

City profile

City PROFILE: “Barcelona: The experience of 40 years of health reports, a health for all policies tool”

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ABSTRACT

This article profiles the city of Barcelona, focusing on public health and its 40-year history of Health Reporting, and how these reports help to implement evidence-based policies.

The first section outlines the city's main characteristics, including its challenges and the description of public health in the city. Then we follow with an overview of the 40 years of health reports in the city, explaining the evolution through the years. Finally, we present five examples of how evidence on health and health impact of policies has been used to inform and drive public policies of housing, climate change, transport and road safety, socioeconomic inequalities, and COVID-19 inequalities.

Forty years after its inception, the Barcelona Health Report stands as a milestone in a long tradition of accountability to society regarding the health situation and its determinants in the city. This long-standing initiative reflects a continued political commitment to creating spaces for debate, transparency, and evidence-based policy-making. Also, it shows Barcelona's political commitment to promoting health equity. The lessons learned from this experience can provide valuable insights for other cities, particularly in Southern Europe, looking to enhance their health governance and policy frameworks through evidence-based approaches.

1. Introduction

A broad definition of health is provided by the World Health Organization (WHO): “Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity.” This broad definition is closely linked to the conditions of daily life for the population. As the majority of the global population lives in urban areas, these play a crucial role in promoting a healthy society.

One way to advance public policies is through the framework of “Health for All Policies” (Greer et al., 2022) which highlights the co-benefits of policies for both the health sector and other sectors. Improved population health can positively influence other policies, while health impacts can also be leveraged to promote those policies.

The WHO Healthy cities approach has the objective to put health

high on the political and social agenda of cities and to build a strong movement for public health at the local level. It strongly emphasizes equity, participatory governance and solidarity, intersectoral collaboration and action to address the factors or determinants of health. The proposal of WHO to develop a healthy city has 20 steps being the third of them the development of a city health profile (European Healthy Cities Network, 2022). These profiles are a quantitative and qualitative description of the health of citizens and the factors which influence their health. They identify problems, propose areas for improvement and are an important step for evidence-based public policies for promoting health and wellbeing. Other uses of city health profiles are monitoring progress, as well as promoting accountability/transparency of city performance towards healthier cities. City health profile development is an important instrument for local governments to set priorities and develop

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interventions related with health for all policies and address health determinants (WHO South-East Asia, 2024). Cities participating in the network of WHO Healthy Cities, as is Barcelona, are committed to develop city health profiles (Webster & Lipp, 2009; WHO South-East Asia, 2024).

Although the importance of evidence-based policy making, there are few examples of a long term contribution in urban areas, and only since late 90's such as London, New York and Toronto. The experience of Barcelona of a city health reporting through 4 decades is an excellent example of how evidence-based policy can advance.

Taking into account the importance of health reporting, this article profiles the city of Barcelona, focusing on its 40-year history of Health Reporting and how these reports helped to implement evidence-based policies. After outlining the city's main characteristics, we present an overview of the evolution of the 40 years of Barcelona's Health Reports. Then we show examples of how this evidence has been used to inform and drive public policies.

2. Main characteristics of Barcelona city

The city of Barcelona is located on the northeastern coast of Spain, in Southern Europe (Fig. 1). It is the capital and largest city of the autonomous community of Catalonia, as well as the second-most populous municipality in Spain. The total area is 10,137 ha. Barcelona has a Mediterranean climate, with mild winters and very warm summers.

Barcelona originated as a Roman colony named Barcino in the 1st century BCE. Over the centuries, the old city of Barcino expanded through successive walled enclosures. By the 19th century, the city had become unsustainable, primarily due to population growth and the resulting lack of sanitation. As a result, it became necessary to tear down the medieval walls to allow the city to expand beyond them. This urban transformation was a pioneering project in the evolution of modern urbanism. Ildefons Cerdà proposed a city structured around wide streets and green spaces (Julia, 2019). He designed a grid with a strict geometry of parallel and perpendicular streets, only interrupted by large avenues that crossed the layout diagonally. This project also incorporated nearby villages into the city of Barcelona. Although not implemented exactly as Cerdà envisioned, his design still defines much of Barcelona today (Pallares-Barbera et al., 2011).

In the 20th century, Spain experienced a civil war (1936–1939), followed by a long dictatorship led by Franco (1939–1975). During the dictatorship, all public policies dramatically regressed, including health policies, especially when compared to the period of the Second Republic (1931–1936). After the dictator's death and the restoration of democracy, it was necessary to rebuild the institutions. In Barcelona, during those years, most of governments were led by the Socialist Party, either governing alone or in coalition, although there were periods when the Catalan Nationalist party (2011–2015) and the new left-wing party “Barcelona en Comú” (2015–2023) governed alone or in coalition with the Socialist Party. Since 2023, the Socialist Party has once again been

governing the city.

In 2023, Barcelona had 1.7 million inhabitants, with 21.1 % of the population aged 65 or older. In 2000, less than 10 % of the population was born outside of Spain, a percentage that increased to 31.3 % by 2023 (Fig. 2). This represents a rapid demographic shift and a new situation for the city in the 21st century (Barcelona Municipal Data Office, 2023). Barcelona is located within a metropolitan area with a total population of 3.3 million inhabitants. This ‘greater Barcelona’ shares an intense flow of commuting, transport links, economic relationship and other important infrastructure under the governance of different local authorities.

Referring to work-related statistics, Fig. 3 shows the evolution of the activity rate, which has increased significantly, particularly among women, with 59.9 % being active in 2023. Three-quarters of the city population aged 16–64 are employed (with more men than women). Of those, more than 80 % work in the service sector, primarily in trade, restoration, and public services such as health, education, and social services. Over the last decade, Barcelona has become attractive to workers in the new information technology sector with high purchasing power who settle in the city centre. The service sector linked to tourism has also increased with precarious and low-value jobs for low- and medium-skilled workers who settle on the outskirts of Barcelona. The unemployment rate has fluctuated over the years, in 2023 it was below 10 % (Fig. 4) (Barcelona Municipal Data Office, 2023).

2.1. The main challenges facing the city

Today the main challenges of the city are as follows:

- Social inequalities and poverty.** As in other urban areas Barcelona has socioeconomic inequalities in health (Fig. 5). Income inequalities, measured by the Gini index, have decreased since the pandemic, reaching 32.3 in 2023, but are still higher than in 2006 (30.1), a fact that shows the lasting effect of the economic crisis. Poverty indicators also remain high, with 2 out of 10 families experiencing material poverty, with an upward trend in recent years (Porcel et al., 2024).
- Housing:** In Spain, housing prices are primarily driven by the market, and public housing is almost non-existent. In Barcelona, as in other large cities, buying or renting a home has become very expensive, reducing affordability over the years (see the section “Evidence to policies”) (Fig. 6) (Pareja-Eastaway & Sánchez-Martínez, 2017). Despite regulatory efforts, large property holders seek alternatives, such as offering short-term rental units, to maintain high rental prices (Mazorra Rodríguez, 2024).
- Tourism:** Tourism has grown steadily over the years. Overnight stays increased from less than 8 million in 2000 to more than 30 million in 2022 (Barcelona Municipal Data Office, 2023). Tourism brings economic resources to the city, but it drives up housing prices, leads to gentrification and occupies and change the appearance of public

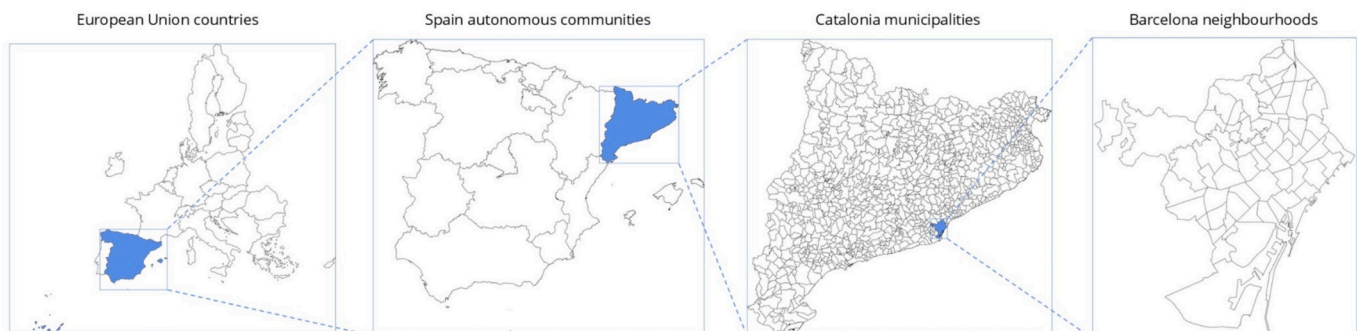


Fig. 1. Map of Europe with Spain shown, map of Spain with Catalonia shown, map of Catalonia with Barcelona shown and map of Barcelona.

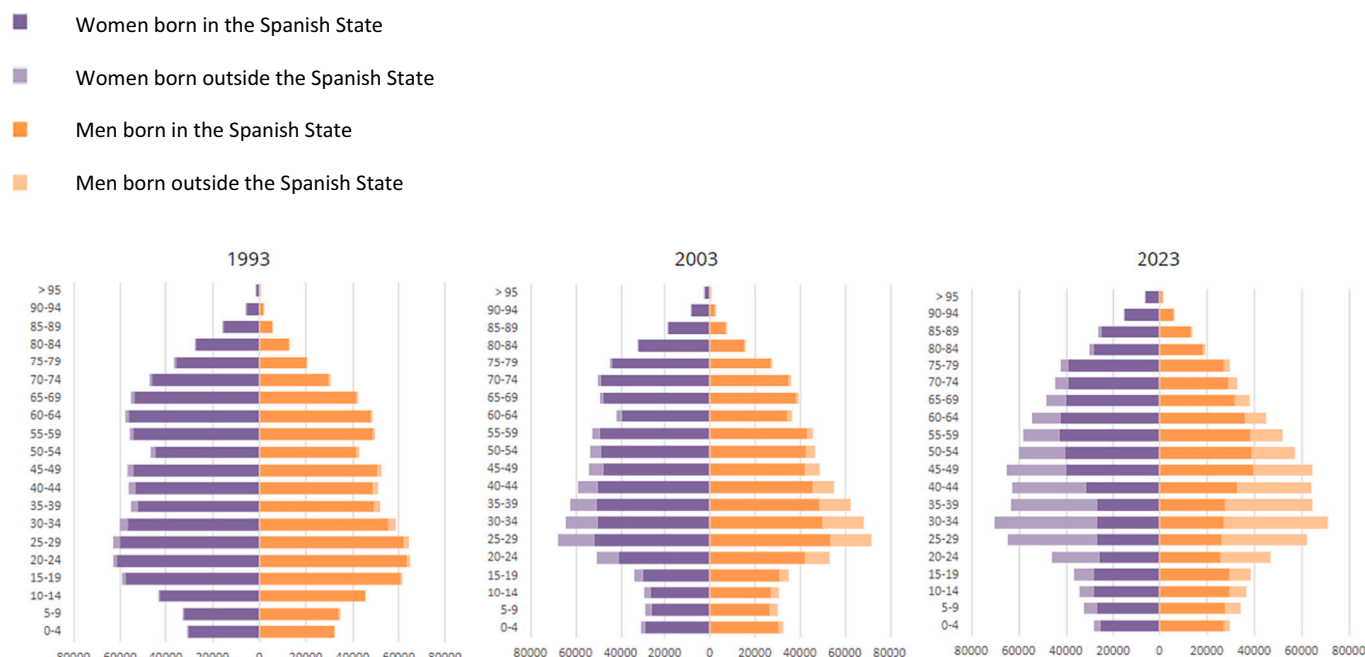


Fig. 2. Evolution of population pyramids according to place of birth and sex. Barcelona, 1993, 2003 and 2023.
Source: Municipal Register of Inhabitants of Barcelona. Barcelona City Council.

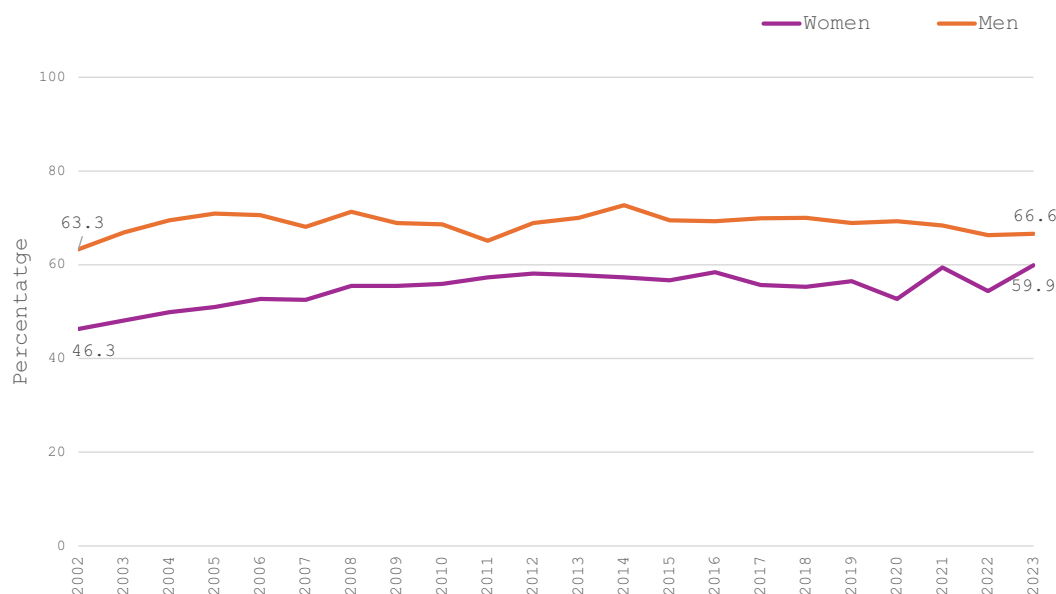


Fig. 3. Evolution of the activity rate by sex. Barcelona, 2002–2023.
Source: Active Population Survey (EPA), National Statistics Institute (INE).

space. For these reasons, we believe that tourism has reached its limits in Barcelona (Blanco-Romero et al., 2018).

