# National (non-) regulation in a global pharmaceutical world

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## Abstract

A major concern for theorists of the governance of pharmaceuticals is that of 'regulatory capture,' when 'the pharmaceutical industry influences the perspective of the regulatory agency—so it comes to adopt their interests over and above those of patients' (Abraham 2002: 1498). Pharmaceuticals can be inappropriate, dangerous, ineffective or of low quality, and the problems for public health may arise in any or all of the processes of production, distribution and consumption of pharmaceutical products. Looked at from the perspective of south Asia, focusing on the individual state may itself be a mistake, since pharmaceutical regulation in the colonial and post-colonial eras has always been globalised. But globalisation poses only some of the problems faced by states: some fields of action (such as the regulation of pharmaceutical prescription and distribution) are clearly 'national', yet they have always posed considerable regulatory problems. In this paper we argue that academic debate on these issues has been dominated by two problems: an undue focus on industrially developed countries; and over-attention to 'industry capture.'

Attempts to regulate pharmaceuticals in conditions of inadequate public health services seem to face inherent contradictions. Internally, to implement the strict regimes that exist on paper (in the various Acts, Rules and Regulations) would be massively politically unpopular, probably leave a huge vacuum in services to poor people (especially in rural areas), and would grant unearned quasi-monopoly powers to 'recognised' practitioners, distributors and producers. Externally, global institutions or of other governments try continually to influence policy in areas over which they have no formal responsibility. In international agencies, the 'modelling of regulations' is carried on using expertise that is 'detached from local contexts' (Jansen and Roquas 2005: 142, 143). In foreign governments (such as the US), there is similarly no requirement for their agencies (such as the Food and Drug Administration) to take account of the effects of their actions on supplier countries.

In this paper we explore how these issues of regulatory capture, the limitation of domestic 'reach' in implementing pharmaceuticals policy, and the changing global environment, play out in the case of India. What kinds of local contexts are and are not brought into play by the advisory committees constituted by the Government of India to propose changes in the regulation of pharmaceuticals since 1995? In particular, how have the reforms in the international context – the WTO and TRIPS, leading to product patents for pharmaceuticals in India – impacted on India's regulatory framework?

## Introduction

> How do we build up the capacity of the state to do whatever it wants? Often this is posed as a question of governance reform. But our debate over governance reform has also taken a misleading turn, because it assumes that governance reform is about implementing designs created by committees of technocrats. Rather, the first order of business is to restore credibility to the state itself (Mehta 2009)

In our research on 'Tracing Pharmaceuticals in South Asia' we followed two key strategies. Firstly, we looked in detail at the circumstances of production and use of only three pharmaceuticals (oxytocin, fluoxetine and rifampicin) and their immediate competitors. Secondly, we considered issues of regulation and inappropriate use at all stages, from the sourcing of raw materials (bulk drugs) to the final consumption of the product. In this paper, I consider the significance of the second strategy, with an eye in particular to two key features that emerge. The first is that, in contemporary India and Nepal, issues of pharmaceutical regulation do not routinely use this 'cradle-to-grave' approach. The regulation of some parts of the process attracts far more attention than others, and the links between these parts are poorly co-ordinated. The second is that regulation takes place with two significant disconnects. The first is between the assumptions underpinning regulatory measures on the one hand and the everyday conditions of drug production, distribution and consumption on the other. The second is that the local regulation of production, distribution and consumption is inadequate to deal with the global context within which these processes take place.

Two examples from our research set the framework for these issues of 'disconnection' that we consider in this paper. The first comes from our observations of everyday medical practice and how it does not match the assumptions, rules, norms and expectations that underpin much policy discussion of pharmaceuticals regulation in state capitals or in New Delhi. We are faced with a surfeit of possible examples, whether from our own visits to factories involved in formulating, packaging and dispatching pharmaceuticals, from wholesalers' depots and pharmacists' shops, or from the conditions in which these drugs are prescribed and then consumed.

**Example 1: Subho Ghosh**

Our first example is of a practitioner, Subho Ghosh, who works near Shanti Niketan, a small university town in West Bengal. Subho set up his clinic after working for ten years as an assistant to his father and uncle, neither of whom had formal qualifications. They themselves had picked up homoeopathy, and learned allopathy from a friend who worked in a hospital as a 'doctor'. Subho opened his clinic, he says, in order to make treatment available locally so that patients do not have to spend a lot of money travelling to town. In his everyday practice he kept a stock of medicines to prescribe, but if he had no stock of some drug he would write a note and the patient could buy it from one of the three or four pharmacy stores nearby.

Subho described his treatment of TB, because he had just attended a training course to involve private practitioners in the national TB control programme. He said he had never used Rifampicin, because his patients were too poor to buy such medicines: and the other – homoeopathic – drugs he knew about were not strong enough to cure TB. We then asked him about his role in childbirth. He named a homeopathic medicine, *Pulsatilla*, which he would prescribe because 'It will dilate the passage, make it normal so that the delivery is easy. This is

not effective in cases of the first pregnancy.' Although he did not recognise the term 'oxytocin' he did recognise 'syntocinon'.[1] In delivery cases,

> 'the midwives come and inspect first … When the labour pain starts, they call me. When the midwife says the time is right, then I administer syntocinon. [You do not see the position yourself?] No, no.'

