IFH
INTERNATIONAL
SCIENTIFIC FORUM
ON HOME HYGIENE

The International Scientific Forum
on Home Hygiene

Activity Review 2017

Hygiene in the home and in everyday life – promoting sustainable health

The IFH and its mission

The IFH is a professional registered charity that was established in 1997 with a mission to promote hygiene in the home and everyday life settings in the developed and developing world.

Our mission is:

- To advocate for increased emphasis on hygiene promotion – our vision is for the importance of home hygiene in helping to prevent infectious disease to be fully recognised and taken account of in public health policy.
- To develop and promote hygiene and hygiene practice based on sound scientific principles – our vision is to establish home hygiene as a science in its own right.
- To review research, develop guidelines, drive consensus on issues relating to home hygiene and provide a forum for integrated discussion and dissemination of science and practical guidance – our vision is to be recognised as the global scientific and professional body championing home hygiene.

The IFH target audience

The main target audience for IFH includes:

- Government – local, national and international
- Academics
- Non-government organisations
- Public health scientists
- Infection control workers
- Community health practitioners
- Regulatory bodies
- Health professional and consumer media

The IFH does not work specifically to communicate directly with the public; our aim is to support those who do.

The IFH Scientific Advisory Board

The activities of the IFH are developed and co-ordinated by the Scientific Advisory Board, the Trustees Board and the IFH Secretariat.

The Scientific Advisory Board is responsible for developing IFH's scientific and consensus documents and other material.

Where appropriate, the IFH works with other experts, or expert panels with expertise in specific areas, to give advice and assist in the development of, or peer review of, IFH materials.

This collaborative and consensus method of working guarantees the objectivity and independence of the organisation.

Professor Lisa Ackerley
Food Safety Adviser, British Hospitality Association; Strategic Adviser, Acoura Board; Trustee, Zamcog; Food Safety Adviser, RSPH; Editorial Board Member, Perspectives in Public Health; Non-Executive Director, CIEH Ltd

Professor Sally F. Bloomfield
Consultant in Hygiene and Infectious Disease Prevention, Honorary Professor, London School of Hygiene and Tropical Medicine, London, UK

Professor Dr Martin Exner
Chairman and Director, Institute for Hygiene and Public Health, WHO CC, University of Bonn, Germany

Professor Kumar Jyoti Nath
President, Institution of Public Health Engineers, India; Former Director, All India Institute of Hygiene Public Health, Calcutta, India

Professor Elizabeth Scoot
Professor and Chair of the Department of Public Health and Director, Center for Hygiene and Health, Simmons College, Boston, MA, USA

Professor Carlo Signorelli
Full Professor of Hygiene and Public Health, University of Parma and Vita-Salute San Raffaele; President, Centre on Health Systems' Organization, Quality and Sustainability, Parma; Past-President, Italian Society of Hygiene Preventive Medicine and Public Health (SItI)

Carolien van der Voorden
Senior Programme Officer, Networking and Knowledge Management, Water Supply and Sanitation Collaborative Council, Geneva, Switzerland

The Chairperson's report

Health agencies across the world increasingly recognise the importance of hygiene in public health as fundamental to reducing the global burden of infectious disease. This has been prompted by factors such as the emergence of new pandemic strains, the increasing numbers of risk groups in the community, greater emphasis on healthcare in the community, and the need to tackle antibiotic resistance. In the developing world it is being driven by the need to integrate hygiene promotion into water and sanitation programmes.

Hygiene is now seen as a key to sustainable prevention of infectious disease, but if the disease burden is to be contained in a manner which itself is sustainable it must involve everyone – at home, in our everyday lives and in schools and the workplace. It must be a responsibility for all. In turn, the hygiene measures that we use must themselves be sustainable. The goal of the IFH is clear, to use our growing scientific understanding of how pathogenic microbes are transmitted to produce a hygiene code for home and everyday life settings, which is both sustainable and appropriate for the 21st century. Uniquely, the IFH has responded to the growing demand for hygiene knowledge and information on home hygiene – and our policy is to offer it free via our website, conferences, publications, and strategic partnerships.

One of the greatest challenges we now face stems from our growing understanding of the role of the human microbiome (the organisms which live on and in us) in our health. The latest scientific research now suggests that this microbiome is essentially an organ as vital for our health as our liver and kidneys. This new understanding will require a fundamental change in the way we see our microbial world and the way we live in it. It will need a radical change in public attitudes to cleaning and hygiene. Targeted hygiene will become key to protecting ourselves against those microbes that cause infectious disease whilst ensuring that we maximise our interaction with our natural environment and the microbes which are important for our health.

For the IFH, it has been a challenging but successful time. Other agencies increasingly rely on our materials to support their work. Wherever possible, we support the work of government health and education agencies, and non-government agencies such as the Water Supply & Sanitation Collaborative Council, WHO, USAID and the London School of Hygiene and Tropical Medicine that focus on hygiene promotion in low-income communities.

