts and reinforcing positive impacts. Depending on the health determinants investigated, HIA can mobilize different

types of assessment tools, such as the quantitative health impact assessment (QHIA) for air pollution [26].

Encouraging initiatives at local level, although challenges remain

These tools, approaches and methodologies have facilitated the deployment of healthy urban planning at different levels across the country. The multiplication of initiatives testifies to the fact that a growing number of stakeholders are interested in taking action in terms of public health issues and major environmental issues. These initiatives can take different forms and relate, for example, to more or less ambitious development projects: neighbourhood development, urban renewal or public spaces, transport

Figure 3. Theoretical framework of action strategies for the implementation of healthy urban planning



Source : adapted from: Roué Le Gall A. and Thomas M.-F. Urbanisme favorable à la santé : de la théorie à la pratique (2018) [6].

Feature
Urban planning dedicated to health

infrastructure, leisure, green spaces etc.; urban planning documents: local development plans (PLUi), regional cohesion schemes (SCoT), etc.; or planning documents: territorial climate-air-energy plans (PCAET), urban transport plans (PDU), etc.

If all of these activities are encouraging, they nevertheless remain a minority at national scale. We do not possess an exhaustive inventory of ongoing initiatives. However, feedback reveals investment disparities between territories and, moreover, the many obstacles to overcome in order to make health and the environment real decision-making criteria: red tape, operational silos, different conceptual representations of health, appropriation of the new frameworks and tools for healthy urban planning, etc.

Much remains to be done to ensure continued support for these initiatives and to achieve a more systematic implementation across the country, so as not to aggravate territorial and social inequalities in health.

In this challenging context, let us underline the importance of engaging in opportunities for meetings,



© City of La Chaux-de-Fonds, A. Henrich

URBAN PLANNING, DEVELOPMENT: A FEW ELEMENTS OF DEFINITION

In France, urban spaces are controlled by development policies carried out at various scales, from national level (e.g. major transport infrastructures) to local level. Two major fields of action can be set apart.

A first field concerns planning:

- local housing programme: PLU (*programme local d'habitat*);
- urban transport plan: PDU (*plan de déplacements urbains*);
- regional planning, sustainable development and territorial equality plan: SRADDET (*schémas régionaux d'aménagement, de développement durable et d'égalité des territoires*);
- etc.

and regulatory urban planning:

- regional cohesion scheme: SCoT (*schéma de cohérence territoriale*);
- local development plan: PLU (*plan local d'urbanisme*);
- etc.

They aim to define a project for the territory in the medium-term. Urban planning documents (regulatory urban planning) aim in particular to regulate land use and to set the conditions for future development, for example by regulating urban sprawl, by organizing the functions of areas (e.g. commercial centres, green or natural spaces), by setting the conditions to be respected for future constructions, etc. All of these planning and urban development documents derive from a common strategy and are linked to various administrative procedures (authorization of a building permit, etc.) within a hierarchy of standards. Thus, the PLU is compatible with the provisions of the SCoT; it clarifies the details of the latter and lays down rules with which any future construction must comply. The second field concerns operational urban planning, construction projects and developments. Actions in this field therefore lead to tangible achievements in the relatively short-

term (from a few years to around ten years). Depending on their degree of complexity, the projects in question can be carried out within the framework of wider initiatives, for example the (re)development of an entire district or a tramway line. In such cases, operational urban planning tools come into play (e.g. mixed development zone – France: ZAC). Less complex developments are said to be carried out “individually” (e.g. the construction of a school, the redevelopment of a square, etc.). In addition, there are many policies and inter-sectoral projects that drive planning hand-in-hand with urban management: for example, policies to support active mobility or learning to cycle are complementary to infrastructure that facilitates a physical activity.

Thus, the area of urban planning and development is vast, technical and complex. It calls together many professionals and is carried out in connection with many other policies.

exchanges and partnerships between planning, environment and public health professionals that help to develop a common culture around these principles. The development of professional training in healthy urban planning, such as the Public Health and Territorial Development diploma (SPAT)² in France, or even the establishment of networks like the Brittany Urban Planning and Health Network (RBUS) are two examples that demonstrate how the fields of health and urban planning can be linked. The implementation of this inter-sectoral approach offers an opportunity to reflect on the integration of healthy urban planning principles into everyone's practices, in the fields of both urban planning and public health. In broader terms, the challenges related to the implementation of healthy urban planning cover the governance of development and urban planning projects as well as the philosophy that is instilled therein. Placing health at the heart of decisions: such must be the purpose of healthy urban planning.

Despite these interesting initiatives, there is an urgent need to accelerate the current movement, the health crisis we are going through reminds us of this and we must seize it as a game-changing opportunity. We can hope that this crisis boldly underlines the need to permanently and structurally include public health issues in urban planning concerns and on the agenda of local decision-makers. ■

1. By territory of life, we mean a territorial unit (or a system) of variable scales: living room, housing, district, city, region, etc., structured into different spatial and non-spatial components in which individuals evolve.

2. <https://formation-continue.ehesp.fr/formation/sante-publique-et-amenagement-des-territoires-vers-un-urbanisme-favorable-la-sante-spat/>

REFERENCES

- [1] Lévy A., Barles S., Baudouin R., Fleuret S., Lévy A. (dir.), *Collectif – Ville, urbanisme et santé, les trois révolutions*. Paris: Éditions Pascal, coll. Société & santé, 2012: 320 p.
- [2] Haines A. Addressing challenges to human health in the Anthropocene epoch—an overview of the findings of the Rockefeller/Lancet Commission on Planetary Health. *Public Health Reviews*, 2016, vol. 37: 14.
- [3] Haines A., Scheelbeek P., Abbasi K. Challenges for health in the Anthropocene epoch. *BMJ*, 2019, vol. 364, no. 1460.
- [4] Coverdale J., Balon R., Beresin E. V., Brenner A. M., Guerrero A. P. S., Louie A. K. *et al.* Climate change: A call to action for the psychiatric profession. *Academic Psychiatry*, 2018, vol. 42, no. 3: p. 317–323.
- [5] Friel S., Marmot M., McMichael A. J., Kjellstrom T., Vagerö D. Global health equity and climate stabilization: A common agenda. *The Lancet*, 2008, vol. 372, no. 9650: p. 1677–1683.
- [6] Roué Le Gall A., Thomas M.-F. Urbanisme favorable à la santé : de la théorie à la pratique. Report Prendre soin des urbains. *Urbanisme*, October 2018, no. 410: p. 36–39.
- [7] Horton R., Lo S. Planetary health: A new science for exceptional action. *The Lancet*, 2015, vol. 386, no. 10007: p. 1921–1922.
- [8] Barton H., Thompson S., Burgess S., Marcus G. *The Routledge Handbook of Planning for Health and Well-Being*. Londres & New York: Routledge Taylor & Francis Group, 2015: 618 p.
- [9] Carmichael L. Healthy cities: The evidence and what to do with it. *Urban Design – New Series*, 2017, vol. 142, p. 20–22.
- [10] World Health Organization. *Health as the Pulse of the New Urban Agenda: United Nations Conference on Housing and Sustainable Urban Development*. Quito, October 2016. Geneva: WHO, 2016: 44 p.
- [11] Carmichael L., Townshend T. G., Fischer T. B., Lock K., Petrokofsky C., Sheppard A. *et al.* Urban planning as an enabler of urban health: Challenges and good practice in England following the 2012 planning and public health reforms. *Land Use Policy*, 1st May 2019, vol. 84: p. 154–162.
- [12] Dubois J. *Les Politiques publiques territoriales. La gouvernance multi-niveaux face aux défis de l'aménagement*. Rennes: PUR, 2009: 216 p.
- [13] World Health Organization. Health promotion. Ottawa Charter. Geneva: WHO, 1986: 6 p.
- [14] World Health Organization & Government of South Australia. Adelaide statement on health in all policies: moving towards a shared governance for health and well-being. 2010.
- [15] Shanghai Declaration on promoting health in the 2030 Agenda for Sustainable Development. Ninth Global Conference on Health Promotion, 2016.
- [16] Roué Le Gall A., Deloly C., Thomas M.-F. L'urbanisme favorable à la santé (UFS), une nouvelle approche des politiques d'urbanisme et d'aménagement des territoires promoteurs de santé. *In Collectif. Santé et Territoires*. Paris: Gallimard, coll. Points Fnau – Alternatives, 2020, no. 11: p. 11–15.
- [17] Keshavarz Mohammadi N. One step back toward the future of health promotion: complexity-informed health promotion. *Health Promotion International*, 2019, vol. 34, no. 4: p. 635–639.
- [18] Burke T. A., Cascio W. E., Costa D. L., Deener K., Fontaine T. D., Fulk F. A. *et al.* Rethinking environmental protection: Meeting the challenges of a changing world. *Environmental Health Perspectives*, 2017, vol. 125, no. 3: A43–A49.
- [19] Chapman R., Howden-Chapman P., Capon A. (2016) Understanding the systemic nature of cities to improve health and climate change mitigation. *Environment International*, vol. 94: p. 380–387.
- [20] Roué Le Gall A., Le Gall J., Potelon J.-P., Cuzin Y. *Agir pour un urbanisme favorable à la santé : Concepts et outils*. EHESP/DGS Guide, 2014: 191 p.
- [21] Roué Le Gall A., Lemaire N., Jabot F. Lessons learned from co-constructing a guide on healthy urban planning and on integrating health issues into environmental impact assessments conducted on French urban development projects. *Impact Assessment and Project Appraisal* (IAPA), 2017, vol. 36, no. 1: p. 68–80.
- [22] Roué Le Gall A., Clément B., Malez M. (dirs.) *Le Guide ISadOrA : une démarche d'accompagnement à l'intégration de la santé dans les opérations d'aménagement urbain*. EHESP, a-urba, March 2020: 352 p.
- [23] Roué Le Gall A., Cuzin Y. Agir pour un urbanisme favorable à la santé : le rôle central des ARS. *In Mariotte S. (dir.) Territoires, incubateurs de santé ? Les Cahiers*, 2014, no. 170–171: 190 p.
- [24] Roué Le Gall A., Jabot F. Health impact assessment on urban development projects in France: finding pathways to fit practice to context. *Global Health Promotion*, 2017, vol. 24, no. 2: p. 25–34.
- [25] Jabot F., Rivadeneyra-Sicilia A. Health impact assessment institutionalisation in France: state of the art, challenges and perspectives. *Impact Assessment and Project Appraisal*, 2021.
- [26] Corso M., Lagarrigue R., Medina S. *Pollution atmosphérique. Guide pour la réalisation d'une évaluation quantitative des impacts sur la santé (EQIS). EQIS avec une exposition mesurée*. Santé publique France, 2019: 88 p.

Impact assessment: a tool for healthy urban planning

Anne Roué Le Gall,

Teacher-Researcher, Department of Environmental Health Sciences, School of Advanced Studies in Public Health, Rennes 1 University, EHESP, CNRS, ARENES – UMR 6051, France,

Thierno Diallo,

Assistant Professor, Faculty of Nursing Sciences, Laval University, Quebec.

Health impact assessments (HIA) are based on an approach initiated by the Gothenburg consensus paper in 1999, which defines them as “a combination of procedures, methods and tools

by which a policy, programme or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population” [1]. This definition has been supplemented by the International Association for Impact Assessment, which specifies that “the HIA identifies appropriate actions to manage these effects”. It follows a structured six-step process (selection, scoping, impact assessment, recommendations and communication of results, monitoring of the implementation of recommendations, and evaluation of HIA results on the decision), which uses a range of data sources and analytical methods, relying on contributions from a wide range of actors.

HIA comes from two currents of influence: environmental health and health promotion, and elements from these two major fields of public health are included in its methodological deployment. It is particularly influenced by health promotion insofar as it applies a holistic model of health, which stresses the importance of the social determinants of health and adheres to ethical principles, such as equity and social justice, democracy and citizen participation, principles that distinguish HIAs from other forms of impact assessment [2].

Qualified as a prospective, inter-sectoral and participatory approach to evaluation, HIA intervenes in a decision-making process as far upstream as possible, its purpose being to predict the health consequences of projects (in the short-, medium- and long-term) and to recommend appropriate measures for minimizing negative effects and maximizing positive effects before the project is carried out. It can take different forms depending on the elements of context, the challenges of the project and the resources available (human, financial, time); HIAs are applicable to different sectors such as transport, industry, natural resources and urban development.

HIA is a distinct form of prospective impact assessment, specifically focused on human health, that emerged during the 1990s. It has gradually spread and diversified across the world with practitioners from the UK, USA, Canada, Australia and other European countries pioneering the methodology, which is still evolving today [4]. A review of international historical developments in HIA, published by Harris-Roxas *et al.* in 2012, shows that the HIA approach has matured, diversified and spread to a growing number of countries around the world, with applications in the public and private sectors. It is now adopted in many countries, regulated or not, with the aim of better integrating health into all policies. In this sense, HIA is a means of implementing healthy urban planning, which more specifically targets the integration of health into development and urban planning policies. In France, the practice of HIAs has gradually developed since early 2010. About 60 different HIAs have been

registered to date, relating mainly to urban development projects and, to a lesser extent, social and transport policies [5; 6].

One of the limits of HIA lies in evaluating the effectiveness of the approach, in particular the real impacts on health compared to the projected impacts. Researchers and practitioners in the field have therefore developed HIA evaluation models and work on the subject is continuing. ■

REFERENCES

- [1] World Health Organization, European Center for Health Policy. *Gothenburg Consensus Paper-Health Impact Assessment: Main Concepts and Suggested Approach*. Brussels, Belgium: WHO, Regional Office Europe, 1999.
- [2] Cave B., Pyper R., Fischer-Bonde B., Humboldt-Dachroeden S., Martin-Olmedo P. Lessons from an international initiative to set and share good practice on human health in environmental impact assessment. *International Journal of Environmental Research and Public Health*, 2021, vol. 18, no. 4: 1392.
- [4] Winkler M. S., Furu P., Viliani F., Cave B., Divall M., Ramesh G. *et al.* Current global health impact assessment practice. *International Journal of Environmental Research and Public Health*, 2020, vol. 17, no. 9: 2988.
- [5] Roué Le Gall A., Jabot F. Health impact assessment on urban development projects in France: finding pathways to fit practice to context. *Global Health Promotion*, 2017, vol. 24, no. 2: p. 25–34. DOI:10.1177/1757975916675577.
- [6] Jabot F, Rivadeneyra-Sicilia A. Health impact assessment institutionalisation in France: state of the art, challenges and perspectives. *Impact Assessment and Project Appraisal*, 2021. DOI: 10.1080/14615517.2021.2012011

Quebec: for a healthy urban environment

Sophie Paquin,

Urban Planner, Professor,
Department of Urban and Tourism
Studies, University of Quebec, Quebec.

Since the end of the 2000s, public health agencies in Quebec have adopted what is known as the “healthy environments” approach, as defined by the Ottawa Charter of the World Health Organization in 1986. Quebec public health has prioritized strategies to establish public policies that facilitate healthy choices and discourage unhealthy ones, to create healthy living environments, and to strengthen collective action and participation from civil society.

In 2011, the Ministry of Health and Social Services of Quebec (MSSS) published its strategic vision on “environments conducive to healthy eating, a physically active lifestyle and the prevention of weight-related problems” [1]. This analytical framework was developed in collaboration with the non-governmental organization Québec en Forme and the National Public Health Institute of Quebec (INSPQ). The document specifies the physical, economic, social and political dimensions of living environments conducive to healthy lifestyles.

Diversified strategies for healthy environments

Healthy environment strategies have the potential to reach the whole population and to mobilize a variety of public institutions and civil society organizations. The theory of healthy environments constitutes a driving force for the integration of health promotion in various local projects or regional approaches, as well as in the creation of intersectoral networks. The Government, its regional

public health agencies and Québec en Forme have devoted significant resources to developing actions through a wide array of channels (municipalities; schools; associations with active interests in the environment, nutrition, physical activity and active transportation, etc.). Consequently, several fundamental strategies have taken root since the end of the 2000s. These include the creation of training programmes on all aspects of healthy environments, the constitution of 19 national or regional consultation platforms as well as 162 local groups [2], the financing of numerous interventions carried out by associations, and the evaluation of demonstration projects. Networks have formed around environments favourable to an active lifestyle and healthy eating, made up of public, professional, associative or territorial organizations that are less familiar with collaborating on planned complementary actions. The result is a dynamic ecosystem of health promotion in Quebec.

A public health vision that mobilizes territorial organizations

The healthy environments approach focuses on how the conditions of the built environment can facilitate healthy choices. The “Taking care of our world” approach [3] was deployed in order to encourage cities to implement actions that have a direct influence on the health of the population. Health is now part of the municipal agenda because the healthy environments concept has expanded into a more general notion of health, with conferences and training programmes offered to staff and elected officials in several cities across Quebec. Incorporating new knowledge into the development of

THE KEY POINTS

▶ Quebec has launched a strategy for developing “healthy lifestyle environments”. A framework document sets out practical measures in a number of areas: environment, nutrition, physical activity, soft mobility, etc. Sophie Paquin emphasizes that cities possess the means to create healthy environments, but that they cannot act without the political will of elected officials or the support of civil society concerning matters that transform their living environment. Scientific perspective from Quebec.

urban planning measures is facilitated through documentation produced by the Public Health Expertise and Reference Centre [4] and the multimedia platform 100° [5], which features multiple examples of healthy urban planning projects.

The associations that have carried out projects financed by the Québec en Forme fund have also encouraged territorial organizations to transform the built environment, for example by giving greater importance to active transportation infrastructures and agricultural projects. The Green Neighbourhoods network managed by the urban ecology centre of Montréal (CEUM) [6] provides an eloquent example of concerted action achieved through the local authorities working in consultation with citizens. This approach helped to identify the most functional and user-friendly routes for soft modes of transport, to recognize mobility barriers and to develop safer solutions for vulnerable users at intersections: all according to the point of view of the users.

Feature
Urban planning dedicated to health

Public policy instruments for healthy urban planning

Cities have several means of creating environments favourable to a physically active lifestyle and healthy eating [7]. The zoning regulations adopted by Gatineau and Brossard define quotas for the number of fast food (junk food) restaurants implanted around schools, allowing the cities to create “school and health” zones [8]. Cities can adopt sustainable mobility policies (see the article “Quebec: Sherbrooke assesses the impact of city-centre revitalization on health inequalities”), healthy food access policies like in the city of Rimouski [9], or a master plan for sports and urban outdoor facilities, like that in the city of Montreal [10]. Participatory budgeting within local authorities often provides funding for health-promoting projects [11]. These public policy instruments contain the principles, planning criteria and measures to create and consolidate healthy urban environments [12]. Cities can also support citizens’ initiatives. The “Promenade des Saveurs” in the Centre-Sud district of Montreal, known as the longest “all-edible” street in Canada, is a project initiated by an association of local residents that includes several developments for urban agriculture installed on the public right-of-way. For this project, the municipal authorities worked on road safety measures and helped to set up an irrigation system for the plantations [13].

Health impact assessments

In Quebec, the government’s health prevention policy [14] recommends carrying out a health impact assessment (HIA) for structuring urban projects. The use of HIAs in the development of public policies often remains limited. Health impact assessments provide a solid basis on

which territorial organizations can base their decisions [15], as was the case when planning for the redevelopment of several neighbourhoods in the city of Gatineau [16] or for the regional health centre in the city of Saint-Jérôme [17].

