

# Prevention of the spread of infection: The need for a family-centered approach to hygiene promotion

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Infectious diseases (IDs) continue to be a significant health and economic burden on the community, and the emergence of new pathogens, including antimicrobial resistant strains, demand new prevention strategies, which involve not only health care settings but the community as a whole. The situation is exacerbated by social, demographic, and other changes, which means that people with reduced immunity to infection now make up an increasing proportion of the global population.<sup>1</sup> Technologic and policy changes are introduced to save costs or reduce environmental effects without regard to their potential impact on ID risks. Governments are under pressure to fund health care. One solution is increased home care, but the gains are likely to be undermined by inadequate infection control at home.

In the developed world, although the reduction in ID mortality represents one of the great public health achievements, it is the pattern of ID that has changed, rather than the overall incidence. Whereas there is a tendency to assume that the common gastrointestinal, respiratory, and skin infections circulating in the community are a minor concern, the burden in terms of absence from work and school, together with increased pressure on health services, is considerable. In the United States, diseases caused by the major pathogens alone are estimated to cost up to US \$35 billion annually<sup>2</sup> in medical costs and lost productivity. IDs can act as cofactors in other diseases that manifest at a later date, such as cancer and chronic degenerative diseases, or as triggers for the development of allergic diseases.

In the developing world, universal access to water and sanitation has been seen as the essential step in reducing the preventable ID burden, but it is now clear that this is best achieved by programs that integrate hygiene promotion with improvements in water quality and availability and sanitation. The neglect of hygiene goes a long way to explaining why water and sanitation programs have often not brought the expected benefits.

Fragmented data only are available on the cost-effectiveness of hygiene measures, making it impossible to assess the impact of hygiene relative to other interventions. The 2006 Disease Control Priorities Project<sup>3</sup> on diseases in developing countries concluded that, for the “high burden” diseases such as HIV/AIDS, malaria, diarrheal disease, and tuberculosis, hygiene promotion is the most cost-effective intervention in terms of disability adjusted life-years averted.

The International Forum on Home Hygiene (IFH) has published a report<sup>4</sup> showing that a significant proportion of the global communicable disease burden is caused by diarrheal, respiratory, and skin diseases,

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which could be significantly reduced by adequate water and sanitation combined with good hygiene practices. If the global burden of hygiene-related disease is to be reduced in an economically sustainable manner, the responsibility must be shared by the public. The key question is how do we achieve this? Although governments now recognize the need for more emphasis on hygiene and hygiene promotion, this does not necessarily translate into action. A significant problem is that public health is often structured such that the separate aspects of hygiene—food hygiene, personal hygiene, handwashing, pandemic flu preparedness, patient empowerment, and others—are dealt with by separate agencies, and information is fragmented. We need a “total” approach that is family centered rather than agency oriented. The IFH approach to ID prevention is “targeted hygiene,” which means identifying the routes of transmission of infection in the home and community and targeting hygiene measures at “critical points” to break the chain of transmission. Global strategies implemented in response to the H1N1 flu pandemic indicate greater recognition of the need for “shared responsibility.” Across the world, “good respiratory hygiene” has been promoted as a strategy aimed at mitigating early spread of the disease until vaccination and other programs are put in place.

If efforts to promote hygiene are to be successful in changing behavior, we need to promote a concerted family-centered approach to ensure a basic understanding of infectious disease agents and their mechanisms of spread, together with an understanding of a risk-based approach to hygiene. In the developed world, hygiene has come to be seen as outdated and

unnecessary. We need to reposition it alongside other values of healthy living such as good diet and exercise.

In a recent review of the evidence, the IFH concluded, “Epidemiological and microbiological data suggest an a priori need for an improvement in hygiene awareness and hygiene practices in the home.”<sup>5</sup> Recent changes indicate that the need to address the issue of home and community hygiene and the importance of “shared responsibility” is increasing rather than decreasing. These changes are reviewed in detail in the new report.

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