

# WATER, SANITATION AND HYGIENE – THE IMPACT ON RMNCH\*

Creating equitable and sustainable access to safe water and improved sanitation and hygiene (WASH) can dramatically benefit reproductive, maternal, neonatal and child health (RMNCH). Integrating WASH services and practices into health services delivery in health facilities and improving access to WASH within communities has been shown to decrease both morbidity and mortality of women and children. WASH interventions are cost-effective and have the potential to improve gender equality and human rights – crucial to the post-2015 development agenda – by giving women and girls more social freedom and safety, and removing inequitable work burdens. Creating multisectoral interventions that address WASH and RMNCH, and integrating WASH into existing frameworks and agendas for health, has the potential to bring about lasting and positive change for women, children, families and communities.



\* The topic of water, sanitation, hygiene, and development is extremely diverse and goes beyond safe drinking water, sanitation and hygiene to the complex issues of water resource management and vector control for disease prevention. While all these topics are becoming increasingly important in the post-2015 agenda, this knowledge summary will focus on the narrower topic of water, sanitation and hygiene as it relates to RMNCH.

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## The challenge

There is a clear link between unsafe water, sanitation and hygiene, and detrimental health outcomes for women and children, especially in developing countries. Despite great advancements in reproductive, adolescent, maternal, neonatal and child health, increasing investments in WASH interventions may further improve the health and well-being of women and children. Yet WASH interventions are more than a means to improve RMNCH outcomes; they may also improve gender equality and human rights crucial to the post-2015 development agenda.<sup>1,2</sup> Girls are disproportionately affected, missing school as a result of walking great distances to carry water for household use, as well as lacking adequate sanitation and hygiene facilities in schools to allow them to manage their menstruation.<sup>3</sup> Further, inadequate WASH facilities are associated with sexual assault and gender based violence where toilets are unavailable or unsafe.<sup>3,4</sup>

Interventions and programmes that specifically target maternal and child mortality have made great advancements towards the achievement of Millennium Development Goals (MDGs) 4 and 5 (to reduce child mortality and improve maternal health). Inequitable progress on MDG 7c, (to halve, by 2015, the proportion of the population without sustainable access to safe drinking water and basic sanitation), especially for sanitation in rural areas and Africa, is holding back general development, equality and progress on other health-related MDGs such as reducing child and maternal mortality.<sup>5,6</sup> Globally 8% of maternal deaths, and in developing countries an estimated 10-15%, are due to infections that can be directly linked to unhygienic conditions during labour and birth, at home or in facilities, and to poor hygiene practices in the six weeks after birth.<sup>7-9</sup> Poor hygiene during and after umbilical cord cutting, such as unclean hands or use of dirty cloth, can produce significantly more cord site

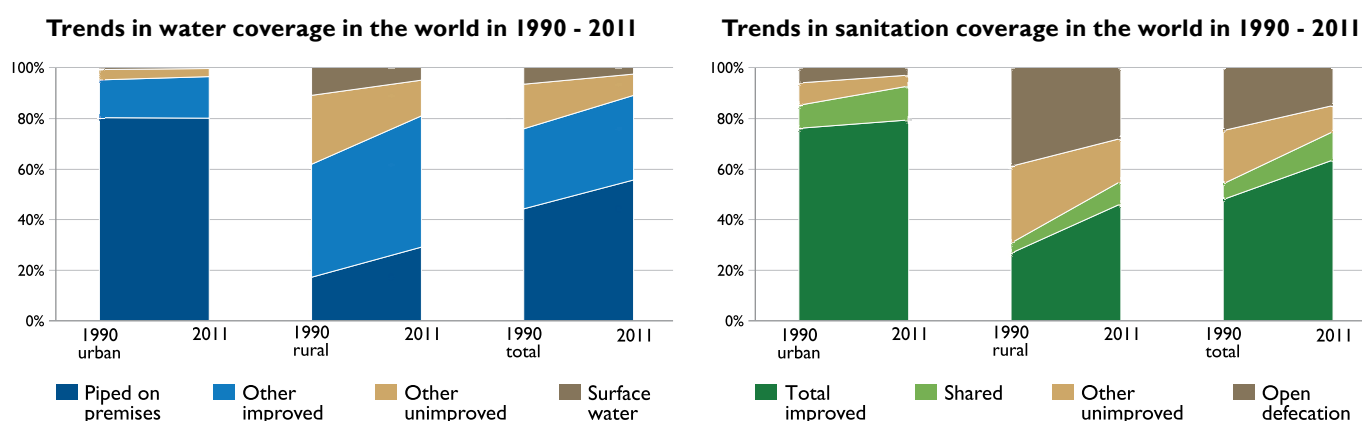
infections in newborns.<sup>10-12</sup> Children from birth through childhood risk infections, illness, delayed development and reduced cognitive function as a result of unsafe water, poor sanitation and unhygienic practices.<sup>13-19</sup> Approximately half a million children die every year of diarrhoeal disease caused by unsafe water and poor sanitation and hygiene practices.<sup>15,19</sup> Fifty percent of global malnutrition is due to waterborne diseases such as diarrhoea and intestinal worms, and one quarter of stunting can be attributed to five or more episodes of diarrhoea before two years of age.<sup>20,21</sup>

