

Health, Wellbeing and Sustainable Development

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Report 2

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Introduction

Health and wellbeing are directly related to sustainable development because living conditions, the nature of urban design and the environment directly influence the trends of illness, disability and premature death. This report presents a critical analysis of the role of Sustainable Development Goal (SDG) 3 - Good Health and Wellbeing and SDG 11 - Sustainable Cities and Communities in determining health outcomes at global, national and local levels, and determines the success of the chosen national and local initiatives in the UK (Hales and Birdthistle, 2023). SDG 3 aims to lower preventable mortality and boost health systems and enhance mental wellbeing; nevertheless, an estimated 290000 women die annually as a result of pregnancy and more than 5 million children under the age of five die annually, including those with preventable or curable illnesses. SDG 11 acknowledges the fact that the global population is now housed in more than 4 billion people in cities where overcrowding, traffic, lack of housing, and over4 million air-pollution-related deaths per annum enhance health hazards. The report is organized in SDG analysis, in national and local case studies, recommendations and in a concluding synthesis.

SDG 3 – Good Health and Well-being

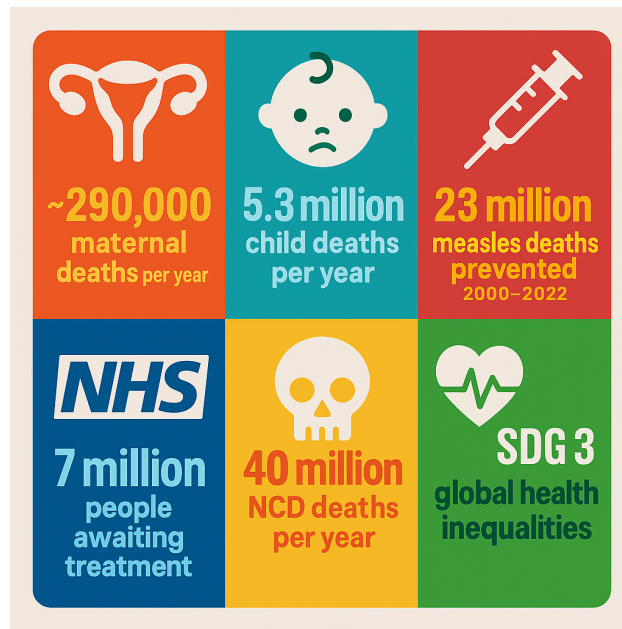


Figure 1: SDG3: Good Health and Well-being (Bidgoli, 2023).

SDG 3 is about the right to a healthy life and the promotion of wellbeing, but the lack of global health care equity still defines who has an illness that can be prevented or succumbs to the disease prematurely. In most low-income nations, there are still no qualified health care professionals, untrustworthy drugs and inefficient clinical systems, which results in preventable tragedies (Bidgoli, 2023). Approximately 290,000 women die every year due to pregnancy related causes and 5.3 million children under five years die of treatable diseases like pneumonia or diarrheal disease. SDG 3 can be applied through vaccination programmes; immunization against measles alone has averred at least 23 million cases of work-related death since 2000. Nonetheless, the development is still weak. The COVID-19 crisis has affected the delivery of fundamental health services across the globe, resulting in up to 25 million children missing regular vaccines, a factor that has increased inequalities (Thao, 2025). Another problem is the non-communicable diseases which contribute to 40 million deaths every year particularly among populations that are facing poverty, pollution and lack of healthcare.

SDG 3 in the United Kingdom is supported by the NHS that promises universal healthcare, which favors early diagnosis, emergency treatment, and long-term illness management. Nevertheless, the strains on the system continue to increase, and the number of individuals awaiting treatment has surpassed 7 million, as well as there is a lack of primary care and mental health. The results are

further influenced by local conditions (Dawkes and Cheung, 2018). Birmingham documents more than 900 premature mortalities annually which are associated with air contamination and some areas in London and Birmingham indicate a short-coming in life expectancy of 10-12 years. Using the Social Determinants of Health model, it is important to mention that housing, income and environments should be improved to complete SDG 3.

SDG 11 – Sustainable Cities and Communities

SDG 11 targets to establish safe, inclusive, and sustainable cities, which is important because the trend of urbanisation in the world is growing at alarming rates. In the present day, more than 4.4 billion of the population resides in the cities, and it is projected that this number will increase to approximately 6.7 billion by the year 2050, which puts a significant burden of the cities in terms of housing, transport, waste, and health services (Mierlus Mazilu, 2025). Urban regions are a source of economic activity and have higher access to healthcare services, yet they also host risks that are overcrowding, road traffic accidents, lack of green spaces and dangerous air quality. Air pollution is also one of the most harmful threats, which is adding more than 4 million premature deaths annually, mostly by respiratory and cardiovascular diseases. The location where people face the most exposure to the emissions is the poorer neighbourhood of many cities, where the low accessibility to safe, healthy environments is also the most significant.

