



July 2011

IFH Newsheet ([www.ifh-homehygiene.org](http://www.ifh-homehygiene.org))

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### 1. News

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#### **IFH is forming a new “Special Interest Group” on “Infection Prevention in Home and Everyday Life Settings”**

The International Federation on Infection Control (IFIC, [www.theific.org](http://www.theific.org)) founded in 1987, is a global organisation with the stated mission to “facilitate international networking in order to improve the prevention and control of healthcare associated infections worldwide”. **IFIC has invited IFH to form a “Special Interest Group” on “Infection Prevention in Home and Everyday Life Settings”**. This reflects the growing understanding that preventing infection in healthcare settings cannot be properly addressed without also addressing hygiene and infection prevention in the community i.e without closing the circle. IFH will establish a partnership with IFIC in order to provide IFIC members with a resource through which they can obtain information and exchange knowledge and views on infection prevention in home and everyday life settings. **The IFH SIG will have its “formation meeting” at the IFIC Annual conference in Venice on 12-15 October 2011**. IFH will make a presentation during the conference on targeted home hygiene as a sustainable approach to infection prevention and will also be hosting an exhibition stand to further showcase IFH and network with delegates. For more details of the conference go to: <http://www.ific2011.com/>

#### **Update on Shiga-toxin producing *Escherichia coli* O104**

The European Food Safety Authority (EFSA) reports that the number of cases in the outbreak of Shiga-toxin producing *Escherichia coli* (STEC) which has been ongoing in Germany since May is now rapidly decreasing. On 24 June 2011, French authorities reported an outbreak in the Bordeaux region. During the outbreak, there have been a large number of patients with bloody diarrhoea caused by STEC and an unusually high proportion of these have developed haemolytic uremic syndrome. To date, the outbreak is responsible for 48 deaths in Germany and one in Sweden. The total number of cases reported in the EU, Norway and Switzerland is 4,178. EFSA now concludes that an imported lot of fenugreek seeds used to grow sprouts which was imported from Egypt by a German importer, is the most likely common link but other lots may be implicated. EFSA have produced a fast-track report assessing consumer exposure through consumption of raw vegetables and mitigation

options (EFSA Journal 2011;9(6):2274. [50 pp.] doi:10.2903/j.efsa.2011.2274. Online: [www.efsa.europa.eu/efsajournal](http://www.efsa.europa.eu/efsajournal)).

**In response to the recent outbreak, IFH has prepared a fact/advice sheet to provide background information and advice on what to do if there is a risk of spread of *E. coli* O104 in the home.** This has been produced for those responsible for providing guidance to the public on coping with hygiene issues associated with *E. coli* O104. It can be downloaded from: <http://www.ifh-homehygiene.org/IntegratedCRD.nsf/9c1b88071913b860802575070007d2f3/646d24cd339dbbf4802578b5004485d5?OpenDocument>. The risks of household transmission of *E. coli* O104 are demonstrated in a report concerning two patients returning from Germany who developed HUS due to *Escherichia coli* O104:H4 in the Netherlands. The index case developed symptoms eight days, and her child 15 days after their return. It is very likely that transmission resulted from secondary spread from mother to child. The report can be found at <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19897>.

### **Possible infection risks associated with dishwashers?**

In June 2011, a new study was published (Fungal Biology (2010), doi:10.1016/j.funbio.2011.04.007) that investigated the rubber sealing on the doors of domestic dishwashers. The study found *Exophiala dermatitidis* and *Exophiala phaeomuriformisin* in around 30% of 189 domestic dishwashers sampled in multiple locations across the world. The authors verbally reported that they had also found the organism on plates and cutlery taken from the dishwashers. Although the organism is known to be an opportunist pathogen, no incidents of infection from dishwashers were reported. *Exophiala* is a fungus widely distributed in soil, plants, water and decaying wood material. The somewhat odd spectrum of main sources of isolation (fruit surfaces, steam baths, faeces and human tissue) suggests that a hitherto unknown, quite specific natural niche must be concerned. Consistent occurrence in steam rooms of public bathing facilities suggests that the artificial environment of the steam bath provides a novel environmental opportunity for this fungus.

As well as being a saprophyte in nature, both *Exophiala* species are known to cause systemic disease in humans and frequently colonise the lungs of patients with cystic fibrosis. The black yeast *Exophiala dermatitidis* is also an uncommon aetiologic agent of fatal infections of the central nervous system in otherwise healthy, mainly adolescent patients in East Asia. Importantly, however, it is stated the route of infection is unknown i.e. there is no evidence that oral consumption can lead to infection. Since there is very little known about the organism and its properties in domestic environments, it is impossible to assess the extent of the risk but it seems likely to be very small, and then only to "at risk" groups e.g. cystic fibrosis patients. In response to concerns raised in the media (see also "opinion" below) IFH has produced a fact/advice sheet: *Exophiala*: understanding the risks and protecting vulnerable groups. This can be found at: <http://www.ifh-homehygiene.org/IntegratedCRD.nsf/9c1b88071913b860802575070007d2f3/a5835e24faafb1aa802578c500550819?OpenDocument>

