Urban HEART

Urban Health Equity Assessment and Response Tool

World Health Organization

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PREFACE

In the words of World Health Organization (WHO) Director-General, Dr Margaret Chan, "When health is concerned, equity really is a matter of life and death." Tackling differentials in health across population groups is regaining prominence in the agenda of national and local governments, and international organizations. In 2005, WHO established the Commission on Social Determinants of Health to support countries and global health partners and to draw their attention to the social determinants of health, which are significant factors in poor health and inequities in health between and within countries. Earlier, in 1978, at the International Conference on Primary Health Care at Alma-Ata, world governments had endorsed the notion that health is linked to living and working conditions of the population, and acknowledged the role of community participation. Despite the commitment to "Health for All" at Alma-Ata, evidence shows that gaps between rich and poor countries and between the rich and poor within countries have since widened.

The impact of the urban setting on health and, in particular, inequity in health has been widely documented. Evidence shows that while, on average, public services, including health and health service provision, in urban areas may be better than in rural areas, these averages often mask wide disparities between more and less disadvantaged populations. One key factor is the exclusion of the marginalized and vulnerable in public health planning and response systems (*1*). Urban health is influenced by a dynamic interaction between global, national and subnational policies; within that wider context, city governments and local communities can play an instrumental role in closing the gap between the better off and the worse off.

Regardless of the evidence, only a few countries have examined their inter- or intra-city health inequities, and few do so regularly. Information that shows the gaps between

cities or within the same city is a crucial requirement to trigger appropriate local actions to promote health equity. Evidence should be comprehensive enough to provide hints on key health determinants, and concise enough to facilitate policy-making and prioritization of interventions.

In order to facilitate the process of proactively addressing health inequities, WHO collaborated with 17 cities from 10 countries[1] in 2008–2009 to develop and pilot-test a tool called the Urban Health Equity Assessment and Response Tool (Urban HEART). Urban HEART guides local policy-makers and communities through a standardized procedure of gathering relevant evidence and planning efficiently for appropriate actions to tackle health inequities. This collective effort towards a common goal has galvanized both city governments and communities to recognize and take action on health inequities. It is envisaged that cities in varied contexts can locally adapt and institutionalize Urban HEART, while maintaining its core concepts and principles.

The aspiration for closing the health gap in cities can be met by guiding public health policies through evidence and in-depth analysis of inequities, using a participatory and intersectoral approach. Urban HEART provides an opportunity for policy-makers from different sectors, and communities, to cooperate in using evidence to identify and prioritize interventions for tackling health inequities. Local chief executives are provided with a tool to lead and engage their governments in more efficient allocation of resources with a broad-based support for action. Importantly, the tool empowers local communities to use evidence and take action on their priorities with the support of local and national authorities.

[1] Cities from the following 10 countries pilot-tested an initial version of the tool: Brazil, Indonesia, Islamic Republic of Iran, Kenya, Malaysia, Mexico, Mongolia, Philippines, Sri Lanka and Viet Nam.

ACKNOWLEDGEMENTS

The Urban Health Equity Assessment and Response Tool (Urban HEART) is a collective effort and has been jointly developed by the WHO Centre for Health Development, Kobe (Japan), in collaboration with regional offices of WHO, and city and national officials from across the world. Inputs from the teams in cities who pilot-tested the tool have been critical in the development of Urban HEART:

- Guarulhos (Brazil)
- Jakarta, Denpasar (Indonesia)
- Tehran (Islamic Republic of Iran)
- Nakuru (Kenya)
- State of Sarawak (Malaysia)
- Mexico City (Mexico)
- Ulaanbaatar (Mongolia)
- Davao, Naga, Olongapo, Paranaque, Tacloban, Taguig, Zamboanga (Philippines)
- Colombo (Sri Lanka)
- Ho Chi Minh City (Viet Nam).

In particular, the enthusiasm of community groups in various pilot sites and their leadership in building broad-based support for applying the tool to address health inequities in their cities were vital. Their inputs and emphasis on a participatory approach have been a key building block of Urban HEART.

The development of the tool has also benefited much from the expertise of officials at WHO headquarters in Geneva, especially from the Noncommunicable Diseases and Mental Health Cluster and the Information, Evidence and Research Cluster.

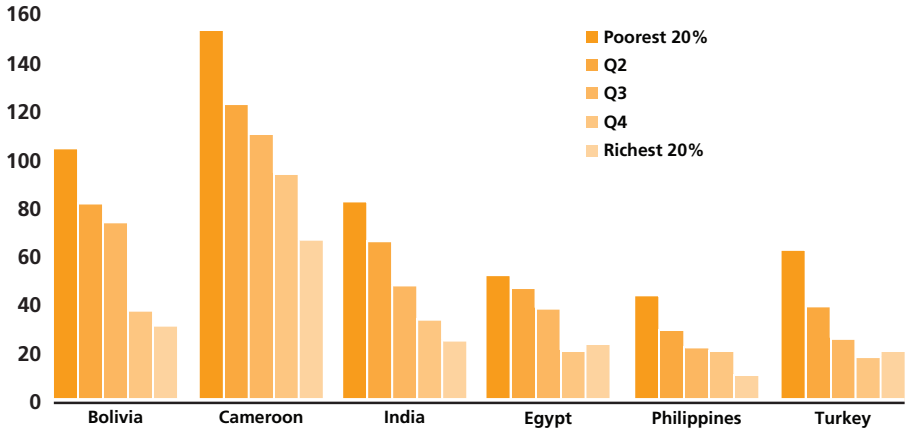
Finally, the 12 members of the Urban HEART Ad Hoc Advisory Group brought in a variety of expertise to contribute to the development of the tool. The advisors, a mix of academics, policy-makers and experts from international organizations, provided much-needed technical inputs and advice to strengthen both the scientific validity and the practical applicability of the tool.

A. CONCEPTS AND PRINCIPLES

A.1 INEQUITY IN HEALTH

Differences in health across the population can be observed in any city. Genetic and constitutional variations ensure that the health of individuals varies, as it does for any other physical characteristic. Older people tend to be sicker than younger people, because of the natural ageing process. However, three features, when combined, turn a mere difference in health into an inequity in health. A difference in health that is systematic, socially produced (and, therefore, modifiable) and *unfair* [2] is an inequity in health (*2*).

Figure 1 Under-five mortality rates per 1000 live births by urban wealth quintiles in selected countries



Source: Demographic and Health Surveys 2003–2005 (WHO estimates).

Systematic differences in health are not distributed randomly but show a consistent pattern across the population. One of the most striking examples is the systematic differences in health between different socioeconomic groups. This social pattern of disease is pervasive, though its magnitude and extent vary among countries. Figure 1 shows that in each of the selected countries from different regions of the world systematic differences in under-five mortality exist in urban areas across socioeconomic groups represented by wealth quintiles.

No law of nature decrees that the children of poor families should die at a higher rate than that of children born into rich families. This difference is, therefore, largely produced by *differential social circumstances* and is not biologically determined. If existing social and economic policies maintain these gaps then they must be recognized as inequitable and changed to reduce inequities.

Inequity in health is considered to be unfair because it is generated and maintained by "unjust social arrangements". Inequity is unfair because (a) we know how to reduce inequities with known interventions and to not take action is unjust; and (b) inequities are avoidable and preventable. Although ideas about what is unfair may differ to a certain degree from place to place, there is much common ground. For example, it would be widely considered unfair if the chance of survival was much poorer for the children of some socioeconomic groups, compared with that of others.

EQUITY IN HEALTH

The World Health Organization Constitution, adopted in 1946, asserted then that "the highest standards of health should be within reach of all, without distinction of race, religion, political belief, economic or social condition". Echoing these sentiments more than 60 years later, equity in health implies that ideally everyone could attain their full health potential and that no one should be disadvantaged from achieving this potential because of their social position or other socially determined circumstance.

[2] The main reference for this section is Whitehead and Dahlgren (2).

