

# Measurement of health equity as a driver for impacting policies

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## SUMMARY

*This paper proposes measurement tracks of health equity (HE) and presents practical illustrations to influence, inform and guide the uptake of equity-sensitive policies. It discusses the basic requirements that allow the effective use of the proposed measurement tracks. Egypt is used as a demonstration of this practice. The paper differentiates between the policy needs of two groups of countries. The first set of measurement tracks are specifically tailored to countries at the early stages of considering health equity, requiring support in placing HE on the policy agenda. Key messages for this group of countries are that the policy influence of measurement can be strengthened through the implementation of four self-reinforcing tracks that recognize the need to effectively use the available current databases prior to engaging in new data collection, emphasize*

*the importance of a social justice reframing of the documented health inequities, present health inequity facts in simple visual messages and move beyond the why to what needs to be done and how. The tracks also recognizes that placing an issue on the policy agenda is a complex matter requiring reinforcement from many actors and navigation among competing forces and policy circles. For the second group of countries the paper discusses the monitoring framework. The key messages include the importance of moving toward a more comprehensive system that sustains the monitoring system which is embedded within affective participatory accountability mechanisms. The paper discusses the basic requirements and the institutional, financial, technical and human capacity-building considerations for implementing the proposed measurement tracks.*

*Key words:* health and social policy; Egypt

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In 2011, the Rio political declaration on social determinants of health came in response to a growing international discourse and concerns for health inequities (WHO, 2011). The declaration called for pushing health inequity to the forefront of the political agenda and recommended the adoption of health in all policies (HiAP) as the best strategy to tackle these inequities and their structural determinants. At the core of this declaration was the recommendation to ‘monitor progress and increase accountability’.

Rio monitoring recommendation necessitates the availability of an adequate information base,

the existence of conceptual and analytical capacities to draw policy influences from such a base as well as the successful functioning of processes and structures that are responsive and accountable for the findings of the recommended measurement exercise. These basic requirements are rarely in place and the countries adopting the Rio recommendation need to attend to them through a conscious effort and a number of practical steps.

Many countries of the world, though, are not yet at a stage to commit to as well as to engage with the practicalities of the Rio monitoring

recommendation. These countries have not yet embraced health equity (HE) as a social success and a central whole of government goal. They continue to view health inequities as inequalities that are inevitable or at least largely expected. Their strategies for alleviating such inequalities are monopolized by one sector (health sector) and usually embedded within a simplistic frame of behavioral changes.

The measurement exercise as a driver for impacting policies is very different in these two groups of countries. For the first group, which already correctly framed and centrally placed HE on the policy agenda, measurement is needed to inform, guide and evaluate the adopted equity-sensitive policies. For the second group, measurement is needed to influence the framing of the challenge and to support in placing it within the many competing policy priorities.

The main objective of this paper is to provide practical illustrations on how the measurement of HE can respond to the different policy needs. It starts with a section on how measurement can contribute to placing HE on the policy agenda and proceeds to a discussion on how measurement can improve the performance of the adopted HE policy.

The paper uses Egypt as a demonstration of what could be done in practice. Egypt is similar to many developing countries in that it has not yet prioritized HE and has not integrated a social determinants of HE frame in its decision-making. Furthermore, Egypt falls within a 'Middle Category' in terms of the quality of its health information system (HIS) and its reliance on household surveys to assess inequities (Nolen *et al.*, 2005). The exercise and the lessons inferred from this illustrative application on Egypt are quite relevant to the first group of developing countries. For the second group of countries, the paper focuses on the role of monitoring and evaluation in improving performance of policies. The paper also devotes a section to discuss the practical considerations involved in the measurement exercise

## PLACING HE ON THE SOCIAL POLICY AGENDA

The following four self-reinforcing tracks are proposed to support placing HE as a whole of government central policy goal:

- (1) Social Justice Reframing: Moving the Conceptualization of the Pathways from the Individual Uniformed Choice Frame to the Unfair Public Policies and Bad Politics Frame
- (2) Developing Rallying Policy Entry Points: Simplifying, Visualizing and Comparing
- (3) From Why to What and How: Guiding the Choice of Policies and Engaging with Implementation
- (4) Navigating Competing Forces and Policy Circles.

### **Social justice reframing: moving the conceptualization of the pathways from the individual uniformed choice frame to the unfair public policies and bad politics frame**

The existing literature on measurement tends to focus on reforming the current HIS to improve its ability to better document health outcome disparities within appropriate and comprehensive social stratifiers. This process incorporates better measurement of health and social stratifiers as well as the use of appropriate measures of health inequity.

The consideration of a broader range of health measures and more adequate social stratifiers are important features of the HIS that allow more informed evidence-based policies. However, for many countries including Egypt, the calls towards improving the information base and more sophisticated assessment are believed not warranted at their early stages of advocacy. This is because these countries usually still suffer from high burden of physical ill health and inequities across traditional stratifiers and more importantly from muted policy responses to the documented differences.

In Egypt, for examples, despite the limitations of its information base, yet many research efforts were able to document large disparities in infant, child and adult health measures reaching more than three-folds using wealth and education as social stratifiers (see for example Khadr, 2009; Khadr *et al.*, 2012). Such documentations have rarely received the attention they deserve.

Improved documentation is, of course, a welcome contribution but clearly an insufficient one to shake the prevailing tacit acceptance of health disparities as part of the normal social stratifications. More importantly, such mere documentation, and more of the same, do not contribute to adopting a right framing of health

inequity as a social injustice and hence do not support according health inequities their due central value. These common types of documentation not just fail to influence the prioritization of health inequities but also fail to influence the nature and effectiveness of the adopted policies.

