

The neglect of hygiene promotion in developing countries, as shown by the Global Analysis and Assessment of Sanitation and Drinking-Water survey

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ABSTRACT

The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report is one of the three periodic UN reports dealing with water supply, sanitation and hygiene. This paper analyses the data on hygiene promotion which were collected for the 2012 edition, but not included in the report. Despite the limitations of the information, this is the best picture available of the global status of hygiene promotion in developing countries. Results show the low priority given to hygiene when it comes to implementation. On average, the staff in place meets 40% of the estimated needs to achieve national targets. Countries report that over 60% of their population is reached by hygiene promotion messages, but we estimate that there are barely enough hygiene promoters to reach 10% of the people. Government officials' greatest concerns are the lack of human resources and funds, but they also point to the absence of strategy, responsible agency and basic coordination and monitoring mechanisms as challenges. This has serious implications for the poor working conditions and low recognition of hundreds of thousands of hygiene promoters, who in most cases are women capable of playing a crucial role for public health. There is an urgent need for further development of capacity for hygiene promotion in developing countries.

Key words | developing countries, GLAAS report, global monitoring, hygiene promotion, public health, United Nations

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INTRODUCTION

The UN-Water Global Analysis and Assessment of Sanitation and Drinking-Water (GLAAS) report is one of the three periodic UN reports dealing with water supply, sanitation and hygiene (WASH). The other two UN reports are the Joint Monitoring Programme Report, and the World Water Development Report (<http://www.unwater.org/documents.html>). Its objective is to monitor the inputs required to extend and sustain WASH systems and services. This includes 'documenting government policy and institutional frameworks; the volume, sources and targeting of investment; the sufficiency of human resources; priorities and gaps with respect to external assistance; and the influence of these factors on performance' (WHO 2013: 3).

Both GLAAS and the Joint Monitoring Programme reports are based on responses to questionnaires distributed to the governments of member states. Having a different final objective, the GLAAS questionnaire differs from the Joint Monitoring Programme and collects complementary information. The questionnaire is significantly longer, and includes open questions to the respondents. In the 2011/2 questionnaire there was a section on hygiene promotion.

This paper analyses the information from the GLAAS survey related to hygiene promotion. Ever since the Water Decade in the 1980s, there has been a consensus that the 'hardware' of water supply and sanitation needs to be accompanied by the 'software' of hygiene promotion to realise their full health benefits. Since then, hygiene

promotion has been shown to be among the most cost-effective of all preventive health interventions (Laxminarayan *et al.* 2006), and recent research has led to new approaches that are likely to be more effective still (Curtis *et al.* 2011). Nevertheless, hygiene promotion in developing countries is still largely delivered face-to-face, and even when other communication channels are used, hygiene promotion staff are needed to organise and deliver it (Scott *et al.* 2007).

Hygiene promotion has often been neglected, and the lack of reliable data on it is a symptom of that neglect. Despite the limitations of the information collected, we believe the GLAAS data offer the best picture available of the global status of hygiene promotion in developing countries. The objective of this paper is to provide an analysis of it, as well as to make recommendations on the way forward.

METHODOLOGY

This study analyses the information provided by respondents to the hygiene promotion section of the data collection survey for the GLAAS Report 2012. The raw data of the GLAAS Report are available from WHO (2013). The information is extracted from: (i) multiple-choice questions; (ii) direct questions; and (iii) open questions. We define these as follows. In multiple choice, the respondent has to choose between predetermined answers. Direct questions are those asking for a fact or specific issue (e.g. percentage of female workers). Open questions are those where the respondent is free to express his or her comments and there is no space limit. The relevant questions of each type in the GLAAS questionnaire, in the section on hygiene promotion are listed in Tables A1, A2 and A3 of Annex A (which can be found in the Supplemental Material available online at <http://www.iwaponline.com/washdev/004/119.pdf>).

The survey for GLAAS 2012 was answered by 75 countries, listed in Annex B (which can be found in the Supplemental Material available online at <http://www.iwaponline.com/washdev/004/119.pdf>). These countries answered the hygiene promotion section with different degrees of completeness; no country answered all the questions, but 74 of them answered at least one of them. Hence,

the full list of 75 countries is used when providing general percentages; the number of countries answering each question has been specified when relevant.