A.2 THREE MAIN APPROACHES TO REDUCE HEALTH INEQUITIES

Globally, multiple strategies have been used to address health inequities. Three main approaches applied to measure and tackle inequities in health are:

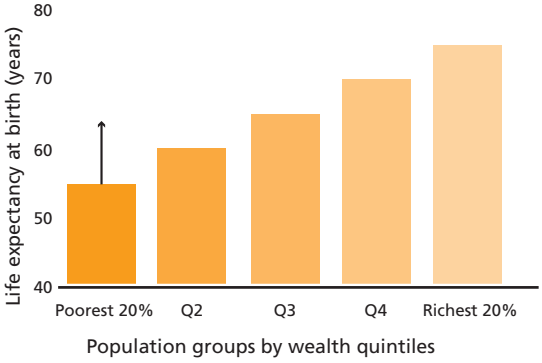
- targeting disadvantaged population groups or social classes
- narrowing the health gap
- reducing inequities throughout the whole population.

It is likely that the approaches are interdependent and should build on one another. The relative merits of the different ways of addressing health inequities are discussed briefly.

A.2.1 Targeting disadvantaged population groups or social classes

This approach measures progress in terms of an improvement in health for the targeted group only, for example people living in poverty. There is no reference to improvements in health taking place among the population as a whole. Any improvement in health of the targeted population can be considered a success. In Figure 2.1, we can see that poorer populations have lower life expectancy than richer populations. In this approach the policy-makers would focus on improving the health status of only the most disadvantaged group (for example the poorest 20%). However, this approach may not always lead to a reduction in health inequities.

Figure 2.1 Targeting



A.2.2 Narrowing the health gap

This approach takes as its starting-point the health of disadvantaged groups relative to the rest of the population. The focus of action in this category is to reduce the gap between the worst off in society and the best off – the inequity in health status between the extremes of the social scale. In Figure 2.2 the life expectancy of the richest 20% is used as a benchmark for identifying the gap in health attainment for the poorest 20%. The goal of this approach is to close the gap in life expectancy between the richest (best off) and poorest (worst off) 20%.

Figure 2.2 Narrowing the gap

A.2.3 Reducing inequities throughout the whole population

This approach recognizes that health status tends to decrease with declining socioeconomic status and is not just an issue of a gap in health between rich and poor. Therefore, the whole population is taken into consideration, including middle-income groups, and the goal is to reduce the inequities in health among high-, middle- and low-income groups by equalizing health opportunities across the socioeconomic

spectrum. In Figure 2.3 the life expectancy of the richest group is taken as a benchmark of health attainment for the other groups. The goal here is to reduce the gap across all population groups in comparison to the best off.

Figure 2.3 Acting on the whole population

A.3 TACKLING HEALTH INEQUITIES IN URBAN AREAS

In 2007, for the first time all over the world, more people lived in cities and towns than in rural areas. The city's promise lies in proximity: to health-supporting physical and social infrastructure, to technology, and to jobs, schools and health-care services. Action to turn proximity into accessibility and to improve health, education and social services in cities is a priority outlined by the WHO Commission on Social Determinants of Health.

The work of the Commission has contributed to increasing global awareness for health equity. In its final report in 2008, the Commission defines health inequity as follows: "Where systematic differences in health are judged to be avoidable by reasonable action they are, quite simply, unfair. It is this that we label health inequity." The Commission adds: "Putting right these inequities – the huge and remediable differences in health between and within countries – is a matter of social justice" (*3*).

Further, the Commission recognized that principles alone are insufficient. Evidence is required on what is likely to work in

practice to improve health and reduce health inequities. Evidence should be collected not only on the immediate causes of disease but also on the "causes of the causes" – the fundamental national and global structures of social hierarchy and the socially determined conditions these create in which people grow, live, work and age. With respect to this the Commission has called upon multilateral agencies, including WHO, to:

- use a common global framework of indicators to monitor development progress;
- adopt a stewardship role, including strengthening the technical capacity of Member States and developing mechanisms for intersectoral action for health;
- monitor progress on health equity;
- support the establishment of global and national health equity surveillance systems;
- convene global meetings.

In May 2009, the World Health Assembly of WHO, at its 62nd session, passed a resolution based on the recommendations of the Commission titled *Reducing health inequities through action on the social determinants of health* (*4*).

B. INTRODUCING URBAN HEART

B.1 WHAT IS URBAN HEART?

The Urban Health Equity Assessment and Response Tool (Urban HEART) is a user-friendly guide for policy- and decision-makers at national and local levels to:

- identify and analyse inequities in health between people living in various parts of cities, or belonging to different socioeconomic groups within and across cities;
- facilitate decisions on viable and effective strategies, interventions and actions that should be used to reduce inter- and intra-city health inequities.

Implementing Urban HEART will equip policy-makers with the necessary evidence and strategies to reduce inter- and intra-city health inequities. *Inter-city health inequities* are those that occur across two or more cities; *Intra-city health inequities*[3] are those that exist across wards or districts or across socioeconomic groups (for example by income or education level) within a city. Urban HEART has four characteristics that are desirable in such a tool: (a) it is easy to use; (b) it is comprehensive and inclusive; (c) it is operationally feasible and sustainable; and (d) it links evidence to actions. These positive features are further described in Box 1.

B.2 WHY SHOULD YOU USE URBAN HEART?

The adoption and use of Urban HEART by national and local governments, community organizations and urbanized or rapidly urbanizing communities is intended to:

- guide policy-makers and key stakeholders to achieve a better understanding of the social determinants of

health and their consequences for people living in a city;
- stimulate policy-makers, programme managers and key stakeholders to make strategic decisions and prioritize specific actions and interventions that are tailored to the needs of vulnerable and disadvantaged groups in cities;
- assist communities to identify gaps, priorities and required interventions to promote health equity;
- support programme managers in improving intersectoral collaboration and communication strategies relating to the social determinants of health.

BOX 1:
URBAN HEART: FOUR DESIRABLE CHARACTERISTICS

A. IT IS EASY TO USE. The tool is simple, practical and user-friendly, and the results it generates should facilitate a more intuitive understanding of urban health equity by decision-makers and technical staff at national and local levels.

B. IT IS COMPREHENSIVE AND INCLUSIVE. Urban HEART adopts a framework that takes into account health determinants and risk factors and their interactions across multiple levels and sectors in the urban environment, as they impact on communicable and noncommunicable diseases as well as violence and injuries. The tool addresses the concerns of multiple sectors and is inclusive enough to generate buy-in, participation and effective dialogue among key stakeholders.

C. IT IS OPERATIONALLY FEASIBLE AND SUSTAINABLE. The process of generating and analysing data and disseminating the results should entail minimal cost and should be within the institutional mechanisms of national and local governments. As much as possible, data should be obtained from existing information systems and regular records and reports. The tool includes core indicators that are universally utilized and generally comparable across urban settings. However, recognizing differences in local contexts, the tool also offers flexibility to cover indicators specific to the requirements of the local setting.

D. IT LINKS EVIDENCE TO ACTIONS. The tool and the results it generates should have the relevance and cogency to enable better governance and decision-making by stakeholders at national and local levels. The emphasis on the use of disaggregated data further facilitates identification of focused interventions.

[3] Alternatively, these can be referred to as inter- or intra-urban health inequities, as is common in scientific literature.

B.3 WHAT IS URBAN HEART EXPECTED TO ACHIEVE?

Urban HEART is expected to achieve the following:

- local and national authorities equipped with relevant evidence to inform important decisions related to prioritization and resource allocation;
- communities mobilized and empowered to promote health equity;
- multiple sectors engaged in addressing common goals, including the promotion of health equity;
- people living in cities with better health and social status, and reduced inequities in health between population groups.

B.4 CORE ELEMENTS OF URBAN HEART

It is important to recognize the core elements that form the basis for a successful implementation of Urban HEART. A process for complex problems such as reducing health and social inequities will not be a one-size-fits-all prescription; will involve consideration of existing ongoing interventions; will follow a cyclical rather than a linear process; and will be determined by engaging all local stakeholders. However, three core elements should form the basis of Urban HEART implementation: (a) sound evidence; (b) intersectoral action for health; and (c) community participation.

B.4.1 Sound evidence

Data used in Urban HEART should meet high standards of reliability, transparency and completeness. A key criterion for selecting indicators in Urban HEART is to determine those that are most likely to have impact on health inequities. First, it will be important to focus on those indicators that have available data to reflect equity. Second, the quality and reliability of the available data should be determined; data quality and validity should be ascertained throughout the process of Urban HEART, as poor-quality data are not appropriate for decision-making. Third, a decision needs to be made on how to address the indicators for which no data are available.