- d) **Air quality and climate change:** Air pollution in Barcelona impacts health and represents an economic burden (Font-Ribera et al., 2023). Through the years the situation has improved but still stronger measures to reduce Particulate Matter (PM_{2.5}) and Nitrogen dioxide (NO₂) levels are needed (Fig. 7). Achieving each WHO air quality interim targets would avoid deaths each year. Furthermore, one of the major environmental challenges facing the city of Barcelona is climate change (see the section “Evidence to policies”).

2.2. Public health in Barcelona

Spain has a National Health System that provides nearly the entire population with access to health services, such as Primary Health Care and Hospital Care. Public health, defined as the science of protecting and improving the health of people and their communities, represents less than 2 % of the total health budget. Overall, public health focuses on safeguarding the health of entire populations. In Spain, public health responsibilities are mainly shared between the Autonomous Communities (regions of Spain) and the municipalities.

However, as Spain's second-largest city, Barcelona has a unique public health structure. The *Agència de Salut Pública de Barcelona* (ASPB – Public Health Agency of Barcelona) is responsible for managing the

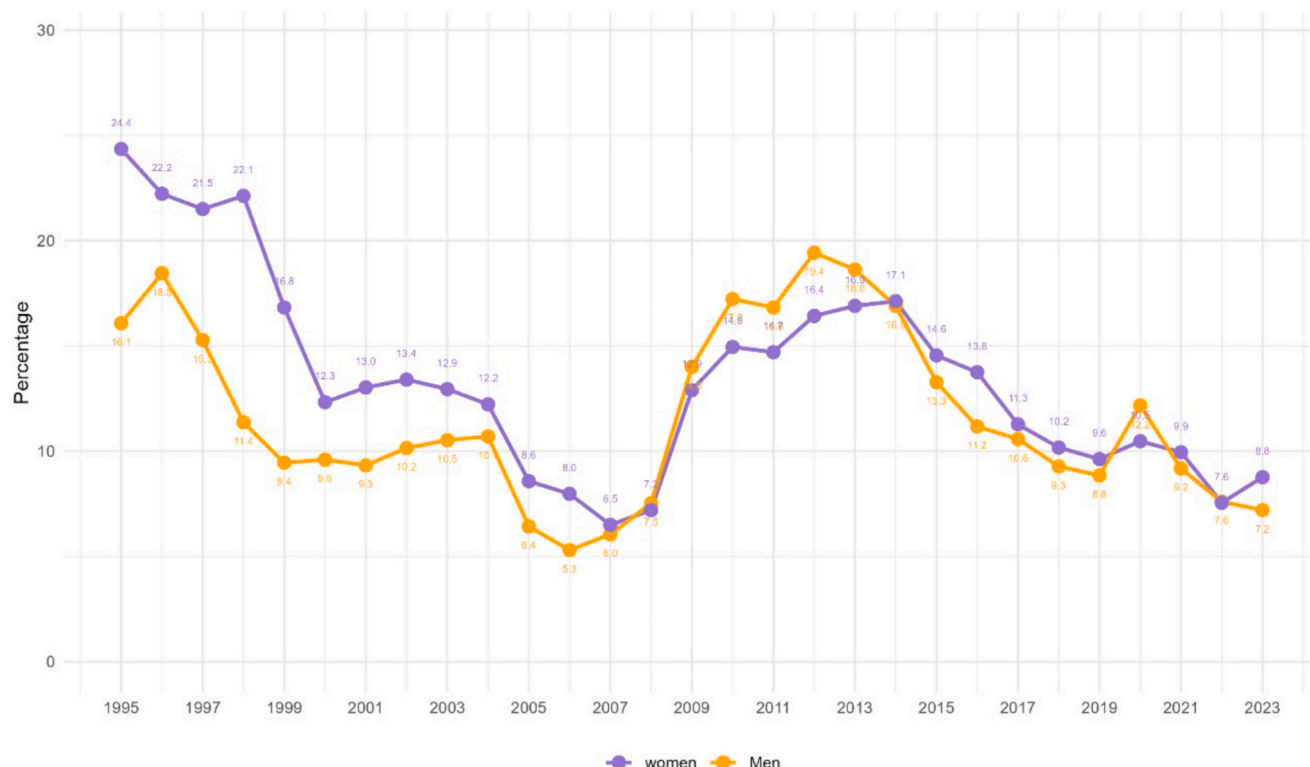


Fig. 4. Evolution of the unemployment by sex. Barcelona, 1995–2023.

Source: Active Population Survey (EPA), National Statistics Institute (INE). Own preparation based on the Barcelona Data portal.

city's public health. It holds a dual role, assuming the responsibilities of both the Autonomous Community of Catalonia for Barcelona and the municipality. This structure is a significant advantage for Barcelona, as the ASPB consolidates all public health functions under a single organization. The ASPB was established as an agency in 2003, but its origins trace back to the late 19th century when it operated as several institutes. (Consorci Sanitari de Barcelona, 2002).

The main public health functions of the ASPB are based on WHO functions (World Health Organization, 2024). These functions include:

- Public health surveillance and monitoring of population health, its determinants, and health threats.
- Health protection against environmental hazards, such as air and water quality, climate change, and pests. This also includes addressing food safety and security by monitoring and conducting inspections of food establishments.
- Disease prevention and early detection of both communicable and noncommunicable diseases, including infectious diseases, chronic conditions, mental health issues, and injuries.
- Health promotion and well-being through actions targeting the broader determinants of health and health inequities, such as community health initiatives and school-based interventions.
- Strengthening community engagement and social participation to enhance health and well-being.
- Public health research, evaluation, and knowledge development to support evidence-based practices.
- Multisectoral planning: The ASPB follows two strategic global plans: the *Health Plan* and the *Municipal Plan*, both of which outline key objectives to be achieved in the coming years.

All these functions are carried out within the appropriate institutional structures of the ASPB, which includes a dedicated public health workforce of 317 employees and a budget of 39 million euros for 2024. It is important to note that the ASPB is not responsible for curative health

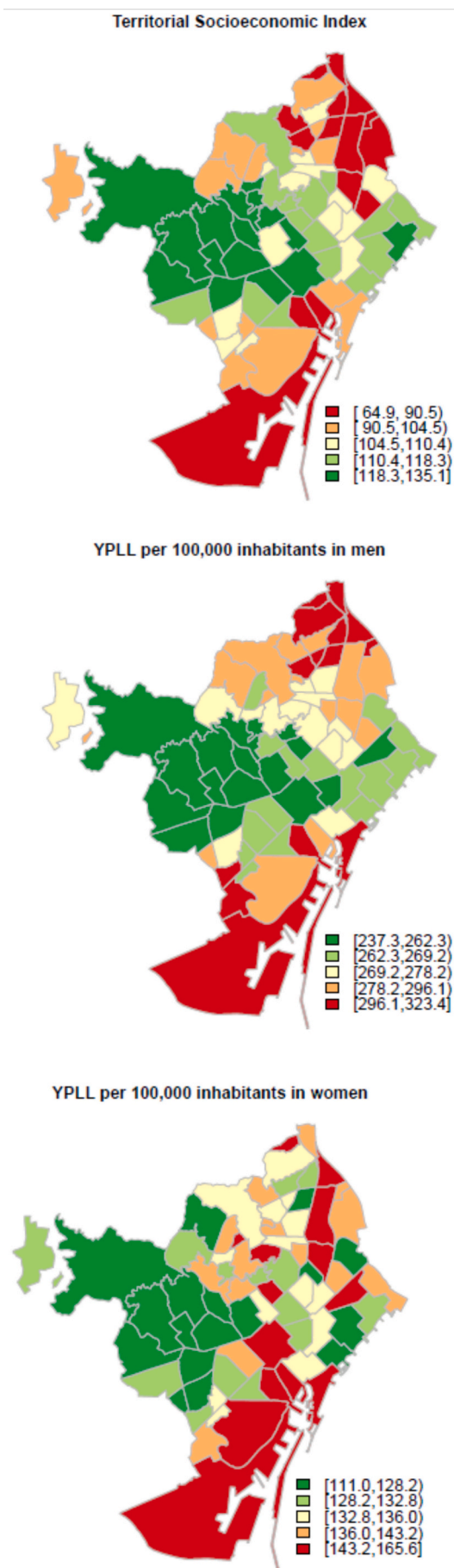
services, such as primary health care or hospital care.

The first of the described functions (public health surveillance and monitoring) can be achieved through city health profiles, such as the Barcelona Health Report. In the next section, we explore the experience of these reports over four decades.

3. The 40 years of the Barcelona Health Report

Reliable health information is essential for designing effective public health policies. By monitoring key health indicators, cities can better respond to challenges, reduce inequalities, and protect their populations. In this context, ASPB has a long commitment to publish each year a Health Report of the city presenting health data and its determinants. In 2024, the 40th Health Report was published. In the first report of 1984 (Ajuntament de Barcelona, 1985), the City Councillor for Health of the Barcelona City Council, explained: “its aim is to introduce the tradition of periodically reporting on the health status of the inhabitants of Barcelona. We want to do this for two main reasons. First, to make the health status of the population known and to make it a responsibility of the entire municipality. With this, we hope to promote a general debate, which is very necessary due to the influence of various aspects of urban development on personal health... Secondly, because our legal-health system is about to be modified, and the functions and responsibilities of the municipality must be reviewed.” It is worth remembering that at that time, we were in the first decade of democracy after Franco's long dictatorship, a period where health policies should be reinstated. The early reports helped foster a new era of transparency and public engagement in health governance.

Therefore, the start of annual health reports for the city represented a very important advance because to understand the city's current situation is essential to launch health-related policies. In that first report, socio-demographic data, health status, risk factors, and healthcare services in the city were already described, and a chapter on health inequalities was included. Despite the limitations of the health information systems at the time, the report already presented various



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Fig. 5. Territorial Socioeconomic Index and smoothed rates of Years of Potential Life Lost (YPLL) per 100,000 inhabitants by neighbourhoods grouped in quintiles by sex. Barcelona, 2021.

Note: Red colour is the worst situation and green colour the best one. (For interpretation of the references to colour in this figure legend, the reader is referred to the web version of this article.)

Source: a) Xavier Bartoll, Laia Palència, Maria José López, Catherine Pérez, Carles Ariza, Mercè Gotsens, Vanessa Puig-Barrachina, Lucía Artazcoz, Maribel Pasarín, Davide Malmusi, Carme Borrell. Health and Policy Impact Observatory. 1 Nov. 2024, <https://dades.aspb.cat/obsip/>. B) The Territorial Socioeconomic Index (IST). 1 Nov. 2024, <https://www.idescat.cat/pub/?id=ist>.

indicators, most notably those obtained from Barcelona's first health survey, which was also the first in Spain, conducted in 1983. This survey was pioneering and served as an example for similar surveys in other parts of the country. All reports are available at the municipal website (<https://bcnroc.ajuntament.barcelona.cat/jspui/handle/11703/84288?offset=20>).

Over the years, the health report has evolved. Some of the aspects that must be mentioned are the following:

3.1. Report format and content

In the early years, the reports did not have a fixed structure. The sections on citizen health, health-related behaviours, and healthcare services were always included, but other sections changed over the years. Relevant topics from the year were almost always introduced. The 2003 report marked a significant change, after reviewing reports from other countries, defining a more fixed structure ("Who we are," "How we live," and "Our health," followed by some thematic sections). In 2019, another change was made, using new design tools and defining new sections: "Physical Context," "Socio-economic Context," and "Health," following the urban area conceptual framework (Borrell et al., 2013). Several years included monographic chapters of relevant public health issues of the year before, appendices with district data and brief more accessible summary reports for public distribution.

Some of the aspects covered can be seen in the following Figures ordered by its main sections:

Physical context:

- Evolution of air pollution (Fig. 7): The Figure shows how air pollutants have been decreasing through the years although we still are above WHO guidelines.

Socio-economic context:

- Evolution of unemployment by sex (Fig. 4): This indicator had a cyclic pattern, with increases in the 1990 and again during the financial crisis of 2010.
- Evolution of housing prices (Fig. 6): Like in many other major cities, housing prices have been steadily increasing over the years (compared to 2000).

Health:

- Evolution of self-perceived poor health by social class and sex (Fig. 8): this indicator has a stable evolution being higher for women and less privileged social classes.
- Evolution of poor mental health by country of birth and sex (Fig. 9): Poor mental health increased after 2011 being prevalence higher for women and those of low-income countries.
- Evolution of tuberculosis by sex (Fig. 10): tuberculosis has a pattern of decreasing through the years.
- Evolution of daily tobacco consumption by social class and sex (Fig. 11): The consumption was higher for men in the last century. It has been decreasing for both sexes and the pattern by social class changed over the years.

