



**Background Paper
of the
Task Force on Major Diseases and Access to Medicine,
Subgroup on Access to Essential Medicines**

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Note to the reader

The Background Paper provides a preliminary overview of existing knowledge and scopes out the questions addressed by this Task Force. The analysis, conclusions and recommendations contained herein should be considered as very preliminary as they are likely to evolve as the Task Force works toward its final report at the end of 2004. Comments and suggestions are welcome. Please cite this paper as "Background Paper of the Millennium Project Task Force on Major Diseases and Access to Medicine, Subgroup on Access to Essential Medicines".

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Expanding Access to Essential Medicines in the Developing World

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A. Problem and Context¹

1. The Goal

In recent years the toll of emerging and re-emerging infectious diseases such as HIV/AIDS and drug-resistant tuberculosis has highlighted global disparities in access to essential medicines. The Millennium Declaration adopted by the United Nations General Assembly in September 2000 committed the international community to remedy this imbalance. “In cooperation with pharmaceutical companies,” the 189 member states of the General Assembly unanimously resolved to “provide access to affordable essential drugs in developing countries.”²

This paper assesses the obstacles to achieving the access to essential medicines (ATEM) target, examines current strategies, and begins the process of framing an action plan to promote availability and rational use of medicines in the developing world. In its current form, the paper is intended to serve two main purposes: (1) provide background on the access to medicines issue for the writers of the United Nations Development Programme’s Human Development Report 2003, which will address the Millennium Development Goals; (2) offer a departure point for discussions among the Millennium Project Task Force Five ATEM working group. Because of time constraints in the writing process, the current version of the paper cannot claim to reflect consensus views “owned” by all members of the medicines working group, although many group participants have contributed to its composition and revision. It is correct to say that the background paper has been prepared *for* rather than *by* the ATEM working group. Later outputs will reflect more fully inclusive procedures.

2. History of the Goal

The concept of essential drugs has evolved in international fora for several decades. In 1975, the World Health Assembly requested that the WHO Director General “advise Member States on the selection and procurement, at reasonable cost, of essential drugs of established

¹ Early drafts of this paper were prepared by the Partners In Health Millennium Project team under the leadership of Dr. Jim Kim. As the paper evolved, detailed comments on a number of successive iterations were generously provided by Dr. Andrew Creese, Dr. Richard Laing, Ms. Beryl Leach, Dr. Eva Ombaka, and Dr. Jonathan Quick. These contributors have become de facto coauthors of the paper. Other members of the Millennium Project Task Force Five drug access group also kindly offered comments, in some cases very detailed and extensive. These contributors included: Dr. Gail Cassell, Mr. Henk den Besten, Dr. Graham Dukes, Ms. Barbara Klugman, and Mr. Robert Lefebvre. In the case of relatively minor corrections, their suggested emendations have simply been integrated into the text; in other instances, where it seemed appropriate to preserve their observations word-for-word and/or where their comments seem to raise larger issues for the ATEM working group, we have provided explicit attributions in the footnotes, and in some cases have quoted their remarks at some length. Dr. Cassell’s observations, which reached us late in the revision process, posed questions so far-reaching that we have judged it appropriate to present her comments in their entirety, as an appendix (see pp. 58-59). The issues Dr. Cassell raises will clearly demand the careful consideration of the working group’s full membership. Acknowledging these generous contributions from many ATEM colleagues, we stress that remaining errors and infelicities in the present manuscript are entirely the responsibility of the Partners In Health editorial team.

² United Nations Millennium Declaration, United Nations General Assembly Resolution 55/2 (September 8, 2000).

quality” to meet national health needs.³ WHO responded by commissioning an expert panel to develop a model Essential Drugs List (EDL), providing a template for countries seeking to establish their own national lists of priority medicines. The first model EDL was published in 1977 and included 224 drugs and vaccines. WHO formalized the definition of essential medicines to designate those that are “basic, indispensable, and necessary for the health needs of the whole population,” and which should be “available at all times, in the proper dosage forms, to all segments of society.”⁴ The composition of the model EDL and WHO’s definition of essential medicines have continued to evolve. The 12th WHO Model Essential Medicines List, published in April 2002, framed the concept as follows:

Essential medicines are those that satisfy the priority health care needs of the population. They are selected with due regard to public health relevance, evidence on efficacy and safety, and comparative cost-effectiveness. Essential medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality and adequate information, and at a price the individual and the community can afford.⁵

Through the 1980s and 90s, the international public health community progressively engaged the multiple dimensions of the drug access problem. The 1985 WHO Nairobi conference signaled growing global concern with the rational use of medicines.⁶ In the late 1980s a number of innovative approaches to financing drug supply began to find expression in pilot programs, most prominently the Bamako Initiative experiment with community-based revolving drug funds, launched in 1987. While the outcomes of Bamako Initiative projects have been mixed, the resulting debate has underscored the importance of essential drugs in achieving health care goals and focused attention on the formidable problem of drug financing in resource-poor settings.⁷

In the late 1990s, the HIV/AIDS pandemic, the growth of multilateral trade agreements, and a worldwide interrogation of economic globalization combined to focus much of the essential medicines debate on the relationship between drug pricing, intellectual property rights, and the global trade regime.⁸ In response, some argued that discussions about pharmaceutical patents distracted attention from more important factors obstructing access to essential medicines in developing countries, such as infrastructural constraints, human resource gaps, governance problems, and inadequate financing.⁹ The question of whether achieving equitable access to medicines requires changes in global trade rules has been taken up by working groups and conferences, including the 2001 joint WHO/WTO workshop in HOsbjor, Norway, on “Differential Pricing and Financing of Essential Drugs.”¹⁰ U.N. Secretary General Kofi Annan stressed in his 2001 report on the status of the Millennium

³ World Health Assembly Resolution WHA28.66 (1975).

⁴ WHO Technical Report Series, No. 615, 1977, p. 9; cf. Quick et al. 1997, p. 8.

⁵ WHO, 12th Model List of Essential Medicines (April 2002).

⁶ WHO 1987.

⁷ Gilson, Kalyalya et al. 2001.

⁸ WTO 1998.

⁹ E.g., Attaran and Gillespie-White 2001.

¹⁰ See the HOsbjor conference documents, available at: http://216.239.33.100/search?q=cache:fauV7N52tUQC:www.who.int/medicines/library/edm_general/who-wto-hosbjor/wholereporthosbjorworkshop-fin-eng.pdf+Hosbjor+papers&hl=en&ic=UTF-8.

