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Title: Gentrification and health justice two global cities: A research and policy call to identify the full scope of impacts for socially vulnerable residents

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Abstract

In many global cities, the impacts of gentrification on the lives and well-being of socially vulnerable residents have occupied recent political agendas. Yet to date, research on how gentrification affects a multiplicity of health outcomes has remained scarce. While much of the nascent quantitative research helps to identify associations between gentrification and determined health outcomes, it tends to draw from static datasets collected for other studies and purposes to draw a posteriori and non-longitudinal conclusions. There is little attention in traditional public health research to purposely understand the health impacts of the complex, multi-layered, and rapid change produced by gentrification. Moreover, few studies examine the pathways and socio-spatial dynamics of the association between gentrification and health. In response, we use qualitative data collected during fieldwork in two global cities undergoing acute gentrification, Boston and Barcelona, to comprehensively identify how the health and well-being of long-term residents may be affected by gentrification. In this initial assessment, we find a range of potential detrimental factors associated with gentrification and also potential pathways, including *individual-level* physical and mental health outcomes such as obesity, asthma, chronic stress, and depression; *neighborhood*-level health determinants such as safety and new drug-dealing/use; and *institutional-level* health determinants such as healthcare precarity and worsened school conditions. To fully understand their scope and impacts, we also call here for new research and policy that better understand and address the links between gentrification and health in global cities.

In global cities such as Chicago, Seattle, Vienna, or Barcelona, concerns over gentrification – transformations in a neighborhood built, retail and social environment together with changes in demographic composition toward higher socio-economic or ethnic status residents – have moved to the top of local political agendas.[i] Mass tourism, short-term housing, real estate (re)development and speculation, and even green interventions (1) are all contributing to gentrification through increased cost of living and consequent displacement of long-term, low-income, working- or middle-class, and minority residents (2).

Yet, progressive policy-makers are often constrained by legacies of segregation and inequalities, supramunicipal regulations, real estate investors and tourism businesses who demand and/or promote urban revitalization and the "clean-up" of disinvested neighborhoods in the name of increased tax revenue and profits. (3, 4) And while some revitalization schemes may enhance neighborhood conditions, services, property values, and quality of life (5) for some, regeneration targeting these benefits – as previous studies and reports argue – is often followed or accompanied by gentrification, thus seldom providing equitable outcomes for long socially-vulnerable residents.[ii] This process of inequitable

regeneration is especially acute in global cities, that is in cities embedded in flows of international investments, transactions, and movements of citizens – which all undermine housing affordability and affect public and open/green space access (among others) for long-term residents (6-8). Yet, to date, research on how gentrification affects a multiplicity of health outcomes for long term residents – those who tend to be more socially vulnerable and traditionally experience worse health – has remained scarce. Furthermore, existing research does not empirically investigate the pathways connecting gentrification to health.

A need to move beyond existing research on neighborhood environments and health

Public health researchers have long acknowledged the importance of neighborhood-level physical and social environments – including public transport, social networks, disorder, crime, economic structure, or level of unemployment in a neighborhood – for health (3, 9-13). For instance, neighborhood disorder has been associated, among others, with poorer sleep quality and psychological distress (12). Some quantitative studies have also begun to analyze the associations between gentrification and health, acknowledging the importance of a multi-layered, dynamic, and changing neighborhood social environment on the health of populations, and subpopulations, finding generally that the gentrification processes were linked with better health for privileged groups, while showing no association or negative associations for vulnerable populations (14-19).

These findings point to a need to expand our conceptualization and understanding of neighborhood effects – including gentrification – on health to include a more dynamic and multi-layered depiction of neighborhood environments and how they shape health and wellbeing. Particularly, attention has been drawn to a full accounting for the ways that broad political and social-spatial context shapes the continual evolution of neighborhood environments (11, 13). While it is well understood that the interplay between structural context and neighborhood environments generates uneven health impacts when it leads to sustained poor conditions in certain neighborhoods, it is not often acknowledged that there also may be health impacts when this interplay leads to a rapid shift toward the preferences of higher social-economic status gentrifying residents.