Two strategies for handling non-availability of data are (a) use of alternative data that are already available; and (b) generation of new data. The first option is to examine relevant data from similar localities or other sources that might serve as reasonable proxies. This requires the expertise to determine the relevance and applicability of data from other sources. It is a cost-efficient option as it makes use of available data. However, its sustainability depends on the capacity of the original data source to continue generating relevant data over time.

The second, more resource-intensive option involves conducting a survey or a qualitative assessment. Generation of new data may be expensive or unsustainable as it requires substantial expertise and resources. *Conducting a survey* is not recommended unless there is strong local willingness and capacity – in terms of resources – to do so. Appropriate technical experts for survey design, sampling and instrument development should be involved in the process. Similarly, if the option of a *qualitative assessment* is chosen for some indicators, appropriate experts with experience in conducting focus group discussions or key informant interviews should be involved. It is important to gauge the local availability of expertise, information and resources before selecting the relevant option(s).

Irrespective of the method used for collecting information every effort should be made to maintain the scientific validity of the process. Given issues of sustainability with the two strategies, local government and communities should aim to establish in a simultaneous and phased approach the systems and capacity to ensure that disaggregated data become available over time, even though they may not be available in the first instance. Some key issues to consider while collecting data are:

- **Disaggregation.** The statistics made available should be stratified by sex, age, socioeconomic status, major geographical or administrative region and ethnicity, as appropriate.

- **Validation.** The final data used must be adequately vetted by relevant local and national authorities and experts. The data should maintain the highest standards of quality and should be collected from standard reliable sources.

- **Consistency.** There should be internal consistency of data within a dataset as well as consistency between datasets and over time. Data revisions should follow a regular, well-established and transparent schedule and process.

- **Representativeness.** Data should adequately represent the population and relevant subpopulations.

- **Confidentiality, data security and data accessibility.** Practices should be in accordance with guidelines and other established standards for storage, back-up, transport of information and retrieval.

- **Adjustment methods.** Crude data need to be adjusted to take into account confounding factors. For example, for comparison of the prevalence of age-sensitive conditions such as diabetes, data must be adjusted to allow for variations in the age structure of different populations. Adjustment requires that data transformation and analysis methods follow sound and transparent statistical procedures.

B.4.2 Intersectoral action for health

Intersectoral action involves building upon constructive relationships with people and agencies from outside the health sector in an effort to influence a broad range of health determinants. These include other sectors in the government, such as education, transport and public works, and community groups and nongovernmental organizations addressing relevant issues.

First, the nature of the problem that Urban HEART is trying to address is such that actions cannot be taken within the health sector alone. The roots of health inequities often lie outside the direct reach of the health-care system and, for this reason, it is vital for all relevant sectors to take action in order for interventions to be effective.

Second, sharing of information and data resources across sectors is essential to the successful implementation of Urban HEART. If information systems are not centralized, the ownership of indicators for various determinants of relevance to the health sector may remain the responsibility of other sectors. It will be critical to have early engagement and buy-in of all relevant stakeholders.

Third, the interventions and actions proposed through the implementation of Urban HEART will require intersectoral action through the close engagement of all relevant sectors. For example, interventions proposed to address youth violence and crime in the city will require the support of the local or national law enforcement departments, such as the police, as well as the education sector and perhaps community groups that provide after-school programmes.

The challenge of intersectoral action is that it requires excellent communication, rhetorical and team-building skills; interdisciplinary knowledge; and flexibility in administrative and management arrangements to steer the process for assessing, prioritizing and then delivering on policy formulation and programme implementation.

B.4.3 Community participation

Community participation should be a process that involves community members in all aspects of the intervention process, including planning, designing, implementing and sustaining the project. It enables communities to become active participants in decisions concerning their health, and promotes simultaneous use of community resources.

First, it is important to recognize that social exclusion is a key determinant of health inequities. Cities and urban areas, in general, have unequal outcomes and opportunities because some population groups are systematically excluded from participating in decision-making processes. For example, gender and ethnicity-related barriers to participation in decision-making result in unequal access to resources, capabilities and rights, leading in turn to health inequities. The Urban HEART process requires remedying this issue and engaging affected communities strongly both in the identification of issues and in the development and implementation of actions.

Second, empowering communities to identify priorities using evidence, and then initiating actions to address these priorities, ensures sustainability of the broader objective of addressing health inequities in urban areas. Whereas government structures and leadership are likely to change over time, a well-informed demand for action from communities will enable sustained implementation of actions.

C. PLANNING URBAN HEART

C.1 – PLANNING AND IMPLEMENTATION CYCLE
C.2 – URBAN HEART USER MANUAL

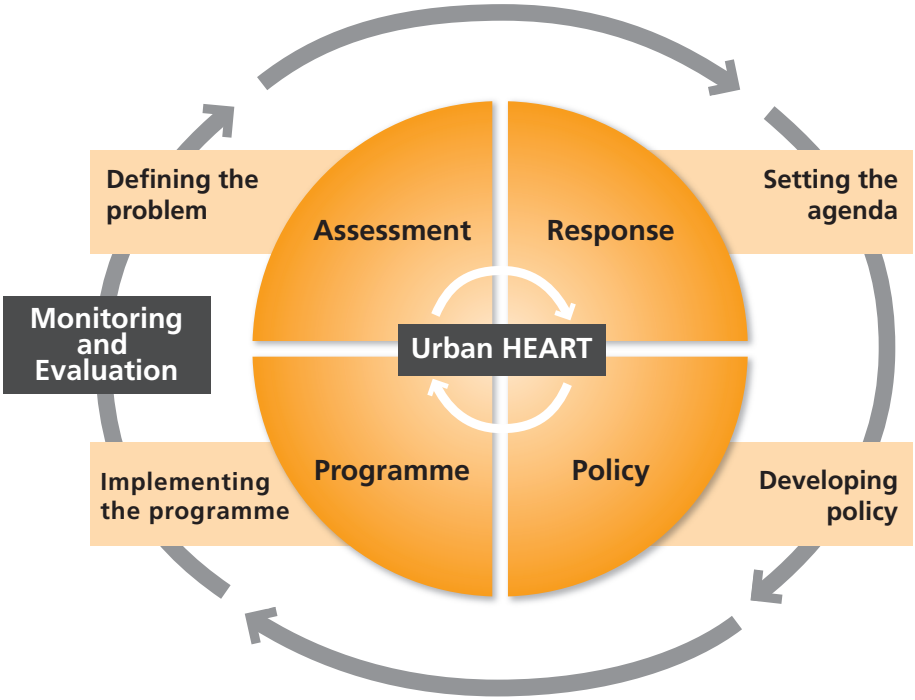
To ensure feasible, efficient and sustainable application of Urban HEART it is important that its implementation is integrated into the planning cycle of the local governments or authorities, such as planning and budgeting exercises. Therefore, the nature of Urban HEART implementation will be cyclical rather than linear.

C.1 PLANNING AND IMPLEMENTATION CYCLE

Although policy-making processes can differ depending on the country or even city context, there are common underlying aspects. In brief, the policy-making process is a system – of mechanisms and rules – that allows both policy formulation (what can be done) and programme implementation (how to make it work). The outputs of this system involve actors from various groups (for example community, lobbies, multiple sectors) who participate in, influence, act upon and impact the policy-making process.

Figure 3 presents the cyclical nature of the planning and implementation of Urban HEART. It ensures consistency with local governance processes, allows the integration of the results of the assessment in the local political debate, facilitates linkages with other sectors, ensures better chances of influencing budget allocation and, most importantly, puts health equity issues at the heart of the local policy-making process. It is likely that there are already existing assessments and interventions ongoing in the cities in which Urban HEART will be implemented. Urban HEART can complement existing social and health initiatives by providing an equity lens.

Figure 3 Urban HEART integrated into the local planning cycle



In addition, it will be important to evaluate the planning and implementation process. For example, implemented interventions should have in-built evaluation and monitoring functions. Evaluation should be both external and internal, with participation from the community and multiple sectors, and should focus on both processes and outcomes. The main elements presented in the planning cycle in Figure 3 are described in Box 2.

