Private firm beats social enterprise to run NHS services

Adrian O'Dowd LONDON

An award winning social enterprise mutual has lost out to a private company that has been named as the preferred bidder to run NHS community health services in Surrey in a deal worth between £450m (€520m; $710m) and £500m.

The primary care trust NHS Surrey has announced that Assura Medical, which is owned by Virgin, is the preferred bidder for community health services in southwest and northwest Surrey in what is likely to be one of the largest NHS contracts ever given to the independent sector.

The fellow bidder Central Surrey Health lost out despite its reputation as the government’s flagship social enterprise mutual. The other unsuccessful bidder was Surrey and Borders Partnership NHS Foundation Trust.

Central Surrey Health was set up in 2006 as an employee owned, not for profit organisation that provides therapy and community nursing services for 280 000 patients (BMJ 2010;341:c6759).

It was named as the prime minister’s first “big society” award winner and has won other awards.

Unions and other organisations have raised concerns about the decision, which they believe indicates that commercial organisations will have a growing role in running NHS services in the future.

Wendy Savage, who co-chairs the steering group of the campaigning organisation Keep Our NHS Public, said, “Let this be a warning to those third sector organisations who have welcomed the Health and Social Care Bill. Turning the NHS into a market will mean that large, sophisticated corporate providers will be able to bid for services and undercut local provision by small voluntary organisations and social enterprises.

“It is not too late to stop this happening, as the [House of] Lords still has to discuss and amend it [the bill] before it returns to the Commons.”

The board of NHS Surrey said that it had decided that Assura Medical was the preferred bidder for services currently provided by Surrey Community Health, the provider arm of the primary care trust.

A period of “due diligence” will now take place until 31 December, at which point it is possible that Assura will take over the running of services.

Cite this as: BMJ 2011;343:d6029

World leaders sign up to tackle non-communicable diseases

Rebecca Coombes NEW YORK

More than 30 world leaders and 100 senior ministers representing the 192 member states of the United Nations signed a political agreement at the UN General Assembly this week, agreeing to tackle the world’s major non-communicable diseases: diabetes, lung disease, cancer, and cardiovascular disease.

It marks the end of months of negotiations among the member states in which factions have wrangled over the need for greater regulation to reduce some of the key risk factors in these diseases: consumption of alcohol, tobacco, processed foods, and salt. Other sticking points were opening up access to essential drugs, such as those for diabetes and cancer, by relaxing intellectual property agreements.

The final document, agreed on 19 September, falls short of setting any targets or goals for results in all four of the disease areas, which together cause 63% of the world’s deaths, four fifths of which are in low and middle income countries. Weak areas include a failure to urge countries to use pricing policies to curb harmful alcohol consumption.

However, tobacco control emerges as the clear winner of all the action points, with a strongly worded commitment to “accelerate” the adoption of the World Health Organization’s Framework Convention on Tobacco Control. Health ministers from France, Norway, and Australia lined up to publicly lambast the tobacco industry for launching legal action against those countries seeking to restrict their influence.

WHO’s director general, Margaret Chan, told the meeting that non-communicable diseases are “the diseases that break the bank.” A new WHO study of the costs of scaling up a core intervention package to prevent and treat such diseases in low and middle income countries has shown that it will cost $11.4bn (£7.2bn; €8.3bn) a year for all these countries, far less than the World Economic Forum’s estimated bill of nearly $500bn in economic losses every year between now and 2025 if a “business as usual” approach is taken and disease rates continue to soar.

The UN secretary general, Ban Ki-moon, said that these diseases were a threat to development, hitting poor people particularly hard and driving them deeper into poverty.

Reclassifying non-communicable diseases as a “development” issue could be crucial in funding terms—for example, by attracting the resources and expertise of major international development agencies such as Oxfam and Médecins Sans Frontières.

The NCD (non-communicable disease) Alliance, a network of 2000 non-governmental organisations, said that UN millennium development goals should now include targets on these diseases, including a commitment to reduce the global number of deaths from them by 25% by 2025.