Moreover, while valuable for understanding specific trends of associations, including psychological and physiological distress or depressive symptoms, much of the nascent research on gentrification and health uses static datasets, with data collected for other purposes than understanding the relationship between gentrification and health, to draw a posteriori and non-longitudinal conclusions about the associations between gentrification and determined health outcomes, including pre-term birth or self-rated health for minority residents (14, 15). To our knowledge, no formal test of potential pathways through which associations become visible has been undertaken. Furthermore, public health research generally relies on secondary measures of gentrification and may miss important aspects of neighborhood change detected only through inclusion of the perceptions of neighborhood residents, community activists, and health workers.

In response, this short paper contributes preliminary empirical insights into the complex neighborhood processes and socio-spatial dynamics which long-term residents and workers of gentrifying neighborhoods perceive and/or experience as affecting long-term residents' health. We focus this initial analysis on Barcelona's Ciutat Vella and Boston's East Boston neighborhood[iii]– two neighborhoods in global cities undergoing acute gentrification.

East Boston has historically hosted a high proportion of working-class immigrant Latino and Italian residents. For most of the XXth century, the neighborhood suffered from noise and water contamination from industrial activities along the Boston Harbor, the Chelsea Creek and the nearby Boston Airport as well as, most recently, climate-induced coastal flooding (20). Yet, recent municipal, State, and non-profit efforts have improved environmental quality and access to new green space through the clean-up of the waterfront, new green space development such as Lopresti Park (Figure 1a), and climate-resilient green infrastructure, such as Piers Park or the East Boston Greenway (Figure 1b). Today, those amenities are also increasingly linked by local activists and researchers to risks of environmental or climate gentrification.[iv] In addition, over the last 5-7 years, East Boston received a large influx of young upper-class residents working in the technology and financial industries living in new high-end luxury condos,

combined with the growth of short-term apartment rentals for visitors and tourists (Figure 1c and 1d),[v] all contributing to soaring housing costs[vi] and real estate development-driven gentrification concerns among residents.[vii]

Barcelona's Ciutat Vella has also traditionally welcomed waves of immigrants, mostly working-class residents from Latino, North African, and Pakistani origin, although it has also been a tourist destination and, most recently, a living destination for new high-income foreign residents and tourists from Northern Europe and North America (21). In the 1990s and 2000s, several municipal plans of neighborhood regeneration demolished several streets of the Raval and Sant Pere/Santa Caterina areas to create public spaces and cultural centers (i.e. the Macba), rehabilitate markets (i.e. Santa Caterina), improve road, sewage, or electricity, infrastructure, pedestrianize streets, or create new social housing, although displaced residents far outnumbered rehoused residents (22, 23). Since the early 2000s up to the current post- economic crisis period, Ciutat Vella also saw the mobilization of neighborhood movements against gentrification, in favor of new community-managed public and green spaces (including community gardens (Figure 2a) and outdoor sports and recreational spaces Figure 2b and 2c), improved access to social housing, and control of mass tourism (Figure 2d) (22, 24).

Our initial research findings draw on municipal reports, 30 semi-structured and unstructured interviews and participant observation in both cities, most of which were conducted as part of a larger research study on urban greening and equity and green gentrification in 25 cities within a European Research Council (ERC) project. Fieldwork in those other cities is ongoing and broader results are expected to be written by 2020 using qualitative and quantitative/spatial analysis. Interview instruments were designed upon preliminary field work and after multiple rounds of instrument design and testing among the team researchers. Interviews took place in 2018 and 2019 among residents and activists, health care professionals, and members of community organizations, whom we selected through snowball sampling techniques, following widely-used practices of identifying initial respondents via expert or key stakeholder contact and building out of this list. Each of our respondent has a long-time history of working or/and living in each neighborhood and among long-term residents. We conducted multiple rounds of

observation and/or participant observation (for instance in public parks or public meetings) to triangulate interview responses. Because of the limited length of this paper, we only include selected interview quotes, although the pathways and trends we present draw on our data analysis. In addition, we cite ongoing relevant discussions presented in the grey and popular media.

In this initial assessment, we present the range of impacts by classifying them by *individual-level* health outcomes, *neighborhood*-level health determinants, and *institutional-level* health determinants (See Figure 3).

The fragility of individual health

Our respondents' account of how mental and physical health is affected by living in gentrifying neighborhoods complicate traditional understandings of the health effects of neighborhood improvements accompanying gentrification such as becoming greener, more livable, and more walkable. While all these features are associated with improved health, we see here that there is more to the picture than traditional epidemiology studies reveal (25, 26).

