

**Benefits of going natural:**

Natural seasonings like rosemary, turmeric, cloves, cinnamon, ginger, garlic and crushed red pepper have been shown to boost calorie burning and improve satiety. PG 35



# Health

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## Scientists now turn to dogs to sniff out high cancer cases

A Buckinghamshire scientist whose dog apparently "sniffed out" her breast cancer is leading research to see if a breath test for its detection is possible.

Medical Detection Dogs chief executive Dr Claire Guest was training dogs to detect other cancers, when she said one of them "started to warn her".

She was subsequently found to have an early stage breast tumour.

Now in remission, Dr Guest is training dogs to recognise the cancer from a breath sample, in the hope an electronic nose can be developed.

Medical Detection Dogs is a charity that works with researchers, NHS Trusts and universities to train specialist dogs to detect the odour of human disease.

The charity was started in 2004 after a letter from Dr John Church to medical journal *The Lancet* claimed dogs could detect bladder cancer.

Dr Guest said stories of dogs finding their owners' cancer had been reported for a while. "We started to wonder that if dogs were finding it by chance then perhaps we could actually train dogs to do this reliably," said Dr Guest.

**'Specialist bi-sensor'**

The charity started to work with dogs, and they can now pick out cancer samples from control samples, but research has been mainly limited to bladder and prostate cancer.

Dogs are now being taught to detect breast cancer from a breath tube, after an animal Dr Guest was training to detect other cancers started to warn her.

"I was a bit bemused as to what she was doing, but I was subsequently found to have a very early stage breast tumour," she said.

- BBC



**Medical care**



From staff shortage to inadequate facilities, health centres have turned into breeding ground for new infections, exposing patients to new challenges

By TRUDY MBALUKU

**W**hen a health facility lacks basic sanitation items like soap, running water and sanitisers, patients are more likely to pick new infections.

A study by the Centre for Disease Control (CDC) and Prevention reveals that six out of seven medical personnel do not wash their hands properly after touching a patient. This increases the likelihood of a patient acquiring a new disease during a visit to the doctor.

"Cases of patients being discharged from hospitals only

# Hospitals sicker than patients

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## Plastics linked to rising diabetes cases

By ALISON KAHUMBURA

Overall, half of the developed world is now overweight and one in six is obese -- about double the numbers of 30 years ago. Approximately 250 million people suffer from diabetes worldwide.

Sure, our lifestyle has changed over the decades in parallel yet scientists have noticed the same fattening trend in newborns, lab rodents, pets and wildlife that live in close proximity to humans. Have babies or mice really changed how much they eat or exercise? Experts highlight this as further evidence that more than just caloric intake is driving the current epidemics of obesity and Type 2 diabetes.

The modern lifestyle of super-sized french fries and couch potatoes often takes the blame for the rising rates of obesity and diabetes in the US -- perhaps rightly so. But growing evidence suggests another factor in the dual epidemics: modern chemicals. Among the most scrutinised of these so-called endocrine disruptors is bisphenol A, better known as BPA. The chemical is a common ingredient in plastics and food-can linings.

### What is BPA?

BPA stands for bisphenol A. BPA is an industrial chemical that has been used to make certain plastics and resins since the 1960s. In developed countries, exposure to bisphenol A (BPA) is significant and continuous. It is found in plastics such as water bottles, metal can linings, dental sealants, toys, food cans, baby formula cans, bottle tops and water supply lines. Some certain thermal paper products, such as cash register receipts, may contain BPA and can leach out of these products, especially when exposed to heat or acidity (Welshons et al. 2006).

Exposure to even minuscule amounts of synthesized substances -- used in everything from pesticides to water bottles -- can scramble hormone signals, scientists say. This interference can trick fat cells into taking in more fat or mislead the pancreas into secreting excess insulin, a hormone that regulates the breakdown of fat and carbohydrates.

"When you eat something with BPA, it's like telling your organs that you are eating more than you are really eating," says Angel Nadal, a BPA expert at the Miguel Hernandez University in Spain. Nadal's latest research, published last week in *PLoS ONE*, finds that the chemical triggers the release of almost double the insulin actually needed to break down food. High insulin levels can desensitize the body to the hormone over time, which in some people may then lead to weight gain and Type 2 diabetes.

Nadal's team found that even the tiniest amounts of BPA -- a quarter of a billionth of a gram -- did the trick. The effect disappeared when the researchers stripped the specific receptors from the study mice, evidence that they had in fact pinpointed BPA's chemical mechanism, which had previously eluded scientists.