Goals that the growing toll of HIV/AIDS increases the urgency of bringing such contentious issues to resolution.¹¹

In the 25 years since the publication of the first model EDL, progress has been achieved in expanding access to medicines worldwide. WHO's Essential Drugs and Medicines Program (EDM) has maintained global leadership, with significant contributions from other UN agencies (UNICEF, UNCTAD, UNAIDS), NGOs, bilateral and multilateral aid agencies, and international financial institutions, in particular the World Bank. According to WHO estimates, the number of people worldwide with access to essential medicines rose from 2.1 billion in 1977 to 3.8 billion in 1997.¹² Yet unmet need remains vast. Statistics on improved drug access coexist with findings reflecting deteriorating health care for the poor in many regions, deepening immiseration, and the negative impact of phenomena such as user fees.¹³ At the start of the new millennium, over one-third of the world's population still lacks access to reliable supplies of the most basic medicines. In the poorest parts of Africa and Asia, more than 50% of people are unable to obtain essential drugs.¹⁴

3. Access to Medicines and the Poor

By including access to medicines among its Millennium Development Goals (MDGs), the international community has rightly recognized the central importance of drug access for human development and anti-poverty efforts. Ill health is one of the most formidable factors trapping people in poverty, while poverty itself is in turn a significant determinant of illness. Though simply doling out more pills will not solve this complex problem, quality-assured therapeutic drugs remain a powerful, cost-effective means of combating sickness. Their absence can constitute an insuperable barrier to the achievement of health goals. Strengthening disadvantaged communities' capacity to obtain safe, effective medicines (including but not limited to the biomedical pharmacopeia) is one component of an integrated effort to address poverty and disease.

In pursuing expanded access to medicines, we must emphasize a key criterion of success: equity. The cooperation of the pharmaceutical industry, including both innovator and generic producers, will be central to any realistic effort to solve the drug access dilemma. Yet the starting point for cooperation must be a human rights framework focused on ensuring rights of access to health care and medicines, especially for poor people.¹⁵ It is the poor who have the greatest stake in the issue of access to medicines, and the success or failure of the effort must be measured from a patient-centered, pro-poor perspective. Our objective is to ensure that poor people in developing countries obtain access to a reliable supply of high-quality, affordable medicines for the diseases that threaten their lives, undermine their communities, and enmesh their countries in want and despair. Prioritizing the needs of the

¹¹ United Nations General Assembly. Follow-up to the outcome of the Millennium Summit: Road map towards the implementation of the United Nations Millennium Declaration; Report of the Secretary-General. U.N.D. No. A/56/326. New York: U.N.G.A., 2001.

¹² WHO/EDM/2000.1 (WHO Medicines Strategy). Important questions surround the issue of how "access" should best be defined. See below, Section A.6.

¹³ See e.g. Kim, Millen et al. 2000; Leon and Walt 2001.

¹⁴ WHO/EDM/2000.1 (WHO Medicines Strategy).

¹⁵ This point was emphasized by Barbara Klugman in her comments on an earlier draft of this paper.

poor is the key to raising global standards in access to medicines, and the language of our goal-setting mechanisms should consistently reflect this commitment.

Meanwhile, the types of drugs poor populations need continue to evolve. “Pre-” or “post-transitional” as descriptive labels for national/regional epidemiological patterns can no longer be relied upon to provide an accurate picture of healthcare requirements in developing regions, particularly as regards essential therapeutic drugs. In addition to persistently high rates of acute infectious diseases, many developing countries today face increases in chronic diseases such as diabetes, hypertension, cancer, and heart disease.¹⁶ These epidemiological shifts demand an expanded arsenal of drug therapies and thus raise new challenges for national drug procurement and management systems, particularly given that chronic diseases require long-term medicines delivery strategies. Concurrently, limited resources impose increasingly difficult problems of prioritization in the pharmaceutical sector and the health field more generally.¹⁷

The health needs of the rich and poor, and of developed and developing countries, cannot be effectively addressed in isolation. Current public health challenges demand an integrative, global response. In an era of rapid intercontinental travel and global trade, diseases such as tuberculosis (especially MDR-TB), if allowed to spread unchecked in developing regions, will inevitably pose increasingly severe public health risks for high-income countries, as well. Alongside the ethical arguments for expanded investment by high-income countries in drug research and the universal provision of effective therapies for the major infectious killers, arguments can also be advanced on public health, security, and economic lines. The Commission on Macroeconomics and Health has documented the gains for the global economy if HIV/AIDS, malaria, and TB, along with other diseases primarily affecting developing countries, were controlled.¹⁸ These disease-control objectives depend on expanding access to medicines.

4. Overview of Drug Markets in Developing Countries

Pharmaceutical markets in the developing world are generally configured very differently from those in high-income countries. Per capita health spending in industrialized countries is of course much higher. Annual health expenditure in the established market economies in 1990 averaged US\$ 1,675 per capita, in Asia \$60, and in sub-Saharan Africa \$6.¹⁹ In lower-income countries, pharmaceuticals usually account for a larger portion of overall health expenditures than in established market economies. Among 19 European and other established market economies for which data are available, annual expenditures for pharmaceuticals average 13% of total national health spending. In contrast, pharmaceuticals constitute 35% of total public and private health expenditures in Thailand, 39% in Indonesia, 45% in China, and 66% in Mali. Drug expenses are estimated to account for more

¹⁶ Today, cancer and heart disease already account for 15% of the total disease burden even in low- and middle-income countries; over the coming 20 years, the disease environment in developing countries is projected to become more similar to that now existing in developed countries. Kremer 2002, p. 72.

¹⁷ For a recent quantitative breakdown of the global burden of disease by causes of lost DALY's and global regions, see WHO, World Health Report 2002, Annex Table 3, <http://www.who.int/whr/2002/whr2002_annex3.pdf>.

¹⁸ Commission on Macroeconomics and Health 2001.

¹⁹ WHO/EDM/PAR/2000.2 (Global Comparative Pharmaceutical Expenditures), p. 5.

than 50% of total spending on health in a number of African countries.²⁰ It should be noted that these elevated percentages reflect not only high costs for pharmaceutical products, particularly when they must be imported, but also the fact that developing-country health systems spend less than their wealthier counterparts on other budget items such as specialist salaries, advanced equipment, and ancillary care.

A portentous contrast between drug markets in developing and wealthier countries lies in the area of drug financing. WHO reports that, in the established market economies, private spending on drugs makes up only about a third of total pharmaceutical expenditures, with two-thirds of pharmaceutical costs paid through public budgets and social insurance. In some high-income countries, the share of public financing is even greater, as high as 88%.²¹ In contrast, in many developing countries, private financing accounts for at least 50% and in some areas as much as 90% of drug purchases.²² In lower-income countries, out-of-pocket expenditures on drugs represent between 61 and 80% of total household health expenditures.²³ This pattern has negative implications for drug access and rational use of medicines among poor people. In turn, such patterns of household drug spending can themselves become a significant source of impoverishment.²⁴

Pharmaceutical research and manufacturing capacities are severely limited in most of the developing world. Only a few low- and middle-income countries—for example Brazil, China, and India—have innovative capacity in the pharmaceutical sector.²⁵ Many countries supply at least a portion of their drug needs through domestic generic production.²⁶ Yet in some developing countries the number of domestic drug firms has declined sharply over the past decade.²⁷ While the elimination of inefficient local producers may rationalize markets, it also contributes to an uncomfortable dependence of developing countries on Northern drug manufacturers. A number of rich countries, for example Luxembourg, are also without domestic drug production capacity, yet are able to supply their pharmaceutical needs through trade. Developing countries may wish (or be obliged) to adopt a similar approach.²⁸ However, poor countries and small but wealthy Western European nations enter the arena of international trade from very different political, economic, and public health positions.²⁹

²⁰ WHO/EDM/PAR/2000.2 (Global Comparative Pharmaceutical Expenditures), p. 12.