### **Clothing and household linens in home and everyday life settings, and the role of laundry**

For those of you who are newly added to our IFH database - **in April 2011 IFH published a review of the infection risks associated with clothing and household linens such as towels and bed linen.** It includes data on how, and to what extent, these items become contaminated with pathogenic organisms and how they survive and are spread. This is reviewed together with data on the extent to which we are exposed to these agents in our

daily lives. The extent of the risks associated with clothing etc is also assessed in relation to risks associated with other surfaces such as the hands, hand and food contact surfaces and so on. To view/download the report, go to: <http://www.ifh-homehygiene.org/IntegratedCRD.nsf/eb85eb9d8ecd365280257545005e8966/d0e3b0f361079f1780257865003d43b1?OpenDocument>

### **e-Bug – an ongoing success story**

Antibiotic resistance is an increasing community problem. If antibiotic use could be reduced, the tide of increasing resistance could be stemmed. e-Bug is a project involving 18 European countries, partly funded by The EU Directorate-General for Health and Consumers (DG SANCO). **Its aim is to increase young people's understanding, through enjoyable activities, of why it is so important to use antibiotics correctly in order to control antibiotic resistance, and to have good hand and respiratory hygiene to help reduce spread of infection and reduce the need for antibiotic prescribing.** The resources have been translated, adapted for and disseminated to schools across 10 European countries. The website has been accessed from 200 countries. The resources will be translated into all European Union languages, and have been used to promote European Antibiotic Awareness Day and better hand and respiratory hygiene during the influenza pandemic in 2009.

The e-Bug team are also working on extending e-Bug to a wider audience. The development and dissemination of e-Bug is outlined in a series of papers in a June 2011 supplement (vol 66, suppl 5) of the Journal of Antimicrobial Chemotherapy. In the opening paper, Clodna McNulty and her colleagues address the question "Can e-Bug be considered successful and if so how was this attained?". They agree that it is difficult to determine the true success without a formal process evaluation of its impact on behaviour change or attitudes of young people, but certain criteria point to the success of the project. Firstly, all 18 partner countries agreed on the pack content and learning outcomes, facilitating the development of a common product across Europe. Each country gained a real feeling of ownership of e-Bug during the nine month research period. The formal evaluation, with 1,000 students in three countries showed that the majority of teachers and students enjoyed the activities, and would use the resources again. Furthermore, it showed that student knowledge improved significantly after using the resource. Teachers were closely involved with informing the requirements and the development of all the resources over a year; a luxury that is not usually afforded to commercial educational product development. Importantly, all 10 associate partners have attained endorsement from their government departments of health and education; many packs have government logos on the covers, which was instrumental in attaining widespread implementation in schools. Finally, the European Commission and ECDC have been very supportive throughout the project, and have fully endorsed the resources and funded further translations, facilitating greater dissemination across Europe. For more details go to [www.e-Bug.eu](http://www.e-Bug.eu).

### **Infection is the leading cause of maternal deaths in the UK**

Although the overall number of maternal deaths in the UK has fallen over the last three years, there has been a rise in the number of women dying from infection. This is the finding of the Eighth Report of the Confidential Enquiries into Maternal Deaths, 'Saving Mothers' Lives'. Many of these deaths were from Group A Streptococcal disease caught in the community. The report calls for mothers and healthcare workers to be aware of the need for scrupulous hygiene, especially after birth.

## Improved reporting shows wider prevalence of PVL-producing *Staphylococcus aureus* in the UK

The UK Health Protection Unit reports that cases of Panton-Valentine Leukocidin (PVL) have increased 10-fold in England in the last six years. In 2010, 2,227 cases of PVL were referred for identification, up from 224 cases in 2005. Previously many cases were simply unidentified infections. HPA have also found that PVL is the cause of the majority (65%) of staphylococcal boils and abscesses referred to the HPA. This means they are potentially more aggressive and likely to spread. Over a third of staphylococcal boils and abscesses identified by the HPA lab are thought to be recurrent. Back in 2005 the HPA launched a UK campaign, with the aim to encourage reporting of unusual boils and abscesses. Dr Angela Kearns, head of the Staphylococcal reference unit at the HPA says "These latest figures give us reassurance that the UK is not experiencing the epidemic levels of PVL infection which have been observed in other countries." For more information go to:

[http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb\\_C/1296681223963](http://www.hpa.org.uk/web/HPAweb&HPAwebStandard/HPAweb_C/1296681223963)

## Norovirus cases in the US estimated at 21 million annually

Approximately 21 million illnesses caused by norovirus are estimated to occur each year in the US, approximately 25% of which can be attributed to foodborne transmission. Recent studies suggest that norovirus is the leading cause of acute gastroenteritis in the community and among persons seeking care in outpatient clinics or emergency departments across all age groups. Data from the US and European countries have demonstrated that norovirus is responsible for approximately 50% of all reported gastroenteritis outbreaks (range: 36%–59%). Whereas prior national estimates of outbreak attribution by mode of transmission were likely biased toward foodborne disease, more recent data indicate that the majority of norovirus outbreaks involve person-to-person transmission. Multiple routes of transmission can occur within an outbreak; for example, point-source outbreaks from a food exposure often result in secondary person-to-person spread within an institution or community. Noroviruses are also the predominant cause of gastroenteritis outbreaks worldwide. These data are reviewed in Updated Norovirus Outbreak Management and Disease Prevention Guidelines issued by CDC. These can be found at:

<http://www.cdc.gov/mmwr/preview/mmwrhtml/rr6003a1.htm>

## Sensing potential problems with electronic eye faucets

According to a recent press release, although hands-free electronic eye faucets conserve water, a seven-week study at Johns Hopkins hospital in New York shows that there may be an unintended consequence to their use. Researchers compared water samples from 20 electronic-eye faucets and 20 manual faucets in or near patient care areas: they found the waterborne bacteria ***Legionella* growing in 50% of water samples from electronic-eye faucets, whereas the same bacteria was found in only 15% of samples from manual faucets.** Disassembling some of the faucets, the team found *Legionella* and other bacteria on all main component valves and other parts, very few of which exist in manual faucets. These results raise questions, for example, why *Legionella* proliferates in electronic eye faucets - is it because the preferred water temperature for handwashing is similar to the optimal temperature range for growth of *Legionella*? Is it due to a substance used in manufacturing the faucets that fosters *Legionella* growth? Johns Hopkins researchers are planning to work with the manufacturers to correct the faucet design flaw. The press release can be found at:

[http://www.hopkinsmedicine.org/news/media/releases/latest\\_hands\\_free\\_electronic\\_water\\_faucets\\_found\\_to\\_be\\_hindrance\\_not\\_help\\_in\\_hospital\\_infection\\_control](http://www.hopkinsmedicine.org/news/media/releases/latest_hands_free_electronic_water_faucets_found_to_be_hindrance_not_help_in_hospital_infection_control)

## CDC reports no decline in Salmonella infections in the past 15 years

A new report (<http://www.cdc.gov/vitalsigns/FoodSafety/index.html>) released by the Centers for Disease Control and Prevention reports that *Salmonella* infections have not decreased during the past 15 years and have instead increased by 10% in recent years. Illnesses from Shiga toxin-producing *E. coli* O157 have been cut by nearly 50% and the overall rates of six foodborne infections have been reduced by 23% during the same period. Although foodborne infections have decreased by nearly 25% in the past 15 years, more than one million people in the US become ill from *Salmonella* each year. *Salmonella*, is responsible for an estimated \$365 million in direct medical costs each year in the US. In 2010, FoodNet sites, which include about 15% of the US population, reported nearly 20,000 illnesses, 4,200 hospitalisations and 68 deaths from nine foodborne infections. Of those, *Salmonella* caused more than 8,200 infections, nearly 2,300 hospitalisations and 29 deaths (54% of total hospitalisations and 43% of total FoodNet-reported deaths). CDC estimates that there are 29 infections for every lab-confirmed *Salmonella* infection.

## Top 10 causes of death

WHO has compiled a list of the leading causes of death based on data for 2008. In low income countries, **lower respiratory diseases (LRTI) and diarrhoeal diseases (DD) are ranked 1st and 2nd**, accounting for 11.3 and 8.2% respectively of all deaths. In middle income countries LRTI and DD are ranked 4th and 5th, accounting for 5.4 and 4.4% of deaths. In high income communities LRTI and DD are ranked 3rd and 5th, with death rates of 6.1 and 4.3%. Full details can be found at:

<http://www.who.int/mediacentre/factsheets/fs310/en/index4.html>

## Influenza and rhinovirus detected on aircraft air filters

A new PCR assay method was used to test for 18 respiratory viruses on 48 used air filter samples from commercial aircraft. Three samples tested positive for viruses, and three viruses were detected: rhinovirus, influenza A and influenza B. In some cases, **influenza and rhinovirus RNA were detected on filters more than 10 days after removal from the aircraft**. Information about viruses in aircraft could support public health measures to reduce disease transmission within aircraft and between cities. The report can be found at: DOI: 10.1111/j.1472-765X.2011.03107.x

## 2. Expert Opinion

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### Hygiene versus the Hygiene Hypothesis.....the unifying view

*Contributed by Graham Rook, Professor of Medical Microbiology, Centre for Clinical Microbiology, University College London*

There is a widespread view that the hygiene hypothesis is in conflict with the obvious need for constant improvements in hygiene. I argue here that there is no conflict at all.

The hygiene hypothesis can be traced back to the 1870's when Charles Harrison Blackley noticed that aristocrats and city-dwellers were more likely to get hayfever than were farmers. Similarly in 1966 Leibowitz and colleagues noted that the incidence of multiple sclerosis in Israel was positively related to levels of sanitation. However the phrase "hygiene hypothesis" was coined -- and hit the media -- in 1989 when Strachan noted that hayfever was less frequent in families with many siblings. This led to a focus on allergic disorders despite the

clear evidence that other chronic inflammatory disorders were increasing in parallel in western societies. More seriously, the findings were interpreted, particularly by the media, as suggesting that the common infections of childhood, and/or poor hygiene, were for some reason needed by the developing immune system.

The expression “Old Friends hypothesis” was coined to provide a “Darwinian” synthesis, and to focus attention on the fact that modern domestic hygiene is not the important issue. The chronic inflammatory disorders that started to increase in Europe in the mid-19th century (allergies, inflammatory bowel diseases, autoimmunity [Type 1 diabetes, multiple sclerosis]) all show evidence of defective immunoregulation, often at the level of regulatory T cells. The Old Friends hypothesis suggests that certain macro- and microorganisms that co-evolved with mammals were tasked by co-evolutionary processes with establishing the “normal” background levels of immunoregulation, a role that they perform in concert with the microbiota. These organisms, which include microbiota, helminths, hepatitis A virus acquired at birth and organisms in mud, all needed to be tolerated and for this reason took on the role of priming immunoregulation. By contrast, the common childhood infections are relatively recent arrivals on the scene, and far from protecting from chronic inflammatory disorders, clearly play a role in precipitating allergies (human rhinovirus and respiratory syncytial virus, for example). The protective organisms and microbiota are all immensely ancient Old Friends and we are in a state of “evolved dependence” on them.

