TRANSFERRING MEDICAL TECHNOLOGY
Reviving an Umbilical Connection?

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The American Association of Physicians of Indian Origin and the Medical Council of India have recently agreed to sponsor a new scheme for training Indian doctors in the latest medical techniques. This article describes the elements of the scheme and discusses its implications especially in terms of its relevance to the Indian health scene and the dependency relationship it would reestablish and strengthen. The author contends that government has devised an ideal plan to keep an important restless and fairly politicised group — medical professionals — happy at only a small financial outlay. Could this money not be better spent on strengthening existing sources of medical knowledge such as professional foreign journals or available medical equipment? Or for that matter, could the money not be better spent on strengthening basic health care?

The scheme goes into operation sometime this year and needs urgent consideration. We invite readers to critically examine the scheme and to generate debate around the issues it raises in SHR and in other forums as well.

A new scheme to "transfer high technology" in the field of medicine has recently been announced by the Health Ministry. The Ministry has joined hands with the Medical Council of India (MCI) to support a venture of the American Association of Physicians of Indian Origin (AAPIO). We are told that this scheme was cleared "at the highest levels" last year, and will commence during the course of this year *(Statesman,* 1985*)*.

What is the proposed content and mode of functioning of the scheme? From the information available, it appears that Indian doctors residing in the USA will be invited by the Medical Council to train their local counterparts in the latest medical developments. Training will be "on the job", using demonstration techniques — "most probably" on patients. "New" medical technology is to be used. It is proposed to train doctors at 20 centres and in 20 different medical specialities in the next few years. Each group of trainers is expected to consist of 50 doctors. The first such group will travel to the major cities of Bombay, Delhi, Jaipur, Madras and Trivandrum by the end of this year. They will undertake training in urology, neurology, cardiology, etc., staying for "no more than three to seven days" at each centre. The cost of the scheme is intended to be borne by the individual doctors from the US— an estimated 100,000 dollars this year — except for their local transportation and stay costs which will be met by the Indian Government. The scheme is proposed on an "ongoing basis".

Several points need to be made about the proposed scheme and some questions raised alongside. First, one must note that the programme is geared towards the *training* of local specialists in the use of recently developed medical technologies rather than to the transfer of *manufacturing* know-how. It would be interesting to know specifically which medical technologies will receive attention, and whether the equipment involved is manufactured locally. The only clue we have is the emphasis placed on "new" technologies and "specialist" centres and personnel. This leads one to believe that the training might be in sophisticated medical techniques for which the equipment is not locally manufactured. In the absence of specific plans for the concurrent importation of blueprints to manufacture the equipment indigenously, one can only conclude that the government intends to import ready-made equipment from abroad for use by the trained specialists (or has already done so). Is it the government's intention to enter into schemes which provide a market in India for exogenously manufactured equipment? If this be the case, I must opine that the government should not be spending the very scarce resources of the health sector - however little of them - on such an objective.

A second question that must be raised is : Is the scheme a good way to bring local medical specialists up-to-date with the latest technological developments? To answer this question one can compare the circumstances in which the 'trainers' acquired their knowledge, and those in which they seek to impart it. The American medical practitioner practices his speciality in a milieu replete with the latest medical technology. The American doctor is inundated with information on the latest developments through literature, sales men, the media, access to professional associations and speciality conferences

(where, incidentally, a prominent part is usually played by the promoters of new drugs and equipment), not to mention his everyday work environment. On top of all this, according to a spokesman of the AAPIO, US-based doctors study their speciality an extra 50 hours a year to bring themselves abreast of the knowledge required to pass th ir licensing exams.

In contrast, the scheme proposes "three to seven hours" of demonstrations for the local doctors at specialist centres. The Indian medic, though also exposed to a fair amount of promotional literature from drug and equipment firms and some of the other 'aids', does not have an easy access to broad-based scientific literature which can assist him in making reliable judgements on the use of new materials. As a case in point one can cite the rapidity with which private practitioners prescribe the latest formulation of a drug. The culture of "kickbacks" from company salesmen (calendars, plastic knick-knacks, tickets to dinner at a local five-star, free samples, support for travel to conventions, and much more) has tended to subvert the spirit of scientific enquiry, and even clinical ethics. On the other hand, practitioners may hesitate to acquire even time-tested diagnostic equipment at their private clinics, largely because they have no shortage of clients, regardless how 'backward' the service they deliver. (None of this is to say that such abuses do not take place in the US as well, but the points of check-and-balance are considerably different.)