Conclusion

Cities have several means of creating favourable environments, but they cannot act without the political

will of elected officials or the social acceptability of civil society regarding actions that transform their living environment. Sharing a common vision of the concern, concerted action by the various organizations and adequate funding are important dimensions of transformation to achieve healthy environments in Quebec’s cities. ■

Contact: paquin.sophie@uqam.ca

REFERENCES

- [1] Mongeau L., Paquette M., Pelletier C., Jen Y., Robitaille É. *Pour une vision commune des environnements favorables à la saine alimentation, à un mode de vie physiquement actif et à la prévention des problèmes reliés au poids*. Ministère de la Santé et des Services sociaux (MSSS), Québec en Forme, Institut national de santé publique du Québec (INSPQ). Québec: Government of Quebec, 2012: 24 p.
- [2] Fondation André-et-Lucie-Chagnon, Québec en Forme. *Une multitude d’initiatives soutenues à l’échelle locale, régionale et provinciale*. On-line: <https://fondationchagnon.org/initiatives-soutenues/territoires/quebec-en-forme/> [consulted on 21-03-2022].
- [3] “Prendre soin de notre monde” approach. On-line: <https://prendresoindenotremonde.com/> [consulted on 25-03-2022].
- [4] Public Health Expertise and Reference Centre. On-line: <https://www.inspq.qc.ca/crebs> [consulted on le 3-03-2022].
- [5] 100°. On-line: <https://centdegres.ca/> [consulted on 25-03-2022].
- [6] Centre d’écologie urbaine de Montréal (CEUM). On-line: <https://www.ecologieurbaine.net/fr/> [consulted on 25-02-2022].
- [7] Blouin C., Robitaille É., Le Bodo Y., Dumas N., De Wals P., Laguë J. *Aménagement du territoire et politiques favorables à un mode de vie physiquement actif et à une saine alimentation au Québec*. *Lien social et Politiques*, 2017, vol. 78: p. 19–48.
- [8] Association pour la santé publique du Québec, Réseau québécois de villes et villages en santé. *La zone-école et l’alimentation : des pistes d’action pour le monde municipal*. ASPQ with the financial support of Québec en Forme and Public Health Agency of Canada, 2011: 30 p.
- [9] City of Rimouski. *Saveur, plaisir, équilibre. Politique alimentaire*. 2016: 15 p.
- [10] City of Montreal. *Plan directeur du sport et du plein air urbains de la Ville de Montréal*. 2018: 132 p.
- [11] Participatory budget in Quebec. <https://www.budgetparticipatifquebec.ca/en/inspiring-projects>
- [12] Paquin S., Laurin M. *Guide sur les environnements favorables aux saines habitudes de vie (SHV) dans les municipalités*. Regional Public Health Department of the Ciusss du Centre-sud-de-l’Île-de-Montréal, Québec en Forme and national training committee on healthy lifestyles, 2016: 145 p.
- [13] Carrefour solidaire centre-sud. Community food bank. On-line: <https://www.carrefoursolidaire.org/activites/jardins/promenade-des-saveurs/> [consulted on 27-02-2022].
- [14] Government of Quebec. *Politique gouvernementale de prévention en santé*. 2016.
- [15] Tremblay E. *Processus EIS appliqué en Montérégie*. Montérégie public health directorate, 2020.
- [16] Charlebois J., Tremblay E. *EIS pour plan directeur d’aménagement pour les terrains des secteurs de Pointe Gatineau et du Lac Beauchamp*. Presentation at the convention of the Quebec regional planners association, 2021.
- [17] Public health directorate. *Évaluation d’impact sur la santé du PPU du Pôle régional de la santé de la ville de Saint-Jérôme – Rapport sur les impacts potentiels et recommandations*. Centre intégré de santé et de services sociaux des Laurentides, 2021.

Strengthening local action for global health: WHO's response to urban health challenges

Dr Nathalie Laure Roebbel,
Head of Unit, Urban Health,
Dr Tamitza Toroyan,
Scientific Advisor,
Social Determinants of Health,
World Health Organization.

The climate and COVID-19 crises have exacerbated existing social injustice and vulnerabilities in our communities and our health systems, especially in cities. Over 55% of the world's population live now in urban areas and the prevalence of urban-related disease burdens is now dominant and will continue to grow. High connectivity of large cities, ongoing urban population growth and spatial extension, rapid motorization as well as climate change all impact negatively on a large number of health outcomes.

Urban health can be considered as the configuration of urban features and systems that collectively determines the potential for all urban dwellers to achieve a state of complete physical, mental, and social well-being. As such, city authorities play a key role in protecting their citizens' health and well-being.

The triple burden – cities responses to health challenges must take account of multiple threats

Inadequate housing and transport, poor sanitation and waste management, high levels of air and noise pollution are still big issues

in many cities. Sedentary lifestyles resulting from the lack of space for safe walking, cycling and active living (and increasingly poor diets with high amounts of processed foods) also make cities epicentres of the noncommunicable diseases epidemic. This rising noncommunicable disease burden, combined with the persistent threat of infectious disease outbreaks and an increased risk of violence and injuries, in particular road traffic injuries, are key public health concerns in urban areas, reflecting the triple burden faced by cities.

Health inequities in urban areas

While urbanization can bring health and economic benefits, rapid and unplanned urbanization can have many negative social and environmental health impacts, which hit the poorest and most vulnerable the hardest. Health inequities are perhaps most stark in urban areas, sometimes varying from street to street. Migrants and other disadvantaged groups tend to be clustered in the most deprived and environmentally degraded neighbourhoods with the fewest mobility, work and educational opportunities, the poorest access to health services and below-average health outcomes.

Urban health and climate change

But urbanization, as one of the most predominant societal features of economic development, is also a

KEY POINTS

Over half of the world's population lives in cities. Cities are responsible for more than 60% of greenhouse gas emissions. WHO identifies several factors that negatively impact upon the health of urban populations: poor housing and transport conditions, pollution, waste management and inadequate sanitation all contribute to an increase in non-communicable and infectious diseases, as well as an increased risk of violence and injuries, particularly road traffic injuries. And health inequalities are particularly marked in urban areas. To address these challenges, WHO advocates a "systems" approach to urban health, i.e. taking into account all the determinants of health: the characteristics of urbanization are clearly identified as a priority determinant of health and well-being. To do this, health must be taken into account in all city policies.

key driver of emissions and environmental transformations threatening the natural systems, so impacting the planetary health, that in turn has an impact on global population health. Cities consume over two-thirds of the world's energy and are responsible for over 60% of greenhouse gas emissions. Urban populations are among the most vulnerable to climate change: inland cities are more vulnerable to extreme weather events, both cold and heat. For example, they



may experience temperatures 3–5°C higher than surrounding rural areas due to the so-called heat island effect of large concrete expanses and lack of green cover. This is particularly true in the global south, which suffers from higher environmental degradation mainly caused by weaker policy and legislative mechanisms, lack of resources, and more.

Urban health and COVID-19: cities at the frontline of a public health response

The COVID-19 pandemic has shown that cities often bear the brunt of emergencies. Urban citizens frequently have high exposure to the virus and are less able to protect themselves. Overcrowding and lack of clean sanitation services increase the risk of contagion, and limit residents' ability to adhere to public health measures. COVID-19 cases and deaths in deprived areas are double those of more advantaged areas, exposing existing health inequities. Furthermore, the pandemic has had unequal negative impacts on broader health and outcomes – mental health, education disruptions, job losses,

food security – have been considerably worse among disadvantaged populations.

But the world has seen cities react rapidly and innovatively to address the challenges raised by COVID-19. Indeed, COVID-19 has played out a city level, with each city experiencing the pandemic in different ways. Cities were often the first to respond, were flexible and frequently showed leadership and the ability to positively and quickly impact the health and environment of their populations ahead of their national government response. As such, many cities were able to respond quickly both to keep citizens safe from the virus – including by adapting the way people travel, maintaining food security and safety, and protecting older people and marginalized populations – but also to address some of the negative consequences of the lockdown measures themselves, like food security, mental health, physical activity. In Peru, the city of Lima, its municipal authorities concerned about the risk of crowded public transport during the COVID-19 outbreak, strengthened its cycling infrastructure with

almost 50 km separated bicycle lanes prioritizing routes which would connect with their existing 227 km cycle network and facilitate access to public services such as hospitals. In Freetown, Sierra Leone, a multipronged approach to improving food security combined emergency food packages to those in informal settlements¹.

Cities' experiences were based not just on their epidemiological profiles, but on a number of factors, such as infrastructure, governance, trust, intersectoral and community participation – cities with similar profiles had vastly different COVID-19 experiences and health outcomes.

While some of the experiences from the pandemic are temporary or context-specific, there are nevertheless some key transferable lessons of the more successful responses at city level that relate to a cities' resilience that are impacted by these governance issues, e.g., strengthening existing networks and partnerships with communities to best respond to people's needs, multisectoral collaboration and strong leadership from the health sector supported by flexible budgeting that could be re-purposed.



© Ville de Pontevetra

As many parts of the world now turn to the recovery phase, the challenge for many cities that were able to address not just disease transmission but also mitigate against some of the broader negative health impacts of COVID-19 positively, is to maintain the gains made and recover better. One example is the city of Bologna, Italy, which has taken a comprehensive determinants of health approach to its recovery plans (upgrading parks, cycle lanes, regeneration, fostering health and economic development).

Adopting a systems approach to urban health

For urban health more broadly, the COVID-19 pandemic illustrates the necessity that determinants of health and disease are considered together with determinants of city resilience (e.g. to disasters and climate change), prosperity, and opportunities for human development. The health of a city relies on the health of its population, but also is characterised by health equity and natural ecosystems/climate. Numerous entry points address specific

issues/parts of the complex web of causation: health, climate, interconnectivity, jobs, infrastructure, equity, resilience but also education. There is the overall recognition of the need to promote further a systems approach to urban health within a city – understanding the structure of systemic relationships and positive and negative feedbacks that determine system trajectories. Programmatic efforts need to be merged to understand and change urban systems, building on the different approaches, success experiences and focusing on the understanding of the centrality of health in development. Governments should integrate health, emergency preparedness, equity, and nature considerations into urban and regional planning policies and interventions, including in economic impact and cost-benefit assessments.

Addressing urban health also implies recognizing multi-scale linkages downwards (from national to sub-national government) and upwards (from national to regional and global bodies) and the links between different sectors, health and beyond at the different scales.

And because healthy and sustainable cities and communities cannot depend solely on biomedical solutions, urban governance reform is critical.

There also remains a persistent and misguided perception that health is solely related to health systems and individual behaviours. However, there is still a general lack of urban management expertise in the health community and a dearth of health expertise across the urban sector. While there are numerous examples globally of effective and innovative urban health projects and programmes, much more could be achieved in building key capacities to allow scaling up the impact of these interventions.

Technical capacities, but also capacities in intersectoral mechanisms and in applying Health in All Policies approaches that need to rely on specific mechanisms put in place at local level (such as regulations, multi-sectoral working groups etc.) but here the prerequisite is training and support. Health in All Policies is key for local decision-making processes in the context of urban policies to promote public health interventions aimed at achieving Sustainable Development Goal targets.

For example, health is at the core of all policies in Utrecht. Active mobility, green environment and equity are key priorities for ensuring healthy urban living for everybody and this relies on strong community engagement. The city is for example designed to promote bike use with a special emphasis on low income neighbourhoods.

WHO strengthened support for the implementation of local policies for global health

WHO has been supporting cities in building and shaping these policies and actions for decades. Over the years, its work has included the development of numerous technical normative documents to support increased dialogue between health and other sectors (that have important impacts on health, as well as key tools towards implementing measures known to improve health outcomes in cities). For example, the AirQ+ and GreenUR tools have the specific aim of quantifying the effects of exposure to air pollution or access to green spaces in terms of public health and informing policy choices at local level, while the guidance document on *Integrating health in urban and territorial planning* produced together with UN Habitat aims at overcoming existing barriers and addressing health determinants at the urban level. WHO's new repository on urban health provides easy access to a broad range of resources to enhance local action for health.²

Along with these developments, WHO has steadily aimed at prioritizing and supporting urban governance and leadership for health and well-being through the establishment of the WHO Healthy City Network and other city partnerships, as well as key initiatives that foster the development of urban governance for health and well-being frameworks. The role of WHO Regional Offices in these networks to respond to the specific needs of cities in their regions and share experiences between cities has been crucial.

Indeed, while during the pandemic WHO has quickly scaled up its response at the local level across a

number of technical areas, the pandemic has emphasized the critical importance of cities, their governance structures and their partnerships, both in the immediate response to a health crisis and in the ability to have a more sustainable recovery.

Within WHO's organizational programmatic framework, urbanization has been clearly identified as a key priority determinant of health and well-being. As such, the need for WHO's action to address the broad impacts of urbanization is critical if it is to meet its objective of improving the health and well-being of the global population.

The Organization wants to ensure that this progress continues so that cities are better prepared to face future emergencies impacting health. WHO is now promoting this more integrated approach aiming at setting out broad principles/drivers of change that are relevant globally to improving urban health. WHO will further emphasise the support to governments to integrate health, emergency preparedness, equity, and nature considerations into urban and regional planning policies and interventions, including in economic impact and cost-benefit assessments. It will further promote the implementation of land-use policies and interventions that deliver diverse, compact, green, and well-connected cities, and support securing sustained funding and resources for delivering on healthy urban environments for both humans and nature. Building capacity will be critical to realising these objectives- to this end WHO will partner with the new WHO Academy to develop and roll out a multisectoral capacity-building programme.

Cities play a critical role in the attainment of global health and well-being objectives. As such, decisions taken at the highest level of government in all Member States on health need to ensure the involvement and support of cities and urban settings. ■

1. Cities and urban health (who.int)
2. <https://urbanhealth-repository.who.int/home>

REFERENCES

- [1] World Health Organization. Local action for global health. A repository of WHO resources, 2022. <https://urbanhealth-repository.who.int/>.
- [2] World Health Organization. *Setting global research priorities for urban health* (in press). Geneva, WHO, 2022.
- [3] UN-Habitat and World Health Organization. *Integrating health in urban and territorial planning: a sourcebook*. Geneva: UN-HABITAT and World Health Organization, 2020. Integrating health in urban and territorial planning: a sourcebook (who.int)
- [4] World Health Organization. *Framework for strengthening health emergency preparedness in cities and urban settings*. Geneva, WHO, 2021. <https://www.who.int/publications/i/item/9789240037830>.
- [5] World Health Organization. *WHO manifesto for a healthy recovery from COVID-19: Prescriptions and actionables for a healthy and green recovery*. Geneva, WHO, 2020. <https://www.who.int/docs/default-source/climate-change/who-manifesto-for-a-healthyand-green-post-covid-recovery.pdf>.
- [6] World Health Organization. *Thirteenth General Programme of Work 2019–2023*. Geneva, WHO, 2019 <https://www.who.int/about/what-we-do/thirteenth-general-programme-of-work-2019---2023>.
- [7] World Health Organization. Health topics: urban health. WHO. https://www.who.int/health-topics/urban-health#tab=tab_1.
- [8] World Health Organization. Supporting healthy urban transport and mobility in the context of COVID-19. Geneva: WHO, 2020. <https://www.who.int/publications/i/item/9789240012554>.
- [9] World Health Organization, Regional Office for Europe. *Urban redevelopment of contaminated sites: a review of scientific evidence and practical knowledge on environmental and health issues*. Copenhagen, WHO Regional Office for Europe; 2021.
- [10] World Health Organization. Case studies: Cities and urban health. WHO. <https://www.who.int/teams/social-determinants-of-health/urban-health/cities-and-urban-health?msclkid=1f1709bbb28611ec89b71c126b099911>
- [11] World Health Organization, Regional Office for Europe. *Health economic assessment tool (HEAT) for walking and for cycling: Methods and user guide on physical activity, air pollution, injuries and carbon impact assessments*. Copenhagen, WHO Regional Office for Europe, 2017. <https://www.euro.who.int/en/health-topics/environment-and-health/Transport-and-health/activities/guidance-and-tools/health-economic-assessment-tool-heat-for-cycling-and-walking>.

Dunkirk Urban Community expects healthy urban planning to form an integral part of development projects

Interview with Anne-Cécile Gautier,
Director of Environmental Planning and Territorial Development,
Delphine Capet,
Deputy Director, Head of Urban Planning and Environment, Dunkirk Urban Community, France.

La Santé en action: When did Dunkirk Urban Community start taking an interest in the concept of healthy urban planning?

Anne-Cécile Gautier and Delphine Capet: The city of Grande-Synthe, one of the towns in the community, was among the first to participate in the WHO Healthy Cities Network, in 1991. Dunkirk joined in 2004, then the Dunkirk Urban Community (CUD) in 2009, and gradually other local towns followed. The industrial activity of our area has left deep marks on the environment and on the health of residents. Their general condition remains worrying, even though we are now seeing a decline in cancer-related mortality. This is why we have longstanding partnerships with organizations such as the regional air-quality observatory Atmo Hauts-de-France, the association for air-quality monitoring (AASQA), the permanent secretariat for the prevention of pollution and industrial risks (S3P), and other associative structures. This approach gained new impetus from 2013, when work started on the new inter-municipal plan for local development, housing and travel (PLUi-HD), in which we decided to integrate the notion of healthy urban planning. We are convinced that the health of populations does not depend solely on individual factors: other determinants, such as the socio-economic situation, transport, natural spaces in the city, air quality and access to care, all play a crucial role and public action has the power to transform them.

S. A.: How does the local development plan integrate a global approach to health?

A.-C. G. and D.C.: Three major challenges formed the basis of this territorial project. Firstly is the promotion of healthy lifestyles. The idea is to encourage developments that favour physical activity (cycle paths, foot-

paths), but which also improve food quality. To achieve this, the community dedicates communal land to organic or sustainable crops via a call for farming projects aimed at supplying school canteens with locally sourced food. The second challenge is to improve the environmental factors of health; in other words, to work on air quality, noise pollution and the living environment. For example, planners working on the redevelopment of a district in Grande-Synthe used a tool to model the concentration of pollutants, which will help steer decision-making on the project. On the mobility aspect, the idea is to reverse the paradigm: rather than adding new modes of transport to districts, we want to develop districts according to the existing transport network. Therefore, new developments are planned in areas that are well connected by public transport, which is free within the CUD¹ – and not in dead zones. Finally, the third challenge in the local development plan consists of facilitating access to care. This involves making the region more attractive for health professionals. An example is the project to build a modern residence in the heart of the city for 60 medical interns who, each year, spend six months at the Dunkirk hospital. By offering them good living conditions, we hope to encourage some to stay on or return to practice in the area. Healthcare facilities must also be accessible. The network of bus routes (reformed in 2018) now includes a regular service² stopping at the hospital, with connections to districts in which many inhabitants do not own cars.

S. A.: Can you present one of the most emblematic actions of this plan?

A.-C. G. and D.C.: In Dunkirk, as part of the urban regeneration of the Banc Vert district, new facilities will unite a nursery school and primary school that were previously located in two separate buildings, together with a canteen – pupils had to take the bus to the old one – and a community welfare centre. It's about creating shared spaces geared towards public education. The canteen has the capacity

KEY POINTS

■ **Through its local development plan (PLU), the Dunkirk Urban Community insists that health is an element to consider in any urban planning project. The local authorities have set three priorities: promoting healthy lifestyles, improving environmental factors of health, and facilitating access to care.**

to cook more meals than there are students so it will be able to supply other schools and nearby retirement homes. This school of the future was designed with a “zero endocrine disruptor” objective, which implies a precise choice of construction materials, but also of furniture. The building is more compact to reduce soil artificialization; every last square metre has a use. In addition, a 1-hectare park is set to take the place of one of the two schools demolished. It's a transversal project that has involved almost all municipal services: buildings; public spaces; transport, to plan the bus stop; waste recovery, for the canteen and the schools; local democracy, because there is a community centre where residents can come to express interests and talk with other inhabitants; sanitation and water, etc. This project receives funding from the National Agency for Urban Renewal (ANRU) and the Hauts-de-France region. The family welfare fund (CAF) and the regional authorities of the Département du Nord are also involved. The building permit has been issued and the call for tenders was recently launched.

