Clean Water, Sanitation, and the Millennium Development Goals

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INTRODUCTION

In nineteenth century London, four large cholera outbreaks killed some 37,000 people. Completion of the capital's sewer system contributed significantly to later reductions in gastrointestinal infections and increased life expectancy. This achievement was a team effort, but one driving force was the physician John Snow, the 150th anniversary of whose death was marked by a small ceremony on June 16, 2008, in a London public house close to the site of Dr. Snow's main study of cholera transmission. Despite the venue, the celebratory libation was with water, not just out of respect for Snow's abhorrence of alcohol but also because one of the occasion's cosponsors was the international charity WaterAid. Water remains a key factor in disease worldwide.

In the last year of his life, Snow wrote: "If the general use of water-closets is to continue and increase, it will be desirable to have two supplies of water in large towns, one for the water-closets and another, of soft spring or well water from a distance."¹ This simple principle of separation is today taken for granted in the developed world, where cholera is largely of historical interest only while globally we still need a World Health Organization task force on *Vibrio cholerae* infection as the disease refuses to go away.² Cholera is not the only waterborne infection, of course, and not all illnesses from unclean water are microbial in origin (e.g., contamination with arsenic or man-made chemicals). In the UK, 99.96% of routine water tests now meet national and European standards.³ Any sustained falling off in water quality would be met with public outrage, and a spot check revealing cryptosporidium in a reservoir is headline news. Recognizing the continuing problems for less fortunate parts of the world the World Health Organization now has pragmatic "guidelines" (rather than "standards") for water quality. Poor sanitation and lack of access to safe drinking water are still contributing to significant and avoidable morbidity and mortality, especially in children.

One billion people do not have clean water, and 2.6 billion lack basic sanitation.^{4,5} United Nations (UN) agencies (and other parties) have long been aware of this situation. Remember the International Decade for Clean Drinking Water? That was 1981–1990 and had the absurdly ambitious target of "safe water and sanitation for everybody by 1990." That failed. Former UN Secretary-General Kofi Annan then tried the human rights argument: "access to safe water is a fundamental need and therefore a basic human right," he declared. Now, in 2008, we are roughly halfway through yet another ambitious project, the International

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Water Decade (2005–2015). This is linked to the 2008 International Year of Sanitation, mischievously referred to by some as the “year of the toilet.” The aim of the latest water decade is more modest than the one for 1981–1990—namely, “to halve, by 2015, the proportion of the world’s population without sustainable access to basic sanitation.” This roughly translates into a reduction from 40% to 20%, and the target is associated with the UN’s millennium development goals (MDGs). It is not, however, one of the primary eight goals. Perhaps, it ought to have been. It is difficult to see how the UN’s ambition of reducing mortality in the under-fives by two-thirds and halving and starting to reverse the incidence of malaria and other major diseases can be achieved without dramatic improvements in the two linked water-related factors of access to safe drinking water and the disposal of human excrement.

So, at half-time in the decade, how are we doing? Not brilliantly. Only one of the UN’s regions is on track to achieve all eight MDGs,⁶ and the latest monitoring exercise records results as “mixed” and “uneven” and notes a “lack of progress in child survival.” Failure in the earlier International Decade for Clean Drinking Water was in part ascribed to an inability to keep up with the rapid pace of urbanization. Unfortunately, two decades on the same argument is being used. Urbanization, together with a rural backlog, means that targets are going to be missed.⁷ Drinking water and sanitation have not been neglected by UN agencies, but those agencies must be frustrated by the slow progress, especially since the know-how has been around for more than 150 years and cheaper, low-technology solutions are also available.

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