The situation of public medical personnel — including those at specialist centres — is similarly problematic. They work in intensely over-crowded and poorly supplied circumstances. There are severe bureaucratic and financial constraints to the acquisition of new equipments. Adjunct medical libraries are mostly in a sorry shape. Few professional associations bring out high quality journals, and personal subscriptions to foreign ones are prohibitive. There are few incentives or opportunities to upgrade one's knowledge and skills. Thus, the very different milieu of trainers and trainees will make the transfer of knowledge extremely difficult. *One might suggest, provocatively, that the 100,000 dollars the AAPIO proposese to spend annually on airfares to India would be better spent on supporting journal subscriptions for Indian institutions, or on schemes to provide young Registrars and Senior Residents who are anxious to upgrade their skills access to the "interesting"/difficult cases and specialist equipment which are usually nabbed by their seniors.* Such efforts to fertilise the soil before the specialist knowledge is transplanted may result in a richer harvest.

It is in this context that the fact that the proposed scheme does not mention the importation of any equipment or blueprints gains extra significance. "Three to seven hours" of demonstration will not overcome the problem of short supply of equipment extant at most centres. Does the government see this as a lesser constraint to the proper functioning of its health institutions than a lack of training in the "latest medical developments" of its doctors? Of course, much sophisticated medical equipment is already manufactured locally and therefore does not need to, indeed should not, be imported. But the heavy burden on specialist health centres, the lack of adequate procedures and facilities for maintenance and repair of equipment, the bureaucratic red-tape which delays or prevents the acquisition of replacements, as well as the politics and malpractices regarding the use of certain types of equipment at public health institutions remain major problems the government needs to tackle. The third point then is that, even assuming that the training programme is successful in transferring the requisite specialist knowledge, it is difficult to see how the specialists will be able to apply their training given existing conditions.

A fourth and related question is: Are the Indian doctors travelling home from the US the most suitable trainers for our local specialists? We must recall that most of these doctors would have left India after their early medical education, acquiring the bulk of their specialist expertise abroad. Notwithstanding their Indian origins and basic exposure to medical care in India, how appropriate is their practical expertise when transplanted from the sterile, almost martial, atmosphere of a US hospital or clinic, to a local centre where even the supply of gauze and cottonwool, leave alone adequately aseptic instruments and operation theatres, is in doubt? The main reason, however, to concede their suitability (assuming — only momentarily — that a training scheme is necessary or desirable) is that it is difficult to think of a better alternative. Non-Indians from the West have the same handicap, perhaps without the mitigating factor of cultural empathy. Sending local specialists abroad for training is of course a greater burden on the exchequer, and runs the risk both of irrelevance and of further 'brain drain' although this has worked in many instances in the past.

Returning to the proposed scheme, one is compelled to ask, who are the intended beneficiaries? In view of the very short training that will be given and the lack (to our knowledge) of concurrent plans to overcome the bottlenecks of inefficient management, poor logistics, highly politicised working conditions, and low pay that hamper the functioning even of our super-speciality centres, it is doubtful that the local specialist trainees have much to gain. The patients on whom the techniques would be demonstrated would merely be playing the roles of guinea pigs, the likelihood of a spread of benefits to vast numbers being most remote. Thus, one is forced to seek the answer to this fifth question elsewhere, for example, in the participating Association of Physicians or in the individual physician trainers themselves.

