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Nobel winner dies before prize is announced

Geoff Watts LONDON

This year's Nobel prize in physiology or medicine has been won by three researchers whose work offers insights into the activation and regulation of the immune system. Announcing its decision in Stockholm on 3 October, the awards committee said that the work had opened the way to developing new methods for preventing and treating disease.

The three winners are Bruce Beutler, a professor of genetics and immunology at the Scripps Research Institute in La Jolla, California; Jules Hoffmann, who worked at the University of Strasbourg until 2009; and Ralph Steinman, director of Rockefeller University's Center for Immunology and Immune Diseases in New York.

Unbeknown to the Nobel Assembly, Dr Steinman had died of pancreatic cancer on 30 September. In a statement issued on 3 October the assembly said that notwithstanding its own statutes, which disqualify posthumous awards, Dr Steinman would keep the prize.

The committee said that the scientists' discoveries could lead to better vaccines and the possibility of stimulating the immune system to attack tumours. "These discoveries," the committee added, "also help us understand why the immune system can attack our own tissues, thus providing clues for novel treatments of inflammatory diseases."

Professor Hoffmann and Professor Beutler have received their half of the prize for

identifying the sensors of immunity. Professor Hoffmann made his discovery in 1996 in experiments on fruit flies. When he and his co-workers infected them with microbes, those flies with a mutation in a gene called Toll were unable to mount an effective defence and died. Professor Hoffmann concluded that the product of the Toll gene was involved in sensing pathogenic microbes and that unless it was activated the fly's defence system would not function. But while fruit flies are useful models, their workings aren't always identical to those of humans.

It was Professor Beutler who provided reassurance. In 1998 he was searching for a cell receptor that could bind the bacterial product

(lipopolysaccharide) responsible for septic shock. His group discovered that mice that were resistant to this product had a mutation in a gene similar to the fruit fly's Toll gene. It soon became clear that mammals and fruit flies use similar mechanisms to activate their innate immune systems.

"This is an excellent Nobel prize," said Mark Walport, director of the health research charity the Wellcome Trust in London. "Our understanding of the activation of the immune system has been revolutionised by the work on innate immunity by Jules Hoffmann and Bruce Beutler."

Dr Steinman received his half of the prize for the 1973 discovery of the role of dendritic cells.

Cite this as: *BMJ* 2011;343:d6389



PHOTOS: HO NEWREUTERS

Nobel prize winners (left to right): Bruce Beutler, Jules Hoffmann, and Ralph Steinman

Doctors who treated protesters in Bahrain are given 15 year sentences

Sophie Arie LONDON

A military judge in Bahrain has sentenced 20 doctors and nurses who treated injured antigovernment protesters to up to 15 years in jail.

In a seven minute session of a security court set up under a state of emergency imposed earlier this year the military judge gave 15 year sentences to 13 of the 20 and five and 10 year sentences to the others. The session was attended by lawyers for the accused and some representatives of foreign

governments and human rights groups. The doctors and nurses, who had been released on bail after being detained in previous months, had been ordered to present themselves to police or face arrest, but at the time the *BMJ* went to press they had appealed the sentences.

So far all appeals against sentences handed down to activists and others seen as enemies of the state have failed. Life sentences given to eight prominent political

leaders were upheld this week despite an appeal.

Most of the doctors and nurses worked at the Salmaniya medical complex, which became a hotspot during protests in which the island's Shia majority called for more rights from the Sunni ruling family.

The authorities say that the hospital became a "coordination centre" for the opposition and that the doctors played a key role in inciting hatred of the regime, distributing false news, and

refusing to treat Sunni patients.

All have denied the charges, saying that they have been targeted for treating injured protesters. Some have reported being tortured into signing confessions while in jail. One of those sentenced to 15 years, Dr Nada Daif, has told journalists that she did not work at Salmaniya and that her only "crime" was to help set up a makeshift medical centre when the authorities crushed street protests.