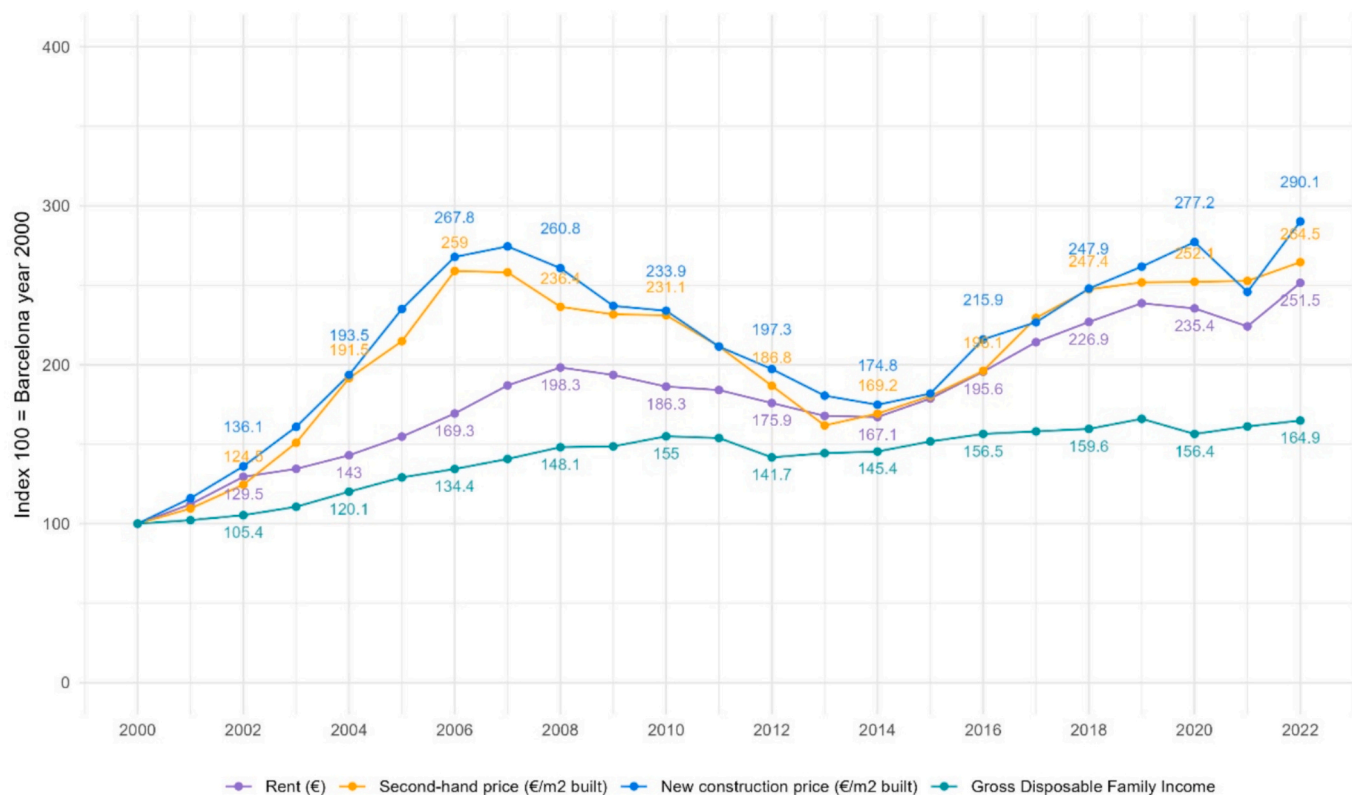


Fig. 6. Evolution of average house prices and Disposable Family Income. Barcelona, 2000–2022.

Source: Adapted from La salut a Barcelona 2023. Barcelona: Public Health Agency of Barcelona, 2024.

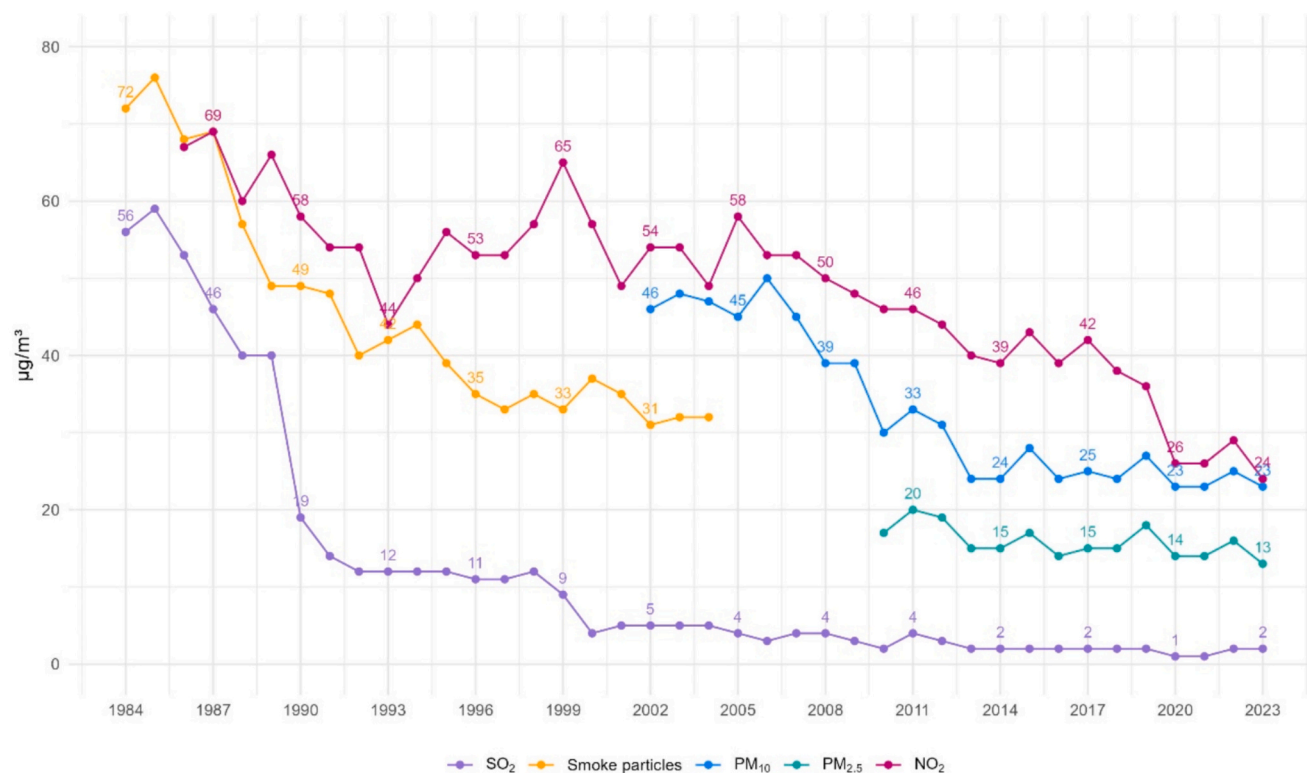


Fig. 7. Evolution of the annual average of SO₂, particulate matter (PM₁₀, PM_{2.5}), and NO₂ (µg/m³). Barcelona 1984–2023.

Source: Adapted from La salut a Barcelona 2023. Barcelona: Public Health Agency of Barcelona, 2024.

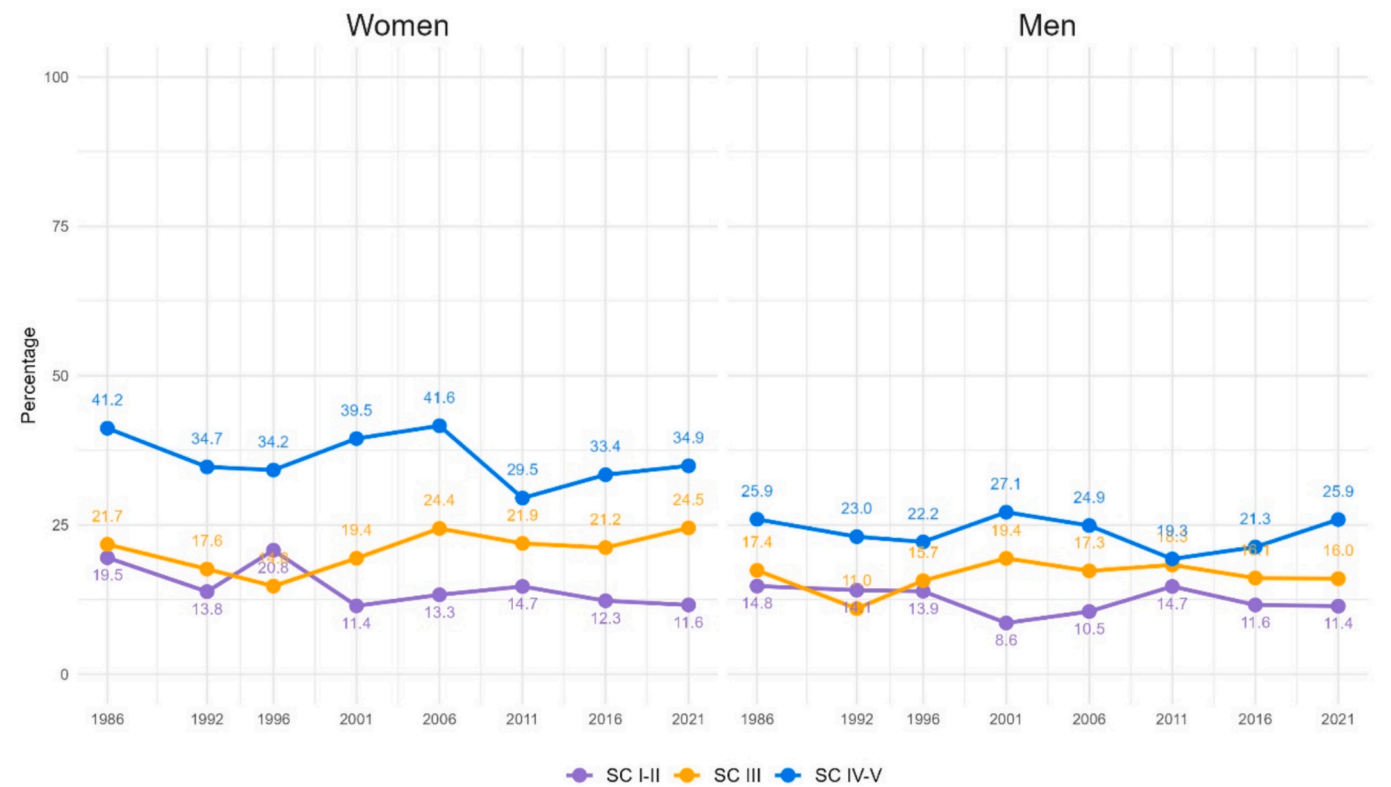


Fig. 8. Evolution of poor self-perceived health by social class and sex. Barcelona 1986–2021.
Source: Adapted from La salut a Barcelona 2021. Barcelona: Public Health Agency of Barcelona, 2022. Note: SC: Social class. Social classes I and II are the most advantaged, while IV and V are the least advantaged.

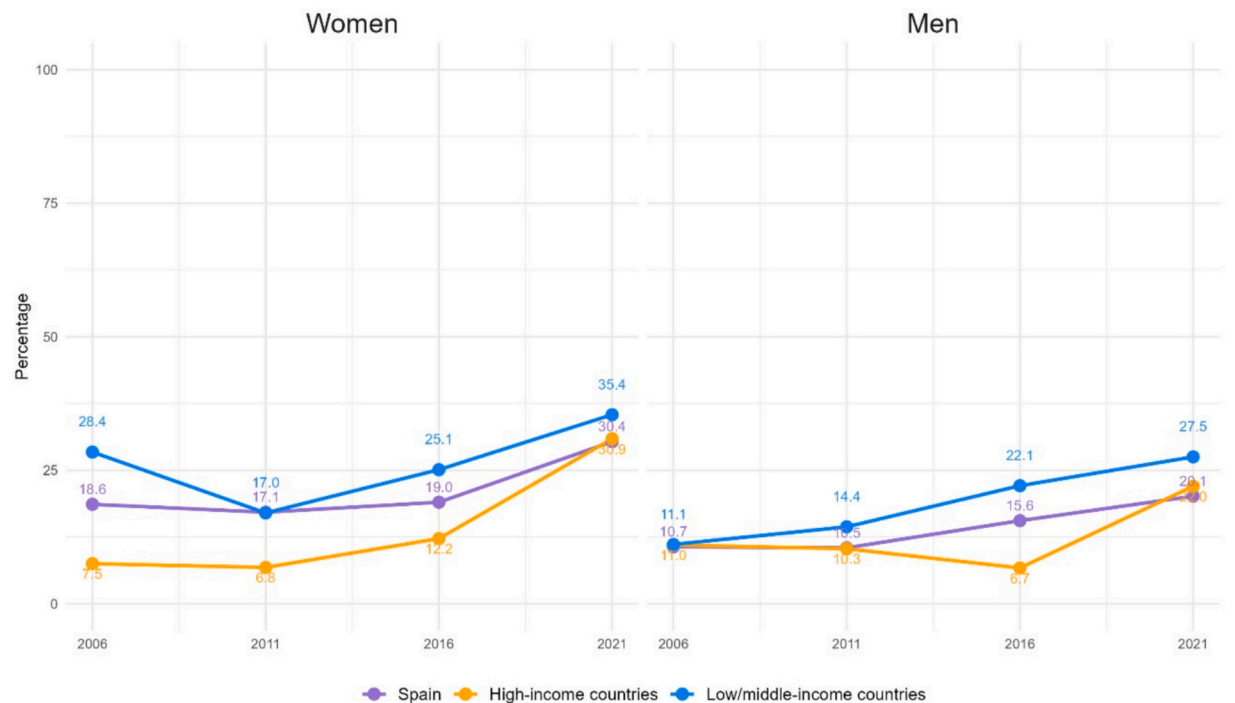


Fig. 9. Evolution of poor mental health by country of birth and sex. Barcelona 2006–2021.
Source: Adapted from La salut a Barcelona 2021. Barcelona: Public Health Agency of Barcelona, 2022. Note: Country of birth has been grouped according to the World Bank classification based on countries' income levels.

