



Prioritizing action on health inequities in cities: An evaluation of Urban Health Equity Assessment and Response Tool (Urban HEART) in 15 cities from Asia and Africa



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ABSTRACT

Following the recommendations of the Commission on Social Determinants of Health (2008), the World Health Organization (WHO) developed the Urban Health Equity Assessment and Response Tool (HEART) to support local stakeholders in identifying and planning action on health inequities. The objective of this report is to analyze the experiences of cities in implementing Urban HEART in order to inform how the future development of the tool could support local stakeholders better in addressing health inequities.

The study method is documentary analysis from independent evaluations and city implementation reports submitted to WHO. Independent evaluations were conducted in 2011–12 on Urban HEART piloting in 15 cities from seven countries in Asia and Africa: Indonesia, Iran, Kenya, Mongolia, Philippines, Sri Lanka, and Vietnam.

Local or national health departments led Urban HEART piloting in 12 of the 15 cities. Other stakeholders commonly engaged included the city council, budget and planning departments, education sector, urban planning department, and the Mayor's office. Ten of the 12 core indicators recommended in Urban HEART were collected by at least 10 of the 15 cities. Improving access to safe water and sanitation was a priority equity-oriented intervention in 12 of the 15 cities, while unemployment was addressed in seven cities.

Cities who piloted Urban HEART displayed confidence in its potential by sustaining or scaling up its use within their countries. Engagement of a wider group of stakeholders was more likely to lead to actions for improving health equity. Indicators that were collected were more likely to be acted upon. Quality of data for neighbourhoods within cities was one of the major issues.

As local governments and stakeholders around the world gain greater control of decisions regarding their health, Urban HEART could prove to be a valuable tool in helping them pursue the goal of health equity.

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1. Background

The proportion of the population living in urban areas, globally, had increased from 13% in 1900 to more than 50% in 2008, and is

projected to account for 67% of global population in 2050 (United Nations, 2014). A major concern of rapid unplanned urbanization has been the pressure on availability and distribution of social, economic, and environmental resources (World Health Organization and United Nations Human Settlements Programme, 2010). The United Nations Human Settlements Programme (UN HABITAT) estimates that nearly one billion, or one-third, of urban dwellers lived in slums or informal settlements in 2007, with the

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global slum population likely to double by 2030 (UN HABITAT, 2006). Furthermore, in 2008, the World Health Organization (WHO) identified urbanization, globalization, and population ageing as three demographic trends that would pose major public health challenges in the 21st century (WHO, *The World Health Report, 2008a,b,c*).

In 2008, the WHO's Commission on Social Determinants of Health (the Commission) elicited evidence that inequities in health are the consequences of conditions in which people grow, live, work, and age (WHO, 2008a,b,c). One of the nine social determinants of health (SDH) themes addressed by the Commission was "urbanization". A global network of researchers formed the Knowledge Network on Urban Settings (KNUS) to collate and synthesize evidence on broad policy interventions relating to healthy urbanization. In its final report, among other issues, KNUS recommended the development and global application of an equity assessment and response tool to monitor and act on health inequity (World Health Organization Centre for Health Development, 2008).

In collaboration with city and national policy-makers, academics and researchers, and international organizations, WHO launched the Urban Health Equity Assessment and Response Tool (Urban HEART) in 2010 (WHO, 2010a,b; St. Michael's Hospital, 2012). Utilizing an SDH framework, Urban HEART guides local and national stakeholders through a process to identify, prioritize, and track inequities in health and its SDH using best available evidence, and offers a range of response strategies aiming to reduce identified inequities. The tool was developed between 2007 and 2010 which included piloting in 17 cities from nine countries, a WHO internal review, and recommendations from an external advisory group of experts (Prasad et al., 2013; WHO, 2009a,b).

Urban HEART has been or is being used in cities from 40 countries to date. The tool has been incorporated in national and local policies in many countries such as Canada, Colombia, Indonesia, Iran, Philippines, and Sri Lanka. The objective of this report is to analyze the experiences of cities in implementing Urban HEART in order to inform how future development of the tool could support local stakeholders better in addressing health inequities.