Cite this as: *BMJ* 2011;343:d6336

IN BRIEF

Cases of *E coli* linked to unwashed vegetables: England, Wales, and Scotland had 250 cases of *Escherichia coli* O157 phage type 8 between December 2010 and July 2011, public health agencies have said. Most cases were mild, but 74 people needed hospital treatment. One person died. At the time of the outbreak the agencies didn't know the cause but now suspect that the infection was passed on through loose leeks and potatoes that weren't thoroughly washed.



Dutch adults think that health insurance should be more medically equitable: More than half of Dutch adults (55%) believe that smokers and heavy drinkers should pay much more for their medical insurance, while poor or elderly people and people at higher genetic risks should not, show the results of a survey of 3400 people by the Dutch Central Office of Statistics (www.cbs.nl).

Spanish law on selling tobacco is relaxed: Despite strong opposition from the National Committee to Prevent Smoking, the Spanish cabinet has agreed to modify tobacco legislation introduced in January 2011. After pressure from El Corte Inglés, Spain's largest chain of department stores, from 21 September shops with long opening hours have been allowed to sell tobacco products. Previously only petrol stations, tobacconists, kiosks, bars, and restaurants could sell tobacco.

Northern Ireland proposes a lower drink driving limit: Northern Ireland is proposing new legislation to tackle drink driving, including lowering blood alcohol limits to 50 mg/100 ml (10.9 mmol/L) for most drivers and 20 mg/100 ml for young or inexperienced drivers and for people who drive for a living. At present the drink drive limit is 80 mg/100 ml. It also wants to introduce a graduated penalty regime, random breath testing, and rehabilitation schemes for offenders.

MSF suspends work in Yemen: The charity Médecins Sans Frontières suspended its work in Al Talh and Razeh hospitals in Yemen's Saada governorate on 28 September after local authorities banned all independent assessments of medical needs and international staff supervising activities.

Cite this as: *BMJ* 2011;343:d6332

Mid Staffs chief considered suicide after report came out

Clare Dyer *BMJ*

The former chief executive of Mid Staffordshire NHS Foundation Trust was plunged into a "living nightmare" and considered suicide after a Healthcare Commission inspection found "appalling" standards of care at Stafford Hospital, he told the public inquiry into the trust's failings this week in a written statement.

Martin Yeates, who broke a two and a half year silence to tell his story, said that his family, career, and health were broken and that he became a "political football" after the commission's report was published in March 2009 (*BMJ* 2009;338:b1141).

Mr Yeates, who said he was unable to attend the inquiry in person "for medical reasons," gave his "honest, open, and candid" account of events in a 51 page witness statement. When he took on the job, his first chief executive post, in September 2005, the trust had a £3m (€3.5m; \$4.6m) deficit and lacked governance, he said, but it was "turning the corner" and was well on the way to recruiting the first 100 additional nurses

it needed by the time the commission started its investigation in 2008.

He told the inquiry, chaired by Robert Francis QC, "It was, and remains, my opinion that nothing good came out of the commission's investigation, in terms of the hospital's future and the improvements in services taking place at the time. The investigation itself stifled much of the progress that was being made and was a distraction to all the hard work that had been done over the previous two years."

The commission decided to investigate after receiving copies of mortality alerts sent to Mr Yeates from the Dr Foster Unit at Imperial College London. These showed that the trust had significantly high mortality rates for jejunum operations; aortic, peripheral, and visceral artery aneurysms; peritonitis and intestinal abscess; and other circulatory disease.

The commission's investigations also showed significantly high mortality rates for diabetes, epilepsy or convulsion, and repair of abdominal aortic aneurysm. The commission also identified

Public health doctors call for House of Lords to throw out health bill

Zosia Kmiotowicz *LONDON*

More than 400 public health doctors, academics, and specialists are calling on members of the House of Lords to reject the government's Health and Social Care Bill when it is presented for its second reading there on 11 October.

The letter, published in the *Daily Telegraph* on 4 October, claims that "the Bill will do irreparable harm to the NHS, individual patients, and to society as a whole" and "will not deliver efficiency, quality, fairness or choice" (<http://tgr.ph/rhjQW>).

For the bill to be rejected, a member of the House of Lords must first table a motion calling for rejection, but this has not yet happened.