In Egypt, the type of public policies adopted is mainly led by Ministry of Health through two approaches. The first approach is based on the Primary Health Care (PHC) model, while the second approach is based on socially sensitive biomedical interventions emphasizing direct behavioral risk factors. The PHC model, which when applied correctly adequately incorporates the social determinants of health, has two implementation flaws in Egypt. The first is that it is heavily dominated by the biomedical model (Shawkey, 2010). The second implementation flaw, which is equally shared with the socially sensitive biomedical interventions, relates to limiting the application of PHC to the local level and the failure to incorporate social determinants operating at the national level.

None of these approaches attempt to tackle or disturb the root national level causes of health inequities and hence are usually led within the narrow sectoral boundary of the local health system.

A paradigm shift is needed to ensure a social justice reframing of health inequities and to shake the adopted approaches. The social justice reframing called for is much broader than—the more prevalent one—that is derived from the value of health as a fundamental human right. This reframing adds an additional value judgment to the consideration of health inequalities. It considers health inequality as unfair, not only because it involves denial of human right, (Peter, 2001 discusses the difference between a normative judgment of health inequities and embedding it within a social justice frame) but also because it expresses inequitable distribution of power, money and resources (CSDH, 2008). It moves the discourse from efficiency of government towards good governance. It is a reframing that puts forward HE as a benchmark for a just and fair society. HE, within this reframing, becomes a measure of good governance and social progress and gets accorded the central priority it deserves and becomes a whole of government responsibility.

The measurement exercise within this new frame needs to focus attention on the distributional dimension of the social determinants of

health. This reflects the key difference between policies addressing social determinants for health equity (SDHE) and the mainstream ones on SDH. SDHE goes beyond the discourse about social determinants of health to the distribution of SDH. Such a focus on the unfairness and the denial of the equitable opportunities for health protection and promotion that is sustained by ‘toxic combination of poor social policies and programs, unfair economic arrangements and bad policies’ [(CSDH, 2008), p. 1] provide a much needed stimulus for a public policy change. This social justice reframing of the policy politicizes the discourse and breaks the entrapment of narrow confinements to solutions focusing on the size of economic resources and health system actions.

The measurement exercise to support such a reframing needs to move away from the exaggerated focus of social science on behavioral direct risk factors. It needs to highlight the causes of the causes and to explicitly trace the origins and linkages of health disparities to the unjust distribution of resources for health and health care. The measurement should support a call to move beyond the adoption of ‘socially sensitive interventions’ and becomes a call for revamping of social policies to ensure equal and fair opportunities for health.

Very few measurement exercises are conceptualized this way and fewer still are able to find the needed data for such an exercise. The key elements of such a measurement exercise are:

- Wise choice of contextual forces that have a demonstrated (or at least an intuitive) link to the outcome measure of health.
- A distributional profile of such contextual forces alongside the distribution of the outcome measure of health.

Zaky (Zaky, 2009) is an example of studies incorporating the distribution of upstream determinants. The study associated the regional disparities in infant mortality rate in Egypt to disparities across five main structural dimensions (Table 1).

Such analysis moves away from the traditional social science focus on intermediate behavioral variables (age at birth, antenatal care, immunization, hygienic practices...) and situates these direct determinants within contextual forces underlying such risky behavior.

Another, innovative example is the one adopted by Khadr *et al.* (Khadr *et al.*, 2008). In

**Table 1:** Comparison of the various structural determinants of health by region in Egypt

|   | Urban governorates | Lower Egypt | Upper Egypt | Frontier governorate | National indicators |
|---|--------------------|-------------|-------------|----------------------|---------------------|
| Health indicator <sup>a</sup>   |                    |             |             |                      |                     |
| IMR 2000  | 37.4               | 45.3        | 71.2        | 37.3                 | 54.7                |
| IMR 2005  | 26.0               | 32.7        | 51.6        | 33.3                 | 35.9                |
| IMR 2008  | 29.7               | 21.3        | 36.3        | 24.1                 | 28.6                |
| Low Birth Weight/100 live birth   | 12.4               | 9.1         | 12.5        | 7.7                  | 11.1                |
| Less than average child size (%)  | 13.4               | 9.7         | 16.1        | 13                   | 12.9                |
| Health system inputs <sup>b</sup>   |                    |             |             |                      |                     |
| No. of physician per 10 000 people (MOH) (2006)                                       | 7.2                | 6.8         | 2.1         | 11.5                 | 6.5                 |
| No. of nurses per 10 000 people (MOH) (2006)  | 9.4                | 17.1        | 4.1         | 36                   | 13.8                |
| No. of hospital beds per 10 000 people  | 39.6               | 17.9        | 16.6        | 32.9                 | 21.9                |
| No. of health units per 100 000 people (MOH) (2005)                                   | 5.5                | 3.4         | 3.3         | 6.8                  | 3.8                 |
| Access to health services <sup>b</sup>  |                    |             |             |                      |                     |
| Contraceptive prevalence  | 65.2               | 64.3        | 52.7        | 52.3                 | 60.3                |
| Receiving regular antenatal care  | 85.1               | 67.7        | 56.4        | 64.7                 | 66                  |
| Delivery at health-care facility  | 89.4               | 78.1        | 57.5        | 72.9                 | 71.7                |
| Delivery assisted by medical provider   | 92.3               | 85.3        | 66.4        | 79.1                 | 78.9                |
| Had postnatal care for the child within 2 working days (%)                            | 83                 | 69.4        | 50.9        | 65.7                 | 64.6                |
| Women reporting distance to health facilities as an obstacle to access to health care | 13.7               | 16.5        | 19          | 37.3                 | 17.1                |
| Housing environment <sup>a</sup>  |                    |             |             |                      |                     |
| Household with access to sanitation (%)   | 90.8               | 48.5        | 30.5        | 49.5                 | 50.5                |
| Educational conditions <sup>a</sup>   |                    |             |             |                      |                     |
| Adult literacy rate   | 80.5               | 69.1        | 63.6        | 76.2                 | 69.5                |
| Primary pupil/teacher ratio   | 23.5               | 23.5        | 30.3        | 13.8                 | 28                  |
| Primary class density   | 44.1               | 40.6        | 42.9        | 25.6                 | 42.8                |
| % of unfit school buildings   | 14.4               | 19.8        | 25.5        | 8.6                  | 19.8                |
| Economic conditions <sup>a</sup>  |                    |             |             |                      |                     |
| Real GDP per capita (PPP\$) (2006)  | 5641.9             | 6399.1      | 5431.9      | 5903.3               | 5899.7              |
| % poor people of total population   | 5.7                | 14.5        | 32.5        | 14.5                 | 19.6                |
| % ultra poor of total population  | 0.7                | 0.5         | 8.3         | 4.8                  | 3.9                 |
| Unemployment rate (2006)  | 10.8               | 9.3         | 19.4        | 6.3                  | 9.3                 |

