Doctors should avoid making assumptions about patients’ choices at the end of life

Clare Dyer BMJ
The General Medical Council has issued comprehensive new guidance for doctors on end of life care, including advice on how to decide whether to attempt cardiopulmonary resuscitation (CPR) and when to withhold or withdraw artificial nutrition and hydration.

The guidance, which comes into force on 1 July, covers the whole of the United Kingdom and replaces the GMC’s 2002 guide on withholding or withdrawing life prolonging treatments. It follows extensive consultation and takes into account recent court cases, the Mental Capacity Act 2005, GMC guidance on consent in 2007, and government strategies on end of life care in England and Scotland.

The GMC said it also wanted to use the guidance to deal with requests from doctors for clarification about CPR and “ongoing public concerns about the standard of end of life care provided to some patients such as people with disabilities or dementia.”

For the first time, the guidance covers: advance care planning and the role of palliative care; acting on advance requests for treatment; assessing whether treatment is for the overall benefit of a patient who lacks capacity; and approaching the question of organ donation.

It sets out decision making models for taking treatment decisions for patients with and without the capacity to decide for themselves, and it makes clear the important role played by family and carers. A separate section covers children and young people, including neonates.

The guidance, which covers patients likely to die within 12 months, spells out a doctor’s duty to “act without delay if you have good reason to believe that you or a colleague may be putting patients at risk.”

If a patient lacks capacity, the treating doctor must look at the medical records to see if the patient made an advance directive refusing treatment and inquire whether a proxy has been appointed. If the doctor concludes that an advance directive is legally binding, it must be followed.

It includes suggestions for resolving disagreements about whether treatment should be given or not and reminds doctors that a court ruling is required in England, Wales, and Northern Ireland before withdrawing artificial nutrition and hydration from a patient in a persistent vegetative state.

In general, in taking decisions, the guidance cautions doctors against relying on their personal views about a patient’s quality of life and advises them “to avoid making judgments based on . . . unfounded assumptions about the healthcare needs of particular groups.”

Treatment and Care towards the End of Life: Good Practice in Decision-making is at www.gmc-uk.org
Cite this as: BMJ 2010;340:c2609

Indian president signs ordinance to dissolve medical council

Zosia Kmietowicz LONDON
The Medical Council of India, which is responsible for maintaining standards of medical education in the country, was dissolved on 15 May after the president of India, Pratibha DeviSingh Patil, signed an ordinance authorising the government to intervene in running the council in matters of “national policy.”

The move follows the arrest last month of the council’s president, Ketan Desai, by India’s Central Bureau of Investigation on allegations of bribery (BMJ 2010;340:c2355, 29 Apr). Members of the council have been told to vacate their offices immediately and “shall have no claim for compensation, whatsoever,” the ordinance said.

Under the ordinance the government created a board of governors, to be made up of up to seven members, to take over the roles of the 30 member executive council. Investigators have alleged that Dr Desai sought 20 million rupees (£300 000; €350 000; $450 000) as a bribe from a private medical college in the northern Indian town of Patiala for approving admissions of students for the academic year 2010-11.

The new board will be chaired by Shiv Kumar Sarin, director of gastroenterology at GB Pan Hospital in New Delhi. The ordinance will remain in effect for a year.

A report in the national newspaper The Hindu (16 May) suggests that after this the government will split the education and inspecting roles of the council.

Cite this as: BMJ 2010;340:c2685
**Insulin-like growth factor is linked with breast cancer**

Rebecca Wilkins  LONDON

Women with high blood concentrations of insulin-like growth factor 1 (IGF-1) are more likely than those with low concentrations to develop breast cancer, research that is based on evidence from around the world has found.

Cancer Research UK’s study, led by Oxford University’s Tim Key and published in *Lancet Oncology* on 17 May (doi:10.1016/S1470-2045(10)70095-4), analysed 17 studies from across 12 countries that together involved nearly 5000 women with breast cancer.

The normal function of IGF-1 is to stimulate cell division, especially during childhood development. The 20% of women with the highest concentration of IGF-1 were found to have a 28% higher risk of developing breast cancer than the 20% of women with the lowest concentration (odds ratio 1.28 (95% confidence interval 1.14 to 1.44)). (The link was found to be significant in the case of oestrogen receptor positive tumours (odds ratio 1.38 (1.14 to 1.68)) but not in oestrogen receptor negative tumours (odds ratio 0.8 (0.57 to 1.13)).

