Urban Design & Health of the city

Himanshi Sharma

B.Arch, M.Arch
Urban Design Department
School of Planning & Architecture, Bhopal, India

Abstract - Urban planning, design, and form take into account the built environment's role as a model for people's minds, intellects, creativity, and health and consequently, must reflect their imagination, capacity, and goals. Urban development is therefore more than just growth, it improves the resident's social, cultural, physical, and economic well-being. **The importance of urban form has increased in a world that is quickly urbanizing and where the process of urbanization itself has become a factor in determining health. The urban environment acts as a lens to either emphasize or minimize other social health variables.** Urban environments have several contextual and compositional attributes such as size, density, complexity, and verticality that affect health equity in both positive and negative ways. While social and economic conditions are vitally important, there is a growing body of work across the disciplines that recognize the role of a physical urban environment in shaping health and diseases and thus in contributing to health equities. Visible and invisible spatial borders that transpire into segregation of the society according to socio-economic conditions often divide cities. Lack of urban planning and design can result in significantly varied urban settings that may have a beneficial or bad influence on health. Poor people always end up residing in unhealthful areas downstream, downwind, on low-lying ground, in flood plains, during landslides, above rubbish dumps, and next to companies that emit pollution. **Urban planning and design have a large and critical role to play in creating healthy cities by providing creative and equitable urban built form.** Through the medium of the physical environment, urban planners can enhance the physical, mental and social health of the communities. This can be achieved through various means. **From land use patterns, mixed zoning patterns, good connectivity, affordable and effective transport mechanisms, low-cost housing, and accessibility to all advantages of urbanization.** Building health equity through design and thus building healthy and wealthy cities should become a major goal of the urban planning and design processes. This research paper aims to explore the intricate relationship between **urban design** and **public health**, emphasizing the role of well-planned urban environments in fostering the well-being of city residents. As cities worldwide continue to experience rapid urbanization, understanding the impact of urban design on health becomes imperative for creating sustainable and resilient urban spaces.

Index Terms - Urbanization, healthy street, social cohesion, healthy cities.

I. INTRODUCTION

Urbanization is inevitable, is happening rapidly across the globe and has both positive and negative impacts. This trend of urbanization is unavoidable. It is predicted that almost all the world's growth in population over the next 2–3 decades will be in urban areas in developing countries (UN-Habitat, n.d.). Cities have traditionally been the engines of growth since industrialization began. The prosperity of a nation is intimately linked to the prosperity of its cities. In this sense, urbanization, in a way similar to globalization, can be seen as a structural social determinant of health that can challenge the aspirations of equity due to the tendency for the accumulation of wealth and power among the urban elite.

On one hand, cities have become the engines of growth, encompassing a large pool of talent, finance, labour and knowledge creation opportunities in concentrated areas, thus producing economies of scale. On the other hand, they have also become places of increasing poverty, disparity, squalor and social disruption. Inequalities in the intracity access to services, housing, health and health care, education & employment have socioeconomic, environmental and political repercussions. The real challenge lies in recognizing flaws in the process and finding solutions that will make the positive impacts more pronounced, the growth more inclusive and equitable and prevent and/or reduce the negative impact of this unprecedented growth.

Industrialization, urbanization and associated migration have influenced the land use patterns in all cities and land has become the most precious and contested commodity which resulted in the growth of slums due to the rapid growth of the population and the failure of the cities to provide the necessary infrastructure, land and low-cost housing to the marginalized sector.

A slum is a group of individuals living under the same roof in an urban area who LACK one or more of the following five conditions:

1. Durable Housing
2. Sufficient Living Area
3. Access to Improved water
4. Access to sanitation
5. Secure Tenure

This paper seeks to illustrate various aspects of the structural design of urban settings, and how it can help create healthy and inclusive cities.

II. URBAN DESIGN & HEALTH

Other social determinants of health might be emphasized or diminished by the urban environment. Urban settings offer a variety of contextual and compositional characteristics that have an impact on health equity in both positive and bad ways, including size, density, complexity, and verticality. Even while social and economic factors are crucial, there is a growing corpus of research from other disciplines that acknowledges the impact of the physical urban environment on molding health and illnesses and, therefore, on health inequities. (patil) Cities are frequently divided by both visible and invisible physical limits that result in social segregation based on socioeconomic status.

UN-Habitat 2010–2011 states that "Closer evaluation of the urban space in many cities of the developing world unmistakably exposes the fragmentation of the society with evident variations in the production, appropriation, transformation, and use of space and opportunity." (development, n.d.)Significant infrastructure, well-kept parks, gardens, and neat, well-built residential sections may be

found in certain places. Other regions, on the other hand, are marked by extreme deprivation, subpar housing, insufficient services, subpar recreational and cultural amenities, urban deterioration, and little capital investment. The citizens' health is severely impacted by this type of spatial injustice. Urban design has a crucial role to play in this situation.

