

# Funding the global control of bird flu

The \$1.9bn pledged to control avian influenza in Beijing in January may be peanuts, but it's more than what the World Bank asked for, writes **Jennifer A Roberts**

"Whatever resources you put in place—compared to the potential pandemic cost—it is peanuts. It is nothing."

*Margaret Chan, WHO assistant director, at International Pledging Conference on Avian and Human Pandemic Influenza, Beijing<sup>w1</sup>*

When a gathering of 800 representatives of some 100 countries and 20 international agencies attend a conference to pledge funds in support of a policy, and when the funds pledged are in excess of requests, something is afoot. "This is not charity. This is not just solidarity. This is self defence," said Markos Kyprianou, European Union health commissioner.<sup>w2</sup> A pandemic of avian influenza could affect up to a quarter of the world's population, cause the deaths of millions of people, and plunge the economy into depression. Projecting the costs of this is difficult, but the World Bank estimates that the cost may be £800bn (€1160bn; \$1430bn) in the first year. The pledging conference, held in Beijing, 17-18 January—sponsored by the People's Republic of China, the European Commission, and the World Bank—raised some \$1.9bn; "peanuts" perhaps, but useful. It was more than the \$1.2-1.4bn that the World Bank estimated would be needed for poorer countries to strengthen their veterinary and health services to deal with the potential threat of a pandemic. But it pales into insignificance when compared with the estimated £10bn losses to the Asian poultry sector alone. The pledges of funds have come from richer nations—\$334m from the United States, \$260m from the European Union, \$159m from Japan, \$45m from Russia, and

\$42m from Australia—as well as from other countries and industry. Roche has pledged \$30m to provide a further two million doses of oseltamivir (Tamiflu). About 6% of the fund is to be allocated to reduce human exposure; some 22% to strengthen early warning systems; 26% for rapid containment of spread; 28% for capacity building; and 17% for research, including accelerated vaccine development. In addition, \$58m was set aside for stockpiles of antiviral drugs and personal protective equipment and supplies.<sup>w3</sup>

The money will be distributed among countries that are most at risk and that have poor infection surveillance systems and laboratory facilities in both animal and human health sectors. Almost half of the funds will be spent in East Asia and the Pacific and on core programmes in Africa. The planned intervention comprises reducing human exposure to the virus, strengthening the early warning system, rapid containment, capacity building, and coordination of research and development.

The outcomes of the conference in Beijing need cautious interpretation. Given the enormity of the problem, the pledges may well be honoured. The finance pledged is but a promise to deliver, however, and previous pledges for global emergencies remain unpaid. For instance, of the sums pledged in response to the tsunami disaster, \$217m pledged by the United States, \$70m pledged by the European Commission, and \$15m pledged by the United Kingdom remain unpaid.<sup>w4</sup> Investment in effective policies to control outbreaks and delay a pandemic would yield a manyfold rate of return. If this \$2bn fund reduced the impact of the pandemic by a mere 1% it would yield a fourfold rate of return in the form of costs avoided. But property rights to the benefits are diffuse and thus underinvestment is likely. The economic problem is not merely one of raising funds: it also extends to their deployment.

Cash donations will have to be translated into real resources such as staff, laboratory facilities, and drugs, and the logistics of their deployment must be established. Many agencies are involved, each with its own chain of

command, goals, and procedures. Gaps in the chain of governance may lead to delays in reporting or lack of diligence, with catastrophic consequences.

Human resources will be crucial in managing an epidemic. The human capital embodied in experts cannot be replicated quickly, yet the resilience of this expertise in a pandemic will be difficult to maintain given a predicted average incidence of infection of 25%. Recently a team from the UK was congratulated for its speedy response during the outbreak in Turkey. But even these people would be hard pressed if there was a rash of outbreaks in their region. There must be adequate "surge capacity" to cope with the volume of work. The ability to mobilise enough middle range scientists and laboratory assistants will be crucial, too—for example, by directing some of the pledged funding to the WHO programme for health security capacity development, which aims to improve competence in laboratory and epidemiological disciplines and to develop global surveillance.

Timely reporting of outbreaks of avian influenza is essential but difficult, given that domestic flocks represent the entire livelihood of many people and compensation is rarely available. Indonesia delayed a cull, although millions of chickens were infected, until they were sure that the H5N1 strain was involved. Few decisions to report such outbreaks rely simply on scientific matters. Even infections that should be reported under International Health Regulations<sup>w5</sup> have been kept secret to protect trade or tourism. Beijing, for example, experienced a 94% drop in the tourist trade in 2003 because of severe acute respiratory syndrome (SARS). But the public health benefit of early intervention is substantial. The cull of all the poultry in Hong Kong (estimated at 1.5 million birds) within three days in 1997 reduced opportunities for further direct transmission of bird flu to humans and may have averted a pandemic. It was such a rapid response to an outbreak that last week's pledging conference was intent on facilitating. More funds—not peanuts—will be required in the short and long term if rapid control is to be ensured.

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References w1-w5 are on studentbmj.com.