BOX 2:
COMPONENTS OF THE PLANNING CYCLE

ASSESSMENT Defining the problem	**This is a critical phase as it results in the identification and monitoring of inequities, and forms the basis for determining future action. The evidence collected in coordination with multiple sectors and communities will provide support to raise the awareness of decision-makers and citizens. This can lead to highlighting and acting upon health equity problems in the city. By its nature, the assessment phase also allows the evaluation of the impact of both health-related and non-health-related policies on health.**
RESPONSE Setting the agenda	**The identification of responses is probably the most complex and challenging phase, as it involves identifying what actions will be taken, who will be involved and for what purpose or outcomes. The process to identify and preselect interventions should be seen as an opportunity to engage all relevant sectors and communities in the decision-making process. Identifying interventions will set the agenda for tackling health inequities at the local level.**
POLICY Developing policy	**In this stage, selected interventions identified during the previous phase are prioritized and budgeted to ensure their inclusion in the policy-making process at the local government level. It is expected that the evidence provided by the assessment of key Urban HEART indicators will be an asset to prioritize the most relevant interventions.The success of this process will be measured through the laws, programmes and interventions implemented.**
PROGRAMME Implementing the programme	**Resources allocated by the local government are a marker of political choice. The time frame for allocation depends on the context, and should be taken into account in the planning of Urban HEART. The health sector will implement and oversee the health policies developed with an equity focus. Non-health sectors may also have been allocated resources to develop policies that will have an impact on health equity.**

C.2 URBAN HEART USER MANUAL

While recognizing the critical nature of each component of the local planning cycle, the tool itself focuses its guidance on the first two elements presented in Figure 3: (a) assessment, and (b) response. The steps to be undertaken in developing policy and implementing the programme phases are likely to be strongly locally specific and, therefore, are beyond the scope of guidance to be included in this document. However, based on the piloting experience of cities in 2008–2009, broad steps for implementing Urban HEART have been identified in cooperation with city officials and communities. These steps are further described for practitioners in the Urban HEART User Manual.

The Urban HEART User Manual is a companion volume to Urban HEART. It is for organizations, teams and individuals who will play a front-line role in launching, coordinating and managing the Urban HEART process in their home cities. The manual is intended to lead the Urban HEART team through the steps of the assessment and response process. It should be used in tandem with Urban HEART and associated online resources. The manual provides guidance based on research evidence, best practices and past experience from cities that have already used Urban HEART. For instance, it includes guidance for constructing and reading the Urban HEART data presentation tools: Matrix and Monitor. It also includes a checklist for each step, to help teams using the tool to decide if they have met their objectives for that step.

Successful implementation of Urban HEART requires taking the follow-up steps as indicated in the planning cycle.

- The immediate next step (after "response") is related to budgetary and other resource allocation, and passing local laws and ordinances – where relevant – for the implementation of the identified actions.
- In the implementation stage it is important to involve all relevant sectors, especially community groups. While the health sector is likely to take the lead on health-related interventions, leadership for implementation of the interventions of other sectors should be their respective responsibilities.
- Finally, the implementation of the tool and interventions cannot be complete without an evaluation of the entire process and outcomes. Implemented interventions should have in-built monitoring and evaluation functions.

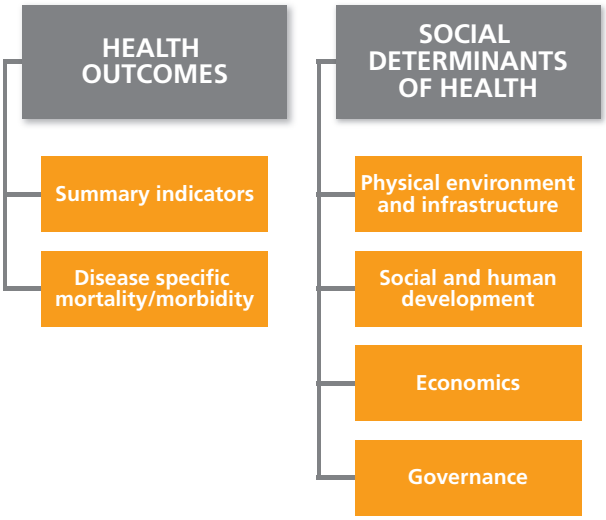
D. ASSESSMENT

D.1 INDICATORS

D.1.1 Organization of indicators

The assessment component of Urban HEART is an indicator guide designed to identify differences between various population groups within the city or across cities using indicators of key health outcomes, and major social determinants grouped into four policy domains. Figure 4 shows the organization of indicators in Urban HEART.

Figure 4 Indicator grouping in Urban HEART



Health outcome indicators include those that are indicative of the major outcomes or impacts of multiple factors and drivers in the performance of the health system and other sectors associated with the social determinants of health. Health outcome indicators are further divided into:

- **summary indicators,** for example infant mortality rate;
- **disease-specific mortality and morbidity indicators,** for example age-standardized diabetes death rate per 100 000 population.

Social determinants of health have been categorized according to the following four policy domains:

- **Physical environment and infrastructure** consists of indicators related to environmental and physical hazards associated with living conditions, such as access to safe water and sanitation services, and environmental conditions in the neighbourhood, community and workplace, such as exposure to work-related hazards.
- **Social and human development** includes determinants and interactions that influence aspects of human development and issues of social exclusion, such as access to education and health services, nutrition and food security, and other social services. Also included are the obstacles to better health-seeking behaviour and improved personal lifestyle and health practices associated with low health literacy.
- The **economics** domain contains indicators that measure economic status and barriers to economic opportunities faced by the population in general or by specific population groups. This domain includes indicators measuring access to credit and capital, job opportunities,

potential for generating income and other stumbling blocks to moving out of poverty.

- The **governance** domain includes aspects related to people's rights and political exclusion, such as those associated with participation in decision-making processes, and priorities in the allocation of resources to improve health and its determinants.

Disaggregating each indicator by population group or geographical area is encouraged to provide specific measures of equity. Depending on the indicator, data could be disaggregated by population group (sex or age category), location (neighbourhood or district) or socioeconomic group (education or income group).

D.1.2 Core indicators

The objective of determining core indicators is to provide a clear direction to local governments on key issues to assess when tackling health inequities. These core indicators are recommended to be collected universally for Urban HEART. The indicators are limited in number but have been selected to represent a broad picture of the performance of urban health systems, especially in relation to inequities. They are intended to ease the process of applying the tool, and to be comparable across cities and countries. Recognizing the limitations of relying on a restricted set of indicators, the core indicators are further complemented with "strongly recommended" and "optional" indicators that are locally adaptable.

Five *key criteria* were used for identifying core indicators:

- Availability of data*
- Strength of indicator to measure inequalities*
- Coverage of a broad spectrum of issues
- Comparability and universality of indicator
- Availability of indicator in other key urban and health tools.[4]

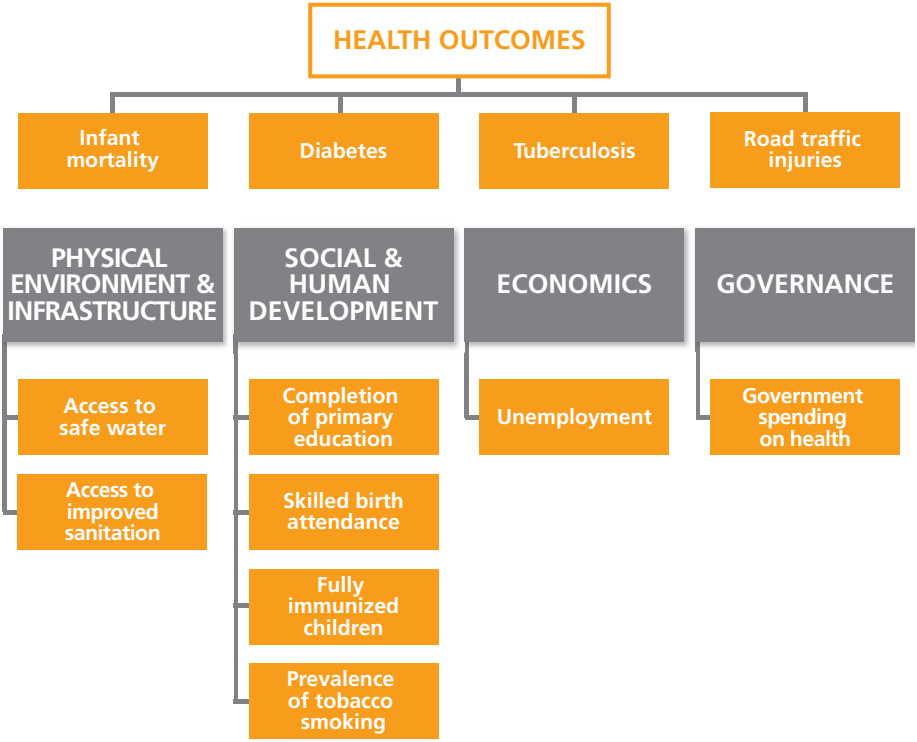
* *Based on the experience and recommendations of cities that pilot-tested Urban HEART, and international experts*

Core indicators of Urban HEART should be collected as indicated in the tool. However, it is reasonable to assume that for other indicators, cities and countries may prefer the use of proxy

indicators. For example, instead of the indicator "percentage of households with access to secure tenure (owned or rented)", it may be more feasible to use "percentage of owned dwellings". This process of adaptation of the tool should be conducted with the various stakeholders. In addition, cities may consider using indicators that are locally more relevant.