See OBSERVATIONS, pp 618-9

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IN BRIEF

Yemeni hospitals are attacked: A report by the UN Office of the High Commissioner for Human Rights on violations in Yemen details alleged breaches by security forces, including preventing protesters from reaching hospitals, shooting ambulances, and ransacking hospitals. Hundreds of people have been killed and thousands injured since the beginning of the year as a result of a crackdown on pro-democracy demonstrators, it says.

New HIV prevention trial in Africa gets $37m: A team of researchers led by Richard Hayes at the London School of Hygiene and Tropical Medicine has been awarded $37m (£24m; €27m) to test a combination of strategies to prevent HIV in African countries. The project, called PopART (population antiretroviral treatment), will test community-wide, house to house voluntary testing for HIV, offers of medical circumcision to men who test negative for HIV, and offers of immediate initiation of ART for all those who test positive.

WMA appeals to king of Bahrain for justice for detainees: The World Medical Association has appealed to the king of Bahrain to intervene in the case of the 20 health professionals facing trial there after they treated protesters injured during the recent political unrest. The WMA urges the king to carry out an independent investigation into the allegations of torture and other ill treatment against the health professionals and other detainees, to make the results public, and to bring those responsible to justice.

New UK group aims to make research findings more accessible: The UK science minister, David Willetts, is setting up a new independent working group to look at how UK funded research can be made more accessible to other researchers, policy makers, and the public. The group will comprise representatives of the higher education sector, research investors, the research community, scholarly publishers, and libraries. It will be chaired by Janet Finch, professor of sociology at Manchester University and independent co-chairwoman of the Council for Science and Technology.

EU aids South African health programme: The European Union is investing €126m (£110m; $170m) in the primary healthcare sector policy support programme that South Africa launched on 14 September. The aid is one of the largest contributions the EU has made to a health programme anywhere in the world.

Revision rates for metal on metal hip joints cause concern

Deborah Cohen BMJ

Performance of the controversial metal on metal hip prostheses “continues to create cause for concern,” says the latest annual report from the National Joint Registry of England and Wales.

Revision rates—how likely it is that a patient will need an operation to replace a prosthesis—for hip replacements are by far the highest overall for metal on metal (so called because the head and the lining of the cup are both made of metal) hip devices, the report says.

Hip replacement falls into two main categories, and the report shows that revision rates differ with the type of procedure used and the patient’s sex. For resurfacing, the latest revision rate is 11.8% at seven years on average, and for all metal on metal total hip replacement it is 13.6%, although failure rates vary with the brand used. Over the same time, however, revision rates for hip implants made of other materials for hip replacements were between 3.3% and 4.9%.

Chronic fatigue may cost UK economy over £100m a year

Mark Hunter BRADFORD

Chronic fatigue syndrome costs the UK economy millions of pounds in lost productivity each year, research announced on 14 September estimates.

Two studies presented at the British Science Festival in Bradford say that the syndrome, also called myalgic encephalopathy (ME), has a severe financial affect on affected people and their families.

In one study researchers from the University of Bristol found that over half of patients attending specialist ME services had stopped work because of “fatigue related symptoms” (BMJ Health Services Research 2011;11:217).

The cost of lost productivity represented by the 2170 patients studied was £49.2m (£56m; $78m).

Extrapolating this figure to the nearly 4500 patients who access specialist ME services in the United Kingdom each year gave an annual cost to the UK economy of £102.2m.

This was likely to be “just the thin edge of the wedge,” said Simon Collin, research associate in epidemiology at the University of Bristol, as the figure did not include healthcare or welfare costs and applied only to those patients who were seen by specialists. Most of those with ME did not access specialist care, he pointed out.