Our achievements would not be possible without the commitment of our IFH Scientific Advisory Board, our secretariat and our trustees. Equally, it would not have been possible without the support of our sponsors, most particularly Unilever, whose foresight and commitment led to the establishment of IFH, but also Reckitt Benckiser, GOJO Industries Ltd, Deb Group/S.C. Johnson and Son Ltd, Admaster, the European Association for the Soap, Detergent and Chemical Products Industries (AISE) and the UK Chemical Products Industry Association (UKCPI). We also value the support given by the London School of Hygiene and Tropical Medicine.

There is no doubt that attitudes to hygiene and its importance in home and everyday life have changed dramatically in the last 20 years, and, as we listen to what others are now saying and writing, we are in no doubt that IFH has had a significant influence in establishing home hygiene as an issue in its own right, requiring its own science-based approach, as required for healthy living in the community. This IFH Activity Review highlights some of the work which has contributed to this, and explains our ongoing goals as we look forward to a challenging future.

Professor Sally F. Bloomfield
IFH Chairperson

Hygiene in the home and in everyday life – why is it so crucial?

As good health and wellbeing underpins a good quality of life, controlling infectious disease is a public health priority. Not only is infectious disease a significant cause of death – globally it kills 13 million people each year – it also works to keep families in poverty and, especially in the developing world, threatens economic development.

During the 20th century, there was optimism that, with vaccination and antibiotics freely available, conquest of most infections would follow. As a result investment in hygiene education and hygiene promotion declined. During the last four decades, this opinion has been reversed. The emergence of new pathogens, antibiotic-resistant strains of bacteria and the growing threat of viral diseases such as norovirus, hepatitis and influenza, have challenged our reliance on antibiotics and vaccines. Some predict that we are now entering the "post-antibiotic era". These various threats together with the increasing numbers of immune-compromised people living in the community are most often addressed separately, but when viewed together, represent a powerful argument for renewed emphasis on hygiene.

National and International agencies are increasingly responding to this situation, recognising that alongside vaccination strategies hygiene remains the most sustainable approach to containing infectious disease. However, although much of the disease burden could be prevented through good hygiene, there needs to be much greater recognition that reducing this burden of infection cannot happen without reducing the spread of harmful microbes in our homes and everyday infections – hygiene must be everyone's responsibility.

Hygiene and infectious diseases

The IFH is committed to ensuring that good hygiene in the home and in everyday life becomes an essential part of strategies to address infectious diseases issues including:

Foodborne and other intestinal disease

A WHO report concluded that up to 31 per cent of food poisoning outbreaks in Europe occur in the home; in the US, it is estimated that infectious intestinal disease (IID) costs $152 billion a year. In the UK, the estimated cost of food-related IID, is £1.5 billion a year, including resource and welfare losses.

Respiratory infections

Data from the US reveals that adults suffer between 1.5 and 3 respiratory illnesses per year. In children under five it is 3.5–5.5. Recent studies suggest that hand hygiene can reduce the risk by up to 23 per cent.

Threats from new pathogens

Agents such as rotavirus, campylobacter, Legionella, E. coli 0157 and norovirus were largely unknown before the 1980s. Good hygiene in home and every day life is seen as a key first line of defence to limit spread of new pathogenic strains until other measures can be put in place. The threat posed by emerging and potentially pandemic strains of influenza is ongoing.

Healthcare at home

Governments, which are under pressure to fund the level of healthcare that people expect, are looking at prevention as a means to reduce spending, but they recognise that any gains are likely to be undermined by inadequate infection control at home.

Vulnerable groups at home

People with reduced immunity to infection now constitute 20 per cent of the population and this figure is rising. The largest proportion is the elderly, many of whom have chronic ill health with associated vulnerability to infection. These people want to lead a healthy life and consequently need a good understanding of hygiene.

Protecting the future

Infectious diseases can act as cofactors in other diseases that manifest at a later date, such as cancer and chronic degenerative diseases. They can also act as triggers for the development of allergic diseases.

The IFH – a unique organisation

The unique feature of the IFH is that it addresses hygiene from the viewpoint of the home and, more importantly, the family. This means it is dedicated to understanding the range of interrelated actions that family members undertake in their everyday lives (both within and outside the home) to protect themselves from infectious disease. This includes food and water hygiene, handwashing, respiratory hygiene, laundering of clothing and household linens, and the safe disposal of human and other waste. It also includes the care of domestic animals. As the extent to which care outside hospitals increases, increasingly our remit extends to the healthcare of family members who are infected or at greater risk of infection.

At present, these disparate aspects of family hygiene – from food and respiratory hygiene to handwashing and home healthcare – are dealt with by separate agencies. Public health agencies focus on hygiene in hospitals, community care facilities and large institutions like schools, but no single authority takes responsibility for promoting good hygiene practices in the home. The aims and objectives of IFH are to fulfill the need for an integrated approach.