Figure 5 lists the core indicators of Urban HEART for health outcomes and the social determinants of health. In Annex 1, detailed definitions of indicators and suggested stratifiers for disaggregation are provided. In addition to core indicators, a list of strongly recommended and optional indicators is also included to assist implementers of the tool in identifying other indicators to collect in their equity assessment.

Figure 5 Core indicators



[4] Urban Info (UN-Habitat), EURO-URHIS (European Union), Big Cities Health Inventory (National Association of County and City Health Officials, United States of America), Health Inequities Intervention Tool (London Health Observatory), Urban Audit.

D.2 DATA PRESENTATION

An important component of conducting a successful assessment is to achieve stakeholder consensus on the key results of the assessment. To aid the process of analysis, Urban HEART recommends organizing the data in simple visual formats that can enable a broad variety of stakeholders to identify key equity problems:

- Urban Health Equity Matrix
- Urban Health Equity Monitor

D.2.1 Urban Health Equity Matrix

The *Urban Health Equity Matrix* is an organization of indicators in a simplified visual format to inform policy-makers and key stakeholders on:

- local-level performance, to guide the prioritization of local and national policies and strategic interventions;
- where to focus national assistance on given specific weaknesses at the local level;
- comparison of performance, between different parts of a city and between cities.

The Matrix can be applied in the following areas:

- **Comparative performance of cities or neighbourhoods within cities.** The Matrix summarizes the performance of cities or urban areas in the different policy domains, and presents in a simple visual form a relative comparison of city accomplishments.
- **Comparative effectiveness of policies and programmes.** The Matrix provides a broad picture of the effectiveness of policies and programme interventions as denoted by their indicators.

Figure 6 gives an example of the Matrix where the performance of neighbourhoods within a city is plotted against their respective indicators of health determinants. A similar approach can be applied to health outcome indicators. The colour codes in each square indicate the level of accomplishment, with green denoting good performance and red denoting poor performance (in relation to defined location-specific, national or international goals or averages), while yellow denotes performance below the intended goal but better than the lower benchmark.

Figure 6 Urban Health Equity Matrix (illustration for an intra-city health equity assessment)

POLICY DOMAIN	INDICATORS	NEIGHBOURHOODS					
		#1	#2	#3	#4	#5	#6
PHYSICAL ENVIRONMENT & INFRASTRUCTURE	Access to safe water						
	Access to improved sanitation						
SOCIAL & HUMAN DEVELOPMENT	Prevalence of tobacco smoking						
	Completion of primary education						
	Skilled birth attendance						
ECONOMICS	Poverty						
	Unemployment						
GOVERNANCE	Government spending on health						
	Voter participation						

- **Columns** represent the performance of neighbourhoods or cities based on the different determinants. For example, a city or local urban area with many green squares is performing *better* than a counterpart scoring many red squares.

- **Rows** provide a broad picture of the effectiveness of a particular policy or programme intervention.

D.2.2 Urban Health Equity Monitor

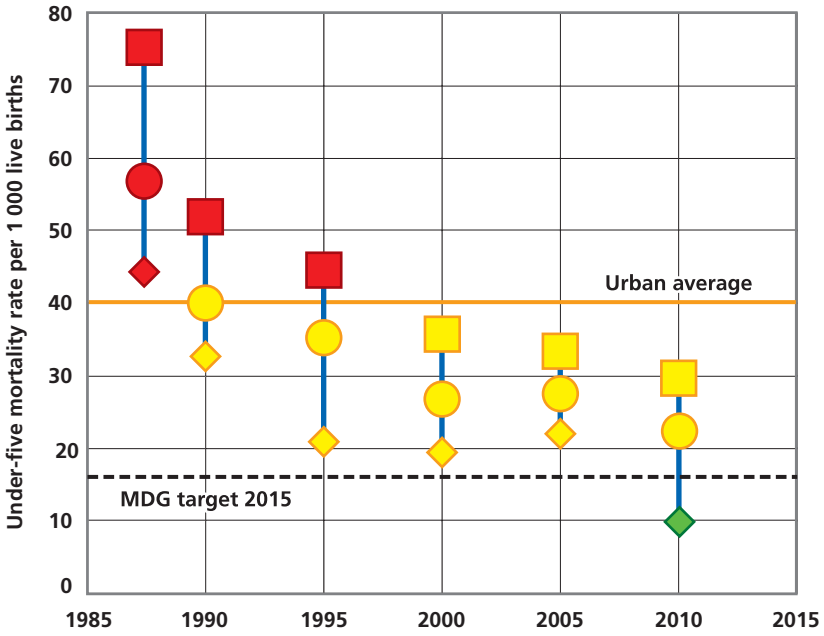
The *Urban Health Equity Monitor* is designed primarily to inform and guide local and national political leaders, programme managers and technical staff on:

- tracking the performance of health indicators over time, within or across cities, in relation to specific benchmarks, for example Millennium Development Goals or national targets;
- determining the trends in the magnitude of inequities in health indicators within or across cities.

Based on evidence from the Monitor (illustrated in Figure 7), key stakeholders should be able to identify which health indicators need to be addressed critically and which population groups are specifically disadvantaged.

Figure 7 gives an example of the Monitor where the performance of the best and worst neighbourhoods within a city is plotted for under-five mortality rate over time. The Monitor shows the magnitude of inequities between the best and worst performing neighbourhoods within a city in comparison to the two benchmarks – urban average and the Millennium Development Goal target for 2015.[5]

Figure 7 Urban Health Equity Monitor (for illustration purposes only)



[5] Millennium Development Goal 4: reduce child mortality. Target 5: Reduce by two thirds, between 1990 and 2015, the under-five mortality rate.

D.2.3 Data quality

It is important to stress that the effectiveness of the Matrix and Monitor are dependent upon the quality of the data input. Data quality needs to be carefully checked before it is presented in the Matrix and Monitor (Box 3).

BOX 3:

DATA QUALITY

Poor-quality data are not appropriate for decision-making. Therefore, it is of utmost importance to continuously assess the quality of data being used. Two key issues to consider are:

1. SELECT THE MOST RELIABLE DATA SOURCES. A key source of available data is routine information systems. While routine systems are useful and mostly reliable, caution must be exercised when interpreting certain data. For example, in some cities data on road traffic accidents are obtained from the police department. However, it is likely that accidents are underreported to the police department. This can bias the interpretation, which may have implications for whether or not to prioritize the specific issue. Also, caution must be applied when comparing data from different sources. For example, immunization rates from Demographic and Health Surveys quite often differ from the official data sources. Therefore, it is extremely important to select the best available data from the most reliable source. ***Developing an inventory of available data sources will be a useful first step.***

2. VALIDATE DATA. While it will be useful to have data experts conduct validity checks, some simple checks can be undertaken by all team members. First, checks can be made to determine whether data are within their specified range. For example, immunization rates are expressed as a percentage and should, therefore, be in the range 0–100. However, in some cases immunization rates of more than 100% have been reported from routine systems. This is likely to be an issue of using an inappropriate denominator. Second, the value of some indicators may be related to that of other indicators. For instance, infant mortality rate cannot be higher than under-five mortality rate. Third, caution should be exercised when considering the denominator size for certain indicators. For example, indicators such as maternal mortality rate require large denominators, as they are relatively rare events. This makes such indicators less useful to calculate for small geographical areas as estimates may vary substantially across years.