²¹ WHO/EDM/PAR/2000.2 (Global Comparative Pharmaceutical Expenditures), p. 13. In commenting on an earlier draft of this paper, Robert Lefebvre observed: “[This] seems too sweeping a generalisation: my own experience in developed markets of Canada, Germany, UK indicates that the private sector contributes substantially more to the funding of drug purchases than 1/3. [We] need more data.”

²² WHO/DAP/98.3 (Health Reform and Drug Financing), p. 4

²³ WHO/EDM/2000.1 (WHO Medicines Strategy), p. 41.

²⁴ Diarra and Coulibaly 1990; UNICEF 1996/97

²⁵ Correa 2002, p. 51.

²⁶ WHO/EDM/PAR/2000.2 (Global Comparative Pharmaceutical Expenditures), p. 21.

²⁷ Zerda, Velásquez et al. 2002, p. 22.

²⁸ In response to an earlier draft of this paper, Robert Lefebvre warned against the “inherent assumption that local production capacity is a pre-requisite to an effective health care delivery system. As a counterpoint, not all Northern countries manufacture all of their product needs. Many have no manufacturing capacity. Similarly, not all states in the USA have manufacturing capacity. Luxembourg citizens have access to medicines in spite of having no manufacturing capacity. The same can be said for citizens of the state of Maine – each of these entities has established a trading mechanism whereby they trade for those things that they don’t manufacture locally.”

²⁹ Thus, Luxembourg’s relative insignificance in the context of the global drug market is substantially offset by the country’s political position as a member of the EU, by Luxembourg’s wealth, and by the fact that its

Developing countries, and in particular LDCs, represent only a tiny share of the global market for North-based drug companies and are not integrated into powerful blocs like the EU.³⁰ Accordingly, major Northern pharmaceutical companies' research and development agendas have tended to neglect the specific health needs of poor countries.³¹

On this latter point, Professor Graham Dukes notes the beginnings of a shift in industry attitudes, which the Millennium Project ATEM group should seek to reinforce. "Part of the industry," Dukes observes, "is waking up to the fact that it could tackle these things differently, and our group could strongly encourage this trend. Within the last two years things have shifted sufficiently to open the prospect of a real debate with some major firms both on their research agenda and the prospect of actually building 'low profit high volume' markets in poor populations to the ultimate advantage of all."³²

The growth of generic drug manufacturing in some middle-income countries like Brazil, China, India, Mexico, and Thailand may also modify the balance of power, opening new possibilities for "South-South" trade and technology transfer in the pharmaceutical sector. Yet while such international cooperation holds promise, governments and generic manufacturers in countries like India are at present still far from having covered their own domestic needs in areas such as antiretroviral drugs.³³

Generic medicines are an important tool in the effort to expand access to drugs in developing countries. Because generics can be significantly less expensive than their branded equivalents (often selling at 30-50% less than the brand price), they have the potential to sharply reduce costs and strengthen affordability.³⁴ The majority of medicines on the WHO Model EDL are no longer protected by patents. Nonetheless, the effort to promote generics in the developing world has met with mixed success. While reliable data on the market share of generic drugs are difficult to obtain, available evidence suggests that in many developing countries, the percentages of generic prescriptions and sales remain far below those seen in high-income countries like Denmark, the United States, Germany, and Great Britain.³⁵ The explanation for this pattern is subject to ongoing debate. The question of why the production and supply of high-quality generic drugs has not expanded to cover the

national epidemiological profile does not differ substantially from that of its larger and even richer neighbors—meaning that Luxembourg faces no infectious disease crises on the scale of HIV/AIDS in sub-Saharan Africa and South Asia, and no equivalent of the under-researched tropical diseases afflicting many poor Southern countries.

³⁰ Laing R, Health and Pharmacy Systems in Developing Countries, paper presented at the WHO/WTO conference in Høsbjør, Norway, April 9, 2001; cf. Mossialias and Dukes 2001.

³¹ Reich and Govindaraj 1998; Trouiller et al 2002.

³² Dr. Graham Dukes, comments on an earlier draft of this paper. Cf. the recent series of articles in *The Lancet* on the pharmaceutical industry's role in global society: Abraham J 2002; Collier J and Iheanacho I 2002; Dukes MNG 2002; Henry D and Lexchin J 2002; James A 2002; .

³³ Commenting on an earlier draft of this paper, Robert Lefebvre wrote: "To the best of my knowledge, in the face of an epidemic in India affecting upwards of 4 million people, only 2,000 – 4,000 Indian citizens are now accessing [ARV] therapy supplied solely by the Indian generic manufacturers."

³⁴ Madrid, Velásquez et al. 1998, p. 59. It should be noted that factors such as taxes and tariffs, supply chain costs and logistics, and mark-ups by middlemen and retailers can affect price differentials between generic and branded drugs. For this reason, when discussing factors influencing access to essential medicines, it will often be most helpful to focus discussion on price defined as final cost to the consumer.

³⁵ WHO/EDM/PAR/2000.2 (Global Comparative Pharmaceutical Expenditures), p. 22.

enormous need for essential medicines in developing countries will be a key issue for the MP ATEM group.³⁶

Procurement and local *production* of generic medicines are separate functions, and each poses its own challenges. By crafting generics strategies appropriate to their specific needs and capacities, as well as through negotiations with research-based pharmaceutical companies, countries can see drug prices fall substantially.³⁷ Brazil's decision to manufacture some generic ARVs domestically as part of the country's multi-pronged AIDS control strategy provides one important example (see below, section 5). WHO-AFRO and UNCTAD have done relevant work in promoting local production of medicines, including traditional medicines. However, efforts to promote generics in Pakistan, Nigeria, and the Philippines, as well as in some Latin American countries, show the challenge of overcoming strongly rooted public perceptions that "lower-priced pharmaceutical equivalents ... are necessarily of a quality inferior to the brand-name products sold by large, well-known firms."³⁸ Inappropriate drug promotion contributes to such perceptions, as do cultural and racial biases (for example, in Africa, prejudices against Indian Asians).³⁹ In addition, the entry of new generic products into national drug markets heightens regulatory and quality-assurance challenges for national drug authorities.⁴⁰ The stakes in meeting these challenges rise as counterfeit drugs proliferate in many regions. Patients' lives are at risk, and the circulation of ineffectual and/or dangerous counterfeit medicines undermines public confidence in medicines and health systems. Some health officials in Nigeria, for example, have called counterfeit drug production the major health issue facing the country.⁴¹

5. Examples of Progress at Country Level

While the overall drug access picture in the developing world is in many respects discouraging, a number of countries have demonstrated impressive progress in some or all aspects of national pharmaceutical procurement and management, and in expanding access to essential medicines for their populations. Some of these country successes point to strategies potentially transferable to other settings, local arrangements which could be "scaled up."

³⁶ Barbara Klugman argues that, in many instances, one can link "the under-use of generics with a lack of appropriate regulation. In this regard, issues such as generic substitution and a prohibition on perverse incentives are highly relevant. Both are crucial aspects of the Medicines and Related Substances Control Amendment Act, 90 of 1997, the South African statute challenged by the Pharmaceutical Manufacturers' Association of South Africa and the multinational drugs firms."