SDG 11 in the United Kingdom is connected to the national policy of air quality improvement, enhancing public transport and increasing housing standards. The local governments in Birmingham and London are at the center of it with the housing regulation, green space development, waste management, and air quality improvement plans (Headey, 2021). The introduction of secure cycle lanes by London and the investment in community wellbeing centres by Birmingham are evidences of the efforts to decrease pollution and promote active transportation and facilitation of social interaction. Such interventions contribute directly to SDG 3: clean air contributes to less asthma and heart disease, safer streets lead to fewer injuries and walkable neighbourhoods contribute to increased physical activity, reducing the risk of non-communicable diseases. Collectively, SDG 11 initiatives indicate the role of sustainable urban development in healthier communities.

Interaction Between SDG 3 and SDG 11



Figure 2: Interaction between SDG3 and SDG (Mishra and Singh, 2025).

A direct channel in which the development on SDG 11 enhances SDG development 3 achievement is sustainable cities since the quality of the urban environment dictates daily exposure to health risks (Mishra and Singh, 2025). The level of pollution has continued to be among the most pernicious: worldwide, air pollution is related to approximately 7 million premature deaths annually, in the UK alone, this volume relates to 28,000-36,000 yearly, including approximately 1,000 premature deaths in claims of Birmingham alone. The quality of housing, or overcrowding, exacerbates physical and psychological health issues, and damp houses raise respiratory diseases and the life-expectancy disparity between deprived neighbourhoods and affluent ones is estimated at approximately 10 years. On the other hand, compact neighbourhoods, access to means of transport and natural environments encourage physical exercise and lower non-communicable conditions; it is believed that physical inactivity has been causing 3-5 million deaths annually across the world (Mierlus Mazilu, 2025). Urban policy that is jointly promoted with housing, transport, regulation of air-quality and public-health planning can be viewed as a valid tool towards better population health and wellbeing.

National Initiative Evaluation: UK Clean Air Strategy (2019)

The UK Clean Air Strategy (2019) is a significant intervention on the national level that tries to minimize the level of pollution and enhances the well-being of the population and long-term environmental sustainability. Its overall goal is to reduce the heavy-metal particle (PM2.5), nitrogen oxides, ammonia and volatile organic compounds by tightening the regulations of industries, transport regulation, agricultural controls and public-awareness strategies (Curran et al., 2013). This is very much in line with SDG 3, since air pollution is a major cause of respiratory disease, cardiovascular illness and premature mortality in the UK and it is estimated that 28,000-36,000 deaths may be attributed to poor air quality. The strategy also promotes safer, healthier and more livable cities by promoting SDG 11 through focused emissions reduction coupled with empowering local authorities. Demonstrations indicate positive achievements. National monitoring (Shrubsole, 2019). PM2.5 levels decreased by 18% between 2010 and 2020, and nitrogen oxide emissions decreased by 44% due to emissions in the transport sector and cleaner technologies.

The strategy has a preventative value that is being further affirmed by the fact that sustained cuts in PM2.5 may avoid tens of thousands of heart disease and stroke cases in 20 years, as estimated by Public Health England (Ben-Shlomo, 2009). Local actions give examples of additional returns; Birmingham registered a 13% drop in nitrogen dioxide in six months following its Clean Air Zone indicating that national and local actions can work in concert. The effectiveness of the strategy, however, is constrained due to uneven regionalization of the strategy with the deprived regions not having sufficient funds and technical capacity to implement controls or invest in sustainable transport. The pace of behavioural change is slow especially in the use of diesel vehicle and the burning of wood in the house which still causes great emissions. Importantly, despite the spectacular long-term objectives, there is a discrepancy between the present progress and the target goals as there is not enough funding to tackle the tasks and no infrastructural autonomy to rely on (Dawkes and Cheung, 2018). Altogether, the UK Clean Air Strategy is a scientifically-grounded and health-oriented program, but its transformative capacity is based on the regular investment within the country and more effective delivery systems at the local level.