S. A.: How was the population involved in forming the local development plan?

A.-C. G. and D.C.: There was a broad consultation, starting in 2018 and lasting 18 months, called “PLUi hd'idées sur les Dunkerquois”. It took many forms in order to give all inhabitants, especially young people, an opportunity to have their say. During the first phase, a mobile exhibition illustrated the current situation



© CUD - AlphaStudio

in the area using figures, photos and graphs. Nine public meetings were organized, bringing together a total of 350 people. Roughly ten other meetings took place in markets or shopping centres, to get as close as possible to the population in the places where they live. The consultation also involved digital channels via a dedicated website. Internet users could post freely on a specific subject or a more general theme; we received around 50 contributions in this way. A questionnaire was circulated, allowing inhabitants to share their opinions about the strengths and weaknesses of the territory, their personal priorities and those for the area as a whole. A participative geolocation tool also allowed people to submit ideas via a map concerning issues such as mobility, housing, landscape, health and training. Other users could then vote and comment. This page received 30,000 views and collected 555 ideas, which gathered more than 2,000 votes. Finally, elected officials from the urban community responded to questions from the population during four live chat sessions held online. While consultation obviously generates positive effects, it also has limits in terms of representativeness, which we pointed out in the evaluation report. Even by diversifying the methods of reaching out to the public, the elderly remained more highly represented among those who came forward. It should also be noted that this phase took place during a period of major works, meaning topics related to mobility were preponderant in the discussions. In terms of timing, the

PLUi-HD will be definitively adopted by the community council in autumn 2022, after a public survey on the population's observations during summer 2022.

S. A.: *What obstacles do you see to the implementation of healthy urban planning as embodied in the PLUi-HD?*

A.-C. G. and D.C.: The challenge now is to implement this approach, in concrete terms and in everyday life. This requires acculturation among the services and divisions of the CUD, and the creation of tools to bring planners, promoters and partners onto the field. The concept of land recovery and the preservation of resources forming the pillars of a sustainable and inclusive city does not necessarily correspond to the operating model of contractors, nor that of residents who still aspire to a detached house with a garden. Another obstacle is that there may be doubts, including among some decision-makers or even elected officials, about the economic balance of all these development operations, which also strongly integrate health and quality of the living environment. We will have to convince them that it is not necessarily more expensive or more complex to implement.

S. A.: *Do you plan to assess future development projects?*

A.-C. G. and D.C.: The CUD was fortunate to be nominated as a "Territory of Innovation"³ in the state's finance plan for a 21st-Century carbon-free industry⁴ [1]. In this context,

a section on air-quality was integrated into the PLUi-HD. This will allow us to increase the capacity of the local health observatory, created in 2018 in Dunkirk, and to structure a dedicated team within the Espace Santé du Littoral, a local organization working on health promotion and prevention. This multidisciplinary team, piloted by a scientific council, will include epidemiologists and air-quality experts, etc. Its mission will be to assess the actions implemented according to four main themes: the health status of the population, professional health networks, production of new data on links between quality of air and health, and the accessibility of this information to all. This evaluation, which will be coordinated by the Flanders-Dunkirk urban planning and development agency, will provide us with indicators for long-term monitoring. ■

Interview by Nathalie Quéruel, journalist.

1. Since 1st September 2018, the urban transport network is free to use 7 days a week. Dunkirk has thus become the largest city in Europe to offer free transport for all, without conditions. Passengers board the bus without presenting a ticket or proof of residence in the CUD.
2. In Dunkirk, Chronos runs five lines with buses every 10 min. Dedicated bus lanes in certain parts of the city have also made journeys more fluid.
3. Action from the Grand Plan d'Investissement, backed by the third wave of investment from the *Programme d'Investissements d'Avenir* (PIA). The programme financially supports innovation projects involving decision-makers and citizens, and which embody an ambitious 10-year strategy for territorial transformation. The Dunkirk project is rooted in the establishment of a territorial symbiosis that embodies the industry and the city of the future. Its ambition is to improve living conditions for its inhabitants by combining environmental preservation, economic development and social cohesion. On-line: <https://www.banquedesterritoires.fr/territoires-dinnovation>
4. See article by Patrice Vergriete, president of the CUD and Mayor of Dunkirk. On-line: <https://www.eco121.fr/patrice-vergriete-a-dunkerque-la-relance-sous-le-signe-de-lindustrie-decarbonee-du-xxie-siecle/>

REFERENCE

- [1] Secrétariat général pour l'investissement. *Le Programme d'investissements d'avenir (PIA)*. French government, 6 September 2018, updated on 24 December, 2021.

In Miramas: “Renovating a neighbourhood while taking into account the health impact on inhabitants”

Interview with Jérôme Marciliac,
Head of the Urban Renovation Department, Urban Dynamics and Sustainable Development Unit for Istres-Ouest-Provence, Aix-Marseille Provence, France.

La Santé en action: For how long has the city of Miramas supported healthy urban planning?

Jerome Marciliac: The healthy urban planning initiative began in 2016 during discussions on the renovation of La Maille-Le Mercure, designated as a priority district by city policy, where almost 2,700 people live and where social housing represents 86% of total housing. It is a landlocked district with ageing buildings, the redevelopment of which requires heavy demolition and reconstruction operations. However, it is fairly well covered by health-care professionals. This ten-year project has a budget of €170-million, financed to the level of €34-million by the National Agency for Urban Renewal (ANRU). The initial idea was to measure the impact of such a renovation on the health of the inhabitants, with the longer-term goal of taking this impact into account during the planning and work. We brought together a multidisciplinary team to work on this assessment process, which lasted two years. The working group involved the policy department of the City of Miramas, represented by the coordinator of the urban health workshop; the urban renewal project team, who measure the impact of developments and works on the well-being of residents; and an urban sociologist, who represents the operational support team in charge of project coordination and follow-up. Steering was entrusted to the regional committee for health education (CRES PACA), in collaboration with the Public Health School (EHESP) of Rennes. A firm specializing in urban sociology also provided support. The objective was to plan and imagine the renovation of this district using the concept of health as defined by the World Health Organization: “*Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity*”¹. This is why healthy urban planning strives to improve both the

KEY POINTS

■

▶ **The city of Miramas is renovating a district with a high concentration of social housing. Before demolishing, renovating and rebuilding, it considered the impact of urban planning on health via four criteria which are determinants of health: air quality, access to care and social services, social cohesion, physical activity and diet. Residents were consulted.**

quality of the built environment and also, in a broader sense, the living environment of inhabitants.

S. A: What tools came out of the assessment process?

J.M.: Initially, the working group identified four major health determinants specific to the district that should guide the development scenarios and which constitute the core challenges of rehabilitation: physical activity and diet; indoor and outdoor air quality; access to care and social services; social cohesion. The second step was to raise awareness of health among all stakeholders and show them that it is not solely the responsibility of health professionals. A charter called *Taking action towards healthy urban planning, developments, buildings and facilities* was drawn up and joined to the ANRU agreement. Next, very detailed practical sheets, featuring concrete development actions argued from a health perspective, were drafted for the various project stakeholders: promoters, lessors, co-owners, health professionals, city and metropolitan services. These documents contain specifically adapted information demonstrating each stakeholder’s capacity to act on health factors. For example, for public or private lessors, the availability of bike sheds in a building is likely to encourage people to cycle, be it for work or for leisure, which helps to develop physical activity. Working on the density and the organization of spaces can help to create a less stressful environment, in particular by limiting noise, whose harmful effects on



© Ville de Miramas

health are now recognized. As for real-estate developers, one of the recommendations is to pay particular attention to the design of entrance halls, stairwells and areas at the foot of a building, so as to create a pleasant and green environment that also incites residents not to take the lift every time. These educational tools are essential for securing commitment to the approach among the various stakeholders.

S. A: What areas for improvement emerged after analysis?

J.M.: This urban project is complex, combining three intrinsically connected approaches: healthy urban planning, urban renewal and the eco-neighbourhood approach. It plans to demolish 220 dwellings, mainly social housing, and rebuild 250 for unrestricted purchase in order to promote social diversity: the share of low-cost social housing will thus drop from 83% to 63%. About 80% of the road network will be transformed, resulting in less car traffic and more pedestrian streets, including planted strips. This will have a positive impact on air quality while also promoting physical activity. The decision was taken to introduce an urban river in order to reintegrate water in the district and irrigate the larger plantations. It is also a means of combating the urban heat island phenomenon and improving everyone’s comfort. The living environment will also benefit from a new school building built on a spot overlooking a lake, as well as a new medical centre located in accessible

and adapted premises. Even if the district is not a medical desert, the aim is to offer health professionals a pleasant and functional working environment. We secured ten years of funding to commission a specialized firm that will assist the contractors, ensuring that the health dimension is well integrated and that stakeholders adhere.

S. A: Were the inhabitants consulted during the assessment process?

J.M.: The inhabitants have played an important role in the development of the project. Several consultation channels were established between elected officials, technicians and especially residents. The latter were able to take part in “walking diagnoses” and prospective workshops on a series of subjects ranging from public spaces to shops, including transport, parking, employment, togetherness, etc. Residents had a say in how they imagined their future environment. Decisions on what to keep or remove were then made during the programming phase. Even now, we are still holding meetings every couple of months with the citizens who have invested themselves in the co-construction of this project. We have done a lot to get them involved: communication in letter boxes, evening workshops held on different days and with an offer of childcare.

Between 60 and 80 people attended. Today, there remains a core group of about 20 people who follow the project and relay news to other inhabitants.

S. A: Are there obstacles to the promotion of healthy urban planning?

J.M.: This is an approach that is shaking up the working habits of stakeholders. It adds a new dimension to their profession, particularly for lessors, promoters and project managers. The latter do not always see it in a good light. Either they believe they have already addressed this concern, or they think that it will generate additional costs. We need support and strong political will to put the health and well-being of inhabitants at the heart of decision making. A project needs to be carried out with a desire for meeting the needs and expectations of the inhabitants and, once the renovation is complete, it should deliver short- or medium-term health benefits that are noticeable to doctors and healthcare staff: less stress, less asthma, less obesity problems, etc. Planning takes time, as does observing the direct health effects of planning choices, which are quite difficult to understand. Even if the question of evaluating results remains complex, several methods have been anticipated. For example,

air sensors installed at different points in the neighbourhood. Readings will be taken before and after redevelopment, which will help us see the impact of the choices made in terms of roads, building insulation, etc. on air quality. The same goes for social cohesion. We are in the process of forming a cohort of residents to interview about their experiences within the neighbourhood, before and after the renovation. We will see what has changed and if we have really improved things. ■

Interview by Nathalie Quéruel, journalist.

1. World Health Organization. World Health Organization Constitution. WHO, 22 July 1946. On-line: <https://apps.who.int/gb/bd/PDF/bd47/FR/constitution-fr.pdf?ua=1>

For more information

- Territorial coherence scheme for healthy urban planning: <https://grand-douaisis.com/scot-mixte-presentation/>
- Mixed Association of the Grand Douaisis SCoT. *Grand Douaisis 2018-2028 health programme*. December 2018: 111 p. On-line: <https://grand-douaisis.com/wp-content/uploads/2020/01/rapport-schema-de-sante-du-grand-douaisis-vf-pp-1.pdf>

THE INTERVIEWEE DECLARES NO TIES OR CONFLICTS OF INTEREST WITH REGARD TO THE CONTENT OF THIS ARTICLE.

DOUAISIS: A TERRITORIAL COHERENCE SCHEME THAT TAKES INTO ACCOUNT THE DETERMINANTS OF POPULATION HEALTH

Building a city is not just about building housing, creating economic zones or developing infrastructures. It is a question of tailor-made elements, meeting the needs of the territory, being part of a sustainable model, offering a quality living environment...

For 20 years, the territory of Grand Douaisis has been developing its urban planning culture using a territorial coherence scheme (SCoT) to define the main principles of regional planning, with which all local urban planning documents and urban projects must be compatible. It is not a question of moving away from a logic of urban planning negotiated and co-constructed between the

project promoters and the public stakeholders, but of laying out the intangible rules from which the projects cannot diverge.

Faced with a lack of attractiveness and unfavourable health indicators, the Grand Douaisis SCoT has taken an approach that is unique in France, developing a health plan (associating healthcare stakeholders, elected officials and town planners) concomitantly with the revision of the SCoT and the drafting of the territorial climate-air-energy plan (PCAET). Beyond the issues of improving the care of patients and the care pathway, it was a question of carrying out a global reflection on the determinants of health (individual

and social behaviour, living environment, environment) making it possible to achieve a complete state of both physical and mental well-being. This work made it possible to include development guidelines in favour of healthy urban planning in the revised SCoT, approved on 17 December 2019, and the PCAET, approved on 15 December 2020. The Grand Douaisis SCoT now has the task of translating these guidelines into local development plans and the operational implementation of development projects.

Adeline Perotin,
Manager of the Urban Planning Division, Mixed Association of the Greater Douaisis Territorial Coherence Scheme.

Town planning and health in Grenoble: “Improving living conditions for city residents”

Interview with Françoise Berthet,
Director of Urban Planning and Development,
City of Grenoble.

La Santé en action: Which healthy urban planning and environment project can Grenoble be proud of?

Françoise Berthet: In recognition of its long-term policies, Grenoble was awarded the title of European Green Capital in 2022, partly for the development of Bonne, the first eco-neighbourhood to obtain a level IV sustainability label from the government, which began in 2007 and was completed in 2012. It was a fairly radical project, which represented a real leap forward in terms of quality of living conditions for residents. Low-energy and even passive buildings were constructed, alongside the redevelopment of military buildings, which all gave significant weight to public areas (green spaces and paths) over buildings. A landscape designer was drafted in to create a large park; the shopping centre, which is connected to the urban heating network and equipped with natural ventilation, only has a small car park because it is accessible by public transport.

S. A.: How is it looking today?

F. B.: It's important to be pragmatic. Initiatives are tested in development plans and included in the specifications for developers. The aim may be to improve air quality or noise control (which is important for mental health), to promote physical activity, social cohesion, high-quality healthy food, a medical project, or so on. For example, in the Flaubert eco-neighbourhood there was a call for projects to develop fruit and vegetable patches across 2,000 m² of rooftops; in this case, the combined activities of urban agriculture specialists, a restaurateur and a brewer have made it a place where residents can go to learn and socialise. Actions that are deemed a success and show potential for expansion are included in the local development plan (PLUi), the latest edition of which was drafted in 2020 and sets ambitious objectives for new projects. These include a 20% improvement in energy performance compared to the 2012

heating regulations for new builds. Also, in certain sectors such as commercial areas, the PLUi determines that 60% of surfaces are to be greened (roofs, walls, car parks, terraces, etc.), of which 30% must be open ground where trees can be planted. Already active in the French network of the WHO Healthy Cities initiative, the city has also sought to upskill in methods and tools for healthy urban planning so that the link between all actions related to this concept, even if they are not presented from this angle, becomes clear. We are demonstrating a solid political will, since we have deputy delegate for both town planning and health.

S. A.: How did this move to a focus on healthy urban planning materialize?

F. B.: The first step in this process took place in 2021. It was a health survey identifying the determinants of health at city level and by sector. This involved an initial technical step, mapping the offer of healthcare professionals in the area and producing an inventory of health and social well-being. Another component was based on a public consultation carried out in the spring of 2021. This took several forms: public opinion was sought through an online survey publicized on the city's website and social networks, as well as three days of door-to-door visits; a workshop seeking the opinion of older residents that was attended by a dozen participants; and a day of outreach during which parking spaces were reclaimed for alternative uses such as a relaxation area, a vegetable garden, or a dozen parking spaces for bicycles¹.

S. A.: What are the top concerns for residents?

F. B.: When asked about the links between the city, urban planning and health, the issues that were spontaneously raised most often by the 600 respondents to the survey were pollution and greening. Next came cleanliness, noise, walking, cycling, safety, access to health care, public transport and, finally, urban density. When asked to choose two priorities for the improvements they wanted to see in their neighbourhood, the issues of

KEY POINTS

■ **In 2007, the city of Grenoble began to make inroads in healthy urban planning with the development of Bonne, its first eco-neighbourhood. Fifteen years later, following a health survey and consultation with the residents, the city's local development plan (PLUi) now includes health as a factor that property developers, builders and urban planners must take into account. This is particularly important for neighbourhoods designated by the local authorities as priority areas for regeneration and investment (QPV).**

safety, cleanliness, natural spaces and noise came out on top. All the results obtained, both from the technical investigations and opinion surveys, were analysed in detail by health determinant, e.g. grouping all issues related to air quality. These determinants are integrated into the action plans for two priority areas currently undergoing regeneration: the site of a former teaching college, which is part of the Flaubert eco-neighbourhood, and Cambridge South in Presqu'île.

S. A.: How do you work with the different stakeholders?

F. B.: The city is also in the process of drawing up a housing, construction and health charter in order to promote the use of biobased materials in particular. This approach is being developed through participatory workshops that bring together funders, the federation of property developers, residents' associations, professionals from the timber industry, etc. We want to support living spaces built from wood or earth, as not only are they efficient from a climate perspective, but they also offer comfortable living conditions and represent a source of well-being for occupants. This charter – to be finalized by the end of 2022 – will be signed by the willing parties then



© City of Grenoble

attached to the local development plan to serve as a handbook, both for private projects and town planning operations. Applications for building permits provide an opportunity to intervene early on and influence the shape of future buildings: dual-aspect residences, common areas likely to foster social cohesion, spacious stairwells with natural light that encourage people to take the stairs rather than the elevator, materials used, etc. In general, we co-build with the residents, as is the case with the redevelopment of a 1930s apartment block complex into social and private housing in the priority neighbourhood of L'Abbaye, for example. While waiting for the renovation work to be carried out, a temporary urban planning scheme was created, named Les Volets Verts after the green shutters of the buildings. It is run by an association called La Boussole, which brings together city officials, other associations and local residents as partners. The objective is to support the transformation of the complex, which is currently empty because the inhabitants have been temporarily rehoused. This entails defining the future functions of public spaces, kicking off cultural and social life, hosting certain municipal services related to community action, emergency accommodation, and so on. It's a

way to start restoring a positive image to this site, which suffered from a poor reputation due to its previous state.

S. A.: *What obstacles are inherent to this approach?*

F. B.: We can encounter certain difficulties during the course of the works. We must ensure that all the objectives of the specifications are met, which is not always the case. This means we maintain a high level of vigilance, supporting the project through all phases of construction and strengthening controls to avoid poor workmanship. Conscious development operations that prioritize health and the environment are perceived as more expensive. However, these new approaches to construction do not always generate additional overall costs. Admittedly, incorporating dual-flow ventilation or biobased materials increases the cost of investment. However, by selling the land at an appropriate price, the city gives developers leeway to work with these constraints.

S. A.: *Do you evaluate the different programmes that you deliver?*

F. B.: Part of the process of obtaining the sustainability label for the Bonne eco-neighbourhood in 2019 involved gathering

feedback, which started with quantitative interviews and finished with an urban sociologist two years later. This process highlighted positive aspects such as the social mix, the provision and utilization of green spaces and cinemas, but also identified areas for improvement, particularly in terms of shops. Looking beyond the technical assessment of a completed development project, we felt it was valuable to carry out this type of sociological survey in order to find out how the residents feel about their new environment and to highlight the ways in which the amenities have improved (*Editor's note:* the services and natural elements of the space were appealing for the residents). Finally, the healthy urban planning approach will establish indicators that relate to determinants and successful initiatives. ■

Interview by Nathalie Quéruel, journalist.

