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**ENSURING AVAILABILITY AND SUSTAINABLE MANAGEMENT
OF WATER AND SANITATION FOR ALL**

**The importance of WASH in health centres in India:
a study of WASH facilities in five states**

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It has been assumed health centres in India ensure certain levels of the availability of water, sanitation and hygiene. However, recent studies in eight districts of five states show 20 per cent have insufficient water, toilets are unusable in 66 per cent facilities and 50 per cent have abysmal standards of hygiene. Staff at all levels from the doctor to the cleaners claim to know of key hygiene practices but facilities are dirty. These includes sub-centres, primary health centres, community health centres and district hospitals. In May 2015 the Government of India released guidelines for cleanliness in health centres but these are applicable only to district hospitals and not to sub-centres, primary and community health centres that are the first point of contact for most of India's population. The studies point to the need for training conservancy staff, doctors, nurses and the attendants of patients in addition to adequate hardware.

The health sector in India

The vast network of health centres in India owned and operated by the government comprises 187,397 sub-centres, primary and community health centres, district hospitals and mobile medical units (Ministry of Health and Family Welfare, Government of India, 2015). These are staffed by about 640,000 health workers including auxiliary nurse-midwives, attendants, nurses and doctors. The sector's focus has been on curative health care. It is only in recent years that a small percentage of doctors and health workers have realised 'externalities' such as water, sanitation and hygiene (WASH) are as important, if not more so, in improving health outcomes than medicines and surgery. Not surprisingly, it is the Union Ministry of Health and Family Welfare (MOHFW) that in May 2015 issued guidelines for cleanliness standards in hospitals and state health departments are struggling to understand and implement. These guidelines were issued under the larger Swachh Bharat Mission, a major government initiative to clean India.

Among the causes of maternal and infant deaths, sepsis accounts for 15 per cent and 6 – 15 per cent, respectively (Black, Cousens, Johnson, Lawn, and Rudan, 2010; WHO, 1994). Poor WASH is the major contributor to sepsis. Handwashing between procedures, keeping facilities clean, providing adequate and safe water and having functional toilets are critical but more often than not, observed in the breach in most health centres.

WASH in the health sector of India

There is no data on the status of WASH in the health sector in India. The presence of water and its quality; toilets and their condition; and hygiene as evidenced by handwashing and cleanliness have not been monitored and reported so far.

To understand the situation, WaterAid India assessed the WASH conditions of health centres in eight districts of five states between January and December 2015 (see Table 1). While the sample sizes appear small, they are indicative of the situation in the state that has been corroborated through anecdotal evidence from WaterAid's partners.

Its findings show WASH facilities are well below par in nearly all health centres, regardless of their size. The best performance is with regard to the availability of water, with 70 per cent reporting adequate

quantity. When it comes to quality – cleaning water tanks, keeping areas around borewells clean and preventing water stagnation – less than 40 per cent of facilities met even the most basic norms (Ministry of Health and Family Welfare, Government of India, 2015).

Table 1. The Scope of the Study				
Madhya Pradesh – 4 districts	Sub-centres	Primary Health Centres	Community HCs	District/sub-district hospitals
Bhopal		8	4	1
Panna	2	14	6	1
Tikamgarh		16	7	1
Sehore		10	5	1
Telangana – 1 district				
Nizamabad		41	14	4
Andhra Pradesh – 1 district				
Vizianagram		68	11	2
Karnataka – 1 district				
Raichur		21	4	5
Odisha – 1 district				
Ganjam		12	19	3
TOTAL	2	190	70	18

It gets worse with sanitation. While nearly facilities have toilets, as many as 40 per cent are dysfunctional or unusable. Most are flush toilets connected to septic tanks. When there is no water, these fill up. Septic tanks are poorly constructed with leaky connections and overflowing septage. About 45 per cent of people who visit health centres defecate outside, either within the compound of the centre or just outside; in both cases this contaminates the water supply of the centre.

The worst performance is with hygiene. Key hygiene practices in health centres include hand washing with soap or disinfecting at critical times, sterilising instruments and cleanliness. While doctors, nurses and health workers claim to know about these practices, they admit to practicing them only part of the time. The highest frequency is with hand washing by doctors 75 per cent of the time. As many as 60 per cent of conservancy staff are not trained on how and when to clean the health centres even though cleaning material is available. In about 40 per cent of the centres there is a shortage of cleaners. Both these factors contribute to a dismal hygiene and cleanliness situation in centres

Another glaring fact to emerge from this assessment is the rural-urban divide. This is both in terms of human resources and the condition of the facilities. As one moves from towns to villages it seems health facilities leave WASH behind. Water supplies in urban centres is better maintained than in those in rural areas. In urban health centres, more than 90 per cent of the posts of medical officers, nurses and cleaners are filled compared to less than half in rural health centres. Toilets in urban centres therefore also tend to be cleaner and more usable than those in villages. However, hygiene practices especially hand washing and cleaning are equally poor in both urban and rural centres.