2. Methods

Between 2008 and 2010 Urban HEART was piloted in 17 cities from nine countries around the world. The cities were selected from low- and middle-income countries based on their leadership's willingness to tackle health inequities, representativeness of different regions of the world, and availability of relevant data. An independent evaluation was expected to be conducted after the piloting of the tool in 2011–12 in cooperation with the various sites. However, Mexico City (Mexico) and Guarulhos (Brazil) pilots could not be evaluated as the former had not completed the process, and the latter had undergone a change in government. Therefore, the process was evaluated in 15 cities from seven countries: Denpasar, North Jakarta, West Jakarta in Indonesia (Indonesian Epidemiological Association, 2013); Tehran in Iran (National Public Health Management Centre and Tabriz University of Medical Sciences (2013)); Nakuru in Kenya (Infocore Services, 2013); Ulaanbaatar in Mongolia (Mongolian Association of Environmental and Occupational Health (2011)); Davao, Naga, Olongapo, Parañaque, Tacloban, Taguig, Zamboanga in the Philippines (University of Philippines (2013)); Colombo in Sri Lanka (University of Colombo (2013)); and Ho Chi Minh City in Vietnam (Pham Ngoc Thach University of Medicine (2011)).

Major activities of the evaluation included document reviews, stakeholder interviews and field visits to observe actions. The lead evaluation agencies were selected by national authorities with the understanding that this was an independent undertaking and that

the selected agency had no role in the process of Urban HEART. All evaluation agencies were either universities or public health agencies with the exception of Kenya where a consulting firm was contracted for the purpose. Specific terms of reference were prepared by WHO for the evaluation, and evaluators prepared their survey questionnaires for key informants, checklists for field visits, and methodology for document reviews based on the expected outputs.

No primary data from human subjects has been collected for the preparation of this report. Therefore, ethics approval was not sought as all data presented have been synthesized from secondary sources of information. The complete evaluation reports have been made publicly available on the website of the WHO Kobe Centre (http://www.who.int/kobe_centre/).

To ensure completeness, supplementary information has been utilized from city reports on the piloting of Urban HEART (Basweti, 2009; Asadi-Lari M et al., 2009; Paranaque Urban HEART Team, 2009). This report is primarily a documentary analysis of the independent evaluations and city implementation reports.

The information in the evaluation reports has been analyzed to answer the following questions:

1. How closely have the various cities followed the recommendations of Urban HEART with respect to the three core elements of the tool?
2. What were the barriers and facilitators faced by the various cities in the process of using the tool?
3. What were the main suggestions from pilot cities for improving the guidance in Urban HEART?

The three core elements of Urban HEART include engagement of relevant stakeholders, collection of quality evidence especially with respect to the 12 core indicators in Urban HEART, and prioritization of equity gaps. Of the 37 indicators recommended in Urban HEART, 12 were identified as "core". The 12 core indicators include infant mortality, tuberculosis, diabetes, road traffic injuries, safe water, improved sanitation, primary education, fully immunized children, skilled birth attendance, smoking, unemployment, and government expenditure on health. In addition, the utility of the two data presentation tools in Urban HEART – the Urban Health Equity Matrix and Monitor – was analyzed with respect to their frequency of construction and use in determining priorities.

The four desirable characteristics of Urban HEART provide a framework within which to analyze the barriers and facilitators. According to these characteristics Urban HEART is expected to be comprehensive and inclusive, easy to use, include evidence linked to actions, and be operationally feasible and sustainable.

2.1. Findings

Table 1 presents demographic and other relevant information for each of the 15 cities. The population of cities ranged from 101 571 for Naga to 12 million for Tehran. All cities, except those from Indonesia, conducted an intra-city inequity analysis, comparing the status of districts (or sub-divisions) within a city, as opposed to comparing averages between cities for an inter-city comparison.

The findings from the piloting are first presented within the framework of the three core elements of implementing Urban HEART:

2.2. Engagement of stakeholders

Health authorities at the national level were responsible for leading Urban HEART piloting in cities from Indonesia and Vietnam. Local health authorities led the process in Colombo and in all cities

Table 1

Characteristics of cities that piloted Urban HEART in 2008–2010 and conducted independent evaluations.