Esther Crawley, lead author of the study and a consultant senior lecturer at the University of Bristol, said that the £102m cost of ME far exceeded the amount spent by the NHS on the condition. She said it was particularly worrying that patients in the study had waited an average of three years between the first appearance of symptoms and receiving specialist care. The limit recommended by the National Institute for Health and Clinical Excellence is six months.

“Treatment is effective, but people are still waiting three years before they access a specialist service. Most of these people had given up work for about 18 months before they were able to access the service, which represents a huge loss of earnings,” she said.

Several reasons were given for the delay in receiving specialist care. “There is a problem at every level,” said Dr Crawley. “People don’t recognise that they are ill, only 52% of GPs are confident of making the diagnosis, and there is a problem with the number of [specialist] services that people can access.”

Dr Crawley said it was not only patients but also family members who suffered hardship from the effects of ME. She presented the results of a recent study into the financial and psychological effects on mothers of children with ME (Child: Care, Health and Development doi:10.1111/j.1365-2214.2011.01298.x).

On average each mother experienced a £247 loss in monthly income and a £206 increase in expenditure directly attributable to their child’s illness. In addition, three quarters of the mothers showed signs of a mental health problem, which compares with 20% in the general population.

Dr Crawley said, “The mothers talk about a child with an illness that no one understands, that is quite stigmatising, and that can cause conflict within the family.”
The report says that the highest failure rates involved the now recalled articular surface replacement (ASR) total hip implant made by DePuy. Of those patients who received the device six years ago 29% have since had it replaced.

Despite reports from Australia and data from surgeons over several years indicating that the implant was causing problems, it was figures from the National Joint Registry in 2010 that led to the worldwide recall of the ASR (BMJ 2011;342:d2905).

And this year’s report suggests that this recall—along with growing concern among orthopaedic specialists about the revision rates of metal on metal hips—has affected surgeons’ choice over what to use. The report shows that metal on metal hips were used in only 5% of procedures recorded on the register since 2010, down from 15% in 2006 and 2007.


Cite this as: BMJ 2011;343:d6012

**Paediatrician David Southall is allowed to call more witnesses**

**Clare Dyer BMJ**

The paediatrician David Southall has successfully fought off an attempt at the UK General Medical Council—described by his counsel as “unprecedented”—to stop him calling new witnesses about the circumstances surrounding the events that gave rise to charges against him.

Richard Tyson, counsel for two mothers whose children were treated by Dr Southall, argued that the witnesses (other paediatricians involved in the cases) should not be called to give factual evidence because findings of fact had already been made. Dr Southall’s counsel, Mary O’Rourke QC, maintained that their evidence would be relevant to deciding whether his behaviour reached the threshold of serious professional misconduct.

The case began in November 2006 but has been repeatedly adjourned because of illness and legal challenges by Dr Southall, an expert on fabricated or induced illness. In 2007 Dr Southall was found guilty of keeping separate case files on two children that were insufficiently “signposted” for hospital staff to access and of sending a copy of a letter outlining concerns to an unnamed paediatrician at the local hospital of one of the two children, even though the child was not being treated there, and without the parents’ consent.

The decision on whether Dr Southall was guilty of serious professional misconduct is expected by the end of this week.

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**Surgeons separate conjoined twins in four stage operation**

**Jacqui Wise LONDON**

British surgeons have successfully separated craniopagus conjoined twins in a series of four complex operations carried out at Great Ormond Street Hospital for Children in London.

The twin girls, Rital and Ritag Gaboura, from Sudan, were classed as total type III craniopagus, which means they were joined at the head with significant blood flow between their brains.

Only 5% of conjoined twins are craniopagus, and 40% of these are stillborn or die in early infancy.

Ritag supplied half her sister’s brain with blood while draining most of it back to her heart. As a result Ritag’s heart had to pump much harder than Rital’s, and it was already failing by the time the twins arrived in the United Kingdom on 13 April.