RESULTS AND DISCUSSION

Research based programs

Of the 75 responding, 32 countries (43%) reported that some kind of evaluation of hygiene promotion programs informed their actions, and the same percentage claimed to have observational studies about hand-washing. However, the brief summaries provided in the qualitative part of the survey (questions 9 and 10, see Table A3, which can be found in the Supplemental Material available online at <http://www.iwaponline.com/washdev/004/119.pdf>) are enough to show that these studies differ greatly in scope, methodology and quality of results. On the multiple-choice questions, 48% of countries affirmed that their hygiene promotion programs are based on research (the interpretation of what research means might have differed between countries), with only minor differences between urban and rural areas.

Priority places/premises for hygiene promotion

The information regarding the prioritization of institutional settings for hygiene promotion programs is presented in Figure 1. The black bar represents the percentage of countries (*x*-axis) that include each type of institution in over 75% of the programs; dark grey, between 25 and 75% of programs are targeted to that type of institution, and the light grey denotes that less of 25% of programs are targeted to it. White denotes the percentage of countries that did not answer this question. The data is very similar for urban and rural areas, as presented in Figure 1.

Figure 1 shows that secondary schools receive less priority than primary schools, since only 27% of countries target those in over 75% of their programs, and 32% of countries declare that they include them in less than 25% of programs. Primary and secondary health centers receive similar attention, and are targeted slightly more often than specialized hospitals in rural areas, while there are no significant differences in urban areas.

Target groups

The information regarding the population groups targeted is presented in Figures 2 and 3. From the groups that were included in the question, primary schoolchildren are the most targeted segment of population (53% of countries target them in more than 75% of rural programs), but only 33% of the countries also target secondary school children with the majority of their programs. This is coherent with the information gleaned about institutions targeted. Teachers are also targeted, but not in all programs directed to schools. With regard to health facilities, the focus is placed on the staff, and less on the patients.

The data given for urban and rural areas are almost identical, and are presented in Figure 2.

Turning to the targeting of vulnerable groups in the population, around 50% of countries report that children are targeted in the majority of their programs; in contrast, women, people living with HIV, people with disabilities and older people are targeted only by 25% of the countries in the majority of their programs (Figure 3). It was not possible to confirm the quality of the approaches to vulnerable groups with the available information on the tools used (Table A3, question 8, which can be found in the Supplemental Material available online at <http://www.iwaponline.com/washdev/004/119.pdf>).

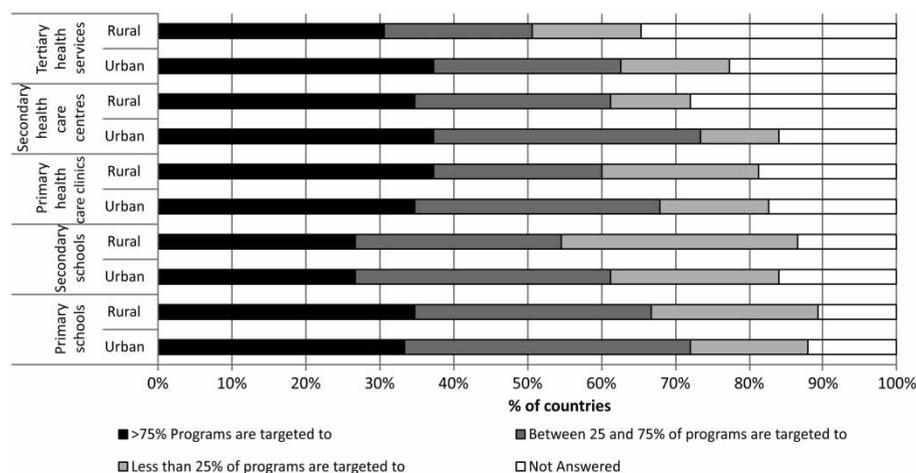


Figure 1 | Types of institution targeted by hygiene promotion programs in rural and urban areas.