E. RESPONSE

E. – RESPONSE

In the response component of Urban HEART interventions and actions are grouped under five response strategies. These are not meant to be prescriptive and are intended as a basis for reviewing how current policies, strategies, programmes and projects may be improved or what further interventions would be required to address the equity gaps identified through the assessment component.

The response strategy packages will guide prioritization and development of context-specific interventions or actions. They are primarily derived from a qualitative review of case studies and include best-practice recommendations from WHO and UN-HABITAT and field experiences from implementing Urban HEART.

E.1 – IDENTIFYING PRIORITIES AND RESPONSE STRATEGIES

Before proceeding to identify an appropriate strategy and intervention based on the equity assessment, it is important to note that there is *no universal algorithm* to identify the most effective response. Each country has its own key target areas, setting, funding sources, stakeholders and other factors that vary by municipality. In considering an intervention design, policy-makers should also keep in mind that each city or town has its own advantages and disadvantages in the politics, resources, finance, infrastructure, geography and many other factors. For each case, interventions should be adapted to maximize the use of

these advantages. As such, it is crucial that interventions be customized case by case.

This section is intended as a generic guide on the link between assessment and response of Urban HEART: *how to identify appropriate interventions that can address inequities in urban health based on the results of the assessment*.

E.1.1 – Identify equity gaps

Urban HEART urges users to determine policies, programmes and projects that can be introduced, continued, expanded, improved, changed or stopped to achieve the equity goals. Based on the assessment, decision-makers can prioritize which issues to address in counteracting inequity in health and its determinants. It is important to decide whether a specific issue of poor performance, as indicated in the Matrix, will be addressed, or the inequalities in performance indicated by the Monitor and Matrix within or across cities are to be addressed, or a combination of both. Prioritizing the issues through the assessment charts should be strategic and thoughtful and can be done in a number of ways.

There are a variety of ways of analysing the Matrix and Monitor to identify priorities. It is expected that each Urban HEART team will deal with the analysis based on their best understanding of the issues. However, for the purposes of illustration a brief example has been prepared.[6] Figure 8 shows that prevalence of tobacco smoking is higher than the national average in three of the six neighbourhoods (in red). At the same time, the other three neighbourhoods have achieved the desired target level (in green). If addressing tobacco smoking is a priority for the communities or the local authorities then it may be one of the issues the local Urban HEART team members choose to address. This is just one of the many methods through which the Matrix

[6] More examples have been described in the Urban HEART User Manual.

can be analysed to identify priorities. In most cases the team will be able to identify multiple priorities for action.
Based on the experience of cities that have tested the tool, all teams preferred to identify priority issues by focusing on the "red" issues in the Matrix and Monitor. This was considered to be an easy and attractive method of identifying priorities. However, a few general principles have also been recommended based on the pilot experiences:

- **Go beyond the colour coding.** The colour coding in the Matrix and Monitor is intended to simplify the analysis of data. However, it will be useful to examine the actual numeric values of indicators when deciding on priority equity gaps.

- **Go beyond the "reds".** While it may be tempting to focus only on the reds in the Matrix it is important to closely monitor the indicators (or groups) in yellow to make sure they do not deteriorate and change to red in the future.

- **Bring out the positives.** In addition, it is useful to discuss what is going well and encourage those areas or groups in green to sustain their good performance for specific indicators, where appropriate.

- **Interpret data cautiously.** An efficient interpretation of data can only be done by involving all relevant stakeholders in the analysis. Local communities, for example, may be better placed to understand whether a certain issue is really a priority in their context. Further, in some cases an increasing equity gap or worsening performance may mainly be a result of better reporting of data. This is not to say that an increasing equity gap will not be of concern but it is important to flag the issue that data need to be carefully interpreted while setting priorities.

Figure 8 Select an issue considered a priority by communities and the government using the assessment results (for illustration purposes only)

POLICY DOMAIN	INDICATORS	NEIGHBOURHOODS					
		#1	#2	#3	#4	#5	#6
PHYSICAL ENVIRONMENT & INFRASTRUCTURE	Access to safe water						
	Access to improved sanitation						
SOCIAL & HUMAN DEVELOPMENT	Prevalence of tobacco smoking						
	Completion of primary education						
	Skilled birth attendance						
ECONOMICS	Poverty						
	Unemployment						
GOVERNANCE	Government spending on health						
	Voter participation						

E.1.2 – Identify relevant response strategies

Interventions in Urban HEART have been further categorized under five response strategies which are further described in Box 4.[7]

A. Incorporate health in urban planning and development
B. Emphasize and strengthen the role of urban primary health care
C. Strengthen the health equity focus in urban settings
D. Put health equity higher on the agenda of local governments
E. Pursue a national agenda.

The strategy packages have been listed in no particular order and the sequence must not be viewed as a prioritization. Best-practice interventions corresponding to different strategies are listed in the annex of the Urban HEART User Manual.

[7] The interventions are listed in the annex of the Urban HEART User Manual.

BOX 4:
FIVE STRATEGY PACKAGES OF INTERVENTIONS

STRATEGY A Incorporate health in urban planning & development	• **Introduce health-specific activities, programmes and interventions to complement existing projects that improve the housing and living conditions of the urban poor.** • ***Example: Develop and implement transport policies that promote active and safe methods of traveling to and from schools and workplaces, such as walking or cycling***
STRATEGY B Emphasize and strengthen role of urban primary health care	• **Expand the role of primary health care in urban settings, reaching out to groups and populations who live in informal settlements, slums, squatter sites and other excluded groups such as floating populations or illegal migrants.** • ***Example: Initiate and support clean-up campaigns for vector control***
STRATEGY C Strengthen the health equity focus in urban settings	• **Add on or build upon existing programmes such as Healthy Cities or other Healthy Settings programmes to emphasize the importance of reducing inequity and targeting health promotion to the urban poor and to build social cohesion and integration of excluded or marginalized groups.** • ***Example: Map out parts of the city where the price and quality of food is inequitable and undertake special measures to reduce the inequity***
STRATEGY D Put the health equity higher on the agenda of local governments	• **Develop capacity and competence in assessing the health equity impact of development projects, urban plans and investment proposals.** • ***Example: Provide physical design and resources to support community efforts to improve water supply and infrastructure, construction of household latrines, improvement of drainage systems***
STRATEGY E Pursue a national agenda	• **Confront the challenges of and promote the opportunities created by urbanization to protect and promote health for all. Create an enabling national policy environment for secure tenure, fairer health opportunity and social safety nets to achieve health goals.** • ***Example: Tobacco control regulations***

An identified strategy should have a *concrete objective with visible results*. It would be ideal to define the strategic objective with a clearly defined set of expected changes and outcomes represented, as much as possible, in exact numbers or percentages within a specified time frame. The expected outcomes should be *measurable changes* based on

the indicators used in the Matrix or Monitor of the assessment component. This will include both the expected changes in the social determinants of health and the expected resulting effect on health. The measurements will give a tangible gauge of the progress and achievements of the intervention.

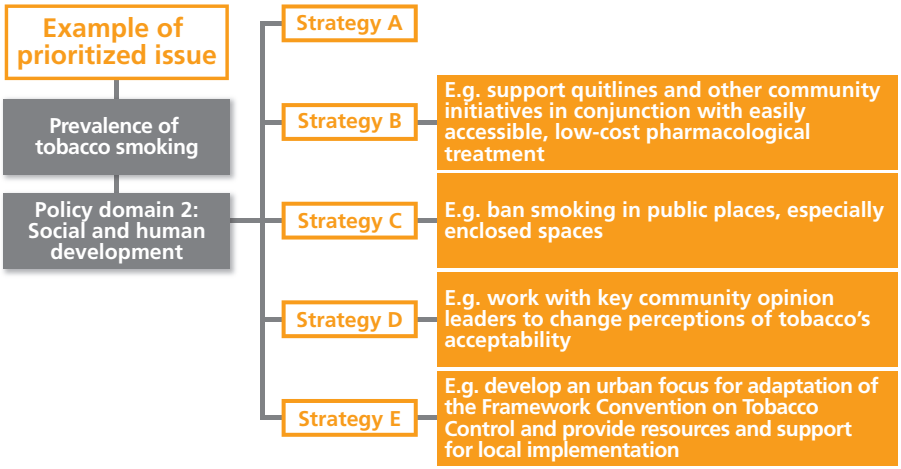
In setting the time frame, it is crucial to consider the reality of the problem at hand within the politics and policy context of the city, including the timing for securing the budget and the timing for obtaining approvals from all necessary parties, as well as the sustainability of the programme in terms of resources and political support within the set time frame. The *planning cycle* of the local or national government is a key input to the time frame.