Source: <sup>a</sup>UNDP (UNDP, 2008); <sup>b</sup>El-Zanaty and Way (El-Zanaty and Way, 2009).

this study, the stratifier used was neighborhood physical classification. Shortage of data that provide information on structural neighborhood characteristics such as availability of social services and infrastructure was addressed by statistically manipulating the data available in the geographic information system maps and layers and developing an index of physical deprivation for Cairo governorate neighborhoods (for more details on the construction of the index refer to [Khadr et al. 2008](#)). Classifying the neighborhoods into three broad deprivation categories and testing the relationship between this classification and the health of the neighborhood residents attested to the negative impact of neighborhood deprivation on the health status of its residents.

Clearly, as evidenced by the two illustrative examples, geographic health inequalities are good candidates for the proposed social justice reframing. They lend themselves to similar

ecological conceptualizations. However, other types of social stratifiers are more difficult to reframe within their underlying structural forces. For example, enough evidence exists in Egypt to link deprivation of education to outcome measures of health and adoption of risky behaviors (unhealthy reproductive pattern, unhygienic practices, poor diets, etc.). (Such analysis gives ammunition to interventions focusing on behavioral change. Furthermore, most of these interventions adopt simplistic, usually ineffective, awareness campaigns and information dissemination. Very few appear to target more efficient empowerment resources such as educational and income generating opportunities.) Having established that education is a key stratifier, and is an important resource for health, the next step is to investigate the fairness of its distribution. There is a need for a conscious effort in the measurement exercises to investigate the forces that

sustained the differentiated production of unfair distribution of education. These forces can be linked to availability of school services, their affordability as well as contextual gender dynamics that do not support girls education.

### **Developing rallying policy entry points: simplifying, visualizing and comparing**

Documentation of health disparities and conceptualizing them within a social justice framework is not usually sufficient for pushing the concern into the policy agenda. Translating these findings into a language that is understood by all major stakeholders is an essential step for exerting the pressure needed for policy change. This translation should be in a form that is easily grasped whether visually or through rallying messages.

Recently, the WHO Center for Health and Development in Kobe, Japan developed an urban health equity assessment and response tool (URBAN HEART). This tool (WHO, 2010) aims to identify and analyze inequities in health across social groups and to facilitate decisions on viable and effective strategies, interventions and actions to reduce health inequities in urban areas. One of the main contributions of this tool is their simple and eye-catching way of presenting comparative data (Urban Health Equity Matrix). The main objective of this matrix is to offer an organization of indicators whether health or other social determinants in a ‘simplified visual format’ to inform stakeholders on their current levels with the aim of defining priorities for specific social group or locality or on the national level.

Figure 1 presents the application of the HE matrix on the previously discussed regional disparity study by Zaky (Zaky, 2009). The different shades indicate performance grading with the lightest shade indicating best performance and the darkest one indicating the worst performance on the measure of concern. A quick glance clearly unveils the vulnerability of the region of Upper Egypt not only on the health dimension but across all social, economic and environmental dimensions.

### **From why to what and how: guiding the choice of policies and engaging with implementation**

The previous measurement tracks serve to sensitize policy-makers and implementers to the structural social underpinnings of the inequity challenge. They provide the rationale for actions.

It should be noted however that recognizing HE as a priority is different from accepting that actions on social determinants are promising routes for addressing them. The contestation of this route gets some of its ammunition from the applied experiences of few countries, particularly in Europe. Many of these countries, who were pioneers in treading that path, did not manage to achieve their target goals. Researchers need to engage in measurement exercises demonstrating the potential, feasibility and practicality of social actions in addressing health inequities.

One step in this direction is to explain the reasons for failures to achieve targets allowing lessons to be drawn. For example, Mackenbach (Mackenbach, 2011) provides a detailed analysis of England’s efforts during 1997–2010 to address health inequalities. The causes of the limited success were related to the weak links between health goals and actions, the many interruptions in implementation as well as the scale of actions.