³⁷ See e.g., Oxfam, "Generic competition, prices, and access to medicines: the case of antiretrovirals in Uganda," Oxfam Briefing Paper #26 (London: Oxfam, 2002), available at <<http://www.oxfam.org.uk/policy/papers/26generic/26generic.html>>. Programs led by the research-based pharmaceutical industry can also yield significant price reductions. Robert Lefebvre observes: "Through the efforts of the Accelerating Access Initiative, access to HIV/AIDS medicines has been increased to a level higher than through any other initiative yet implemented in Africa [reference: WHO AAI report, July, 2002]. Prices through the AAI were substantially reduced well before any generic offers were made and remain well below prices of HIV/AIDS medicines available from Brazilian producers."

³⁸ Madrid, Velásquez et al. 1998, pp. 66, 62-63.

³⁹ Dr. Eva Ombaka, comments on earlier draft of this paper.

⁴⁰ E.g., Madrid, Velásquez et al. 1998, pp. 62-63; cf. WHO/DAP 98.3

⁴¹ See <http://www.reconnaissance-intl.com/press-releases/PR_092402.pdf>.

Bhutan: Gains through a Comprehensive Essential Drugs Program

Prior to 1986, the public drug supply sector in Bhutan was in disarray, characterized by poor drug availability, erratic quality, widespread irrational prescribing, and high drug costs.⁴² In 1986, the country embarked on an Essential Drugs Program (EDP) with assistance from WHO. A comprehensive National Drug Policy and enabling legislation were passed by the Bhutanese Cabinet in 1987. Implementation over the following years has brought remarkable results. Substantial assistance from international technical experts was used to establish and run the drugs program in its infancy; however, since 1993, the national EDP has been operated successfully by Bhutanese national staff, with minimal assistance from expatriate consultants. The program has been evaluated twice, in 1990 and 1998, confirming impressive gains. More than 90% of the population now enjoys access to high-quality essential drugs, and gains in coverage have been achieved despite the program budget's remaining stable since 1987 (the budget has in fact fallen in inflation-adjusted terms). Improvements in procurement reduced drug prices sharply during the early years of the EDP, with 1990 prices still 6% lower than those paid in 1985. Prices paid by the Bhutan EDP have been found to be at least 50% below average international prices. Improvements in store management have led to more accurate record-keeping, with errors reduced from 76% in 1989 to 14% in 1997. A twice-yearly drug report, completed by all health facilities, is the cornerstone of the drug supply system. Health facilities maintained availability of 90% of 27 core essential drugs throughout the study years 1989 and 1997, and only 0.75% of the drug budget was wasted through expiry of drugs before use. Standard Treatment Guidelines (STGs) have strengthened rational prescribing, and the program has invested strongly in human resource development, the documentation of working procedures, and ongoing training for all categories of personnel.

Costa Rica: Essential Medicines in the Framework of a Universal Social Security Scheme

Costa Rica's national health system is widely admired, not least for its achievements in drug supply management and drug financing. The country's universal social security scheme, the Costa Rican Social Security Fund (CCSS), is the primary provider of health care in Costa Rica. CCSS was created in 1942 and today covers more than 90% of the population, offering preventive and curative care, rehabilitation services, and health education.⁴³ CCSS now provides about 95% of hospital services and 85% of outpatient consultations and accounts for 80% of total health expenditures in Costa Rica.⁴⁴ CCSS devotes 10% of its health budget to pharmaceuticals. The CCSS formulary has existed for several decades and currently lists some 535 drugs and dosage forms. The formulary is revised annually. Formulary drugs are prescribed and dispensed by generic name, and are provided to patients free of charge, with no copayments required. Drug availability at CCSS pharmacies in hospitals and outpatient clinics is greater than 90%.⁴⁵ In the 1970s, the CCSS established a well-equipped laboratory able to support chemical analyses for most drugs. The system's pharmaceutical quality assurance procedures have been well managed and effective.⁴⁶

⁴² Information for the profile of Bhutan is drawn from WHO/EDM/DAP/2000.2 Bhutan Essential Drugs Programme: A Case History.

⁴³ Zerda, Velásquez et al. 2002, p. 23.

⁴⁴ Quick et al. 1997, p. 617

⁴⁵ Quick et al. 1997, p. 617.

⁴⁶ In the 1976-77 tender cycle, 17.57% of batches sampled at the time of delivery were rejected on grounds of insufficient quality; in contrast, in 1991, only 26 of 4,316 analyzed batches were rejected, "possibly reflecting the effectiveness of prepurchase as well as postpurchase testing." Information from the tests is used to qualify

Kenya: MEDS, a Successful NGO Program

Some countries, including India, Kenya, Nepal, Nigeria, and Uganda, have seen the emergence of successful essential drug supply programs managed by NGOs rather than government health authorities.⁴⁷ Kenya's Mission for Essential Drugs and Supplies (MEDS) is one well-known example.⁴⁸ The MEDS program was established in 1986 by two Kenyan religious organizations, the Catholic Secretariat and the Christian Health Association, to supply essential drugs at reasonable cost to church-managed health units throughout the country. In the late 1990s, such health units supplied roughly 36% of Kenya's rural health services. MEDS furnishes drugs to more than 300 hospitals, health centers, and dispensaries. Although the MEDS program has the approval of the Kenyan Ministry of Health, it is independent both of the Ministry and of church organizations. The group's financing has come from European governments and NGOs by way of a revolving fund, from sponsoring organizations in Kenya, and through drug purchases by MEDS' clients. WHO/DAP has provided technical consultation. A 2002 study found that, after more than 5 years of steady growth, the MEDS program was functionally self-sustaining. In order to keep drug costs down, MEDS has emphasized bulk purchasing from local producers. MEDS procures almost all its supplies (95%) through local producers and the local agents of major pharmaceutical companies.⁴⁹ Bulk purchasing has required the maintenance of significant storage, distribution, and quality control facilities. Outside assessments have praised MEDS' management efficiency. Operating costs absorb only about 10% of the organization's total expenditures, and the savings directly benefit patients.⁵⁰ In the case of ARV medications, for example, the MEDS system has allowed AAI prices from Merck and Bristol-Myers Squibb to be passed on to patients at a maximum upcharge of only 2.5%.⁵¹ MEDS has invested heavily in training program staff and local health facility personnel in the rational use of medicines. Current MEDS training programs in HIV/AIDS treatment receive financial support from Merck and BMS; Indian generics producers have made no comparable contributions.⁵² While the organization's training programs have shown positive results, local training needs are vast and remain insufficiently addressed.

Chad: Progress and Ongoing Challenges

Among low-income countries working to reform their pharmaceutical sectors, Chad exemplifies both positive achievements and persistent challenges. Supported by WHO drug policy and technical advisers, the World Bank, and bilateral donors, Chad adopted a national drug policy document and implementation plan in 1998. Strategies were selected and implemented to improve public sector drug financing, drug pricing, and the management of drug donations. The program generated significant improvements in some key areas, including portion of the population with access to essential medicines, which rose from 46% in 1999 to 60% in 2001. Public per capita expenditure on drugs rose from its 1995 level of US\$ 0.04 to US\$ 0.12 in 2001. Meanwhile, however, other indicators were stagnant or

suppliers. Quick et al. 1997, p. 283.

⁴⁷ WHO/DAP/97.12 (Public-Private Roles in the Pharmaceutical Sector), p. 17.

⁴⁸ Information for this profile of MEDS is largely drawn from WHO/DAP/97.12 (Public-Private Roles in the Pharmaceutical Sector), p. 17, and Kawasaki and Patten 2002.