As the membership of the AAPIO currently numbers some 25,000, it is worth investigating whether the scheme passes muster on the ground that a sizeable group of important people would be benefited. Simple arithmetic, however, tells us that over the next 16 years (until the year 2000 by which time the world community is striving to achieve "Health for All"), at the current rate of 50 doctors per year, 800 may participate in the scheme. Alternatively, if one allows for a five per cent per annum rate of growth in numbers of participants in the scheme, the total may rise to 1200. Even this higher figure is less than five percent of the current membership of the AAPIO (which will inevitably increase over the years)—a figure so small that one would not expect sizeable benefits to accrue to the Association at large, especially as we have not been told of any mechanisms that the Association proposes to introduce to "spread" the effects of such a scheme among its members. We must remember too that the AAPIO is an umbrella organisation comprised of 15 other associations of Indian physicians resident in the US. The smaller organisations and their members are scattered throughout the country, a land two-and-a-half times the size of our own vast one. Doctors in the US also work under most rigourous, albeit better facilitated and more remunerative, circumstances. *So, how a 1000-odd fellows who have participated in training their counterparts for "three to seven days" on one occasion in India can benefit their own larger community remains to be disclosed.* How their participation in such a scheme can help to bring about the political clout that they aspire to within the American medical fraternity and with the US congress is certainly impossible to see.

In the absence of the possibility of wider fallout from this programme—either to the US-based or indigenous professions, one can only conclude that the main beneficiaries of the scheme would be the participating doctor trainers. To put this into perspective, it must be realised that many of these doctors moved away from the land of their birth and early medical training with feelings of despondency and in search of better opportunity. Thus, we need to consider their participation in the scheme at a purely human level. The scheme provides a mechanism through which they can make up in some small part what they have taken from their homeland and the government (and thereby "the Indian people") in the way of a highly-subsidised and western-oriented medical education. In my ten years of residence in the US, I knew many Indians including professionals in the health field, who felt intense feelings of guilt on this score, and constantly and earnestly searched for ways to assuage this guilt. Another feeling was that of confusion about cultural identity to which many emigres are subject and Indians in the US — doctors included — are no exception. This is manifest in a desire to have both worlds—the better-heeled, more efficient working and living environment of the west, as well as the more "homely", colourful, and meaningful life of India. Thus, the scheme at another level provides an opportunity to bring this dream to fruition. If nostalgia, aged parents, or the search for a prospective son-in-law (a doctor who will quality for a Green Card?) draw participants to the scheme, after the seven days of training will come the family reunion, the shopping spree, the trip to Kashmir. Given the groups of 50 or more, the scheme may be "development tourism" in its most disguised form yet.

In sum it is possible that the doctors of the AAPIO would benefit from this scheme, but as far as I can see the benefits would be social and psychological rather than professional.

Lest the reader misunderstand, let me be perfectly clear. Both the sets of feelings mentioned are perfectly human and one sympathises deeply with those who experience them. But the question here is: is it necessary or appropriate for the Indian government to use its money and materials supporting local transportation and stay costs, not to mention the valuable time of the trainees and the fanfare that will undoubtedly accompany the training, to assist a few individuals (who are fairly comfortably off) to overcome their pangs of conscience or estrangement? I think there are more pressing priorities for the very scarce resources of the health sector.

If the scheme fails the test of its overt intention — professional development — we must consider a sixth issue, its possible "hidden agenda". The first item on this agenda could be the conduct of collaborative research between the two groups of doctors. India, as we well know, provides a huge sea of human beings on which experiments could be conducted, a vast range of pathologies which pose real scientific problems or can be used as "models", and sufficient institutional facilities for highly sophisticated experimentation. Similar material is hard to come by in, say, a US situation while the medical-scientific community there faces immense pressures to do significant original research, "publish or perish". Many Indian practitioners also would welcome opportunities for collaborative research because they may have insufficient funds of their own, they may be devoid of ideas, or they may be facing a problem "getting published" in reputable international journals. These problems could be overcome through collaborative efforts. The scheme under discussion may well intend to foster such 'mutually beneficial' arrangements. As a young doctor friend of mine put it, "in 'three to seven days' there is little the US-based doctor can teach — but much he can learn" and, I would add, arrange.