He first said that patients were offered a choice between the systems and those who preferred allopathic medicines were given syntocinon; later he said that women in labour did not know what to ask for, and he gave them syntocinon without asking them.

Finally he talked about psychiatric medicines: he denied having patients with depression but he did prescribe

> 'sedatives like Alprazolam to keep the brain cool. [Nothing more?] Alprazolam to keep the brain cool. Besides there are drugs like Calmpose etc. which I do not use. [You do not use them?] No. [And Amitriptyline or Fluoxetine, anything like that?] No. No, I do not use them.'

He gets his medicines from a wholesaler in Burdwan, not directly but with the help of friends who collect them on his behalf. He prefers branded products:

> 'Because they are generic medicines, they are not effective. And we do not understand everything about generic medicines. We cannot understand which are generic from their names' (Interview 22 March 2008).

This example – like others we could cite at different points in the supply chain such as medicine shops – describes a situation of *jugār* medicine: medicine that is 'make-do-and-mend' or 'Ersatz' medicine (Pinto 2004). Even though the ideal and symbolic appeal of 'real medicine (provided by government and nongovernment health institutions) remains strong, much everyday provision comes from 'practitioners who are neither "quacks" nor legitimate doctors but who invent roles for themselves as medical authorities': Pinto also suggests that such practitioners are 'representatives of development, not aberrations from it' (Pinto 2004: 337). In many parts of rural India, and in some parts of urban India as well, the state has failed to provide adequate numbers of properly trained 'legitimate' health workers. As a result, 'equality for all is precluded and what remains is equality for some'. Targeting the 'inventive quasi-institutional practitioners' misses the point: these people survive in the spaces left vacant by the state. Yet they are not outside local power relations, nor is their presence just a sign of the temporary, as-yet-inadequate spread of cosmopolitan medicine. Rather, their activities provide evidence of how development, as a global project of myth-making, gains its local character (Pinto 2004: 355-56, 358).

**Example 2: the US FDA and Ranbaxy**

Our second example comes from the other end of the global-local spectrum: the activities of the US Food and Drug Administration [FDA]. As the FDA expands its global reach, it investigates in minute detail how Indian multinational companies, in this case, Ranbaxy, produce generic drugs. In September 2008 the FDA issued two Warning Letters to Ranbaxy Laboratories Ltd., and an Import Alert for bulk pharmaceuticals produced by Ranbaxy's

[1] Syntocinon is the trade name for a commonly available form of synthetic oxytocin in India, produced by Novartis; Pitocin (produced by Pfizer) is another.

Dewas and Paonta Sahib plants. The FDA had concerns about deviations from US current Good Manufacturing Practice (cGMP) requirements, although 'FDA has no evidence of harm to any patients who have taken drugs made in these two facilities' (US Food and Drug Administration 2008a). In respect of the Dewas unit, the 13-page Warning Letter details many concerns about possible cross-contamination of drug production, and of weaknesses in sterile processing arrangements observed during a 2-week visit by two investigators. The Letter also lists inconsistencies in Ranbaxy's written reports that claim that the company is complying with quality assurance procedures (US Food and Drug Administration 2008b). In the case of Paonta Sahib, the 7-page Warning Letter focuses on the results of a 5-day visit: the first reported concern was that

> Written records of major equipment cleaning and use are inaccurate and do not provide assurance that persons double-checked the performance of equipment cleaning, because there is no assurance that those persons responsible for determining that work was performed were present at the time of equipment cleaning (US Food and Drug Administration 2008a: 2).

The letter went on to specify that 'our investigative team uncovered fourteen (14) instances … where … records for equipment used in manufacturing operations … included initials or signatures of employees who reportedly verified cleaning of equipment but were not shown as present by security log records' (US Food and Drug Administration 2008a: 2). In February 2009 the FDA followed up these Warning Letters with an Application Integrity Policy [AIP] letter to Ranbaxy, which charged that:

> These and other findings indicate a pattern and practice of submitting untrue statements of material fact and other wrongful conduct, which raise significant questions regarding the reliability of the data and information contained in applications (pending and approved) that your firm has filed with the Agency (US Food and Drug Administration 2009).