The study also found that IGF-1 concentrations were higher in women who were moderate consumers of alcohol and in moderately overweight women; no association with smoking was found. Higher concentrations were also found to be positively associated with height and age at first pregnancy but inversely associated with age at menarche and number of years since menopause.

It found that women who had previously used hormonal contraceptives had marginally higher concentrations of IGF-1 than women who had not, but concentrations did not vary with previous use of hormonal therapy for menopause. The researchers adjusted for factors including presence of IGF binding protein 3 and menopausal status at blood collection.

The results reinforce findings from other studies that have previously linked IGF-1 to breast cancer, but these studies were not clear about the consistency of the relation or whether the link was affected by menopausal status, oestrogen receptor status, or other factors, including presence of IGF binding protein 3.

In this study the researchers found a clear association of IGF-1 with risk of breast cancer in pre-menopausal and post-menopausal women. A previous meta-analysis had concluded that the association was limited only to premenopausal women (*Endocrine-Related Cancer* 2006;13:273-8, doi:10.1677/erc.1.01219), but this study had a smaller sample (1500 fewer patients).

Professor Key said, “Over the last few years there has been increasing interest in the possible link between growth factors and breast cancer, but the results have been inconsistent.

“Putting together all the information available worldwide gives us conclusive evidence that the higher a woman’s blood levels of IGF-1, the higher her risk of breast cancer.

“We don’t yet fully understand what affects blood levels of this growth factor, but it’s possible that diet plays an important role.”

Cite this as: *BMJ* 2010;340:c2653

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**Doctors are told to embrace leadership for good of NHS**

Zosia Kmiotewicz  LONDON

Doctors are being urged to take up leadership roles in health policy and politics to shape the health service over the next 20 years and speed up improvements in health outcomes.

A report from the Royal College of Physicians says that “the medical profession has for too long been on the back foot . . . to the detriment of doctors and of healthcare.”

It says that the reasons for the malaise among the medical profession are complex but also that there is now “a singular opportunity” to dispel it.

In the report’s introduction Julia Cumberlege, chairwoman of the report’s working party, and Ian Gilmore, president of the college, say, “The Working Party concluded that for too long the medical profession has stayed silent on matters critical to the provision of excellent healthcare and the protection of public need. We believe that the second decade of the 21st century provides a unique opportunity for doctors to lead on the things that matter to them most: high standards of care and service to patients. Doctors will not be able, in all cases, to realise this on their own—but if doctors do not accept the challenge, they do not deserve to lead.”

For its report the working party collected evidence from medical and lay opinion leaders. It focused on three areas of change: health services, economics, and health information and communication technology.

The report says, “The confluence of change in the forces of demography, technology, economy and society cries out for leadership.”

*Future Physician: Changing Doctors in Changing Times* can be seen at www.rcplondon.ac.uk.

See *OBSERVATIONS*, p 1114.

Cite this as: *BMJ* 2010;340:c2684

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**New health secretary warns of further efficiency savings**

Zosia Kmiotewicz  LONDON

The new health secretary, Andrew Lansley, has said that the NHS may need to make more efficiency savings than the £20bn (£23bn; $29bn) it is planning to save by 2014.

Speaking on his first full day in the job on 13 May, Mr Lansley told Radio 4’s *Today* programme that the NHS budget would rise above inflation in the years to come, as pledged in the Conservative manifesto. This would help the NHS meet rising demands from an ageing population, he said.

But he also warned that productivity may have to improve beyond the £20bn announced by the Labour appointed NHS chief executive, David Nicholson, in 2008 (*BMJ* 2009;339:b5305).

Commenting on the figure on Radio 4, Mr Lansley said, “Of course, we may need to do that. And we may need to do more, because we have increases in demand in the NHS and we need to improve outcomes.”

Mr Lansley, MP for South Cambridgeshire, served as shadow health secretary since 2003. He promised that decisions
Diabetes consensus panel calls for action on obesity, diet, and exercise

Colin Wright EDINBURGH

Greater leadership is needed from governments to tackle the epidemic of obesity, promote healthier diets, increase physical activity, and inform transport and planning policies, a consensus panel on diabetes concluded last week.

The panel, which met at the Royal College of Physicians of Edinburgh, said that the government should translate the lessons it had learnt from effective legislation on smoking to the food, drink, and catering sectors.

It also recommended extending the current restrictions on advertising of “less healthy” food and drink that now exist on children’s television across all media.