The letter criticises in particular the "significantly heightened degree of commercialisation and marketisation" that the bill will introduce to the NHS. The letter says that this will fragment care of patients, reduce patients' safety, erode medical ethics and trust within the health system, widen health inequalities, waste money, and reduce the NHS's ability to respond to outbreaks of disease and other public health emergencies.

The signatories include more than 40 directors of public health and over 100 leading public health academics, such as Michael Marmot,

director of the International Institute of Society and Health at University College London, and Martin McKee, professor of European public health at the London School of Hygiene and Tropical Medicine.

They say, "The government claims that the reforms have the backing of the health professions. They do not. Neither do they have the general support of the public."

The Liberal peer Shirley Williams discusses the health bill at <http://podcasts.bmj.com/bmj/2011/09/30/10-lords-revolting/>.

See **FEATURE**, p 724

Cite this as: *BMJ* 2011;343:d6391



Martin McKee and Michael Marmot: the bill will "weaken the country's public health capabilities"



Chief executive Martin Yeates: "Nothing good came out of the commission's investigation"

an above average mortality rate for all emergency admissions, with an increasing trend from 2005 to early 2007.

The commission found that the hospital's accident and emergency department had a singlehanded emergency consultant, not enough middle grade doctors, and too few nurses and receptionists undertaking triage.

Mr Yeates, who resigned in May 2009, said that he did not appreciate the importance and significance of the mortality alert letters, which

"just didn't ring any alarm bells," although "they clearly should have."

He said the realisation in early 2006 that there was an underlying deficit of £10m was "pretty stunning." It was "made crystal clear" by the strategic health authority that the trust had to break even by the end of the financial year. A statement to the inquiry by the NHS chief executive, David Nicholson, that more time could have been given was "completely disingenuous," he said.

Cite this as: BMJ 2011;343:d6409

Judge rules that woman in minimally aware state should not be able to die

Clare Dyer BMJ

A severely brain damaged woman in a minimally aware state should not have artificial feeding and hydration withdrawn to allow her to die, a high court judge has ruled.

Mr Justice Baker, at the Court of Protection in London, decided that the 52 year old woman had "some positive experiences" that could be extended and rejected arguments by her family that feeding should be discontinued.

In a series of cases dating back to 1993, the court has allowed artificial feeding, which constitutes a form of treatment, to be withdrawn from patients in a persistent vegetative state (PVS). The latest case, which the judge described as "unique," is thought to be the first to reach the court in which the patient is minimally conscious, a state just above PVS.

The woman, named only as M in court, was left badly brain damaged after an attack of viral encephalitis in 2003 and has lived in a nursing home in the north of England since 2008. Her partner S and her sister B took the case to court, claiming that she had indicated in the past that she would not wish to live "a life dependent on others, even if she retained her mental faculties."

The application was opposed by the official solicitor, who represents people who lack mental capacity in court, and by the primary care trust that commissions her care. Caroline Harry Thomas QC, for the official solicitor, said M showed "a range of behaviours and responses to external stimuli," was "clinically stable," and had a life expectancy of 10 years.

Bridget Dolan, for the primary care trust, told the judge the trust was keen to commission a package of care for her "to maximise the quality of life that she experiences."

Mr Justice Baker said: "The factor which does carry substantial weight, in my judgment, is the preservation of life. Although not an absolute rule, the law regards the preservation of life as a fundamental principle."

He added: "I realise that this decision will be a severe disappointment to members of M's family, who have endured years of anguish during which they have demonstrated their deep devotion to M."

Roger Goss, co-director of Patient Concern, said every adult should ideally draw up a lasting power of attorney governing health and welfare.

Cite this as: BMJ 2011;343:d6300

GMC clears Southall of serious professional misconduct

Clare Dyer BMJ

The child protection paediatrician David Southall has been cleared of serious professional misconduct by the General Medical Council over actions he took in two cases between 13 and 22 years ago.

A GMC fitness to practise panel found him not guilty of serious misconduct in keeping special case files separate from hospital medical records on two children without sufficient signposting, and of sending a copy of a letter detailing child protection concerns about one of the children to the paediatrics department at the child's local hospital without addressing it to a specific paediatrician.