Surgeons have tried several different methods to separate craniopagus twins in dozens of one stage operations. The problem with a one stage operation is the shared venous drainage, which has to be given to one twin. The twin without the venous drainage experiences an increase in pressure in the brain, which eventually leads to brain damage or death. In only one set of twins separated in a single stage have they both lived without major brain damage.

Multistage separation has been attempted only three times previously, once in New York and twice at Great Ormond Street Hospital. All three sets of twins have survived and are functioning well.

Ritag and Rital were separated in four stages during a total of 39 hours in surgery. The original plan was for a five stage operation, but because Ritag’s heart problems were becoming worse this was condensed to four stages. The first two operations separated portions of their shared vascular system. The third procedure inserted tissue expanders to stretch the skin needed to cover their heads. The final separation was carried out on 15 August when the twins were 11 months old.

Carrying out the procedure in stages means that the rise in venous pressure is reduced to a level that doesn’t damage the brain. The brain gradually recovers from the partial venous separation, and over the space of a few days new venous channels open. The venous pressure returns to normal as blood flows through these new channels.

The girls’ parents, both doctors in Sudan, had approached many institutions for help. The children’s charity Facing the World organised the family’s travel to London and paid for the surgery. The Great Ormond Street medical team donated their time for free.

Simon Eccles, craniofacial surgeon at Chelsesea and Westminster Hospital and secretary of Facing the World, told the BBC that the operation had gone extremely well. “Everything we see about the girls, neurologically speaking, is that they are behaving like two twin sisters,” he said.

David Dunaway, lead clinician and consultant craniofacial surgeon, said, “This was a real surgical challenge, a very rare and complex operation, drawing together many different disciplines.”

For more information about the procedures or to make a donation see www.facingtheworld.net.

Cite this as: BMJ 2011;343:d6033

Surgery on the conjoined twins, Ritag and Rital, which was carried out over four months, had to be brought forward because Ritag was suffering from heart failure as she was providing blood for half her sister’s brain.
Hong Kong hospital takes step towards integrated care

Jane Parry HONG KONG
A public hospital in Hong Kong has launched a pilot project to use a combination of Western and traditional Chinese medicine to treat patients with five chronic conditions.

At the end of September Kwong Wah Hospital will make 110 beds available for inpatients to be treated simultaneously by Western and Chinese medical practitioners for diabetic foot; nausea and weakened immunity from chemotherapy; post-stroke convulsions; chronic pain; and allergic rhinitis.

The integrative medicine team comprises eight practitioners of traditional Chinese medicine, mostly retired professors from mainland China, and seven doctors, including an orthopaedic surgeon, a pathologist, consultant physicians, and a consultant paediatrician. The team is led by Andrew Yip Wai-chun, consultant surgeon and chief of the hospital’s department of surgery.

The hospital has offered outpatient integrative treatment for some time. Dr Yip said, “Over the past 13 to 15 years in our hospital we’ve conducted a number of trials on integrative treatment.” For example, in a group of patients with diabetic foot who were treated with Chinese herbal dressings, the number of amputations was reduced by a third. In the hospital’s chronic pain management clinic a combination of Western medicine, acupuncture, and tui na (a traditional Chinese form of manipulative physical therapy) resulted in “a tremendous improvement in the recovery rate, especially for cervical spine and back pain,” he said.

“I know a lot of people are heavily critical of Chinese medicine, saying that it’s not evidence based, so we are trying to make this a scientific project and make sure our claims are on firm ground.”

Outpatient use of Chinese medicine is widespread in Hong Kong, and a poll by Kwong Wah Hospital of all its inpatients in one week found that 30% had concurrently sought Chinese medicine treatments. Integrative medicine within hospitals ensures that the two methods are safely combined and will also yield benefits in terms of evidence based research by facilitating tightly managed cohort and case-control studies, as well as randomised controlled trials where feasible.

Despite its widespread popularity, Chinese medicine gained legitimacy in Hong Kong only after the handover to Chinese rule in 1997 and the subsequent setting up of a registration system for Chinese medicine practitioners.