Mental health concerns

First, gentrification through increased real estate and tourism speculation and pressures seems to contribute to chronic stress, depression, and suicidal thought patterns among residents threatened by eviction and displacement in both neighborhoods. In the Ciutat Vella of Barcelona, residents and community organizations we interviewed reported having or treating frequent anxiety and depression, particularly those faced with sudden and abrupt rent increases or direct evictions when foreign investors buy entire buildings on revitalized and gentrified streets/blocks. A recent study (27) supports this connection with a finding that 84% of men and 91% of women under threat of displacement have poor mental health, including anxiety and depression. In East Boston, residents also directly report anxiety and depression, especially so youth who suffer from the fear of their families being displaced because of rent

increases, increases in short-term rentals for visitors and tourists, and, overall, because of life opportunities fading away. A community organization leader describes the health impacts of gentrification on their youth constituency: "They're stressing out. We have had in the past three years a massive increase in the amount of discussion around suicide here and people feeling suicidal and talking about that and we've had to get training for our staff around that. . […] We've worked with the East Boston Health Center Trauma Team to train our staff." (Respondent 1). Such finding complements recent work by US CDC researchers whose research highlighted that housing loss constitute a significant crisis that can "precipitate suicide" among affected residents (28).

These reported concerns about gentrification and how residents experience it have added importance for immigrants due to the specific vulnerabilities they face in the US, and increasingly in Europe. In East Boston, many immigrants or refugees are particularly fearful of displacement pressures due to soaring rental costs, or if they have already displaced by war or conflict, constituting double trauma. With recent stricter immigration laws, immigrant families often decide to "self-evict" to avoid the courts and a possible eviction record. Moreover, even documented immigrants explained that they rarely denounce abusive landlords for fear of retaliation that would affect their immigration status, and link those fears with self-esteem, feelings of unworthiness, and overall mental health impacts.

Similarly, residents and community organizations also report socio-cultural displacement and erasure (3), that is experiences of not belonging, not feeling part of a place or a community. Many long-term families interviewed East Boston and Ciutat Vella mention that children often feel unwelcome in the public spaces, playgrounds, and green spaces upon which they traditionally relied, due to the high presence of newcomers and their new practices in public/green spaces. In East Boston, community organizations explain that youth are starting to avoid new or renovated green spaces and sportsgrounds, such as the Lopresti Park, because they feel out-of-place. Our field observations reveal that such trends tend to increase risk of social isolation and degrade the neighborhood fabric and residents' traditional uses of public spaces and nature, with undeniable mental health (and possible long-term physical health) impacts.

Physical health issues

Respondents also mention gentrification as a contributing factor to worse physical health. First, in East Boston and Ciutat Vella, many residents report sleep deprivation from air and noise pollution, much of it linked to uncontrolled real estate construction[viii] and, in other cases, to noisy visitors and tourists. Second, in Boston, East Boston Health Center workers also report increased rates of patient asthma associated with unfettered building construction and/or faulty housing maintenance by landlords eager to sell or rent future renovated units to higher-income gentrifiers. One respondent explains: "Now with the new buildings, the concern is not the building themselves, but the sites you are digging up – the quality of the soil and what is going through the air" (Respondent 2).

Additionally, food gentrification is also noted to be associated with health because residents may encounter greater difficulty to buy fresh affordable food. In gentrifying areas, residents might be faced with the combination of both food deserts – areas with little or no availability of fresh and affordable food – and food mirages – areas with more or new fresh and healthy food stores but that are too pricy for local long-term residents. (29) In East Boston in particular, healthcare workers reported that youth and adults' cardiovascular disease and obesity rates are raising, in part because of what they witness as poor eating behaviors exacerbated by high stress and the difficulty to afford fresh food due to gentrification processes. Those interviewed pointed out that these trends are of particular concern because neighborhood improvements related to fresh food provision combined with preventive health care programs (i.e. obesity-related programs) in the 2000s had managed to curb rising obesity.

Neighborhood-level determinants of health

The most flagrant factors reported relate to the neighborhood social environment, including drug consumption, drug dealing, and violence, which, incidentally, runs counter to some gentrification research

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on the benefits of gentrification,(5) especially in reducing crime[ix], although the relationships remain difficult to fully uncover (30).