HECTOR PUSTINA/REMPICS

# The ACUTE initiative

Universities need to establish formal acute care training programmes in their curriculums, as **Gavin Perkins** and **Julian Bion** discuss

Each year, an estimated 23 000 preventable in-hospital cardiac arrests occur in the UK.<sup>w1</sup> It is well recognised that, in many of these cases, signs of clinical deterioration remain undetected or ignored by ward staff in the minutes to hours preceding a cardiac arrest.<sup>w2</sup> A recent report by the National Confidential Enquiry into Patient Outcome and Death, *An Acute Problem*, evaluated the care of more than 1500 medical admissions to intensive care and found evidence of suboptimal management in nearly 50% of cases.<sup>w3</sup> Suboptimal care is often related to poor management of simple aspects of acute care—those involving the patient's airway, breathing, and circulation; oxygen administration; and fluid balance.<sup>w4 w5</sup> Other contributory factors include organisational failures, a lack of knowledge, failure to appreciate the clinical urgency of a situation, a lack of supervision, failure to seek advice, and poor communication.<sup>w6 w7</sup> Effective earlier intervention requires staff trained in the care of acutely ill patients. Ideally, competence (knowledge, skills, and attitudes) in caring for these patients should be a clearly defined component of health-care curriculums, starting at undergraduate level.

The General Medical Council, the licensing body for doctors in the UK, requires medical undergraduates at completion of training to be able to undertake cardiopulmonary resuscitation and advanced life support (ALS); understand the principles of recognising and managing acute illness; and administer oxygen safely.<sup>w8</sup> However, the GMC does not identify the specific competencies nor a common core curriculum that should be acquired in these aspects of acute care. A survey of UK medical schools in 2001 found that

all taught basic life support (using variable methods) and 79% taught some aspects of ALS. However, only 13% provided formal certified ALS training.<sup>w9</sup> The following year, a questionnaire survey assessing preregistration doctors' knowledge and skills in managing acutely ill patients found poor levels of understanding—few were able correctly to identify common features of critical illness such as airway obstruction or recognise abnormal from normal physiology.<sup>w7</sup> An international survey of English speaking medical schools found strong support (84%) from respondents for undergraduate teaching in aspects of intensive care medicine, but in only 31% was this teaching a formal part of the curriculum.<sup>w10</sup> The Society of Critical Care Medicine's undergraduate medical education committee found that only 45% of medical schools in the USA provided formal didactic teaching in critical care medicine, though 60% offered it as an elective option.<sup>w11</sup> A report from Australia, describing medical students attitudes to critical care education, concluded that the undergraduate curriculum had not kept pace with the rapid evolution of critical care practice.<sup>w12</sup> These surveys show that in many countries undergraduate training in acute care is uncoordinated and lacking in strategic focus.

With this background, the ACUTE project, a joint initiative between the Resuscitation Council (UK) and Intercollegiate Board for Training in Intensive Care Medicine, sought to develop a framework of core competencies for medical undergraduates in the care of acutely ill patients. The study obtained the views of over 350 doctors, nurses, medical students, resuscitation officers, and university teachers as to which competencies (described in terms of attitudes, knowledge, and skills) they deemed essential for medical students to have at the point of graduation. The original 2629 suggestions from respondents were condensed into 95 representative competency statements linked under the heading of airway and oxygenation, breathing and ventilation, circulation, confusion and coma, drugs therapeutics and protocols, clinical examination and monitoring, team working and organisation, patient and societal needs, trauma, equipment, infection, and inflammation.

These were then individually rated for importance by a nominal group composed of experts in resuscitation, education, and intensive care. Seventy one competencies were rated as important or very important by the nominal group and are included as essential competencies. Sixteen competencies were rated with moderate importance and are included as optional competencies. Full details of the competencies can be found in the original paper<sup>w13</sup> or at the Resuscitation Council (UK) website ([www.resus.org.uk/acute/projrept.pdf](http://www.resus.org.uk/acute/projrept.pdf)).

These competencies provide a focus for curriculum planning for students and undergraduate tutors. The advantage of a competency based curriculum is that it defines the desired outcomes of the training programme rather than the process of education. This promotes standardisation of the end product while at the same time encouraging locally appropriate approaches to content delivery and the integration of training throughout the curriculum, rather than confining it to one particular approach or time point in the curriculum. An additional strength of standardising outcomes of undergraduate education is that, for doctors, this facilitates integration with the postgraduate foundation programmes.<sup>w14</sup>

Postgraduate education has benefited from the development of specific training courses targeted at the resuscitation and caring of the acutely ill patient<sup>w15</sup> by harmonising resuscitation training at a national (and European) level. The recently developed immediate life support course addresses the initial resuscitation of a patient in cardiac arrest, and the acute life threatening emergencies recognition and treatment (ALERT) course deals with the recognition and treatment of the acutely ill patient; these courses are well suited to meet the needs of the medical undergraduate.

It is time for medical schools to recognise the importance of training undergraduates in the care of the acutely ill patient, and to use a common outcomes-based curriculum. We hope that the publication of this report will act as a stimulus to review undergraduate curriculums in this important area.

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References w1-w15 are on [studentbmj.com](http://studentbmj.com).



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