Each of these findings is elaborated in details below.

Water quality status in health centres in India

WaterAid's study analysed the source and quality of water. It also checked the condition of the water dispensing units, point of use treatment (if any), the area surrounding borewells and pipelines and plumbing

within the health centres. The study looked at water points in different parts of each centre such as the outpatient department, labour rooms and maternity wards. The objectives were:

1. Where does the water come from?
2. How often is the water supplied?
3. How is it stored on site?
4. How is it conveyed to the dispensing points?
5. How clean is the water and how is it stored?
6. How far must a person walk to get to a water point?

Most health centres in both rural and urban areas use groundwater obtained through borewells. This is in keeping with trends in drinking water supply of which over 80 per cent comes from groundwater. The thinking is groundwater is safe to drink without further treatment. However, this is not true in many parts of the country as groundwater has been found to be polluted with nitrates, fluoride, arsenic, pesticides and fertilisers. Additionally, poor drilling practices lead to contamination of groundwater as surface water seeps into the aquifers through the boreholes. More often than not, the area around boreholes is waterlogged and dirty. Only 14 per cent of facilities in Sehore district, Madhya Pradesh, had a maintenance schedule for boreholes, and this was the best-case scenario in all the eight districts. The only positive in the water supply situation was assurance of water supply with about 80 per cent of centres reporting a regular supply; it was interrupted if power failed or the motor burnt out but in the event, alternate supplies through tankers were made available immediately.

The next step, water storage, was little better. All health centres have water tanks made of high-density polyethylene or reinforced cement-concrete. Some were kept on the ground while others were on the roofs of the toilets. Ideally these should be cleaned once in three months, kept covered and water should be chlorinated every few days. About 40 per cent of the centres surveyed cleaned tanks occasionally or never, and half of them never chlorinated them. In about a quarter of the cases the tanks were not covered; this means in addition to letting dirt in, tanks become hotspots for mosquitoes to breed. The implication is patients, attendants and health care givers alike possibly drink contaminated water. There is a real threat of water-related diseases such as jaundice, cholera or typhoid, not to mention diarrhoea. This is borne out by the fact that about 25 per cent of water sources tested positive in the H₂S test for faecal bacteria. Poor storage practices are compounded by patients and their attendants defecating in the open on the centre's premises, as is discussed later. When asked about water testing kits, as many as 84 per cent centres in Vizianagram district, Andhra Pradesh, did not have any.

Water supply is one thing, adequacy another. In Ganjam district, Odisha, 15 per cent did not have enough water to keep the premises and toilets clean and for drinking. In Raichur district, Karnataka, 29 per cent did not have enough water and in Madhya Pradesh it was 30 per cent. Having a water source within easy reach such as the ward more than doubles the changes of washing hands at critical times (Cairncross and Valdmanis, 2006)

On the issue of distribution from tank to point of use, the study did not find any problems. However, points of use were not always close to patients. Only some of the dispensers had water treatment systems the most of which were reverse osmosis units. While these are good in principle, it is unclear how well they are maintained. The other health centres had water coolers without any treatment system. It is pertinent to note water for drinking and other uses such as cleaning the centre comes from the same source.

Status of sanitation in health centres in India

The study assessed physical infrastructure – whether toilets were present – and its adequacy and usability. It also analysed reasons why toilets are unusable. In this section we cover the findings related to toilets.

Most of the health centres regardless of size have flush toilets connected to septic tanks. The situation varies from good in Raichur, Karnataka, to moderate in Madhya Pradesh. Here, 23 facilities of the 24 sampled had a closed drainage system. In the latter case, of 22 community health centres surveyed, only 16 had a toilet in the labour room and just 11 in post-natal wards. In Ganjam, Odisha, just four of 31 centres surveyed had a closed sewage system.

Septic tanks are the preferred means of disposal for human excreta. The study did not examine if these are built to acceptable standards, are large enough to manage expected sewage volumes and have a soaking area for the effluent. However, the study did find septic tanks had been built close to the building. Water stagnated around the septic tanks as well.

The toilets in most health centres were being used by patients and staff. There were no toilets for attendants in any of the health centres in the different states. As a result, the study found attendants were defecating on the centre's premises. In Raichur, open areas in all facilities in urban and semi-urban areas were being used for defecation. In Madhya Pradesh, over 70 per cent of all facilities lacked toilets for attendants and it is safe to assume they defecated on the premises or nearby. In Ganjam, the prevalence of open defecation is 69 per cent in rural centres and 31 per cent in semi-urban centres.