⁴⁹ Kawasaki and Patten 2002.

⁵⁰ Kawasaki and Patten 2002.

⁵¹ Robert Lefebvre, comments on an earlier draft of this paper.

⁵² Robert Lefebvre, personal communication with MEDS staff.

showed negative trends. The percentage of key drugs available in health facilities dropped from 80 in 1995 to 70 six years later. The average duration of stock-outs of key drugs lengthened during the same period from 41 days to 59 days. While standard treatment guidelines (STGs) were updated, no improvements were observed in antibiotic and injection use.⁵³

Brazil: Drug Access and the Fight Against AIDS

Among middle-income countries, Brazil has drawn international attention for its ambitious publicly-funded medicines programs, particularly with regard to antiretroviral drugs (ARVs) for the treatment of AIDS. In 1996, Brazilian Congressional Bill 9113 guaranteed every AIDS patient in the country access to all medicines required for her/his treatment, free of charge.⁵⁴ Brazil's strategy for procuring these medications involved domestic generic production of some ARVs and negotiations with the patent-holding companies to obtain other medicines at favorable prices.⁵⁵ External financial support (in particular from the World Bank) was important in laying the foundations of the program. While the commitment to make ARVs universally available has required the Brazilian Ministry of Health to invest large sums in the delivery of these complicated multidrug regimens, costs have been largely offset by drops in hospitalizations for AIDS-related conditions and reduced outlays for medicines used to treat opportunistic infections, such as ganciclovir for CMV infection. The MOH estimates that the universal free provision of HAART prevented 234,000 AIDS-related hospital admissions in the period 1997-2000, resulting in a US\$ 677 million savings for Brazil's Unified Health System. A 69% decrease in the need for ganciclovir in 1997-99 produced US\$ 34 million in additional savings.⁵⁶ Brazilian pharmaceutical researchers and health officials have embarked on programs to share their expertise in ARV production, drug supply supervision, and the clinical management of AIDS with their counterparts in other countries.

The preceding examples show that progress in access to medicines is possible for countries with very different levels of wealth. They confirm the important contributions of a multiplicity of actors, including national governments and their health ministries, international bodies, and NGOs. These examples also underscore the simultaneous importance of rigorous drug supply management and effective drug financing—both central to any substantive debate about strategies for broadening access for the poor.

These and other instances of country-level success are open to disparate interpretations. Analysts who argue that pharmaceutical patents are a peripheral issue when it comes to access to essential medicines will read many of the preceding accounts as supporting their view. From this standpoint, such stories show how countries can expand access via rigorous drug supply management, well designed financing mechanisms, and strong political

⁵³ WHO, "Highlights of the Year 2000 in Essential Drugs and Medicines Policy," p. 2.

⁵⁴ Ministry of Health of Brazil, 2001, p. 5.

⁵⁵ Barbara Klugman observes: "Two issues are raised here. First, the reason why Brazil has been forced to adopt the dual strategy is because of the impact of TRIPS (requiring patent protection for pharmaceutical products). All ARVs that were not patented in Brazil are produced locally (generics). All ARVs patented post-1996 are imported (brand-name products). Second, the reason why Brazil is able to negotiate better prices is because it is prepared to make active use of compulsory licensing provisions in its new patent law and because it has the capacity to produce ARVs locally."

⁵⁶ Ministry of Health of Brazil, 2001, p. 29.

commitment—without touching intellectual property rights (IPR).⁵⁷ On the other hand, those who consider IPR issues central to drug access debates will point to the Brazilian case as one in which the country's intellectual property policies on pharmaceuticals have been a key factor holding the cost of the national ARV treatment program within sustainable limits.⁵⁸

6. Areas of Immediate Concern for the Millennium Project Working Group on Access to Medicines

The principal charge of the access to essential medicines group within Millennium Project Task Force 5 (MPTF 5) is to design a Global Framework for Action on access to essential medicines in the developing world. As we begin a process of collective effort toward this objective, a number of fundamental problems demand attention. How the ATEM group resolves these issues will have implications for many aspects of its subsequent work.

6.1 Evidence Base

Since the formalization of the essential drugs concept in the late 1970s, a substantial body of data has been assembled on drug access issues. However, significant gaps in the evidence base persist. A vital question for the TF concerns the extent to which we presently lack information that would be valuable in formulating reliable normative recommendations. What types of data are missing? How might they be obtained? While awaiting further input from the full membership of the essential medicines working group, we can offer the following observations.

For many of the poorest countries, data on drug supply management, pharmaceutical quality, prescribing and dispensing practices, and patient utilization remain partial at best. Detailed quantitative and qualitative data on drug needs and drug consumption at the household level, particularly in poor rural areas, are unavailable in many cases, making it difficult to implement evidence-based strategies in poor communities. Phenomena such as seasonal cycles of poverty and their impact on the purchase and use of medications in rural areas remain understudied. Gender analysis should be more widely applied to ensure that information is gathered about the factors that determine women's and girls' differential access to health care and medicines, closely related to the gendered structure of poverty. Current evidence of the differential impact of HIV/AIDS on women and girls should be completed through focused data collection on women's and girls' access to HIV/AIDS treatments. (In exploring this area and developing recommendations, TF 5 should work closely with the MP task force on gender equality.)

In many instances, country authorities have failed to adequately monitor and evaluate programs introduced to improve drug supply management and strengthen access, and to evaluate the effect of other policy initiatives such as cost-sharing or decentralization on

⁵⁷ Commenting on the Bhutan case study, Robert Lefebvre noted: "This is a great example of the many things that can be done to address ... access, and none of these actions [involves] the issue of patents or compulsory licenses."

⁵⁸ See e.g., Tina Rosenberg, "How to Solve the World's AIDS Crisis: Look at Brazil," *New York Times Magazine*, January 28, 2001. Cf. Janet Galvão, "Access to antiretroviral drugs in Brazil," *Lancet* vol. 360 (December 7, 2002), 1862-65.

access. The consequences of such evidence gaps for policymakers (and the public) are severe. In the absence of necessary information, the policies developed to finance and coordinate drug supply can be unsuited for local conditions and overly subject to scholarly and policy fads. Without proper monitoring, data collection, and evaluation, program performance cannot be reliably assessed, with the consequence that effective practices may go unnoticed, while ineffective programs are perpetuated and system flaws persist. Efforts to understand these issues as they relate specifically to drug access must connect to analysis of the overall capacities of developing countries' health care systems. Moreover, when specific failures have been identified and quantified, careful studies are needed to determine what factor(s) actually caused the failure. The tendency to seize on facile, over-simple explanations must be resisted, if the real challenges are to be understood.⁵⁹

Effective monitoring and evaluation require reliable, objective indicators. Such indicators for drug use were developed and refined during the 1990s. However, comparable general indicators have not yet been established to measure households' actual ability to pay for medicines: the decisive last step in the essential drug chain, and the moment when availability of medicines for the poor becomes concrete—or fails.⁶⁰

In his comments on an earlier draft of this paper, Henk den Besten identified three areas in which further data or a clearer analysis of existing evidence could be particularly useful: (1) existing productive capacity in pharmaceuticals; (2) quantification of need for medicines in developing countries, particularly in the public sector; and (3) drug quality:

One aspect I would like to bring in as an obstacle for access is the installed capacity to produce the products required (including both API and finished products). It would be wise to estimate what capacity is available and what plans there are to expand. What are the market expectations? At what prices will industry be willing to invest? Based on our experience with the Green Light Committee (GLC) of the Stop TB Partnership, involving the supply of products for the treatment of MDR TB, this could well be an obstacle requiring further attention. [In seeking to create a sufficient market,] what is the role of the research-based industry versus or in combination with the generic industry? Is preferential pricing a (temporary) solution?