The investigation of this phenomenon is proceeding most rapidly with helminths. In animal models helminth infections will prevent or treat arthritis, multiple sclerosis, Type 1 diabetes, colitis and allergies. There is epidemiological evidence that they do this in humans too, and clinical trial results are beginning to appear. But not even the most extreme adherent of the Old Friends hypothesis would claim that we are too clean for our own good. We cannot go back to the hunter-gatherer lifestyle. Relaxing domestic hygiene in a modern urban environment would not expose us to Old Friends.... only to new enemies like *E. coli* O104! We can however research the mechanisms that enable the Old Friends to enhance immunoregulation, and exploit these as drugs, vaccines or probiotics to combat the rising epidemic of chronic inflammatory disorders .... but we must do this against a background of *increasing* hygiene.

#### Fully referenced further reading:

Rook, G.A.W. (2010) 99th Dahlem conference on infection, inflammation and chronic inflammatory disorders: Darwinian medicine and the 'hygiene' or 'old friends' hypothesis. *Clin Exp Immunol* **160**, 70-79.

### **Are our dishwashers killing us?**

*Contributed by Dr S.F Bloomfield, Chairman, IFH*

In June 2011, the headlines “Dishwashers harbour killer bugs” and “my dishwasher is trying to kill me” appeared in the media. These were based on the new study that found *Exophiala spp* in around 30% of 189 domestic dishwashers sampled in multiple locations across the world (see news item above). Although the organism is an opportunist pathogen, no incidents of infection from dishwashers were reported. Headlines like these are very confusing to the public, who have to try and grasp what the real infection risks to themselves and their families are. In 2009, during the influenza pandemic, person-to-person transmission risks were very high, and health authorities were stressing the need for good respiratory hygiene to mitigate spread whilst vaccines were developed. In the last two months we have had to try and convey to the public, that although the risks of spread of *E.*

*coli* O104 are relatively less than for flu, and most cases have come from eating contaminated sprouts, reports of transmission from an infected person to another family member (or to people for whom the infected person prepared food) dictated a need to stress good hygiene for close contacts of those who are infected. Using the words “killer” and “deadly” in association with *Exophiala* as well as *E. coli* and flu is very misleading

Although the risks associated with *Exophiala* may be small, what the researchers (Gostincar et al. Evolution of Fungal Pathogens in Domestic Environments? Fungal Biology (2011), doi:10.1016/j.funbio.2011.03.004) quite rightly, say is “the potential hazard they represent should not be overlooked”. This is just another example of how changing lifestyles, new technology, our efforts to reduce water, power, biocide etc. usage, and so on can “throw up” infectious disease risks, which we could not have necessarily predicted.

Perhaps more worrying are the technological changes which are being introduced to reduce environmental effects of laundry processes without regard to the potential impact on disease risks. Overall the weight of evidence from our recent IFH report suggests that clothing and household linens are a risk factor for infection transmission in the home. IFH concludes that the “daily life risks” are probably somewhat less than those associated with hands, hand contact and food contact surfaces. The associated risks can also increase significantly under conditions where a family member has diarrhoea or vomiting, or a skin or wound infection, or where a family member has impaired immunity. The effectiveness of laundering could be a factor in defining the rate of spread of *S. aureus* (including MRSA and PVL-producing strains). Community-acquired MRSA (CA-MRSA) strains have become a major problem in the US where washing machines commonly take their water from the hot water tank, making it difficult to achieve the highest temperatures. In Europe, CA-MRSA infections are still relatively uncommon and there is still time to avoid the problem escalating to a similar scale.

Microbes are evolving all the time to adapt to new environments, potentially leading to new infectious disease risks. We must be prepared for the unexpected, and to assess the implications of new published data that might suggest hitherto unrecognised infection risks.

### 3. Highlights of Recent Publications

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#### **Inactivation of *Staphylococcus aureus* in household laundry processes.**

In a recent publication (Hyg Med 2011;36:8-12), Professor Martin Exner and colleagues report studies of the hygiene effectiveness of modern washing machine laundry processes in private households, on cotton samples artificially contaminated with *S. aureus*. The research arises from their concerns about the increasing number of persons in homecare, the early discharge of vulnerable patients from the hospital, and the frequency of re-infection with *S. aureus* in family members with Atopic Dermatitis. The investigations took place using a small industrial washing machine (5kg capacity). All wash processes consisted of a main washing cycle, while three of 21 tests consisted of an additional pre-wash and a main wash cycle. A bleach-containing detergent, a colour detergent and a detergent without bleach were used. Washing processes were tested at 30°, 40°, 60° or 80°C. Results showed that premium (bleach-based) detergent cycles at 40°, 60° and 80°C produced an 8 log reduction in contamination without the need for a pre-wash programme, whilst cycles at 30°C produced a 6 log reduction with pre-wash, but only a 3 log reduction without pre-wash. Wash processes at 30°C in combination with colour detergents or detergents with optical brightener produced a maximum reduction of 2.54 logs and led to cross contamination to sterile cotton samples included in the cycle. The colour detergent at 60°C produced a 4 log reduction, which increased to 6 log by inclusion of a pre-wash. The inclusion of the pre-wash however was associated with cross contamination to sterile cotton samples included in the cycle. Where

samples washed at 30°C with universal detergent were dried for 24 hours at room temperature there was little or no increase in log reduction.