Our point here is not whether pharmaceuticals produced by these plants were or were not dangerous or sub-standard, or were at enhanced risk of being so.[2] Nor do we deny the possibility that the FDA is targeting Ranbaxy as pawns of its competitors. Rather, the example shows how the US FDA can and will play crucial and detailed roles in setting production and record-keeping standards at Indian factories –roles that are likely to become more common since the FDA has established a New Delhi office (in January 2009) and intends to use it to monitor about 100 production plants in India (Shankar 2009). These activities take place completely outwith the oversight of the Government of India – who might well, by their tolerance of these activities, rather welcome the initiative, even if they are unable for political reasons to admit this. The US FDA, of course, is acting only to protect US consumers: although it is sometimes argued that its actions will improve the quality of medicines in local (in this case, Indian) markets too, it seems more likely to lead to double standards – high standards for exports and low ones for local, and especially rural, markets. And as far as we can tell, site visits of the scale and intensity mounted by the FDA far exceed those of the Government of India's own regulators who are supposed to carry out the same tasks and to protect Indian consumers. In other words, perhaps without the general public being fully aware of what is going on, India is *de facto* accepting the idea that developing countries should not duplicate approval processes within country but should instead rely on the expertise of

[2] Indeed, the UK and Australian joint review of the same facilities in October 2008 approved them for a further 3 and 2 years respectively: see (Grogan 2009)

stringent regulatory authorities. On the other hand, we do not know if the products of these hyper-regulated factories are entirely for export, or if they also serve the local market.

These two examples are not designed to make a case for more (or less) stringent implementation of the existing rules and regulations that are supposed to protect the public from malpractice of one kind or another. Instead, we suggest the examples lead to two main conclusions. The first is that at neither of the two extremes (the regulation of everyday local practices, and the regulation of complex globalised technical practices) is the Government of India (or the governments of its constituent states) able play an independent and effective role.[3] The second conclusion is that, whereas there are alternative actors able to step in and take over Indian government roles where failures impact on international trade, the equivalents at the local level (whether civil society activist or advocacy groups, professional associations or political parties) are unable to have a similar impact.

In the rest of this paper we ask how this situation has arisen, and what attempts have been made by the Government of India to prevent or ameliorate the problems of pharmaceuticals regulation in the country. In what follows, when we use the term 'pharmaceuticals' regulation' we mean the regulation of any aspect of the production, distribution, prescription or consumption of a pharmaceutical product or the raw materials that are used in its production.

## Regulation in India: The Global and the Local

Since colonial times, the regulation of pharmaceuticals in India has been a problem for the Indian state. Under British rule, the state had an ambiguous legitimacy as a colonial invention and it was faced with alternative medical traditions (which served the majority of the Indian population), making it difficult to legislate a single common standard pharmacopeia, or to establish a single set of rules for licensing individuals qualified to prescribe the substances included in the list. Attempts to licence medical practitioners began in 1882, when the General Medical Council in London recognised Indian medical degrees. From 1907 to 1930, the Government of India tried to maintain this recognition, under increasing pressure from the GMC for it to create an Indian Medical Council, which finally emerged in 1936 (Jeffery 1979). But even then registered practitioners gained little benefit from becoming licensed by the Council, since their competitors could also practice and prescribe drugs (both cosmopolitan and according to local formularies) with little difficulty. The regulation of pharmaceuticals' production was piecemeal until the Drugs and Cosmetics Act of 1940, and the (by now, much-amended) Drugs and Cosmetics Rules of 1945. An Indian Pharmacopeia was first published in 1955, building on work that started in 1944, under the direction of R N Chopra. Until then, the British Pharmacopeia (with some additions) operated within the country (Singh 1994).

In Independent India, the regulation of pharmaceuticals was divided between the Department of Chemicals and Fertilisers (for matters related to production quality and pricing) and the Ministry of Health (for the registration of pharmacists entitled to stock and sell medicines, and of practitioners entitled to prescribe them or to inject them). One mechanism to overcome these divisions has been to draft Pharmaceuticals Policies, for example the Drug Policies of 1978, 1986, 2002 and 2006. These have been contentious, for various reasons: Lt. Col. (retd) K.S. Gopinath and Dr B.V. Bhaskar of Bangalore challenged the 2002 Policy in the Karnataka High Court as public interest litigation. The Court agreed with the petitioners that, if

[3] The two extremes are, of course, related. Were the GOI able to regulate their local market it would be considered more trustworthy in international contexts.

implemented as framed, the new policy would 'bring the control of prices entirely at the whims and fancies of manufacturers' and that it would defeat 'the very purpose of equitable distribution and availability of essential drugs at a fair price' (The Hindu Business Line 2002). In over-ruling the Karnataka judgement, the Supreme Court nonetheless demanded that

> the petitioner [i.e. the Department of Chemicals] shall consider and formulate appropriate criteria for ensuring essential and life saving drugs not to fall out of price control and to review the drugs which are essential and life saving in nature (Department of Chemicals and Petrochemicals 2005: 2).

## The Fetish for Commissions

A second means of integrating cross-Ministry concerns is through ad hoc commissions, and as in the UK, these are called on a regular basis, whether to facilitate decision-making in these spheres or, as critics claim, to avoid having to do so. Since 1948 a plethora of commissions, committees and task forces have reported on pharmaceuticals issues. Here we focus only on those established since 1995, when the Government of India began to grapple with the impact of the new form of globalisation in pharmaceuticals ushered in by the Doha round of international trade negotiations, which led to the creation of the World Trade Organisation, TRIPS and the extension of patent protection to pharmaceutical products in India. The issues considered by several of these reports go to the heart of the regulation problems that we have been considering in our research.