The IFH believes that, if we are to achieve long-term change in public attitudes and behaviour, an integrated, family-centred approach to infectious disease and hygiene, as adopted by the IFH, is needed. It is the IFH's ongoing commitment to ensure home hygiene does not remain the weak link in the chain.

The cycle of infection

The global battle to control the spread of infectious diseases must include strategies that deal with all areas of human behaviour – and that includes home hygiene. Addressing this vital link in the chain is essential if the battle is to be won.

The science of home hygiene

During the latter half of the 20th century, scientists in the food and other manufacturing industries recognised the need for a more effective approach to controlling microbial contamination. Processes like handwashing and environmental cleaning could no longer be regarded as separate interventions; an integrated multi-barrier system was needed to control the spread of harmful microbes along the major transmission routes into food and other manufactured products. This scientifically validated system, based on risk management, has become the standard in a range of settings and is now increasingly being adopted for controlling hospital infections.

In developing hygiene for the home and everyday life settings, the IFH has also adopted this risk-management approach, which has come to be known as 'targeted hygiene'. This integrated system aims to maximise protection against disease by breaking the chain of infection transmission at critical points. With its focus on understanding the scientific basis of hygiene, the IFH is well-positioned to play a pivotal role in developing approaches to hygiene that deliver real health benefits.

The evidence used by the IFH to develop its home hygiene advocacy and promotion programme is documented in three scientific reviews that are updated, as required to take account of new data. They include:

- An assessment of the global burden of infectious diseases which are hygiene-related and the factors which influence disease trends.
- A review of the microbiological and epidemiological data showing how infectious agents and antibiotic-resistant strains are spread in home and everyday life settings and how hygiene can break the chain of infection transmission.
- A summary of data on the hygiene procedures that are used to break the chain of infection, and their effectiveness.

IFH reviews addressing specific hygiene issues

The IFH has also produced a number of special reports that address specific issues and challenges related to home hygiene. Recent reports include:

- *Effectiveness of laundering processes used in domestic (home) settings* (2013)
- *Spread of antibiotic resistant strains in the home and community* (2013)
- *The Hygiene Hypothesis and its implications for home hygiene, lifestyle and public health* (2012).
- *Infection risks associated with clothing and household linens in home and everyday life settings, and the role of laundry* (2011).
- *Use of mud and ash for handwashing in low-income communities* (2009).
- *Potential risks associated with MRSA and* C. difficile *in home and everyday life settings* (2006).

Antibiotic resistance and the crucial role of hygiene

One of the most serious issues in the fight against infectious disease is the threat posed by microbial resistance to the antibiotics used in their treatment. Across the world, both in developing and developed countries, WHO, together with international and national agencies are actioning strategies aimed at controlling and reducing antibiotic prescribing, improving the pipeline of new antimicrobial drugs and, importantly, reducing the spread of drug-resistant infection in hospitals and the community.

A growing body of evidence reveals that better hygiene standards in home and everyday life settings could have a significant impact, both by reducing the need for antibiotic prescribing and preventing the spread of resistant strains. Increasingly, it is recognised that reducing the spread of resistant strains in hospitals cannot be achieved without also reducing spread in the healthy community. Healthy people can become persistent skin carriers of MRSA or faecal carriers of enterobacteria that carry multi- resistance factors (e.g. NDM-1 or ESBL-producing strains), but the risk is not apparent until they are, for example, admitted to hospital where they can become "self-infected" with their own resistant organisms. These multi resistant organisms may then spread to other patients. As persistent nasal, skin or bowel carriage in the healthy population spreads "silently" across the world, the risk from resistant strains in both hospitals and the community rises. It is thought that the major source of healthcare-associated infections is the patient's endogenous flora.

The IFH's goal is to ensure hygiene is given appropriate status – and investment – relative to the other strategies which are being employed to control antibiotic resistance.

The e-Bug project – school and adult hygiene education

E-Bug is an EU-funded project working to ensure all children across Europe leave school with a basic understanding of antibiotics and their proper use, and the role of hygiene in preventing infectious disease to reduce the need for antibiotic prescribing. The IFH believes hygiene education at school is absolutely fundamental to changing hygiene understanding, and is working in partnership with e-bug to promote this resource as widely as possible. E-bug has been translated, and is now being promoted in 27 European countries. In 2016, e-bug released "Beat the bugs" a toolkit for promoting hygiene to community groups.

Every infection prevented means fewer antibiotics used

To address the theme for International Infection Prevention Week 2016 "Breaking the Chain of Infection", IFH produced a simple elearning resource. This was a great opportunity to get this simple "chain of infection" concept over to the public, who find it quite hard to understand – but forms the essential foundation for understanding effective hygiene in home and everyday life – and elsewhere. The resource helps people to visualise how infections are spread and how hygiene can break the chain of infection.