### **Hygiene – new hopes and horizons**

In a review published in *Lancet Infectious Diseases* (2011;11:312-321), Curtis et al examine why, despite promotion of safe hygiene being the single most cost-effective means of preventing infectious disease, investment in hygiene is low both in the health and in the water and sanitation sectors. They review the evidence showing the benefit of improved hygiene, especially for improved handwashing and safe stool disposal in low income communities. To achieve this, they examine the various sources of data which can be used to evaluate the risks of infectious disease transmission associated with poor hygiene. They conclude that there are some important gaps in our knowledge e.g of the health impact of food hygiene in developing countries. The paper also reviews the growing understanding of what drives hygiene behaviour and how creative partnerships are providing fresh approaches to change behaviour and making safe hygiene practices matters of daily routine that are sustained by social norms on a mass scale. They conclude that full and active involvement of the health sector in getting safe hygiene to all homes, schools and institutions could bring major gains to public health.

### **Impact of disinfection on MRSA infection rates in a UK hospital**

Mahamat and co-workers previously described a hospital intervention showing declining MRSA rates because of a series of infection control interventions applied between February 2001 and January 2005. The decreased MRSA rates were significantly associated with use of alcohol-based hand disinfection, patient admission screening, environmental screening and environmental disinfection. The environmental decontamination regimen included terminal disinfection of the environment in isolation rooms and cohort areas by application of 1:1000 sodium hypochlorite in place of the standard detergent, with emphasis on the disinfection of common hand touch sites. New research reported in the *Journal of Hospital Infection* (2011;78:243-5) evaluates the impact of stopping this disinfection regimen. The new study showed that stopping the hypochlorite disinfection in February 2005 was associated with an increase in MRSA rates from 10 to 25% ( $P=0.03$ ) over a six-month period, with rates approaching pre-intervention levels. Other infection control measures remained unchanged. This work adds significantly to the meagre published evidence that environmental contamination is important in the transmission of MRSA.

### **Spread of MRSA between the community and hospitals in Asian countries**

MRSA is highly prevalent in hospitals in many Asian countries. Recent emergence of community-associated (CA) MRSA worldwide has added another serious concern. To understand the changing epidemiology of *S. aureus* infections in Asian countries, Song et al (*J Antimicrob Chemother* 2011;66:1061–9) describe a surveillance study conducted in 17 hospitals in 8 countries, namely, Korea (7), Taiwan (3), Hong Kong (1), Thailand (2), the Philippines (1), Vietnam (1), India (1) and Sri Lanka (1), from Sept 2004 to Aug 2006. In this study they evaluated the prevalence of methicillin resistance in *S. aureus* isolates in CA and healthcare-associated (HA) infections. MRSA accounted for 25.5% of CA *S. aureus* infections and 67.4% of HA infections. The authors concluded that MRSA infections in the community have been increasing in Asian countries. Data also suggest that various MRSA clones have spread between the community and hospitals as well as between countries.

### **The History of Hygiene and Health**

“Against disease – the impact of hygiene and cleanliness on health” is a historical and technical record on the role of sanitation, medical advances, cleanliness and hygiene on

public health and infection control. This concise, 117-page book is a valuable resource for professionals and students in the medical, sanitation, education and public health fields. The book details what is described as the "health revolution," the dawning of an era to end the struggle with devastating epidemics and when early death is no longer an accepted fate. The book has been compiled by the American Cleaning Institute (formerly The Soap and Detergent Association). The primary contributors are Allison Aiello, Elaine Larson and Richard Sedlack. The book is free to download from:

[http://www.againstdisease.org/documents/SDA\\_Against\\_Disease\\_final\\_cover\\_11808.pdf](http://www.againstdisease.org/documents/SDA_Against_Disease_final_cover_11808.pdf)

### **Household water treatment: evidence of effectiveness**

A new report, "Assessing the Implementation of Selected HWTS Methods in Emergency Settings" by Daniele Lantagne and Thomas Clasen of the London School of Hygiene and Tropical Medicine working with UNICEF in NYC and Oxfam in GB and Boston details implementation of HWTS in four emergency settings (Haiti, Indonesia, Kenya and Nepal) and addresses the following questions: 1. What role, if any, should household water treatment and safe storage (HWTS) play in emergency response? 2. What are the factors, if any, associated with feasible, and potentially sustained, implementation of HWTS in response to emergencies? To access the report visit the Network EzCollab site. It is found under "Library", "Monitoring and Evaluation".

### **Do mobile phones of patients, companions and visitors carry multidrug-resistant hospital pathogens?**

A cross-sectional study was conducted to determine bacterial colonisation on the mobile phones (MPs) of patients, visitors, and healthcare workers (HCWs). Higher rates of pathogens (39.6% vs. 20.6%, respectively) were found in MPs of patients (n=48) versus the HCWs (n=12). There were also more multidrug pathogens in the patients' MPs including MRSA and ESBL-producing *Escherichia coli*. The findings suggest that mobile phones of patients, patients' companions and visitors represent higher risk of nosocomial pathogen colonisation than those of HCWs. (*American Journal of Infection Control* 2011;36:379-81).