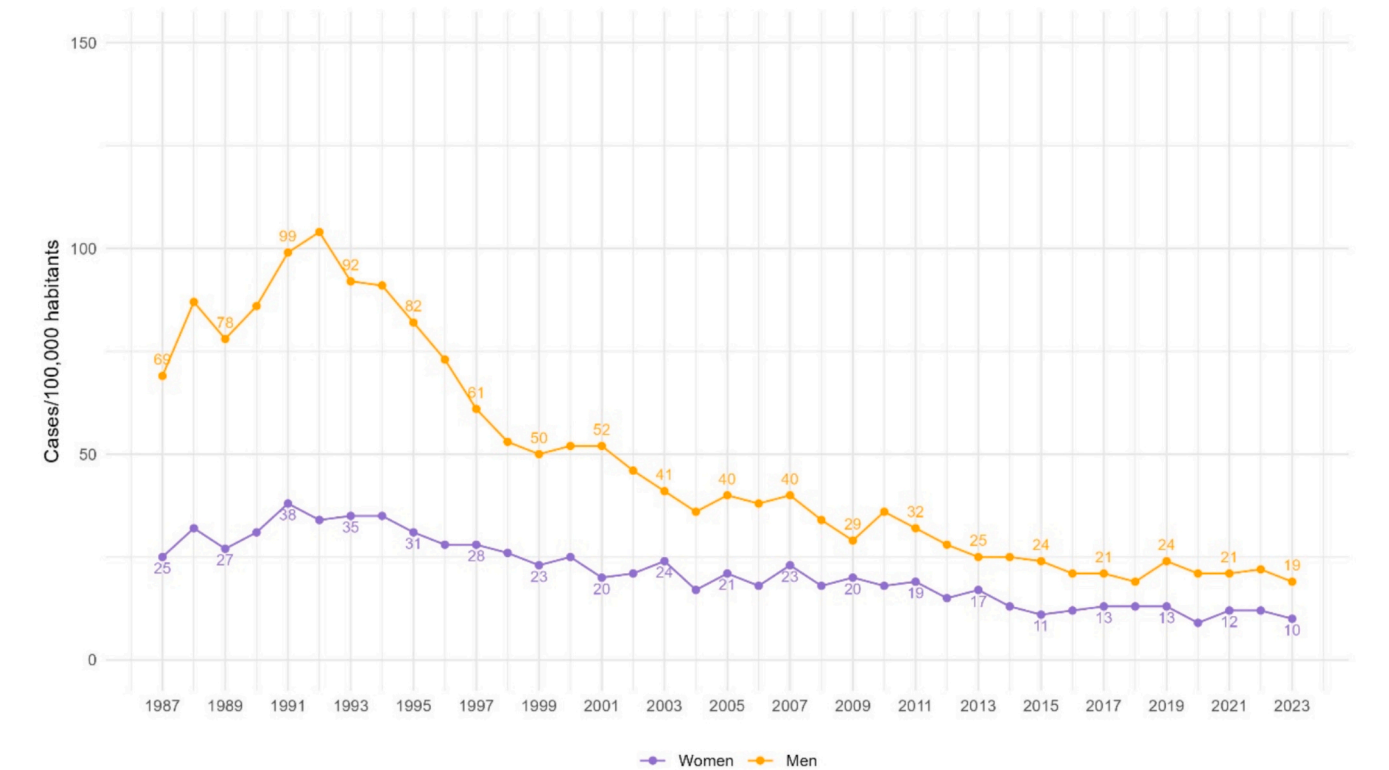


Fig. 10. Evolution of tuberculosis incidence rate by sex. Barcelona 1987–2023.
Source: Adapted from La salut a Barcelona 2023. Barcelona: Public Health Agency of Barcelona, 2024.

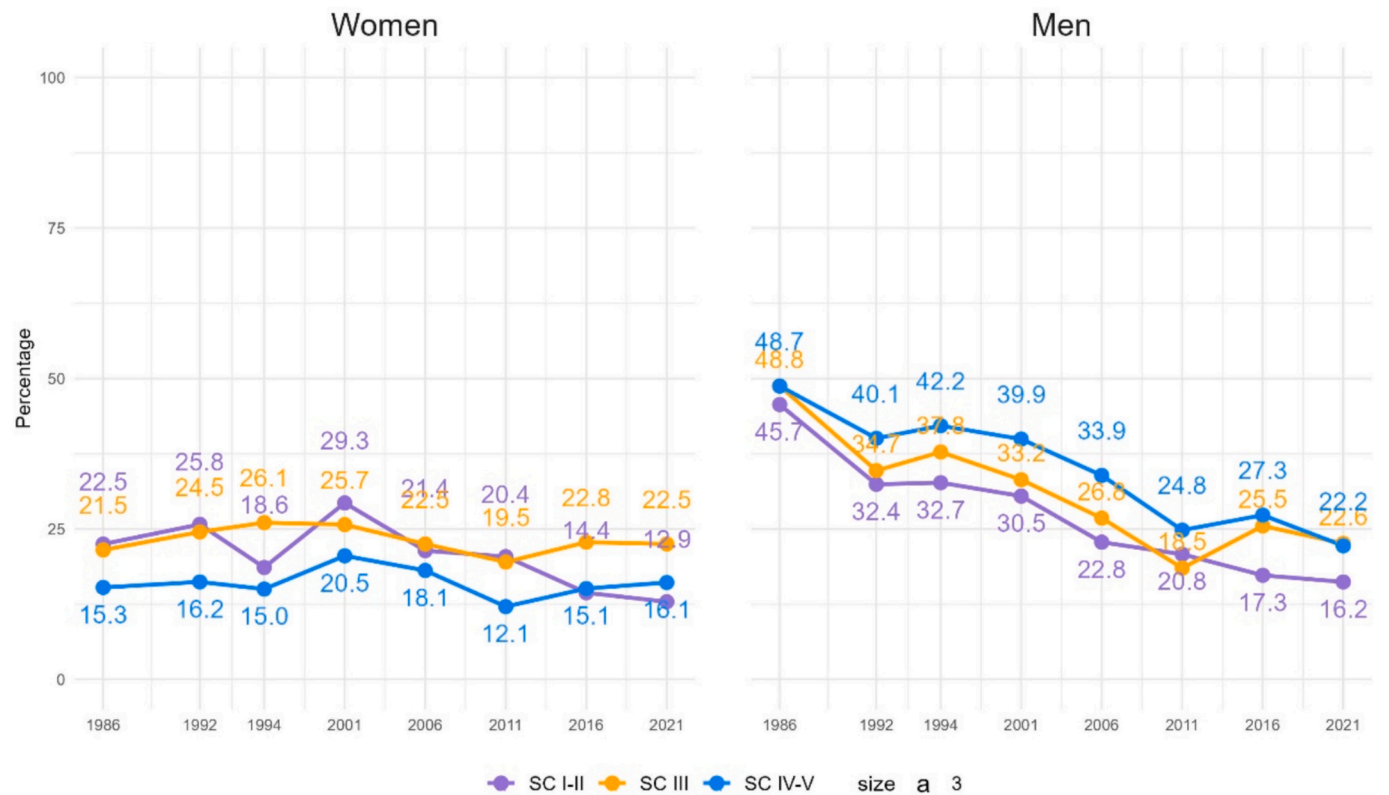


Fig. 11. Evolution of daily tobacco consumption by social class and sex. Barcelona 2006–2021.
Source: Adapted from La salut a Barcelona 2021. Barcelona: Public Health Agency of Barcelona, 2022. Note: SC: Social class. Social classes I and II are the most advantaged, while IV and V are the least advantaged.

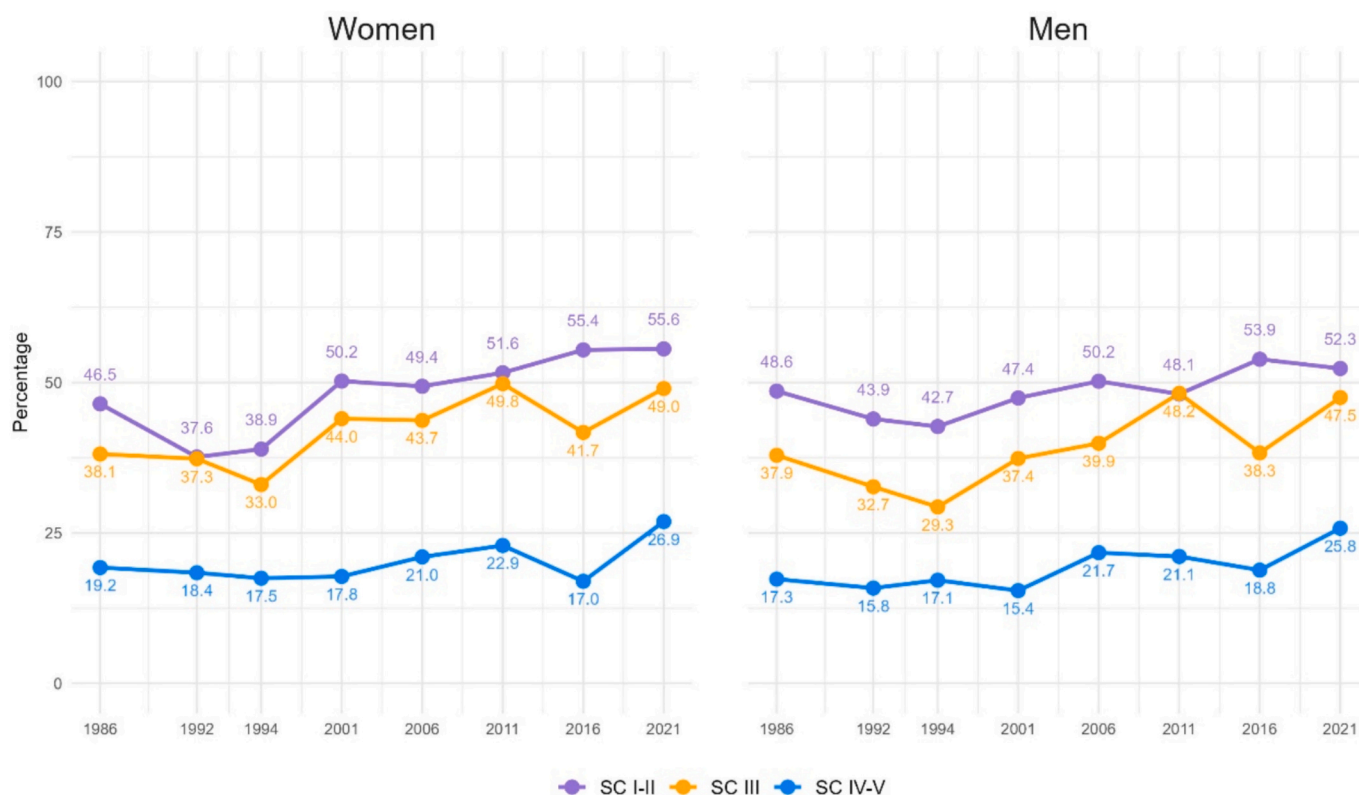


Fig. 12. Evolution of double health insurance coverage by social class and sex. Barcelona 2006–2021.

Source: Adapted from Bartoll-Roca X, Pérez K, Artazcoz L. Report of Results from the 2021 Barcelona Health Survey. Barcelona: Public Health Agency of Barcelona, 2021. Note: SC: Social class. Social classes I and II are the most advantaged, while IV and V are the least advantaged.

- Evolution of double health insurance coverage by social class and sex (Fig. 12): People who pay a private insurance (although they have the public insurance) is related with social class, percentages are higher for privileged social classes. The percentages have been increasing through the years.

3.2. Specific topics covered

The reports have been used to highlight public health issues of each moment and the actions taken. In the 1980s, important topics such as AIDS, soybean asthma outbreaks and opioid drug addiction were described. Later, many other topics were included, such as air pollution, climate change, some communicable diseases (tuberculosis, COVID-19 and others), mental health, sexual and reproductive health, food establishments, vaccination coverage, drug action plans, health plan monitoring, or health impact assessment of policies. The health reports help trace the history of public health in Barcelona over the past 40 years.

3.3. Political debate

In the early years (until 1989), the report had a political debate nature, where Joan Clos, health councillor of Barcelona in that period, wrote a long preamble evaluating the health situation and healthcare services in the city and making proposals for progress. During those years, the approval of the Local Government Law or the General Health Law was pending, and the report aimed to bring relevant issues that these laws could address to the forefront. Over time, the reports evolved to incorporate technical and formatting improvements, making the content more accessible to different sectors and the general population, with the goal of promoting citizen participation and intersectoral collaboration.

3.4. The social determinants of health and health inequalities

Although the reports mentioned the determinants of health, it was not until the 2003 report that a conceptual framework was introduced to understand the factors related to health. In the early years, Dahlgren and Whitehead's concentric circle model (Dahlgren & Whitehead, 1991) was used, and later, the specific model for urban areas (Borrell et al., 2013) was introduced. This model is updated here (Fig. 13) and contains the next sections:

Political, economic, social and planetary context: These contexts are crucial, as they influence all health determinants. These determinants are, therefore, inevitably shaped by global and local dynamics. Consequently, these contexts interconnect with all other aspects of the conceptual framework, modelling the power structures within society.

Governance: As a concept it recognizes that urban power exists inside and outside the government institutions. It refers not only to government policies (local, regional, national), but also to other actors, like the market and the civil society, who play important roles in the governance of cities (UN-Habitat, 2002). An example of government policy is urban planning, which is primarily managed by local governments. Urban planning determines public infrastructure (such as communications and sewerage systems), general regulations (regarding buildings, the use of public spaces, and transport mobility), and facilities within neighbourhoods (such as sports facilities, healthcare centers, schools, markets, and libraries). The market also plays a role, with sectors like food, construction, automotive, and technology industries influencing government policies through lobbying and promoting their own agendas, which can sometimes conflict with the goals of a healthy and sustainable city. For instance, Spain has a significant automotive industry, and

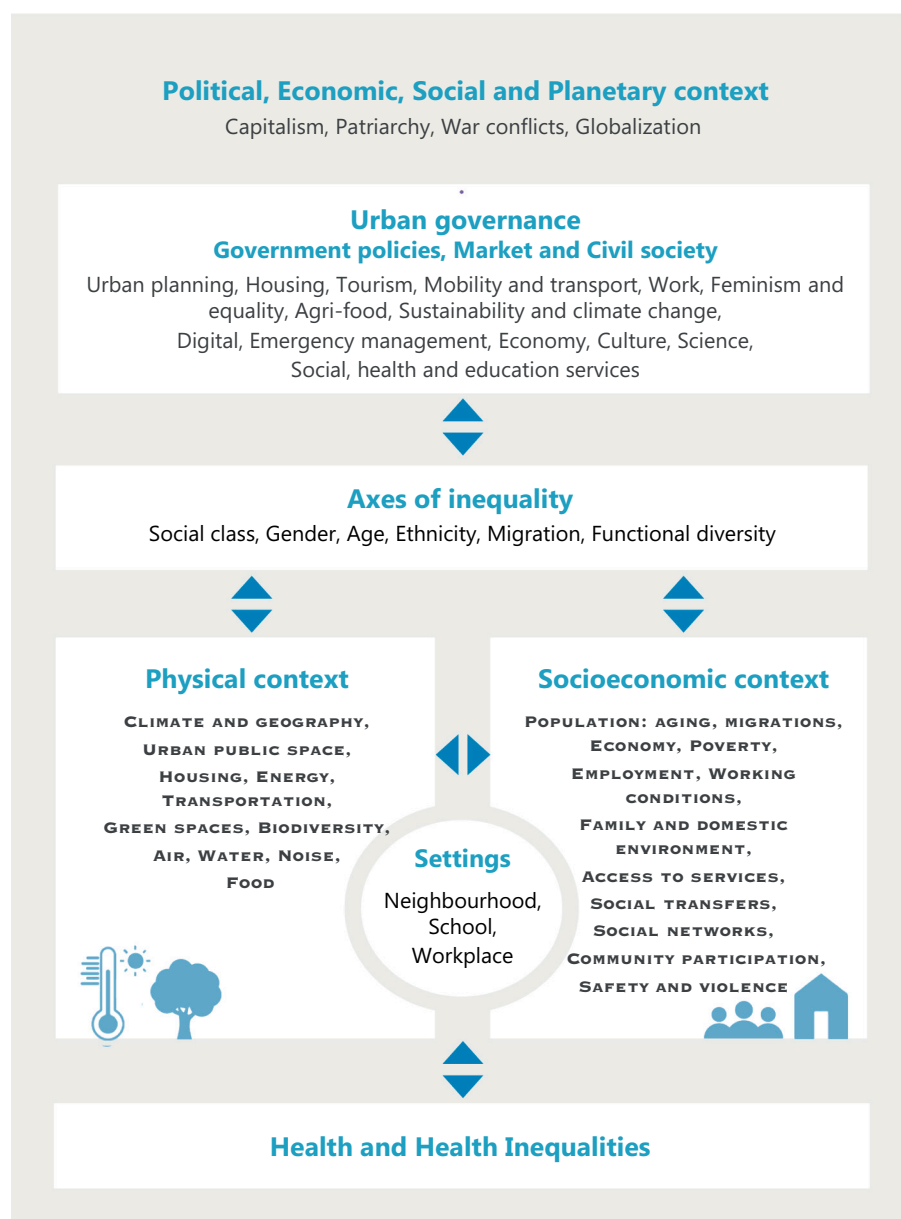


Fig. 13. Health determinants of urban areas.