The hygiene hypothesis misnomer – restoring public confidence in hygiene

The so-called hygiene hypothesis, first published in 1989, proposed that lower incidence of infection in childhood could be an explanation for the 20th century's dramatic rise in allergic diseases, and that the underlying cause could relate to "improved household amenities and higher standards of personal cleanliness". Although evidence still supports the concept linking reduced microbial exposure to allergy risk, the term "hygiene hypothesis" is now regarded as a misleading and dangerous misnomer which is undermining the attitudes of the public and healthcare workers to hygiene.

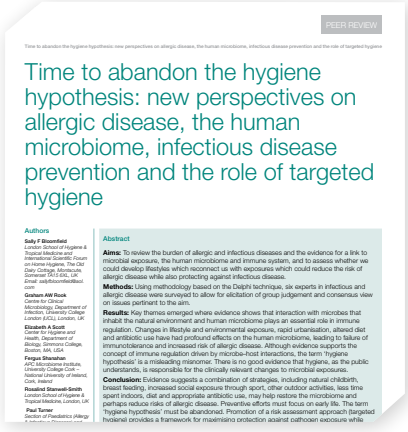
Through detailed evidence reviews, first in 2004 and then in 2012, IFH has monitored how the hypothesis, and its potential implications for hygiene, has evolved since this time. One of the key changes is that the concept applies not only to allergies but also to range of other chronic inflammatory diseases such as multiple sclerosis, type 1 diabetes and inflammatory bowel disease.

In February 2016, in collaboration with the Royal Society for Public Health, IFH organised a conference where this issue was reviewed by a multidisciplinary group of immunologists, allergists, microbiologists and infection preventionists. The findings of the conference were subsequently published in the July 2016 special edition of *Perspectives in Public Health*.

In the first six months since the July publication date, there have been 763 downloads of the consensus peer review article "Time to abandon the hygiene hypothesis"

The consensus view is that the exposures we need, particularly in early life, are not "germs" (as argued by the 1989 hygiene hypothesis) but the diverse range of mostly non-harmful microbes from our living and natural environment, and from other family members and domestic animals (our so called Old Friends). Although it is unclear which might be the most important, changes which have been implicated include sanitation, clean water and food, c-section rather than vaginal delivery, bottle rather than breast feeding, fewer siblings, urbanisation and less outdoor activity. It is also recognised that communication between "Old Friends" and the immune system is mediated by the human microbiome, and that excessive antibiotic use and altered diet can affect the microbiome in a way that further increases inflammatory disease risks.

By contrast, the concept that obsessive hygiene and cleanliness is the culprit is no longer supported. If this is so, the question then is how to reconnect with our microbial world, particularly during the early months of life, while at the same time protecting against infectious diseases. One thing is clear, we need a smarter approach to hygiene. We need to understand that hygiene is more than "keeping ourselves and our living environment clean". It is based on understanding the key routes (hands, surfaces etc) of infection transmission, and targeting hygiene practices in the places and at the times that matter to break the "chain of infection". The purpose of targeted hygiene is to reduce incidents of exposure to larger numbers of pathogens which overcome body defences and cause infection, while at the same time allowing diverse exposure to our "Old Friends" microbes.

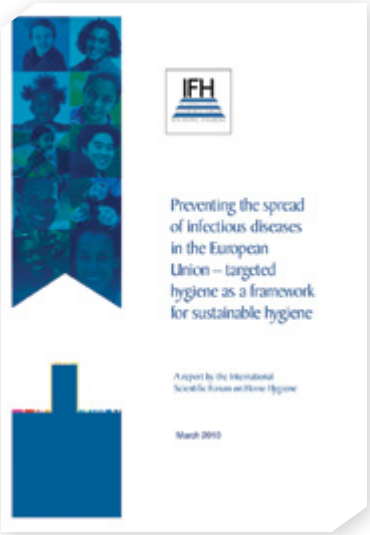


The IFH – a sustainable approach to improved health

The success of sustainable development is challenged by the heavy burden of infectious disease. The IFH believes governments and other policy makers need to be made more aware that improved hygiene, a strategy that prevents the spread of disease, is significantly more cost-effective and sustainable than strategies designed to treat disease itself.

The IFH recognises, however, that those hygiene measures that are employed must themselves be sustainable. The targeted approach to hygiene adopted by the IFH provides an excellent framework for ensuring sustainability in hygiene because it:

- Maximises protection against infection in the home and the community.
- Ensures prudent and targeted use of hygiene products and processes.
- Helps to sustain "normal" levels of exposure to the microbial flora of our environment, which is important for regulating our immune system.



The IFH and the European Parliament

In 2010, the IFH produced a report outlining how the targeted approach can be used to develop a more sustainable approach to hygiene in homes and in everyday life. The title is *Preventing the spread of infectious diseases in the European Union – targeted hygiene as a framework for sustainable hygiene*. In March 2011, the IFH was invited to present at a workshop on "biocides" at the European Parliament. Organised by the European Parliamentary Committee on Environment, Public Health and Food Safety (ENVI), the IFH briefed members about the issues associated with microbiocide use. The IFH has been using this report to lobby government health and regulatory agencies in both Europe and the USA. In recent years, there has been much concern expressed about issues surrounding the use of microbiocides in the home, most particularly, whether they might promote development of antibiotic resistance. Based on current evidence, IFH believes that, contrary to this, not using a microbiocidal product, as part of targeted hygiene in situations where they are needed, could exacerbate the spread of infections and of resistant strains.