Some recent progress has been made in recognizing the importance of WASH for broader health and development. The importance of WASH is increasingly recognized in global health frameworks such as the Global Strategy on Women's and Children's Health and the draft Every Newborn Action Plan.<sup>22,23</sup> The framework provided under Universal Health Coverage also provides important opportunities to embed WASH into the key functions of the health system. Furthermore, the United Nations General Assembly, in resolution A/RES/58/217, proclaimed the period 2005-2015 International Decade for Action 'Water for Life.'<sup>24</sup>

Despite this progress WASH is still often viewed as an infrastructure-led issue, the responsibility for which lies outside that of health systems. This perception goes hand-in-hand with the increasingly curative focus of the health sector and acts as a barrier to integration of WASH aspects in health strategies and programmes. In addition, the creation of a supportive enabling environment and the development and implementation of appropriate policies are an essential element of sustainable WASH programmes.<sup>25,26</sup> Yet, many programmes do not strengthen policies or provide technical guidance to sector institutions and local stakeholders.<sup>25,26</sup>

Figure 1

### Access to improved water and sanitation<sup>20</sup>



## What we know

Investment in women and girls is crucial for sustainable development. Creating equitable and sustainable access to safe drinking water, basic sanitation and promoting improved hygiene benefits the community at large, and women and children in particular. RMNCH programmes can see great improvements through the inclusion of WASH interventions. Access to improved water sources within the community can decrease maternal mortality by decreasing the risk of intestinal worms and thus anaemia and diarrhoeal diseases, which lead to nutritional deficiencies, and hepatitis.<sup>28</sup> Decreasing the distance to safe water sources can support healthy pregnancy, by reducing the workload for women and supporting healthy weight gain, and is associated with decreased diarrhoeal disease in children.<sup>29</sup>

Improved WASH within hospitals and health facilities is also

essential for improved RMNCH outcomes. Basic and simple hygiene practices during antenatal care, labour and birth, such as birth attendant hand washing and clean birthing surfaces, can reduce the risk of infections, sepsis and death for infants and mothers by up to 25%.<sup>9,28,30,31</sup> This is particularly evident during the management of complications, such as caesarean or preterm delivery.<sup>9,28,30,31</sup> Clean-birthing kits used for umbilical cord cutting can reduce the odds of cord site infections twofold.<sup>31,32</sup>

The combined benefit of hand washing, food hygiene and household hygiene reduces infant diarrhoea by more than one third, and safe excreta disposal can reduce the risk of infant diarrhoea by up to 37%.<sup>15,33</sup> Improved drinking water sanitation and hygiene also lead directly to improved child growth and development.<sup>17,33</sup>

**Table 1**

### WASH interventions along the Continuum of Care

Continuum of Care	Wash Interventions	MNCH Impact
<b>Adolescents and Pre-Pregnancy</b>	<ul style="list-style-type: none"> <li>Menstrual hygiene management<sup>3</sup></li> <li>Decreased distance to sanitation and safe water source<sup>29</sup></li> </ul>	<ul style="list-style-type: none"> <li>Improved self-esteem, better school attendance and potential decrease in infections<sup>3,28</sup></li> </ul>
<b>Pregnancy</b>	<ul style="list-style-type: none"> <li>Improved access and decreased distance to water, sanitation and safe water source<sup>29</sup></li> </ul>	<ul style="list-style-type: none"> <li>Improved weight gain during pregnancy, due to fewer worm infections and decreased physical labour<sup>29</sup></li> </ul>
<b>Child Birth</b>	<ul style="list-style-type: none"> <li>Implementation of WHO “six cleans”:<sup>32</sup> <ol style="list-style-type: none"> <li>Clean hands</li> <li>Clean perineum</li> <li>Clean delivery surface</li> <li>Clean cord cutting</li> <li>Clean cord tying</li> <li>Clean cord care</li> </ol> </li> </ul>	<ul style="list-style-type: none"> <li>Decrease in maternal morbidity and mortality from puerperal sepsis<sup>32</sup></li> </ul>
<b>Post Natal</b>		<ul style="list-style-type: none"> <li>Decrease in neonatal morbidity and mortality, due to tetanus infections and sepsis<sup>32</sup></li> </ul>
<b>Infancy and Childhood</b>	<ul style="list-style-type: none"> <li>Improved access to safe water, sanitation and hygiene, and decreased distance to safe water sources<sup>4,18</sup></li> <li>Improved access to soap and consistency of hand washing with soap<sup>33,34</sup></li> <li>Improved infant excreta disposal and reduction of open defecation<sup>4,15</sup></li> </ul>	<ul style="list-style-type: none"> <li>Decrease in diarrhoeal disease, pneumonia and child mortality; reduction in stunting and improved weight gain and growth<sup>13-18</sup></li> <li>Reduction in skin infections, childhood pneumonia and diarrhoea<sup>33,34</sup></li> <li>Reduction in maternal and child trachoma and diarrhoea<sup>4,15</sup></li> </ul>