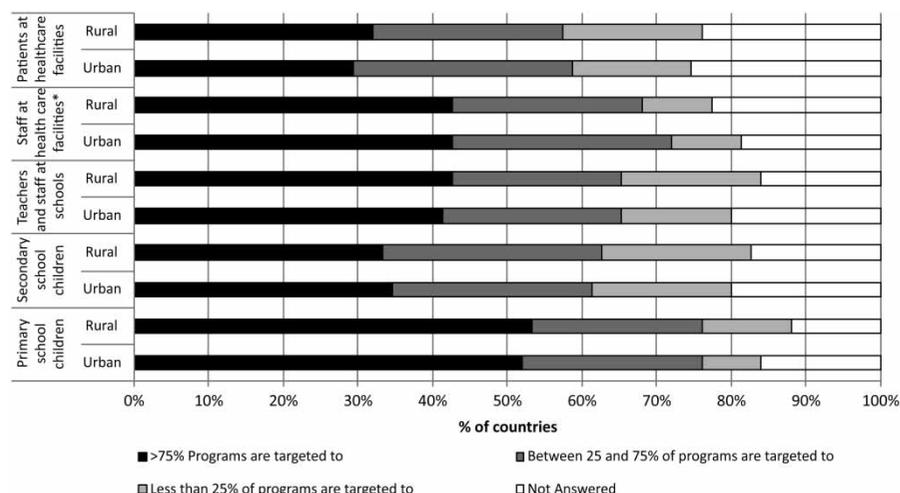


Figure 2 | Target groups of hygiene promotion programs in schools and health care centers in urban and rural areas.

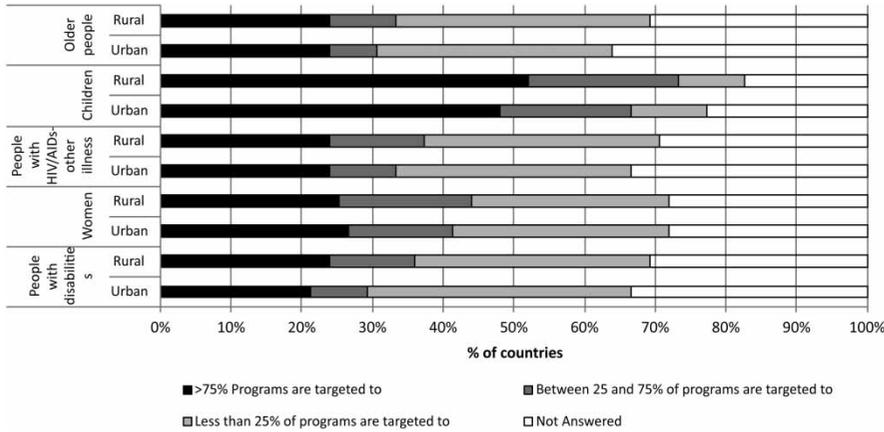


Figure 3 | Vulnerable groups targeted by hygiene promotion programs in urban and rural areas.

Key messages addressed

There is evidence to support a variety of messages targeting various behaviors to prevent several diseases (Curtis *et al.* 2011). Regarding the priority messages addressed, almost 70% of countries report that they use the three key messages mentioned in the questionnaire (use of toilets, importance of clean drinking-water and the need for hand washing with soap) in over 75% of their urban programs (Figure 4). The three were included not as being particularly effective, but because anecdote suggested they were most commonly used. These percentages are similar in rural areas, except for the use of toilets, where just less than 60% of countries include this message in the majority of their programs; 68% of the countries declare that over 75% of their urban programs include hand-washing (67% for rural programs); and only

4% of countries say that less than 25% of urban programs cover the topic (5% of countries if we refer to rural programs). The importance of using clean drinking water seems to be the most widely addressed message in rural areas (only 3% of countries declare that less than 25% of programs address it).

This prioritization of messages contrasts with the findings of some recent public health research showing that the use of a toilet and hand-washing with soap have a similar or significantly greater impact on health than using clean drinking water. The figure shows a low inclusion of the importance of the use of toilets in hygiene promotion programs in rural areas. However, this might be partly the consequence of respondents considering sanitation programs (focused on the use of toilets) as a different activity from hygiene promotion; hence the proportion of programs encouraging the use of toilets might be higher than the figure obtained.

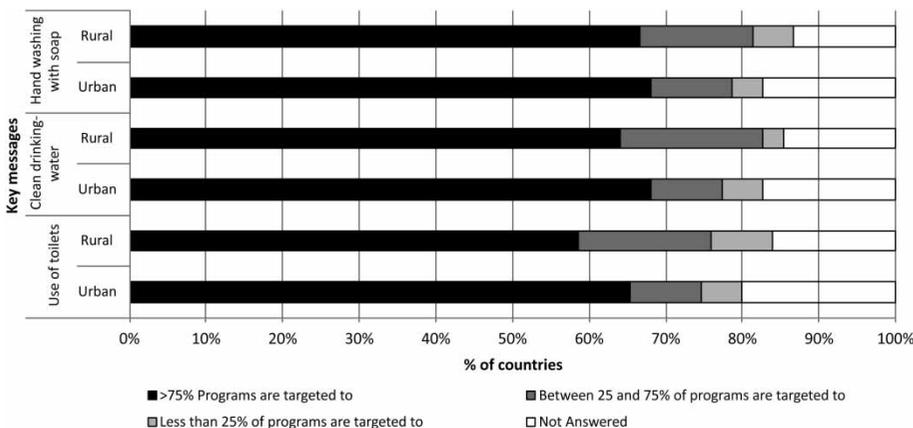


Figure 4 | Key messages addressed by hygiene promotion programs in urban and rural areas.