Source: Updated from Borrell et al. (2013).

promoting this sector can be at odds with efforts to encourage active mobility, such as walking and cycling. Lastly, civil society, through community groups and unions, plays an important role. Their active mobilization and advocacy can influence the political agenda.

Axes of inequality: Social stratification is determined by the different axes of inequality, such as social class, gender, age, ethnicity or race, migration status, functional diversity, among others. These axes determine hierarchies of power in society that have an impact on the opportunities for good health resulting in health inequalities. In fact, these systematic inequalities are the result of the different living conditions, opportunities and health-related resources that people have depending on their axes of inequality, which translates into poorer health among socially less favoured groups, such as people from disadvantaged social classes, people living in socioeconomically deprived neighbourhoods, women and transgender or diverse gender identity individuals, people with diverse bodies and functions or people born in low-income countries. These axes of inequality interact in a

phenomenon known as intersectionality, generating a multiplier effect of the axes in the inequalities (Krieger, 1999). Moreover, the determinants of this conceptual framework may change according to the different axes of inequality.

Physical context: The physical context refers to climate and geography as well as other physical factors. The urban public space is the result of urban planning as it has been stated above and it is reflected in aspects such as green and blue spaces, traffic calming streets, public transportation, etc. (Seyedrezaei et al., 2023). Housing is a very important determinant of health and health inequalities mainly for most part of the population and specially the most disadvantaged. Energy and transportation are also important determinants. All the factors mentioned can influence environmental characteristics, as for example water and air quality, access to green areas, and noise pollution, that are important determinants of health in urban areas. Finally, access to healthy food (availability and price) is included in this section.

Socio-economic context: Socio-demographic factors are included in this section such as the rise of migration and the aging population. Also, aspects such as economic factors and poverty, employment and working conditions and family and domestic environment. Access to services (education, health care, care services for families, etc.) and social transfers (pensions, unemployment benefits, etc.) are important (Borrell et al., 2012b). Although most of these factors are the responsibility of the country's government, cities have the capacity to influence them. For example, city governments can try to improve living conditions of the poor population by redistributing the income collected through city taxes or distributing income pensions to people under the poverty threshold. Other aspects included are social networks, community participation and safety and violence.

Settings: A setting is where people actively use and shape the environment, thus it is also where people create or solve problems relating to health. Examples of settings include neighbourhoods, schools and workplaces. The good physical and socio-economic contexts are related to healthy settings. In this sense, actions to promote health through different settings can take many forms as for example: access to public spaces to carry out physical activity (such as green areas or sport facilities) or actions to promote citizen safety, social networks and participation (Seyedrezaei et al., 2023). The characteristics of the physical and socioeconomic contexts influence the residential segregation of the population implying that people of disadvantaged social classes or migrants from low-income countries, tend to live in neighbourhoods with lower property values and with concentration of people from the same origin (Galea & Vlahov, 2005).

Health and health inequalities: The last section of the framework refers to health and health inequalities. Physical as well as mental health outcomes are related to all the factors mentioned above and they have an unequal distribution in the society based on the different axes of inequality. It is important to note that health inequalities in urban areas are dynamic and evolve over time in response to social, economic, and political changes. Significant events, such as economic or health crises, reshape the health landscape of cities, creating both opportunities and exacerbating existing inequalities while also revealing new vulnerabilities.

Health inequalities have been treated differently over the four decades in the health reports. Geographic inequalities have been shown most years. Inequalities by social class or socio-economic position have been highlighted, especially when health survey data were available. As for gender, the reports have progressively included data broken down by men and women, rather than just the total population. Finally, it is worth noting that some reports addressed the increase in foreign immigration and its impact on health inequalities.

3.5. The evolution of information systems

Considering the explanatory framework of Fig. 13, the challenge has been to provide data supporting physical and social health determinants, health indicators, and social inequalities in health. However, no single information system integrates all these aspects. Data sources come from different areas and vary over time, including census data, air quality, housing, noise, meteorology, and living conditions surveys. Routine health indicator data from ASPB is obtained through health surveys in the general population (household survey), secondary schools, or specific groups such as pregnant women, as well as registries of infectious diseases. External health data sources include mortality and natality registries, occupational health data, police records on road traffic injuries, and morbidity and mental health data from health services. Over time, these systems have evolved. Initially, data were available only at the district or neighbourhood level, whereas today, for some datasets information can be analysed for small areas, such as census tracts or even street-level locations.

Several dashboards have been developed to ensure data accessibility, always integrating health determinants and, whenever possible, social health inequalities. These include dashboards on adult and youth health surveys, territorial data by neighbourhood, district, or primary care facility, the health and policy observatory, health inequalities surveillance, road traffic injury indicators, and heat-related health impacts, among others.

Despite these advancements, several challenges include integrating the systems, ensuring frequent updates for critical sources to prioritize interventions, regularly obtaining morbidity data from health services, and developing a centralized dashboard. Database integration remains an issue, as some datasets, such as mortality and census data, have been successfully linked, while others are still difficult to integrate. Efforts are underway with technical teams to address these limitations. Access to healthcare data is another challenge, as the ASPB is not responsible for healthcare services, making it difficult to obtain relevant morbidity data. Expanding access to these data would enhance surveillance systems. Finally, the timeliness of data remains a concern, as certain information, such as mortality statistics, should be available in real time rather than at year-end. To address this, alternative sources like burial records are used to enable weekly monitoring.

3.6. Participation of different agents

The report has been prepared and written by individuals from various ASPB departments. Professionals from other institutions have also contributed to the report to varying degrees, including, specifically, City Council professionals and those affiliated with health services.

3.7. Dissemination

Dissemination is important for raising awareness of the report. The health report is presented in political settings, such as the City Council plenary or other forums like the Social Rights Commission. Most years, a press conference has been held, which usually receives good media coverage. Furthermore, there is broad dissemination to health professionals. To reach the general population, the report is presented in various participatory forums with Barcelona residents, and since 2013, it has also been published in a brief, accessible format. The ASPB website and social media have become key tools for disseminating the health report. Occasionally, scientific articles or opinion pieces in the media have also been published.

3.8. Use in public policy

The health report is a tool used by the city's main plans. Thus, Barcelona's Health Plans have described the health situation of the population and its determinants using data from these health reports. Municipal Action Plans have also used this metrics to define priority issues. Additionally, other sectoral policies have also taken the health reports into account as well as scientific evidence generated by ASPB researchers, facilitating the goal of improving health in sectors beyond health, as promoted by the Health for All Policies approach (Greer et al., 2022).

4. From evidence to policies

In this section, we present five examples of how the evidence generated by the ASPB and presented in the Health Reports can be used to implement or enhance public policies.

4.1. Housing and health

4.1.1. Evidence

Housing is widely recognized as a critical social determinant of health with its effects varying according to factors such as gender, social

class, geography, migration status and ethnicity, among other dimensions of inequality (Borrell et al., 2012a). As mentioned above, housing in Barcelona presents a significant public health challenge, including issues of affordability and stability, the quality of the housing stock—such as energy poverty—and changes in neighbourhoods driven by broader urban dynamics. These factors collectively impact residents' well-being (Marí-Dell'Olmo et al., 2017; Novoa et al., 2014).

One of the most pressing challenges is housing instability and affordability problems that have emerged over the past 20 years, driven by a widening gap between household incomes and housing costs (Mazorra Rodríguez, 2024; Pareja-Eastaway & Sánchez-Martínez, 2017). This imbalance has structural roots in the Spanish housing system (Consejo General del Poder Judicial, 2023) and was severely exacerbated by the 2008 subprime mortgage crisis. Initially, the housing crisis affected households with mortgages, but from 2013 onwards, its impact shifted to the rental market. Since 2008, more than 40,000 households have been evicted. More broadly, in 2023, 44.8 % of rental households now spend over 40 % of their income on housing. Furthermore, housing affordability and stability problems are particularly severe in lower-income neighbourhoods and among vulnerable population groups, such as those from less privileged social classes and immigrant communities, reflecting the trend towards polarized urban models, which reproduce in urban space the differences observed in the social structure (Mazorra Rodríguez, 2024). Different studies conducted in Barcelona (Vásquez-Vera et al., 2016, 2019) and shown in the Health Reports have revealed significant negative impacts of these housing conditions on physical and mental health (Fig. 14). Moreover, these health effects are often compounded by other forms of insecurity, such as precarious employment and food insecurity (Carrere, Vásquez-Vera, et al., 2022), further worsening health outcomes among affected populations.

Housing quality is another key factor affecting health. In Barcelona, inadequate housing conditions include problems such as the lack of elevators, poor insulation, or insufficient heating or cooling systems, particularly in lower-income neighbourhoods. Conditions that foster energy poverty—defined as the inability to maintain a comfortable indoor temperature—result in cold and damp homes in winter, despite the generally warm climate, and excessively hot indoor temperatures in summer. Energy poverty in Barcelona is currently more prevalent during the summer months, leading to an increase in physical health problems,

such as cardiovascular and respiratory diseases, and mental health problems among affected residents, both in adults (Oliveras et al., 2020) and children. Some associations of adverse health problems in adults are illustrated in Fig. 15.

4.1.2. Policies

The ASPB plays a notable role in generating evidence to guide decision-making and advocacy efforts. This evidence, developed in collaboration with housing rights movements, was fundamental in the approval of Law 24/2015 (*Observatori DESC and Plataforma d'Afectats per la Hipoteca*, 2015), aimed to improve housing affordability and combat energy poverty, providing crucial support for low-income households and marginalized communities. Despite its unanimous approval by the Catalan Parliament, the law encountered major obstacles, including a three-year suspension by the Spanish Constitutional Court. This suspension hindered the full implementation of measures to protect against mortgage over-indebtedness and evictions, thereby limiting the law's effectiveness in addressing the housing crisis (Delgado et al., 2022).

Another notable initiative is the Intermediation Service for People in the Process of Evictions and Occupancies (SIPHO). SIPHO coordinates efforts among local authorities, social services, and housing rights groups to prevent evictions and offer alternative housing solutions. Its goal is to combat homelessness and protect vulnerable tenants through debt mediation and legal support. From 2014 to 2022 SIPHO has assisted over 31,000 individuals (Ajuntament de Barcelona, 2023).

Barcelona has also adopted long-term strategies to stabilize the rental market and control speculative practices, though the shortage of social housing remains a challenge. Social housing constitutes less than 2 % of Barcelona's total housing stock, significantly lower than in other European cities (Barcelona Municipal Data Office, 2023).

To enhance living conditions, especially in older buildings in low-income areas, the city has launched rehabilitation programs focused on improving thermal insulation, upgrading electrical systems, and addressing structural issues. These programs aim to reduce health risks associated with poor housing conditions. A previous study showed the impact of energy efficiency on mortality reduction (Peralta et al., 2017).

Additionally, the city has tackled energy poverty through Energy Advisory Points, which provide personalized advice and financial

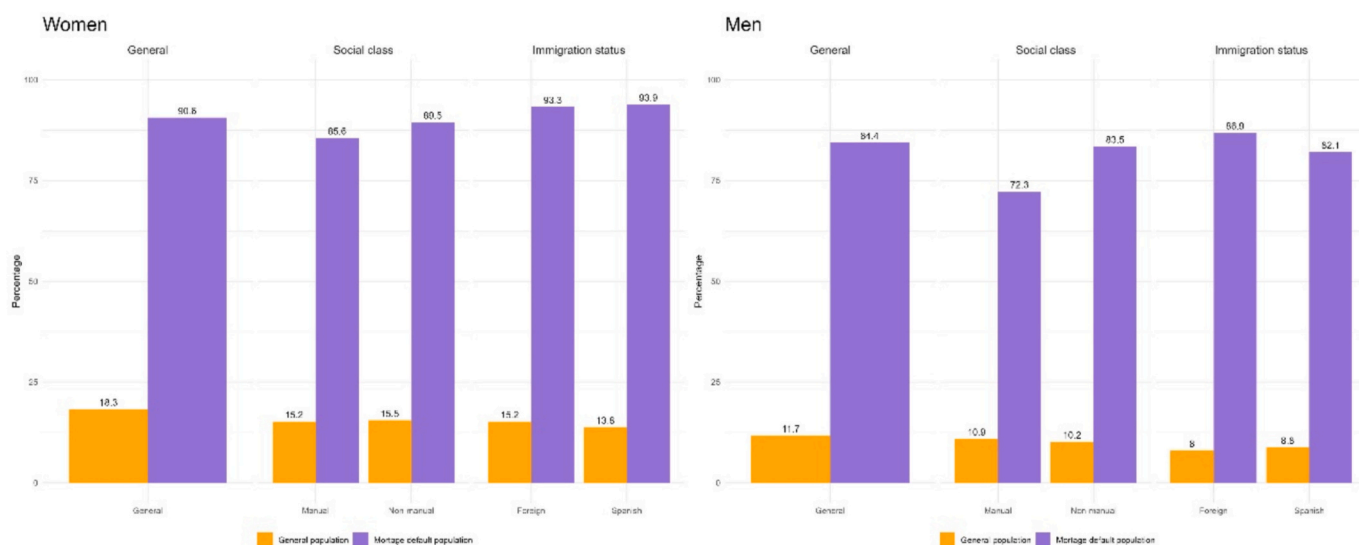


Fig. 14. Prevalence of poor mental health among people affected by mortgages and the general population stratified by immigration status, social class and sex. Barcelona, 2014.

