Fair trade for surgical instruments

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We may all be trying to buy fair trade coffee and bananas, but do we know where our surgical instruments are made, and under what conditions?

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The global trade in medical commodities amounts to billions of pounds each year (www.standardsandpoors.com), with much trade between the developed and the developing world. The pricing and availability of pharmaceuticals, medical equipment, and biotechnologies, and the potential conflicts of interest and ethical issues, have all been questioned. Perhaps the most publicised case has been that of the provision of affordable medicines to combat the spread of HIV in the developing world,[1] where international pressure resulted in drug companies cutting prices. Many other medical commodities (such as MRI scanners and endoscopic equipment) are too expensive for the developing world because costs of research and development are high.

Although many have argued the case for subsidising medical and pharmaceutical supplies to aid the developing world,[2–4] the developed world may in some instances be compounding the problem through its own sourcing of medical supplies. Unlike the campaign for the fair trade of goods such as bananas, coffee, and sugar, there has been no such campaign for medical commodities. No systematic investigation has been undertaken into the sourcing of healthcare goods used in the developed world. When these have come from manufacturers in the developing world then, as is the case with other goods, the trade may be open to the exploitation of power by transnational companies, driving down prices and labour standards.

The scale of any such abuse is difficult to ascertain, because we usually do not know or ask where our healthcare products are manufactured or sourced. The trade in surgical instruments is open to unethical sourcing because many such instruments are manufactured in the developing world. This is rarely brought to the attention of end purchasers and consumers.

Trade in surgical instruments

The global trade in traditional hand held stainless steel surgical instruments is worth at least $650m (£352m, €507m) each year (excluding newer fibreoptic instruments or surgical implants).[5] Most of these instruments are made by firms in towns in Europe and Asia—Tuttlingen (Germany), Sialkot (Pakistan), Penang (Malaysia), Debrecen (Hungary), and Warsaw (Poland). Of these, Tuttlingen and Sialkot are the largest areas of production. Each town has over 300 manufacturing firms compared with only a handful in the other areas.[6]

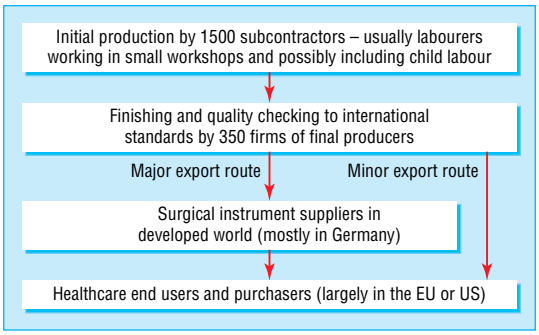

Fig 1 The manufacture and supply process of stainless steel surgical instruments from Pakistan

Companies in Tuttlingen are representative of the manufacture of surgical instruments in the developed world, which relies on specialist technology to produce endoscopes and implants in addition to more traditional instruments. Tuttlingen has an estimated workforce of 6000 and supplies two thirds of the world's surgical instruments, usually through direct trade to end users.[6]

Companies in Sialkot are representative of the manufacture of surgical instruments in the developing world, a practice that stems from the production of swords in the Punjab during the Mughal empire in the 17th century. Production methods are more traditional, with most instruments manufactured and finished by hand. Consequently, production is comparatively labour intensive, employing 50 000 people to supply one fifth of the world's surgical instruments.[6]

Manufacture and supply in Sialkot

Manufacturers of surgical instruments in Sialkot need to minimise costs to remain competitive. To reduce overheads, most firms subcontract the initial production of instruments to workers employed in a small workshop or their own home, with finishing and quality checking of the product in house.[5 6] Before export, quality is checked against European Union or US standards. Manufacturing firms in Pakistan, however, rarely have the infrastructure or marketing presence to allow direct trade with the end users in the destination countries. Most therefore sell to suppliers and retailers