Cite this as: BMJ 2011;343:d5958

Measures to reduce Germany’s drugs bill start to take effect

Ned Stafford HAMBURG
Germany’s public health insurers spent only 1% more on prescription drugs in 2010 than in the previous year, stemming a four year trend of sharp rises, a new annual study of German drug costs shows. But they are still paying much more than the United Kingdom is for top selling branded and generic drugs.

Ulrich Schwabe, coeditor of the annual Prescription Drug Report and professor emeritus of pharmacology at the University of Heidelberg, told the BMJ that recent measures to slow the rises in prices of patent protected drugs are beginning to take effect. “I would assume that total [drug] spending in 2011 will go down,” he said.

In 2010 Germany’s public health insurers spent €32bn (£20bn; $44bn) on prescription drugs, up by only €330m (1%) from the 2009 figure. But it is still a 2.4% rise on the €25.9bn spent in 2006, when the trend of sharp price rises began.

Professor Schwabe said that Germany’s prescription drug prices continue to be among the highest in Europe, while those in the UK are among the lowest. Germany’s public health insurers would save about €4.1bn if their 50 most expensive patent protected drugs fell to UK pharmacy price levels, while a drop in the prices of the top 50 generic drugs to UK levels would save them about €3.3bn, Professor Schwabe said.

For example, the pharmacy price in Germany as at June 2011 for six doses (enough for three months’ treatment) of the rheumatoid arthritis treatment adalimumab was €4393 minus the mandatory 19% value added tax, some 82% higher than the €2408 in the UK, which does not levy VAT on prescription drugs.

Germany’s top 10 selling brand name drugs cost two thirds more on average than in the UK, not including the 19% VAT, while the top 10 selling generic drugs in Germany cost 90% more on average than in the UK.

The 1% rise in Germany’s public sector drugs bill for 2010 was less than growth in the total health costs, which rose 3% to €181bn, the report says. In 2010 public insurers spent €59bn on hospital costs, up 4.5% from 2009, and €33bn on doctors’ fees, up 2.1%. Drug costs in 2010 accounted for 17.7% of total spending by public health insurers, down from 19% in 2009.

Professor Schwabe said that the slower growth in drug spending in 2009 is partly because of a moratorium on price rises on some innovative patented drugs since August 2009 and on rebates on generic drugs paid to public health insurers by drug companies, which in 2010 totalled €1.3bn, up from €846m a year before.

A new law took effect at the beginning of 2011 that is expected to reduce prices of new drugs, Professor Schwabe said. The so called realignment of the pharmaceutical market law, known in Germany by its acronym AMNOG (Arzneimittelmarktrechtsgesetz), requires that a new drug first be evaluated by the Joint Federal Committee to determine whether it shows additional benefit compared with established drugs.

Previously drug companies were mostly free to set prices of new drugs, Professor Schwabe said. Under the new law, if no new benefit is shown the price of the new drug will be based on reference pricing. If a new benefit is shown drug firms must try to negotiate a price with the national association of public health insurers (GKV). If that fails the price is set by an arbitration committee.


Cite this as: BMJ 2011;343:d5999
Cancer patients sue university over “fraudulent” research

Clare Dyer BMJ

Duke University, in North Carolina, is facing two lawsuits alleging that patients with cancer were exposed to unnecessary and harmful chemotherapy after being enrolled in “fraudulent” clinical trials that were based on flawed research.

The trials, which have been discontinued, were based on research by the oncologist Anil Potti into a technique that uses gene expression to predict which chemotherapy would be best for an individual patient with lung or breast cancer.

Dr Potti has resigned and six of his research articles—in the New England Journal of Medicine, Nature Medicine, Lancet Oncology, the Journal of Clinical Oncology, Blood, and PLoS One—have been retracted in recent months.