Home laundering at low temperatures

In recent years, there has been a trend to apply lower washing temperatures during machine laundering to reduce domestic power consumption. It is known however that decreasing temperature can have a significant impact on the hygiene efficacy of laundering. This is a concern because of the potential for spread of skin pathogens such as MRSA via clothing and household linens. Rhine-Waal University of Applied Sciences, in collaboration with the IFH have been carrying out studies to better understand the separate contribution made by heat, oxygen bleach, wash cycle time etc to laundry hygiene effectiveness, in order to determine how laundry hygiene can be improved at lower temperatures.

Helping community healthcare workers to implement good hygiene practices

Societal changes mean that people with greater susceptibility to infection make up an increasing proportion of the population, up to 20% or more. The largest group are the elderly who have reduced immunity, often exacerbated by other illnesses. It also includes the very young, and family members with invasive devices such as catheters and people whose immuno-competence is impaired as a result of chronic and degenerative illness (including HIV/AIDS), or drug therapies (such as cancer chemotherapy). Governments, looking at ways to reduce health spending, have introduced shorter hospital stays and increased homecare of vulnerable patients.

As the emphasis on hygiene in home healthcare increases, those who give care in the community – together with the media, patient-focussed action groups and others – are looking for authoritative sources of information and practical guidance to give to the public. To meet this need, the IFH has produced a range of guidelines, training resources and fact/advice sheets that promote best practice.

One of the most popular is our training resource *Home Hygiene, prevention of infection at home: a training resource for carers and their trainers*, which was produced in partnership with the UK Infection Prevention Society. By treating the issues of home hygiene in a practical way and in simple language, it is easily understood by community workers with relatively little infection control background.

All our materials follow the IFH targeted approach to hygiene, ensuring that effective hygiene practices are focussed at critical sites and surfaces at appropriate times. Our materials address the whole range of home hygiene issues including hand hygiene, food and water hygiene, respiratory hygiene, personal hygiene, laundry hygiene, menstrual hygiene, safe faeces disposal, and care of domestic pets.

The IFH fact/advice sheets

IFH has produced a set of around 50 fact/advice sheets on hygiene and issues related to hygiene. The unique feature of these materials is that they focus on practical hygiene information for people in their homes and everyday lives.

Hygiene in home healthcare

In 2014, IFH launched a new area of the website devoted to hygiene in home healthcare. This is a central resource where hygiene professionals, community workers and others can browse, find information, and exchange knowledge on infection prevention and control issues related to healthcare delivered at home, or to supporting those who live in the community, who have reduced immunity to infection.

The IFH in developing countries

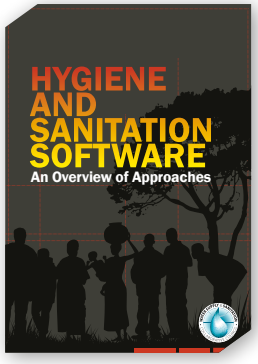
The IFH works to support the fight against infectious disease in the developing world. WHO data reveals that a significant amount of disease could be prevented through access to safe water supply, adequate sanitation and better hygiene. It is estimated that 842,000 deaths per year (58% of the total estimated 1.8 million deaths from diarrhoeal disease) is attributable to unsafe water supply, sanitation and hygiene and includes 361,000 deaths of children under age five, mostly in low-income countries.

The post-2015 Sustainable Development agenda reflects an ongoing commitment to deliver access to safe drinking water and basic sanitation. The new agenda also recognises that although access to "adequate water and sanitation for all" is key to reducing the global burden of infectious disease, so is hygiene. Access to water is not enough in itself; we must also use it to wash our hands at key times to prevent the spread of germs.

IFH achievements in developing countries

One of the IFH's first initiatives was to hold an international conference in New Delhi in 2002. It was one of the first international conferences to draw together the different sectors of hygiene – handwashing, household water treatment, sanitation, food hygiene etc. – to encourage an integrated approach to hygiene. IFH has also held workshops in Indonesia, Philippines and Senegal. In 2005, the IFH established a South East Asia office in Kolkata, India. In 2005, IFH prepared a detailed report assessing the global burden of water-related diseases, the role of point-of-use water treatment and safe storage and the effectiveness of home water treatment and storage interventions.