#	COUNTRY	CITY	POPULATION ¹	TYPE OF INEQUITY ANALYSIS (unit of disaggregation)	ASSESSMENT			RESPONSE	
					Data collection methods	Use of Equity Matrix	Use of Equity Monitor	Prioritization of equity gaps	Intervention
1.	Indonesia	Denpasar	629,000	- Intra-city (income quintiles); - Inter-city	Secondary sources	■	■	■	■
		North Jakarta	1,200,000	- Intra-city (income quintiles); - Inter-city	Secondary sources	■	■	■	■
		West Jakarta	2,200,000	- Intra-city (income quintiles); - Inter-city	Secondary sources	■	■	■	■
2.	Iran	Tehran	12,000,000	Intra-city (all districts)	Household survey	■	■	■	■
3.	Kenya	Nakuru	500,000	Intra-city (selected districts)	Household survey	■	■	■	■
4.	Mongolia	Ulaanbaatar	1,100,000	Intra-city (all districts)	Secondary sources	■	■	■	■
5.	Philippines	Davao	1,530,365	Intra-city (selected districts)	- Secondary sources; - Household survey	■	■	■	■
		Naga	101,571	Intra-city (selected districts)	Secondary sources	■	■	■	■
		Olongapo	221,178	Intra-city (selected districts)	Secondary sources	■	■	■	■
		Parañaque	588,126	Intra-city (selected districts)	Secondary sources	■	■	■	■
		Tacloban	221,174	Intra-city (selected districts)	Secondary sources	■	■	■	■
		Taguig	644,473	Intra-city (selected districts)	- Secondary sources; - Household survey	■	■	■	■
		Zamboanga	807,129	Intra-city (selected districts)	- Secondary sources; - Household survey	■	■	■	■
6.	Sri Lanka	Colombo	647,100	Intra-city (all health areas)	Secondary sources	■	■	■	■
7.	Vietnam	Ho Chi Minh City	6,651,000	Intra-city (selected districts)	Secondary sources	■	■	■	■

LEGEND

■ Yes

■ No

¹ Source of population data is the evaluation report or country Urban HEART report. If population data is unavailable in either report, data has been sourced from most recently available national census data.

in the Philippines with the exception of Tacloban. In Tehran and Nakuru, respective city councils were the lead authorities; while in Ulaanbaatar and Tacloban (Philippines) the Mayor or Governor's office was primarily responsible.

Health departments at the national and local levels were engaged in the piloting process in all countries. At the local level, in addition to the health department, the city council, legal, budget and planning departments, education and other social sectors, urban planning, and the Mayor's office were engaged in the process in most cities. While at the national level non-health sectors were only successfully engaged in Indonesia and Sri Lanka.

Local community groups were engaged in all cities from Indonesia and the Philippines. In both countries the local and national Healthy Cities programme was engaged in the process of Urban HEART. Academia played an important role in facilitating the process, especially data collection and analysis, in Tehran.

2.3. Collection of evidence

Ten of the 15 cities were able to collect at least ten "core" indicators for the assessment. The indicators on access to safe water

and improved sanitation were collected by all cities. Only five cities were able to collect the core indicator on diabetes. In addition, cities collected many of the 25 other indicators in Urban HEART as well as those that were locally adapted ranging from a total of 10 indicators in Nakuru to 65 indicators in Tehran.

In Urban HEART it is strongly recommended that secondary or available data sources be used for the assessment. All cities, except Tehran and Nakuru, relied mainly on secondary sources of data. In Davao, Taguig, and Zamboanga household surveys were conducted to account for missing data from secondary sources. In Tehran, a district-representative household survey was conducted with a sample size of 22 300 households across the city in 2008–09, to obtain data for Urban HEART. All 15 cities constructed the Matrix. Except for Tehran, Nakuru, Ulaanbaatar, and Ho Chi Minh City, the other 11 cities also used the Monitor for analysis.