Human resources

The human resources component of the survey asks for the number of full-time equivalent hygiene promoters (FTE-HP) present in each country, the ratio of women, the number of people addressed by each hygiene promoter and the estimated number of hygiene promoters needed to fulfill the targets (see Table A2, question 11, which can be found in the Supplemental Material available online at <http://www.iwaponline.com/washdev/004/119.pdf>). The number of countries responding to each of the questions varied (Table 1), so comparisons were also possible using a limited number of countries, as detailed below.

Data on the number of full-time hygiene promoters available at national level was provided by 29 countries, two more countries provided a number of urban promoters but no national figure, two countries provided data for urban and rural areas but not nationally, and finally five more countries provided just the number of rural hygiene promoters but not the national figure (Table 1). For this analysis, the figure given for national level was considered as representative for the country. For countries giving only disaggregated data (urban, rural or both), they were summed to obtain the total national figure.

Table 1 | Available data (number of responding countries) used to analyze the human resources component of the survey

	Number of countries with data available for each comparison				Total number of countries used
	National	Rural and urban but not national	Only urban	Only rural	
Number of FTE-HP in place	29	2	2	5	38
Percentage of female hygiene promoters from the FTE-HP	20	1	0	5	26
Countries that provided data of the number of FTE-HP in place and the FTE-HP needed to achieve the national targets	–	–	–	–	15

By this method, the number of FTE-HP was calculated, based on the data of 38 countries (51% of respondents). By these means an estimate was obtained of 302,267 FTE-HP in those countries.

To estimate the number of women, the percentages given by the same countries were used. A total number of FTE-HP of 277,301 (26 countries gave an estimation of FTE-HP and the proportion of women, Table 1), leads to an estimate of 229,881 women: 83% of the FTE-HP available for those countries.

To assess the number of FTE-HP in place, it was compared with the FTE-HP needed to achieve the national targets in the countries that had provided both estimations. The comparison was thus made with data from these 15 countries (Table 1). The percentage of needs covered to achieve targets varies from 4 to 100% (only one country declared that it had 100% of FTE-HP needed to cover targets); the aggregate average of staff in place as a proportion of the staff needed for achieving national targets is 41%.

Population covered

When asked about the number of people covered by hygiene promotion programs, the countries that answered gave percentages of population covered, and not absolute figures. Only 19 countries were able to provide figures on those targets at national level. Other countries gave only rural or urban estimates, without giving the overall national proportion (Table 2). In order to estimate the total population covered by hygiene promotion programs, we took the percentages provided and multiplied them by the country's population. Where only urban or rural percentages were given, an estimate was used of the rural and urban population, respectively (demographic data were taken from the Human Development Report 2013 database, UNDP 2013). As a result of this, it was possible to use the data from 22 countries (29% of the respondents).

Using these assumptions, the total figure for number of people covered by hygiene promotion programs can be estimated at 578 million, which represents 63% of the combined population of the countries included in the simulation (922 million). The high proportion of population covered, according to the respondent countries, suggests that this figure might represent the population covered by

Table 2 | Available data (number of responding countries) used to analyze the coverage of hygiene promotion programs

	Number of countries with data available for each comparison				Total number of countries used
	National	Rural and urban but not national	Only urban	Only rural	
Population covered by hygiene promotion messages	19	1	1	1	22
Estimation of the scope of face-to-face programs	–	–	–	–	38
Countries that provided data on the number of FTE-HP and also estimated the population covered	–	–	–	–	12

mass media hygiene promotion messages (e.g. a TV spot on hand washing) but it is unrealistic if the focus is on the number of people benefiting from more intensive face-to-face hygiene promotion. In order to calculate an estimate of the scope of face-to-face programs, we have used the accepted minimum ratio of two hygiene promoters per 1,000 people (Sphere Project 2011: 93), multiplying it by the number of FTE-HP. Using the data from the 38 countries that provided a number of FTE-HP (Table 2), roughly 10% of their population is covered by face-to-face programs. If we limit the comparison to the countries that gave a number of FTE-HP and also estimated the population covered (12 countries, having 92,830 FTE HP and a total population of 615 million people), we conclude that while they claim to cover almost 70% of their population with hygiene promotion programs, the proportion reached directly by hygiene promoters, estimated using the ratio mentioned above, is only 8%.