Approaching the supply/demand problem from the other side, we may also require more accurate estimates of developing countries' needs for basic pharmaceutical products, particularly in the public sector. Pharmaceutical quality assurance represents a third dimension in which the ATEM working group will need to seek and consolidate evidence. "Should we share more information on QA, including present activities and initiatives which have been proposed or implemented?"⁶¹

6.2 Conceptual Issues and the Problem of Target Definition

Joined to the evidence gaps regarding specific aspects of drug supply management in developing countries and therapeutic drug use by consumers in resource-poor settings are

⁵⁹ Dr. Graham Dukes, comments on an earlier draft of this paper.

⁶⁰ See the work of MSH's SEAM Project, <<http://www.msh.org/projects/seam/index.html>>.

⁶¹ Henk den Besten, comments on an earlier draft of this paper.

broader conceptual issues which influence how the MDG drug access target is understood and how the objective is to be pursued. The most important of these questions may be how the term “access” is to be interpreted in the context of the MDG Target 17 mandate to “provide access to affordable, essential drugs in developing countries.” Is “access” understood to have been achieved for a local population when the drug management system succeeds in reliably delivering the full complement of relevant medicines from the country’s EDL to the stock shelves of health posts, clinics, or dispensaries within a manageable radius of travel? What if many of the people concerned still do not have enough money to purchase the medicines they can see on the shelves? Should “access” be subjected to a more restrictive definition, fulfilled only when the person in need of a particular kind of medicine indicated for the treatment of a particular ailment actually receives a full therapeutic course of the drug in question? What would such a redefinition imply for our capacity to measure access and to compare access levels quantitatively across times and locations?

The question of how to define access was extensively discussed in the course of the ATEM group’s first meeting in New York in November 2002. The complexity of the concept was underscored. For example, the members of the ATEM group’s “Practice” subsection noted that “access” involves both a service and product component, implying that the effects of evolving medical technologies will need to be carefully considered. They suggested that access should be seen “as a continuous process rather than an event.” The “Practice” group also pointed out that access to medicines often functions as a surrogate marker for access to healthcare more generally.⁶²

In the course of earlier discussions, Dr. Eva Ombaka had argued that it might be desirable to characterize access succinctly as “people’s ability to obtain affordable, quality essential medicines when they need them to prevent or treat an illness.”⁶³ In response to this suggestion, Robert Lefebvre commented: “I would propose a further restriction of the definition to remove the word ‘affordable.’ The word implies that it is the consumer who must pay, and this is not necessarily the optimal solution. Given subsequent passages [of the ATEM background paper] where the role of the public and private sectors in taking on a larger share of funding is described, it would seem to make sense to define access as being people’s ability to access quality medicines when they are needed. In this way, the Task Force can focus on the essential question – accessibility. Also, we need to be more definitive when describing the ‘cost’ of a medicine. In my experience, ex-works prices can be increased by as much as 200% by the time the product actually gets to the consumer. The Task Force will need to spend time on addressing ways in which the cost of the supply chain management system can be made more affordable since this cost can sometimes represent much more than the actual cost of the medication.”⁶⁴ Barbara Klugman observed that, under international law, a state’s obligations to ensure access require not only the development and implementation of an appropriate regulatory framework, but also, when prices have been reduced as far as possible, public provision of essential medicines to people who can still not afford to purchase them. “In this regard, it is important to distinguish between availability

⁶² Dr. Eva Ombaka, Meeting Summary and Workplan for Millennium Project Task Force 5, Subgroup Access to Medicines, December 2002, p. 2.

⁶³ This definition was provided by Dr. Eva Ombaka in her comments on an earlier draft of this paper. Under such a definition, Dr. Ombaka cautions, “Access to essential medicines should not be seen in isolation from access to quality basic health care services.”

⁶⁴ Robert Lefebvre, comments on earlier draft of this paper.

and accessibility. The latter means far more than simply ensuring that medicines are available for purchase.”⁶⁵

Klugman argues that the challenge of defining “access” also “raises broader issues about what we’re going to define as medicines, and whether we’re also going to look at essential technologies. For example, presumably contraception is included as ‘medicine,’ though not if we’re only concerned with treatment; but if IUDs are not [included], because they’re technologies, then there’s a problem.”⁶⁶

At stake here is the scope of the ATEM group’s definition of “essential” medicines (and technologies), and the question of which medicines and diseases should occupy the group’s attention as we pursue our work. This is a fundamental and not yet fully resolved issue, as underscored by several participants in the course of the November 2002 New York meetings and in comments on background paper drafts. One underlying question is whether the Millennium Project ATEM group should focus its efforts primarily, and perhaps exclusively, on HIV/AIDS, TB, and malaria, or whether the group should concern itself with a broader range of health problems and the corresponding medicines and technologies. While many ATEM working group members appear to have assumed the latter, Dr. Gail Cassell, for example, has argued vigorously that the group adopt the former strategy (see Dr. Cassell’s comments in the appendix to this paper).

These discussions have not yet reached a fully satisfactory conclusion. The ATEM working group must carefully consider such problems as the group finalizes its Terms of Reference, objectives, and performance criteria. We will need to be consistent in our use of the established WHO/EDM indicator “percentage of the population having access to essential medicines,” or else rapidly achieve consensus on alternative indicators of progress.

Linked to this problem is the issue of a possible quantification of the drug access Target (in terms of population percentages or some other measure) as a way of setting reasonable goals and benchmarks for the work of the Task Force and the agencies which will carry forward the MDG effort in health. While the very broad, loosely quantified formulation of the Target has certain advantages, the Task Force may wish to weigh the possibility of specifying numerical objectives, whether for purposes of internal discussion or of public goal-setting and coordination of efforts.

A further concern is the topic of traditional, alternative, and complementary medicines. This vitally important area remains inadequately addressed in the present draft of this paper. We look forward to suggestions from working group colleagues regarding the most effective means of correcting this imbalance.

6.3 The Need for a Classificatory Scheme

One of the major points of consensus within the access to medicines subgroup at its November 2002 meeting in New York was the need for an effective taxonomy or classificatory framework through which to organize discussion of countries’ needs and

⁶⁵ Barbara Klugman, comments on earlier paper draft.

⁶⁶ Barbara Klugman, comments on earlier paper draft.

possibilities with respect to essential medicines. Many group members expressed the view that the drug access problem should be segmented to take account of developing countries' very different economic, political, and health situations. Drug policy recommendations that would work for Mexico, for example, may of course be completely impracticable in Burundi. On the other hand, as the example of Cuba shows, relevant differences do not always correlate mechanically with GDP. Our analytic framework and action plan on essential medicines should register and respond to the multiple dimensions of these country-level differences.