Several paediatricians called on behalf of Dr Southall gave evidence that both were minor errors. Dr Southall sent the letter about Child H in 1990 to the referring paediatrician, Robert Dinwiddie, a consultant respiratory paediatrician at Great Ormond Street Hospital, questioning whether the child's parents were acting in his best interests.

Dr Southall told the panel he had sent a copy of that letter to an unnamed paediatrician at the Royal Gwent Hospital, without asking the parents' permission, because he wanted to alert a specialist there about the child's tracheostomy and the child protection concerns in case he was taken to hospital in an emergency.

Dr Dinwiddie told the panel that if he had been in Dr Southall's position he would have tried to identify an individual but, the panel noted, "he did not criticise your actions in relation to the letter on any other point."

Another paediatrician, Leonard Williams, told the panel that it was "useful to name somebody" but that he routinely sent letters containing sensitive information to unnamed clinicians.

"The panel accepts that the breach of confidentiality was justified by your child protection concerns about Child H and your professional duty in relation to his safety," said the panel's chairwoman, Jacqueline Mitton.

She said the panel accepted that it was reasonable for Dr Southall to create special case files for Child D and Child H, who were seen in tertiary referral units, first at the Royal Brompton Hospital in London and then at North Staffordshire Hospital in Stoke, and were having their main care elsewhere.

The panel accepted there was some justification for moving Child H's special case files to Stoke when Dr Southall relocated there in 1992.

Cite this as: BMJ 2011;343:d6314

Premature death rate in US is almost double that in France

Janice Hopkins Tanne NEW YORK

The number of avoidable deaths among people aged less than 75 years is higher in the United States than in 15 other industrialised countries, says a new study, and progress in preventing such deaths is slower in the US.

The United Kingdom comes second highest in the list, with Denmark third, while France comes at the bottom, with the best record on premature mortality.

Avoidable deaths, also called amenable mortality or premature deaths, are deaths from a number of conditions that would not have occurred had healthcare been timely and effective. They account for about a quarter of deaths in men and women younger than 75. The rate of avoidable deaths is often considered a measure of the performance of health systems.

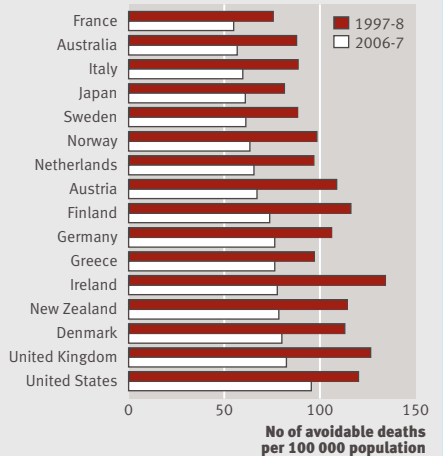
The study, published in *Health Policy* (doi:10.1016/j.healthpol.2011.08.002),

compared progress in preventing premature deaths from 1997-8 to 2006-7 in the 16 countries. In 2006-7 France had the lowest rate of preventable deaths (55 per 100 000 population), followed by Australia (57) and Italy (60). Had the US done as well as these three countries, about 84 300 deaths would have been prevented in 2006-7. Had the number in the US been reduced to the median in the 15 other countries, 59 000 deaths would have been prevented.

The countries with the highest rates were the US (96), the United Kingdom (83), and Denmark (80).

In the study period, 10 of the 16 countries reduced the number of preventable deaths by 30% or more, but the US and Greece reduced such deaths by just over 20%. "As a consequence, in 2007, levels of amenable mortality in the US were almost twice those seen in France, which had the lowest levels. All-cause mortality was also highest in the US," the study says.

AVOIDABLE DEATHS IN 16 RICH COUNTRIES



Source: *Health Policy*, doi:10.1016/j.healthpol.2011.08.002

Ten countries reduced preventable deaths by 30% over a nine year period



FRED STEENMAN/DIKSTRA BV/ALH/VANP

Steven van Eijck: there should be investments, not cuts

Dutch GPs are set to protest over 10% cuts to primary care

Tony Sheldon UTRECHT

Almost two thirds of the Netherlands' 7500 general practitioners are set to join a national demonstration in Amsterdam on 6 October against a 10% claw back in funding, which, they say, threatens modern Dutch primary care.