Increased drug-dealing and consumption

The growing presence of drug dealing or/and consumption was reported by residents, police officers, and health organizations in both cities. In East Boston, a police officer explained that dealers frequently go to new luxury buildings to sell their drugs and that drug consumption has increased in local parks. "They did an all new soccer field and waterpark, basketball court, but you can't go, you can't play there at night, that's where […] the [new] people drinking and doing all their stuff are on it." In Ciutat vella, the areas of Sant Pere/Santa Caterina have legal marijuana "clubs" —many of which attract tourists—and many other illegal ones. As several media also reported in 2018, many visitors consume drugs[x] or alcohol in new parks, during the same hours when children are playing. This public consumption debilitates structures of informal social care and collective child care and limits opportunities to use public space among residents: either to socialize or to be physically active. In these contexts, drug use plays a dual role: those drawn to gentrifying neighborhoods by the drug culture generate new impacts for those living there and drug use particularly is reported as increasing among vulnerable residents by community workers because of their higher difficulty in dealing with constant stress and insecurity.

Street and home insecurity

Frequently reported unruly social attitudes and behavior[xi]— sometimes by gang members selling drugs to tourists or to new wealthy residents and, other times, by gentrifiers or tourists (tourists for Barcelona) — is causing fear and overall insecurity according to residents in both neighborhoods. Families mention changing their routes to avoid certain streets and having witnessed fights between dealers. A school parent in Ciutat Vella reported: "I have to avoid certain streets because of fights between youth who are either drugged or deal drugs. Neighbors had organized to improve the neighborhood, to make it greener and more livable. Now, we have this crazy contrast between families leaving because they can't afford

rents, living among tourists and wealthy speculators, and, on the other hand, others are leaving because they can't take the fights or the drugs anymore" (Respondent 3).

In Barcelona, *narcopisos[xii]* ("narco-flats") are also growing in the Ciutat Vella, mostly due to vacant speculated-upon bank- or investment fund- owned flats since the 2008 real estate crisis. Between 2008 and 2017, at least 80,000 evictions have been ordered in the province of Barcelona, leaving thousands of flats in the hand of banks and investment funds, many of which are being held for speculation as neighborhoods gentrify. In the Raval section, at least 50 narco-flats were identified[xiii] in 2018 in a hotspot (31) of empty bank-owned flats. Despite recurring calls from the city administration, banks and speculative funds which have taken ownership of many foreclosed apartments since 2008 engage in what is known as property *mobbing*, that is harassment of residents to evict them before rehabbing buildings for wealthy foreigners in a process of planned gentrification.

Additionally, residents and police officers report that, linked to mass tourism and new wealthier residents, petty street theft and house break-ins have increased in East Boston and in Barcelona. Those trends are confirmed by reports: In the Old Town of Barcelona, violent theft has increased by 50% from summer 2017 to summer 2018[xiv] while larceny has increased by 35% in East Boston from 2017 to 2018.[xv]

Poor traffic safety

Finally, residents explain that they are also faced with increased risk of injury due to traffic accidents resulting from chaotic traffic. In Barcelona, tourists' and visitors' use of electric scooters and bikes (even next to schools and zipping around tight streets) are also reporting increasing collisions and accidents, especially for children and the elderly. In East Boston, similar threats presented by gentrifiers with luxury cars have been reported by the local police we interviewed.

Institutional-level determinants of health

Changes in access to essential institutions, such as healthcare facilities and services and schools, present another pathway by which gentrification may affect long-term residents' health.

Fragile and incomplete health care

Anxiety and chronic stress combined with increased financial strain for residents also affect healthcare and care delivery. A recent study from New York City demonstrates that residents displaced from gentrifying neighborhoods were almost twice as likely to make emergency room visits, or to be hospitalized, primarily for mental health problems, compared to those who were not displaced. (32) Yet, in the US, and even in Spain, which has a universal healthcare system, many healthcare coverage plans do not offer mental health provisions.