1. <https://www.placegrenet.fr/2013/09/21/parking-day-international/524444>

An international research programme to drive change towards healthier and more sustainable cities

Martina Serra,

Research Assistant, Department of Environmental Health Sciences, École des Hautes Études en Santé, France,

Anne Roué Le Gall,

CUSSH Scientific Lead in Rennes, Department of Environmental Health Sciences, École des Hautes Études en Santé, France,

Lucy Bretelle,

CUSSH Project Officer, Buro Happold, London, UK

Mike Davies,

CUSSH Project Manager, Institute for Environmental Design and Engineering, Bartlett School of Environment, Energy and Resources, University College London, London, UK.

While cities play a major role in environmental sustainability and health promotion, particularly through the adoption of healthy urban planning policies, major urban transformations are needed to successfully address current and future health and sustainability challenges (Singh & Beagley 2017; Crane *et al.*, 2021).

In this context, the interdisciplinary and collaborative research project “Complex Urban Systems for Sustainability and Health” CUSSH was initiated in 2017 by UCL (University College London, UK) (Davies *et al.*, 2021). Developed in collaboration with more than a dozen research partners and 6 cities around the world (London), Rennes, Homa Bay and Kisumu (Kenya), Beijing and Ningbo (China), the project aims to explore enablers and constraints to the process of integrating health into urban decision-making and identify approaches to drive change and transformation towards healthier and more sustainable cities. A key research question is whether and how the use of scientific evidence, systems thinking and participatory engagement in decision-making processes can strengthen the planning and implementation of ambitious health and environmental policies. Other work focuses on the development of indicators to measure progress and the application of quantitative models of health impacts on various projects. For example, in China, the CUSSH team is modelling the health impacts of exposure to heat events and is analysing policy response

to understand ways of accelerating change in reducing air pollution. Similar modelling methods (quantitative health impact assessment) are being used in other cities around different themes: active mobility (Rennes), waste management (Kisumu) and analysis of urban plans and policies (London, Kisumu, Rennes). In London, different modelling approaches, such as system dynamics, are also being used to understand the complexity of interactions between the different components and stakeholders involved in urban development, with a focus on green spaces. The involvement of local organizations in modelling helps to build trust between researchers and decision-makers, a prerequisite for better integration of evidence in decision-making (Deloly *et al.*, 2021).

A final pillar of research focuses on public engagement, including both of city stakeholders and citizens, and on individual and collective capacity building. For example, in Kisumu and Homa Bay, in order to promote new waste management practices that have improved outcomes for the environment and health, the CUSSH team organized various activities such as workshops between residents and political representatives, as well as in schools around waste sorting and produced a number of videos and documentaries with knowledge-sharing aims. These initiatives have encouraged residents to express themselves, adopt efficient waste management practices and further share those with others more widely. Although a common research framework exists, each city has its own history, context and issues. Research activities take these characteristics into account and adapt according to the cities’ specificities through collaboration with stakeholders and the use of local data. The CUSSH project provides an opportunity to observe and understand how different tools or strategies may be employed in different contexts and generate different outcomes. The project is planned to end in late 2023, but we have already been able to demonstrate that to accelerate the transformation of cities towards a better integration of health and environment in policies, the production of evidence alone is not sufficient. It is fun-

damental to establish trusting relationships between scientists, decision-makers and citizens and, more specifically, to set up clear exchange mechanisms and efficient co-production processes. Decision-makers must be able to apply scientific data more systematically into policy decision-making and translate those into practical actions, while also expressing their expectations in terms of evidence production to scientists. As for researchers, they must understand how to better position the expectations of professionals within their research, and this from the project’s design stage. ■

Further reading:

● <https://www.ucl.ac.uk/complex-urban-systems/>

REFERENCES

- [1] Crane, Melanie, Simon Lloyd, Andy Haines, Ding Ding, Emma Hutchinson, Kristine Belesova, Michael Davies, *et al.* Transforming Cities for Sustainability: A Health Perspective. *Environment International* 147 (February 1, 2021): 106366. DOI: <https://doi.org/10.1016/j.envint.2020.106366>.
- [2] Davies, M., Belesova, K., Crane, M., Hale, J., Haines, A., Hutchinson, E., ... Wilkinson, P. (2021). The CUSSH programme: Learning how to support cities’ transformational change towards health and sustainability [version 1; peer review. ... Awaiting peer review]. *Wellcome Open Research*, 6(100). DOI: <https://doi.org/10.12688/wellcomeopenres.16678.1>.
- [3] Deloly, C., Roué-Le Gall, A., Moore, G., Bretelle, L., Milner, J., Mohajeri, N., Osrin, D., Salvia, G., Symonds, P., Tsoulou, I., Zimmermann, N., Wilkinson, P., & Davies, M. (2021). Relationship-building around a policy decision-support tool for urban health. *Buildings and Cities*, 2(1), pp. 717–733. DOI: <https://doi.org/10.5334/bc.110>.
- [4] Singh, S., & Beagley, J. (2017). Health and the new urban agenda: A mandate for action. *The Lancet*, 389(10071), 801–802. DOI: [https://doi.org/10.1016/S0140-6736\(17\)30518-4](https://doi.org/10.1016/S0140-6736(17)30518-4).

In Rennes: “Integrating health into all public policies”

Interview with

Frédéric Auffray,

Urban Planning and Health Representant, Rennes Metropolitan Area Urban Planning Department, France,

Audrey Martin,

Head of Health and Environment Department, Public Health and Disability Directorate, City of Rennes, France.

La Santé en action: The City of Rennes and the Rennes Metropolitan Area are participating in the international research project CUSSH (Complex Urban Systems for Sustainability and Health) since 2018. Why choose to participate in this project and how does it fit into the overall healthy urban planning approach?

Frédéric Auffray and Audrey Martin: Rennes has been a member of the WHO Healthy Cities Network since its creation in 1987. In other words, we have long been driven by the desire to implement policies which promote health and high quality of life, in collaboration with local stakeholders and other cities. Health is a highly cross-cutting issue and our ambition is to integrate it into all public policies. Therefore, for more than 10 years, we have been developing the healthy urban planning (UFS) space following 4 approaches:

1- The development of frameworks and planning documents, publicly available to our local municipalities: the urban mobility plan (PDU), the spatial climate-air-energy plan (PCAET), the local housing programme (PLH) or the new inter-municipal local development plan (PLUi), all concerning the 43 municipalities of the metropolitan area. The PLUi, approved in 2019, has been an opportunity to emphasize the role health should play in our strategic decision-making for the development of the metropolitan area, by responding to fundamental issues such as water quality, air quality, soil quality, noise pollution, electromagnetic waves, aging population, healthcare supply, etc.

2- The UFS is also integrated within a research and operational approach. In the context of the regeneration of the Gros Chêne opportunity area in Rennes, for example, an approach to consider health-related issues in urban decision-making is being carried out in specific areas: public spaces, children’s playgrounds, the school complex, building refurbishment, etc. This

project is the outcome of an agreement between the City and Rennes Metropolitan Area and the local development corporation (Territoires Publics), highly involved in this approach. The goal is to promote a common understanding and create a shared culture amongst the urban planning and public health stakeholders, in order to facilitate decision-making.

3- Chairing local networks internally (with health representatives from different departments within our local authorities) and externally (such as with the Brittany Urban Planning and Health Network RBUS, linking urban planning and public health professionals) is another method we are using to develop the healthy urban planning (UFS) approach within the City of Rennes and the Rennes metropolitan area.

4- Finally, a fourth pillar of the UFS is action research. The partnership between the City of Rennes, the Metropolitan Area of Rennes and the Public Health Research School EHESP, which dates back more than a decade, is a driving force for the development of an UFS approach. EHESP researchers bring scientific knowledge to the table as well as an external perspective to our local authorities, challenging our approach to questioning issues and opportunities. It was in this context that Charlotte Marchandise, then deputy health officer for the City of Rennes, initiated our collaboration with the CUSSH project.

S. A.: How did this collaboration with the CUSSH project practically take place?

F. A and A. M.: At the start, we found it difficult to understand how we could fit within this international approach, in which larger cities are involved, such as London, Beijing and Nairobi. Moreover, the approach seemed “too top-down”, whereas we needed interaction. The work began with the evaluation of the PCAET, using a quantitative health impact modelling tool. The evaluation translated policy outcomes into the number of deaths or illnesses “avoided” if implemented – a different way of expressing results, but not necessarily adapted for decision making. However, links were gradually established and methodologies refined.

It seemed to us that there was a missing link between the urban community and wider academia, hence why we wanted EHESP to

participate in the project. This collaboration was then defined and formalized through an inter-organizational agreement. The School acts as a boundary spanner between the CUSSH scientific research teams and the local authorities and facilitates the relationships between both and the transfer of knowledge. This enabled the development of more applicable analysis – such as the urban travel plan, which models detailed pedestrian and cyclist movements in each neighbourhood. Additionally, we, ourselves, can bring on-the-ground case studies to CUSSH which could be used for experiential research and action, such as the Gros Chêne opportunity area. EHESP plays the role of project management assistant for Gros Chêne, using it as a “laboratory” development project to push the health agenda as far as possible in its conceptualisation. The outcome of this will be the creation of a local guide for more systematic integration of health in urban development.

S. A.: What is the added value of participating in this type of international project? What are you expecting out of it?

F. A and A. M.: Ever since 2018, the collaboration continues, even despite the health crisis, which did not make it any easier. It is always stimulating to compare one’s own practices with those of other cities, as we were able to do during certain workshops, which were held online because of COVID. However, what has been most compelling and thought-provoking is undoubtedly exploring issues around governance. Indeed, the enablers for a healthy city are intrinsically reflected in the capacities of different stakeholders within a same authority. Hence the idea of working towards the establishment of a common urban planning and health body for our municipalities, to receive both political and technical approval in development projects and to measure and evaluate their added value. This would encourage a less siloed process and would systematically anchor a UFS approach in our practice. ■

Interview by Nathalie Quéruel, journalist

“The jurisdictions of urban planners and public health experts are complementary”

Interview with Damien Saulnier,
Health and Environmental Research Officer, Lyon
Metropolitan Area Urban Planning, France.

La Santé en action: How did you become interested in healthy urban planning?

Damien Saulnier: This interest in healthy urban planning is part of a context where environmental concerns carry more weight in local government policy and there is increased awareness about the impact of the environment on the health of populations, in the broader sense, i.e. living standards. We began by holding initial technical discussions with the regional health observatory of Auvergne-Rhône-Alpes. Then, in 2016, the urban planning agency initiated a prospective approach to understanding the interactions between urban planning and health. This involved mapping the parties involved, identifying the tools and methodologies available, and looking at how to capitalize on past experiences. A benchmark analysis and a review of health impact assessments (HIA) in France were carried out and presented in a special issue of the local magazine *Point de repère*¹, which was brought to the attention of partners at the urban planning agency. These agencies felt justified in supporting the incorporation of environmental health issues into urban planning policies. Closer ties were then formed between the four urban planning agencies in the Auvergne-Rhône-Alpes regional network (Urba4) and the regional health agency, then a three-year partnership agreement was formalized in 2018, aiming to contribute to the definition and implementation of the third regional environmental health plan.

S. A.: How does your professional practice change with contributions from public health?

D.S.: The Urban Planning Code does not explicitly mention health and does not identify it as one of the general objectives of the regulations. Instead, health is addressed through the prism of public health and sanitation. Public health does not change our methods or professional practices, especially since there

is a strict regulatory framework. However, it changes how we perceive and understand the challenges of specific areas by placing the human, the individual, at the heart of public policy. Urban planning, whether regulatory or operational, is becoming less a technical system and more a tool serving the general interest. The public health approach gives – or restores – a political meaning to the project, because it foregrounds the well-being of everyone and integrates the aspirations and needs of residents. From a technical point of view, healthy urban planning is an approach that ensures consistent public action across an area because, when viewed through the prism of health determinants, there is crossover between the sectors of local government and therefore of public policies. The health determinants approach means that the standard departments of work – environment, housing, economy, mobility, etc. – can be opened up, highlighting potential synergies from a win-win perspective. Finally, this approach reveals the considerable health disparities among different areas, along with the dominant influence of citizens' socio-economic living conditions, and it includes vulnerable and/or fragile populations who, with the exception of people with reduced mobility, have previously been overlooked by urban planning documents.

S. A.: What drivers do you use for healthy urban planning?

D.S.: The first and most powerful driver is education: it is a question of making elected officials understand the stakes of environmental health and the interactions with health determinants, so that they are fully aware of the fundamental role they can play in public health, through the jurisdictions of local government. Urban planning agencies are in a strong position to deliver this education due to the close partnerships, the proximity and the trust that they foster with local government and public stakeholders, and they can promote experimental approaches in healthy urban planning, as demonstrated in the Auvergne-Rhône-Alpes region by the eight projects carried out under Action 17 of the third regional environmental health plan –

KEY POINTS

Public health is a theme that unifies local government policies. It should not be considered as a new issue but as a common thread for any land management or urban planning project, an opportunity to break down the silos that stand between different local authorities: urban planning, health, etc.

PRSE3 (*editor's note:* see the article “Deprived neighbourhoods: how urban regeneration can help combat inequalities in health”). Through their multidisciplinary teams, urban planning agencies can consider the full spectrum of health determinants in order to analyse and understand an area. However, at present they still lack true public health expertise. The experimental partnership with the Auvergne-Rhône-Alpes regional health observatory for various projects (support for two regional cohesion schemes (SCoT), two local development plans (PLUi), a local housing plan (PLH), an urban project, a land revitalization operation and a climate-air-energy plan covering local housing and mobility) demonstrated how their jurisdictions could complement each other. Public health is a theme that unifies local government policy. It should not be considered as a new issue but as a common thread for any land management or urban planning project, an opportunity to break down the silos that stand between different local authorities: urban planning, health, etc. In this way, public health can offer a fresh perspective on an area and how to tackle its challenges, and therefore direct public action towards living standards that promote health. Ultimately, the jurisdictions of urban planners and public health experts are complementary. ■

Interview by Yves Géry, editor-in-chief

1. <https://www.urbalyon.org/fr/point-de-reperendeg4-vers-un-urbanisme-favorable-la-sante?-from=31>

Deprived neighbourhoods: how urban regeneration can help combat inequalities in health

Lucie Anzivino,
Research Officer, Environmental Health and Health Impact Assessments, Auvergne-Rhône-Alpes Regional Health Observatory.

Regeneration projects are increasingly taking into account the health of their residents. This movement has grown in the context of:

- the Ottawa Charter, signed in 1986 [1], which supports a global and positive approach to health, focusing on several determinants connected to biological, behavioural and environmental factors, or related to the quality and accessibility of the healthcare system;
- the proliferation of scientific evidence on the relationship between urban planning, development and health [2; 3].

The deterioration of the living conditions and health of populations who live in large housing blocks in deprived neighbourhoods, designated as priority zones (QPV), has been a driving force behind numerous urban regeneration projects. These neighbourhoods are characterized by a concentration of economically insecure populations who suffer from a higher prevalence of chronic disease than in the general population, greater exposure to pollution, greater sensitivity to climate change, and often restricted access to health care. Health therefore raises specific questions for these neighbourhoods where, in addition to a high level of insecurity, residents often

experience lower standards of living, the effects of urban heat islands and sometimes unsanitary conditions. These neighbourhoods also suffer from a poor reputation and a stigmatized image, which leads to reduced social diversity.

Health impact assessment

A health impact assessment (HIA) appears to be an effective way to take social inequalities in health into account [4; 5]. Through a structured approach, in which different aspects of health in urban planning projects can be observed and examined, it encourages partnerships and raises issues of health as early as possible in the decision-making process. The HIA approach has been used for two regeneration projects targeting priority neighbourhoods of Villeurbanne and Grenoble/Échirolles [6].

Les Buers in Villeurbanne...

In Villeurbanne, the overall regeneration of the Les Buers neighbourhood aims to contribute to social diversity, to strengthen the structural role that the main thoroughfare gives to the neighbourhood, and to attract new facilities, in addition to interventions for improving social housing. The specific objective of the health impact assessment was to identify how the project could be used to improve the mobility of children in the neighbourhood, more than 20% of whom were overweight. Several surveys were carried out among some 50 residents and 300 children in order to

KEY POINTS

■
▶ **First lessons learnt from the health impact assessments carried out on urban regeneration projects for priority neighbourhoods of Villeurbanne (Les Buers) and Grenoble/Échirolles (Les Villeneuves).**

gather their opinions, along with a dozen semi-structured interviews conducted with various partners and target stakeholders. In the end, around 40 recommendations were drawn up then ranked in order of priority. These recommendations, prioritized according to political, technical and economic criteria, include simple measures related to transport (such as restarting a walking bus system to get to school) or neighbourhood development (improving transit routes, promoting pedestrian and cyclist access to/use of an area using pedestrian streets and cycle paths). Certain recommendations are more complex to implement, such as lowering the speed limit on the main street and on the ring road. All of these recommendations have been directly included in official documents relating to the urban project, the regeneration project, education policy, the local health contract and the local sports project. To date, more than half of these recommendations have been implemented, in particular the speed limits and the creation of a pedestrian street designed to ensure the safety of children [7].

...and Les Villeneuve in Échirolles/Grenoble

Les Villeneuves covers a number of deprived neighbourhoods in Grenoble and Échirolles, which are typical examples of the large housing blocks built in the 1970s, and it is here that a large-scale urban regeneration project is taking place with the aim of restoring their appeal and boosting social and intergenerational diversity. The assessment showed that some major strands of the regeneration programme were likely to have a mix of positive and ambivalent impacts on physical



health, mental health, well-being and social cohesion. The HIA led to the development of around 50 recommendations, the majority of which, once ranked in order of priority, were included in the specifications for project managers. These included recommendations advocating an examination of transit flow when reclassifying roads, promoting opportunities for enjoyment and learning during travel by working on attractive paths and networks, ensuring that ground floors are allocated to building residents and their representatives via community associations, or to plan for spaces dedicated to young people. These recommendations have also been recorded in official documents, resulting in this area being the first in France to obtain the status of a "People's Eco-Neighbourhood"¹ [8].

When an HIA is applied to an urban regeneration project, it becomes possible to implement strategies aimed at transforming the living conditions that are one of the root causes of social inequalities in health. The HIA lays the foundation for a participatory approach that considers with equal weight the viewpoints of all parties involved, including residents. HIA have played a role in fostering an alternative approach to urban projects, not only by acting on the determinants of health, but also by creating a health-focused ecosystem in the long term. This is a scientific approach and not simply a tool: it seeks to predict the consequences that development choices will have on health and consequently contribute to informed decision-making. By focusing on the differentiated impacts that urban planning projects and operations may have on various

social groups, HIA aim to reduce social inequalities in health. In order to achieve this priority actions targeting the most deprived populations need to be delivered.

How effective is a health impact assessment?