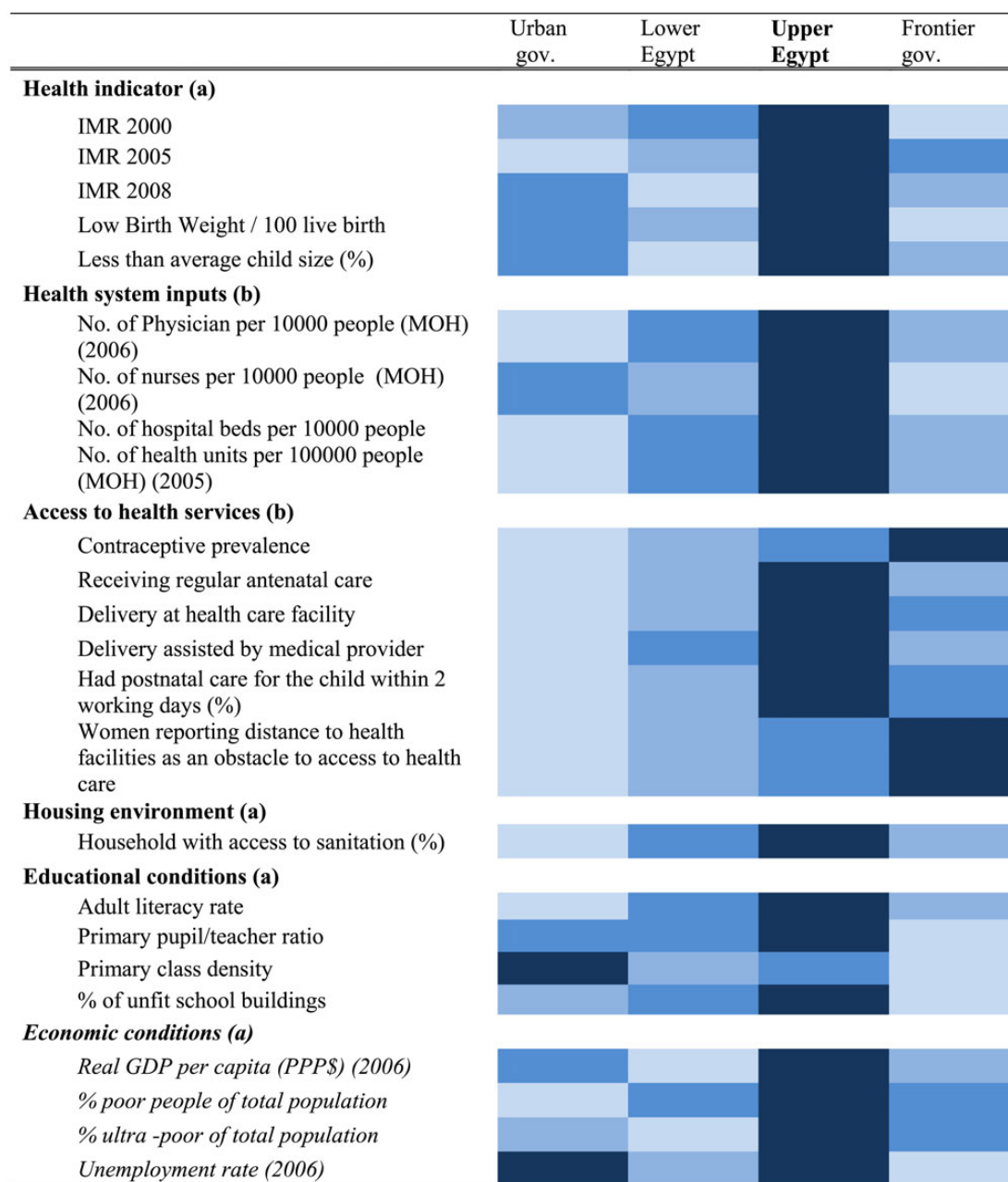
A more important step is to document success stories synthesizing principles and lessons. There are many studies that touch on the success of some low- and middle-income countries in achieving a better health distribution (Bertodano, 2003). Research and measurement can support placing a challenge on the policy agenda by demonstrating what needs to be done and how success has been achieved.

Furthermore, the documentation of successful international experiences of participatory processes leading to the development of national strategies for HE (Ostlin and Diderichsen, 2001; Mannheimer *et al.*, 2007) provides valuable guidelines on how policies should be formulated. Key elements of success are a value paradigm realizing the centrality of social justice and equity for societal cohesion; politicians and experts working together; focus on structural determinants and multi-sectoral implementation; demands for strong scientific evidence and strong emphasis on the democratic process behind the development of the strategy.

Rashad and Khadr (Rashad and Khadr, 2012) in their discussion of the knowledge gaps for bridging research and policy adopt the recommendations of a policy-maker-targeted research repository that provides ‘one-stop shopping’ for optimal high-quality and high-relevance problem reviews (Lavis, 2008).

A relevant model of how research can inform policy and the value of the partnership between research and policy is the experience of the





**Fig. 1:** Health indicators and structural determinants of health by region in Egypt. The darker shade is indicative of severe conditions compared with others. A colour version of this figure is available at <http://heapro.oxfordjournals.org/>

Institute of HE in University college of London (UCL). The UK institute published 'Fair Society, Healthy Lives' widely known as the Marmot Review. The report is a culmination of an independent review commissioned by the secretary of State for Health at the time and was translated

into projects and activities with involvement and support from the UCL Institute.

Another tool that is valuable for bridging research and action is the HE audit. Such a tool was articulated locally in the HE audit adopted by the National Health Service in the UK and is now

widely adopted in Europe. It is intended to inform the implementation of local delivery plans, community strategies and local neighborhood development strategies. Such a tool provides a framework to systematically review inequities in the causes of ill health, and access to effective services and their outcomes, for a defined population and to ensure that actions addressing these inequities are incorporated into policy, plans and practice. In addition, actions taken are reviewed to assess whether inequities have been reduced.

Egypt and many other Arab countries have not yet embarked on similar participatory processes for policy formation. The weak research system and the nature of partnerships between research and policy are serious challenges in this regard.

### **Navigating competing forces and policy circles**

The entry point of the current paper is the question of how measurement can effectively contribute to improve understanding of certain problem (conceptualization of the problem) and allow setting this issue on the policy agenda. This question lies in the heart of the agenda-setting frameworks adopted in the political science literature. These frameworks often refer to the role of evidence and information implemented by either the proponent or opponent groups in support of or resistance to the issue under consideration. Indeed, Sabatier and Jenkins-Smith (Sabatier and Jenkins-Smith, 1993, 1994) in their proposed advocacy coalition framework (ACF) accorded science and scientific evidence fundamental role in policy-making. The advocacy coalitions, according to Sabatier (Sabatier, 1991), are formed of private and public policy subsystems who share goals and perception with regard to the issue of concern. These subsystems encompass governmental institutes, interest groups, the public and the media. These subsystems possess core and secondary beliefs regarding the issue under consideration. While the core beliefs are relatively stable, the secondary ones are amendable to change. Within this framework the research community is an integral and critical subsystem that takes charge of the technical information needed to inform discussion and debates and the responsibility of between-coalitions learning. In other words, ACF stresses the role of the technical information in the advocacy process and the need to develop appropriate promotional and scientific evidence and knowledge that suit other subsystems and engage them

in promoting the issue under consideration on the political agenda.