Source: Adapted of Vásquez-Vera, H., et al. (2016). Foreclosure and Health in Southern Europe: Results from the Platform for People Affected by Mortgages. *Journal of Urban Health: Bulletin of the New York Academy of Medicine*, 93(2), 312–330. Note: Adjusted prevalence ratios for poor mental health calculated using Poisson regression models with robust variance, adjusted for age.

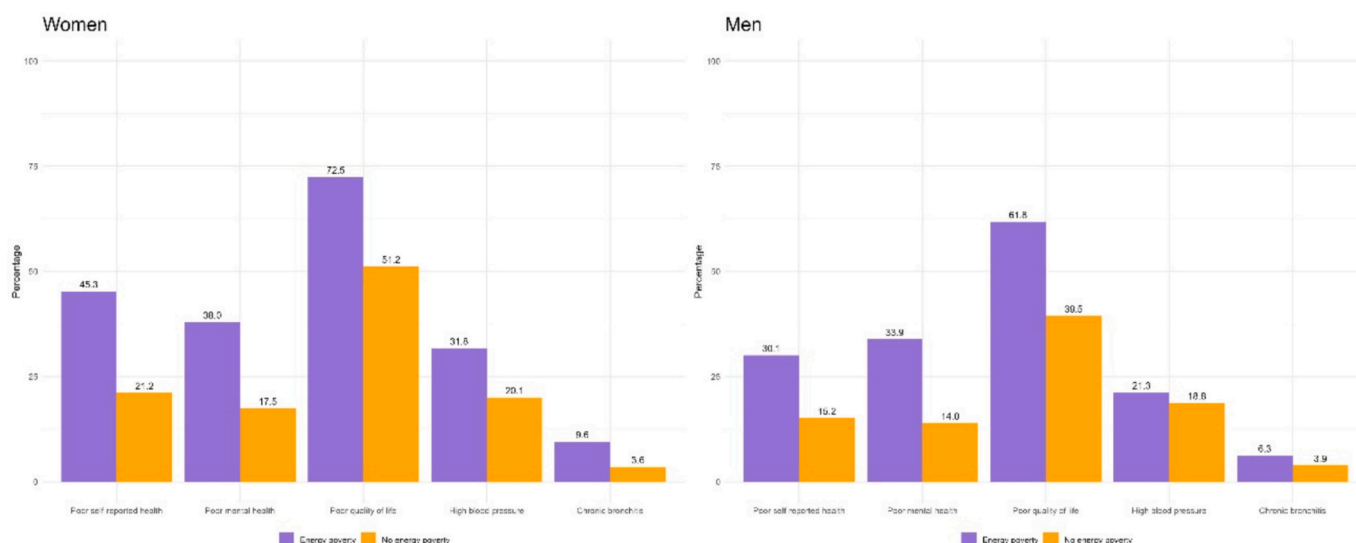


Fig. 15. Prevalence of health conditions indicators among people with and without energy poverty, stratified by sex. Barcelona, 2016.

Source: Adapted of Oliveras, L., et al. (2020). The association of energy poverty with health, health care utilisation and medication use in southern Europe. *SSM - Population Health*, 12, 100665. Note: Adjusted prevalence ratios for health conditions calculated using Poisson regression models with robust variance, adjusted for age and social class.

support for energy-efficient upgrades. This program has been evaluated and shown to be effective in reducing energy poverty and improving well-being (Carrere, Belvis, et al., 2022). These efforts help to reduce energy consumption and maintain healthy indoor temperatures, contributing to a more sustainable and equitable housing system.

In summary, the ASPB has made important efforts in addressing the housing crisis giving support to legislative and targeted interventions. Although progress has been made, continued efforts are essential to expand affordable housing and guarantee to all residents and particularly vulnerable populations, safe and secure homes.

4.2. Climate change and impact on health

4.2.1. Evidence

Climate change is a reality driven by human activity, intensifying

extreme weather events, harming ecosystems as well as human health. We are facing one of humanity's most significant and complex challenges, which poses substantial threats to public health (Intergovernmental Panel on Climate Change, 2022). Cities are at the forefront of this issue, as they are major contributors to greenhouse gas (GHG) emissions. The impacts of climate change on health are unevenly distributed, both globally and within European populations (Deivanayagam et al., 2023).

In Barcelona, public health services have actively addressed the impacts of climate change. ASPB has developed a conceptual framework that examines the determinants and effects of climate change on health and health inequalities (Mari-Dell'Olmo et al., 2022). This framework differentiates between structural determinants, such as socio-economic and political contexts, and intermediate determinants, including energy, mobility, and agri-food systems, all of which significantly contribute to GHG emissions. It also highlights the health impacts of

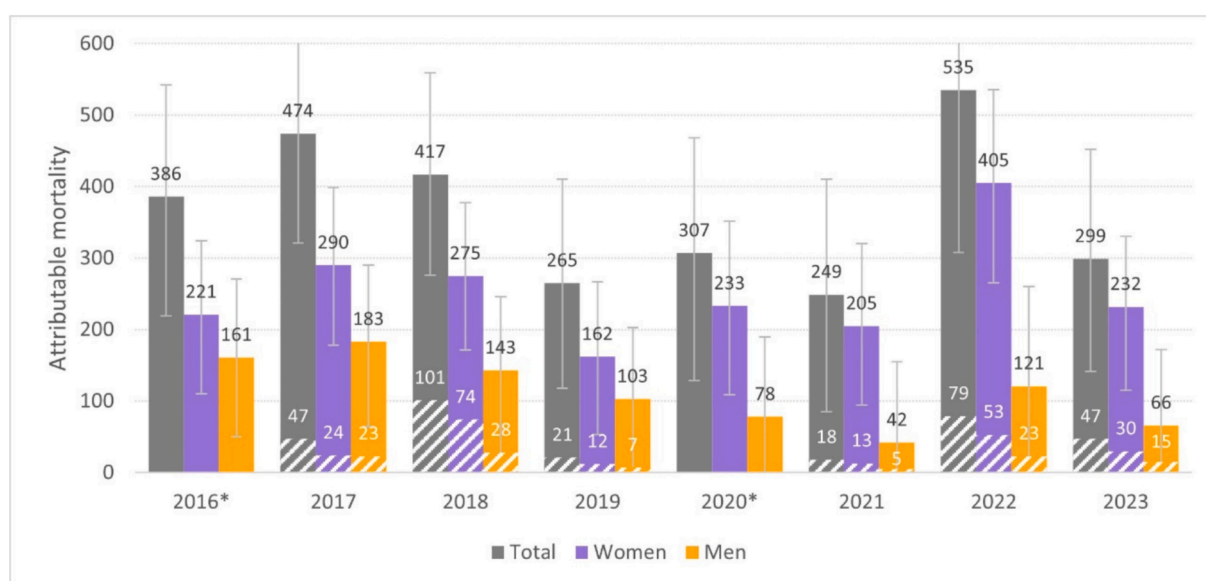


Fig. 16. Annual evolution of attributable mortality to heat and intense heat, by sex. The proportion of heat-related mortality occurring on days of intense heat (temperatures above 34 °C) is represented with white lines. Barcelona, 2016–2023.

Note: * In the years marked with an asterisk, no days of intense heat were detected.

climate change in the city, along with the associated environmental and social consequences. Furthermore, it considers the varying vulnerabilities of individuals and groups and identifies mitigation and adaptation policies that can offer co-benefits for health. Lastly, it stresses the importance of integrating a climate justice perspective into all actions.

One of the major challenges facing the city of Barcelona is the rising temperatures. The increasing frequency and intensity of high temperatures directly impact people's health by impairing the body's ability to regulate internal temperature, potentially leading to heatstroke. These events can also cause or exacerbate diseases such as cardiovascular and respiratory conditions and may even result in death. Furthermore, the health effects of heat vary across multiple axes of inequality, including age, gender, social class and geography. Evidence shows that the risk of mortality during intense heat increases by 50 % (Oliveras et al., 2024). The risk of death from high temperatures is higher for women and for individuals aged 75 and older (Marí-Dell'Olmo et al., 2019). Between 2016 and 2023, more than 250 deaths annually are attributable to excessive heat (Fig. 16). The majority of these deaths occurred among the elderly, particularly women.

Another challenge facing Barcelona is the increase in vector-borne diseases. Increased human mobility, combined with more favourable climatic conditions, contributes to the emergence of vector-borne diseases. This is particularly important for the tiger mosquito (*Aedes albopictus*), which is widespread in the region and relies on humans as its primary reservoir. The tiger mosquito first established itself in Europe in 1979 and has led to the emergence of autochthonous cases and outbreaks of non-endemic diseases, such as chikungunya fever, dengue, and Zika in countries like Italy, France, or Spain (Lillepold et al., 2019). Climate change directly affects several factors that promote the spread and proliferation of the tiger mosquito. Moreover, extreme weather events such as heavy rainfall, floods or droughts can create new habitats or become critical hotspots for the transmission vector-borne diseases.

Fig. 17 illustrates the number of dengue, chikungunya, and Zika cases in Barcelona from 2019 to 2023. A significant drop in cases occurred during the COVID-19 pandemic, when travel was heavily

restricted. All detected cases have been imported by travellers returning during the viraemic phase. To date, no local transmission has been detected in the city.

4.2.2. Policies

Barcelona approved its Climate Plan in 2018, outlining strategies and actions for both mitigating and adapting to climate change. In response to new scientific evidence, the city later declared a climate emergency, prompting more decisive action by accelerating, reinforcing, and introducing new measures. The plan pays special attention to the health impacts of climate change, with a marked focus on health and quality of life. It also addresses health inequities, prioritizing vulnerable groups and integrating a climate justice perspective (Ajuntament de Barcelona, 2021). There are several examples of actions related to heat and protecting citizens: Energy Advisory Points, a shade plan, and climate shelters. In the case of climate shelters in schools, evaluations have shown positive health effects, such as reducing the feeling of heat and improving the well-being of children.

Another example of interventions addressing the health effects of heat is the Operational Plan for Preventing the Health Impacts of Heat (POCS) by the Government of Catalonia (Agència de Salut Pública de Catalunya, 2024). In Barcelona, it is implemented in collaboration with various stakeholders, including the Barcelona Health Consortium (responsible of health services), the City Council, and the ASPB. The plan includes specific measures to mitigate extreme heat events and provides monitoring and support for individuals most vulnerable to heat.

In the case of vector-borne diseases, Barcelona is a leading example in implementing risk reduction protocols and adopting a One Health approach, which integrates human, environmental, and animal health information to manage risks in a collaborative, multidisciplinary, comprehensively and effective manner. The ASPB implements the protocol for arbovirus surveillance and control in Catalonia and carries out mosquito surveillance and control in areas where viraemic cases of diseases transmitted by the tiger mosquito are found. Other mitigation and adaptation measures include continued surveillance and control of

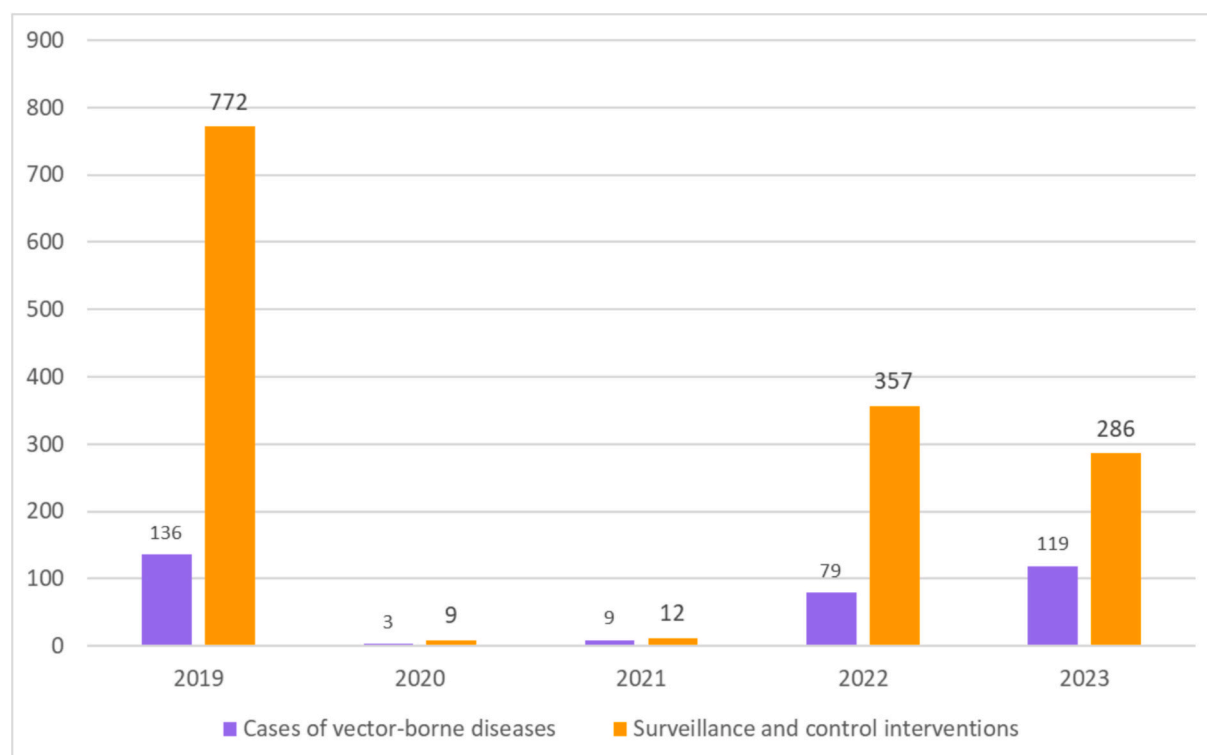


Fig. 17. Number of cases and entomological interventions resulting from the arrival of viraemic travellers in the city. Barcelona, 2019–2023.

areas at risk of mosquito breeding in the vector activity period (April–November). Some activities are public information and awareness campaigns, such as the “A casa teva” (“Door to Door”) project; educational workshops in schools and infrastructure improvements that can accumulate water such as sand sewers, aimed at reducing breeding areas in public spaces. These initiatives have been successfully implemented in Barcelona, yielding positive results (Montalvo et al., 2022).

