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The public health effects of water and sanitation in selected West African countries

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ABSTRACT

Objective: This paper examines access to water and improved sanitation target under the Millennium Development Goal 7c (MDG 7c) for six West African countries: Chad, Niger, Nigeria, Mauritania, Sierra Leone and Togo. The article outlines some possible causes for the slow progress in achieving the MDG 7c, examines the public health effects of missing the targets, and charts paths for policy makers to consider in bringing these targets to acceptable levels.

Methods: The study is based on secondary data analysis of trends in water and sanitation indicators for the six countries from 2000 to 2014. The data are drawn from the World Development Indicators (WDI) of the World Bank, and the World Health Organisation Joint Monitoring Programme (WHO JMP) and WaterAid Africa Wash Map. The performance of each country in the two indicators is presented and judged against the target set under MDG 7c. Forecasts based on the expiry of the MDG's in 2015 and the time required to achieve the targets are carried out.

Results: The study shows that while some progress has been made in improved water, sanitation showed slow progress for all the countries between 2000 and 2014. The goal of attaining acceptable sanitation shows that the six West African countries have lagged behind the MDG 7c target and the progress is equally slow.

Conclusion: At the current rate of progress if strong public and private sector intervention mechanisms are not instituted across the board, the six West African countries under study would continue to lag behind the rest of the world in terms of access to improved water and sanitation. This has consequences for poverty alleviation and the risk of the re-emergence of neglected tropical diseases.

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Introduction

The Millennium Development Goals (MDG 7c) calls for halving the proportion of the world's population without sustainable

access to safe drinking water and basic sanitation by the end of 2015. According to the World Health Organisation (WHO)¹ the drinking water target was met in 2010, five years ahead of schedule. However, there are still over 700 million people worldwide who do not have access to improved drinking

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water. Even with improved access, evidence shows that there are significant inequalities between rural and urban access to improved water² and the quality and cost of access to water is not appropriately reflected in the reported statistics.³ In terms of sanitation, open defecation continues to be the norm for most developing countries and the data suggest that about 2.5 billion people in developing countries lack access to improved sanitation facilities.⁶

As time draws closer to the expiration date set for the MDG's it is imperative to re-examine the targets for water and sanitation and put the search light on countries that have shown the worst performance under MDG 7c. The inability of the six West African countries (Chad, Niger, Nigeria, Mauritania, Sierra Leone and Togo^c) to meet the target for MDG 7c by 2015 naturally leads to a plethora of questions: was this target too much for these countries? What factors account for the poor trend observed in the data? Is there any chance that these countries will be able to achieve the target of halving the proportion of the population without access to safe drinking water and basic sanitation even if the target year was shifted beyond 2015? Answers to these questions require a thorough look at the patterns in the two indicators. This article attempts to identify the countries that have failed to meet both the target for safe drinking water and basic sanitation and also examine the public health concerns in terms of diseases these countries are dealing with in relation to these two factors. The article constructs forecasts and addresses some policy concerns that can help arrest the poor performance in relation to MDG 7c.

The rest of the article is organized as follows: methodology; analysis of the trends in water and sanitation in the selected West Africa countries and provides forecasts; analysis of the risk of the current rate of improvement in the two indicators and points to some specific water and sanitation related diseases that may pose a threat to the health care systems of the countries under consideration; and the last section concludes and offers some policy directions for improving the state of water and sanitation in the selected West African countries.

Methods

The methodology is based on analysis of the time series patterns of water and sanitation indicators for the six West African countries that performed poorly on the two MDGs. The data used throughout the article is drawn from the World Development Indicators (WDI) of the World Bank, and the World Health Organisation Joint Monitoring Programme (WHO JMP) and WaterAid Africa Wash Map. The UN MDG 7c set the target of 75% access to improved water and

sanitation to be achieved by 2015. Using this as our benchmark, we estimated the potential number of years required to attain at least 75% improvement in basic sanitation and water. For example, if it took Nigeria 14 years to move from 54.8% improved access to water in 2000 to 65.7% in 2014 (see Fig. 1), how long will it take Nigeria to reach the MDG target of 75% access to water, all things remaining the same? It turns out that Nigeria achieved improved coverage of 10.9% between 2000 and 2014 ($65.7 - 54.8 = 10.9$). Extrapolating, our calculations indicate that Nigeria would require 9.3% extra coverage to reach 75% from the current 65.7%. And this would take approximately 11 years (i.e. in the year 2025) at the current level of progress. The results are shown in Table 1 for all countries.

Results

This section presents the results of our analysis of the patterns observed in the data and the forecasts for attaining the 75% coverage of MDG 7c.

Fig. 1 shows the state of access to improved water for the six countries for 2000 and 2014. While some effort has been made in improved access to water, a lot remains to be done. Only 46.8% of the population had access to improved water sources in Sierra Leone in 2000. This has increased to 62.2% by 2014. Niger and Mauritania started at 42.1% and 40.4% in 2000 and only went up to 54% and 51.4% respectively by 2014. The Sahelian regions experienced the slowest performance in terms of access to improved water sources between 2000 and 2014.

If the target for water has been missed in the countries under study, then the target for sanitation has been sorely missed! If it is reasonable to attain the water target in a decade or two from now, our analysis shows that with sanitation, unless a big push takes place some countries would continue to wallow in filth and squalor as shown in Fig. 2 and Table 1.

Fig. 2 shows that while four countries improved marginally on sanitation, two countries retrogressed. Nigeria and Togo are worse off now than they were in 2000. About 12.2% and 34% of the population had access to improved sanitation facilities in Togo and Nigeria respectively in 2000. In 2014, Togo was at 11.2% while Nigeria was at 27%. A cursory look at this indicator for the two countries depicts a precipitous decline for Nigeria since the 2000s and some stagnation, interspersed by declines in Togo. With the remaining four countries, progress on sanitation has been very slow.

The MDG started in 2000, and expected to expire in 2015, with the key benchmark of halving global poverty and improvement in a host of social, environmental and health indicators. MDG 7c which is under investigation in this article set the target of 75% access to improved water and sanitation coverage by December 2015. By the year 2000 all countries in this study were below the target for both water and sanitation (see Figs. 1 and 2) and by the end of 2014, just 12 months before the MDGs expire, there was no indication that the West African countries under study would achieve the targets. As explained above, we constructed forecast to judge the performance of each country against the benchmark and to

^c These countries were specifically chosen because of the availability of data for the analysis carried out in the article. The countries in our sample represent the group that missed both the water and sanitation targets. Thus we exclude countries that achieved the water target. For example, Guinea Bissau, The Gambia and Liberia can be candidate countries for this study; however, there is no data on sanitation in the WaterAid Africa Wash Map, hence their exclusion.

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