It came down against a national, population based screening programme for diabetes on the grounds that evidence to support it was insufficient. But it concluded that there was good evidence that lifestyle interventions in high risk groups could prevent or delay the onset of type 2 diabetes. It said that opportunistic case finding on the basis of risk factors could identify these high risk individuals.

The conference was organised by the Royal College of Physicians of Edinburgh, the Royal College of General Practitioners (Scotland), Diabetes UK, the Association of British Clinical Diabetologists, and the Primary Care Diabetes Society.

Giving evidence to the panel, Raj Bhopal, professor of public health at Edinburgh University, said, “Diabetes definitely fulfils the World Health Organization’s definition of a pandemic. The concern is that current predictions grossly underestimate the real numbers.”

By 2030, in China alone, more than 200 million people will have diabetes, he predicted, with commensurately large numbers across south Asia and in certain parts of the Western world.

Professor Bhopal thought that the response needed to be quicker and more radical than currently envisaged.

Cite this as: BMJ 2010;340:c2670

UK colleges criticise US advice on female genital mutilation

Zosia Kmietowicz LONDON

Two UK royal colleges have raised concerns about guidance issued by American paediatricians on female genital mutilation in which they suggest that doctors could offer families “a ritual nick as a possible compromise to avoid greater harm.”

The Royal College of Obstetricians and Gynaecologists and the Royal College of Paediatrics and Child Health say in a statement, “To suggest that a qualified medical practitioner is involved in this practice as a ‘compromise’ does not make it less brutal and has the danger of giving legitimacy to FGM [female genital mutilation]. Two wrongs do not make a right. The main objective for all civilised societies has to be the complete eradication of an unacceptable practice.”

In its guidance, published on 26 April, the American Academy of Paediatrics, says that it opposes all types of female genital mutilation and advises its members against performing such procedures and to dissuade families from “carrying out harmful forms of FGC [female genital cutting]”(Pediatrics 2010;125:1088-93).

The royal colleges say that in many areas the US guidance echoes their own views that female genital mutilation is “essentially barbaric, resulting in long-term morbidities and needless distress for women.”

The US academy reminds doctors that performing any non-medical procedure on the genitals of a female minor, including nicks, is a criminal offence in the US.

However, in a section entitled “Education of patients and parents,” its guidance says that in some countries where female genital mutilation is a common practice “substituting ritual ‘nicks’ for more severe forms” of mutilation is helping to eliminate the practice.

The academy contends that a “nick” is not physically harmful and “is much less extensive than routine newborn male genital cutting.”

In conclusion the academy suggests, “To suggest that a qualified medical practitioner is involved in this practice as a ‘compromise’ does not make it less brutal and has the danger of giving legitimacy to FGM [female genital mutilation]. Two wrongs do not make a right. The main objective for all civilised societies has to be the complete eradication of an unacceptable practice.”

The academy contends that a “nick” is not physically harmful and “is much less extensive than routine newborn male genital cutting.”

In conclusion the academy suggests, “It might be more effective if federal and state laws enabled pediatricians to reach out to families by offering a ritual nick as a possible compromise to avoid greater harm.”

In response the royal colleges say in their statement, “For clinicians in any country, the act of engaging in any ritual female genital cutting, no matter how token, will make them complicit in continuing the practice of FGM.”

Cite this as: BMJ 2010;340:c2586
FDA enlists doctors to help spot misleading drug advertisements and presentations

Janice Hopkins Tanne NEW YORK

The US Food and Drug Administration has launched a programme called “Bad Ad” to enlist doctors in reporting false or misleading drug advertising or promotions.

Drug company advertising, promotional materials, presentations at medical meetings, and presentations to individual doctors by sales representatives are supposed to be accurate and balanced. They should present the risks and the benefits of a drug, and they should not promote a drug for an unapproved, or “off-label,” uses.

The FDA, however, has only a few dozen staff members to review hundreds of drug advertisements, brochures, and presentations that companies voluntarily submit to the agency, said the Associated Press news agency. And it has no way of knowing what drug company sales representatives say to doctors over dinner or in a chat at a meeting.

The “Bad Ad” educational programme “is designed to educate healthcare providers about the role they can play in helping the agency make sure that prescription drug advertising is truthful and not misleading,” the FDA said.

The programme begins immediately and is administered by the agency’s division of drug marketing, advertising, and communication in the Center for Drug Evaluation and Research.