We conclude that the evidence of the health impact of climate change in Barcelona has facilitated to adopt the health for all policies approach and consequently has supported the implementation of public policies aimed at mitigating and adapting to these effects.

4.3. Transport, road safety and health

4.3.1. Evidence

The challenges posed by transportation to health in Barcelona include air pollution, noise, traffic collisions, sedentary lifestyles, inequalities in access to transport, and insufficient infrastructure for active mobility. One of the most direct health impacts is traffic-related injuries, which are closely tied to the city's transport model.

Over the last 40 years, Barcelona has experienced a significant reduction in traffic collisions, largely due to measures implemented and changes in urban mobility. In the early 1990s, the ASPB established a traffic injury information system in collaboration with the police, the mobility department, and hospital emergency services. This system enabled the monitoring of traffic injuries, identification of vulnerable groups and risk factors, and evaluation of road safety interventions to

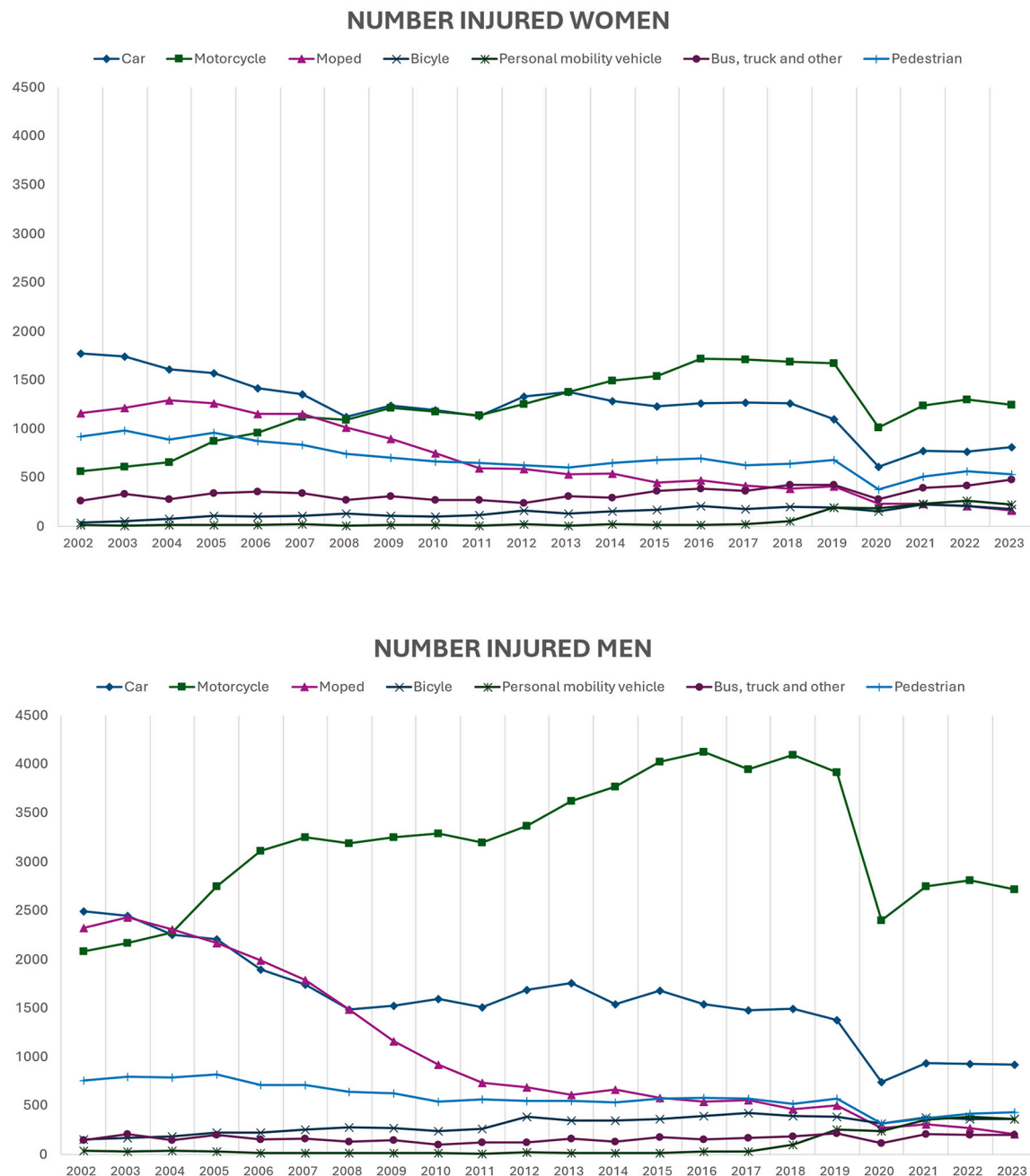


Fig. 18. People injured in traffic by mode of transport stratified by sex. Barcelona 2002–2023.
Source: Own elaboration based on the Accident Register of the Barcelona local police.

guide policies and inform decision-makers.

From the 2000s onward, traffic collision fatalities began to steadily decline. The city reduced annual traffic-related deaths from over 100 in the early 1990s to fewer than 40 by the late 2000s. For instance, in 2002, there were 10,312 collisions resulting in 13,824 injuries, including 305 serious injuries and 35 fatalities within the first 24 h. Approximately 40 % of those injured were women. Between 2002 and 2023, the annual number of injured persons decreased by 36 % (Fig. 18).

4.3.2. Policies

The development of transport and road safety interventions in Barcelona over the past decades has been influenced by several factors, including changes in infrastructure, public policies, technology, and sustainable mobility. Below are some key stages of this evolution. The collaboration between the ASPB and the city's safety and mobility sectors has led to significant reductions in traffic injuries. (Pérez et al., 2025a).

In the 1980s and 1990s, Barcelona underwent significant urban expansion, which led to a considerable increase in private vehicle traffic, coinciding with preparations for the 1992 Olympic Games. Substantial investments were made in road infrastructure, such as the construction of new highways, including the ring roads, and the improvement of existing streets. Road safety awareness and education campaigns were launched, particularly in schools, alongside the enforcement of regulations like helmet and seatbelt use.

A study assessing the impact of helmet-use compliance in Barcelona demonstrated significant improvements in mortality and morbidity rates. Three years after its implementation, motorcyclist mortality decreased by 25 %, while serious injuries were reduced by 67 % to 76 %. It was estimated that 35 motorcyclist deaths were prevented as a result of these measures. (Ferrando et al., 2000).

In the 2000s, restrictive and regulatory measures were strengthened through stricter enforcement, including mandatory seat belt use, speed control via speed cameras, the use of child seats, and increased breathalyzer checks. Efforts to promote alternative modes of transportation, such as bicycles and public transport, gained momentum with the creation of bike lanes and the expansion of the metro and bus systems. An evaluation of speed cameras revealed a significant impact on road safety, with a 27 % reduction in injury-producing collisions after two years of follow-up. This improvement was sustained at 30 % after four and a half years, preventing an estimated 1219 injuries. (Novoa et al., 2010; Pérez et al., 2007).

In the 2010s, the promotion of sustainable mobility became a key priority. The use of technology in road safety intensified, with the implementation of speed control cameras, smart traffic lights, and more advanced signage. Shared mobility platforms, such as bicycles (*Bicing*) and car-sharing services, emerged and gained popularity. The city also prioritized pedestrian and cyclist safety by expanding pedestrian-only areas and improving cycling infrastructure.

To enhance safety and reduce collisions, 30 km/h speed limit zones were introduced in urban areas to foster safer coexistence between vehicles, bicycles, and pedestrians. The initial implementation of these zones led to a 12.2 % reduction in injuries overall, an 18.5 % reduction at street crossings, and a 28.2 % reduction in injuries to motorcyclists, according to the 2009 Barcelona Health Report (*Agència de Salut Pública de Barcelona, 2022*). In 2021, a maximum speed of 30 km/h was implemented on almost all urban roads in Barcelona, a pioneering measure to reduce the number of serious crashes and promote safer mobility.

In 2016, the government approved the measure “Let's Fill the Streets with Life” to expand the superblock model, prioritizing safety and sustainability. The superblock model redefines the use of public space by reversing the vehicle-to-person relationship, placing people at the center to improve environmental quality and overall well-being. Private vehicle traffic is reduced in designated neighbourhoods, with priority given to pedestrians, bicycles, and public transport. Evaluations of these

measures have demonstrated multiple benefits, including reductions in air and noise pollution, increased physical activity, improved population well-being, and greater opportunities for socialization (Palència et al., 2021; Pérez et al., 2025b).

During these four decades, a significant reduction in road traffic mortality has been observed, as stricter policies have been implemented and safer and more sustainable mobility has been encouraged. The combined actions of infrastructure, technology and regulations have transformed Barcelona into a much safer city for everyone.

The experience of addressing the health impact of transport from an intersectoral perspective, a Health for All Policies approach (Greer et al., 2022), with the collaboration of the police, the Department of Mobility and ASPB, has made possible to approach mobility from a global perspective, considering both the immediate risks (collisions) and the long-term impacts on health (pollution-related diseases, sedentary lifestyle, etc.) .

4.4. Socioeconomic inequalities in health

4.4.1. Evidence

In urban areas, the study of social inequalities in health has been extensively consolidated over recent decades. Evidence confirms that most health problems in cities are attributable to living and working conditions (Borrell et al., 2014; Rodríguez-Sanz et al., 2016). Barcelona, like other urban centers, exhibits marked social heterogeneity across its neighbourhoods, with some areas characterized by high levels of well-being and others with poorer physical and socio-economic conditions, which tend to concentrate the most disadvantaged and vulnerable populations (Mazorra Rodríguez, 2024). The distribution of socio-economic and health indicators, such as the Territorial Socioeconomic Index, unemployment rates, and the Years of Potential Life Lost (YPLL), is systematically unequal across neighbourhoods. The southeast and northern neighbourhoods of the city demonstrate consistently poorer outcomes (Fig. 5).

4.4.2. Policies

Reducing social inequalities in health requires a multisectoral and multidisciplinary approach. Actions by healthcare and public health systems must be complemented by interventions from government sectors that influence the social, economic and environmental determinants of health. This holistic strategy aligns with the conceptual framework outlined above (Fig. 13).

Currently, various programs aim to reduce health inequalities in cities, utilizing two primary approaches: a) Universal programs targeting the entire population, and b) Selective programs focused on specific territories or populations with shared characteristics (Pons-Vigués et al., 2014). Selective interventions, targeting vulnerable populations, are essential to complement universal approaches, enhancing program effectiveness while avoiding the unintended exacerbation of inequalities (Frohlich & Potvin, 2008). Below are examples of selective interventions implemented in Barcelona.

a. The Neighbourhoods Plan:

This Plan is a municipal initiative designed to reduce social and territorial inequalities by promoting equitable access to income, services, urban amenities, and well-being for all residents in targeted neighbourhoods. It addresses the adverse effects of poverty concentration in areas with significant urban deficits and substandard housing.

The Plan integrates the resources, authority, and capacity of the city council with the creativity and effectiveness of local grassroots initiatives. It focuses on key domains: social rights, education, public health, economic activity, public spaces, housing and climate emergency.

Launched in 2016 across 16 of the city's 73 neighbourhoods, the Plan has expanded to include 27 neighbourhoods in the 2025–2028 phase, impacting over 438,000 residents with a budget of 200 million euros.

Currently, more than 100 comprehensive projects are underway. These interventions are implemented collaboratively, involving the city council, public administrations, local organizations, and neighbourhood residents. Research of ASPB has demonstrated positive short-term health outcomes, particularly among women, in neighbourhoods with high-intensity interventions under the 2016–2020 phase of the Plan (Bartoll-Roca et al., 2024).

b. Community Health and the Barcelona Health in Neighbourhoods Program:

Community health is a multisectoral and multidisciplinary approach that engages communities to improve health and quality of life in specific areas (Goodman et al., 2014). The impact of community health interventions is observed at multiple levels, from changes in community dynamics and environments to modifications in individual behaviours and health outcomes (Roussos & Fawcett, 2000). Although assessing community interventions is challenging, reviews indicate their potential to improve health and address social inequalities (O'Mara-Eves et al., 2015), as evidenced in Barcelona (Palència et al., 2018). Studies emphasizing effective community health programs highlight several key elements: (a) active community participation in program design, implementation, and evaluation; (b) intersectoral collaboration with sustained coordination; (c) tailored interventions addressing specific health needs; and (d) systematic evaluation to ensure sustainability.

In Barcelona, ASPB actively contributes to community health efforts across the city, with a particular focus on the 26 neighbourhoods with the poorest health and socio-economic indicators through the Barcelona Health in Neighbourhoods Program. Launched in 2007, this strategy aims to reduce social health inequalities in the city's most disadvantaged areas (Daban et al., 2021). In 2023, 224 interventions were implemented, involving over 15,000 participants and 600 local agents. These interventions are co-produced through community working groups comprising public sectors, organizations, and local citizens. Examples include: (a) Family skills programs and other family-focused interventions; (b) Health promotion initiatives in schools; (c) Programs for healthy reading and sexual health promotion for youth; (d) Emotional well-being and quality-of-life interventions for adults; (e) Programs for older adults to promote physical activity, reduce loneliness, and enhance mobility and socialization; (f) Intergenerational activities

fostering shared experiences between younger and older generations.