Robert Califf, Duke University’s vice chancellor for clinical research, told a public meeting of university officials, and an military medical surgeon general, the US attorney general, the US surgeon general, military medical officials, and an array of high ranking doctors and medical school experts. However, the investigators marked many of their reports “confidential” or “keep confidential.”

In July 2010 the Cancer Letter, a weekly subscription newsletter that reports on “current and controversial topics in oncology,” reported that Dr Potti had lied in grant applications and other documents, including falsely claiming to be a Rhodes scholar. Duke halted the trials and began the investigation leading to the retractions.

Together with the National Cancer Institute, Duke has asked a committee of the Institute of Medicine to look at why the university took so long to realise that the data were flawed.

Cite this as: BMJ 2011;343:d5986

Guatemala study researchers tried to keep reports secret

Janice Hopkins Tanne NEW YORK

The US Presidential Commission for the Study of Bioethical Issues has released its report on the study of the effectiveness of antibiotics in Guatemala in the 1940s and 1950s in which about 1300 people were deliberately infected with sexually transmitted diseases.

President Barack Obama, the secretary of health and human services, Kathleen Sebelius, and the secretary of state, Hillary Clinton, apologised to the president of Guatemala after the experiments were discovered last year by Susan Reverby, an historian at Wellesley College, Massachusetts (BMJ 2010;341:c5494).

The Guatemala study’s protocol was approved by the US attorney general, the US surgeon general, military medical officials, and an array of high ranking doctors and medical school experts. However, in Guatemala so that people in the United States would not be aware of it. It says that:

• Up to 5500 people took part in the study
• No people involved in the study gave informed consent
• Invasive procedures were performed on adults and children
• Not all patients were treated
• 83 patients died, although it is unclear whether deaths were a result of the study
• Record keeping was abysmal, and
• The results were kept confidential and never published.

The title of the commission’s report, Ethically Impossible, comes from a brief item in the New York Times in 1947 that described exposing rabbits to syphilis and then injecting them with penicillin, a procedure the article said was “ethically impossible” in humans.


Cite this as: BMJ 2011;343:d5994
World needs millions more health workers to deliver services

Sophie Arie LONDON

In the week in which this year’s session of the United Nations General Assembly begins, the charity Save the Children has called for a major push to secure funding to fill the global shortfall of 3.5 million health workers.

In a new report the children’s charity says that efforts to improve health worldwide in recent years have overlooked the need to boost the health workforce.

“The focus has been on inputs into the health system—drugs, vaccines, bed nets—all of which are critical,” says Save the Children’s chief executive, Jasmine Whitbread, in the report. “But without a parallel focus on recruiting, training, and retaining health workers needed these interventions will not deliver.”

The charity says that at present there is a global shortfall in funding of health workers. If donor countries donated 0.7% of their gross domestic product to aid (as pledged), and 15% of that to health, then the United Nations’ millennium development goal of reducing infant mortality by two thirds by 2015 could be met.

At present one billion people worldwide will never see a health worker, says the World Health Organization. Children aged under 5 years suffer the most from the lack of care. A critical shortage of doctors, nurses, midwives, and community health workers in the world’s 49 poorest countries means that millions of children die unnecessarily, the report says. A quarter of the global disease burden is in Africa, but the continent has just 3% of the world’s health workers.

For everyone to receive basic healthcare at least 23 doctors, nurses, and midwives are needed for every 10 000 people.

Gains in malaria control in Africa will be lost if funding stalls

John Zarocostas GENEVA

The number of children under 5 years old who die each year fell by a third between 1990 and 2010, from more than 12 million to 7.6 million, new data from Unicef, the World Health Organization, and other agencies show.

Overall about 12 000 fewer children died every day in 2010 than in 1990, the baseline year for measuring progress. The global under 5 death rate fell from 88 deaths per 1000 live births in 1990 to 57 in 2010, but the agencies’ report concludes that the rate of decline is “still insufficient”—especially in sub-Saharan Africa and south Asia—to achieve the United Nations’ fourth millennium development goal of a two thirds reduction by 2015.