The three previous tracks serve in strengthening the rationale for prioritizing a particular development challenge in expanding the groups supporting its adoption as a policy concern as well as in convincing policy-makers of the prospects of success and encouraging policy uptake through practical road maps of implementation.

A key question in this regard is how the policy agenda itself gets formulated and whether the proposed tracks can compete among the many forces and policy circles that influence the content of the policy agenda. After all such an agenda implies a choice among a large number of issues that are perceived by different groups as meriting policy attention and, as pointed out by many theories of public policy-making reflect the interplay of action and conflicts among proponents and opponents of an issue as well as policy decision-makers (Cobb *et al.*, 1976; Kingdon, 1995; Jones and Baumgartner, 2004; Princen and Rhinard, 2006).

The focus of the first three tracks discussed earlier was on how measurement can be used by initiators and proponents of the issue. This focus, however, has been argued to explain some of the failures in gaining access to the political agenda as it neglects the opposite influence exerted by the issue opponents.

Such opposite influence are gained by using different tactics ranging from not paying attention to the issue, denying and questioning its existence and magnitude, offering symbolic solutions that give a pretense of action and response and even use of intimidations tactics against initiators. The literature also discusses the type of opponents and their point of departures. One type of opponents is the 'affected groups' consisting of those whose interests are at stake, another type includes 'government officials' who either disagree with the proponents understanding and knowledge of the problem or sees it as increasing their workload and portfolio (Cobb *et al.*, 1976).

The case of placing HE on the agenda in Egypt demonstrates the importance of recognizing and engaging with such competing forces and different policy circles. Of particular concern is the reluctance of the health sector to expand its portfolio given its overstretched capacity to handle the burden of health care as well as the opposition of many government bodies to cross boundaries of their respective cycles and engage in intersectoral activities.

Another main policy agenda setting theory introduces an additional element that can further strengthen the influence of the initiators and complement the first three tracks discussed in this paper. Baumgartner and Jones (Baumgartner and Jones, 1993) in their punctuated equilibrium theory emphasize the role of a triggering event referred to as a 'policy window' to break the stability of policy formulation.

A 'policy window' in the Egyptian context is not confined to a particular triggering event but makes use of two existing opportunities for actions. The first opportunity is the current revival of interest in comprehensive primary health care. As we indicated earlier, the current implementation of PHC in the Arab region is heavily dominated by the biomedical model and is usually applied on very small scale at local levels. Now is the time to adopt the holistic approach envisioned in the original PHC model and in the Alma Ata declaration. This PHC model is based on accessibility, equity, appropriateness, multi-sectoral action and community participation and empowerment. Hence, the revival of interest in PHC could be used as an opportunity to move from the traditional focus on local level initiatives towards macro-level policy and institutional reforms.

The second opportunity pertains to the poverty alleviation initiatives and how these can be built upon to introduce HE as a driver for changing strategic approach and as performance measure.

Baumgartner and Jones (Baumgartner and Jones, 1993) also discuss how a policy subsystem gets introduced and is formed of an institutional structure that becomes responsible for implementing programs and policies for that issue. The HE discourse emphasizes the value of such structures and proposes the formation of multi-sectoral high-level council.

In brief, placing an issue of the policy agenda is a complex matter that requires reinforcement and multiple entry points in addition to the measurement component discussed in this paper.

## **INFORMING POLICY AGENDA: MONITORING PROGRESS AND INCREASING ACCOUNTABILITY**

### **Monitoring progress**

Monitoring equity in health and its social determinants is an essential and strategic tool in

influencing policies. An ongoing assessment of the combined impact of current policies, interventions and programs on health and on its social determinants can provide policy-makers with early warning signals to review or amend these policies. Braveman (Braveman, 2003) noted that the main objective of monitoring is to provide an overview of the general situation and identify issues and raise questions for further investigations. Monitoring should adhere to the standard scientific criteria, but it further needs to have clear policy relevance and be simple, affordable, sustainable and timely. She emphasized that monitoring is 'explicitly intended to have practical relevance for policy-making in the shorter term' [(Braveman, 2003), p. 182]. She also sets a clear conceptual framework for the monitoring system that can guide such measurement exercises.

The first six steps in this framework include the identification of social groups of *a priori* concern, identification of major avoidable health disparities among social groups, identification of sources of data and proceeding to identify relevant indicators to describe health status and its trend overtime. She recommended, using simple descriptive summary measures namely absolute and relative inequity and relying on the currently available data as a starting point rather than engaging in new data production.

The CSDH (CSDH, 2008) also called for monitoring as a strategic tool towards tackling health inequity. As an initial step the commission requested the building of a minimum and basic health surveillance system which can progress into a comprehensive surveillance system. This minimum surveillance system is similar to a Braveman's (Braveman, 2003) proposed framework. However, the comprehensive HE surveillance system was proposed to incorporate, beside the basic health information, data on important social determinants of health along the causal pathway, ranging from daily living conditions to more structural drivers of health inequities. It needs to allow for building time trends for health, consequences of ill health and their social determinants for the different social strata and by gender. Measures of inequity, in addition to the above-mentioned simple measures, should include more complex measures of health inequity that capture the distribution of health across the social and regional groups of population.

Similar to Braveman's suggestion and the minimum and basic health surveillance system



proposed by CSDH (CSDH, 2008), practical experiences demonstrate that the application of the monitoring system in many countries does not require significant research effort and can start by making use of the current available resources. However, it is important to note that such frameworks and efforts are preliminary steps that lend themselves to an advocacy exercise more than a policy guidance frame.