In addition to the lack of toilets for attendants, toilets were ill-kept in about a third of the cases across the states. The reasons are: shortage of water for cleaning, back-flow from the septic tanks indicating the construction and plumbing are faulty, poor cleaning schedules and the conservancy staff shirking their responsibility to clean toilets regularly. Infrequent monitoring by the health centres' managers is the root cause of poor maintenance, the survey found. Even if a centre had conservancy staff, it did not always follow the toilets were cleaned regularly at the recommended interval of two hours (Ministry of Health and Family Welfare, Government of India). In Karnataka, all the centres in had both staff and supplies but the toilets were dirty – 60 per cent stank and 54 per cent had blood.

This can be attributed to poor monitoring on one hand and dereliction of duty on the other. Nurses, doctors and health workers knew about the importance of adequate and safe sanitation. The conservancy staff knew their duties included cleaning toilets. However, the nurses or doctors seldom held the conservancy staff to account. The latter on their part took advantage of slack monitoring to avoid cleaning toilets or do a shoddy job. In about 40 per cent of the centres, a shortage of cleaners was stated as the reason for dirty toilets.

Hygiene issues in health centres in India

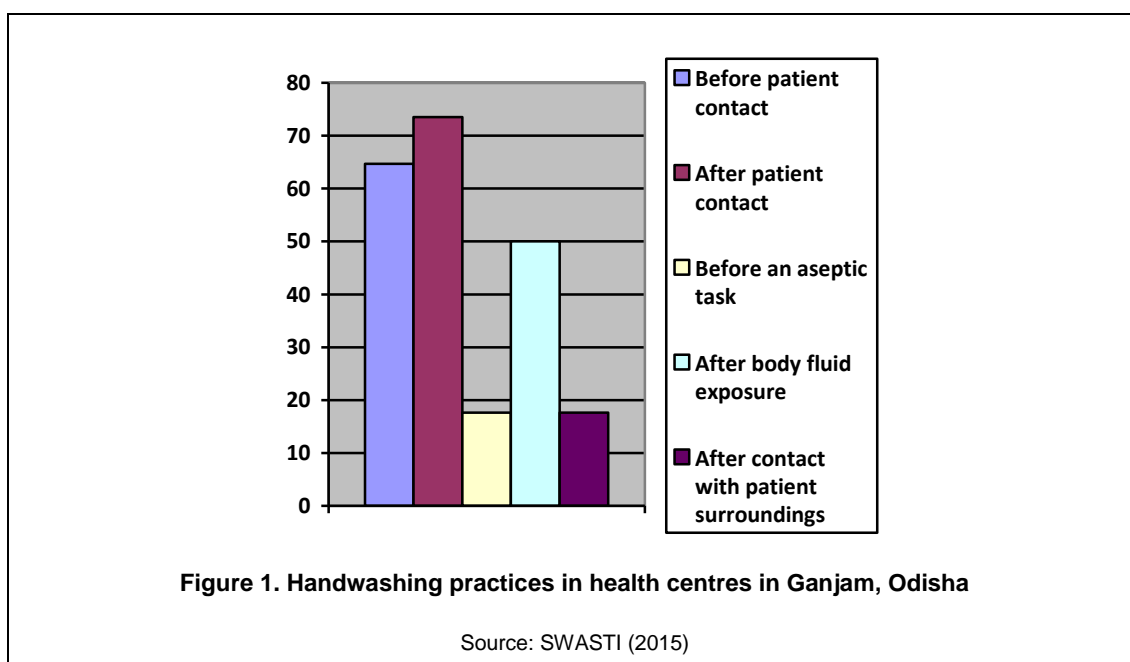
Arguably the crux of the study, hygiene has been divided into personal hygiene and cleanliness of the facilities. In the first part, the study assessed handwashing practices and infrastructure. In the second part, it looked at how cleaners and conservancy staff cleaned the centre, frequency and adequacy of cleaning material. The study also gives an insight into how well doctors, nurses and other care givers understand and follow hygiene practices, especially handwashing. Handwashing is seen as critical to reducing hospital acquired infections, in addition to regular and effective cleaning of the health centres.

Awareness of the main hygiene practice is very uneven across the eight districts. There are no policies on infection control, cleaning or waste management in 74 per cent of the centres studies in Ganjam. However in Karnataka, while 80 per cent centres had policies on infection control, none had any on how to train staff on disinfection and hygiene.

