Climbing the ladder to equitable access for mothers and children: Health system transitions to universal coverage in urban and rural settings

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Introduction

As we move into a world whose urban population has for the first time surpassed its rural population, there is still the certainty of population growth in many nations. By 2020, more than 50% of people in developing countries will live in urban areas (UN 2008), with the majority of population growth taking place in towns and cities.

Health systems in many countries still exclude large swathes of the population, with the poorer and less educated usually experiencing less access to good quality health care. There are large differentials between urban and rural women and children in the likelihood of reaching care. Those in urban areas have high utilisation rates resulting, in most cases, in less deaths and better health.

Yet it is clear that average health system utilisation figures for urban and rural areas mask sizeable differentials. If utilisation is calculated by wealth or education there can be large differences between the rich and poor in some countries, while in others there is less of a contrast. Furthermore, in some countries it is only the very rich that access care, leaving the poorer majority with far lower utilisation rates. In other countries it is only the very poorest that are excluded. Previous work (Matthews et al, to be published) has typologised patterns of healthcare for maternal and child health into groups of countries. Each of these groups display different characteristics of exclusion from care, ranging from countries where there is massive exclusion except for the richest in urban areas, with no one in rural areas receive the requisite care, to countries where there is almost universal coverage in urban areas and it is only the poorest in rural areas that are marginalised. These exclusion patterns are brought about by very different health system development histories – and reaching universal coverage will require very different strategies to tackle the inequities.

This paper will push forward the debate about transitions to universal coverage by tracing a number of countries through time and studying the exclusion of the population in both rural and urban areas during transition. The aim is to present the pathways by which a country moves from an almost total lack of access in both rural and urban areas to a situation where all groups of the population in all areas have full access to healthcare. A better understanding of how countries climb the ladder to universal healthcare coverage will help in identifying potential interventions to apply at different stages of a countries development in order to speed up the movement towards universal coverage.

Methods

Countries with at least three Demographic and Health Surveys spanning at over 10 years have been selected for analysis. These include:

Bangladesh	Haiti	Niger
Benin	India	Peru
Bolivia	Indonesia	Philippines
Burkina Faso	Jordan	Senegal
Cameroon	Kenya	Tanzania
Columbia	Madagascar	Uganda
Cote d'Ivoire	Malawi	Zambia
Dominican Republic	Mali	Zimbabwe
Egypt	Namibia	
Ghana	Nepal	

Wealth quintiles and deciles will be constructed for each of the surveys in each country, following the methodology suggested by Filmer and Pritchett (1998). The concept of measuring poverty using wealth quintiles is now common, where populations are divided into five equally sized groups according to an index which represents the level of asset wealth in households. This is seen as an adequate indicator of wealth where information exists on household assets but not on household expenditure, income or consumption, as is the case in most health surveys (Falkingham and Namazie, 2002). However, the asset index, is usually calculated across whole populations without accounting for the key differences in asset wealth between urban and rural areas. Livestock is important, for example, in rural areas, but not in urban areas, and the asset quintile methodology tends to arrive at a grouping which places all rural households at the bottom of the distribution, and all urban households at the top – resulting in nothing but a proxy for rurality. However, it is possible to derive asset quintiles for urban and rural areas separately – and thus provide a better measure for relative urban and rural poverty. The same methods can be used to generate wealth deciles.

A number of indicators have been chosen to represent healthcare coverage, including the percentage of births in a facility, the percentage of children immunised for tetanus, the percentage of mothers with skilled assistance during delivery and the percentage of mothers who received any or sufficient antenatal care. The overall percentage for each of these indicators will be calculated, alongside the percentage in each of the wealth quintiles and deciles, for urban and rural groups separately and for the countrywide wealth indicator. Lorenz curves and Gini coefficients will be calculated using the wealth deciles to indicate inequality at the time of each of the surveys with respect to each of the indicators, alongside simple inequality measures as ratios and differences.

Results

The results will display the changing inequalities in healthcare access between urban and rural areas through a series of graphs. It will then be possible to hypothesise on the pathways by which countries develop towards offering universal coverage of healthcare. It is simple to consider a country's development towards universal care is a continuous concept, akin to climbing a ladder. At the bottom of the ladder there is no healthcare utilisation, while at the top there is healthcare for all, irrespective of wealth and location. Between the two there are rungs which display different characteristics regarding inequality and utilisation. The different stages (or rungs) will be elaborated with a general theory of the transition to universal coverage proposed.

Initial investigations suggest that there are seven rungs on the ladder, although this may change as the evidence base is increased. These rungs are initially hypothesised to be:

Bottom rung (1) – *pre-health care societies* – a general lack of care for all. Urban areas and the rich do not have any advantage with regard to healthcare.

Rung 2 – *the urban advantage starts* - the rich in urban areas start to improve their health. The poor are unaffected. Thus inequalities start to occur in urban areas but there is still complete lack of access in rural areas.

Rung 3 – *widening of access* - the urban rich get even better coverage, and this starts to trickle down, so the urban poor improve slightly. This also trickles to the rural rich. Thus inequalities get even bigger in urban areas, and start to appear in rural areas.