Indeed, Braveman [(Braveman, 2003), p. 4] noted that this type of monitoring: 'raise questions for further investigation, but generally will not explain the causes of widening, stagnant or narrowing gaps. More complex methodological and explanatory research is needed to guide and complement the simpler approaches suitable for ongoing monitoring'. Furthermore, this paper warns against two types of common failures usually associated with the basic surveillance system.

The first is the sense of positive achievements derived from the tendency of the commonly used health measures to decrease across time as well as the wrong full attribution of these achievements to the health sector. This is a phenomenon well known in the international circles. Evans [(Evans, 2008), p. 22] rightly notes that 'The general public is happy to give modern medical care credit for the great benefits and the provider of care have been willing to accept'. This challenge can be easily addressed through a measurement exercise that recognizes the achievements and incorporates SDH decomposition of determinants and also points to the unfinished agenda. The unfinished agenda needs to carefully integrate equity lens in the monitoring of trends. The use of an SDH framework and the integration of an HE lens in monitoring trends and attributing causality are rarely done in practice.

The second type of common failures in the adopted monitoring exercise is the sole reliance on basic survival and disease measures as well as traditional stratifiers in measuring health inequities and their trends. This failure can be addressed through the gradual but conscious movement from the basic health surveillance system to a more comprehensive ones particularly for countries who are transitioning from the survival agenda to the pursuance of wellbeing and positive health.

In Egypt, these two types of common failures are evident. The repeated rounds of the Demographic and Health Surveys, allow the implementation of the basic monitoring exercise of

a time trend measurement/analysis of some health indicators (under five mortality, malnutrition among children, prevalence of anemia among children and ever married women, female circumcision...) by social status. This analysis shows a positive trend in the majority of the available health measures as well as significant declines in the relative gap between the most vulnerable and the most advantageous group of the population across selected stratifiers. For example, in under-five mortality the absolute difference decline by 87 and 61% across education and geographical region between 1995 and 2008. During the same period, the relative risk also decreased by 44 and 11 percentage points, respectively. These trends were confirmed using the more complex and distributional-oriented measure of concentration index where it declined by 35 and 33% for the two stratifiers, respectively. Similar trends are observed for adult health indicators. Khadr and Salem (Z. Khadr and M. Salem, personal communication 2011) also showed similar improvement on the health disparities by wealth and education in maternal health indicators with a few exceptions. Figure 2 provides an illustration of a summary picture of the trend in maternal health inequities by education during 1995–2008.

It should be emphasized, however, that the narrowing of the inequities still leaves a significant degree of them. With the current adoption of the biomedical model in tackling these disparities, the health system potentials once fully utilized will lead to a plateauing in the declining trend. The achievement of further progress in addressing inequities lies in social policies targeting the root causes for these inequities. For example, Egypt data document that disparities by wealth in delivering with the assistance of skilled birth attendance declined over the years 1995–2008, but it is still substantially large (CI-concentration index = 0.33). Also Egypt is currently facing a plateau in the decline of both its maternal mortality and total fertility rates. Monitoring such measures will signal the need for more effective social policy approaches.

In addition, the future direction for Egypt is to expand the monitoring exercise to encompass broader measures of health and stratifiers, allowing the investigation of different pathways of influence and structural root causes.

The measurement needs and the content and quality of the HIS are clearly expected to expand once countries move beyond the initial stage of

|   | 1995  | 2000  | 2005  | 2008  |
|---|-------|-------|-------|-------|
| Median age at first marriage                              | 0.05  | 0.05  | 0.05  | 0.05  |
| % married before age 16                                   | -0.38 | -0.45 | -0.47 | -0.5  |
| Median age at first birth                                 | 0.04  | 0.04  | 0.04  | 0.03  |
| % had first pregnancy before age 20                       | -0.37 | -0.4  | -0.4  | -0.39 |
| Average number of ever born children                      | -0.14 | -0.15 | -0.14 | -0.14 |
| Average number of living children                         | -0.12 | -0.13 | -0.12 | -0.12 |
| Ever use of modern contraceptives                         | 0.19  | 0.1   | 0.06  | -0.04 |
| Current use of modern contraceptives                      | 0.13  | 0.09  | 0.07  | 0.04  |
| Average number of children at first use of contraceptives | -0.17 | -0.17 | -0.15 | -0.14 |
| No intention to use contraceptive among non users         | -0.25 | -0.24 | -0.23 | -0.29 |
| Unmet need for spacing                                    | 0.02  | 0.02  | 0.05  | 0.08  |
| Unmet need for limiting                                   | -0.2  | -0.22 | -0.2  | -0.18 |
| Unmet need  | -0.13 | -0.15 | -0.12 | -0.09 |
| Unintendedness of last birth                              | -0.21 | -0.22 | -0.17 | -0.25 |
| Received any prenatal care                                | 0.41  | 0.39  | 0.41  | 0.33  |
| Received regular prenatal care (4+ visits)                | 0.49  | 0.44  | 0.39  | 0.35  |
| Received tetanus injection before birth                   | -0.15 | -0.14 | -0.21 | -0.08 |
| Told about pregnancy complications                        | -     | 0.11  | 0.12  | 0.16  |
| Given iron supplement during pregnancy                    | -     | 0.23  | 0.17  | 0.16  |
| Skilled birth attendant                                   | 0.41  | 0.38  | 0.37  | 0.33  |
| Delivery at home  | -0.42 | -0.37 | -0.35 | -0.36 |
| Who had C-section delivery                                | 0.31  | 0.27  | 0.26  | 0.2   |
| Checked by a physician after delivery                     | -     | 0.39  | 0.36  | 0.33  |
| Received vitamin A supplement after delivery              | -     | 0.2   | 0.07  | 0.07  |

**Fig. 2:** Concentration index by education for the maternal health variables in Egypt 1995–2008.

placing HE on the agenda and also in response to more ambitious aspirations than the basic ones of ensuring survival and physical health prospects for all social groups.