Handwashing, a basic hygiene practice, should be followed by all care givers all the time. The World Health Organization recommends hand washing

- Before patient contact
- After patient contact
- Before aseptic procedure
- After body fluid exposure and
- After touching patient surroundings

Figure 1 shows handwashing practices in Ganjam. It is also indicative of what happens in the three other states. In Madhya Pradesh, over 65 per cent of all centres have handwashing basins in labour rooms but not in OPD areas and post-natal wards. In Karnataka, all labour rooms had basins and all but had running water, but just a third of the maternity wards and 66 per cent of OPDs were similarly equipped. In both Andhra Pradesh and Telangana, between 89 per cent and 63 per cent had hand washing facilities, all had water and nearly all had soap. However, half of the community and primary health centres in these states did not have soap in washbasins located in toilets. Hardware aside, most health centres in the eight districts lacked posters or other communication material on how and when to wash hands. In Karnataka, the labour rooms have functional hand washing stations but only 36 per cent maternity wards and 66 per cent OPDs have.



Overall, labour wards are the only place in health centres where hand washing facilities are consistently available. Other departments are intermittently covered. This has serious implications for the health of patients as well as doctors and nurses.

For cleaning the health centres, the survey found, most have the right equipment. Two out of five do not have enough people to do the job. Even where they are available, cleaning staff are not trained how to mop, change mops when they move from one part of the centre to the other and use disinfectants at the right concentration. In a few cases cleaning staff were found to be on short-term contracts. In nearly all centres, cleaning staff use wash basins in toilets for wash their mops without bothering to clean up afterwards. This means infections from the floors of labour rooms or wards are left behind on the wash basins.

Recommendations for improving the status of WASH in health facilities in India

Policy level changes

WASH and Health are handled by two separate ministries at the Union Government and state government levels. While each has a roadmap for better health outcomes, their approaches vary. WASH is a preventative approach and handled by the Ministry of Drinking Water and Sanitation at the Union level and Public Health Engineering Departments and Departments of Rural Development or Panchayati Raj at the state level. Health is handled by one ministry at the Union level and its counterpart departments in the states. The Swacchata Guidelines are the only WASH-specific intervention of the Ministry of Health and Family Welfare. This reflects the lack of alignment or evidence-based linkages between maternal health and WASH, as stated earlier. The WASH sector needs to review and validate provisions of these guidelines, and the Health sector has to ensure they reach the sub-centre level.

Behaviour change

The biggest challenges are in the mind. Changing mind-sets towards hygiene can go a long way to improving the condition of health care centres in India, if this is any indication. Hardware and training programmes are only the first baby steps in this direction, however necessary they may be. Doctors come to health centres with a curative mind-set and all the other care givers take the same approach. This must change to a preventative approach that covers WASH.

Monitoring hygiene behaviour

Regular sensitisation and training must be followed by monitoring of hygiene practices in health centres. Swab tests to determine bacteriological contamination levels can reinforce this monitoring and suggest refinements in training. Centre-level action plans can be developed – as part of the study WaterAid developed action plans for the health centres in Madhya Pradesh. These must be implemented as part of a district action plan. Third-party monitoring through local government institutions such as village health

sanitation and nutrition committees can be instituted, with penal provisions for centres that do not meet standards.

Earmarking WASH funding

Health centres get funds every year for maintenance, starting with Rs 175,000 for a sub-centre. The hospital management committees are at liberty to use these as they see fit. To improve WASH standards, a portion of these funds must be earmarked to maintain toilets, water systems and hand washing stations.

Protecting water sources

Water sources need to be improved and protected from contamination. This is especially important as nearly all centres use groundwater drawn from borewells. The area around borewells needs to be cordoned off so people and animals cannot approach them, garbage is not thrown there and water logging around them should be prevented. Water storage tanks need to be covered, cleaned regularly and disinfected. Water points should have some form of treatment system that can be easily maintained and a maintenance schedule should be displayed next to it. All wards need to have a functional water point.

Provisioning of funds for operation and maintenance of WASH facilities

Toilets exist but need cleaning or repairing. From their annual allocation, centres must prioritise cleaning toilets and repairing them when the need arises. Additionally, centres should be mandated to have toilets for attendants. Handwashing points and water need to be provided in the toilets. They should be safe and convenient to use for women.

Enlarging the ambit of government standards for WASH in health centres

While the government standards for WASH in health centres are ambitious, they apply only to large hospitals, typically those in district headquarters. These must be cascaded with modifications to sub-centres, primary and community health centres as well. A monitoring system with penalties for non-compliance should be incorporated into the existing health management system. When WASH is measured, its practice and availability will improve.

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