Rung 4 – pathway 1 - *rural areas start to feel the benefit of widening access* – the urban rich advantage increases, but slows and the inequality remains roughly the same as the poorest are starting to gain access to healthcare. The rural rich have a large improvement in access and thus there are large inequalities in rural areas. The inequalities in urban and rural areas are about the same, but as the urban areas started the transition earlier then they overall have better levels of care.

Rung 4 – pathway 2 – *rural areas are left behind although the rural rich get some benefits*. Urban areas have increased their coverage so far that even though there is a trickle down effect to rural areas increasing inequality, rural areas are generally lagging far behind urban areas with regards to access. This may be due to conflict or geographical barriers.

Rung 5 – *rural areas start to catch up* - the rich urban dwellers have almost universal coverage and the poorer inhabitants start catching up, decreasing absolute inequality in the urban areas. Coverage in rural areas improves, although still wide disparities between rich and poor still exist.

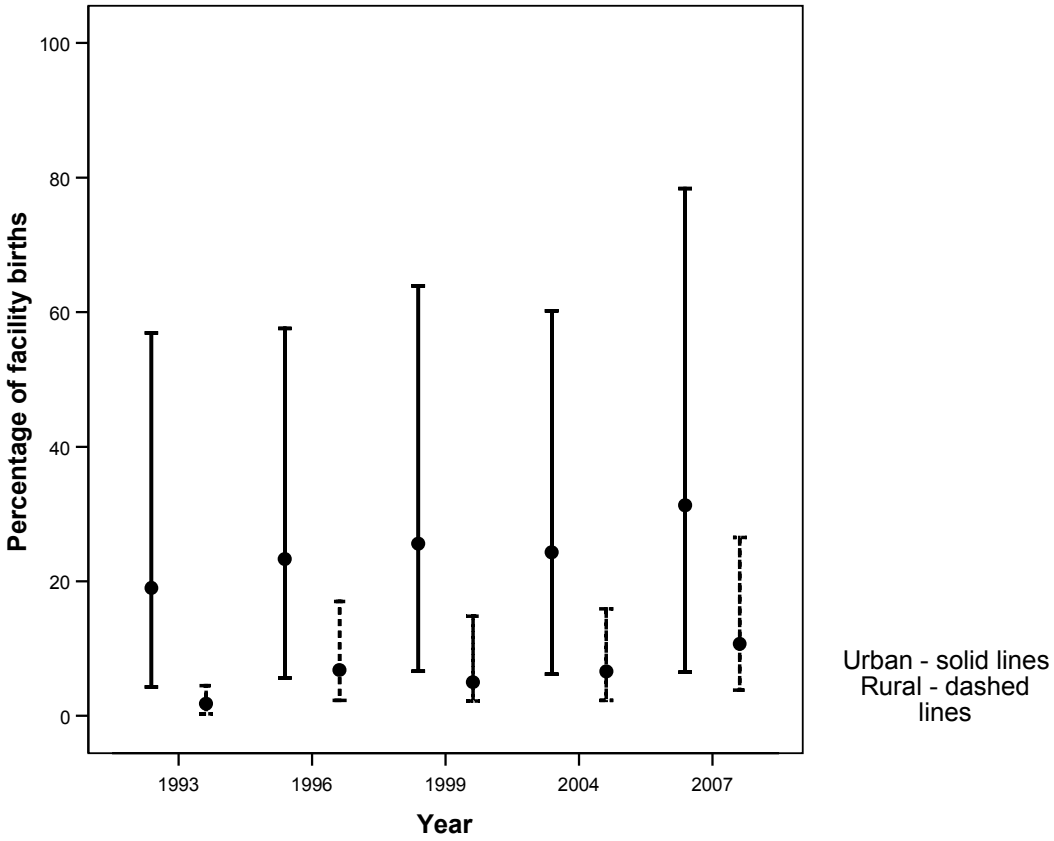
Rung 6 – *urban areas have universal coverage* - there is almost universal coverage for all in urban areas, with little inequality. Rural areas have good indicators too for all, although there is still some disparity between rich and poor.

Top rung (7) – *universal coverage for all* - there are no disparities in urban and rural or between rich and poor.

As an example, the following graph indicates the percentage of births in a facility in Bangladesh between 1993 and 2007 (see Figure1). The lines represent the difference between the top and bottom deciles for urban and rural separately, with the circle showing the overall figure.

Inequalities are much larger in urban areas than rural areas, although they are starting to grow in rural areas. The poor in urban areas do not have much greater healthcare utilisation than the poor in rural areas. This is symptomatic of a move from rung 2 to rung 3 up the healthcare transition ladder. There is a clear change from 1993 to 2007, although the time period is not long enough to show the country moving up two or more rungs on the ladder. Other countries analysed are at different steps and thus a general theory can be proposed.

Figure 1: Percentage of Births in a Facility by urban or rural residence and wealth quintile – Bangladesh 1993, 1996, 1999, 2004 and 2007



Conclusions

Providing a general theory of healthcare transitions will require a number of generalisations to be made with regard to how a country moves towards universal access to care. However, this paper will have proposed a series of stages, or rungs, that will highlight this transition. Specific interventions that could be initiated at each of the rungs on the ladder will be highlighted in order to speed the transition to universal access to healthcare.

References

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