The expanded HIS implies that the documentation of health inequities and disparities should draw on a wider range of health outcomes that capture more adequately the definition of health adopted by WHO (WHO, 1946) [health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity (WHO, 1946)]. The increased utilization of this wider range comes in response to the progress and aspirations that have been realized

in the health field. ‘The rising expectations of the past 150 years have led to a shift away from viewing health in terms of survival, through a phase of defining it in terms of freedom from disease, hence to an emphasis on the person’s ability to perform his daily activities, and more recently to an emphasis on positive themes of happiness, social and emotional wellbeing, and quality of life’ [(McDowell, 2006), p. 11].

In addition, there are also calls for improved health stratifiers that go beyond the four broad categories of the traditional social stratifiers (namely socioeconomic status, gender, ethnicity and geographical area). This is intended to

reflect the complexity of real life and the fact that disadvantaged status of subgroups are commonly the product of the interaction of many of these stratifiers (Krieger, 2001; Nolen, *et al.*, 2005).

Furthermore, the movement towards more complex stratifiers (such as position, power and voice) allows a more nuanced approach to inform the explanation of health inequities. Khawaja *et al.* (Khawaja *et al.*, 2012) provided an attempt in this direction through discussing non-traditional measures including the mediating pathways of increased stress, psychosomatic responses, emotions of hopelessness and loneliness as well as introducing relative deprivation and culture as health stratifiers.

An additional serious challenge in monitoring health inequities beyond the requirements of the more comprehensive HIS is the fact that the existing efforts (Wirth *et al.*, 2006; Khadr, 2009) continue to rely mainly on repeated population-based surveys which do not usually lend themselves to monitoring both health and its main underlying structural determinants. Furthermore, these individual efforts are usually not consolidated under an organizational setting that guarantees the sustainability of the monitoring systems and that is attentive to 'political mapping' and engagement of stakeholders.

### **Increasing accountability**

The existence of a knowledge base on health inequities and their structural determinants, the monitoring of trends overtime and the recommendations of feasible and effective policies for addressing health inequities as well as supporting the implementation of programs and assessing their impact on HE are all important contributions of the measurement exercises. The impact of these contributions can be greatly strengthened through participatory and accountability mechanisms.

An informed and involved public, including civil society organizations and academic institutions, go a long way in ensuring the movement from knowledge into political commitments and effective actions. The important role of such public involvement has been identified even at the very early stages of implementing the basic surveillance activity. Braveman (Braveman, 2003), for example, emphasized the importance of an inclusive and public process and call for 'political mapping' to secure the involvement of a wide range of stakeholders who have the power to pose the relevant questions, use the

information and influence policies on the issues under considerations.

A successful model for this participatory monitoring exercise is the piloting of the EQUINET (EQUINET, the Regional Network on Equity in Health in Southern Africa, is a network of professionals, civil society members, policy-makers, state officials and others within the region who have come together as an equity catalyst, to promote and realize shared values of equity and social justice in health. <http://www.equinetafrica.org/>) initiative and the production of the 2008 and 2011 Zimbabwe Equity Watch reports (Loewenson and Masoty, 2008; TARSC and MOHCW, 2011).

Another important and more structured accountability mechanism is the framework proposed by Oxman *et al.* (Oxman *et al.*, 2010) in their discussion of the role of impact evaluation to ensure well-informed public policy decisions. The authors 'propose that governments and NGOs recognize their political and ethical obligations to make well informed decisions and to assess the effects of their programs in legislation' (p. 429). In other words, there is a need to have a legislation that mandate health impact evaluation for policies and programs resembling other legislations mandating environmental impact assessment.

Only very few practical examples of fully integrating monitoring and evaluation in the policy cycle are available in the literature. One particular illustration is the experience of the Mexican government in passing legislation mandating the assessment of social development policies and in establishing a National Council for that purpose (Oxman *et al.*, 2010). This experience needs to be shared more widely and built upon to support developing countries in this venue.

### **BASIC REQUIREMENTS AND CONSIDERATIONS**

The successful implementation of the proposed measurement tracks, particularly the ones that move beyond raising the alarm into more effective and well-informed policy support, are quite dependent on key basic requirements. These are touched upon in the following:

#### **Ensuring an adequate health information base**

A basic requirement noted above is the availability of a comprehensive health information base.

This requirement is a constraint not only confined to developing countries. A recent report by Eurohealth Net (Eurohealth Net, 2010) indicated that even in European countries with their high-quality data: ‘the possibility of regular analysis of social inequities in health are available only to some countries’. The authors argued that ‘The process of identification and analysis of health inequalities and the socioeconomic determinants is mainly based on various sources and dispersed within different information systems.’

A practical suggestion to address this constraint is to develop an observatory or data repository that gathers all the available health data from nationally representative and small surveys, disease registries, routine health records and other data sources under one structure that secure the ease of access to these information as well as their quality. Such repository should be able to facilitate its linkage with other comprehensive information sources on population like censuses and hence enable assessing aspects of health inequities across various socioeconomic groups.

Another suggestion is to incorporate socioeconomic information in the nationally representative data from routine health records including vital registration and population registry. A simple example would be the inclusion of socioeconomic data on the death certificate and medical records which can then be used to stratify health data by socioeconomic status.

These suggestions would need to consciously target the incorporation of structural community and policy-level determinants (causes of the causes) alongside the social stratification ones. Such incorporation requires technical, technological and resources basis to exploit the opportunities availing themselves (e.g. satellite images, geographical information systems, computer software, etc.) as well as undertake specialized data collection efforts

### **Developing conceptual and analytical capacities**

The paradigm shifts, the analytical activities and implementation skills discussed in the measurement exercise presented in the previous sections call for significant efforts in the area of capacity building. These efforts have to be tailored to cater for the different needs of the main stakeholders engaged in this process.