2.4. Prioritization of equity issues

Urban HEART teams prepared the Matrix, Monitor, and Geographic Information Systems (GIS) maps to prioritize areas of action through a participatory diagnosis. While the precise method

of prioritization for each city varied, three common methods were:

- i. Focusing on indicators or domains where the relative performance was below an acceptable threshold. For example, in Ulaanbaatar, unemployment, a key SDH for health inequity, was higher in six of the nine districts than the national average. Therefore, action for improving employment opportunities was prioritized in Ulaanbaatar;
- ii. Prioritizing actions in neighborhoods of the city that were particularly disadvantaged. In Tehran a number of factors including literacy, tobacco smoking, and access to health services were particularly worse in three districts that were subsequently prioritized for community-based action;
- iii. Addressing critical issues in neighborhoods that were previously excluded from the city's development process. For instance, in Davao in the Philippines, one neighborhood was identified for improving access to safe water and sanitation.

While all cities conducted the exercise for prioritizing areas with critical equity gaps, there was no evidence of progress on field

interventions in Colombo, Tehran and Ho Chi Minh City at the time of the evaluation.

The barriers and facilitators in using Urban HEART are synthesized within the framework of the four desirable characteristics of the tool in Table 2.

2.5. Comprehensive and inclusive

While all cities were successful in engaging multiple sectors, the process was reported by cities in five countries as a barrier and in four countries as a facilitator. Tehran, Ho Chi Minh City and the three cities in Indonesia reported it both as a barrier and facilitator in the process.

Cities developed local solutions to engage different sectors. In Ulaanbaatar, specific terms of reference were developed for each sector's participation, while in Colombo regular sensitization workshops were held for non-health sectors. Cities in Indonesia, Philippines and Mongolia were successful in engaging communities, but the other four cities were not. Implementers in Paranaque considered successful engagement of local communities to

Table 2
Barriers and facilitators in piloting Urban HEART in 2008–2010 across the four desirable characteristics of the tool for countries with an independent evaluation in 2011–12.

Desirable characteristic of Urban HEART	Reported Barriers	Indonesia	Iran	Kenya	Mongolia	Philippines	Sri Lanka	Vietnam
COMPREHENSIVE AND INCLUSIVE	Engaging different sectors and/or different levels of government	○	○	○			○	○
	Engaging higher authorities e.g. Mayor				○			○
	Engaging communities and NGOs				○			○
EASY TO USE	Building a common understanding of concepts	○			○			
	Existing local capacity to implement the tool			○	○			
	Guidance for developing response strategies	○		○	○	○		
USE EVIDENCE LINKED TO ACTIONS	Availability and accessibility of disaggregated data	○		○		○	○	○
	Quality of data	○			○	○	○	○
OPERATIONALLY FEASIBLE AND SUSTAINABLE	Financial constraints	○		○	○		○	○
	Political or legal constraints	○		○		○		○
	Sustainability of process and networks					○	○	
Desirable characteristic of Urban HEART	Reported Facilitator	Indonesia	Iran	Kenya	Mongolia	Philippines	Sri Lanka	Vietnam
COMPREHENSIVE AND INCLUSIVE	Engagement of different sectors and different levels of government	○	○			○		○
	Engagement of higher authorities e.g. Mayor		○			○		
	Engagement of communities and NGOs					○		
EASY TO USE	Utility of Urban HEART framework and visual tools i.e. Matrix and Monitor	○	○		○	○		○
	Sensitization workshops on concepts and process of implementing Urban HEART	○		○			○	
	Access to skilled human resources		○	○				
	Sharing information with other countries				○			
USE EVIDENCE LINKED TO ACTIONS	Availability and accessibility of data	○		○			○	
OPERATIONALLY FEASIBLE AND SUSTAINABLE	Financial capacity	○	○			○		
	Political or legal support	○				○		

be an important facilitator in planning and development, data collection and analysis, and in supporting interventions.