On the face of it, such collaborative efforts should perhaps be welcomed if they further the cause of science. But the point at issue is whether this government-appointed scheme will provide any safeguards against the abuses with which we are aware the system is already rife. While in the west, human experiments and trials are rigidly controlled by law, medical ethics review committees have been widely established (particularly in large hospitals affiliated with teaching or research institutions), and wronged patients or unknowing individuals have legal recourse through malpractice suits, in India the field is almost wide open. We have no laws expressly controlling human experiments, other than torts. The potential of medical technology to be misused in our social and economic context is amply illustrated by the saga of amniocentesis and fatal sex determination, and legal lacunae by the governments inability to bring unscrupulous medical practitioners to book in this case. Ethical guidelines issued by the Indian Council of Medical Research are at best applicable to its own institutions and projects, and not binding on others, nor on private practitioners. Although consent may be sought at hospitals and clinics for various invasive procedures, this is rarely "informed".

There is a second possible item on the scheme's hidden agenda. It may simply be another way of attracting investment from non-resident Indians. Indian doctors in the US are certainly a group worth enticing as the most successful among them would have annual earnings of over 1 0,000, dollars and considerable savings. Their membership of associations makes them easy to reach with investment propaganda. The doctors also enjoy prestige among other non-resident Indians (NRIs), and so there could be some 'snowball effects' on investment. Without going into the pros and cons of NRI investment I should like to take a close look at whether the mechanics of this scheme would meet this objective and, more importantly, at what the side effects may be for the country's health system. Regarding the mechanics, I have already pointed out that the number of doctors the scheme can reach is small. Although we do not know yet what criteria would be used by the AAPIO to select participants in the programme, if a good proportion of them are to become investors, selection would have to favour those who are 'commercial-minded' and have large bank accounts. In the US, as in India, wealthier doctors tend to be in private practice rather than in public hospitals or, academic institutions. They are likely to be the best participants in the scheme from the investment point of view. But they may not be the best candidates (even from among the members of the AAPIO) from a professional point of view, suggesting a diametral contradiction between the scheme's overt and possible covert aims.

There are also other possible negative "side effects". In the hope of attracting financial investment, are we potentially adding to the "brain drain" of doctors out of the country? We must not be blind to the continued desire of many Indian doctors to emigrate — and this scheme may provide a good opportunity for the 'recruitment' they seek. There is a growing disenchantment with emigration to Africa, the Middle East and the Gulf, and a renewed effort to get to the countries of the west is evident. There may also be signs of a relaxation in the embargoes placed by Western countries on immigration of South Asian doctors five or seven years ago when their health systems were saturated and when a sense of international responsibility in the wake of the Health-for-All movement may have prevailed. A demonstration that an emigrating doctor can have his cake and *roti* too may act unconsciously to motivate others to follow suit. Thus, while the scheme may meet its unspoken investment objective, it may obliquely harm the existing medical services. It is worth recalling the Hippocratic oath - and hoping that our policymakers and the doctors who propose

to participate in the scheme will do the same: "First, do no harm".

As an aside, it is possible of course that this scheme is seen (at the same time as being investment-motivating) to be precisely an answer to the brain drain issue. By making specialist training available locally, it may be hoped that the desire of young doctors to go abroad, ostensibly in search of such training, would diminish. *It is also easy to see that by putting out a relatively small amount of funds, the government has devised a 'plum' to keep an important, restless, and fairly politicised group of professionals — medical specialists — happy and feeling that India will enter the 21st medical century on time.* Neither of these situations is likely to obtain, however, in the continued presence of the irritants discussed earlier, which motivate both the outmigration phenomenon as well as the political volatility of young doctors.

Another possibility that deserves some consideration is that the scheme has some actual or potential connection with the programme of concessions to attract non-resident Indian professionals to return to India — to reverse the brain drain, as it were. All that needs to be said on this, in the light of the foregoing discussion, is that concessional strategies tend to gloss over the underlying causes of the exodus. Thus, in lieu of them — if there is any connection — the government would do better to concentrate its attention on improving the working conditions of those doctors who remain in India, preventing not just legally but substantively, a further drain.