Local Initiative Evaluation: London Ultra-Low Emission Zone

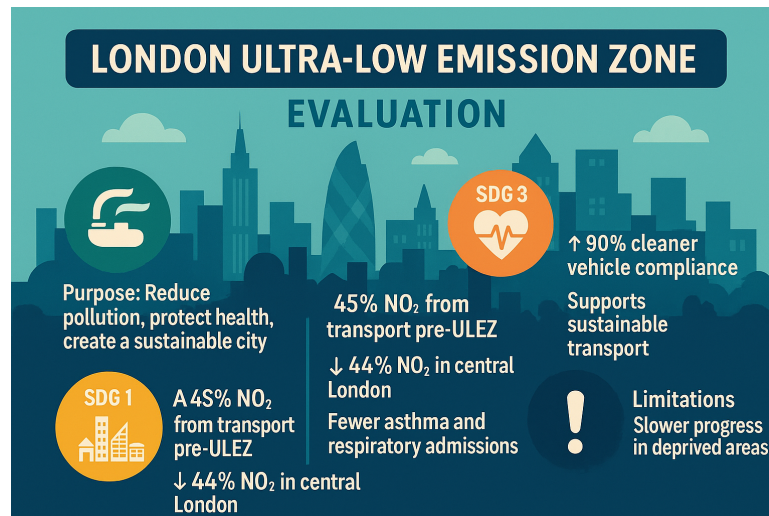


Figure 3: Local Initiative Evaluation: London Ultra-Low Emission Zone(Torjesen, 2024).

One of the key local programs launched to minimize the emission of harmful substances is the London Ultra-Low Emission Zone (ULEZ), which helps to improve the quality of life and promote a more sustainable urban environment (Hajmohammadi and Heydecker, 2022). It aims to reduce nitrogen dioxide (NO₂) and the exposure of the population to PM that is a primary cause of asthma, chronic respiratory illness and cardiovascular disease, which is quite consistent with SDG 3, because its purpose is to limit high- emission vehicles in central and then later outer London. Prior to the introduction of the ULEZ, London experienced some of the highest urban pollution rates in Europe with transport being the largest contributor to NO₂ emissions in the City (almost 45%). After the implementation, the change is significant: central London has seen a 44% decrease in roadside NO₂ and outer London an average decrease of 20% during the first year of the implementation (Torjesen, 2024). Such reductions have been associated with a reduction in the number of asthma triggers, better lung performance and hospitalization decreases, with hundreds of respiratory hospitalizations prevented per year in children and adults estimated.

ULEZ also promotes SDG 11 through the promotion of a cleaner vehicle by encouraging sustainable transport behaviour and making the neighbourhoods livable and safer. The compliance rate of the vehicles was more than 90% in the first year, which is a high level of behavioural adjustments (Orlandi et al., 2025). However, limitations remain. Certain boroughs, especially disadvantaged outer-London boroughs, will experience slower progress because they rely more on older vehicles, and objections continue to be raised over the cost of imposing charges on the

already low income citizens. Also, the issues of infrastructure deficiency in the public transport options make the strategy less accessible to some groups. A critical analysis reveals that ULEZ is a clear reinforcement of national obligations as part of the UK Clean Air Strategy but reveals inequity in local provision and social effects (Shrubsole, 2019). Although pollution mitigation is consistent with national SDG goals, the asymmetries of benefits and affordability issues show that the local air-quality efforts need a more robust social-equity strategy and long-term investment in order to be associated with a greater contribution to SDG 3 and SDG 11.

Recommendations

- ✓ Greener and cheaper public transport should also be further invested in, given that by modeling, changing at least 10% of the short car journeys to public transport or bicycles can cut local nitrogen dioxide concentrations by 5-8%, which has a direct impact on respiratory wellbeing and reduces SDG 3 and SDG 11 (Gorges & Mingardo, 2025).
- ✓ Preventive health services should be made more accessible based on community screening stations, smoking-quitting programs and specific mental-health outreach as these initiatives decrease preventable hospitalization and reinforce early chronic disease in risk groups.
- ✓ The health, housing and environmental departments should also collaborate with one another in order to make sure that concerns about damp housing, poor insulation and overcrowding (factors associated with asthma and cardiovascular strain) are not treated with individual solutions but are incorporated into an integrated policy (Hales and Birdthistle, 2023).
- ✓ Community campaigns on the exposure to pollution, active travelling and wellbeing need to be strengthened as it has been observed that similar campaigns in other UK cities have increased protective practices by 20-30%, especially low-income communities which are disproportionately affected by pollution.
- ✓ The local services should also include digital health tools, such as real-time air-quality notices, pollution heat maps and remote monitoring of vulnerable residents to facilitate early intervention and decrease emergency pressures (Thao, 2025).

Conclusion

Through the population health and creation of sustainable and resilient urban areas, SDG 3 and SDG 11 are pivotal in the sense that they deal with the environmental and social environments which define wellbeing (Mierlus Mazilu, 2025). This analysis demonstrates that national and local policies, including the UK Clean Air Strategy and the ULEZ in London, provide quantifiable outcomes in the form of reducing pollution and promoting planning aimed at the prevention of pollution, but their effects are constrained by uneven coverage and financial issues and social disparities. There is need to have greater policy integration of health, housing and environmental sectors. After all, it can and should be done through a concerted effect at the global, national and local levels to achieve healthier, fairer, and more sustainable communities.

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