One of the challenges of the HIA process is to follow it through to the end in order to judge its effectiveness, which involves drawing up a monitoring and evaluation plan. However, managing an HIA evaluation in urban projects remains complex: the timeframe for completing an urban regeneration project is long (often over 10 years) and it is difficult to measure the immediate impact and concrete effects of applied recommendations, the benefits

of which are only felt over the longer term. In many cases, monitoring and evaluation is never carried out because the people initially involved in the HIA do not remain with the project leaders for such a duration. This means they cannot supervise the regeneration project until the end, which is the main pitfall encountered when an HIA is used for an urban regeneration project. ■

1. An eco-neighbourhood is a development project in which the issues and principles of the city and sustainable communities are an integral part. The approach is supported by the Ministry of Ecological Transition. <http://www.ecoquartiers.logement.gouv.fr/>

REFERENCES

- [1] World Health Organization. *Ottawa Charter*. WHO, 1986.
- [2] World Health Organization. *Urban Planning, Environment and Health, from evidence to policy action*. Copenhagen: WHO, Regional Office for Europe, 2010: 119 p.
- [3] Barton H., Thompson S., Burgess S., Marcus G. *The Routledge Handbook of Planning for Health and Well Being*. London and New York: Routledge Taylor & Francis Group, 2015: 618 p.
- [4] Carmichael L., Barton H., Gray S., Lease H., Pilkington P. Integration of health into urban spatial planning through impact assessment: Identifying governance and policy barriers and facilitators. *Environmental Impact Assessment Review*, 2012, vol. 32, n° 1: p. 187–194.

- [5] Cole B. L., Shimkhada R., Fielding J. E., Kominski G., Morgenstern H. Methodologies for realizing the potential of health impact. *American Journal of Preventive Medicine*, 2005, vol. 28, n° 4: p. 382–389.
- [6] Anzivino L., Colom P., Pamies S., Namie C. L'appropriation de la démarche d'évaluation d'impact sur la santé par les collectivités : trois exemples en Auvergne-Rhône-Alpes. *Santé Publique*, 2021, vol. 33, n° 1: p. 57–63.
- [7] Anzivino L., Martin de Champs C. Évaluation d'impact sur la santé : Quartier des Buers à Villeurbanne. *Impact du projet de rénovation urbaine sur la mobilité des enfants*. Observatoire régional de la santé Auvergne-Rhône-Alpes, 2016.
- [8] Anzivino L. *Les Villeneuves Grenoble et Échirolles : Évaluation d'impact sur la santé*. Observatoire régional de la santé Auvergne-Rhône-Alpes, 2019.

WHO HEALTHY CITIES, FRENCH NATIONAL NETWORK: ENVIRONMENTAL ACTION TO REDUCE INEQUALITIES

The WHO Healthy Cities French National Network is an association bringing together 98 French cities and joint areas that put health first, both in terms of promoting healthy environments (living standards, social and cultural environment, etc.) and access to care. Through this project runs a goal of reducing health inequities related to social, regional and environmental factors.

The network is a space for genuine exchange, strengthening cooperation between its members through sharing experiences and data, working groups, organizing meetings and joint actions, producing advocacy documents and publications, ensuring that the voices of cities and joint areas are heard, particularly by national stakeholders, etc. The French network participates in the WHO's inter-

national Healthy Cities initiative through its affiliation with the European Network of Healthy Cities and it is accredited by the WHO.

For more information:

- French Network of the WHO Healthy Cities initiative (villes-sante.com)

A tool to identify the impact of urban projects on the health of inhabitants and inequalities

Geneviève Bretagne,
Urban Planner, Ecological Transition Manager,
Toulouse Metropolitan Area Urban Planning
and Development (AUAT), France.

It is mandatory under French law since 2010 (Grenelle I law), in the framework of environmental assessment regulations,

to consider the impacts of development and urban planning projects on the environment and human health. Moreover, the growing number of health impact assessments (HIA) carried out on urban projects [1] illustrates an increasing awareness of the “health” issue among stakeholders. This favourable dynamic nevertheless raises questions: while health equity may be central to the theoretical foundations of the HIA, social and regional health inequalities still constitute a blind spot, and the means of addressing these are poorly identified.

Interview guide

In order to overcome this shortcoming, a tool called Urban-ISS (*inégalités sociales de santé*; health inequities) was created. It was produced through a partnership between public health researchers at the University of Toulouse (l’Institut fédératif d’études et de recherche santé société FED4142, IFERISS)¹ and town planners from the Toulouse Metropolitan Area Urban Planning and Development Agency (AUAT). This tool aims to identify, in a simple and systematic way, the impacts of urban projects on health and on social and regional health inequalities. It is similar to an interview guide and is organized into eight sections – such as public space, access to infrastructure or individual behaviour – that are explored through 22 questions on the determinants of health. Urban-ISS provides the basis for the initial screening stage in an HIA and has three objectives: to identify the determinants of health most subject to positive or negative impacts, to determine whether an HIA is appropriate, and to integrate the issue of health equity. To do this, it proposes a social gradient approach and questions the potential impacts differentiated between several social groups, on the basis of socio-economic characteristics, gender, age or even disability.

A simple and quick tool to use, Urban-ISS is a boundary object, a pretext for creating a dialogue between two worlds that remain parallel – public health and urban planning – through a concrete object which is the project.

40 interviewers trained

Two training sessions in using the Urban-ISS tool (two half-day modules) have been carried out since 2021 by IFERISS and AUAT, joined by the urban planning agencies for Catalonia (AURCA) and the region of Nîmes and Alès (A’U), for around 40 people working in urban planning and public health for local or national government. These training sessions explore a fictional development project. There have been a number of requests to run another session in 2022. Interdisciplinary knowledge sharing and feedback for the benefit of reappropriating the topic of “health” are welcomed, as is the identification of potential links with other tools or devices, e.g. field observation, local health contracts (CLS), regional programmes for access to prevention and care (PRAPS). In partnership with the regional health agency (ARS Occitanie), training sessions have now been scheduled for private urban planning stakeholders – planners, promoters, etc. – over the next three years, offering an opportunity to capitalize on feedback.

Without replacing a health impact assessment, the Urban-ISS tool is easy to integrate into urban planning practices and it can assist in the design and evaluation of urban projects that promote the health of residents. The COVID-19 health crisis has accelerated our reflection on the urban environment, just as the epidemics of infectious diseases in the 19th century paved the way for building sanitation. Re-examining the urban environment and its impact on health, as well as on social and regional health inequalities, is a subject that applies everywhere. Urban stakeholders have every interest in widening the circle of participants, including involving people from public health as early as possible in the process, but also in encouraging the communities concerned to participate, including those less

well-off and least socially integrated, so that they can move from the status of beneficiaries to that of fully involved parties. ■

1. <http://iferiss.univ-tlse3.fr>

For more information:

- Urban-ISS grid, the “health and social inequalities” tracking tool for urban planning that benefits everyone, under Creative Commons license BY-NC-SA made available by the Aapriiss platform (IFERISS FED 4142). Contact: aapriiss@iferiss.org.

REFERENCES

- [1] World Health Organization (WHO). Étude de l’impact sur la santé, principaux concepts et méthode proposée. [translation S2D/WHO Collaborating Centre for Francophone Healthy Cities, July 2005]. Gothenburg Consensus, WHO, 1999: 15 p. Online: <http://www.sents.uvsq.fr/IMG/pdf/gothenburgpaper.pdf>
- [2] Harris-Roxas B. F., Harris P. J., Harris E., Kemp L. A. A rapid equity focused health impact assessment of a policy implementation plan: An Australian case study and impact evaluation. *International Journal for Equity in Health*, 30 January 2011, vol. 10, n° 1: p. 6. Online: <https://equityhealth.biomedcentral.com/articles/10.1186/1475-9276-10-6>.
- [3] Bretagne G., Blanc-Février J., Lang T. Tackling social inequalities in health: Acceptability and feasibility of a systematic approach toward health impact assessment of urban projects. *Global Health Promotion*, 2021. Online: <https://doi.org/10.1177/1757975921995468>
- [4] Bretagne G., Lang T. Urbanisme et inégalités sociales de santé : La ville impacte-t-elle la santé de toutes de la même manière, au temps de la Covid-19 ? *Droit et Ville*, 2021, vol. 91, n° 1: p. 25–48.

Besançon: “An eco-friendly, gender-respectful and inclusive school playground”

Interview with Samuel Lelièvre,
*Director of Biodiversity and Green Spaces,
City of Besançon.*

La Santé en action: Why completely overhaul school playgrounds?

Samuel Lelièvre: The development of school playgrounds is a political project: we started from the observation that the school “living space” is essential for children's health and quality of life. The city of Besançon has budgeted €60-million over the duration of the mandate to regenerate and redevelop the highest priority schools among its 64 nursery and primary schools. First target: the renovation of heating and energy systems, some of which date from the 1950s. Another major focus: transforming school playgrounds to combat heat islands, among other factors – this area has a specific budget of €10-million. To design these new school playgrounds, we raised the question of the child's relationship to others and to nature. Aspects we took into account were: mixing of girls and boys; inclusion of everyone, from the tiniest to the tallest and from the most active to the least able-bodied; reconnection to nature; and making the playground a place that supports learning.

S. A.: What has been the biggest change?

S.L.: Instead of an asphalt yard for football players, we are moving to a very different concept: putting children and their needs at the centre. So, at Pierre-Brossolette school, where our first major renovation took place, the 5,000-m² playground (the largest in the region) serving 150 students was previously completely paved. It is now planted and the ground is permeable, with pride of place given to trees and grassy areas. The work took place during 2021. We have opened it up to the neighbourhood: parents and children will be able to come outside school hours for other activities, such as gardening (shared garden project not yet finalized); we have also designed a “nature area” connected to the neighbourhood and accessible to all residents. Before this, the majority of the

children – girls and boys – were relegated to the outskirts of the playground while a small number of children – mainly boys – monopolized the centre of the playground with ball games. The reorganized playground now includes nature corners, gardening areas and games areas. This means that all children are given an equal place. It is designed so that everyone feels safe there. It allows children to reconnect with nature: it has become a park with shaded areas, and the children garden there with the teachers. Children can choose quiet areas with trusted peers for more cooperative games. The primary objective is to improve their quality of life. In this school, we have a local unit for inclusive education (ULIS) so we have developed facilities with materials – tested by an accessibility committee – suitable for those with additional needs that are available throughout the playground, which aims to be totally inclusive. In summary, we have designed an eco-friendly, gender-respectful and inclusive school playground. The objective is to be able to redevelop four to five school playgrounds per year, co-financed by the city, the water agency and the region.

S. A.: Following on from this, what are your first observations?

S.L.: The various city departments involved – education, urban planning, construction, participatory democracy – worked together for two years (2020–2021). We created a working group and consulted the teaching community, the education board, local residents, parent representatives at workshops and children. The children also got involved in planting trees during school events. We opened the Pierre-Brossolette school playground at the start of the school year in September 2021 and it is still too early to draw any conclusions. We are giving ourselves time to see what works and what doesn't, such as the extensive grassy areas, among other things. We took inspiration from countries like Germany and Finland; and in France from Paris, Grenoble and Lille. Several cities like Dijon and Morteau have visited to see how we did it. One of the greatest difficulties is



© JC Sève / City of Besançon

to convince the reluctant pupils, who were nostalgic for the marked out lines, football and handball goals or basketball hoops. We started from the premise that the playground should allow physical activity in general and not be focused only on sports. There is existing infrastructure for sports nearby, including a dojo and a swimming pool less than 10 minutes' walk away. The playground cannot fulfil everyone's wishes. The greatest difficulty that remains is knowing how to find the right balance between sports practice and physical activity. Another difficulty to overcome is that opening up the playground as a public space raises questions of maintaining cleanliness and securing the site. It is crucial for a development of this type to be accompanied by changes in access to the interior of the school (entrance hall, doormats, clean area, changes in cleaning techniques). We have to support this change, but it now seems unthinkable to us to no longer offer this type of playground, which makes the school “a hub” for the neighbourhood. ■

Interview by Yves Géry, Editor-in-Chief.

Feature
Urban planning dedicated to health

Glasgow: a tool supporting local communities to discuss climate change within a health and well-being framework

Sam Whitmore
Senior Health Improvement Officer
Public Health Scotland.

The relationships that exist between the fundamental drivers of our physical, social, and economic environments and the immediate or eventual impacts these environments or “places” have on population health and inequalities are well documented. [1]. These relationships are fully acknowledged at all levels of public health delivery, improvement, and governance. In December 2015 a collaboration between Public Health Scotland, Scottish Government, Architecture & Design Scotland¹, and Glasgow City Council resulted in the launch of the Place Standard Tool (PST). The PST is an effective and widely used tool for considering place, with a focus on health and well-being². It can be used at any time when people want to discuss the future of a place. Today it is applied across all local authorities in Scotland, is supported by a national governance framework and a network of place standard leads in each local government area, both national parks and many national organizations. Its application internationally has extended across 12 countries in Europe and worldwide has been translated into 16 different languages. The development of a climate lens which integrates with the PST is a joint-led project by Sniffer³ and Sustainable Scotland Network, together with and funded by Public Health Scotland and Scottish Government⁴. It aims to support integrating climate action into placemaking at a local/community level.

Place Standard Tool with a climate lens: co-creating local climate solutions to address a global issue from the perspective of local communities and neighbourhoods throughout Scotland

Tackling the climate emergency is one of the most serious issues facing our places. This project addresses the need to include climate change issues within a discussion about place, using the PST and by doing so, maximizing co-benefits to drive fair and just solutions that also support health, well-being, and equality. Recognized in the Programme for Government 2021-22, the Scottish Government commits to

creating communities that embed low-carbon lifestyles, while improving health and well-being. The PST with a climate lens will play an important part in supporting this objective. The project aims to better support new and existing users of the PST to consider climate change in their placemaking. The PST with the climate lens is intended to be used at any time when people want to discuss the future of a place, and for considering how global trends will play out in a local area. The pilot phase of this project is focused on developing and refining the climate lens and trialling at a local scale. It aims to develop a robust evidence base for decision makers and policy makers in delivering net zero and climate ready places. During January and February of 2021 draft climate resources including an evaluation framework and a guidance document were developed by the project team to allow consideration of climate change alongside health and well-being. These resources included two interrelated aspects of how people and places need to address climate change. Climate change mitigation/moving to a net zero economy, tackling the cause of climate change by reducing greenhouse gas emissions, and climate change adaptation/adapting to the unavoidable physical impacts of climate change. These resources acted as a ‘starting point’ for the piloting with the communities we had identified. The pilot process has taken place in two phases involving four communities in each phase from diverse backgrounds across Scotland including rural populations in the Highlands, urban neighbourhoods in Glasgow and Edinburgh, and coastal communities. We have taken an intuitive evaluation process of changing and adapting the resources on a continuous basis to reflect learning.

The feedback from piloting the PST with the climate lens has so far been used to improve the guidance and facilitation resources. An important learning point has been the lack of confidence community facilitators have felt in delivering climate information. There is a perceived impression that specialist knowledge is required. Particularly regarding issues such

as net zero, adaptation, mitigation and carbon capture. The guidance material is still a prototype, the intention is that once the wording is tested and refined it will go through a design phase to create visually appealing materials that make the tool more engaging and accessible, and tools to help facilitators get the most out of their PST workshops. The piloting process will be completed by March 2022, following this a three-month period of final evaluation by an external agency, resource development and early adopter testing will take place. The launch of the climate lens will take place during the summer of 2022. Following the high level of interest in the development of the climate lens resource a webpage has been developed to offer more information on the project, the team involved and to offer the opportunity for others to learn from the work so far⁵. (Climate lens) ■

1. <https://www.ads.org.uk>

2. <http://www.healthscotland.scot/health-inequalities/impact-of-social-and-physical-environments/place/the-place-standard-tool>

3. <https://www.sniffer.org.uk/adaptation-scotland>

4. <https://sustainablesotlandnetwork.org>

5. <https://www.adaptationscotland.org.uk/get-involved/our-projects/place-standard-tool-climate-lens-co-creating-local-climate-s>

Supporting documentation

- Place Standard tool Strategic Plan 2020-2023
- National Performance Framework
- United Nations Sustainable Development Goals
- Public Health Priorities for Scotland
- <https://eurohealthnet-magazine.eu/talking-place-a-public-health-conversation-for-everyone/>

REFERENCE

[1] Solar O, Irwin A. A conceptual framework for action on the social determinants of health. Social Determinants of Health Discussion Paper 2 (Policy and Practice). https://www.who.int/sdhconference/resources/ConceptualframeworkforactiononSDH_eng.pdf

La Chaux-de-Fonds, Switzerland: “Dramatically reducing car traffic in the city centre”

Interview with Philippe Carrard,
Municipal urban planner,
Department of Urban Planning, Transport
and Environment, La Chaux-de-Fonds, Switzerland.

La Santé en action: Which urban planning projects have you implemented with population health in mind?

Philippe Carrard: In our city of 37,000 inhabitants, the biggest project of the last few years was drafting and approving a new urban mobility plan [1] that pays particular attention to pedestrians and cyclists. On top of this, we defined supporting measures [2] around a future city-centre bypass, which will drastically reduce traffic, thereby freeing up public space for people, reducing environmental damage and making our city more attractive.

The first strand of our cycling plan focused on developing existing cycle routes by either marking out or installing cycle lanes across 5–6 km of urban landscape over the past four years, to supplement the existing network. For this project, it was not just a question of using road markings: sometimes we narrowed the space for vehicles or removed a traffic lane in favour of bicycles. The second strand of the plan involves devoting more space to bicycles whenever a public space is reviewed for renewal. The third strand consists of building cycle paths dedicated to bicycles. We currently have a vast project underway called the “Chemin des Rencontres”: it consists of a 5-km mixed-use track for pedestrians and bicycles that will run along the bottom of the entire valley, eventually connecting the stations of the towns La Chaux-de-Fonds and Le Locle. By summer 2022, between 2 and 3 km will have been completed at our end. In roughly ten years’ time, this cross-border greenway will link La Chaux-de-Fonds to Morteau in France. For pedestrians, we are developing new pedestrian-only zones and mixed-use zones with a 20 km/h speed limit where pedestrians have priority; five of these have been completed to date. We are also creating zones that are limited to 30 km/h in all residential areas, which moderates the traffic and improves safety for all users, especially pedestrians and cyclists. To date, around twenty “30-zones” have been developed. All of these installations have been planned or delivered in the past



© City of La Chaux-de-Fonds, A. Hericlotz

five years as part of a policy approved by the legislative authority in November 2017. It looks as though the programme to establish “30-zones” will continue until 2024.

S. A.: How can car traffic be reduced in the city centre?

P.C.: The main objective, in the longer term, is to close the city centre to car traffic. Motorists will have to use the bypass road, and this will free up lots of spaces that we can reclaim for pedestrians and bicycles, for planting trees, etc. However, the whole project depends on the completion of the road, which is scheduled for 2027. The public voted to approve borrowing 186-million Swiss francs; the cost is high because a major part of the bypass will be a tunnel. In the shorter term, we will continue creating 30 km/h zones in the city centre. Above all, there are public spaces that we can already redevelop as pedestrian zones, without waiting for the bypass road to be ready. This is the case with the Place du Marché. The square – currently classified as a mixed-use area including 70 parking spaces – will become fully pedestrian by 2024 with the whole space paved and planted with trees. The car park will be moved to a larger location 400 m outside of the town centre.

S. A.: How did you involve the public in the urban planning work?

P.C.: Everything was done using a process of public participation. For example, for the Place du Marché, we sketched out an initial proposal that provided a basis of discussion for approaching different publics, those with a stake in the square such as restaurant owners and other traders. A commission oversees the

participation process. It is made up of representatives from each political party, interest groups and local associations for independent businesses, market gardeners, motorists, etc. – all the people who are directly concerned. The public are not part of the commission, but we involved them in earlier consultations and the commission considered feedback from residents about their expectations. At a later date, once we have settled on one of the three potential scenarios, we will present the project to the public again and gather their opinions through meetings, exhibitions and public exchanges. These exchanges are set to start in May 2022. ■

Interview by Yves Géry, editor-in-chief.