Margaret Chan, WHO’s director general, said, “Reductions in child mortality are linked to many factors, particularly increased access to healthcare services around the newborn period, as well as prevention and treatment of childhood illnesses and improved nutrition, immunisation coverage, and water and sanitation.”

Mortality in under 5s is increasingly concentrated in sub-Saharan Africa and south Asia, the agencies say. In 2010 these regions accounted, respectively, for a half (3.7 million deaths) and a third (2.5 million) of the global number.

In 2010 a child born in sub-Saharan Africa faced a one in eight chance of dying before reaching 5 years old, more than 17 times the average for developed countries (one in 143). Nearly all (24) of the 26 countries with an under 5 death rate above 100 per 1000 live births last year were in sub-Saharan Africa.

The report shows that five of the world’s nine developing regions registered reductions in under 5 mortality of more than 50% over the review period. The best performing developing area was north Africa, which achieved a reduction of 67%, followed by east Asia (63%), Latin America and the Caribbean (57%), southeastern Asia (55%), and west Asia (52%).

“Substantial progress is required in both regions,” concludes the joint report, compiled by the UN Inter-Agency Groups for Child Mortality, which also include the World Bank and the UN’s population division.

On a more hopeful note the report also shows that 14 of the 66 countries with an under 5 death rate of greater than 40 per 1000 live births in 2010 reduced their rates by at least half between 1990 and 2010. Of these, the biggest reductions in absolute numbers were in Niger, Malawi, Liberia, Timor-Leste, and Sierra Leone.

Cite this as: BMJ 2011;343:d6013
Injured Syrian protestors are removed from beds as forces target hospitals

Sophie Arie  LONDON

The International Committee of the Red Cross has condemned attacks on medical services in Syria after a local Red Crescent volunteer died from wounds received when his ambulance was fired on as he took an injured person to hospital.

“A Syrian Arab Red Crescent volunteer succumbed to his wounds almost one week after being injured in the course of performing his duties,” said Béatrice Mégevand-Roggo, the Red Cross’s head of operations for the Near and Mid-East. “It is completely unacceptable that volunteers who are helping to save other people’s lives end up losing their own.”

Two other volunteers were injured in the incident in the city of Homs, the latest of several attacks on clearly labelled Red Cross or Red Crescent vehicles.

Disrespect for the principle of medical neutrality and the right to healthcare has previously been seen in Bahrain and Libya as regimes there struggled to quell popular uprisings. Syria is sealed off to outside observers, and human rights groups depend on reports from witnesses. Syrian forces are reported to have taken control of most major hospitals and to be firing on entrances of other medical facilities, preventing access of patients and supplies. The charity Human Rights Watch has been told that injured protesters have been removed from hospital beds in Homs, which has seen some of the worst clashes during the six month uprising.

A doctor at the city’s al-Barr Hospital told Human Rights Watch, “When we tried to help the wounded who needed urgent medical care the security forces pushed us back, saying these were criminals and rapists. They were beating the wounded as they moved them out of the hospital.” Some patients were removed from operating theatres while under anaesthetic.

Witnesses have also reported seeing Syrian forces seize dead and injured protestors from two hospitals in the suburbs of Damascus and firing on their relatives as they gathered outside to retrieve the dead and wounded. Activists say that the regime is seizing bodies to prevent families from holding funerals, which often develop into public protests.

A group of Syrian doctors has reported that at least 134 doctors have been detained by the government or have disappeared, the human rights organisation Physicians for Human Rights said.

There have also been reports of doctors in state run institutions who are Alawites, members of the same minority Muslim sect as the ruling Assad family, having denied treatment to injured protestors or deliberately mistreating and abusing them.

Sanctions against Syria and heavy condemnation of the actions of the regime of Bashar al-Assad by governments worldwide have failed to stem the violence. Human rights groups are pressing for a United Nations Security Council resolution to allow international monitors into the country.