The most obvious need is the technical skills and capacities of researchers who can collect data, ensure their quality, create linkages with other

sources of information and process, analyze and summarize these data into suitable format for various stakeholders, particularly policy-makers. This type of capacities is relevant to researchers and information technology professionals. The other crucial but less-recognized type of capacities is the more conceptual, human right and value-anchored ones supporting the needed paradigm shift. This type of capacity building aims to alter the individuals’ perceptions of health inequities as indicators of mal-distribution of power, money and resources for health. It also emphasizes the role of fairness and inclusiveness for well-being of individuals as well as societal cohesion and sustainability. Such capacities can provide policy-makers, major stakeholders, advocates and media the needed ammunition for reforming policies. The building of the value and conceptual capacities needs to be the base for all other training activities including the more advanced and specifically tailored training programs for technical and informational skills and capacities.

Other types of capacities that are needed include skills related to advocacy that can attract attention of the main players as well as the general public. Nathan *et al.* (Nathan *et al.*, 2002) argued that advocacy groups should have strong capacities in planning and consultation, leadership, networking and communication, information and resource management and critical reflection. With these capacities, these advocacy groups can work with the government while simultaneously generating public debates and conflicts and building alliances and coalitions.

Building these capacities entails the development of new academic programs and training activities with particular focus on equity-oriented data management and analysis as well as specially tailored programs that suit the various stakeholders and major players. These activities require the involvement of academic institutes in the area of public health and public policy as well as affiliated training centers. It also calls for collaboration with various international organizations and institutes actively engaged in this type of building capacities and skills with the aim of exchanging of experiences and new emerging knowledge.

### **Responsive and accountable processes and structures**

Setting health inequity on the political agenda requires the establishment of a responsive and accountable organizational structure that caters

for the needs of policy-makers and major stakeholders and players in this regard. This structure should extend its organizational activities on different levels and over many dimensions. The first level aims at engaging with the highest level of state administration and legislative body in the country. The main objective of this first level structure is to promote, sustain, facilitate and coordinate the activities and efforts supporting the political commitments and actions toward HE as a developmental indicator on the policy agenda. While some countries have this structure in the form of high health councils, the majority of these councils is inactive and/or has no power to enforce their recommendations or decisions. The suggested council should have a particular focus on health equity and be supported with strong and active political will as well as legislations. This is similar to Oxman *et al.* (Oxman *et al.*, 2010) suggestion of issuing a legislation embedding monitoring and health impact assessment as an integral part of public policy. The current proposal is for an enabling legislative support. This council should engage all major stakeholders including legislators and policy-makers, research professionals and civil actors and adopt a participatory and transparent approach.

The high-level structure is expected to coordinate and interact with at least three substructures: namely, research structure, advocacy structure and civil society structure. The research substructure is expected to engage in all activities related to evidence production whether on the level of documentation of health inequities, identification of vulnerable social groups, development of new indicators, and monitoring and impact assessment. This substructure should also be responsible for coordinating capacity-building activities on all its various dimensions. The main responsibilities of the advocacy substructure is to take charge of transforming the evidence and knowledge into format suitable to policy-makers and major stakeholders use, conduct activities to sustain and support the political momentum within the policy arena as well as help in mobilizing resources. This advocacy group should adopt a long-term vision and goals, adopt flexibility, opportunism and responsiveness in their tactics in targeting policy-makers (Nathan *et al.*, 2002). They have to be able to work with the government while simultaneously generating public debates and building alliances and coalitions.

The third substructure is the civil society which acts as sensors on the ground, identifying

new emerging health inequity issues, maintaining the momentum within the public arena and engaging the general population in the ongoing debates regarding priorities and the feasibility of interventions. In addition to the general public, this substructure has to engage with the media and all other structures involved in forming public opinions.

### **Allocation of resources and financial requirements**

Meeting the basic requirements identified earlier calls for allocation of resources and a dedicated budget. Such an allocation reflects the strength of the political commitment and its readiness to engage in budgetary redistribution as well as increases needed to address 'the underlying social and economic determinants of health through policies and programs that enhance HE and integrate pro-poor, gender-responsive and human rights-based approaches' [(Östlin *et al.*, 2011), p. 4].

### **CONCLUSION**

The international and national discourse on health equities and their social determinants often concludes with a recommendation on the need for appropriate measurement practices and proper documentation of health inequities with the aim to 'monitor progress and increase accountability.' The translation of this recommendation into practical steps is usually narrowed down to a call for reforming and restructuring the HIS with an understanding of the need for new major data collection efforts and data manipulation strategy. The current paper provides a nuanced translation of this recommendation and proposes four self-reinforcing measurement tracks that build on the available data in many developing countries using Egypt as an illustrative example.

It is important to emphasize that our definition of the measurement exercise is not confined to the scientific documentation of health inequalities. Measurement is defined as a tool for advocacy as well as policy and actions support. Also the four tracks proposed are suited to developing countries who have not prioritized the HE challenge and who are facing large inequities in physical health. These countries are expected to suffer from inequities in the distribution of basic service structures (water and sanitation, education,



health service, etc.) that are closely linked to physical health.

Once HE is embraced as a value, the move toward measures of psychosocial health and well-being as well as more nuanced social stratifiers would become a natural evolution. The structural determinants under investigation would go beyond the basic needs and more toward transformative empowering determinants (gender dynamics, cultural forces, inclusiveness, quality of education, decent work, etc.). These structural determinants apply equally to many countries that are more advanced on the physical health front.

HE is a challenge facing developing and developed countries. Measurement and research can inform and guide all these countries but their success lies in their adaptability to national context as well as investing in the basic requirements discussed in this paper.

## CONFLICT OF INTEREST

None to declare.

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