REFERENCES

[1] Huguenin-Élie T., Clerc C. *Objectifs “La Chaux-de-Fonds 2030” et plan directeur communal des mobilités [Objectives of the new municipal transport plan « La Chaux Fonds 2030 »]*. [Report to the general council of La Chaux-de-Fonds], municipal council of Chaux-de-Fonds, 8 November 2017: 52 p.

[2] Bregnard T., Schwaar D. *Plan directeur partiel des mobilités (PDPM) lié au projet de contournement est par la route principale suisse [Partial mobility plan in connection with the bypass project via the main Swiss road]*. [Report to the general council of La Chaux-de-Fonds], municipal council of La Chaux-de-Fonds, 6 November 2019.

Feature

Urban planning dedicated to health

Pontevedra, Spain: pedestrians rule the roads, relegating cars to the sidelines

Interview with
Miguel Anxo Fernandez Lores,
Mayor of Pontevedra, Galicia, Spain.

La Santé en action: What are the main measures you have implemented?

Miguel Anxo Fernandez Lores: We have implemented measures that restore public possession of the spaces previously invaded by private motor vehicles. We sought to democratize the use of public spaces, to put an end to road rage, to promote social cohesion and a healthy urban environment, and to reclaim a chaotic and grim city. We wanted to assert that pedestrians and cyclists who had been “expelled from the roads” have a right of access to the city. To do this, we used a gender-aware approach, paying equal attention to the expectations of women and men, and we focused on urban planning that fosters proximity in a dynamic and lively city where the streets are living spaces.

S. A.: What is your landmark measure?

M.A.F.L.: It’s a holistic process founded upon pedestrian travel being the cleanest, cheapest, most active, healthiest and most inclusive mode of transport, with mechanized travel (cycling) in second place. This lends support to measures that are simple, sympathetic to the environment, and that place human beings at the heart of urban planning decisions. These are relatively straightforward measures that reorganize spaces, calm traffic and rationalize the use of private vehicles, but which result in a radical transformation of the transport paradigm and habits. This process



© City of Pontevedra

identifies car traffic and reduces it to what is strictly necessary for the city to function, favouring a strategy of non-segregation and diversity of uses.

S. A.: How did the different departments concerned work together on the process?

M.A.F.L.: Urban reform with structural and legal measures – defined as an integral, flexible and comprehensive process – has been implemented street by street, which makes it possible to take advantage of synergies, bring consistency and see the progress made; our design is inclusive in the sense that we sought a balance of uses and safe-to-use public space. The three pillars of the process were unwavering political will, coordination of all municipal administrative bodies and citizen participation. Global and cross-cutting management with coordinated efforts from staff in municipal services at every level (technical, legal, economic promotion, culture, social services, sports, education, police, transport, etc.) was fundamental. This action was mainly financed by local government funds. European funding and additional funds obtained through agreements with regional government have also provided ad-hoc assistance.

S. A.: How was the public involved?

M.A.F.L.: There has been a shared commitment to pedestrian mobility because it offers individuals greater autonomy and promotes lifestyles beneficial to health and social cohesion while reducing noise and air pollution, deaths and serious road traffic accidents. Our slogan “walking is the solution” has been applied in a compact city where it is possible to travel on foot, by public transport or by bicycle from one point of interest to another. This slogan also has health benefits in terms of the fight against a sedentary lifestyle, which is the cause of many problems in modern societies, especially among children. We worked in the spirit of a co-build with interested parties. However, we encountered reluctance from certain sectors, either for partisan reasons or to defend privileges in the use of public space. This is why fully committed direct participation, cooperation and assistance from various social collectives, professionals and neighbourhood associations, mainly the most active or those who need to use and preserve public space, are fundamental for educating others and improving the approach. The model triumphs when citizens take ownership of it and defend it. Pontevedra has become a

KEY POINTS

➤ **The Spanish city of Pontevedra in Galicia has drastically reduced city-centre motor traffic in favour of pedestrians and cyclists. Two out of three journeys are made on foot. This shift in paradigm has reduced fuel consumption by 67% and made the city safer: zero deaths by road accident were recorded between 2011 and 2020.**



© City of Pontevedra

world leader and an example of good practice in terms of travel, safety and urban planning that puts people first. Everything that has been done has improved the quality of life, health and happiness of the citizens of Pontevedra.

S. A.: What results have you obtained, using which drivers and with which difficulties?

M.A.F.L.: To name a few results: a 67% reduction in fuel consumption and a 65% reduction in CO₂ emissions, 365 days a year of clean air. Zero deaths in traffic accidents between 2011 and 2020; two out of three journeys are made on foot; walking as a healthy means of transport; less noise pollution; greater autonomy for residents in their travel options; 80% of pupils go to school on foot, and half of them independently. The main driver pushing the changes was wide support from the public, who noticed and appreciated the comfort, safety, and quality of life offered by the model. We got great results through working on road safety, accessibility, diversified use of public space, social support, shifting travel habits and even the “taming” of private vehicle use. The main difficulties to overcome have been the partisan opposition and the attitude that defends the privileges or conveniences that benefit only one section of the population. We also lack a

flexible and liberalized regulatory framework that would facilitate other travel measures. We have adjusted our actions according to these results: while applying the principle of flexibility – a constant evaluation and improvement of solutions (e.g., looking at some of the collateral effects of traffic calming, such as noise), which is the outcome of the intensive and tireless participation of citizens – we never lose sight of the objectives and the political programme.

S. A.: What is the return on investment of this action?

M.A.F.L.: The recovered space is transformed on a daily basis for commercial, sports, recreational and tourist uses. It's a living space that generates net economic profitability. There has been economic growth in the tertiary sector, in particular an increase in the number of companies from 10,641 in 2005 to 15,215 in 2015. The model implemented in Pontevedra made it the one of the areas of Galicia that suffered the least impact on business creation since the beginning of the COVID-19 pandemic in 2020. I can conclude that, in the future, all cities will find their feet in models like the one applied in Pontevedra. ■

Interview recorded by the editorial team

For more information:

- Mosquera Lorenzo C. (Coord), Acevedo C. (Trad.) *Pontevedra. Outra mobilidade, outra cidade. A experiencia de transformación 1999-2015* [Pontevedra. *Alternative travel, alternative city. The experience of transformation 1999-2015*]. Madrid: Pons Seguridad Vial, coll. Sustainable transport, 2015: 90 p.
- Nebot Beltrán F. *Primero la ciudad. La movilidad in Pontevedra 1999-2019* [The city first. *Transport in Pontevedra 1999-2019*]. Pontevedra, Galicia, Spain: Council of Pontevedra, 2019: 223 p. Online: <https://www.pontevedra.gal/publicacions/primero-la-ciudad/files/assets/common/downloads/PRIMERO%20LA%20CIUDAD.pdf?uni=5e0f5bcd9d821192aa5750797351b158>
- Tonucci F. *A cidade dos nenos* [The City of Children]. Pontevedra: Editorial Kalandraka, 2014.
- Tato Camino X.M. In: Nogueira Pereira M. X., Agrelo-Costas E. *Cidadanía e identidades: expresións políticas, económicas e culturais no século XXI* [Citizenship and identities: political, economic and cultural expressions in the 21st century]. Saint-Jacques de Compostelle: Santiago de Compostela University, 2021. DOI: <https://dx.doi.org/10.15304/9788418445415>

Lahti, Finland: “Prevent non-communicable diseases and promote health and well-being while reducing biodiversity loss and climate change”

Interview with

Riitta-Maija Hämäläinen,
PhD, Manager for Sustainable Development, Päijät-Sote, Lahti, Finland,

Hanna Haveri,
DMedSc, Planetary Health, Päijät-Sote, Lahti, Finland,

Marju Prass,
Specialist, Lahti University Campus, Lahti, Finland,

Minna-Maija Salomaa,
MEd, Secretary General, Lahti University Campus, Lahti, Finland,

Päivi Sieppi,
Environmental Advisory Manager, City of Lahti, Finland.

La Santé en action: Since when, why et what main actions have you implemented on urban planning favourable to health?

In 1970s, Lahti was an industrial town with a polluted environment. Lake Vesijärvi was severely polluted with garbage, sewage and industrial emissions. The industry, municipalities, researchers, and residents initiated a joint cleaning project that is still ongoing today. The City of Lahti earned its European Green Capital Award¹ for a long-term action in environmental field. The Land Use and Building Act and national land use guidelines provide general guidance for land use planning for cities in Finland. Lahti's latest master plan 2017–2020 combines the planning of land use and sustainable urban mobility plan in a way that is unique in Finland: vibrant city centres, attractive neighbourhoods, business life, services, and natural environments all together. The interaction in the process between citizens, decision-makers, experts, and other cooperation partners is important. It changed the traffic plan to sustainable urban mobility plan which includes biking, walking as well and added ‘all together’ as the unique feature of planning in Finnish context. Each city council in every 4 years accepts the plan, but rarely in combined manner as in the City of Lahti.

S. A.: What are the objectives of your the Naturestep to Health Programme 2022-2032?

Inspired by a strong collaboration between the City of Lahti, the Joint Authority for Health and Welfare and the Lahti University Campus, the Naturestep to Health Programme 2022-2032 was created to extend the ecological achievements into the enhanced well-being of the inhabitants. The programme integrates health and environmental goals to find new ways and perceptions to prevent non-communicable diseases and promote health and well-being while reducing biodiversity loss and climate change. The programme is a joint effort in collaboration with the national institutes of natural resources, environment, health and welfare as well as regional actors and research and education institutes. It consists of several multisectoral and interdisciplinary projects, actions, and events in the areas on healthy and sustainable nutrition, mobility and physical activity, healthy living environment, and connection to the nature. The research, development and experimental projects are implemented by the research institutes and coordinating authorities.

S. A.: Could you cite concrete examples of what has been done?

Some of the most recent activities implemented are in connection to the Lahti's EU Green City Programme and climate partnership. The Gerontological Care Centre of Päijät-Sote implemented a climate smart service improvement with food and cleaning service companies to reduce food waste, increase plant-based meals, enhance nature connection within personnel and customers and decrease waste including the use of adult incontinence pads. All activities improved the well-being of personnel and customers as well as sense of environmental care.

Moreover, in the child health centre, the interview protocol of nurses and midwives with their patients during consultations was readjusted to include climate change and lifestyle issues, such as plant-based meals, consumption, and active mobility. The renewed and successful interview protocol is integrated to all child health centres in the City of Lahti. Furthermore, the programme is involved in building green structures into child day-care centres to support microbial biodiversity and enabling the utilisation of forest areas surrounding local hospital and healthcare services to promote nature contacts among healthcare personnel and customers.

S. A.: What are the main favourable levers for intervention and the difficulties to be overcome?

The programme has generated new collaboration between various actors both in health and environmental sectors, but mapping interdependencies further beyond is an important task as well. The impact and efficacy of the programme is planned to be monitored using statistical data, surveys, questionnaires, and multidisciplinary studies. The aim is to improve the implementation of good practices through multidisciplinary collaboration between various sectors including health and social service, environmental actors, city planners, researchers, and practitioners as well as active citizens. ■

Interview recorded by the editorial team

1. https://ec.europa.eu/environment/european-green-capital-award_en

Quebec: Sherbrooke assesses the impact of city-centre revitalization on health inequalities

Martine Shareck,

Post-doctoral researcher in community health at the Faculty of Medicine and Health Sciences, University of Sherbrooke, Principal researcher of the Equitable and Healthy City Centre study (Centre-ville Équitable et en Santé, CentrÉS) on the city of Sherbrooke, Canada.

Nestled in the heart of Estrie, a region in the southeast of the province of Quebec (Canada), Sherbrooke has a population of approximately 160,000. Since the 1960s there have been plans to develop the downtown area of Sherbrooke with the aim of boosting its vitality and strengthening the place of Quebec's sixth largest city as a historic, administrative, cultural and entrepreneurial centre of the region [1].

Following the massive displacement of residents and traders to the outskirts of the city in the mid-20th century, downtown Sherbrooke, which covers an area of 1.1 km² at the intersection of the Saint-François and Magog rivers, lost its vitality [1]. Data from the 2016 census highlights the relatively precarious living conditions of a large part of city-centre residents. Among the population of around 3000 people, 93.3% are renters, 57.1% live below the poverty line (compared to 17.7% across the city) and the median household income is three times lower than that for the city as a whole [2].

Consultation with residents

In 2016, the city addressed situation by adopting the Downtown Sherbrooke Sustainable Development Plan. This 25-year plan holds the aim to double the residential population of the city centre. It includes the construction of rental properties (including accessible and affordable housing), businesses and offices, the creation of a public square and the redevelopment of the Saint-François riverside area. Innovative features include a multimodal travel hub to promote active mobility and public transport, with greening initiatives and public art projects for improving the area aesthetically [3].

To keep the population informed, in line with the 2009 policy for public dialogue, there have been a number of public consultations

about the downtown revitalization projects, which draw funding from both public and private investment. The city council also set up and chaired an intersectoral committee that brought together representatives of local government, citizens' associations, community groups, industry and the cultural sphere. Under reconstitution following the municipal elections of autumn 2021, this committee aimed to promote communication between stakeholders and reduce sticking points during the works. However, a recent survey revealed mixed opinions about the practical application of the policy for public dialogue, which led the city to announce it would adopt a new public participation policy, created in partnership with citizens and based on transparency, information and listening [4].

Urban revitalization and health

Previous studies have suggested that the revitalization of socio-economically deprived neighbourhoods can improve healthcare accessibility, well-being and social conditions for residents, but can also have adverse consequences such as social exclusion and gentrification [5].

After hearing the concerns voiced by community groups and citizens' associations active in the city centre, particularly in connection with the loss of social meeting points and the marginalization of groups already living in precarious conditions, a team of interdisciplinary researchers developed the CentrÉS¹ study. This study assesses the impact of revitalization in downtown Sherbrooke on health and on social inequalities in health (i.e., health differences between social groups on the basis of gender, education or ethnicity) among young people aged 16–30. This group accounts for 34% of the downtown population, and many businesses and services catering to them (schools, shops, bars, etc.) are located in the area. The study, launched in July 2020, relies on data from longitudinal cohort surveys, qualitative interviews with downtown residents and visitors, a literature review and interviews with key informants. Data collection and analysis are ongoing.

Conclusions and outlook

The CentrÉS study will help us to improve our understanding of both the positive and negative impacts of city-centre revitalization on health and on social inequalities in health and will help develop complementary interventions to reduce the negative impacts observed. Interventions vary and could range from awareness campaigns about neighbourhood cohesion to building projects that offer subsidised housing.

Around the world, many cities are looking at city-centre revitalization to mitigate the knock-on effects of COVID-19 restrictions. It is therefore imperative to seize this opportunity to (re)develop our village and town centres in a fair and equitable manner. The scientific and practical implications of the CentrÉS study may contribute to this, but political and economic support remain essential. ■

1. <https://www.etudecentres.ca/>

REFERENCES

- [1] Commerce Sherbrooke. *Le Centre-Ville de Sherbrooke. Problématique, diagnostic [Downtown Sherbrooke. Problem, diagnosis]*. February 2012, 89 p.
- [2] Integrated university health and social services centre of Estrie – Sherbrooke University Hospital. *Tableau de bord des communautés. Centre-ville de Sherbrooke [Communities Dashboard: Downtown Sherbrooke]*. 2018.
- [3] City of Sherbrooke. *Major projects*.
- [4] Institut du Nouveau Monde. *Démarche d'élaboration de la politique de participation publique de la ville de Sherbrooke [Developing the public participation policy of the City of Sherbrooke]*. [Questionnaire analysis] INM, April 19, 2021: 76 p.
- [5] Schnake-Mahl A. S., Jahn J. L., Subramanian S. V., Waters M. C., Arcaya M. Gentrification, neighborhood change, and population health: a systematic review. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 2020, vol. 97, no 1: p. 1–25.

Feature

Urban planning dedicated to health

Identifying frailty to prevent the risk of falls in the elderly

Stephanie Monnier-Besnard,

scientific project manager, Trauma unit, Ageing in health and neurodegenerative diseases, Department of non-communicable diseases and trauma, Santé publique France,

Dagmar Soleymani,

scientific project manager, Elderly and vulnerable populations unit, Department of prevention and health promotion, Santé publique France,

Marion Torres,

scientific project manager,

Nathalie Beltzer,

head of unit,

Laure Carcaillon-Bentata,

advisor, Ageing in health and neurodegenerative diseases, Trauma unit, Ageing in health and neurodegenerative diseases, Department of non-communicable diseases and trauma, Santé publique France.

The World Health Organization defines “frailty [...] as a progressive age-related regression of physiological systems, which leads to a decrease in the reserves of intrinsic capacities¹, which confers extreme vulnerability to stressors and increases the risk of a range of negative health effects” [1]. Different epidemiological or clinical scales measure an individual’s overall health status on a dynamic spectrum: robustness, pre-frailty, frailty – the later stages signalling an increased risk of entering residential care or death. This concept is of major interest as progression through the stages is avoidable and reversible (by supporting robustness and acting on pre-frailty and frailty) using preventive actions: physical activity, diet, social participation and cohesion. The main determinants are not only age, sex and the presence of chronic diseases; low income or social isolation also play a role [2; 3]. In France, the prevalence of frailty among people aged

55 and over is estimated at between 11% and 12%; it is higher in women and of course increases with age [2].

Falls in the elderly: a public health issue

Falls in the elderly can cause physical and psychological damage and lead to loss of independence. According to data from investigations into home and leisure injuries (*Enquête permanente sur les accidents de la vie courante*, EPAC), 85% of visits to emergency departments for such injuries among people aged 65 and over in 2010 were due to a fall. This proportion increased with age, exceeding 90% in patients aged 85 and over [4]. In 2016, accidental falls accounted for 61% of deaths from home and leisure injuries in people aged over 85 and 46% in people aged 75–84 years [5]. Given that falls lead to significant morbidity and mortality (> 9,300 deaths per year), there is a clear imperative for preventive actions; actions that target intrinsic risk factors such as frailty and cognitive disorders, as well as extrinsic risk factors such as the physical environment.

A link established between frailty and falls

The role played by frailty in fall-risk is an extensively studied subject. However, it should be noted that these studies lack comparability due to methodological differences (measurement of frailty used, follow-up time, study population, inclusion of fall history, etc.), which makes it difficult to summarize the results. However, several recent meta-analyses, based on large national or international cohorts or on ancillary studies conducted between 2001 and 2016, show that frailty significantly increases the risk of falls. Pre-frail and frail subjects are more likely to fall

KEY POINTS

▣ **Falls in the elderly are responsible for significant morbidity and mortality. Identifying a person’s level of frailty means that preventive action can be taken on its determinants in order to reduce the risk of falls. Review of knowledge and possible actions.**

than robust subjects (1.1 to 1.5 times and 1.2 to 2.5 times, respectively) [6-8]. This association is more apparent in men and independent of age. There are more recent prospective population-based cohort studies, carried out in different countries and with relatively long follow-up periods, which confirm these results. For example, one of the most illustrative, the China Health and Retirement Longitudinal Study, carried out in around 4,350 subjects aged 60 and over, found an increased risk of falling in pre-frail and frail subjects after four years of follow-up, regardless of socio-economic characteristics and even comorbidities [9]. Furthermore, since frailty may be associated with a poorer prognosis, it seems appropriate to identify it in elderly subjects who have had a fall. Indeed, retrospective studies based on the medical records of elderly subjects admitted to hospital, mainly for falls, suggest a link between frailty and the risk of readmission for falls, or of returning home with medical assistance, as well as a greater risk of death in the months following the fall, regardless of age and sex [10; 11]. The ChuPADom² survey, conducted by Santé publique France among elderly subjects admitted to hospital following a fall, is a prospective multicentre study that should soon provide new information about the prognostic value of frailty.