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in the developed world with only a small profit margin.[6] These "middle men" (mostly in Tuttlingen) then trade with end users, predominantly in the US or Western Europe, usually after a considerable mark up. For example, a pair of fine surgical scissors will cost $1.00 to produce, will be exported from Pakistan to Germany at a price of $1.25 (personal communication), and will probably be sold to a hospital for nearer $80.00. In 1999, instruments costing a total of $27.5 million were exported in this way from Sialkot.[6]

German suppliers have sourced instruments from Pakistan for some time. Historically, contractual relationships were developed whereby the German supply firms would use one Pakistani manufacturer.[7] This achieved mutual benefit. For the Pakistani firm it guaranteed regular work and (arguably) a fairly negotiated price for its goods, whereas for the German supplier there was the security that the quality of instruments would be up to the standard stipulated by the contract. Whereas under this system there may still have been questions over the fairness or otherwise of prices that were paid to Pakistani firms, the situation was complicated by new US legislation in 1994 requiring surgical instruments that were imported to the US to comply to international quality standards (a requirement subsequently endorsed by the EU).[7] Manufacturers complied with these standards to remain in business, but this created a shift in their relationship with suppliers in the developed world. Now that the suppliers knew that all surgical instruments would be manufactured to comply with international standards, they were free to award short term contracts based on the cheapest price without the need to stick with one manufacturer.[8] This has driven down the profits of manufacturers in Pakistan and resulted in reductions in labour costs and safety standards. Furthermore, in such a competitive environment suppliers of instruments can stipulate unreasonable terms within their contracts. Instruments manufactured in Pakistan are regularly labelled "Made in Germany," a practice that I have personally seen and that has been reported elsewhere.[8 9] Refusal to comply with such requirements may mean loss of the contract to competitors, and so manufacturers feel they have no choice. Just how widespread such practice may be is difficult to ascertain, but it is certainly common.[7]

Labour conditions

The initial manufacture of surgical instruments involves die making, forging, filing, grinding, machining, electroplating, and heat treatment. Most of these processes are subcontracted to countless small process specific workshops, with the final finishing (chemical cleaning and polishing) and quality checking by the final producers.[5 6] The use of subcontractors became common in the mid-1970s after a period of labour unrest and strikes.[10] Subcontracting minimises company overheads and lowers costs, but, because subcontractors are not employees of the company and competition is fierce, it drives down wages and health and safety standards.[5] Subcontracted manual labourers are paid per instrument,[10] and the average worker earns around $2 a day (personal communication). They have no job security or guarantee of income and no medical insurance or provision of education for their children. Nearly all subcontractors are forced to seek wages in advance from the

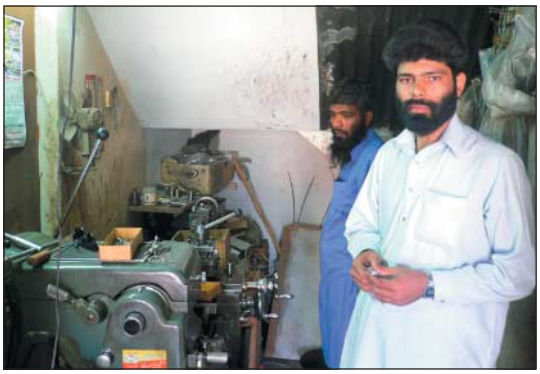

Fig 2 Subcontracted labourers in the surgical instrument manufacture sector, Sialkot

firms that employ them,[7] further disadvantaging these workers' position in arguing for a fair wage.

Many subcontractors use child labour. Of the 50 000 labourers around 7700 are children,[9] most starting work at the age of 9, and some as young as 7.[11] For these children work is often a necessity; with large families and low wages the children in a family must work or the family risks starvation.[12] Because of the subcontracted nature of the manufacturing process, there is little regulation of these employment practices (personal communication). These children are often from illiterate families, and they remain illiterate because of lack of education.

The manufacturing processes result in exposure to machinery used in forging, grinding, drilling, and milling; poor wiring; metal dust; noise; repetitive strain injuries; and toxic and corrosive chemicals including sulphuric acid, nitric acid, and trichloroethylene.[11] In one study into the health of child labourers in the surgical instrument sector, 95% reported poor sleep, 50% reported injuries at work, and over 80% reported pain in the lower back, neck, and shoulders, as well as an increased incidence of conjunctivitis and bronchiolitis.[11] Again the subcontracted nature of the work affords no protection to workers and no finance or incentive for the workers themselves to give occupational health a high priority.