These initiatives underscore the sustained commitment of Barcelona's City Council, the ASPB, and various societal stakeholders to tackle socioeconomic inequalities in health through coordinated, evidence-based, and community-driven approaches.

4.5. Inequalities in COVID-19

4.5.1. Evidence

The COVID-19 pandemic had a particularly severe impact on urban areas due to the high concentration of people and economic activities. To understand the relationship between the social determinants of health and the unequal distribution of COVID-19 incidence and associated mortality, a conceptual framework is essential. For this reason, the city of Barcelona adopted a perspective focused on addressing social inequalities and the social determinants of health during the pandemic using a conceptual framework that examines how social determinants shape the distribution of COVID-19 (Vásquez-Vera et al., 2022). Moreover, the COVID-19 pandemic has revealed itself to be a syndemic (Horton, 2020), as it interacts with other predominantly chronic diseases and their determinants. This interaction increases the complexity of the pandemic while significantly impacting population health in the context of existing health inequalities.

Between March 2020 and December 2022, 594,963 cases of COVID-19 were recorded in the city of Barcelona, affecting 36 % of the population. Across the six pandemic waves experienced in the city, the profiles of those affected evolved over time (Agència de Salut Pública de Barcelona, 2020). The findings highlight significant social inequalities in COVID-19 incidence across age groups, genders, geographical areas, and income levels. Age played a critical role in determining incidence, with its impact varying throughout the different pandemic waves. Specifically, older adults were disproportionately affected in the initial waves, while younger individuals exhibited higher incidence in the later stages (Agència de Salut Pública de Barcelona, 2020).

Globally, women accounted for most of COVID-19 cases, although this trend fluctuated across waves. Women—particularly younger women—were more vulnerable to COVID-19 due to their overrepresentation in care professions, which increased their exposure to infection (Fig. 19). Additionally, women often shoulder the responsibility for family care and domestic work, acting as primary

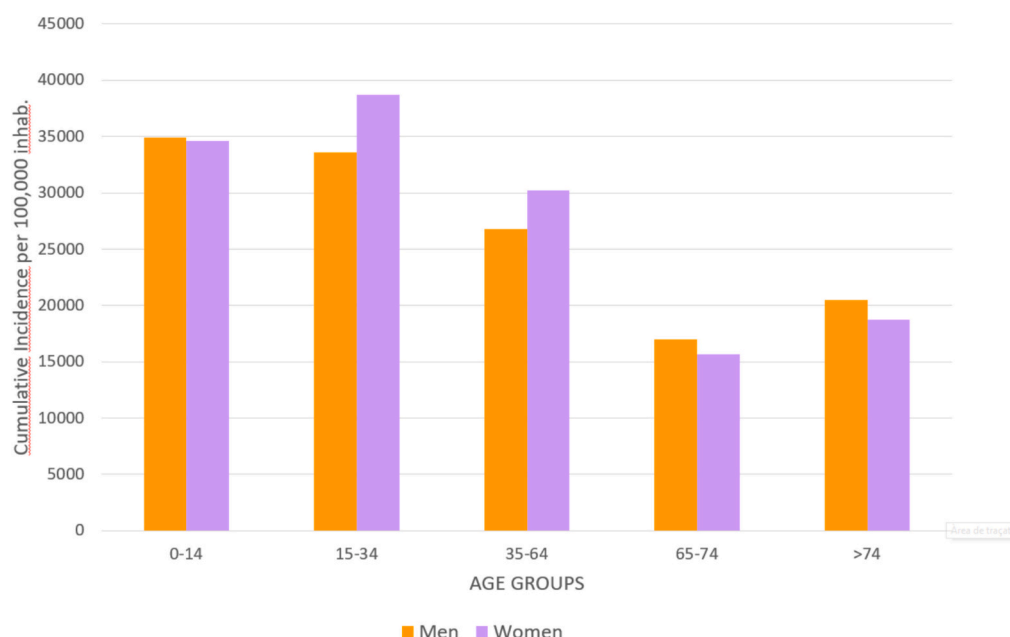


Fig. 19. Cumulative incidence distribution by sex and age group of the confirmed cases of COVID-19. Barcelona 2020–2022.

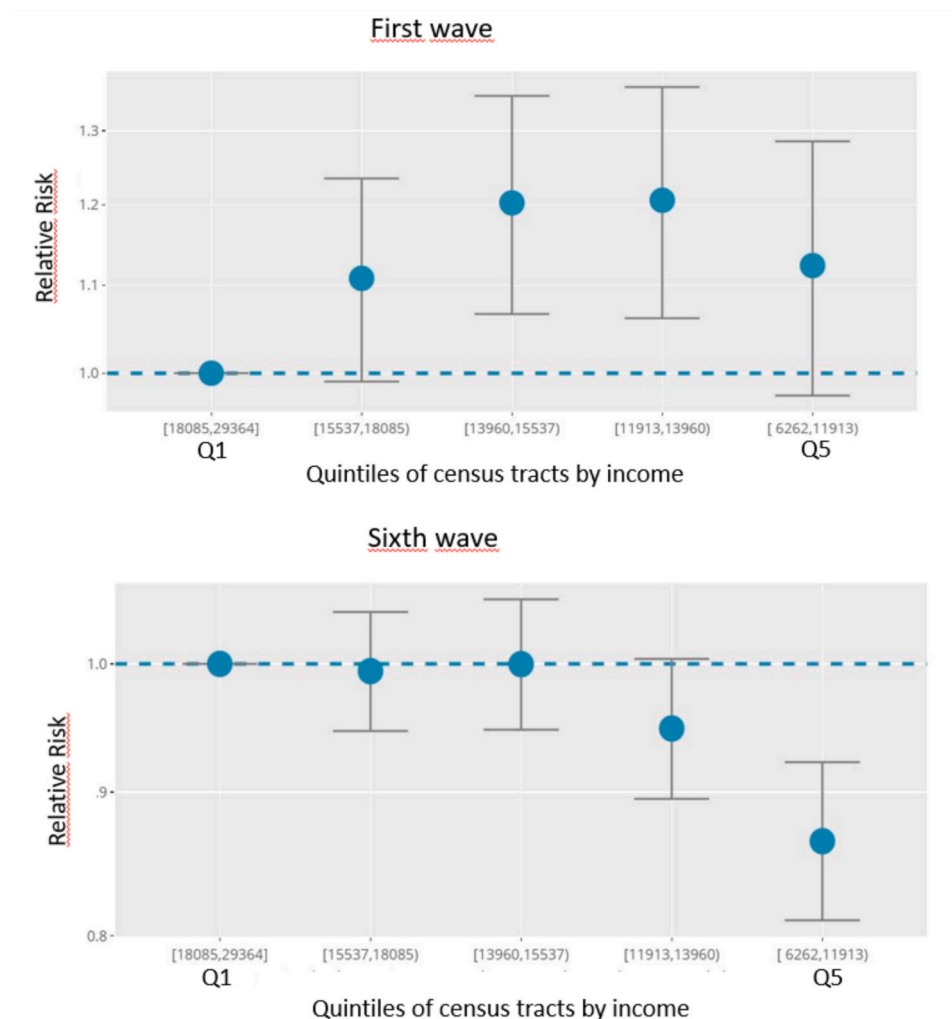


Fig. 20. Association between quintiles of census tracts grouped by income level and cumulative incidence of COVID-19 in two waves of the COVID-19 pandemic. Barcelona 2020–2022.

Reference RR: The highest income quintile has an RR of 1 and serves as the reference group against which other groups are compared.

Quintiles: Q1: most privileged group; Q5: most deprived group.

caregivers for individuals affected by COVID-19 within their households, especially children and the elderly. This dynamic was further exacerbated during lockdowns.

Furthermore, a time-dependent effect emerged concerning socioeconomic inequalities in COVID-19 incidence. Initially, living in a low-income area was a risk factor; however, by the sixth wave of the pandemic, it had shifted to become a protective factor (Martínez-Beneito et al., 2023) (Fig. 20).

4.5.2. Policies

With the onset of the COVID-19 pandemic, the Neighbourhoods Plan 2016–2020 was expanded to include additional measures aimed at controlling and preventing the spread of the infection, as well as providing support to affected individuals and their contacts in targeted neighbourhoods (Fernández-Barrés et al., 2023). Moreover, equity-oriented policy responses were implemented for the general population of the city with the collaboration or the leadership of ASPB (Malmusi et al., 2022). Among these measures, the following stand out:

- Health hotels and home delivery of essential goods for individuals with COVID-19.
- New emergency facilities for homeless individuals, including those with active drug use (still operational today).

- Mass screenings in high-incidence areas.
- Adaptation of community health programs for early reactivation.
- Digital self-appointment support points.

The ASPB (shown in the Barcelona Health Report of 2020, [Agència de Salut Pública de Barcelona, 2022](#)) led some of the public health interventions aimed at reducing inequalities in the pandemic:

1. Addressing the pandemic in nursing homes: During the first wave, the greatest impact was on elderly care homes. To prevent and control COVID-19 in these centres, contingency plans and the implementation of a joint protocol between public health and primary care were requested. Inspections revealed that 23 % of care homes were initially unprepared to handle an outbreak. By 2022, all care homes had their contingency plans properly in place.
2. COVID-19 vaccination: As vaccination campaigns began for people aged 60–69, a coverage gap emerged between disadvantaged and affluent neighbourhoods, with percentages at 40 % in the former and 72 % in the latter. Language and cultural barriers contributed to the delay. To address this, vaccination information, appointment centers, and vaccination without appointment were established in the affected areas to boost coverage.

3. Communication actions: Citizens have the right to be informed and to understand their health risks. Since the first wave of the pandemic, the ASPB implemented a 360-degree communication strategy, both internal and external: comprehensive, useful, coherent, and utilizing both traditional and digital media. A notable initiative was the launch of the “COVID-19 Updates” website, where COVID-19 data was updated daily by sex, age, territory, income level, and excess mortality #COVID19aldiaBCN (Agència de Salut Pública de Barcelona, 2020) which was especially useful for professionals and journalists from media outlets. It is worth noting that the Health Report of 2020 focused mainly on the impact of the pandemic in the city.

The COVID-19 pandemic has been a major societal challenge. As Barcelona's public health authority, the ASPB has played a key role not only in disease surveillance and control but also in prevention efforts and addressing health inequalities.

5. Challenges ahead and takeaway statement

Barcelona's annual health report not only provides a comprehensive view of the population's health, but also serves as a guide for designing integrated policies that address the determinants of health, contributing to the construction of a healthier and more equitable city. It is a fundamental tool that reflects how the city integrates health into all policies, promoting the design and implementation of urban and social initiatives.

The five policy examples presented differ in scope and the ASPB's level of responsibility. Two of them—Inequalities in Health and Inequalities in COVID-19—fall partially under the ASPB's responsibility. In these cases, the evidence and associated metrics played a key role in setting priorities and guiding interventions. For Inequalities in Health, the ASPB determined which neighbourhoods to target and took full responsibility for diagnosing the health situation, setting priorities, implementing interventions in community health, and conducting evaluations. Similarly, health inequality metrics during COVID-19 were crucial in establishing city-wide priorities and guiding actions carried out by the ASPB and various sectors of the local council.

The other three policies—Climate Change, Housing, and Mobility—fall primarily under the jurisdiction of other areas within the Barcelona City Council. In these cases, health information served as a valuable tool to support policy decisions, though it was not the primary driver of intervention prioritization or implementation. Notably, in Climate Change, the analysed data has been instrumental in shaping the city's climate policies. For Housing and Mobility, the ASPB's health impact analyses were among several factors considered in policy development.

A key issue of the evolution of health reports has been the adaptation of them to demographic and social changes over the years. To this end, it is advisable to maintain continuous innovation in the different processes. Both in the monitoring capacity of the information systems and in generating new perspectives on inequalities, but also in communicating methods. In particular, acquiring more thorough and in-depth information, perhaps new information technologies will allow real-time access, or interdisciplinary work between environmental, social and health agents that will help to advance in an approach that integrates intersectional and multilevel aspects.

A further key challenge is addressing public health emerging global threats, such as climate change and pandemics, which significantly impact urban health and exacerbate social inequalities. Barcelona has led the way in integrating climate change effects—such as heatwaves and air pollution—into its health reporting. Adaptation strategies, like the *Barcelona Climate Plan*, have been essential in reducing adverse health effects, particularly for vulnerable populations like the elderly. The COVID-19 pandemic highlighted the need for real-time data and adaptive policies to mitigate unequal impacts. As these challenges continue to evolve, it is crucial that health reports maintain flexibility

and anticipate future risks.

It is important to highlight that this experience can be valuable not only for Barcelona but also for other European cities and cities worldwide. As emphasized by the WHO Healthy Cities approach (European Healthy Cities Network, 2022), city health profiles represent a crucial step in advancing public health policies and the ‘Health for All Policies’ agenda. The examples provided—such as housing, climate change, and transport policies not directly related to the health sector—demonstrate how these policies can be strengthened using health impact data. This experience can serve as a valuable resource for health professionals, policymakers, and anyone interested in health and public policies in other cities of the world.

6. Conclusion

To conclude, this article has shown the importance of using evidence to implement public policies. Forty years after its inception, the Barcelona Health Report stands as a milestone in a long tradition of accountability to society regarding the health situation and its determinants in the city. This long-standing initiative, led by a public health agency, reflects a continued political commitment to creating spaces for debate, transparency, and evidence-based action. It also shows the Barcelona's political commitment to promoting health equity.

The lessons learned from this experience can provide valuable insights for other cities, particularly in Southern Europe, looking to enhance their health governance and policy frameworks through evidence-based approaches.

CRedit authorship contribution statement

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Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the author(s) used GTP in order to review some of the language English of the text. After using this tool/service, the author(s) reviewed and edited the content as needed and take(s) full responsibility for the content of the publication.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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