Results from open-ended questions

The open-ended questions give additional information on the key concerns for government officials and reinforce the main results obtained from the multiple-choice and direct questions. As many as 70 countries (93% of

respondents to the GLAAS questionnaire) provided some type of open comments on hygiene issues. From the open questions posed for hygiene, question number 12 ('What are the priority issues, areas and occupations that need the most attention to meet country hygiene promotion targets?') provides the richest information, and was answered by 64 countries. Table 3 shows the priority areas and concerns most often mentioned.

Human resources constraints are the greatest concern for government officers. The lack of staff at local level and associated weaknesses (low capacities, low support provided to HP) is the challenge most often mentioned, followed by the need for capacity building among the staff. This is understandable, in view of the low number of available FTE-HP, which on average fill only around 40% of posts needed to achieve national targets.

Lack of funds is the second most frequently mentioned challenge for government officials. The questionnaire did not explicitly ask for an opinion on the appropriateness of the available budget for hygiene promotion in relation to the targets, but it did ask for the budget itself in the financial section of the survey. Only seven countries responded to this question, with an average of 2% of the WASH budget dedicated to hygiene, a percentage ranging between countries from 0.3 to 8.2% (WHO 2013: 29, Figure 3.3).

Lack of coordination is the third most cited priority issue (13% of countries), while 88% of the countries declare that hygiene promotion is included in the National Health Strategy (question 1b, Table A1, which can be found in the Supplemental Material available online at <http://www.iwaponline.com/washdev/004/119.pdf>), implying that hygiene promotion is under the Ministry of Health's responsibility in most cases.

Table 3 | Key concerns and priorities for hygiene promotion as expressed by government officials

Rank	Concepts	% of countries mentioning
1	Insufficient and unskilled hygiene promoters	28
2	Lack of funds	25
	Capacity building of staff	25
3	Improvement of coordination	13
	No M&E system in place	13
4	Develop a strategy, action plan or national program	11

However, the insistence on the need for a strategy or action plan (Table 3) indicates that, while hygiene promotion is almost always cited in the health sector strategic documents, the priority given to it is low, and thus, the basic implementation arrangements (responsible department, coordination mechanisms, budget, guiding documents) might not be in place. Despite the fact that 36 countries claim to have national hygiene promotion targets, only 19 (25% of all respondents) are able to provide numbers to those targets.

The need for a monitoring & evaluation system for hygiene is also cited as a concern (Table 3), and the lack of it can be seen as part of the weak programming for hygiene promotion. This is reinforced by other issues raised by government officials (not shown in the table), such as: (i) the need for a policy and the related implementation measures (7%); (ii) the establishment of a department/agency responsible for hygiene promotion (6%); or (iii) the inclusion of hygiene promotion in all water and sanitation programs (6%). In brief, sector officials show concern for hygiene as a subsector in itself, raising issues about specific policies, human resources, a responsible agency, and coordination and monitoring mechanisms.

CONCLUSIONS

Despite the limitations of the information used, the analysis shows the early development stage of governmental hygiene promotion programs in most developing countries.

Hygiene promotion, as already mentioned, is among the most cost-effective of all preventive health interventions (Laxminarayan *et al.* 2006). By preventing the transmission of diarrhoeal diseases, it could prevent more than 600,000 child deaths (Greenland *et al.* 2013). Countries which fail to invest in it, or whose investment is so haphazard that they don't even know how much they have invested or need to, are paying a huge price in unnecessary deaths of their young children. The lack of sufficient trained practitioners is thus a major missed opportunity.

Lack of human resources at local level and low funding are seriously limiting the scope and impact of current hygiene promotion efforts; but these causes, as government officials across the world point out, are the consequence of a more fundamental problem: the lack of an institutional

home with installed capacity for hygiene promotion. This also has serious implications for the poor working conditions and low recognition of the role of hundreds of thousands of hygiene promoters, who in most cases are women capable of playing a crucial role for public health.

Future assessments on hygiene promotion should keep focus on human resources capacities and available funding, while examining to a greater extent the institutional aspects of the implementation of hygiene promotion strategies.

There is an urgent need for further development of capacity for hygiene promotion in developing countries.

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