The National Association of General Practitioners, one of several professional bodies backing the action, is shocked as the cuts run contrary to the government's stated aim of promoting "better and cheaper" local care.

Last week's budget repeated that care should be "nearby where possible and further away where necessary." Specifically it says that next year GPs should refer fewer patients to hospitals—174 per 1000 as opposed to 200 this year.

At the same time GPs are to lose €132m (£115m; \$180m) of their budget for capitation fees and fees for service. The association estimates that each practice will lose €20 000 a year. The ministry says this is because of a "structural overspend" in GP care.

But, the association argues, this is partly because of the success of the ministry's programmes to promote the treatment of chronic illness, such as diabetes and chronic obstructive pulmonary disease, in primary care. GPs are given a central budget for a "chain of care" from which they subcontract with other disciplines such as dieticians and radiographers. But this has not resulted in a corresponding fall in the cost of hospital care.

Growth in hospital care will continue to a limit of 2.5% a year funded through the €15bn extra that healthcare will receive between 2012 and 2015.

Steven van Eijck, chairman of the GP association, said it is GPs who help keep hospital costs down by acting as gatekeepers—96% of medical complaints in the Netherlands are dealt with initially in primary care on just 3% of the budget.

He told the *BMJ*: "If you want to save money on healthcare you should invest in primary not secondary care. Health minister Edith Schippers is doing it the other way round. She is killing the goose that laid the golden egg."

Cite this as: *BMJ* 2011;343:d6299

First Spanish HIV vaccine proves safe in phase I trials

Ainhoa Iriberrí MADRID

The first Spanish prototype of a vaccine against HIV has proved to be safe in a small phase I trial conducted in healthy volunteers in Madrid and Barcelona. The compound, which is known as MVA-B, produced a good immunological response among the participants.

The vaccine uses a poxvirus (modified vaccinia Ankara (MVA)) as a vector to insert the combination of four HIV genes.

Thirty healthy volunteers participated in the new phase I clinical trial, named RISVACO2 (*Vaccine* doi:10.1016/j.vaccine.2011.08.098). Twenty four received MVA-B (three injections in weeks 0, 4, and 16 of the trial) and the other six a placebo.

A more in-depth analysis of a subgroup of 16 participants (13 in the vaccine group and three controls) showed that 12 developed an immunological response against the viral antigens and kept it for at least one year (*Journal of Virology* doi:10.1128/JVI.05165-11).

So far the only vaccine that has proved to reduce the risk of HIV infection also used a poxvirus, but that was a different one, which achieved only a 31% reduction of the risk in a study carried out in Thailand (*BMJ* 2011;343:d5880, 15 Sep).

"We have a more potent prototype than the one used in Thailand," said Mariano Esteban, the researcher at the Spanish National Biotechnology

The study, by Ellen Nolte of RAND Europe in Cambridge and Martin McKee of the London School of Hygiene and Tropical Medicine, used data from the World Health Organization's mortality database. The study was supported by the Commonwealth Fund of New York, a private foundation working to improve health system performance. The researchers previously reported data on avoidable deaths in 1997-8 (*BMJ* 2003;327:1129-32).

The authors say that the causes of death considered preventable by healthcare include "selected childhood infections, treatable cancers, diabetes, cerebrovascular disease and hypertension, and complications of common surgical procedures." The researchers also included ischaemic heart disease but in their calculations considered only half of it preventable by treatment. Nevertheless, the decline in preventable deaths was partly because of falling death rates from ischaemic heart disease.

Cite this as: *BMJ* 2011;343:d6352

Centre who developed the vaccine.

Felipe García, who led the clinical trial in the Hospital Clínic-IDIBAPS of Barcelona, pointed out that the product's efficacy seems to be of a similar magnitude to that of the best HIV vaccines in development.