During our November discussions, several variables were suggested as possible axes for a classificatory scheme. These included: GDP per capita; health spending per capita; per capita public expenditure on medicines; prevalence of diseases such as HIV/AIDS, TB, and malaria; number of physicians per 1,000,000 population; number of pharmacists per 1,000,000 population; average life expectancy; infant, under-five, and maternal mortality rates; and some marker of domestic pharmaceutical production capacity.

The design of a classificatory framework was seen by many participants as one of the most urgent tasks for the access to medicines subgroup, and as a strong candidate for a commissioned paper.

B. Obstacles and Strategies

1. Obstacles to Access

The access to medicines problem has many dimensions, including social, political, economic, gender, age, cultural and technological. A number of areas have been identified in the specialist literature as constituting persistent obstacles to the realization of full, equitable access to medicines in developing countries:

- 1) Health systems inadequacies, including drug management failures and insufficient human resources;⁶⁷
- 2) Faulty clinical procedures, including poor selection and irrational prescribing of drugs;⁶⁸
- 3) Economic and financing constraints;⁶⁹
- 4) Cultural factors;⁷⁰
- 5) Inadequate research and development of new drugs for diseases prevalent in developing countries.⁷¹

Each of these broad areas includes a range of major challenges. Here, we outline some of the pressing issues.

⁶⁷O'Brien et al. 1998; Pecoul et al. 1999; WHO/EDM/2001.1 (WHO Medicines Strategy).

⁶⁸Management Sciences for Health 1995 (Promoting Rational Drug Use) ; Okumura J et al 2002 ; World Health Organization 1987.

⁶⁹E.g., WHO/DAP 98.3 (Health Reform and Drug Financing); WHO/DAP 98.15 (Financing Drugs in Southeast Asia); Zerda, Velásquez et al. 2002; Berwick 2002.

⁷⁰E.g., Farmer 1992; Kamat 2001; Lerner 1997; van der Geest, Reynolds Whyte and Hardon 1996.

⁷¹Trouiller et al. 2002.

(1) At the health systems level, a coherent national **drug policy** may be absent. If an NDP exists, it may not be effectively implemented. Drug **supply management** may not be adequately assured, with failures possible at each stage of the supply cycle: from drug selection to procurement, distribution, and use. The **physical and technological infrastructure** required for effective drug supply management may not have been secured. Quality control and drug regulation pose particular technical and administrative challenges. **Human resources** may be inadequate; workers and administrators at the various stages of the supply chain may be too few in number, may not have received sufficient training, and may have few opportunities for ongoing professional formation. **Monitoring and evaluation** of all system functions are vital to overall success, particularly for newly instituted programs, yet are often neglected.

(2) At the clinical level, **irrational prescribing** by health providers, self-prescription (different from justifiable self-medication), and **improper use** of medicines by consumers thwart the therapeutic potential of essential medicines and put patients' health and lives in danger.

(3) The problem of drug access is inextricably bound up with economic concerns in a variety of dimensions. **Price** constitutes a significant barrier to access for many poor people. High prices also threaten the sustainability of medical insurance coverage and of public sector health care programs. Drug prices in turn reflect the influence of international trade agreements, industry practices, and intellectual property rights regulations. Factors such as taxes and tariffs, markups by wholesalers and retailers, corruption, and supply chain inefficiencies also affect the final prices paid for medicines by consumers. Meanwhile, modes of **financing** drug purchases vary significantly and exert a determinative influence on the ability of patients, especially in resource-poor settings, to access quality-assured medicines in the proper therapeutic quantities. The economic dimensions of access starkly reflect **gender disparities**. Poor women in many contexts have less income than do men, little or no control over household decision-making regarding income, and lesser access to funds to buy drugs or to access services.

(4) The use of medicines is subject to cultural influences, often including heavy-handed and potentially **misleading promotion** on the part of drug producers and sellers.⁷² On the other hand, "cultural factors" may be invoked to explain patterns of non-optimal pharmaceutical use that in reality say more about patients' poverty and **economic vulnerability** than about cultural norms and practices. Meanwhile, **gender relations** constitute a dimension of culture with far-reaching implications for access to medicines. Gender dynamics are reflected, for

⁷² Van der Geest, Reynolds Whyte and Hardon (1996) furnish an anthropological "biography" of pharmaceuticals in the developing world, exploring all phases of the life-cycle of therapeutic drugs, from manufacture through marketing, distribution, and use. In general, the production and marketing phase of medicines' "social life" remains insufficiently researched (van der Geest, Reynolds Whyte and Hardon 1996). However, ample documentation of misleading or inappropriate promotion of medicines by producers and sellers has been brought forward. See e.g., Goel P, Ross-Degnan D, Berman P, Soumerai S 1996; Kanji N, Hardon A, Harnmeyer JW, Mamdani M and Walt G 1992; Melrose D 1982; Montagne M 1992; Silverman M, Lee PR and Lydecker M 1992; Wolf-Gould CS, Taylor N, Horwitz SM, Barry M 1991.

example, in the question of who in the family decides if a woman or a child needs medical treatment, including drugs and other technologies.⁷³

(5) The dearth of research and development on new medicines for diseases primarily affecting the developing world augurs badly for the future of drug access and public health in low-income countries. Efforts to confront this problem must seek ways to more effectively enlist the enormous economic and scientific resources of the research-driven pharmaceutical industry through **market-based solutions**. However, legislative options and not-for-profit pharmaceutical research partnerships constitute **other avenues** to be explored. The capacities of **public-sector research institutions** (e.g., the US NIH, Britain's MRC, and Brazil's FarManguinos) should be more systematically engaged in addressing this challenge.

Along with the challenge of developing new medicines, some analysts point to the “seeming incapability of the generic industry to provide adequate supplies of [existing] essential medicines to the developing world,” despite the fact that the vast majority of such medicines are off-patent.⁷⁴ Clearly, if problems of supply and financing cannot be resolved, the invention of new medicines will bring little benefit to poor patients in developing countries.

Given the scope and variety of the barriers to drug access, and the decisive role of specific national and local conditions, no single solution or uniform set of interventions can be relied upon. A strategic framework to address these problems must be flexible, open-ended, and pragmatic. It must be developed for implementation within communities and with substantive input by the users of the health care system themselves, thereby ensuring that the framework adequately reflects local conditions and needs of a particular country or community.⁷⁵ At the same time, the vision must be broad enough to encompass genuinely global issues of political and economic governance.

Meanwhile, the difficulty of achieving meaningful community input on questions of drug policy and access must be acknowledged frankly. Barbara Klugman notes: “Much of the current effort at involving communities in managing revolving drug funds shows that they don't actually get to make real decisions about what drugs, let alone what priority services, should be offered. Whilst I agree with the intention of involving communities, it has major financial implications. It cannot be done if there isn't a functioning health system with good management, able to institutionalize community participation and provide the facilitation that community members would require in order to be able to participate properly. This applies especially to poorer members of communities, or those without power – often women, disabled people, young people, etc.” Involvement of communities sounds good but cannot be applied to every community at local level unless, notably, an effort is made to support community education on drugs, within an effectively operating health system.⁷⁶

⁷³ “This is a critical dimension of culture, illustrated for example in research on malaria which shows that getting bednets to a house does not mean that those who are most vulnerable (pregnant women and children) will be the ones who use [the bednets].” Barbara Klugman, comments on an earlier draft of this paper.