# Hospitals breeding ground for new infections, study reveals



**Continued from Page 21** to return after two weeks with a new infection may be attributed to such patients contracting the infections in the hospital environment," says Dr Ndegwa the Infection Control Programme Manager, CDC.

Washing hands with soap, clean water or thoroughly rubbing hands with a sanitiser which contains 60 percent alcohol, prevents disease causing germs from spreading from patient to patient or healthcare provider to patients and vice versa.

"It is embarrassing that such a simple but life saving practice is not popular. He attributes cases of patients being infected in hospital to inadequate items such as antimicrobial soaps, clean running water and hand sanitisers, says Dr Ndegwa.

Further, according to the study titled: The deadly combination of antibiotic resistance and lapses in infection control in resource poor setting, only one in 50 healthcare workers wash their hands after blood fluid exposure compromising the health of the patient.

To comply with basic infection control measures a health facility should have adequate soap and running water or disinfectant, sharp boxes for disposing off used syringes and surgical knives and latex gloves in the facility.

This is because health facilities are concentrated with people with different infections most of them infectious. Infections acquired in health facilities often complicated delivery of health services.

However the CDC study shows that only three in 25 hospitals have all infection control items -- infection control compliance means they have soap and running water or disinfectant, sharp boxes for disposing off used syringes, surgical

Recent report shows only three in 25 hospitals have all infection control items.

knives and gloves.

According to Service Provision Assessment (SPA) 2010, barely four in 10 of all the health facilities in the country have all the infection control items. All health facilities include hospitals, dispensaries, clinics, health centres and stand alone VCTs.

Soap and running water one of the sanitation must haves, are the least items likely to be available in a health facility, states the 2010 SPA.

Facilities in Central, the report says are less hazardous because they have all infection control items. For those in Nairobi, only two in five have soap, running water throughout the year. Nyanza and North Eastern tie with out of every five health facilities, only one would have all basic sanitation items.

Kariobangi North Health Centre is a typical example of what the report seeks to highlight. In the patients' latrine, the taps have now turned brown an indication that water is rare. Residents buy water from vendors. David Juma, a subordinate staff at the facility tells us the health centre is not spared, they spend a lot of cash to purchase water which is never enough.

Shockingly, the service provision survey shows maternity wards where cleanliness

should be to the optimum are not any better as only a quarter of them in the country have all sanitation items.

Grace Asimba, a mother of one who had her first child at KNH through Caesarian Section says: "If you are lucky you have to time when water is flowing in the bath rooms to take a bath, at least once a day. The toilets are mostly blocked all day. You want to run away to have one hour shower at home."

To make matters worse, the practice of hand washing is poorest among health-care providers.

However, research shows that health-care providers are the biggest culprits in foregoing the practice.

The CDC, show regrettable and embarrassing results. Out of 50 health workers, seven would wash their hands after touching a patient attributing it to unavailability of water in the health facilities.

Medical experts say this is a sure way of transferring disease causing pathogens from patients to patient and from the patient to the doctors who later pass these pathogens to other environments. More alarming after blood fluid exposure, the CDC surveillance shows that only one in 50 health workers is likely to observe hand hygiene.

## How early treatment freed patients from HIV virus

**The drugs keep the virus only in check, they cannot eradicate it from its hiding places inside the immune system.**

Rapid treatment after HIV infection may be enough to "functionally cure" about a 10th of those diagnosed early, say researchers in France. They have been analysing 14 people who stopped therapy, but have since shown no signs of the virus resurging. It follows reports of a baby girl being effectively cured after very early treatment in

the US. However, most people infected with HIV do not find out until the virus has fully infiltrated the body. The group of patients, known as the Visconti cohort, all started treatment within 10 weeks of being infected. The patients were caught early as they turned up in hospital with other conditions and HIV

was found in their blood. They stuck to a course of antiretroviral drugs for three years, on average, but then stopped. The drugs keep the virus only in check, they cannot eradicate it from its hiding places inside the immune system. Normally, when the drugs stop, the virus bounces back. This has not happened in the

Visconti patients. Some have been able to control HIV levels for a decade. Dr Asier Saez-Cirion, from the Institute Pasteur in Paris, said: "Most individuals who follow the same treatment will not control the infection, but there are a few of them who will." He said 5-15 percent of patients may be function-

ally cured, meaning they no longer needed drugs, by attacking the virus soon after infection. "They still have HIV, it is not eradication of HIV, it is a kind of remission of the infection." Their latest study, in the journal *PLoS Pathogens*, analysed what happened to the immune system of the patients. -BBC