The first results of the trial, which began in 2009, were presented at this year's conference of retroviruses and opportunistic infections (CROI), held in Boston in February.

"Back in February, in the CROI, it was too soon to know if the immunological response was sustained," said Professor Esteban. The research team announced its initial results at the conference but did not hold a press conference at the time, preferring to wait until the results were published in a scientific journal.

After the success of the phase I trial the research team would like to design a phase II trial but currently lack funding. "The financial help for the first phases of the development, which came from the government, was great, but it's not enough to design a phase II trial," explained Professor Esteban.

He is trying to sell the vaccine's patent to HIVICAT, a joint public and private sector consortium, based in Barcelona, which is funded by a Spanish drug company and a national bank. "We are very close to an agreement," he said. "The vaccine deserves it."

While negotiations continue, the vaccine won't be left in a drawer. The researchers plan to administer a booster shot to the volunteers and after six months will see whether the immunological response is maintained.

Cite this as: *BMJ* 2011;343:d6327

Execution using pentobarbital goes ahead despite protests

Clare Dyer *BMJ*

A man who spent 33 years on death row in Florida for killing a policeman has been executed despite a petition filed with the Florida courts by a British neurologist and pleas to the governor from the Danish drug firm whose pentobarbital was used.

David Nicholl, a consultant neurologist at City Hospital, Birmingham, filed the petition at the Florida Supreme Court to try to stop Manuel Valle's execution going ahead.

The Danish company Lundbeck wrote to Florida's governor, Rick Scott, protesting at the first use of its pentobarbital in a lethal injection in the state. The drug has already been used in a few other states after US supplies of thiopental sodium, the first drug specified in the three drug protocol used by most states, ran out when the sole US manufacturer withdrew from the market.

Lundbeck's president, Staffan Schuberg, said in his letter that the use of the drug for executions "contradicts everything Lundbeck is in business to do—provide therapies that improve people's lives."

Lundbeck put distribution restrictions on its drug this summer banning sales to prisons or corrections departments in death penalty



states. But Florida and other states have reserves on hand, which they can use unless stopped by the courts.

Dr Nicholl argued in his petition that use of pentobarbital for executions has never been clinically tested or approved and violates the Controlled Substances Act, which bans its use for non-medical purposes.

His petition was denied by the court, and the execution went ahead on 28 September, after a three hour delay for a last minute application by his legal team to the US Supreme Court for a stay. This was turned down, although one of the justices, Stephen Breyer, issued a strongly worded dissent saying he would have granted it so the court could consider Valle's claim that an execution after 33 years on death row amounted to "cruel and unusual" punishment.

Dr Nicholl said: "The medical profession has been quite explicit that pentobarbital has no role in executions. The use of this drug, which should only be used in an intensive care-type setting with full anaesthetic support, is nothing short of barbaric and has resulted in botched executions. Florida must stop using pentobarbital in a manner which is, in my view, unconstitutional and illegal."

Cite this as: *BMJ* 2011;343:d6317



A hearse arrives to pick up the body of Manuel Valle (above), who was executed on 28 September

Poor countries should be asked to pay towards health schemes

Rebecca Coombes *BMJ*

Donor agencies could be doing “more harm than good” by fully funding disease programmes in low income countries without expecting governments to make any financial contribution, a conference on global health has heard.

Speaking at the Global Health 2011 conference at the BMA in London, David Heymann, chairman of the UK Health Protection Agency, said, “Agencies need to be strong enough to say, ‘We are going to make you sweat’ [for the funding]. Recipient countries need to play a greater role in procurement. Why can’t some of the African countries who can afford it be buying the new meningitis vaccine, for example?”

“You have to ask, are we doing more harm than good, giving the vaccine to countries with-

out asking them to pay half? It just encourages these countries not to engage in health,” he told the conference, which was organised by the *BMJ* and NICE International.

The meningitis vaccine MenAfriVac is being rolled out across sub-Saharan Africa’s “meningitis belt,” a stretch of 25 countries across the middle of the continent. The vaccine, developed with seed money from the Bill and Melinda Gates Foundation, costs a fraction of typical new vaccines, just \$0.47 (£0.30; €0.35) a dose, and is manufactured in India. So why are these countries, which include Uganda, Ghana, and Senegal, relying on the Global Alliance for Vaccines and Immunisation (GAVI) to fund their vaccine programmes, asked Dr Heymann.