The idea, several news accounts say, came from former drug company sales representatives who now work for the FDA.

The FDA says common drug company violations are omitting or downplaying risk, overstating drug effectiveness, promoting unapproved uses, and misleading drug comparisons.

It gives three examples of violations: omitting risk when a speaker programme has a slide show that presents efficacy information but not risk information; when a drug company representative in the exhibit hall at a conference tells a doctor that a drug is effective for a non-approved use; and when a sales representative tells a doctor that a drug delivers rapid results in days when clinical trials have shown that results are seen only weeks later.

The FDA will also set up information booths at major medical conferences to educate doctors about possibly misleading pitches.

Cite this as: BMJ 2010;340:c2594

WHO’s head calls on donors to do more to protect poor countries’ healthcare systems

John Zarocostas GENEVA

The head of the World Health Organization is urging international donors and governments to increase funds to prevent the collapse of health systems in poor countries and to cease poaching locally trained health workers.

Margaret Chan told ministers attending the annual World Health Assembly this week in Geneva, “International donors, partners, and governments themselves have failed to rally around national health policies and strategies. This contributes to fragmentation, duplication, and added demands and costs and defeats national ownership.

“How can we scale up interventions or aim for universal coverage when health systems in so many countries are on the verge of collapse? Or when the world faces a shortage of four million...
Low use of mobile phones does not increase risk of brain tumours, shows 10 year study

John Zarocostas GENEVA

A 10 year study into the health effects of mobile phone use has found no increase in the risk of developing brain tumours, but it concludes that further investigations are needed because of a possible elevated risk among heavy users.

Christopher Wild, director of the World Health Organization’s International Agency for Research on Cancer, which coordinated the Interphone study, said that although the findings were negative, the agency did not “rule out a risk of brain cancer from mobile phone use.”

He added, “Observations at the highest level of cumulative call time and the changing patterns of mobile phone use since the period studied by Interphone, particularly by young people, mean that further investigation of mobile and brain cancer risk is merited.”

The interview based, case control study is the largest investigation of the effects on health of mobile phone use to date (International Journal of Epidemiology doi:10.1093/ije/dyq079). It included 2708 patients with glioma and 2409 patients with meningioma together with 7658 matched controls from 13 countries.

Elizabeth Cardis, research professor in radiation epidemiology at the Centre for Research in Environmental Epidemiology, Barcelona, and principal investigator of the study, told reporters on 17 May that users in the Interphone study “were light users compared with today.”

The median lifetime cumulative call time among users in the study was around 100 hours, with a median of around 2 to 2.5 hours of reported use per month.

The study found “some evidence of an elevated risk of glioma in the highest decile of cumulative call time [odds ratio 1.4 (95% confidence interval 1.03 to 1.89)], but biases and errors limit the strength of the conclusions.”

“For the health authorities to know that the use of mobile phones, which is certainly widespread, and which is not likely to increase, does not increase the risk of glioma, is a positive result. But we are not saying it is a definitive result.”

Dr Cardis said that the study would be repeated (possibly in different countries) because the confidence interval suggested that the study was not large enough to detect small increases in risk.

The Interphone study was the first large scale study of the potential health effects of mobile phone use. The study was initiated because there were growing concerns about the frequency of brain tumours, particularly glioma, and the possible link with mobile phone use.

Doctors in Scotland are calling on the Government to foster greater openness in the reporting of concerns in the future.

The consequences of suppressing concerns and not listening to medical staff were made plain last year in the report from the Health Commission on emergency care at Mid Staffordshire NHS Foundation Trust. It concluded that 400 more people died between 2005 and 2008 than would be expected because of poor standards of care (BMJ 18 March 2009;338:b1141).

The invitation to complete the online survey was issued to 3000 doctors in Scotland and 384 responded. The results have been published in a report Standing up for doctors; speaking out for patients. Almost 80% of respondents said they were not aware of their local whistleblowing policies. Just under two thirds said there had been occasions when they had important concerns about patient care or the behaviour of staff. Of the 60% who reported these concerns, half were disappointed at the outcome. In most cases, no action was taken, and a fifth of these doctors said they would not be prepared to report concerns in the future.

Dr Bryan Christie, chairman of the Scottish Junior Medical Staff Association and medical director of the BMA’s Junior Doctors Committee, said, “Doctors are not bridges between colleagues.”