Urban planning and design or lack of it can create very different urban environments that can impact health positively or negatively. In all countries, the poor end up living in unhealthy places- downstream, downwind, in low laying lands, in flood plains, in landslides, over garbage dumps, and near polluting factories. It has been noted that **health disparities are increasingly linked to the physical and social environment that falls under the domain of planning**. The issue that can be moderated through urban design and planning: **Land use patterns, designing of infrastructures, both soft and hard, density and location of facilities and safe neighborhoods**. Availability or lack of this has a severe impact on the physical and mental health of the residents. Urban planning and the regulatory framework it provides on land use, land development, housing and building standards and infrastructure standards should reduce inequities in living conditions. Their core purpose is to ensure health and safety, including land use regulations that prevent buildings on unsuitable sites (for instance, flood plains) and ensure that land is available for infrastructure and services and open/ public space.

III. SIX PATHWAYS FOR DESIGNING HEALTHY CITIES

- **Equitable access to benefits of urban life**

The ability to make a living is crucial to people's health. Long and expensive commutes to work and limited access to transportation influence the family's physical and financial well-being and make urban poor people more susceptible to unemployment. More distant slum residents may have no choice but to spend the night in a public area while squatting in their temporary, service-free housing due to a spatial mismatch between their place of employment and their site of living. In certain regions, people who work during the week sleep on benches to save on travel time and expenses, which account for 20% of their income. 20% of workers in Mexico City commute each day for more than three hours. (2009, n.d.)

Better urban infrastructure, pedestrian-friendly streets and well-planned transport systems that provide safe options for getting around the city are needed to curb the rise in traffic Deaths (UN-Habitat, State of the World's Cities, 2006/7).

Another critical access is for the health care services and facilities. In poor areas, there are no healthcare facilities available. Access to schools, community places and parks is also important for community cohesions and physical activities.

- **Access to adequate housing**

Since ancient times, there has been a connection between housing and health. The relationship between housing and health effects has been extensively studied in the literature. The majority of the world's largest cities are constantly struggling with the shortage of affordable housing for the urban poor and the growing health disparities brought on by this problem.

'Is Housing Improvements a potential health improvement strategy?' A population-based strategy to enhance health and lessen health inequities may be provided through housing renovations in disadvantaged regions or social housing, according to the well-established linkages between bad housing, poor health, and poverty. Health advantages for present occupants and the prevention of hazardous exposure to future generations may result from housing renovations that limit exposure to certain dangers.

The World Health Organization has identified nine critical features of housing conditions that can have a direct impact on health.

1. The house is a structure that protects occupants from natural elements like heat, cold, rain flood, pests, noise, etc.
2. The extent to which there is adequate water supply, both quantitative and qualitative
3. The effectiveness of the provision for excreta, sewage and solid waste disposal and management of that disposal
4. The quality of the housing site, the extent to which it is structurally safe for the housing and the extent to which provision is made to protect it from contamination. (provision for drainage is the most important)
5. Effects associated with overcrowding include household accidents and increased amount of air-born infectious diseases including pneumonia and TB.
6. Indoor air pollution is associated with fuels used for cooking and heating.
7. Food safety including the extent to which the shelter had adequate provision
8. Vectors and hosts of other diseases associated with the domestic and peri domestic environment.
9. Home as a workplace- where occupational health questions such as storage of toxic or hazardous chemicals and health safety aspects of equipment used need consideration.

An urban planning strategy that facilitates access to clean water, and toilets can reduce the prevalence and minimize the impact of water borne diseases. It is estimated that providing adequate sanitation and water can reduce diarrhea morbidity by up to 46%.

- **Safe living environment**

Through behavioral changes and safety, the nature of urban planning that results in the creation of urban environments has a significant influence on health. Physical exercise, access to public places, neighborhood walkability, the availability of quick, cheap meals, connection, and safety are all factors that depend on urban planning. When discussing safety, several topics are once more connected to urban form and design. Elderly and pedestrian safety on the highways, playground safety for kids, protection of women from assault and abuse, workplace safety, and protection against natural and man-made disasters. In India, road traffic accidents are almost always underreported and in addition to pedestrians, pavement dwellers often are the easiest victims of road injuries in a city like Mumbai. (UN-Habitat W. &., n.d.)

- **Physical activity**

Urban planning and design that has been carefully thought out can boost physical exercise, increase social interaction, and lessen the negative health effects of the new lifestyles that urbanization processes have brought about. The density of the housing stock, the mix of land uses, the degree of street connectivity, the convenience of walking between locations, and the availability and accessibility of neighbourhood public spaces for play and leisure all have a significant impact on physical activity. In the context of urban development in India, the walkability component has not received any special attention. In India, the ministry of urban development commissioned a study to evaluate walkways, general infrastructure, and pedestrian evaluation of the facility. The walkability index was 0.52 on a

nationwide level. Even though in India most Indians walk, the absence of footpaths and constant negotiation with traffic makes walking a hazardous experience in major cities in India.