2.6. Easy to use

Cities from five of the seven countries considered the Urban HEART framework of indicators and the Matrix and Monitor to be important facilitators. For example, evidence from the Matrix was reported as the key factor influencing decision-making in Ulaanbaatar. However, users from cities in four countries reported lower satisfaction with the guidance on developing response strategies.

2.7. Collect evidence linked to actions

Indicators that were more likely to be collected by stakeholders such as access to improved sanitation, and unemployment, were more likely to be acted upon. Improving access to safe water and sanitation was a priority equity-oriented intervention in 12 of the 15 cities, while unemployment was addressed in seven cities. However, non-availability of disaggregated data and quality of data were common concerns for 13 cities. Nevertheless, the piloting process provided stakeholders an opportunity to collectively analyze and develop strategies to improve city information systems. In Iran, the national cabinet passed legislation through which 420 districts were expected to report on 52 equity indicators, annually, based on the Urban HEART experience of Tehran.

2.8. Operationally feasible and sustainable

The two key factors that made the Urban HEART implementation process feasible and sustainable, or not, were political will and financial support from authorities. For example, in the Philippines, the Department of Health provided both technical and financial support to the cities that piloted Urban HEART. A number of cities have sustained the use of Urban HEART either by cyclically implementing the tool, e.g. Tacloban and Tehran, or by supporting scale up within their countries, e.g. Ho Chi Minh City and Nakuru. Further, national policies in Indonesia, Philippines, and Sri Lanka recommend Urban HEART as a tool for strengthening primary health care, city health planning and monitoring, and taking action on SDH, respectively.

3. Discussion

The sustained utility of Urban HEART in supporting local and national stakeholders in identifying and planning action on inequities in health was established by cities that had their piloting process evaluated. While the initial round of piloting was conducted in low- and middle-income countries, Urban HEART has also been used in high-income countries such as Japan (Nihon Fukushi University, 2012) and Canada (Centre for Research in Inner City Health (2014)). Following up on its recent implementation, the City of Toronto, Canada, has decided to adopt Urban HEART to guide its selection of Neighbourhood Improvement Areas for 2014–2020 (City of Toronto (2014)).

There were four main areas of suggestions by stakeholders in piloting cities for further development of Urban HEART. First, there were suggestions to review specific equity indicators in Urban HEART and to develop guidance on validating routinely collected health data. In Ho Chi Minh City, Tehran and Ulaanbaatar, the need for adapting or refining some of the current equity indicators was expressed. The evaluation from Indonesian cities also expressed the need for qualitative indicators.

Second, more guidance was requested on the process to link the health equity assessment results with their best responses or

interventions, as well as on monitoring and evaluation mechanisms for the selected interventions. For example, the evaluation in Colombo revealed a critical barrier in initiating responses as there was no established mechanism to convey the findings of Urban HEART to financial authorities or senior policy-makers.

Third, given that four cities had been unable to engage the community at all and others had limited engagement there were requests for processes and mechanisms by which communities could be better engaged. For example, in cities from the Philippines local governments made use of the Urban HEART response strategy packages which in turn partially obviated the need to consult communities on response initiatives. A similar need for formalizing community participation was expressed in the evaluation for Nakuru, Tehran and Ulaanbaatar.

Fourth, impact of Urban HEART on local and national policies, strategies and plans must be integrated in the reporting by Member States, and supported technically by WHO. The evaluation from Indonesian cities has, for example, recommended a closer link with WHO during the process, and have mechanisms for nationwide dissemination of the results.

3.1. Limitations

There were two notable limitations of this study. First, in some cases during evaluation all information could not be accessed due to missing documentation or turnover of human resources. Second, while the process of Urban HEART has been evaluated, the impact on outcomes is yet to be determined.

4. Conclusion

While stakeholders in cities have requested enhanced support for implementing Urban HEART, they have also shown their confidence in the potential of the tool by sustaining or scaling up its use within their countries, or even internationally. As recommended by pilot cities, guidance in Urban HEART on key issues such as linking assessment to response and providing mechanisms for community engagement should be enhanced. A closer engagement of WHO with its Member States in reporting and widely disseminating the impact of using Urban HEART will be critical to enhance the value of the tool in promoting health equity in cities.

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