“Seventy per cent said they do not know that their voice is heard but 80% said they would be prepared to speak up if there are concerns.”

They are calling for action to strengthen whistleblowing policies.

The report, Standing up for doctors: speaking out for patients, is available at www.bma.org.uk

Cite this as: BMJ 2010;340:c2688

SS

Scottish doctors call for protection for whistleblowers

Bryan Christie EDINBURGH

Doctors in Scotland are calling on the government to ensure that colleagues who raise concerns about patient care can do so without fear of being victimised.

The call from the BMA in Scotland follows an online survey which found that four in 10 doctors had failed to report concerns because they did not think it would make a difference or they feared the consequences of speaking out. One in ten of those who did act were given some indication that speaking out could have a negative impact on their employment.

The report concerns in the future.

Doctors’ leaders are calling on the Scottish Government to foster greater openness in the NHS. They are calling for action to raise awareness of whistleblowing policies.

The report, Standing up for doctors: speaking out for patients, is available at www.bma.org.uk

Cite this as: BMJ 2010;340:c2591

“Heavy” mobile phone use in the study was 30 minutes a day—low in today’s terms

John Zarocostas GENEVA

The study found “some evidence of an elevated risk of glioma in the highest decile of cumulative call time [odds ratio 1.4 (95% confidence interval 1.03 to 1.89)], but biases and errors limit the strength of the conclusions.”

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SS
Illicit sales of government owned drugs undermines Uganda’s fight against malaria

**Peter Moszynski LONDON**

Efforts to control malaria in Uganda have been undermined by a lack of first line treatments in public health centres, say investigators from a newly established health monitoring unit that has made dozens of arrests in a crackdown on illicit sales of government owned drugs.

Three senior health officials are currently on trial for corruption: Richard Ndyomugenyi, a senior medical officer, Myers Lugemwa, a doctor, and Martin Shihibi, programmes assistant.

Detective Ian Kakuru told a court in Kampala that the case involved the alleged mishandling of more than 625 000 doses of antimalarial drugs worth 1.1 billion Ugandan shillings (£0.35m; €0.41m; $0.51m).

Uganda has been rocked by a number of drug supply scandals in recent years. A former health minister, Jim Muhwezi, and two junior ministers, Mike Mukula and Alex Kamugisha, were arrested in May 2007 after a report by the Inspectorate of Government found “gross mismanagement and abuse of immunisation funds [from the Global Alliance for Vaccines and Immunization] by officials at the Ministry of Health.” The three former ministers were arrested and detained for alleged misappropriation of 1.6 billion shillings of GAVI funds while they were at the health ministry. They have yet to stand trial.

Diana Atwine, who heads the new health monitoring unit, told the *New Vision* newspaper last month how difficult it was to prosecute senior officials. “This culture of impunity has to stop,” she said. “People are complaining that we are arresting suspects but they are released by courts. We are let down by the judiciary.”

The unit was established last year by Uganda’s president, Yoweri Musevini, who announced a war on corruption. It reported that around 5 billion shillings worth of government drugs had been recovered in the ongoing crackdown, which also revealed the existence of a number of “ghost clinics” that existed only on paper.

Last month the Ugandan team of the charity Médecins Sans Frontières said it was “extremely concerned that lifesaving antimalarial drugs are not reaching those who need them.”

Despite a “clear commitment” from the Ugandan government to reduce mortality related to malaria, MSF says that the disease kills up to 300 Ugandans a day, mostly pregnant women and children aged under 5 years. “Unless urgent action is taken, many more lives will be lost to this preventable and treatable disease,” it said.

In northern Uganda MSF teams saw a “sharp increase” in numbers of cases of malaria in 2009. In 2008 the charity treated more than 6000 people with malaria in Kitgum district, northern Uganda. In 2009 this number rose more than fourfold to 27 000 people. The number of people with severe malaria admitted to hospital doubled in the same period.

The charity notes that the rise in numbers of severe cases was mainly due to patients not having access to free artemisinin based combination treatment (ACT). It said, “Stock-outs in government clinics have been frequent, while private clinics can get ACT stocks within a day.”

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suitable for active surveillance, the role of observation, serial prostate specific antigen (PSA) testing, and repeat biopsies was “very controversial,” he said. Convincing patients that overtreatment was a problem and getting them to accept active surveillance was difficult. In North America only about 10% of patients were willing to accept active surveillance, 90% choosing treatment, though acceptance of surveillance was much higher in Canada than in the United States.