Four main topics have dominated the committees, task forces and commissions that have reported since 1995:

1. Drug price controls
2. Controlling spurious or counterfeit medicines
3. Improving the chances of inventing and patenting new chemical entities
4. Establishing a centralised National Drug Authority

Four other concerns have been noticeable by the lack of attention they have attracted (All-India Drugs Action Network 2006: 1):

5. Ethical promotion
6. Labelling and consumer information
7. Elimination of irrational drugs and combinations
8. Pharmacovigilance

We shall discuss these in turn, before considering the wider implications of these patterns for the quality of pharmaceuticals regulation in India.

### 1. Drug Price Control

A major concern of regulation has been of prices. According to the Draft National Pharmaceuticals Policy 2006,

> In 1970, almost all bulk drugs and their formulations were under price control. In keeping with the economic policies of the country the number got reduced to 347 bulk drugs in 1979, 142 in 1987 and finally to 74 in 1995. It would have got reduced further under the criteria adopted in the Pharmaceutical Policy 2002, however, the same could

> not be implemented due to litigation involving it (Department of Chemicals and Petrochemicals 2005: 3).

Not surprisingly, the main tussles have been between industry representatives (who want to limit or remove price controls) and those claiming to speak for the consumers (who call for an extension and tightening of price controls). A Drugs Price Control Review Committee (DPCRC), under the Chairmanship of Secretary, Department of Chemicals & Petrochemicals was set up in 1999: its recommendations led to the 2002 Pharmaceutical Policy, which proposed that, in the interest of reorienting the domestic drugs and pharmaceuticals industry in the face of the challenges and opportunities from the liberalised economy, India's accession to TRIPS and the impending advent of the product patent regime,

> the span of price control over drugs and pharmaceuticals would be reduced substantially. However, keeping in view the interest of the weaker sections of the society, it is proposed that the Government will retain the power to intervene comprehensively in cases where prices behave abnormally (Department of Chemicals and Petrochemicals 2002: section 11).

In July, 2003, in response to the directive of the Supreme Court in response to the Karnataka High Court decision, the Government prepared a 'National List of Essential Medicines' (NLEM) consisting of 354 drugs, of which only 50 were under price control. The relevant Lok Sabha Standing Committee in 2005 strongly recommended bringing more NLEM Drugs under price control (citing the examples of Canada, Japan, and the UK) (Standing Committee on Chemicals & Fertilizers (2005-06) 2005: 49-50).

There is, thus, pressure to maintain or even strengthen price controls: and considerable dispute about whether the existing controls are successful. As elsewhere, of course, brand leaders are able to reduce price competition by enhancing the 'reputation' of their branded goods, and by offering inducements to prescribers to use their products even though they are pharmacologically indistinct from those of their cheaper competitors. These strategies mean that such companies usually avoid the drugs that are under price control. Some people argue that the prices of most drugs in India are below international comparator prices, in part because of the long history of freedom from product patent controls and thus the dominance of generic products in the market, and in part because of strong price competition by many small producers. Certainly in 1995 prices in India were well below what they were in, for example, Pakistan, UK or USA (see, for example, Keayla 1996; Lanjouw 1997). On the other hand, some critics (including the Federation of Medical Representative Associations of India [FMRAI] argue that there are myriad ways in which the drug price control orders can be evaded (All-India Drugs Action Network 2006; Taylor 2007). Certainly, the division of responsibilities between the body responsible for marketing approval for drugs (the Drug Controller General of India, attached to the health ministry) and price regulation (under the NPPA, in the ministry of chemicals and fertilisers) does not help. The NPPA faces great difficulty in recovering its claims for fines from drug companies who breached the system of drug price equalisation account, and claims of violations of drug price control orders amounting to over Rs 13,000 million are being challenged in the courts.

How has the acceptance of WTO rules under TRIPS affected pricing of medicines in India? Around the time in 1995 when India signed up to TRIPS, many commentators predicted that this would lead to massive price increases in India (see Lanjouw 1997 for a critical response). Since then, commentators have been more cautious (see, for example, Grace 2004). The Ministry of Chemicals and Petrochemicals believes there are no upward price pressures in the

pharmaceuticals market (Department of Chemicals and Petrochemicals 2008: 17). This situation can be read in several different ways. On the one hand, it could be argued that price controls have been successful; an alternative conclusion would be that the prices of drugs (and their availability for the poor) are set by a highly competitive market, and the drug price control orders play very little part in keeping prices low. We still await a definitive study of how adherence to TRIPS and the advent of product patent protection have affected either the availability or pricing of drugs (whether on or off patent) in India.