## **4. Conferences & Meetings**

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### **WSSCC Global Forum on Sanitation and Hygiene**

**The next WSSCC Global Forum on Sanitation and Hygiene takes place from 9 to 14 October in Mumbai, India.** Arranged by WSSCC for its members and for professionals from around the world, the event has several aims. Firstly, it will facilitate learning and sharing between WSSCC members, sector practitioners and policymakers. Secondly, it will energise professional communities through an exclusive platform dedicated to sanitation and hygiene. Thirdly, it will showcase knowledge, investment, communications, advocacy, partnership and networking approaches. Finally, it will strengthen national, regional, South-South and global dialogue and collaboration. The 2nd announcement, which contains more detailed programme and registration information, has now been published. In addition, a dedicated website will be available after 20 July 2011, where visitors can get additional information and register online to participate in the event. For more details go to:

[http://www.wsscc.org/resources/resource-news-archive/programme-call-registration-global-forum-sanitation-and-hygiene-9-14?rck=1728b4eeb43c5d55c365a5b69e21cca4&utm\\_medium=email&utm\\_campaign=WSSCC+July+2011+Newsletter&utm\\_content=WSSCC+July+2011+Newsletter+CID\\_5993f3196c3bef8376dca969c9fb2d65&utm\\_source=CreateSend+Newsletter&utm\\_term=Link](http://www.wsscc.org/resources/resource-news-archive/programme-call-registration-global-forum-sanitation-and-hygiene-9-14?rck=1728b4eeb43c5d55c365a5b69e21cca4&utm_medium=email&utm_campaign=WSSCC+July+2011+Newsletter&utm_content=WSSCC+July+2011+Newsletter+CID_5993f3196c3bef8376dca969c9fb2d65&utm_source=CreateSend+Newsletter&utm_term=Link)

## 2011 Water and Health: Where Science Meets Policy Conference

This year's Water and Health Conference features themes ranging from Freshwater Availability and Climate Change Adaptation to Human Right and Ethics. Other themes include Perspectives on WaSH for Small Communities and Peri-urban Areas, and SE US Water Challenges. For a list of conference themes and abstract submission, visit [whconference.unc.edu](http://whconference.unc.edu). The HWTS Network Annual Meeting has been scheduled for Monday, 3 October 2011. An all-day session is planned and themes for discussion are currently being developed. Last year's meeting brought together nearly 90 individuals from over 70 organisations.

## International Federation of Infection Control (IFIC) Annual Conference

The 11th annual conference of the International Federation of Infection Control (IFIC), a world-wide umbrella organisation of societies and individuals working in the field of infection prevention and control will take place in Venice, Italy from 12 to 15 October. This year, the conference will be held in association with the Società Italiana Multidisciplinare per la Prevenzione delle Infezioni nelle Organizzazioni Sanitarie (SIMPIOS). For more details go to: <http://www.ific2011.com/>

## 5. Library of Recent Publications

The following sections contain recent externally published articles, reviews, reports etc on the subject areas addressed by the IFH.

### Topic 1 – Disease incidence

Johnson AP. Methicillin-resistant *Staphylococcus aureus*: the European landscape. *Journal of Antimicrobial Chemotherapy*. 2011;66(Suppl 4):iv43–iv48.

Kassis C, Hachem R, Raad II, Perego CA, Dvorak T, Hulten KG, Frenzel E, Thomas G, Chemaly RF. Outbreak of community-acquired methicillin-resistant *Staphylococcus aureus* skin infections among healthcare workers in a cancer center. *American Journal of Infection Control*. 2011;39:112-117.

Kuijper EJ, Soonawala D, Vermont C, van Dissel JT. Household transmission of haemolytic uraemic syndrome associated with *Escherichia coli* O104:H4 in the Netherlands, May 2011. *Euro Surveill*. 2011;16(25):pii=19897. Available online: <http://www.eurosurveillance.org/ViewArticle.aspx?ArticleId=19897>.

Levy BT, Daly J. Community-acquired skin infections in the age of Methicillin-resistant organisms. Agency for healthcare research and quality - U.S. Department of Health and Human Services. AHRQ Publication No. 11-0007-1-EF October 2010.

Pedro-Botet ML, Stout JE, Yu VL. Legionnaires' disease contracted from patient homes: the coming of the third plague? *European Journal of Clinical Microbiology and Infectious Diseases*. 2002;21:699-705.

Rizzo C, Caporali MG, Rota MC. Pandemic influenza and pneumonia due to *Legionella pneumophila*: a frequently underestimated coinfection. *Clinical Infectious Diseases* 2010;51(1):115.

Song JH, Hsueh PR, Chung DR, Ko KS, Kang CI, Peck KR, Yeom J-S, Kim S-W, Chang H-H, Kim Y-S, Jung S-I, Son JS, So TM, Lalitha MK, Yang Y, Huang S-G, Hui Wang, Lu Q, Carlos CC, Perera JA, Chiu C-H, Liu J-W, Chongthaleong A, Thamlikitkul V, Van PH. Spread of methicillin-resistant *Staphylococcus aureus* between the community and the

hospitals in Asian countries: an ANSORP study. *Journal of Antimicrobial Chemotherapy*. 2011;66:1061-1069.

## Topic 2 – Infection potential

Carducci A, Verani M, Lombardi R, Casini B, Privitera G. Environmental survey to assess viral contamination of air and surfaces in hospital settings. *Journal of Hospital Infection*. 2011;77:242-247.

Jimenez M, Martinez CI, Chaidez C. Disinfection alternatives for contact surfaces and toys at child care centers. *International Journal of Environmental Health Research*. 2010;20(6):387-394.