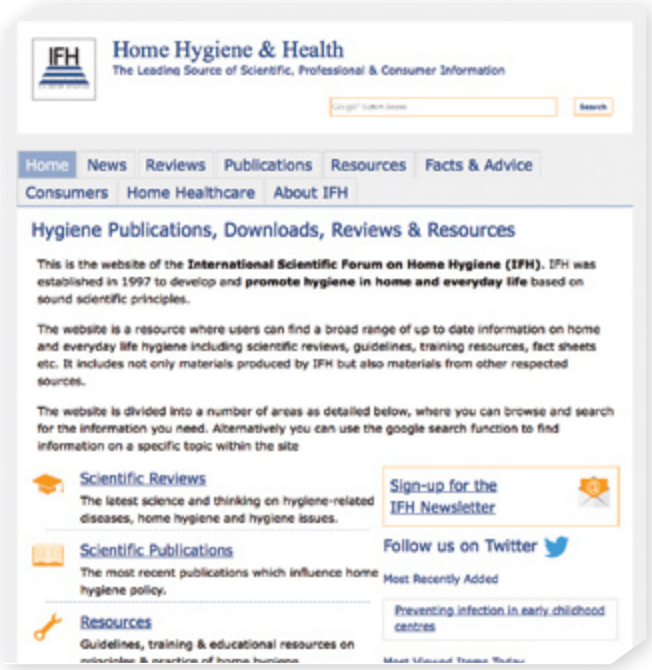
In 2002, the IFH produced a version of the IFH training resource on home hygiene designed for the specific environment in developing countries. In 2008/9, thanks to the support of the Water Supply and Sanitation Collaborative Council (WSSSC) and Sulabh International Social Service Organisation, the resource has now been translated into Russian, Urdu, Bengali and Hindi and has had a significant influence on the development of hygiene promotion campaigns in schools and communities. The demand for IFH materials in developing countries is shown by the fact that around 20% of visits to our website come from South America, Asia and Africa.



In 2010, IFH worked with WSSCC and the United States Agency for International Development (USAID) on the production of a compendium on sanitation and hygiene. Public health practitioners recognise that until good hygiene is properly practiced, both at home and in the community as a whole, the desired impact of improved water and sanitation services on community health cannot be realised. This publication takes an in-depth look at the hygiene and sanitation approaches that have been deployed over the last 40 years by NGOs, development agencies, national and local governments in all types of settings – urban, informal-urban and rural.

IFH – communicating and influencing

IFH uses a range of strategies to ensure that our risk management approach to hygiene and hygiene practice is as widely-publicised as possible. The IFH focuses its communication strategy on four main channels: its website and twitter feed, peer-reviewed publications and conferences, partnerships, and one-to-one interactions. A key IFH policy is to ensure that all our materials are freely available and accessible.



The IFH website and new media

The IFH interactive website is a dynamic one-stop-shop offering our target audience comprehensive and authoritative information on hygiene in the home and everyday life settings. The materials include:

- Scientific reviews
- A library of the most recent publications on home and everyday life hygiene
- Guidelines and training resources on home hygiene
- Plain language fact and hygiene advice sheets
- Resources on home hygiene developed by other sources
- Consumer information
- Hygiene in home healthcare

IFH website usage

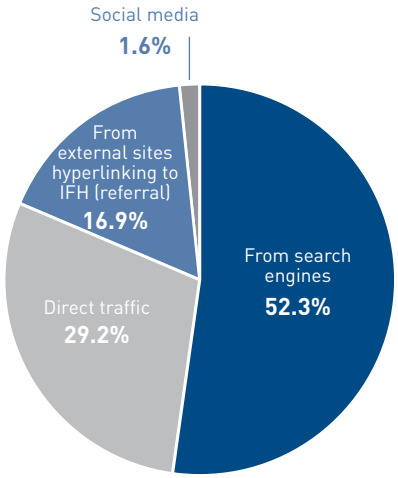
With all the IFH's materials available for download for free at the click of a mouse, the popularity of this rich resource is no surprise – it attracts 1,300 or more visitors per month, and some 3,500 page views. About 100 or more health-related websites feature direct hyperlinks to resources on our IFH website. Although most website users come from the US and Europe, the website attracts visitors from 160 countries over the world, including Germany, Netherlands, Kenya, Nigeria, India, Australia, Canada, South Africa and the Philippines.

IFH newsheets and twitter feed – @IFH_HomeHygiene

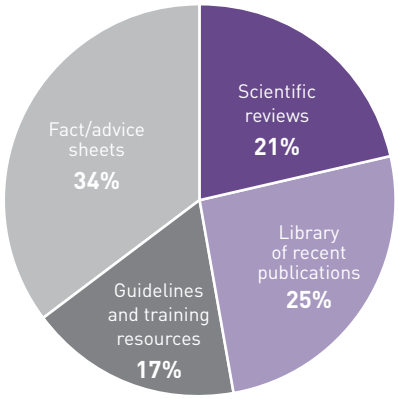
The IFH also posts regular news bulletins on the website featuring new research or new issues. We also send regular electronic newssheets and email alerts to our global database of more than 3,500 scientists and health professionals in more than 100 countries. The newsletter features new issues and recently published data relating to hygiene in home and everyday life settings. We also communicate the latest research findings and key messages through our own twitter feed.