In development of the strategic objective, it is also crucial that all key stakeholders are involved and agree on the specifications. The emphasis on the value of a *shared vision* and urgency of collaboration will bring cohesion to the project, as each sector has its own individual interests. Although the ultimate common goal is to *reduce inequities in health*, identifying other common themes between the health sector's objectives and other sectors' objectives as an overarching, whole-of-government goal will create links to a successful intersectoral action for health (1,2).

EXAMPLE

If tobacco smoking was identified as one of the priority issues to address, Urban HEART implementers would then need to identify which strategies to apply, taking particular account of areas where inequity may exist. For example, the targeting of tobacco advertising at vulnerable groups such as adolescents, or failure of certain workplaces to enforce smoking bans. Based on these strategies appropriate interventions could be identified. Figure 9 provides an indication of how teams can identify a set of interventions once they have managed to prioritize issues. The first step would be to map the indicator(s) back to their policy domain(s), then refer to the intervention packages for that domain categorized by the five response strategies (available in the annex of the Urban HEART User Manual). The strategies should be based on a clearly defined strategic objective. In order to identify the best-suited intervention method through intersectoral action, *brainstorming sessions* with all the sectors and communities involved are recommended. This will allow identification of the

Figure 9 Identifying strategies and interventions (illustration based on addressing tobacco smoking as a priority)



capacity and available resources of each sector (for example finance), tools and mechanisms, and human resources.

Further, while identifying groups of action, decision-makers should also assess *possible linkages with similar programmes of interest* that are already existing or ongoing. This may prevent duplication of efforts, minimize costs and encourage collaboration with other stakeholders. It will also be much easier than to start from scratch, as the organizational structure and funding are already in place. Community participation is also a key to identifying appropriate interventions and achieving successful outcomes from the programme. For example, by engaging the community in *focus group discussions* for identifying key interventions, a solid communication and understanding with the community regarding priorities can be ensured.

E.2 – SELECT RELEVANT INTERVENTIONS

It is crucial to implement cost-effective interventions with appropriate technologies and available resources. Therefore, a final selection of interventions should be prioritized according to the importance and changeability of the target issue, and determined by finance, time allowed, human resources and dynamics of existing programmes and the circumstances of the problem identified. To prioritize interventions, six criteria are suggested:

REDUCES HEALTH INEQUITIES	• Will the intervention address the gaps in health determinants and outcomes? • Does it address the target as outlined in the strategic objective's expected outcomes? • Will there be any unintended adverse outcomes as a result of the intervention?
AVAILABLE LOCAL RESOURCE	• Is there commitment from other sectors and stakeholders regarding resources? • Does the intervention require more than the current collected resources? • Has accountability been set for each party involved?
ACCEPTABLE BY AFFECTED COMMUNITIES/ OTHER KEY PLAYERS	• Is the intervention culturally sensitive? • Have the community members shared their views on the priority of needs and appropriate interventions?
ACHIEVABLE WITHIN TIME FRAME	• Given available resources (financial, human, organizational), can the intervention be implemented within a time frame that will be socially, politically and economically acceptable?
LIKELY TO BE EFFECTIVE & EFFICIENT	• Is the intervention proven to be of minimal cost for the maximum effect on health inequities? • Is it proven to be cost-effective or is it shown through outcome evaluation studies to be of proven or promising effectiveness?
COMPLIES WITH LOCAL/NATIONAL PRIORITIES	• Is the intervention's goal aligned with the local or national political agenda? • Is there political support from the local government?

In selecting a feasible intervention, *transparency* in communication with the stakeholders will lead to the right selection. Only with a true, honest assessment of available resources and priorities among sectors can the policy-makers select feasible and appropriate interventions. Further, the criteria suggested should be applied in a stringent manner so that the team is able to discern whether or not an intervention is feasible. Local communities should have a strong role in identifying priorities for action. The identification of feasible interventions using the criteria provided in Urban HEART results in achieving a core objective. However, the next phases – policy, programme, and monitoring and evaluation – are critical in ensuring the desired cyclical nature of the tool, and for sustained action on health inequities.

F. CONCLUSION

Urban HEART

Urban Health Equity Assessment and Response Tool

The focus of Urban HEART is to provide guidance on the assessment and response components of the planning cycle. In addition, Urban HEART is primarily a tool to enhance current interventions, with the intention that it is mainstreamed and integrated in national and local health planning and programme implementation.

Policy development and programme implementation are complex processes and providing guidance is beyond the scope of the tool. However, given their critical role in ensuring successful and sustained implementation of Urban HEART, a brief reference is once again made here. In the policy development phase, selected interventions identified during the response phase are budgeted and prioritized to ensure their inclusion in the policy-making process at the local government level. Programme implementation ensures the application of policy to practice through various levels of administrative and political bodies. Though Urban HEART is not an implementation tool, it is expected at this stage that the health unit in charge will implement and oversee the health policies developed with an equity focus. Non-health sectors may also at this stage have been allocated resources to develop policies that will have an impact on health equity. What has been described and illustrated are *indications* on how the implementation should be managed. However, there are many ways to manage such processes, and each institutional arrangement with its own framework will influence the process accordingly.

A support system of political will and financial commitment is crucial to the monitoring and evaluation function and the overall sustainability of the intervention. It will be important to evaluate the planning and implementation process. Implemented interventions should have in-built evaluation and monitoring functions. Evaluation should be both external and internal, with participation from the community and focus on both processes and outcomes. Further, the local government and communities should aim to establish the systems and capacity to ensure that disaggregated data become available over time, even though they may not be available initially.

The efficiency of Urban HEART is derived from the fact that it is feasible to implement within existing institutional frameworks. Its uniqueness lies in its focus on addressing health inequities in cities. Further, it provides a platform for intersectoral dialogue and policy-making. As such, Urban HEART should not be seen as an analytical tool disconnected from the policy-making process at the local level. Though the supervision and lead of Urban HEART is the responsibility of the health sector, it is important from the start to involve essential stakeholders who will help identify the problems that require action to be taken at the local level.

It is likely that there are already existing assessments and interventions ongoing in the cities in which Urban HEART will be implemented. Urban HEART can complement existing social and health initiatives by providing an equity lens. The tool provides an assessment of the steps and processes to promote or add an equity perspective to existing processes and a link to the relevant interventions. It is strongly encouraged to embody the Urban HEART planning and implementation process into the local policy-making process. Through the pilot-testing process, a number of cities across the world have already demonstrated how Urban HEART can be used to assist local communities and governments, both local and national, to proactively tackle health inequities.

ANNEX 1. URBAN HEART INDICATORS

CORE INDICATOR LIST

Table 1.A Core indicators: health care outcomes

#	HEALTH CARE OUTCOME	CORE INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Summary indicator	Infant mortality	The number of infant deaths between birth and exactly one year of age, expressed as a rate per 1000 live births[8]	Sex, income level, mother's education, local area
2.	Disease-specific indicator	Diabetes	Diabetes prevalence and death rates per 100 000 population (age-standardized)[9]	Sex, income level, education, local area
3.	Disease-specific indicator	Tuberculosis	A. Proportion of tuberculosis cases detected and cured under directly observed treatment, short course (DOTS)[10] B. Prevalence and death rates associated with tuberculosis[11]	Sex, income level, education, local area
4.	Disease-specific indicator	Road traffic injuries	Road traffic death rate per 100 000 population (5)	Sex, age groups, income level, education, local area

NOTE: A detailed description of each indicator in Annex 1 is provided in the Urban HEART User Manual.