Otter JA, Yezli S, French GL. The role played by contaminated surfaces in the transmission of nosocomial pathogens. *Infection Control and Hospital Epidemiology* 2011;32:687-699.

Roberts MC, Soge OO, No D, Helgeson SE, Meschke JS. Characterization of Methicillin-resistant *Staphylococcus aureus* isolated from public surfaces on a university campus, student homes and local community. *Journal of Applied Microbiology*. 2011;110:1531-1537.

Ryan KA, Ifantides C, Bucciarelli C, Saliba H, Tuli S, Black E, Thompson LA. Are gymnasium equipment surfaces a source of staphylococcal infections in the community? *American Journal of Infection Control*. 2011;39:148-50.

Sait Tekerekoğlu M, Duman Y, Serindağ A, Semiha Cuğlan S, MD, Kaysadu H, Tunc E, Yakupogullari Y. Do mobile phones of patients, companions and visitors carry multidrug-resistant hospital pathogens? *American Journal of Infection Control*. 2011;39:379-81.

Tang JYH, Nishibuchi M, Nakaguchi Y, Ghazali FM, Saleha AA, Son R. Transfer of *Campylobacter jejuni* from raw to cooked chicken via wood and plastic cutting boards. *Letters in Applied Microbiology* 52, 581-588.

Weber DJ, Rutala WA. The role of the environment in transmission of *Clostridium difficile* infection in healthcare facilities. *Infection Control and Hospital Epidemiology* 2011;32:207-9

## Topic 3 – Hygiene procedures

Bisbiroulas P, Psylou M, Iliopoulou I, Diakogiannis I, Berberi A, Mastronicolis SK. Adaptational changes in cellular phospholipids and fatty acid composition of the food pathogen *Listeria monocytogenes* as a stress response to disinfectant sanitizer benzalkonium chloride. *Letters in Applied Microbiology*. Article first published online: 19 Jan 2011. DOI: 10.1111/j.1472-765X.2011.02995.x

Blaney DD, Daly ER, Kirkland KB, Tongren JE, Tassler Kelso P, Talbot EA. Use of alcohol-based hand sanitizers as a risk factor for norovirus outbreaks in long-term care facilities in northern New England: December 2006 to March 2007. *American Journal of Infection Control*. 2011;39:296-301.

Cheeseman KE, Denyer SP, Hosein IK, Williams GJ, Maillard J-Y. Evaluation of the bactericidal efficacy of three different alcohol hand rubs against clinical isolates of *Staphylococcus aureus* using an *ex vivo* carrier test. *Journal of Hospital Infection*. 2011;77:21-24.

Cheng VCC, Wong LMW, Tai JWM, Chan JFW, To KKW, Li IWS, Hung IFN, Chan KH, Ho PL, Yuen KY. Prevention of nosocomial transmission of norovirus by strategic infection control measures. *Infection Control and Hospital Epidemiology*. 2011;32:229-237.

Edmonds S, Macinga D, Mays-Suko P. Comparative efficacy of commercially available alcohol-based handrubs and WHO-recommended handrubs: which is more critical, alcohol content or product formulation? *American Journal of Infection Control*. 2011;39(5):e19-e20.

Fraise A. Currently available sporicides for use in healthcare, and their limitations. *Journal of Hospital Infection*. 2011;77:210-212.

Hall AJ, Vinjé J, Lopman B, Park GW, Yen C, Gregoricus N, Parashar U. Updated norovirus outbreak management and disease prevention guidelines. *Morbidity and Mortality Weekly Report*. March 4, 2011 / Vol. 60 / No. 3.

Hooker EA, Allen SD, Gray LD. Terminal cleaning of hospital bed mattresses and bed decks does not eliminate bacterial contamination. *American Journal of Infection Control*. 2011;39(5):E23.

Hulkower RL, Casanova LM, Rutala WA, Weber DJ, Sobsey MD. Inactivation of surrogate coronaviruses on hard surfaces by healthcare germicides. *American Journal of Infection Control*. 2011;39:401-7.

Humphreys PN. Testing standards for sporicides. *Journal of Hospital Infection*. 2011;77:193-198.

Jimenez M, Martinez CI, Chaidez C. Disinfection alternatives for contact surfaces and toys at child care centers. *International Journal of Environmental Health Research*. 2010;20(6):387-394.

Larson CJ, Leder L, Freeberg A, Slattery W. The effect of proper cloth saturation on disinfection of high touch surfaces. *American Journal of Infection Control*, 2011;39(5):E23.

Linke S, Gemein S, Koch S, Gebel J, Exner M. Orientating investigation of the inactivation of *Staphylococcus aureus* in the laundry process. *Hygiene & Medizin* 2011;36:1/2.

Low A. Regulation of sporicides under the European Biocidal Products Directive. *Journal of Hospital Infection*. 2011;77:189-192.

Macinga DR, Edmonds SL, Duley C, Campbell E. *In vivo* efficacy of novel alcohol-based hand rubs utilizing the standard test method ASTM E 2755 to represent in-use conditions. *American Journal of Infection Control*. Vol. 39 No. 5.

Mahamat A, Brooker K, Daures JP, Gould IM. Impact of hypochlorite disinfection on methicillin-resistant *Staphylococcus aureus* rate. *Journal of Hospital Infection*. 2011;78(3):243-245.

Maillard J-Y. Innate resistance to sporicides and potential failure to decontaminate. *Journal of Hospital Infection*. 2011;77:204-209.