Focal therapy, which aims to destroy the localized cancer while preserving quality of life, can ablate a malignant area and a margin of tissue by high intensity, focused ultrasound, cryotherapy, thermal therapy, or other treatments, but micro-foci may remain in the same or other parts of the prostate. Their malignant potential is unclear.

Magnetic resonance imaging is better at detecting aggressive lesions, because the cells look less like normal tissue, said Hedvig Hricak, chair of radiology and professor of medicine, epidemiology, and biostatistics at Memorial Sloan-Kettering.

Cite this as: BMJ 2010;340:c2652

Brazil and India file complaint against EU over seizure of generic drugs

John Zarocostas GENEVA

India and Brazil have filed legal proceedings against the European Union and the Netherlands over the seizure of generic drugs in transit, alleging that the actions breach global rules and undermine public health in poor nations.

The two countries, in separate complaints filed with the World Trade Organization (WTO), claim that in 2008 and 2009 customs authorities seized consignments of generic drugs on grounds that the shipments were suspected of infringing patent rights (BMJ 2009;338:b1002).

India says that Dutch authorities seized at least 19 consignments of generic drugs in transit in 2008 and 2009, 16 of which originated in India. These included a consignment of the antiretroviral abacavir from India, bought on behalf of the drug purchasing agency UNITAID and destined for Nigeria; one of olanzapine, used to treat schizophrenia and bipolar disorder, destined for Peru; and one of rivastigmine, used to treat dementia, also destined for Peru.

Other generic drugs seized included a consignment of the antihypertensive losartan, destined for Brazil, and a shipment of clopidogrel, used to treat coronary and cerebrovascular disease, destined for Colombia.

John Clancy, a spokesman for the European Union’s trade commissioner, told the BMJ: “The EU remains fully committed to ensuring that people in the world’s poorest countries can access affordable medicines. We are confident that a dispute on this issue will not be necessary and that our consultations will help give clarity as regards the EU intentions.”

Thiru Balasubramaniam, of the non-profit group Knowledge Ecology International, which advocates for social justice, described the EU action as “indesirable.”

Cite this as: BMJ 2010;340:c2672

Cambodia closes illegal pharmacies to protect malaria drugs

Peter Moszynski LONDON

The emergence of resistance to artemisinin derivatives in western Cambodia last year could prove a serious setback for international efforts to control malaria. In an attempt to counter the spread of resistance to the most effective remaining antimalarials, local authorities have cracked down on unlicensed pharmacies in the country, closing more than 60% in the past six months.

Shunmay Yeung, of the London School of Hygiene and Tropical Medicine, said that Cambodia was where resistance to chloroquine first emerged in the late 1950s and that if artesunatein follows a similar path it would be “potentially disastrous for global malaria control.”

Dr Yeung said that there are several reasons why Cambodia could be experiencing resistance to artesunatein. Although the country has become more stable, political turmoil had resulted in population movement, a weak public health system, and a largely unregulated private sector. The country has “a long history of artesunatein use, widespread availability of artesunate mono-therapy, a lack of availability of effective fixed dose combination tablets, and a serious problem with fake and substandard drugs,” she said.

Last year Cambodia’s Ministry of Health banned artesunatein monotherapy. This latest crackdown on unlicensed pharmacies was launched by a new inter-ministry committee to fight against counterfeit and substandard medicines, with assistance from the Global Fund to Fight AIDS, Tuberculosis, and Malaria and the World Health Organization’s International Medicinal Products Anti-Counterfeiting Taskforce.

In January the health ministry ordered the closure of all unlicensed drug shops after monitoring of quality by the US Pharmacopeial Convention’s Promoting the Quality of Medicines programme showed that Cambodia’s unregulated private health sector was a source of large quantities of counterfeit and poor quality drugs.

Last month the health ministry reported that the number of unlicensed pharmaceutical outlets had been reduced from 1081 in November 2009 to 379 in March 2010, a 65% reduction.

Patrick Lukulay, the US programme’s director, said that although resistance had thus far only been detected in monotherapies of the artesunatein derivative artesunate—which was why the World Health Organization recommended that the compound should be used only in combination—resistance could eventually make artesunatein combination therapies ineffective too.

He said there was now a concerted effort to contain the rise of resistance to artesunatein in South East Asia, because “the fear is that ACT resistance could spread to Africa, where the burden of malaria is huge.”

Cite this as: BMJ 2010;340:c2622