Table 1.B Core indicators: health determinants

#	POLICY DOMAIN	CORE INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Physical environment and infrastructure	Access to safe water	Percentage of population with sustainable access to an improved water source[12]	Income level, education, local area
2.	Physical environment and infrastructure	Access to improved sanitation	Percentage of population with access to improved sanitation[13]	Income level, education, local area
3.	Social and human development	Completion of primary education	Completion of primary education, expressed as a percentage[14]	Sex, income level, local area
4.	Social and human development	Skilled birth attendance	Proportion of births attended by skilled health personnel[15]	Income level, education, local area
5.	Social and human development	Fully immunized children	Percentage of fully immunized children[16]	Income level, education, local area
6.	Social and human development	Prevalence of tobacco smoking	Percentage of population who currently smoke cigarettes and other forms of tobacco products	Sex, age group, income level, education, local area
7	Economics	Unemployment	Percentage of population who are currently unemployed[17]	Sex, age group, education, local area
8.	Governance	Government spending on health	Percentage of local government spending allocated to health	Local area

Table 2 Strongly recommended indicators: health care outcomes

#	INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
SUMMARY INDICATORS			
1.	Under-five mortality rate	The number of child deaths between birth and exactly five years of age, expressed as a rate per 1000 live births[18]	Sex, age group, income level, education, local area
2.	Maternal mortality ratio	The number of maternal deaths[19] per 100 000 live births, during a specified time period, usually one year[20]	Local area
3.	Life expectancy at birth	The number of years a newborn infant would live if prevailing patterns of age-specific mortality rates at the time of birth were to stay the same throughout the child's life	Sex, income level, education, local area
DISEASE-SPECIFIC INDICATORS (MORBIDITY/MORTALITY RATES)			
4.	A. All cancer B. Cardiovascular disease C. Respiratory diseases D. HIV and AIDS E. Homicide rate F. Mental illness	Age-standardized morbidity/mortality rates to be expressed per 100 000 population over a certain period of time. For example, cardiovascular disease mortality rate per 100 000 population in the last year[21]	Sex, age groups, income level, education, local area

Table 3 Strongly recommended indicators: physical environment and infrastructure

#	INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Households served by municipal solid waste management system	Percentage of households served by municipal solid waste management system	Income level, education, local area
2.	Solid fuels	Percentage of households using solid fuels[22]	Sex, income level, education, local area
3.	Work-related injuries	Incidence rate of work-related injuries or diseases: fatal or non-fatal, per 100 000 working population	Sex, income level, education, local area

Table 4 Strongly recommended indicators: social and human development

#	INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Literacy	The proportion of the adult population aged 15 years and older that is literate, expressed as a percentage of the corresponding population	Sex, income level, local area
2.	Underweight children	Prevalence of underweight children[23] under five years of age	Sex, income level, mother's education, local area
3.	Overweight and obesity	Prevalence of overweight and obesity[24] in the population	Sex, age group, income level, education, local area
4.	Breastfeeding	Infants exclusively breastfed for six months	Income level, mother's education, local area
5.	Teenage pregnancy	Prevalence of teenage pregnancies	Sex, age group, income level, education, local area
6.	Physical activity	Percentage of people with low levels of physical activity (< 600 MET minimum per week)[25]	Breastfeeding

Table 5 Strongly recommended indicators: economics

#	INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Poverty	Percentage of population living below the nationally determined poverty line[26]	Sex, education, local area
2.	Women in workforce	Participation of women in the workforce, expressed as a percentage[27]	Income level, education, local area
3.	Secure tenure	Percentage of households with access to secure tenure (owned or rented)[28]	Sex, age group, income level, education, local area

8 Millennium Development Goal indicator 14 [infant mortality rate].
9 Caution must be exercised when reporting "notification" rates as opposed to "prevalence" rates.
10 Millennium Development Goal indicator 24.
11 Millennium Development Goal indicator 23.
12 Millennium Development Goal indicator 30; improved water sources include piped water, public tap, borehole or pump, protected well, protected spring or rainwater (UN-Habitat, urban indicator guidelines).
13 Millennium Development Goal indicator 31; improved sanitation sources include sewers or septic tanks, pour-flush latrines and ventilated improved pit latrines, provided they are not public (UN-Habitat, urban indicator guidelines).
14 Primary completion measured by the gross intake ratio to last grade of primary education is the total number of new entrants in the last grade of primary education (according to the International Standard Classification of Education or ISCED-97), regardless of age, expressed as a percentage of the total population of the theoretical entrance age to the last grade of primary.
15 Millennium Development Goal indicator 17; skilled health personnel include doctors, nurses and trained midwives. Traditional midwives are not included in this category (WHO).
16 A fully immunized child is one who has received doses of the "standard eight" antigens – BCG, DTP (3 doses), polio (3 doses), and measles vaccines – by one year of age, and the administration of each dose was valid (WHO).
17 The "unemployed" comprise all persons above a specified age who during the reference period were (a) "without work", i.e. were not in paid employment or self-employment; (b) "currently available for work", i.e. were available for paid employment or self-employment; and (c) "seeking work", i.e. had taken specific steps to seek paid employment or self-employment (6).
18 Millennium Development Goal indicator 13.
19 Maternal death is defined as the death of a woman while pregnant or within the 42 days after termination of that pregnancy, regardless of the length and site of the pregnancy, due to any cause related to or aggravated by the pregnancy itself or its care, but not due to accidental or incidental causes (WHO).
20 Millennium Development Goal indicator 16.
21 Users should be careful in identifying the differences between notification and morbidity rates.
22 Millennium Development Goal indicator 29.

Table 6 Strongly recommended indicators: governance

#	INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Voter participation	Percentage of eligible voters who voted in the most recent local/national elections	Sex, age group, local area
2.	Insurance coverage	Percentage of population covered by any insurance[29]	Sex, income level, education, local area

Table 7 Optional indicators

#	POLICY DOMAIN	INDICATOR	DEFINITION	RECOMMENDED DISAGGREGATION BY:
1.	Physical environment and infrastructure	Alcohol outlets	Number of alcohol outlets per 100 000 population	Income level, education, local area
2.	Physical environment and infrastructure	Green spaces	Proportion of land area covered by green spaces[30] (including parks, playing fields, other open spaces)	Local area
3.	Social and human development	Domestic violence	Prevalence rate of domestic violence against women and/or children	Income level, education, local area
4.	Social and human development	Low birthweight	Percentage of liveborn infants who weigh less than 2500 grams (8), for a given time period	Sex of child, income level, education, local area
5.	Economics	Slum population	Proportion of urban population living in slum households[31]	Income level, education, local area
6.	Economics	Informal employment	Percentage of working population in informal employment[32]	Income level, education, local area
7.	Governance	Government spending on education	Percentage of local government budget allocated to education	Local area

23 Millennium Development Goal indicator 4; includes moderate underweight (defined as 2–3 standard deviations below the median weight-for-age of the reference population), and severe underweight (defined as more than 3 standard deviations below the median).

24 Obesity is commonly defined as a body mass index (BMI) of 30 kg/m2 or higher. Overweight is defined as a BMI of 25–30 kg/m2.

25 MET = metabolic equivalent: one MET is defined as 1 kcal/kg/h and is equivalent to the energy cost of sitting quietly. A MET is also defined as oxygen uptake in ml/kg/min with one MET equal to the oxygen cost of sitting quietly, around 3.5 ml/kg/min (7).

26 Millennium Development Goal indicator 1 "Proportion of population below $1 (PPP) per day" was the originally proposed indicator. However, based on the recommendations of the pilot sites, the nationally determined poverty line was considered more appropriate.

27 This is similar but not identical to Millennium Development Goal indicator 11 "Share of women in wage employment in the non-agricultural sector". Given the low contribution of agriculture to the economic output of an urban area, in general, it was not considered necessary to differentiate by sectors.

28 Secure tenure is "the right of all individuals and groups to effective protection by the State against unlawful evictions" (UN-Habitat): Millennium Development Goal indicator 32.

29 Insurance includes all social, private and community-based insurance schemes.

30 The Centers for Disease Control (United States) defines a green space as "open, undeveloped land with natural vegetation". This excludes domestic gardens and areas of green space less than 5 m^2.

31 A slum household is defined as a group of individuals living under the same roof lacking one or more of the following conditions: access to improved water, access to improved sanitation, sufficient living area, durability of housing, and security of tenure. This indicator is linked to Millennium Development Goal 7.

32 "Informal employment" comprises the total number of informal jobs as defined by the International Labour Organization, whether carried out in formal or informal sector enterprises, or households, during a given reference period (for full list of informal jobs defined by ILO see Urban HEART User Manual annex).

ANNEX 2. REFERENCES & USEFUL SOURCES

REFERENCES

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Urban HEART aids decision-makers in planning action on inequities in health. The tool guides users through a process to identify health inequities in their city by assessing indicators on health outcomes and health determinants, and then developing actions based on the evidence generated.

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