## 2. Controlling Spurious and Counterfeit Medicines[4]

The picture presented by mass media is one in which India is a major source of spurious and counterfeited medicines, both globally and within India itself. A programme made by the BBC is often cited, and an article in *The Lancet* (Chatterjee 2001) but India is also listed by the Pharmaceuticals Security Institute [PSI] as one of the top five sources of counterfeit drugs (Taylor 2008b). Accusations that the extent of counterfeiting in India is substantial, dangerous to the public and leading to large losses for legitimate producers are regularly put forward by representatives of Indian companies (see for example, Mashelkar 2003: 75-76). In 2002, a submission from the Confederation of Indian Industry (CII) to the 2003 Mashelkar Committee claimed that the WHO had estimated that

> '35% of fake drugs produced in the world come from India, which has a Rs. 4,000 Crore spurious drug market. About 20% of medicines in the country are fake or sub-standard. Of these, 60% do not contain any active ingredient, 19% contain wrong ingredients and 16% have harmful and inappropriate ingredients' (Mashelkar 2003: 76).

But in neither case was any evidence produced. The CII failed to provide the Mashelkar committee with evidence to support its claims, and the WHO denied ever having produced a study with the results attributed to it (Mashelkar 2003: 76-7).[5] In 2007 the OECD cited 2005 European Commission statistics that 75 per cent of the cases of counterfeit medicines seized on the EU borders originated from India (Barnes 2007). By 2007, however, only 35 per cent of medicines seized by the EU and treated as counterfeit came from India, while medicines originating in Switzerland comprised 39 per cent of the total – which produces a picture not highlighted by the OECD (European Commission 2008).

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[4] In India, a drug is defined as spurious "a. if it is manufactured under a name which belongs to another drug; or b. if it is an imitation of, or is a substitute for, another drug or resembles another drug in a manner likely to deceive, or bears upon it or upon its label or container the name of another drug, unless it is plainly and conspicuously marked so as to reveal its true character and its lack of identity with such other drug; or c. if the label or container bears the name of an individual or company purporting to be the manufacture of the drug, which individual or company is fictitious or does not exist; or d. if it has been substituted wholly or in part by another drug or substance; or e. if it purports to be the product of a manufacturer of whom it is not truly a product." (Drugs and Cosmetics Act, Amendment Act of 1982. Section 17-B)

[5] The nearest source we have found for these figures is a WHO IMPACT report that repeats an estimate that 'many developing countries of Africa, parts of Asia, and parts of Latin America have areas where more that 30% of the medicines on sale can be counterfeit. Other developing markets, however, have less than 10%; overall, a reasonable estimate is between 10% and 30%.' The same source states specifically for India that 'Indian pharmaceutical companies have suggested that in India's major cities, one in five strips of medicines sold is a fake. They claim a loss in revenue of between 4% and 5% annually. The industry also estimates that spurious drugs have grown from 10% to 20% of the total market' (World Health Organisation 2006).

Even if we accept the existing data, on closer scrutiny the size of the problem posed by 'spurious' drugs seems to dissipate somewhat. For example, according to the PSI the extent of counterfeiting varies dramatically by drug: 'Over 60 per cent of drugs seized were for treatment of erectile dysfunction and although a breakdown into individual medicines is not available it seems likely Viagra (*sildenafil citrate*) accounts for a sizeable chunk of this' (Taylor 2008b). But evidence for how far this applies in India is also missing, partly because existing studies are flawed. Dr M Venkateswarlu, former drugs controller general of India, estimated a very low rate of spurious or sub-standard drugs: 'At present, about 5 per cent of the drugs available in India are counterfeit while 0.3 per cent are spurious' (Taylor, 2008a). His figures seem to derive from a report for WHO published in 2007 and based on an attempted random collection of 10,743 samples, of which 23 percent were deemed *prima facie* suspect, but only 8 of these samples (0.3 percent of the original drugs collected) failed an assay test (Sheth et al. 2007).[6]

Given the lack of reliable evidence in this area, it is hard to know whether regulation is successful or not. When rumour and unsubstantiated claims drive out harder sources of information, it is not unreasonable to look for the interests lying behind the claims that are being made. The industry-driven agenda seems to be to divide the respectable, safe, large producers from the myriad of small and medium enterprises, and thus to establish trust in the big Indian companies and enhance their export potential.[7] But perhaps, as Delhi's then deputy drug controller was quoted as saying in 2001, 'Fake drugs are not Delhi's problem' and 'a lot of the times it is just old brand rivalry. The big fish cannot bear to find smaller chaps coming out with similar medicines so they say 'spurious, duplicate, &c.' (Chatterjee 2001)

**3. Improving the environment for inventing and patenting new chemical entities**

With the transformation of the international trade regimes, the Government of India is increasingly active in assisting Indian companies with export, new drug discovery and clinical research (Department of Chemicals and Petrochemicals 2008: 16-7). Figures showing the low level of R&D expenditure in the Indian industry, compared to its overall size, are quoted to show that such measures are necessary. The Government has introduced tax relief on research and development expenditures, loans on easy terms for drug discovery, and schemes to encourage collaborations between companies and public sector institutions.[8]

In the run-up to the 2009 national elections, the Department of Chemicals and Petrochemicals went much further than before and announced eye-catching proposals that it would raise up to $2 billion annually through the issue of tax-free bonds to promote drug discovery and innovation-based pharmaceuticals industry in the country until 2020, with the hopes of gaining about 10-20 percent share of the world's R&D business (Anon. 2009c). Following a somewhat contorted logic, a spokesman claimed that these measures would also reduce prices in the domestic market:

> "Our idea is to fill in the missing links in drug discovery, starting from identifying the disease to inventing drugs and securing patent rights. This offers the population a chance to have new cutting edge drugs at more reasonable prices than today. Now only

[6] This study used flawed methods of collecting samples, and therefore cannot be relied on, but the contrast with the industry estimates are too large to be ignored.