Urban planning must priorities creating inexpensive and accessible public transportation infrastructure in every city, as well as routes for walking and biking. Planning that prioritizes green spaces, recreational parks, and play areas makes a significant contribution to promoting physical activity. All of the planning techniques discussed above help to create healthy cities.

Healthy streets approach A street that works for people is a street that is good for long-term health and well-being. The healthy streets approach is a system of policies and strategies for a healthier, more inclusive city in which people choose to walk, cycle and use public transport. The approach is centered on improving 10 evidence-based indicators of what makes streets appealing, accessible to all and healthy.

- **Food security**

The large participation of women in the labor force combined with pervasive globalization has led to dramatic alterations in food habits across the globe. In many parts of the world, the traditional diets of grains, pulses, fruits & vegetables have given way to meat-intensive diets combined with an excess of processed food. In the US the availability of instant foods is easily available in poorer neighborhoods where coke and hamburgers are cheaper than water and salads. This nutritional transition coupled with urban planning that is built around the automobile industry which discourages physical activity has led to the epidemic of obesity and diabetes with approximately 2 billion people who are either obese or overweight.

- **Access to the natural environment**

The natural environment in which people live and interact has a large impact on both physical and mental health. This is where sound urban planning can play a large part. Environmental pollution, including water, air, and noise pollution has increased considerably due to rapid industrialization and automobile-dependent lifestyles, increased need for energy and dependence on many chemical-oriented products used in our daily lives. Some relationships between these factors and health are well-studied. Noxious factory fumes and motor vehicle exhaust cause increased asthma and upper respiratory infections. Polluted drinking water causes gastrointestinal diseases and heavy metal poisoning. Staying in an older home with lead paint has caused severe lead poisoning in young children in the US. As per WHO (2010) indoor and outdoor pollution is a major health problem and is estimated to cause approximately two million premature deaths worldwide per year with most of the burden of diseases being in LMIC.

Another critical part of urban design related to the Urban Heat Island effect is secondary to climate change. The absorption of heat by the concrete surfaces results in urban areas having higher temperatures than surrounding non-urban areas (GRNUHE 2010). This indeed has a negative impact on health. Therefore, ensuring trees, open parks, and greenery as a part of urban planning will provide both cool shade and carbon-sinking capacity to the cities

IV. HEALTH BY DESIGN

Noncommunicable diseases are a major cause of death and disability around the world. The design of our urban environments limits people's ability to be active in daily life and limits access to and the availability of healthy food options.

Key Health Objective for Urban Planners: Urban Planning policies and proposals should encourage the following:

1. Healthy exercise
2. Social cohesion
3. Housing quality
4. Access to employment opportunities
5. Local low-impact food production and distribution
6. Community and road safety
7. Equity & reduction of poverty
8. Good air quality and protection from noise
9. Good water & sanitation quality
10. Conservation and decontamination of land
11. Climate stability

V. CONCLUSIONS

Urban planning and design, which provides a creative and equitable urban constructed form, has a significant and crucial role to play in developing healthy cities. Urban planners may improve the communities' physical, mental, and social well-being through the physical environment. Several methods can be used to accomplish this. Urban design is a key determinant of physical activity and healthy diets, contributing to the prevention and control of diseases and improving global health. **Healthy streets approach** A street that works for people is a street that is good for long-term health and well-being. Urban planning and design procedures should make achieving health equity via design a top priority to create prosperous and healthy cities. By examining the intersection of urban design and public health, this research contributes to the ongoing dialogue on creating cities that prioritize the well-being of their inhabitants, laying the groundwork for healthier and more liveable urban environments.

VI. REFERENCES

1. 2009, U. H. (n.d.). *Planning sustainable cities: Global report on human settlements 2009, Nairobi*. Retrieved from UN Habitat 2009, "Planning sustainable cities: Global report on human settlements 2009, Nairobi.

2. development, W. c. (n.d.). *Air Quality and Health*. Retrieved from WHO centre for Health development: WHO 2010 " Air Quality and Health" Kobe, WHO centre for Health development

3. Organization, W. H. (n.d.). Urban Design for health.

4. patil, A. (n.d.). *Urban Design & Health of city.* Retrieved from udri.org: https://udri.org/wp-content/uploads/Mumbai%20Reader/MR%2010/08%20Anita%20Patil%20-%20Urban%20Design%20&%20Health%20of%20the%20City.pdf

5. UN-Habitat, W. &. (n.d.). *Urban planning crucial for better public health in cities.* Retrieved from WHO & UN-Habitat: https://www.who.int/news-room/feature-stories/detail/urban-planning-crucial-for-better-public-health-in-cities

6. UN-Habitat, W. H. (n.d.). *Urban planning crucial for better public health in cities.* Retrieved from World Health Organization: https://www.who.int/news-room/feature-stories/detail/urban-planning-crucial-for-better-public-health-in-cities