Response to the problem

There has been some international and domestic response to the cause of the surgical instrument manufacturers in Pakistan, but most of this has centred on the issue of child labour. A programme between the

Fig 3 Finishing and quality checking of surgical instruments, Sialkot

International Labour Office (ILO) and the Surgical Instruments Manufacturers Association of Pakistan (SIMAP) is currently in its second phase. Its purpose is to monitor child labour in the sector and withdraw children from work to enrol them in funded education programmes.[12] So far around 1500 children have been provided with education and reduced working hours, but few have been able to leave employment altogether.

Perhaps the more important issue is to look at the underlying cause of the problem—that of inadequate remuneration and labour standards. Purchasers of surgical instruments in Norway and the US have in the past refused to buy instruments unless they can be certified as not having been produced with child labour[9 13]; but such moves may reduce trade with the manufacturing regions, only compounding the underlying problems of poverty. The solution lies in purchasers insisting on fair and ethical trade when sourcing instruments. Pressure must be applied to suppliers in the developed world to be transparent about where their instruments have been manufactured and for them to ensure that the labourers have been paid a fair wage for their work and that basic international labour and health and safety standards have been followed, as defined by the International Labour Office.[14] Again this must be done with due consideration; too heavy a hand may be to the detriment of trade in the region, which will impoverish these areas further. This pressure can come only from the purchasers of these instruments; in a financially competitive sector it is only the potential loss of income that can effect realistic policy change.

Increasingly people in the developed world consider ethical issues when they purchase groceries, clothing, and various other products. Yet we know relatively little of where and under what conditions medical commodities like surgical instruments are manufactured. The UK government has declared itself a key proponent of the EU framework for corporate social responsibility,[15] and within this context the NHS Purchasing and Supply Agency has developed a sustainable development policy.[16] The stated aims of this policy include encouraging NHS suppliers to ensure compliance with international labour standards and to act in an ethical business manner. Yet at present the health service is not meeting such obligations; there is no systematic assessment of the origin of the products it uses or the conditions under which they were produced. It is time to insist on fair and ethical trade.

Contributor and sources: MB has an interest in global health and medical ethics and has ancestral roots in Sialkot, Pakistan. He visited the region in summer 2005 and was invited to see the areas where surgical instruments are manufactured. He subsequently undertook both literature based and interview based research into this topic (much of his information was from personal communication with workers in Pakistan, who wish to remain anonymous). He has chaired a workshop at the 2006 Medsin Global Health Conference investigating the ethics of global trade in medical commodities.

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Summary points

Many surgical instruments are manufactured in the developing world, particularly Sialkot in Pakistan

Labourers involved in manufacture earn poor wages, have poor health and safety standards, and include child workers

Suppliers of surgical instruments in the developed world may abuse their position to drive down prices in the developing world and stipulate unreasonable contractual obligations

There is a need for fair and ethical trade in the manufacture of medical commodities, and for the end users of these commodities to press for these changes

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Corrections and clarifications

What social marketing can do for you
The wrong Washington crept into the author affiliation in this article by W Douglas Evans (*BMJ* 2006;332:1207-10, 20 May). After the author had seen the proofs we added the state initials WA, whereas in fact he hails from the other side of the United States, Washington DC.

Cover picture
We failed to credit the art work on the cover of the 1 July issue to Susie Freeman. The work was a detail from an installation (at the British Museum, London) that was put together by Susie Freeman, David Critchley, and Liz Lee.

BMA's claim of unemployment among junior doctors is rejected
In this news article by Caroline White (*BMJ* 2006; 332:1471, 24 Jun, doi: 10.1136/bmj.332.7556. 1471-c) we said that the NHS Confederation questioned the BMA's claim that a shortage of training posts will prompt a mass exodus of junior doctors from the NHS. In fact, it was NHS Employers, a part of the NHS Confederation, that questioned the claim.