1. Where does traffic to the IFH website come from?

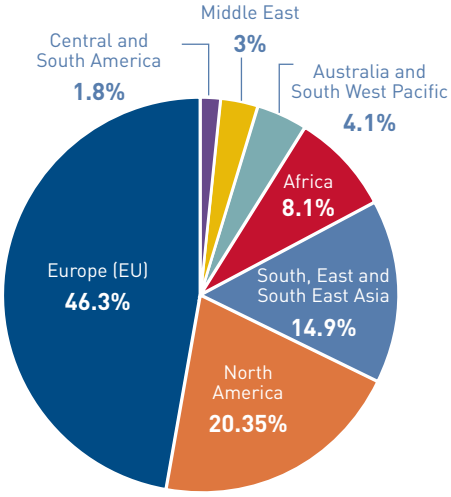
Total visits in 2016 – 15,663



2. What information are visitors interested in?



3. Geographical locations of website visitors



External publications

IFH believes it has an important role to play in raising the profile of hygiene in the home, developing a science-based approach and driving the debate. IFH regularly submits papers and review articles for publication in peer review journals. Examples of papers published since 2006 include:

- Bloomfield SF, Aiello AE, Cookson B, O'Boyle C, Larson, EL. 'The effectiveness of hand hygiene procedures including handwashing and alcohol-based hand sanitizers in reducing the risks of infections in home and community settings', *American Journal of Infection Control* 2007; 35, suppl 1, S1-64
- Bloomfield SF, Scott EA. 'A risk assessment approach to use of antimicrobials in the home to prevent spread of infection', *American Journal of Infection Control* 2013; 41: (5, Suppl) A1-A10
- Bloomfield SF. 'Die Hygienehypothese - wer sind ,,die Guten" und wie schutzt man sich gegen ,,die Bosen"?', *Hygiene und Medezin* 2014; 39:149-151
- Bloomfield S, Exner M, et al. 'Lesser-known or hidden reservoirs of infection and implications for adequate prevention strategies: Where to look and what to look for', *GMS Hygiene and Infection Control* 2015; 10: 1-14. ISSN 2196-5226
- Bloomfield SF, Rook GAW, Scott EA, Shanahan F, Stanwell-Smith R, Turner P. 'Time to abandon the hygiene hypothesis: New perspectives on allergic disease, the human microbiome, infectious disease prevention and the role of targeted hygiene', *Perspectives in Public Health* 2016; 136(4): 213–224
- Brands B, Brinkmann A, Bloomfield SF and Bockmühl DP. 'Microbicidal action of heat, detergents and active oxygen bleach as components of laundry hygiene', *Tensides Surfactants Detergents* 2016; 53, 495-501

Conferences and exhibition stands

The IFH believes it is important to have a physical presence at conference symposia, workshops and exhibition stands to help communicate its messages.

In 2000 and 2002, the IFH held major international conferences in London and New Delhi, India. They were unique as they were the first international conferences to encourage an approach that integrates the different aspects of hygiene (e.g. handwashing, food hygiene and household water treatment, respiratory hygiene and healthcare at home). In the last three years, the IFH has participated in a number of meetings that reflect the international focus on hygiene:

- December 2012. Symposium at European Paediatric Association. **Are we too clean?**, Dr Ros Stanwell Smith, Prof Sally Bloomfield and Prof Graham Rook.
- March 2014. Annual Meeting, International Federation of Infection Control, Malta. **Hygiene risk of laundry**, Prof Sally Bloomfield.
- March 2014: European Hygiene Council Meeting, Athens. **Combating antibiotic resistance and the role of hygiene**, Prof Carlo Signorelli; **Microbiology in the domestic laundry setting – challenges and solutions**, Prof Sally Bloomfield; **Home Hygiene issues**, Prof Lisa Ackerley.
- March 2014. Workshop, Bonn, Germany. **Dishwashing as part of a multibarrier approach to home hygiene**, Prof Sally Bloomfield, Prof Dirk Bockmuhl.
- March 2014. Royal Society of Public Health, London. **The science behind handwashing behaviour. Hand hygiene as part of a multibarrier approach**, Prof Sally Bloomfield; **Home Hygiene issues**, Prof Lisa Ackerley.
- February 2015. World Congress on Public Heath, Kolkata, India. **Hand-washing with soap: the most cost effective intervention against child disease and evolving infections**, Prof KJ Nath.
- November 2015. Netherlands. Hygiene Products Trade Association. **A risk-based approach to home hygiene**, Prof Sally Bloomfield, Prof Dirk Bockmuhl.
- September 2016. UK Infection Prevention Society, Harrogate. **Hygiene effectiveness of laundering: new insights**, Prof Sally Bloomfield, Prof Dirk Bockmuhl.