In East Boston, healthcare providers and community health workers explained that families who suffer from financial stress are often being forced to choose between paying for healthcare *or* rent. Consequently, many increasingly resort to the local community health center for emergency visits rather than primary or preventive care. As a community health center staff member explains, "If folks have to move further away, it's our job to help these people manage these conditions. We are trying to respond to this by opening up more satellite services to better serve patients" (Respondent 4). Combined fear and discouragement cause disruptions to the continuity of care necessary to provide adequate control of chronic conditions or treatment.

Residents of gentrifying neighborhoods also face challenges in seeking continuous care due to disruptions in the availability of services, particularly those serving under- and un-insured residents in the US. Respondents in East Boston declared that public health care facilities – federally-qualified community health centers in particular — are under stress when they themselves are confronted with increased rent; when health care might be discontinued as patients are forced out of their neighborhoods; and when increased traffic and density in gentrified neighborhoods create access issues for care workers who

suddenly face longer commuting times. In Ciutat Vella, public health workers report losing funding from the Catalan government or having a higher patient load as their neighborhood recently became ranked as less "socio-economically complex" – meaning as "gentrifying." This increased burden is accompanied by medical staff-reported impacts on care for elderly, immigrant, and lower-income residents. In contrast, private health centers or facilities are sprouting up in gentrifying neighborhoods, exemplifying what has been termed "healthcare gentrification."[xvi]

Concerns over public education and safety of school environment

Last, quality and continuity of education is also affected by gentrification and displacement (and by increased street insecurity), with potentially accrued impacts on children's health and wellbeing. In the Ciutat Vella, the Cervantes school reported losing 40 families during summer 2018, that is 18% of its families – either because of insecurity issues or high housing prices. One parent explained: "Our rental contract ends in 6 months, we don't know whether we will be able to stay because we are the only family remaining in the whole building. Some private investors have bought all the flats […]. If they kick us out, then we would have to move neighborhoods and schools, maybe in the middle of the year" (Respondent 5). In both cities, as explained by families themselves and community workers, families have had to relocate to new neighborhoods or schools, contributing to stress, trauma, and anxiety for both parents and children.

Some even compare such school relocation to helping children, parents, and families address grieving. One school administrator in the Ciutat Vella states: "We have to work through the theme of mourning, with teachers and with families. When they move schools and/or have to leave their home, for them it's a loss. Loss is not only about death. But it's about loss of school, teachers, community. A mother has to leave the flat and can't find anything in the neighborhood. She even has to leave the city, in the middle of the year. Kids were crying when she told them. Now she is so frozen she can't even work. It's a trauma for them. The kids are doing terrible."

This turnover rate brings down local public school ratings, thus jeopardizing[xvii] their budget and ability to provide adequate services and education. Many of these schools see their reputation affected, are closing or become forced to compete with charter or private schools[xviii] which in turn attract new gentrifiers, feeding the gentrification wheel. This trend, where gentrification-oriented upgrading "stops at the schoolhouse door" when it counter-intuitively degrades local school environments is seen in many other rapidly gentrifying cities.[xix]

School closures can also signify new indirect exposure to violence. In other US cities, school closures[xx] have been reported to endanger the lives of kids having to walk through more dangerous areas[xxi] to get to school. School closures also cause many families to lose access to school green spaces and playgrounds that remained open to the public after hours.

Next steps for research and policy

In sum, our initial field findings about health and well-being of long-term residents affected by gentrification reveal a multiplicity of impacts (Figure 3) – some of them severe and rather unexpected – and call for urgent research and policy action. Those include individual physical and mental health outcomes shaped by neighborhood-level (i.e., drug dealing and consumption; street and home insecurity; and traffic safety) and institutional-level determinants (i.e., access to health care and public schools), and related with inter-personal factors (i.e., social-culture erasure; multiple forms of trauma; or lesser physical activity and social contact).

These impacts points to the need for additional research, since the number of neighborhoods we studied remains limited and qualitative research does not allow to quantify findings. In our research's next steps, we are examining the followings questions: What is the magnitude and scope of the gentrification-related health impacts, especially for different population groups, including minority, immigrant, elderly, children, and female residents? What is the full range of objective and subjective neighborhood changes related with gentrification that affect health? What is the interplay between neighborhood environmental

interventions and gentrification in terms of health impacts (19, 33, 34), and how do those further shape the well-being and life opportunities of long-term residents?