[7] Interview with small-scale industry representative, 23 March 2008: 'probably it's a concerted effort by those people including the people in the government to somehow or the other side-line the small scale.'

[8] The Government is also addressing the complications generated by the rise of technologies such as biogenetics (See Anon. 2005 for discussion of the 2003 Mashelkar Task Force report).

> 35% of the population have access to healthcare, mostly from private doctors and hospitals. About 80% their total health spending is on medicines," a senior official of the department of pharmaceuticals said (Anon. 2009b).

Critics of these plans suggest that inadequate attention has been paid to the conditions in which drug discovery and testing is currently regulated. Specialists in medical ethics have accused some drug companies carrying out clinical trials in India of 'compromising science and ethics in the pursuit of profit' and that inadequacies in the oversight mechanisms allow clinical trials to recruit the 'desperate' and 'most vulnerable' members of Indian society (Taylor 2009).

Ensuring that these latter concerns are addressed is a task well beyond the competence of the regulatory agencies at present. Although they have been given some training by US and EU staff, the numbers of inspectors available to monitor even the 200 or so trials registered with the Clinical Trials Register of India [CTRI] by March 2009, let alone the 850 or so registered with the US FDA and taking place in India, seems totally inadequate. In this field, the interests of the 'industry' and the lure of growth, foreign exchange earnings and increased employment seem to run well ahead of the ability to ensure that public health is not compromised.

**4. Establishing a centralized National Drug Authority**

Under the Constitution of India, the regulation of 'Drugs' is a concurrent subject, so the responsibility is divided between the Central Government and the State and Union Territories Governments. The history of drug regulatory proposals since at least the 1970s has been one of a tussle over states' autonomy and centralised control. The Hathi Committee of 1975 first proposed a national pharmaceuticals agency, to provide uniform standards and a single authority to register drugs. The logic behind this was that

> [Q]uality control of products manufactured anywhere in India was not solely the responsibility of the State in which the manufacturing unit is located, since the product is sold all over the country. If a unit in one State was allowed to manufacture and market a product of substandard quality, this would nullify the measures taken by other states. It was essential that the Central Government should assume responsibility for ensuring statutory enforcement and control over the manufacture of drugs all over the country and also supervise their wholesale distribution among the various States (Hathi 1975: para. 33).

Although the 1978 national drug policy made no mention of this, the 1986 Drug Policy proposed a National Drug and Pharmaceutical Authority (NDPA). The 1994 Drug Policy suggested a National Drug Authority to monitor drug quality according to standard procedures. The 1999 Mashelkar Committee proposed establishing a Monitoring Authority to oversee Good Manufacturing, Good Laboratory and Good Clinical Practice – but this, too, was not implemented. The 2003 Mashelkar Committee proposed to strengthen the existing Central Drugs Standard Control Organization (CDSCO) and the State Drug Controllers and create a Central Drug Authority – a line also followed in the 2002 Drug Policy. Apparently, 15 State Governments supported this idea (Ramachandran 2003). Nonetheless, in 2005 the Pronab Sen Committee returned to a centralising proposal, to 'integrate the offices of the Drugs Controller General of India, the Central Drugs Standard Control Organisation (CDSCO) and the National Pharmaceutical Pricing Authority (NPPA), along with all the powers and functions of these bodies' (Sen 2005: 55-56).

Despite these repeated proposals, by 2009 the Government of India was still making little progress towards creating a National Drug Authority. Opposition was strongest in Maharashtra, where the state Drug Controllers' Association was organised to oppose any dilution of their own rights. The test case for centralised versus local autonomy has been the struggle to ban 294 fixed dose combination drugs that were declared irrational by the then-DCG(I) Dr Venkateshwarlu's directive of October, 2007. Those drug companies whose licences are still valid can continue to manufacture these fixed dose combinations, whereas the state drug authorities were refusing, in early 2009, to renew the licenses that had expired (Anon. 2009a).

In general, however, it seems likely that the proposals for an NDA emerge from frustration at the inability to solve two problems. The first is varying procedures and standards imposed by State Licensing Authorities, a situation which has seen some producers apply for licenses from compliant SLAs if their own State is unwilling to grant a license quickly or on reasonable terms. IE Individual States have the right to refuse to licence production, but once a drug is approved in one State it can be sold throughout the country. The second is the severe shortage of resources for testing drugs and licensing producers on the basis of the quality of facilities. Thus, despite repeated proposals from committees for the creation of new posts and investment in laboratory equipment, the current infrastructure is completely inadequate to cope with the numbers of drugs, producers, pharmacies and prescribers. According to Dr Venkateshwarlu (DCG(I) 2006-08) 'there is now a six to nine month backlog at each of the plants which results in less then [sic] 1 per cent of drugs being tested' (Taylor 2008a).