### Box 1 – Personal hygiene, shame and gender equality

Menstruating girls, due to lack of knowledge, cultural beliefs and inadequate hygiene facilities and supplies, may feel shame and social isolation resulting in poor self-esteem and decreased school attendance.<sup>19,35,36</sup> The WASH Yatra project in India found that over 70% of girls did not know what was happening to their bodies when they began menstruation and regarded the process as dirty, leading to an increased sense of shame.<sup>3</sup> Interventions that promote menstrual hygiene management (MHM) in broad settings, such as community, school and emergencies, can improve these conditions by creating available resources and information.<sup>35</sup> Multisector approaches linking WASH with health, education and the private sector are essential to ensure that girls have access to MHM supplies, knowledge and the autonomy to improve personal hygiene practices.<sup>35</sup>

### Box 2 – Gender violence and WASH

Globally, 1 in 3 women risk personal safety and harassment due to inadequate and insufficient sanitation and hygiene facilities.<sup>19</sup> In many parts of the world the only toilet facilities are communal and unmaintained, requiring that women have to use dirty and insecure toilets outside their household, sometimes with limited separation from those used by men.<sup>4,36-38</sup> Studies conducted in India, Uganda and Kenya found that women were consistently afraid of sexual assault and rape, as well as physical violence if they tried to fight back.<sup>36-38</sup> In each setting, women reported the shame due to the conditions around personal hygiene practices and helplessness to change their circumstances.<sup>36-38</sup> The emotional toll, as well as the risk of violence and assault, is a stark reality for women living in conditions with inadequate WASH interventions.

## What works

**M**ultisector collaborations and investment in evidence-based interventions are essential for improving WASH and RMNCH outcomes.<sup>9</sup> The private sector has great experience in behaviour change and innovation, while governments can develop enabling environments and ensure WASH infrastructures and budgets exist. Combined, these efforts can be highly beneficial in driving greater improvements in WASH access.<sup>19</sup>

Successful programmes collaborate across work-streams, engage communities and build on the strengths of existing programmes. Within health facilities, improved WASH requires wider health-systems strengthening with key links to areas such as quality improvement, patient safety, infection prevention and control, and health administration.<sup>9</sup>

At national level, coordination across ministries, partners and advocacy groups can ensure WASH interventions are included in RMNCH programmes. In Nepal, the Ministry of Health appointed a focal point to coordinate with the WASH sector to ensure that WASH was embedded within the Nepal Health Sector Support Programme (NHSSP II).<sup>39</sup> The development of NHSSP II, and events like Global Handwashing Day, have brought together various ministries including those responsible for health, water, planning, works, education and local government, as well as UN agencies and civil society organizations.<sup>39</sup>

Integrating WASH into existing implementation frameworks can build upon the strength of established programmes. In Kenya hygiene interventions and education were integrated into the Expanded Programme on Immunisation services by either nurses or community health workers.<sup>40</sup> Both delivery strategies led to an improvement in hygiene indicators such as knowledge and use of household disinfection of water.<sup>40</sup>

Both strategies also had great acceptance and uptake in rural and urban communities alike.<sup>40</sup>

Guidelines, frameworks and action plans, such as the integrated Global Action Plan for Pneumonia and Diarrhoea, Integrated Management of Childhood Illnesses (IMCI) and the community integrated version C-IMCI, provide comprehensive planning and implementation tools to address childhood illnesses including WASH interventions.<sup>23,41,42</sup> In Democratic Republic of the Congo, Nicaragua, and Peru specific hygiene and WASH integrated C-IMCI programmes have been developed and implemented. These programmes found improvements in drinking water storage, hand washing, water handling and the decrease in diarrhoea after one year of programme implementation.<sup>42,43</sup>

## Conclusion

**T**he inclusion of WASH interventions and priorities in RMNCH programmes can bring about greater health improvements at community, health facility and individual levels. Including universal access to WASH in the post-2015 agenda can also help ensure that vulnerable and hard-to-reach communities and individuals gain access, and that WASH becomes a global priority. WASH programmes can also benefit from the inclusion of RMNCH priority agendas within programme planning and implementation, reaching the most vulnerable people experiencing the most detrimental effects of poor sanitation and hygiene, and improving health, equality and social justice. Investment in WASH, especially for hard-to-reach communities, has the potential to bring about lasting change.

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