Prevent frailty to prevent falls

Falls and frailty share common prevention factors: diet, physical activity, maintaining cognitive and sensory functions, avoiding social isolation. In order to reduce the risk of falls and their complications, it therefore seems essential to start by preventing frailty. To this end, Santé publique France carries out actions to monitor and prevent frailty, working alongside other public structures in France (research, social security, retirement, regional health and geriatric health agencies: DREES, CNAV, MSA, CNRACL, Agirc-Arrco, ARS, CNSA) and through European partnerships³. In particular, Santé publique France conducts surveys aimed at improving knowledge on frailty and falls, and is developing a new prevention and health promotion programme for adults in mid-life (40–55 years) with a view to reducing the risk of autonomy

loss. To improve prevention, frailty must be addressed holistically from mid-life, when intrinsic capacities begin to decline⁴. Physical activity combined with good nutrition, for example, has been shown to be useful in preventing the progression from frailty to dependence [12]. In parallel, brochures and videos on fall prevention have been developed in partnership with social security agencies and widely distributed by Santé publique France⁵. Finally, the French Ministry for Solidarity, Health and Autonomy made public, on 21 February 2022, a three-year plan for the elderly aimed at reducing the number of fatal, disabling and repeat falls⁶. Concrete measures will be rolled out from 2022 to 2025, including the approach of Integrated Care for Older People (ICOPE) (see figure and article below: “An integrated care approach for preventing dependency in the elderly”). ■

1. According to the World Health Organization (WHO), intrinsic capacities are the set of physical and mental capacities on which an individual can draw at any time. Functional ability is based on the combination and interaction of an individual's intrinsic capacities with their environment. The WHO has identified six domains of intrinsic capacity: mobility, cognition, vitality, psychosocial, vision and hearing.
2. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/traumatismes/chute/documents/enquetes-etudes/chutes-des-personnes-agees-a-domicile.-caracteristiques-des-chuteurs-et-des-circumstances-de-la-chute.-volet-hospitalisation-de-l-enquete-chupadom>
3. https://avantageja.eu/index.php?option=com_content&view=article&layout=edit&id=328%22
4. Frailty (pourbienvieillir.fr)
5. <https://www.santepubliquefrance.fr/maladies-et-traumatismes/traumatismes/chute/documents/brochure/bouger-en-toute-serenite-prevenir-les-chutes-dans-la-vie-quotidienne> <https://www.santepubliquefrance.fr/les-actualites/2019/prevenir-les-chutes-un-dispositif-d-information-pour-le-grand-public-et-les-professionnels> La prévention des chutes (pourbienvieillir.fr)
6. <https://solidarites-sante.gouv.fr/affaires-sociales/autonomie/article/plan-antic chute-des-personnes-agees>

CHUPADOM: INVESTIGATING THE CIRCUMSTANCES OF FALLS IN ELDERLY PEOPLE

ChuPADom is a prospective multicentre survey conducted among people aged 65 and over hospitalized following an accidental fall at home. It was conducted in 2018 in seven French hospitals. The first analyses, based on 1,467 subjects, showed that more than half of the patients had already experienced a fall in the preceding 12 months. Nearly 45% of the patients suffered a fracture due to their fall, 26% a wound and 16% a head injury. Five profiles of fallers were established: younger seniors who put themselves at risk and fall from greater heights (5.7%); seniors who fall down the stairs in their

house (4.6%); independent seniors who lose their balance and fall from their own height (32.4%); dependent seniors who fall during low-intensity activities (54%); and very elderly people who are limited in everyday activities (3.3%). Using new analyses, ChuPADom will describe sequelae by the initial fall severity and health status of the faller, particularly their level of frailty pre-fall.

REFERENCES

- World Health Organization. *Integrated care for older people: Guidelines on community-level interventions*

to manage declines in intrinsic capacity. WHO, 2017: 46 p. Online: <https://apps.who.int/iris/handle/10665/258981>

- World Health Organization. *Integrated care for older people (ICOPE): Implementation framework. Guidance for systems and services*. WHO, 2019: 41 p. Online: <https://apps.who.int/iris/handle/10665/325669?-locale=attribute=fr&>
- Marion J Torres, Gaëlle Pédrone, Annabel Rigou, Laure Carcaillon-Bentata, Nathalie Beltzer, Identifying profiles of people aged 65 and over who fall at home and associated falling-induced injuries: The French ChuPADom study, *Injury*, 2022. <https://doi.org/10.1016/j.injury.2022.02.021>

REFERENCES

[1] World Health Organization. World report on ageing and health. Geneva: WHO, 2016: 267 p. Online: <https://apps.who.int/iris/rest/bitstreams/835463/retrieve>

[2] Perrine A.-L., Le Cossec C., Fuhrman C., Beltzer N., Carcaillon Bentata L. Fragilité et multimorbidité : peut-on utiliser les grandes enquêtes françaises en population pour la production de ces indicateurs? Analyse des données d'ESPS 2012 et HSM 2008 [Frailty and multimorbidity: can major French population surveys be used to produce these indicators? Analysis of data from ESPS 2012 and HSM 2008]. *Bulletin épidémiologique hebdomadaire*, 2017, n° 16-17: p. 301-310. Online: http://invs.santepubliquefrance.fr/beh/2017/16-17/2017_16-17_2.html

[3] Vellas B. Agir sur tous les déterminants de la fragilité des personnes âgées [Acting on all the determinants of frailty in the elderly]. *La Santé en action*, 2017, n°440: p. 4-5. Online: <https://www.santepubliquefrance.fr/occitanie/agir-sur-tous-les-determinants-de-la-fragilite-des-personnes-agees-interview>

[4] Thélot B. L., Lasbeur L., Pedrono G. La surveillance épidémiologique des chutes chez les personnes âgées

[Epidemiological monitoring of falls in the elderly]. *Bulletin épidémiologique hebdomadaire*, 2017, n° 16-17: p. 328-335. Online: http://invs.santepubliquefrance.fr/beh/2017/16-17/2017_16-17_5.html

[5] Ung A., Chatignoux É., Beltzer N. Analyse de la mortalité par accident de la vie courante en France, 2012-2016 [Analysis of mortality due to home and leisure injuries in France, 2012-2016]. *Bulletin épidémiologique hebdomadaire*, 2021, n° 16: p. 290-301. Online: http://beh.santepubliquefrance.fr/beh/2021/16/2021_16_2.html

[6] Cheng M. H., Chang S. F. Frailty as a risk factor for falls among community dwelling people: Evidence from a meta-analysis. *Journal of Nursing Scholarship*, 2017, vol. 49, n° 5: p. 529-536. Online: <https://pubmed.ncbi.nlm.nih.gov/28755453/>

[7] Kojima G. Frailty as a predictor of future falls among community-dwelling older people: A systematic review and meta-analysis. *Journal of the American Medical Directors Association*, 2015, vol. 16, n° 12: p. 1027-1033. Online: <https://pubmed.ncbi.nlm.nih.gov/26255098/>

[8] Chu W.C., Chang S.F., Ho H.Y. Adverse health effects of frailty: Systematic review and meta-analysis of middle-aged and older adults with implications for evidence-based practice. *Worldviews on evidence-based*

nursing, 2021, vol. 18, n° 4: p. 282-289. Online: <https://pubmed.ncbi.nlm.nih.gov/34075676/>

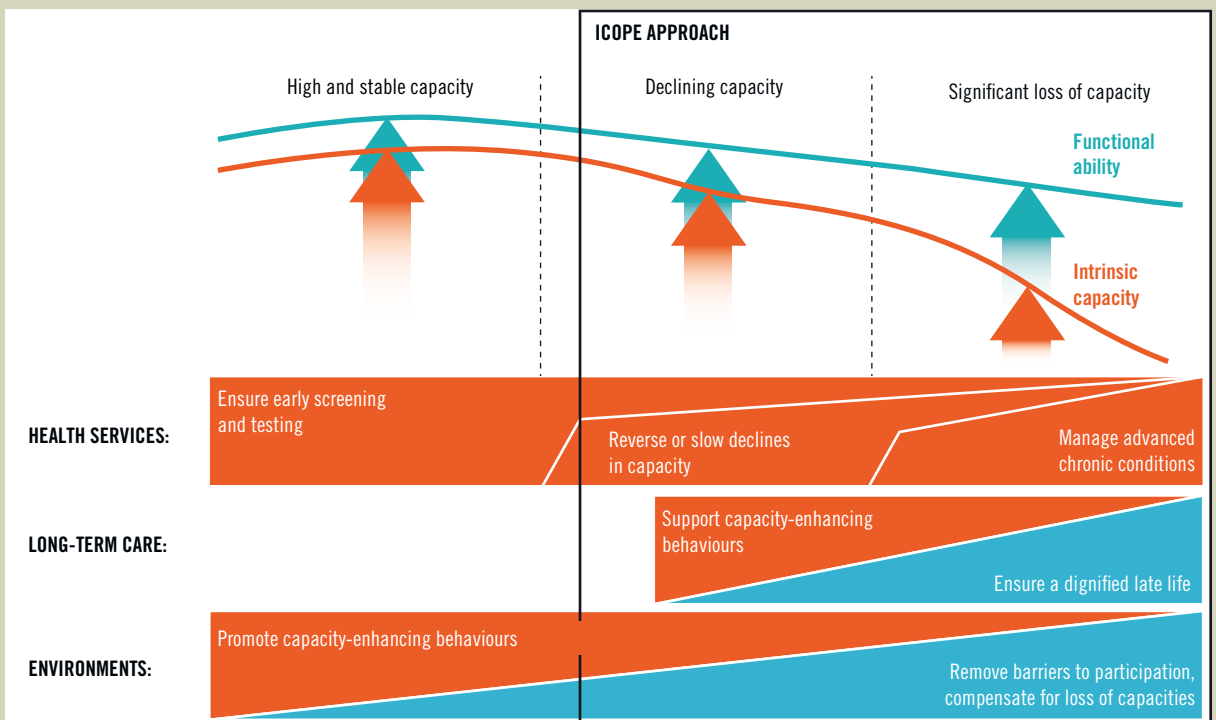
[9] Zhang Q., Zhao X., Liu H., Ding H. Frailty as a predictor of future falls and disability: a four-year follow-up study of Chinese older adults. *BMC Geriatrics*, 2020, vol. 20, n° 1: p. 388. Online: <https://bmcgeriatr.biomedcentral.com/articles/10.1186/s12877-020-01798-z>

[10] Pecheva M., Phillips M., Hull P., O'Leary R., Carrothers A. n Queally J. M. The impact of frailty in major trauma in older patients. *Injury*, 2020, vol. 51, n° 7: p. 1536-1542. Online: <https://pubmed.ncbi.nlm.nih.gov/32434718/#affiliation-4>

[11] Hatcher V. H., Galet C., Lienthal M., Skeete D. A., Romanowski K. S. Association of clinical frailty scores with hospital readmission for falls after index admission for trauma-related injury. *JAMA Network Open*, 2019, vol. 2, n° 10: e1912409. Online: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6777261/>

[12] Gabrovec B. Antoniadou E., Soleymani D., Kadal-ska E., Carriazo A. M., Samaniego L. L. et al. Need for comprehensive management of frailty at an individual level: European perspective from the advantage joint action on frailty. *Journal of Rehabilitation Medicine*, 2020, vol. 52, n° 6: jrm00075. Online: <https://pubmed.ncbi.nlm.nih.gov/32399576/>

Figure. ICOPE approach: A public health framework for healthy ageing, with opportunities for action at all life stages



Source: World Health Organization 2015(1)

An integrated care approach to prevent dependency in the elderly

Interview with

Fati Nourhashemi,

University Professor & Consultant Geriatrician, Toulouse University Hospital; Member of Inserm (U1295), France.

La Santé en action: Why does the ICOPE approach target people over 60?

Fati Nourhashemi: An individual's frailty stage falls on a spectrum between robustness and dependence. ICOPE is applicable to all people over the age of 60, whether they are robust or frail, but it is clear that prevention schemes and care plans are all the more effective for individuals in the early stages of their progress along the spectrum. ICOPE is above all a prevention scheme whose objective and philosophy are to refocus people and make them aware of how to maintain or improve their intrinsic capacities, finally breaking out of the disease and clinical management paradigm.

S. A.: What scientific evidence is ICOPE based on?

F. N.: A World Health Organization (WHO) working group brought together international experts on the subject in order to establish recommendations based on robust data from the scientific literature [1]. These recommendations particularly aim to guide primary care professionals in the prevention and management of the components that contribute to a decline in intrinsic capacity. This working group identified six functions that define intrinsic capacity¹ (mobility, nutritional status, cognition, vision, hearing, mood), so likely to play a major role in healthy ageing, and it was shown that maintaining these functions was essential to prevent

dependence. ICOPE's proposals (*see figure ICOPE approach in previous article*) are drawn mainly from this work and are included in an implementation guide [2]. A longitudinal study in the general population, based on an English cohort of more than 2,500 people aged 60 and over, has also validated the predictive value of intrinsic capacities on the future level of dependence [3].

S. A.: What makes this system innovative?

F. N.: The G rontop le, a gerontology care hub in Toulouse, has been testing ICOPE for about two years. It is an integrated care scheme: it takes into account the six functions that define intrinsic capacity as well as their interactions with associated pathologies and the social and environmental context. The first step is screening. This should be performed every six months, although every year may be appropriate for the youngest subjects with no abnormality at the initial screening. The subject can do a self-assessment or be assessed by a trained person who knows them, such as a pharmacist, nursing assistant, GP, family member, etc., using a digital application: the ICOPE Monitor. Each function is assessed through a series of simple questions and the entire assessment takes approximately ten minutes. An alert is triggered if an anomaly is detected, then checked by a nurse from the Toulouse G rontop le who is trained in the system. The objective at this stage is to confirm whether the alert is appropriate. The subject is offered an in-depth assessment when there is a decline in one or more functions; this assessment can be carried out by the individual's usual medical contacts. It can also be scheduled at the request

KEY POINTS

▣ Presented in 2017 by the World Health Organization, *integrated care for older people (ICOPE)* is an approach that aims to reduce the number of dependent elderly people around the world.

of a medical contact (e.g., the general practitioner) or, when there is no professional contact, by a nurse from the G rontop le. Depending on the case, the nurse may pay a home visit, schedule a consultation at the hospital, or maybe hand over the assessment to a local team. This is possible through agreements we have in place with certain municipalities who provide facilities to carry out assessments on a regular basis. After the assessment and if necessary, a prevention and care plan is drawn up; this care plan is centred on the person and takes into account their goals and wishes (e.g., maintaining mobility to be able to continue to care for their grandchildren, to travel, etc.). ICOPE is therefore based on the network of primary care providers, and the care plan relies on the local systems offered by the community, meaning that local health, social and medico-social sectors are involved. This system is innovative in three ways. It makes individuals actively participate in their own health by trusting them, if possible, to monitor their functions themselves; it uses new technologies for the assessment and monitoring of functions; it changes habits by offering care based on functional status rather than organ pathology.

ICOPE in Toulouse

An integrated care approach to prevent dependence

S. A.: What is the plan for rolling out the system more widely?

F. N.: The Toulouse Gérontopôle, with the support of the region and above all of the Occitanie regional health agency, was the first centre to bring the ICOPE approach into clinical practice, with the help of primary care providers and the university's department of general medicine. Through our work, we have adapted the ICOPE application, created by the World Health Organization, to the French context. The first step in the national roll-out of ICOPE testing was a call for expressions of interest² launched by the Ministry of Solidarity and Health in 2019. Subsequently, several selected regions – such as Corsica, Auvergne-Rhône-Alpes, Provence-Alpes-Côte d'Azur, Pays-de-la-Loire, Occitanie – began testing and rolling out the system in their area from the first quarter of 2022. Other teams can set up this scheme within their usual professional networks, but they will not benefit from the funding offered in the testing context of the call for expressions of interest.

S. A.: What conclusions can you draw from these first two years of testing?

F. N.: The results of the experiment are very encouraging and show good adherence from all those involved: more than 2,800 health professionals were trained in the first stage (screening) and more than 700 nurses have been trained for performing the in-depth assessment. Out of 18,100 seniors enrolled in the programme, 2,219 (average age 69) use ICOPE Monitor to self-assess and they feel comfortable with the digital tool, which is easy to use on a smartphone. Agreements have been signed with several local providers in Haute-Garonne to roll out ICOPE in these areas.

S. A.: What impact did the pandemic have on the system?

F. N.: The 2020 lockdown was a barrier to face-to-face assessments, so we developed a telephone assessment to monitor functions. We noted a beneficial effect for isolated elderly people, who were stressed by the health situation, because they saw these phone calls as an opportunity to strengthen their health and social connections. During the lockdown, certain in-depth assessments could not be carried out and the management of people showing anomalies in one or more functions was deferred. The most urgent situations were of course managed by the GP. Nevertheless, we have to acknowledge that a high number of care and prevention plans could not be delivered due to a lack of operational structures. Some substitute solutions were introduced, involving new technologies in physical activity programmes for seniors, for example.

S. A.: How does ICOPE fit into the government's new fall-prevention plan?

F. N.: The new national prevention plan aiming to reduce morbidity and mortality from falls among the elderly, made public on 21 February 2022, sets out a number of measures, including risk identification and alerts³. ICOPE

is one of the tracking tools selected for testing in two regions as part of Axis 1-Action 2 of the fall prevention plan. ■

Interview by Stéphanie Monnier-Besnard, scientific project manager, and Laure Carcaillon-Bentata, advisor for Ageing in health and neurodegenerative diseases, Trauma unit, Ageing in health and neurodegenerative diseases, Department of non-communicable diseases and trauma, Santé publique France

Acknowledgements: Dr Christine Lafont, geriatrician, and Mrs Justine de Kerimel, project manager, working within the regional team for elderly care of Toulouse University Hospital, for their contributions to writing the text of the interview.

1. Intrinsic capacities and functional ability: according to the World Health Organization (WHO), intrinsic capacities are the combination of an individual's physical and mental (including psycho-social) capacities. Functional ability is the combination and interaction of intrinsic capacities with the environment in which a person lives.
2. <https://solidarites-sante.gouv.fr/systeme-de-sante-et-medico-social/parcours-des-patients-et-des-usagers/article-51-lfss-2018-innovations-organisationnelles-pour-la-transformation-du/article/appels-a-manifestation-d-interet>
3. <https://solidarites-sante.gouv.fr/affaires-sociales/autonomie/article/plan-antichute-des-personnes-agees>

REFERENCES

- [1] World Health Organization. *Integrated care for older people: Guidelines on community-level interventions to manage declines in intrinsic capacity*. Geneva: WHO, 2017: 46 p. Online: <https://apps.who.int/iris/handle/10665/258981>
- [2] World Health Organization. *ICOPE: Implementation framework. Guidance for systems and services*. Geneva: WHO, 2019: 41 p. Online: <https://apps.who.int/iris/handle/10665/325669?locale-attribute=fr&>
- [3] Beard J. R., Jotheeswaran A. T., Cesari M., Araujo de Carvalho I. The structure and predictive value of intrinsic capacity in a longitudinal study of ageing. *BMJ Open*, 2019, vol. 9, n° 11:e026119. Online: <https://bmjopen.bmj.com/content/9/11/e026119>

COVID-19 vaccination among people experiencing homelessness: reviewing knowledge and practices

Jalpa Shah,
 Coordinating Research Officer,
Dr Stéphanie Vandentorren,
 Coordinator, Social and Regional
 Inequalities in Health Programme,
 Scientific and International Department,
 Santé publique France,
**on behalf of the MobCo group
 (for Mobilisation
 des connaissances,
 or Knowledge Mobilization).**

During the first wave of COVID-19, field data and experience rapidly showed that people living in precarious situations, especially those experiencing homelessness, were disproportionately exposed to the risk of infection and its consequences (mortality, morbidity, physical and psychological sequelae), as well as the pandemic's immediate impact on mental health and social interactions [1; 2].