Cite this as: *BMJ* 2011;343:d6347

Global clinical trials are burdened by excessive bureaucracy

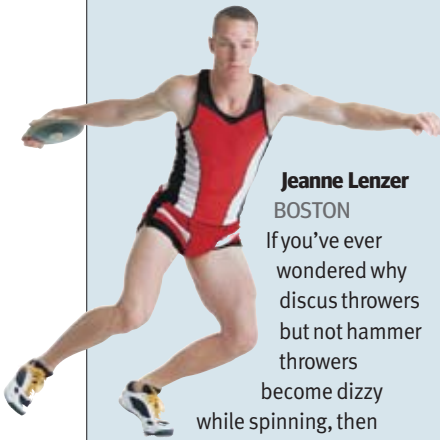
Stephen Ginn *BMJ*

Large multinational randomised clinical trials are under threat because of the burden of regulation imposed in high income countries, a conference has heard.

Ian Roberts, director of the clinical trials unit at the London School of Hygiene and Tropical Medicine, said that ethical requirements for trials are sometimes impractical and even “silly.” He was speaking at the Global Health 2011 conference at BMA House on 29 September.

Professor Roberts was the lead investigator of the CRASH-2 trial that examined the benefits of tranexamic acid in trauma and was conducted in 40 countries (*Lancet* 2010;376:23-32).

He was initially asked to obtain written consent on behalf of each patient enrolled in the



Jeanne Lenzer
BOSTON

If you’ve ever wondered why discus throwers but not hammer throwers become dizzy while spinning, then wonder no more.

“Hammer throwers, like ballet dancers and figure skaters, use “gaze fixation [which] permits post-rotatory nystagmus inhibition,” said Philippe Perrin, who with his team of researchers from the Netherlands and France was awarded the 2011 Ig Nobel physics prize for solving the motion sickness mystery.

Medical topics dominated the 21st Ig Nobel prize ceremony this year. The awards, which honour science that “first makes you laugh, then makes you think,” were given out by genuine Nobel laureates at Harvard University on 29 September.

Professor Perrin, professor of physiology and balance control at Nancy University, France, and a

Ig Nobel awards celebrate research studies of motion sickness and bladder control

physician in otolaryngology, told the *BMJ* that gaze fixation, or periods of visual fixation on an environmental target at each turn, allows “visual suppression of vestibular stimulation and enables a fast spatial reorientation after the rotatory movement, therefore compensating balance and avoiding dizziness.”

This year’s medicine prize went to two groups of researchers for their work on the effect on cognition of a full bladder. Mirjam Tuk, speaking for the first set of researchers, said that they tested the cognitive abilities of volunteers a half hour after they drank varying amounts of water to determine whether a “physiological form of control can also facilitate behavioural control.” Dr Tuk said that people who were better able to control their bladder were also better able to defer reward. Such people deferred smaller short term monetary awards in favour of larger, long term monetary returns. Dr Tuk told the audience, “This suggests that neurological control signals are task unspecific, which has important implications for impulse control.”

The second set of researchers, represented by Luk Warlop, of the Faculty of Economics and Business at the Katholieke Universiteit in Leuven, Belgium, said that they set their aims higher by inflicting “more pain” on their test subjects: making them hold their urine until it hurt. The researchers found that the decision making abilities of people with painfully full bladders were as impaired as those of people forced to stay awake for 24 hours or of drinkers with blood alcohol concentrations that reached the legal limit for driving. There was a silver lining, however, for those with bursting bladders: unlike drunk or sleep deprived people, their ability to think clearly was restored instantly on a visit to the pissoir.