## What is left out?

Among the issues that are not given the same degree of attention are the following.

### 5. Ethical promotion and the restriction of incentives to prescribers and pharmacists.

Major issues arise with the possibility that drugs are prescribed or dispensed more for the financial interests of the prescribers and dispensers than the needs of the patient. One example is the substitution of drugs by the pharmacist:

> This is again a peculiarity of the Indian market, if you prescribe in generics you would expect the retailer to give that medicine which is the lowest price. Here if you write the generic name the retailer interprets it like he has the license to give any medicines. So he gives that one that will fetch him the maximum commission (Interview Dr Hazra, CDMU, 29 December 2006).

### 6. Local-language labelling and information sheets.

We know that many prescribers and most patients in India are not literate in the English that is used in drug information packs. Add to this that – as in many other countries – drug information varies from brand to brand, leading to the possibility of misleading patients and prescribers about appropriate use, co-occurring effects and drug interactions. A WHO study called for 'further training and continued education aimed at drug regulatory officials' to 'provide the necessary knowledge and enable national authorities to meet the need for drug information that is independent of commercial interests' (Reggi et al. 2003 ) but no substantive moves have been made in this direction in India.

**7. Eliminating harmful, ineffective and irrational combinations of drugs.**

Activists have been involved in trying to reduce the number of drugs for sale in the Indian market, and particularly combinations of drugs, since the early 1980s. The Government of India introduced a ban, using the generic name of the drugs involved, but manufacturers avoided the ban by saying that their drug name was not on the list. In pharmacology the number of drugs that should be used for therapeutic reasons is around 7000 but the Indian market contains almost 70000 drugs. This massive gap between science and non-science leaves a huge number of drugs to be banned (Interview, Dr Hazra, 29 December 2006). Although irrational combinations was an issue taken up with some zeal by Dr Venkateshwarlu, his successor has taken what some see as a 'softer' stand, for example allowing 150 fixed dose combinations to stay on the market as long as they are checked for harmful effects (Anon. 2008).

An additional issue in India is the possibility of registering a drug as Ayurvedic, and thereby avoiding both licensing and price controls. Most of the evidence about the significance of these processes, however, is little better than anecdotal:

> Then, Rhône-Poulenc, the French MNC, was marketing a drug which they sell as allopathic drug in the rest of the world. Its trash! But here in India, it is licensed as an Ayurvedic drug. Once a drug is licensed as an Ayurvedic drug, it does not come under the purview of price control. You can charge anything! Then there is no testing also. So a modern drug, marketed elsewhere as allopathic, only in India it is marketed as Ayurvedic drug. There is no herb there! Just by pleasing the drug control authorities, you can get the license (Interview, PK Sarkar, BODHI, 24 Jan 2007).

**8. Pharmacovigilance**

Pharmacovigilance, also known as post-marketing surveillance or Phase IV trials involves issues of safety and ongoing technical support of a drug after it receives permission to be sold. Clinical trials rarely involve enough patients to be sure that less common side effects and Adverse Drug Reactions [ADRs] are picked up by the time a drug enters the market. In addition, in everyday use, a drug is used in combination with many others, and drug interactions may only be picked up some time after the drug has been introduced. Pharmacovigilance is gaining importance in developed countries and can lead to drugs being recalled. But record-keeping by Indian doctors is completely inadequate to contribute substantially to these processes (Anon. 2007). With WHO support, a National Pharmacovigilance Programme was launched in India in 2005 (Patvardhan 2005) but its effectiveness remains unknown. This might not be a problem, were the populations covered in developed countries similar (in body mass, for example), disease patterns alike, and the kinds of multi-drug prescribing akin to those in south Asia. None of these is likely to be true, however, so it is likely that there are safety issues that are not being picked up.

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What do these eight examples of regulatory concerns and absences demonstrate? How far do they suggest that 'the pharmaceutical industry influences the perspective of the regulatory agency—so it comes to adopt their interests over and above those of patients': i.e. that 'the agency could be said to be captured'. Regulatory capture matters because 'the risk-benefit assessment of drugs has a high degree of technical uncertainty, which is inherent in toxicology, clinical trials, and epidemiology' and it therefore matters whether regulators 'give the

manufacturer the benefit of scientific doubt about safety and efficacy of their product.' In the case of India, we do not know whether industry can 'penetrate into the heart of regulatory political subculture via the so-called revolving door—i.e. regulatory officials begin their careers in industry, then work for some years in the regulatory agency until they are promoted back into industry at a higher level than they were at previously' (Abraham 2002: 1498). Abrahams concludes that, in the case of the European and US drug regulatory systems,

> The present drug regulatory systems are insufficiently robust … because they prevent proper public accountability, are highly vulnerable to industrial capture, and permit the industry's scientific experts to have extensive conflicts of interest while providing their expert advice (Abraham 2002: 1501).