Those novel findings encourage us – and hopefully other multidisciplinary teams of researchers and planners – to develop extended research and evaluation which involves a comprehensive response to these questions. We also call here for greater examination and comparison of gentrification drivers (urban greening, tourism, artist-based, or real estate development gentrification), and their impact on residents' long-term health in a greater number and diversity of global cities across the US and Europe, two regions where nascent gentrification and health research has taken place and where several city governments – from Seattle to San Francisco, Boston, Washington, Manchester, or Barcelona – are working to address displacement due to gentrification.

There is also a need for mixed methods studies purposely designed to investigate gentrification and health. Here, qualitative methods are most suited to fully understand the ways in which the cultural, social and even physical displacements bounded with gentrification affect one's daily neighborhood experiences – and health -- and uncover how different planning processes, urban transformations, and neighborhood built environments differentially affect health. Moreover, quantitative methods are needed through case control or longitudinal cohort studies to quantify the impacts of gentrification.

Currently, hopeful policy initiatives to address the negative impacts of gentrification for long-term residents include social housing quotas and turning unoccupied bank-repossessed properties into affordable housing[xxii] in Barcelona or Philadelphia Land Bank's[xxiii] vacant lot scheme designed to "preserve and enhance affordability," although many remain insufficient to address widespread displacement trends. Public action must also value local ways of life and identities when (re)developing neighborhoods, rather than succumbing to tourist uses and fleeting gentrifiers' tastes. There must thus be a focus on interactional and recognition justice, (35) or the ways amenities and spaces are actually being valued and used by residents, beyond just a focus on participation or better distribution of amenities.

Lastly, we call for genuine cooperation between public entities and institutions from different sectors and at different territorial levels to ensure that public authorities do not ignore long-term and vulnerable residents, and through mechanisms like community-based organizations,(36) are able to create equitable, healthy, and livable urban spaces.

Figure 1a, 1b, 1c, 1d:
Overall title: "Boston: New green and play spaces and adjacent high-end condominium development in East Boston"