Several factors contribute to an increased risk of coronavirus infection among these populations: densely inhabited living conditions, difficulties applying preventative measures (i.e. inability to isolate, reduced access to clean water, lack of masks), daily exposure via the need to find food or to earn money in activities not covered by aid measures, and problems accessing health care and rights [2-10].

People experiencing homelessness contend with a number of social, economic and environmental determinants that make them particularly vulnerable to COVID-19 and simultaneously hinder their ability to access health care and prevention services. These determinants include, among others, the lack of a

permanent address, generally insufficient medical coverage and healthcare use, or the low priority of prevention compared to other competing and essential needs [2-11].

Among people living in a precarious situation linked to the absence of a permanent address, vaccination coverage is often lower than in the general population. This is due to various barriers, such as access to and lack of dedicated health services for the homeless, or even personal perceptions and beliefs [12-17].

As the COVID-19 vaccination effort in the general population progressed in early 2021 [18] and the availability of vaccine doses increased, it became clear there was a lack of data concerning people who live in precarious situations. To address this issue, Santé publique France proposed a knowledge-mobilization approach that would combine and analyse different types of knowledge and experiences: successful vaccination strategies implemented prior to the COVID-19 pandemic, results from previous or ongoing research in France, experience gained in the field, and various levels of action carried out by the government and decision-makers in France and abroad. The objective was to explore the challenges surrounding this specific population in order to produce a set of collective definitions that would guide good practices around action, prevention and health promotion, all firmly rooted in current knowledge and field experience. This article provides an overview of several outcomes from the process, an exercise in knowledge co-production whereby more than 120 researchers, stakeholders and decision-makers came

KEY POINTS

Since the autumn of 2020, in the context of the pandemic, researchers, stakeholders and decision-makers have been sharing their knowledge and practices to help people experiencing homelessness better protect themselves from COVID-19. This knowledge mobilization in support of those living in precarious situations is called the MobCo approach. Led by Santé Publique France, the MobCo group provides a framework for knowledge exchange on strategies used to fight COVID-19 in France and abroad. By facilitating new partnerships and centralizing feedback from different regions, the MobCo approach has revealed promising avenues for action. In autumn 2020, MobCo brought together a group of 60 experts and field staff to discuss screening; in May 2021, a group of 120 participants convened to focus on vaccination. Here we provide an overview of MobCo's ongoing work.

together to improve COVID-19 vaccination among people living in precarious situations.

Method

The knowledge mobilization approach used by MobCo (*Mobilisation des connaissances*) was set up by Santé publique France in the autumn of 2020 based on the spiral model of "knowledge transfer", as developed by the Quebec Institute of Public Health (Institut National de Santé Publique du Québec, INSPQ). In May 2021, researchers, stakeholders and decision-makers came toge-

People experiencing homelessness
 Reviewing COVID-19 vaccination knowledge and practices



© Corentin Fohlen / Divergence

ther to discuss COVID-19 vaccination among people experiencing homelessness, bringing theoretical and experiential knowledge on the subject from France and abroad. The objective was to co-build new knowledge on operational strategies that would improve vaccination adherence. In addition, 20 interviews were carried out by researchers from the Bordeaux Population Health team (INSERM – University of Bordeaux U 1219), in conjunction with Santé publique France, during which stakeholders in France and abroad were asked about their experiences and needs regarding COVID-19 vaccination among people living in precarious situations. Wider webinars took place in May and June 2021, followed by remote workshops that focused on specific topics: vaccination intention and adherence; specific characteristics of populations and living environments; tools for health information, education and communication; support services; and actions implemented to vaccinate these groups.

First results

The following keystone strategies were defined as a result of this work.

Being together:

- Through a bottom-up approach that incorporates local stakeholders who have long-standing involvement with very precarious populations;
- Through collaborative actions that include social and medical stakeholders working on the ground, as well as at departmental, regional and national levels;
- Through actions that are guided by a clear framework.

“Reaching out” and “bringing in”: two complementary strategies

- “Reaching out” with mobile teams visiting accommodation centres, associations, food banks, etc.;
- “Bringing in” using either dedicated vaccination centres or vaccination centres for the general public that offer fast-track, easy-access services for people who live in precarious situations (no waiting time, no appointment, separate entrance, support from social or health workers).

Working together:

- Engaging and involving community intermediaries to improve techniques for communicating and distributing information among precarious populations;
- Regarding national coordination for:
 - the weekly distribution of vaccine doses, driven by a departmental-level organization that integrates those who work with precarious populations (associations, federations, social and medical stakeholders) in order to determine the number of doses required in real time;
 - the division of tasks between several stakeholders in order to optimize vaccine awareness and delivery among recipients.

Working with:

- Population-appropriate communications (e.g., dedicated social marketing campaign, tools adapted to the latest specific obstacles and opportunities);
- Tools that are designed to support social workers, health mediators, health professionals and volunteers in communicating with vulnerable people about vaccination;

- A stance that is respectful of every individual’s sociocultural customs.

Temporality:

- Allowing for shifts in vaccination intention and adherence, including vaccine hesitancy, among people living in a precarious situation, who can be influenced by the views of friends and family members, but also by their interactions with trusted stakeholders.

Conclusions and outlook

The MobCo knowledge-mobilization approach provided a methodological framework for knowledge-sharing on precariousness, shedding light on ground-level actions while also stimulating new research and studies. Additionally, it helped initiate a process of consolidation around the activities of research teams working on extreme precariousness and the respective needs of decision-makers and stakeholders working on the ground.

In this way, MobCo supported new and existing partnerships in applied research. For example, Épicentre (Médecins sans Frontières epidemiology and research centre), Médecins du Monde, Samusocial, Interlogement93 and the French Red Cross proceeded to collaborate with the regional health agencies of Île-de-France and Provence-Alpes-Côte d’Azur on the Prevac project¹, which explored COVID-19 vaccination coverage among populations living in precarious situations in Île-de-France and Marseille. The MobCo approach also identified the need for co-constructed and specifically adapted communication, which inspired the production of a monthly FAQ document on COVID-19 vaccination. Launched in December 2021, the newsletter supports professionals and volunteers who work directly with people in precarious situations.

MobCo succeeded in generating a collective overview of the interdependent social and health issues affecting highly vulnerable populations, notably through the collective consultation processes that gathered feedback on vaccination difficulties. Major stakeholders have since implemented concrete actions, such as the emergency number set up by National Health Insurance Fund (CNAM) to streamline communication from partner organizations, and alerts were raised on

specific situations such as unaccompanied minors. The mobilized network demonstrated agility, responsiveness and effectiveness. ■

1. PREVAC: Evaluation of vaccine coverage and success determinants of COVID-19 vaccination programme in very precarious populations Ile-de-France and Marseille, June-December 2021 Final summary report Version 2 - March 2022 Thomas Roederer, Bastien Mollo, Charline Vincent, Ghislain Leduc, Jessica Sayyad, Stéphanie Vandentorren https://epicentre.msf.org/sites/default/files/2022-04/Etude%20PREVAC_Rapport%20SYNTHETIQUE%20Final_4%20avril%202022_reduit_0.pdf

For more information:

- Vandentorren S., Shah J., Richard É., Laporte A., Allaire C., Désenclos J.C. *et al.* *Lutte contre la Covid19 auprès de personnes en situation de précarité en France : partage des connaissances sur les stratégies de vaccination [Protecting very precarious populations in France against COVID-19: knowledge-sharing on screening strategies]*. [Report] Santé publique France, coll. Études et Enquêtes, 2022: 36 p.
- Vandentorren S., Laporte A., Delmas G., Hamel E., Shah J., Allaire C. *et al.* *Lutte contre la Covid19 auprès de populations en grande précarité en France : partage des connaissances*

sur les stratégies de dépistage [Protecting very precarious populations in France against COVID-19: knowledge-sharing on screening strategies]. [Synthesis] Santé publique France, coll. Méthodes, 2021: 12 p. Online: <https://www.santepubliquefrance.fr/maladies-et-traumatismes/maladies-et-infections-respiratoires/infection-a-coronavirus/documents/rapport-synthese/lotte-contre-la-covid-19-aupres-de-populations-en-grande-precarite-en-france-partage-des-connaissances-sur-les-strategies-de-depistage>

● To subscribe to the “Covid Vaccination FAQ” newsletter, send an email to mobco-covid-precarite@santepubliquefrance.fr

REFERENCES

- [1] Longchamps C., Ducarroz S., Crouzet L., Vignier N., Pourtau L., Allaire C. *et al.* Covid-19 vaccine hesitancy among persons living in homeless shelters in France. *Vaccine*, 2021, vol. 39, n° 25: p. 3315-3318.
- [2] Roederer T., Mollo B., Vincent C., Nikolay B., Llosa A.E., Nesbitt R. *et al.* Seroprevalence and risk factors of exposure to Covid-19 in homeless people in Paris, France: a cross-sectional study. *The Lancet. Public Health*, 2021, vol. 6, noh 4: e202-9. Online: [https://doi.org/10.1016/S2468-2667\(21\)00001-3](https://doi.org/10.1016/S2468-2667(21)00001-3)
- [3] Husain M., Rachline A., Cousien A., Rolland S., Rouzaud C., Ferre V.-M. *et al.* *Impact of the Covid-19 pandemic on the homeless: results from a retrospective closed cohort in France (March-May 2020)*. [Research note] *Clinical Microbiology and Infection*. 2020.
- [4] Allaria C., Loubière S., Mosnier É., Monfardini E., Auquier P., Tinland A. “Locked down outside”: Perception of hazard and health resources in Covid-19 epidemic context among homeless people. *SSM - Population Health*, 2021, vol. 15: 100829.
- [5] Adeline B., Durand C., Ledrans M., Schwoebel V., Noel H., Le Strat Y. *et al.* High seroprevalence of anti-SARS-CoV-2 antibodies after the first wave of the Covid-19 pandemic in a vulnerable population in Perpignan, France. [Report] *MedRxiv*, 2021.
- [6] Doctors of the World. *Observatory of access to rights and care in Doctors of the World programs in France. People in precarious situations in the face of the Covid-19 pandemic*. Rapport n° 2020. 2021.
- [7] Van Rùth V., König H. H., Bertram F., Schmiedel P., Ondruschka B., Püschel F. *et al.* Determinants of health-related quality of life among homeless individuals during the Covid-19 pandemic. *Public Health*, 2021, vol. 194, p. 60-66.
- [8] World Health Organization (WHO). *Apart Together survey. Preliminary overview of refugees and migrants self-reported impact of Covid-19*. WHO; 2021. 30 p.
- [9] Hayward S.E., Deal A., Cheng C., Crawshaw A., Orcutt M., Vandrevala T. *et al.* Clinical outcomes and risk factors for Covid-19 among migrant populations in high-income countries: A systematic review. *Journal of Migration and Health*. 2021, vol. 3. 100041.
- [10] European Centre for Disease Prevention and Control. *Reducing Covid-19 transmission and strengthening vaccine uptake among migrant populations in the EU/EEA Key messages*. [Briefing Report] ECDC, June 2021.
- [11] Vèran J.-F., Viot M., Mollo B., Vincent C. *PréCARES Precariousness and Covid-19: Evolution of access to and use of healthcare*. MSF emergency project “Covid-19 and precarious populations” in Île-de-France, France. [Internal report] Médecins sans frontières, 2020.
- [12] Mansor-Lefebvre S., Le Strat Y., Bernadou A., Vignier N., Guthmann J.-P., Arnaud A. *et al.* Diphtheria-Tetanus-Polio, Measles-Mumps-Rubella, and Hepatitis B vaccination coverage and associated factors among homeless children in the Paris region in 2013: Results from the Enfams Survey. *International Journal of Environmental Research and Public Health*, 2020, vol. 17, no. 8: 2854.
- [13] Story A., Aldridge R. W., Gray T., Burridge S., Hayward A. C. Influenza vaccination, inverse care and homelessness: cross-sectional survey of eligibility and uptake during the 2011/12 season in London. *BMC Public Health*, 2014, vol. 14, no. 44.
- [14] Buechler C.R., Ukani A., Elsharawi R., Gable J., Petersen A., Franklin M. *et al.* Barriers, beliefs, and practices regarding hygiene and vaccination among the homeless during a hepatitis A outbreak in Detroit, MI. *Heliyon*, 2020, vol. 6, no. 3: e03474.
- [15] Chauvin P., Simonnot N., Douay C., Vanbiervliet F. *Access to healthcare for the most vulnerable in a Europe in social crisis*. Médecins sans frontières, 2014: 38 p.
- [16] Gallardo K.R. *Understanding factors that impact health behaviors and access to healthcare among youth experiencing homelessness*. [Dissertation] University of Texas School of Public Health, 2020: 139.
- [17] Stein J. A., Nyamathi A. M. Completion and subject loss within an intensive hepatitis vaccination intervention among homeless adults: the role of risk factors, demographics, and psychosocial variables. *Health Psychology*, 2010, vol. 29, no. 3: p. 317-323.
- [18] Guivarch A., Martin E. *Obstacles au rattrapage vaccinal chez les migrants primoarrivants et solutions pour y remédier [Obstacles to vaccination catch-up among newly arrived migrants and solutions to overcome them]*. [Thesis dissertation] Human medicine and pathology, University of Bordeaux, Dumas-02993718, 2020.
- [19] Lemire N., Souffez K., Laurendeau M.-C. *Animer un processus de transfert des connaissances : Bilan des connaissances et outil d'animation [Facilitate a knowledge transfer process: Knowledge assessment and facilitation tool]*. Québec: Institut national de santé publique du Québec, 2009: 69 p.

Dublin, Ireland: individual accommodation for people experiencing homelessness during the COVID-19 pandemic

Interview with Dr Austin O'Carroll,

Clinical lead for the COVID-19 response to homelessness, Dublin, Ireland.

La Santé en action : **How has Ireland facilitated access to housing for people experiencing homelessness?**

Austin O'Carroll: Ireland has taken a number of initiatives in recent years to provide housing for the homeless, including the Housing First programme. However, due to high rents, the process is slow and many homeless people continue to be housed in temporary accommodation centres. Prior to COVID, most people were housed in these centres for at least six months, but a significant minority were housed in shelters and had to seek new accommodation every night. Some were using these overnight shelters for over a year. During the initial COVID-19 lockdowns, we managed to systemize offers of stable accommodation and propose housing for a minimum of six months to all people using night shelters.

S. A.: **How did you protect the most vulnerable people experiencing homelessness during the COVID pandemic?**

A. O'C. The initiative came from two scientists, Professors Al Story and Andrew Hayward, who, confronted by the pandemic, made a new proposal to the British authorities concerning emergency accommodation for homeless people who are at risk of getting severely ill from COVID-19. It consisted

of offering them individual rather than collective housing, which would better protect them against the virus. We adapted their model to Ireland and named these spaces "protection units". The Dublin Regional Homeless Executive, the authority responsible for housing the homeless, opened 240 individual units located either in hotels or in privately rented flats that were vacant due to the health crisis and the collapse of the tourism industry. We also called on humanitarian organizations and their volunteers to find staff to run the units. The criteria for including homeless people in these protection units – mainly age and health status – were developed and then regularly updated using the emerging evidence that people with certain medical conditions were more vulnerable to COVID infection. We then asked each homeless shelter to assess the individual situation of their residents using a vulnerability grid. All residents who already had a single room and access to their own bathroom or a bathroom shared with no more than one other person were considered protected. We arranged for food to be delivered to the rooms of these people. The remaining residents at risk and exposed – those deemed most vulnerable according to the same assessment grid – were given an appointment with the clinical coordinator of the scheme and placed in protection units. Throughout the pandemic, new arrivals to homeless shelters had their situation assessed and the most vulnerable individuals were safeguarded via the protection units. Our street outreach teams carried out the same assessment

KEY POINTS

▣ **At the onset of the COVID-19 pandemic in March, the city of Dublin (Ireland) offered individual instead of collective accommodation to homeless people at higher risk of severe illness from COVID-19. The aim was twofold: to protect them from the virus and to house them while providing access to care and social assistance. First lessons from this experiment.**

on rough sleepers, and the most vulnerable were also placed in protection units.

S. A.: **What do the protection units provide for homeless people?**

A. O'C. We had to make sure that people in isolation would stay in isolation. To ensure this happened, we implemented various measures. Food was delivered directly to secure rooms and in the case of spacious canteens, use was staggered to avoid crowding. Medication, including methadone/buprenorphine, was delivered directly to rooms. For those on opiate substitution therapy, this involved daily distribution. Nursing care for high-risk individuals was provided by a team from the Health Service Executive. Medical care was provided by Safetynet, a specialist service for the homeless funded by the Health Service Executive. Social support was offered by teams specialized in helping the homeless, while counselling services were offered via telephone by the charity Suresteps. Initiation of opiate substitution treatment



© Jeff Gilbert / Alamy Images

was proposed to those using illicit opiates who were not already on a programme. Initiation of benzodiazepine detoxification or maintenance therapy was available to those who were dependent on street benzodiazepines. Specific assistance was offered to alcoholics and users of crack cocaine. Awareness schemes concerning phone scams were also organized.

S. A.: What are the strengths and weaknesses of the protection units?

A. O'C. The strengths of the protection units are multiple. For example, they allow people experiencing homelessness to isolate during the COVID pandemic. A number of organizations lend support to solving this problem. For example, the teams of nurses and doctors provided effective support and good care for addiction management. Many of those placed in protective units went on to obtain their own accommodation, lea-

ving of their own accord. It is believed that the one-on-one support given to them in the protection units provided an opportunity to deal with drug addiction or other problems that previously prevented them from benefiting from independent housing. There was also good atmosphere in many of the protection units. Finally, in January 2021, while the infection rate in the general population of Dublin was 5.5%, it was around 4% among the population of single homeless people in hostels and less than 1% in protection units [1]. The main weakness of this approach proved to be the psychological difficulties experienced by certain residents due to isolation. To combat this, we sometimes allowed "bubbles" where two or three residents could meet. The protection units were specifically intended to safeguard people who were vulnerable to complex coronavirus infection because of their age or health status. At the time, we did not consider

extending it to non-vulnerable groups. However, we are currently examining the effects of this COVID policy in terms of the outcomes among those who received individual housing with associated health and social support. Increasing the availability of individual housing for people experiencing homelessness could be recommended in this context and beyond. ■

Interview by Jalpa Shah.

REFERENCE

- [1] O'Carroll A., Duffin T., Collins J. Harm reduction in the time of COVID-19: Case study of homelessness and drug use in Dublin, Ireland. *The International Journal on Drug Policy*, 2021, vol. 87: 102966. DOI: <https://doi.org/10.1016/j.drugpo.2020.102966>

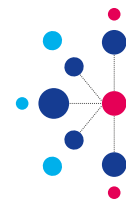
COVID-19 pandemic

Individual accommodation for people experiencing homelessness in Dublin



RÉPUBLIQUE
FRANÇAISE

Liberté
Égalité
Fraternité



Santé
publique
France

Angoissée,
énervée
ou déprimée ?

Parles-en.

Parles-en à un adulte de confiance

OU

par message à un professionnel sur

filsantejeunes.com

Anonyme et gratuit



REF. AFFICHE : DT06-326-22A - BABEL



Ref. Revue : NS12-459-22R