The biology prize went to researchers from Canada, Australia, and the United States for their research paper, “Beetles on the bottle: male buprestids mistake stubbies for females.” “Stubbies,” a squat beer bottle, apparently resemble the orangey brown “super female” jewel beetle so attractive

to amorous males. Despite perilous heat and predator ants, the male beetles would bypass real life female beetles to bonk the bottles. For their poor judgment the besotted beetles fried in the heat and became lunch for the ants. A photograph of one of the beetles in action delighted the audience. According to the photo’s caption, at least one researcher overheard the passionate beetle uttering the words, “Oh, baby!”

The awards were interrupted for a public service announcement by Deborah Anderson, a Harvard Medical School researcher and winner of the 2009 Ig Nobel award in medicine. Dr Anderson updated her earlier research on the spermicidal effects of Coca-Cola, saying that although the classic version of the soft drink kills sperm in one second and diet coke is equally effective, “the new coke and cherry coke are not effective.” She admonished the audience: “Be careful when you use Coca-Cola as a contraceptive.”

The full list of winners is at <http://blogs.nature.com>

Cite this as: *BMJ* 2011;343:d6353

trial. This was unrealistic, he said, as the treatment worked better if administered quickly. Another request was that drug storage rooms be monitored to ensure that they were always at room temperature. This had a potential cost of £20 000 (€23 000; \$31 000). Both stipulations, which were not ultimately put in place, indicated that “ethicists aren’t in touch,” he said.

Professor Roberts said that, alongside ethicists, drug companies, regulators, and academic institutions can also be unhelpful.

Jeremy Farrar, director of Oxford University’s Clinical Research Unit in Vietnam, is concerned that excessive regulation is hampering the ability to fight emerging infectious diseases. Many important questions about the H1N1 virus remain unanswered because of a continuing lack of research, he added, concluding, “We need a better system for regulation.”

bmj.com Feature: Regulating research (BMJ 2011;342:c7461).

Cite this as: BMJ 2011;343:d6322

Private clinics, such as those advertised above, offer a faster and more discreet service than public ones

Chinese migrant workers are vulnerable to abortion risks

Jane Parry HONG KONG

Young single migrant women in China lack knowledge of reproductive health, cannot easily access contraception, and are at high risk of infertility and other complications associated with abortion, says Cheng Linan, director of the Center for Clinical Research and Training at the Shanghai Institute of Planned Parenthood.

Under China’s one child policy, the network of family planning services is generally very strong, especially in the countryside, and all major types of contraception are available free of charge. “However, when women move to the big cities they don’t know who to ask for help and where to go for reproductive health services, even though a similar family planning system exists there,” Professor Cheng told the *BMJ*.

The result is that young migrant women are at high risk of complications related to abortion. A 2008 analysis of 50 874 abortions in Beijing hospitals found that 26.3% of cases were categorised as high risk, mainly because the woman was aged 20 or below, had a previous abortion within six months, or had had several abortions. The majority of such women were unmarried migrant workers.

A review of literature on abortion across the whole of China (*Acta Academiae Medicinae Sinicae* 2010;32:568-71) found that 48% of patients were aged 25 or under and that 56% had two previous abortions and 14% had three or more

procedures. In 45% of cases there was a time lag of only 6-18 months between abortions.

Abortion services are widely advertised in China, and the procedure is available on a walk-in basis in private hospitals and in private abortion clinics.

Accessing abortion services through the public system usually entails a longer wait and formal registration. “The problem is that the procedure is a little complicated and migrant people usually don’t know how to get it. They don’t have good education, some of them can’t read, and they move too often,” explains Professor Cheng.

A medical abortion at a public hospital typically costs around ¥220 (€22; €26; \$34). Although the cost of a surgical abortion in urban settings is usually covered by health insurance, this coverage does not extend to anaesthesia or pain relief, which costs ¥400-600.

Private clinics offer a faster and more discreet service at a higher price. Abortion clinics in Shanghai, for example, typically charge at least ¥2000, well above the average monthly salary for migrant workers in eastern China of ¥1455, according to the National Bureau of Statistics.

Private, for-profit clinics typically downplay the risks and don’t offer post-abortion care or contraceptive counselling, says Professor Cheng. “They often overstate the advantages of abortion, and they want repeat customers.”

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A painfully full bladder can impair a person’s decision making as much as tiredness and alcohol