Returning to the investment possibility, one can further refine it. The government perhaps hopes that the US-based doctors will invest not just generally in Indian enterprises, but specifically in the medical and health sector. It may be with such prescience that the vice-president of the AAPIO has expressed confidence "that this Scheme will do a lot of good to the cause of the Indian medical services" (for, as we have suggested, it is unlikely that the training itself will achieve this broadside.) The dual health economy is well-ensconced in India. Many large hospitals and specialist treatment centres have been established by private investors including major industrial houses such as the Mafatlal and Modi groups. Privatisation is also being seen as the future mode. The recently-framed National Health Policy specifically calls for the encouragement of private investment in speciality and super-speciality services, as well as for the government to "utilise and assist" private voluntary organisations to participate in health services. At one level, these are welcome suggestions because of the innovation likely to be brought to the health sector through these mechanisms, and more so because they are intended to reduce government expenditures for sophisticated medical care, thereby making more monies available for primary health care and public health services. The proposed scheme may be seen as a step in this direction, but there is also the grave possibility that the cart has been put in front of the horse. There is already considerable investment in specialist health facilities in terms of their share of the health pie. What is needed, first, for "health for all" is a reallocation of funds (at least **plan** funds) to rural health schemes. It is also essential to enlarge the total allocation to health. To put further investment into the sophisticated medical sector (however small the amount) without such reallocation is to relegate much of the National Health Policy to the status of a lame duck. If the budget to the health sector does not increase, both in real terms and in terms of per cent of GNP, such skewed investment may be tantamount to the government opting out of health for all altogether. To attempt to attract external investment through a scheme "update" specialised medical personnel in the "latest developments in medical science" is to give the lame duck a further kick in the pants.

This brings us the most crucial question of all: is the proposed scheme relevant at all to the country's needs? The National Health Policy itself has called the existing system of sophisticated health services "inappropriate and irrelevant" to the country's needs. Is a scheme which proposes to upgrade them any less so? The specialities mentioned thus far are certainly not those required to treat the major diseases or prevent the untimely deaths in our country. In this respect, the scheme is what Lewis Thomas has called "halfway" technology rather than "real high technology" which is addressed to significant problems, is effective, inexpensive and inconspicuous. In the latter category are many potential points of collaboration between the government and the AAPIO.

If the government is at all serious about its commitment to primary health care, it should perhaps encourage the AAPIO to 'invest' in establishing clinics to supply basic health care and medicines to the remotest rural areas, and to "donate" personnel time to training trainers

of village health workers. But note : any collaborative venture or technology-transfer must resist the malproportions of one of Mr Raj Narain's efforts to provide medical services to rural areas. If the import of the 300-odd over-sized mobile medical vans has come to be known as the "white elephant scheme", any encore deserves worse epithets. If the absorption of such donations into the public rural health sector presents problems, there are innumerable private, community-based health programmes which would do good work with them. Thus, the two aforementioned aims of the Health Policy might be collapsed into one more in keeping with its overall intention — private collaborative enterprise for rural health care. However, I broach this idea with caution because, of course, the countryside is also dotted with agencies who wouldn't do any work at all, there are many examples of foreign donations being frittered away, and I know of atleast one major unhappy experience of an NRI-supported rural "enterpreneurship" programme going awry. The point here is simply that the challenge lies in rural health, and that a programme of greater benefit to more people than the proposed one might be designed around this challenge. Even the small funds envisioned to be spent on this scheme could be used to establish basic health care, so that by the end of the century a few more of our countrymen and women and children might be closer to the dream that is "health for all". As it is currently conceived, the proposed scheme may reestablish an umbilical connection, but the product is likely to be stillborn.

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BHOPAL NEEDS YOU

In March the Medico Friend Circle — a group of doctors and health workers — undertook a systematic study of the affected population in Bhopal. In the coming months they will publish the report of the study and plan to disseminate the information mainly to the local population, to doctors and to the health establishment and to voluntary groups and activists working in and on Bhopal. Follow-up plans also include a study of pregnancy outcome since the disaster.

MFC appeals for your support, donations and involvement all of which are urgently needed. Cheques may be sent in favour of MFC Bhopal Fund. For further information contact : Dr. Ravi Narayan, 326 V, Main, I Black Koramangala, Bangalore 560 034.

Some Good News on the Drug front at last !

Ciba Geigy has withdrawn clioquinol containing and related drugs from March 31, 1985. This group of hydroxyquinolines have been proven responsible for a serious nerve disease SMON (subacute myelo-optic neuropathy). The drugs withdrawn are Mexaform, Entobex and Enterovioform.
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