McDonnell G, Burke P. Disinfection: is it time to reconsider Spaulding? *Journal of Hospital Infection*. 2011;78:163-170.

Miura T, Okunishi J, Nagahara H, Seto M, Ikeda M. *In Vivo* Evaluations of a Novel Alcohol-Based Hand Rub, MR09B10.

Omidbakhsh N. Theoretical and experimental aspects of microbicidal activities of hard surface disinfectants: are their label claims based on testing under field conditions? *Journal of AOAC International*. 2010;93(6):1944-1951.

Park GW, Sobsey MD. Simultaneous comparison of murine norovirus, feline calicivirus, coliphage MS2, and GII.4 norovirus to evaluate the efficacy of sodium hypochlorite against human norovirus on a fecally soiled stainless steel surface. *Foodborne Pathogens and Disease*. April 2, 2011. [Epub ahead of print].

Park GW, Barclay L, Macinga D, Charbonneau D, Pettigrew CA, Vinjé J. Comparative efficacy of seven hand sanitizers against murine norovirus, feline calicivirus, and GII.4 norovirus. *Journal of Food Protection*. 2010;73(12):2232-2238.

Siani H, Cooper C, Maillard JY. Efficacy of "sporicidal" wipes against *Clostridium difficile*. *American Journal of Infection Control*. 2011;39(3):212-218.

Smith DL, Gillanders S, Holah JT, Gush C. Assessing the efficacy of different microfibre cloths at removing surface micro-organisms associated with healthcare-associated infections. *Journal of Hospital Infection*. 2011;78:182-186.

Suiter A, Karanja P, Newman J, Klein D. *In Vitro* Skin Comparison of Alcohol and Non-Alcohol Hand Sanitizers. *American Journal of Infection Control*, June 2011.

Ungurs M, Wand M, Vasey M, O'Brien S, Dixon D, Walker J, Sutton JM. The effectiveness of sodium dichloroisocyanurate treatments against *Clostridium difficile* spores contaminating stainless steel. *American Journal of Infection Control* 2011;39:199-205.

Werner HP. Evaluation of disinfectants - the past begets the future.

Yang H, Kendall PA, Medeiros L, Sofos JN. Inactivation of *Listeria monocytogenes*, *Escherichia coli* O157:H7, and *Salmonella Typhimurium* with compounds available in households. *Journal of Food Protection*. 2009;72(6):1201-1208.

## Topic 4 – Intervention studies

Datta R, Platt R, Yokoe DS, Huang SS. Environmental Cleaning Intervention and Risk of Acquiring Multidrug-Resistant Organisms From Prior Room Occupants. *Archives of Internal Medicine*. 2011;171(6):491-494.

Fischer Walker CL, Friberg IK, Binkin N, Young M, Walker N, Fontaine O, Weissman E, Gupta A, Black RE. Scaling up diarrhea prevention and treatment interventions: a lives saved tool analysis. *PLoS Med* 8(3): e1000428. doi: 10.1371/journal.pmed.1000428.

Whaley L, Webster J. The effectiveness and sustainability of two demand-driven sanitation and hygiene approaches in Zimbabwe. *Journal of Water, Sanitation and Hygiene for Development*. | 01.1 | 2011.

## Topic 5 – Behaviour change

No new entries

## Topic 6 – Microbial resistance

No new entries

## Topic 7 – Hygiene hypothesis

Jartti T, Korppi, M. Rhinovirus-induced bronchiolitis and asthma development. *Pediatric Allergy and Immunology*. 2011;22:350-355

Mpairwe H, Webb EL, Muhangi L, Ndibazza J, Akishule D, Nampijja M, Ngom-wegi S, Tumusime J, Jones FM, Fitzsimmons C, Dunne DW, Muwanga M, Rodrigues LC, Elliott AM. Anthelmintic treatment during pregnancy is associated with increased risk of infantile eczema: randomised-controlled trial results. *Pediatric Allergy and Immunology*. 2011;22:305-312.

Sandin A, Björkstén B, Böttcher MF, Englund E, Jenmalm MC, Bråb ck L. High salivary secretory IgA antibody levels are associated with less late-onset wheezing in IgE-sensitized infants. *Pediatric Allergy and Immunology* 2011. Doi no: 10.1111/j.1399-3038.2010.01106.x

Tischer C, Gehring U, Chen C-M, Kerkhof M, Koppelman G, Sausenthaler S, Herbarth O, Schaaf B, Lehmann I, Krämer U, Berdel U, von Berg A, Bauer CP, Koletzko S, Wichmann H-E, Brunekreef B, Heinrich J. Respiratory health in children, and indoor exposure to (1,3)- $\beta$ -d-glucan, EPS mould components and endotoxin. *European Respiratory Journal*. 2011;37(5):1050-1059.

Yeung W-CG, Rawlinson WD, Craig ME. Enterovirus infection and type 1 diabetes mellitus: systematic review and meta-analysis of observational molecular studies. *British Medical Journal*. 2011;342:d35 doi:10.1136/bmj.d35.

## Topic 8 – Safety

Peck B, Workeneh B, Kadikoy H, Patel SJ, Abdellatif A. Spectrum of sodium hypochlorite toxicity in man—also a concern for nephrologists. *Nephrology, Dialysis, Transplantation Plus*, 2011. doi: 10.1093/ndtplus/sfr053.

Sedlak DL, von Gunten U. The Chlorine Dilemma. *Science*. 2011;331(6013):42-43.



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