Abraham goes on to call for a regulatory system that is transparent in its procedures, makes available all the data on which it takes its decisions, capable of independent testing by providing state-funded state-of-the-art testing facilities, and able to prevent all conflicts of interest between regulators and their other activities, whether at the time or after retirement.

How many of these issues – of public accountability through rights of access to regulatory information, independent tests and technical expertise, clear and independent funding, and control over conflicts of interest – are dealt with properly in the Indian system? And to what extent are regulatory bodies under pressure to build public health concerns – especially those that affect the mass of the Indian poor – into their deliberations?

## The Expertise Marshalled by these Committees

The most obvious feature of the many committees that have reported on pharmaceuticals regulation since 1995 is the central role played by Dr R A Mashelkar, a member of the Scientific Advisory Council to the Prime Minister and also of the Scientific Advisory Committee to the Cabinet, who has chaired many high powered committees. Those most relevant to pharmaceuticals are the Committee on Research and Development in Drugs and Pharmaceuticals (1999); the Expert Committee on a Comprehensive Examination of Drug Regulatory Issues, including the Problem of Spurious Drugs (2003); the Task Force on Recombinant Pharma (2005); and the Technical Expert Group on Patent Law Issues (2006).

Mashelkar himself had a distinguished career as a polymer scientist and manager of science, but came to the public notice more for his vigorous attack on American firms' attempts to patent turmeric and basmati rice. He has a wide view of the role of science in Indian society: for example, in his address to the Indian Science Congress 2000 he speaks about the need for child-centred education, woman-centred families, human-centred development, a knowledge-centred society and innovation-centred India (Mashelkar 2000).

In the commissions he has chaired he has, of course, had to find ways of implementing these values by negotiating with the other members of the committee, and in the light of the interests of those who present evidence and bring pressure to bear through politicians and other outsiders. The interests that are always represented on these committees are civil servants from some (but not always all) of the Ministries of the Government of India that have an interest in the field: Health, Chemicals and Pharmaceuticals, Home Affairs, Finance and Planning, for example. State Governments – responsible for the ground troops (such as drugs inspectors, or District Health Officers) tasked with implementing regulations, are usually conspicuous by their absence, as are representatives of rural medical practitioners, pharmacists and drug wholesalers and consumers. Some committees do draw on a wider range,

such as the Commission on Macroeconomics and Health, whose membership came from a much wider set of constituencies, including (for example) the Voluntary Health Association of India, the Society for Education, Action and Research in Community Health, a journalist, economists and doctors from the private sector, as well as various Ministers and ex-Ministers. The 1999 Mashelkar Committee, however, leant heavily on industry representatives, especially large Indian multinationals, such as Ranbaxy's and Dr Reddy's.

The voices of others could also be provided by those invited to give evidence to the committees, or who came uninvited. For example, the deliberations of the 2003 Mashelkar Report had presentations by scientists, such as Nityanand, Ranjit Roy Choudhary and Anant Narayana; by representatives of the Indian Medical Association (IMA), the Delhi Pharmaceutical Trust, Ahmedabad-based Consumer Education and Research Centre (CERC) and the Confederation of Indian Industry (CII).

The preponderance of membership, submissions and evidence, then comes from industry representatives and scientists. The regulation of drugs and medicines, it seems, is rarely perceived to be a matter of governance, of public health, or of politics. But it is not clear that this can be summed up as industry capture (although some evidence – such as that of the independent ability of regulators to check quality or efficacy issues, or the extent of the 'revolving door' – is still needed). Rather, the situation can be better described as 'modernity capture': a wilful blindness towards the everyday circumstances in which most drugs in India are produced, distributed and consumed – and the conditions within which substantial numbers of people get such limited access that these concerns seem illusory.

## Conclusion

The regulation of pharmaceuticals in South Asia is a particular example of how these societies are modernising: the governments rationalise, try to apply scientific knowledge to controlling this area of social life, and in this way extend their reach, in order to reduce the risks to which their citizens are subject. In the specific field of pharmaceuticals, such interventions are justified both by the relative ignorance of patients about their medical needs and by the potential for unfree competition posed by very large companies in oligopolistic markets. Not unreasonably, when India 'models its pharmaceutical regulations' it, draws on a range of international examples – including Canada, the UK, and the USA – because these countries face many similar challenges. But despite the rising strength of Indian manufacturing capacity, India's system of pharmaceutical regulation remains partial and ineffective. One reason for this is that the expertise mobilised in attempts to reform the current system is curiously 'detached from local contexts' (Jansen and Roquas 2005: 142, 143). The national commissions, committees, task forces and expert groups, whether set up by the Health Ministry, the Department of Chemicals and Pharmaceuticals, or the Planning Commission, focus on only a sub-set of the significant issues and rarely draw on knowledge of everyday practices of the distribution, prescribing and consumption of pharmaceuticals. What is needed is an engagement with those everyday practices – an engagement that commissions, task forces and expert groups seem unlikely ever to achieve.

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