The IFH and the media – changing public opinion

The media regularly feature stories about health and hygiene, but sometimes they are unnecessarily alarmist, inaccurate and confusing. In some cases, they are supported by inaccurate quotes from so-called experts. Where some warn of the dangers of germs, others urge us to be "less hygienic".

IFH believes that attitudes to hygiene, and hygiene behaviour will not change until we dispel public misconceptions about the hygiene hypothesis, hygiene, cleanliness and germs, most particularly the misconception that hygiene and cleanliness is the underlying cause of rising allergies. The public still tend to see infection prevention/hygiene as "keeping ourselves and our environment clean" and fail to understand that hygiene is more than just "cleanliness".

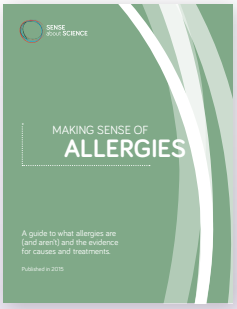
Changing public opinion is a significant and ongoing challenge. Using press releases, and by direct one-to-one lobbying of the media and the experts they consult, IFH works to counter negative attitudes and inaccurate reporting and replace it with clear, consistent and accurate information. In 2010, the IFH added a Media Centre to the website which allows journalists to contact the IFH directly. IFH also responds to frequent media requests for interviews and support. The IFH also supports the UK "Science Media Centre", a body that provides information on health and hygiene related to journalists.

To facilitate this work, IFH has developed a range of materials including fact sheets and Q and As, elearning resources which have proved invaluable for supporting media communications.

Are we too clean for our own good? – Dispelling the misconceptions

To coincide with the release of the July 2016 special issue of *Perspectives in Public Health*, IFH put out a press release highlighting the misconceptions about the hygiene hypothesis and its relationship to cleanliness in our everyday lives while also reinforcing the importance of hygiene. This attracted opinion articles in BBC Future, News Medical.net, *Nursing Times* and other electronic media.

IFH also prepared a plain language online briefing document for use with the media etc. This explains current thinking on this issue in simple non-technical language.



Making Sense of Allergies

In 2015, in response to the confusion about allergies and the cause of allergies, the NGO Sense about Science produced a resource called *Making Sense of Allergies*. The aim is to help parents make sense of the confusion over the causes, diagnosis and treatment of allergies. The guide was developed by a group of allergy and other specialists in collaboration with the British Society for Immunology, Cochrane UK, Allergy Academy, Allergy UK, Asthma UK and IFH.

Hygiene misconceptions

The Times, November 2015

Nutritionists, keen to encourage us to build a healthy gut microbiome through good diet, and reconnecting with our microbial world, have suggested that one solution would be to stop washing our hands. In reality, there is no evidence that this would have a beneficial effect, but good evidence that it increases risks of spread of infection.

The power of partnership

Although the IFH does not have formal partnerships, wherever possible it works with other agencies and individuals to maximise results for mutual benefit. Over the past 20 years, IFH has built an extensive network of contacts with national and international organisations that have responsibility for hygiene promotion. One of the most important activities of the IFH is bringing together disparate sectors of hygiene to drive a more integrated approach to home hygiene. By fulfilling this unmet need, the IFH believes it has significantly contributed to improving hygiene.

The IFH has worked in partnership with a range of organisations on specific projects. The London School of Hygiene and Tropical Medicine (LSHTM), for example, was a partner in the two IFH international conferences. The UK Infection Prevention Society (IPS) worked with the IFH to develop the IFH training resource on Home Hygiene. The IFH has also worked with the Water Supply and Sanitation Collaborative Council (WSSCC), who promote water sanitation hygiene in low-income communities; the Council is represented on the IFH Scientific Advisory Board.

Academia

- London School of Hygiene and Tropical Medicine
- University of Aston, Birmingham
- Rhine-Waal University of Applied Sciences
- Hygiene Institute, Bonn
- Simmons College, Boston, USA

Media

- Science Media Centre
- Sense about Science

Government agencies

- Public Health England
- UK Food Standards Agency

Industry associations

- Association for Soaps, Detergents and Maintenance Products (AISE)
- UK Chemical Products Industry Association
- Cosmetic, Toiletries and Fragrance Association (CTFA)
- American Cleaning Institute (ACI)

International agencies

- Water Supply and Sanitation Collaborative Council (WSSCC)
- World Health Organization (WHO)
- Sulabh International Social Service Organisation
- USAID

Professional bodies

- UK Infection Prevention Society (IPS)
- US Association for Professionals in Infection Control (APIC)
- International Federation of Infection Control (IFIC)
- The Royal Society for Public Health (RSPH)

Other organisations

- Danish Council for Better Hygiene
- Swedish Association for Infection Prevention in Society
- NOFIMA, Norwegian Food Research Institute

The International Scientific Forum on Home Hygiene

Old Dairy Cottage, Woodhouse Lane, Montacute,
Somerset, TA15 6XL, UK
secretariat@ifh-homehygiene.org
www.ifh-homehygiene.org