Figure 1a: Lopresti Park
Figure 1b: East Boston Greenway
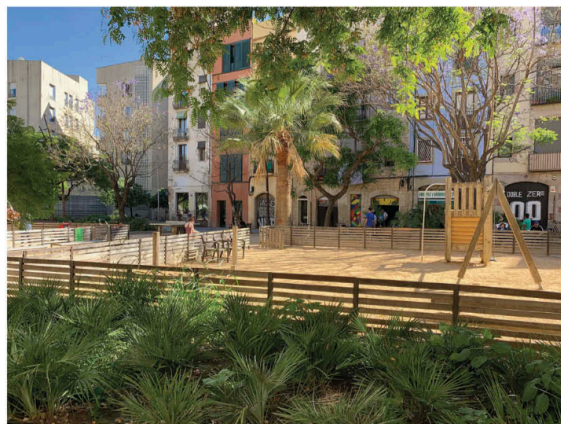Figure 1c and 1d: New high real estate development and large-scale construction project
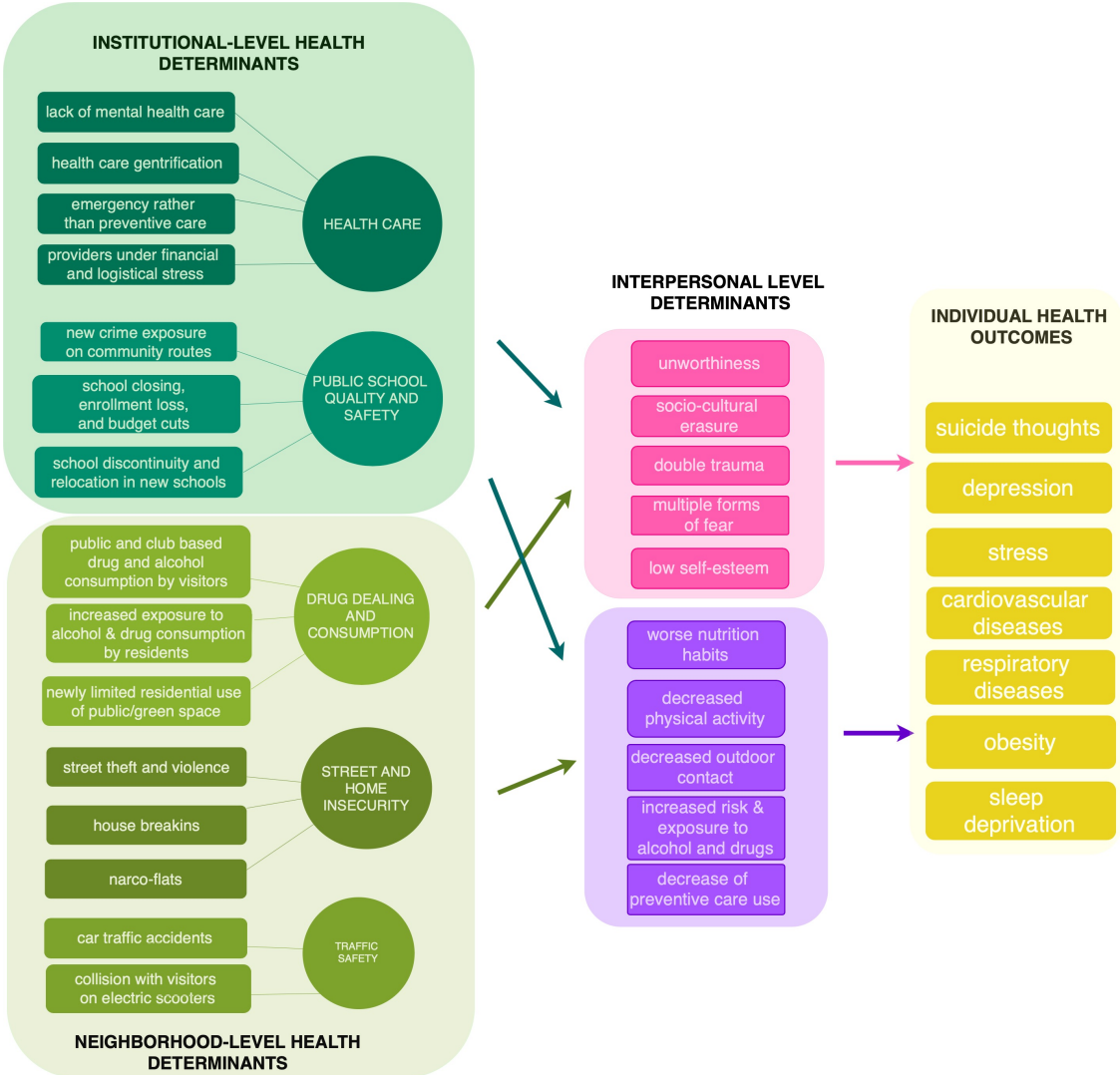
Figure 2a, 2b, 2c, 2d:
Overall title "Barcelona: New green and play spaces and protest against mass tourism and gentrification in Ciutat Vella"

Figure 2a: Hort del Forat community garden
Figure 2b and 2 c: Pou de la Figuera open space
Figure 2d: Anti-tourism and anti-gentrification banner

Figure 3: Potential health impacts and pathways of gentrification in two global cities

INSTITUTIONAL-LEVEL HEALTH DETERMINANTS

- lack of mental health care
- health care gentrification
- emergency rather than preventive care
- providers under financial and logistical stress

HEALTH CARE

- new crime exposure on community routes
- school closing, enrollment loss, and budget cuts
- school discontinuity and relocation in new schools

PUBLIC SCHOOL QUALITY AND SAFETY

NEIGHBORHOOD-LEVEL HEALTH DETERMINANTS

- public and club based drug and alcohol consumption by visitors
- increased exposure to alcohol & drug consumption by residents
- newly limited residential use of public/green space

DRUG DEALING AND CONSUMPTION

- street theft and violence
- house breakins
- narco-flats

STREET AND HOME INSECURITY

- car traffic accidents
- collision with visitors on electric scooters

TRAFFIC SAFETY

INTERPERSONAL LEVEL DETERMINANTS

- unworthiness
- socio-cultural erasure
- double trauma
- multiple forms of fear
- low self-esteem

- worse nutrition habits
- decreased physical activity
- decreased outdoor contact
- increased risk & exposure to alcohol and drugs
- decrease of preventive care use

INDIVIDUAL HEALTH OUTCOMES

- suicide thoughts
- depression
- stress
- cardiovascular diseases
- respiratory diseases
- obesity
- sleep deprivation

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