⁷⁴ This point was stressed by Robert Lefebvre in his comments on an earlier draft of this paper.

⁷⁵ Cf. the studies in the Equinet Policy Series, available at <<http://www.equinet africa.org/policy.html>>.

⁷⁶ Barbara Klugman, comments on an earlier draft of this paper. Klugman suggests: “We may need two strategies: (1) a health system which makes drugs available irrespective of community participation in decision-making or different community members' ability to pay; (2) behaviour change strategies within communities

2. Conceptual Framework for a Response

2.1 Basic Principles

From a 21st century vantage point, it is sometimes difficult to appreciate how profoundly advances in medical science over the last 50 years have affected our worldview. When Robert Koch isolated the causal agent of anthrax in 1876, and the tubercle bacillus in 1882, it represented a paradigm shift; but for another sixty years tuberculosis continued to be an incurable disease. It was not until Waksman's 1944 discovery of streptomycin that a human future without "consumption" could reasonably be envisioned. As the technology and infrastructure of drug discovery and development grew larger and more sophisticated, substances that had at first seemed almost magical quickly became part of the landscape. Indeed, antibiotics were now emblematic of modern health care itself: not just acclaimed, but expected.

To many, the postwar pharmacological advances represented a turning point in the natural history of *Homo sapiens*. By the late 1960s the U.S. Surgeon General was declaring the war on infectious diseases "over" and calling for a shift in attention to chronic disorders. The emergence of antibiotic resistance and the appearance of previously unknown pathogens such as HIV now make such confident declarations seem quaint, at best. More to the point, they betrayed a blinkered perspective: most of the world did not benefit from the medical technologies that, in developed countries, had become the standard of care.

In identifying access to essential medicines as a Millennium Development Goal, the international community has affirmed that the standard of care can and must be applied universally. This stance is supported by three arguments, which, in turn, have guided our analysis: access to health care as a *basic human right*; essential medicines as *special goods*; and a *pro-poor orientation* shaped by the commitment to global health equity.

The principle that "Everyone has the right to a standard of living adequate for the health and well-being of himself and of his family, including...medical care," enshrined in Article 25 of the Universal Declaration of Human Rights, imposes an obligation on the international community.⁷⁷ Health must be an accessible condition, and the essential medicines needed to overcome disease must be available to all. Yet social and economic rights such as those conferred by Article 25 are problematic in the sense that it remains unclear exactly which parties are obligated to ensure them in case of default.⁷⁸ A major task for the Millennium

which promote understanding of the role of drugs for different illnesses, the importance of identifying and addressing women's and children's access, etc."

⁷⁷ Article 25 of the UDHR is supported and clarified notably by Articles 12 and 15 of the International Covenant on Economic, Social and Cultural Rights, which guarantee, respectively, "the right of everyone to the enjoyment of the highest attainable standard of physical and mental health," and the right "to enjoy the benefits of scientific progress and its applications." Revised Guideline 6 (Access to Prevention, Care, Treatment and Support) of the International Guidelines on HIV/AIDS and Human Rights specifically places obligations on states to increase access to HIV-related medicines and products. Barbara Klugman, comments on an earlier draft of this paper.

⁷⁸ Sen 1999; Nielsen 2001.

Project, and a challenge for Task Force Five, is to confront this conceptual difficulty and clarify key actors' responsibilities in the case of access to drugs.

Essential medicines should be regarded as special goods meriting particular arrangements to ensure their fair allocation and appropriate use.⁷⁹ In addition to moral and human rights concerns, there are economic reasons for not treating essential medicines as ordinary commodities. One important factor is the strong information asymmetry between providers/dispensers of medicines and the patients who consume them, constraining consumers' ability to exercise the independent decision-making capacity basic to the proper functioning of markets. In practice, this asymmetry can be and often is exploited by providers/dispensers to increase sales. Another significant consideration concerns the positive externalities associated with some medicines: for example the contribution certain drugs bring to the achievement of public goods such as eradication or control of infectious diseases. Tuberculosis provides perhaps the clearest example. Tuberculosis control (a public good) is unachievable without TB drugs; yet in poor countries these medicines will be supplied in acutely inadequate quantities through market mechanisms alone. The market allocates medicines like other commodities, according to consumer demand, i.e., people's willingness and ability to pay. However, the most appropriate criterion for determining the allocation of medicines is medically defined need, not market demand. On the other hand, it is clear that governments also often fail in the pharmaceutical sector, for example through corruption, imprudent tax and tariff policies, or misallocation of resources. Acknowledging essential medicines as special goods, we must seek an effective balance of market dynamics and public-sector controls to optimize access.

A final premise of our recommendations is their pro-poor orientation. This catch-phrase has long been a staple of development discourse, often with little appreciable effect. Nonetheless, it is a fundamentally important way of orienting activity designed to address failures of market and state alike. Indicators in the area of access to medicines are if anything starker than in other categories. It has been estimated, for example, that only some 50,000 AIDS patients in sub-Saharan Africa—out of an estimated 29 million HIV-infected persons—currently have access to antiretroviral therapy.⁸⁰ Of the worldwide mortality from tuberculosis, a disease readily curable with antibiotics, 98 percent is in developing countries. To commit to ensuring access to essential medicines is to focus first and foremost on the needs of communities living in poverty. This commitment also requires foregrounding the gendered structure of poverty and the gender dimensions that facilitate or inhibit access to drugs.

The following basic principles will help flesh out what is meant in this context by a sustainable, pro-poor approach to drug access:

- Sustainable, pro-poor solutions will explicitly seek an equitable increase in access, while focusing especially on the requirements of the economically disadvantaged and socially marginalized;

⁷⁹ Conception, content, and much of the wording of this paragraph were provided by Dr. Andrew Creese.

⁸⁰ International HIV Treatment Coalition, *A Commitment to Action for Expanded Access to HIV/AIDS Treatment* (Geneva: WHO, 2002), p. 1.

- Sustainable, pro-poor solutions to drug access will unfold in the context of building up national health care systems, not in isolation from them;
- Sustainable, pro-poor solutions will build up national capacities to meet the health care needs of citizens; they will not reinforce or increase dependencies or national debt;
- Sustainable, pro-poor solutions will directly involve affected communities in their design; thus, the work of our Task Force should be participatory and ensure that information comes up from “below,” that is, from country level, based on inputs not just from academics and policy experts, but from the experiences and expertise of people affected.⁸¹

In seeking to formulate recommendations in accordance with these principles, we have been conservative in the approach to existing international laws and agreements. We have found instances of conflict between current statutes and the above premises; in these instances our effort has been to interpret existing rules in light of human rights, public health and equity concerns, while preserving the overall framework intact.⁸² Human rights and public health concerns should be the guiding principles in interpreting international laws and agreements. In the framework thus defined, we have attempted to outline an equitable approach that involves the voices of all major stakeholders, while promoting consultation and collaboration to keep the needs, interests, and inputs of the poor at the center.

2.2 Major Actors and Stakeholders in Access to Medicines

Actors and stakeholders with very different (at times conflicting) agendas participate in debates on access to medicines. The highly profitable and politically influential research-based pharmaceutical industry plays a conspicuous role. Competitive tensions exist both among research-based companies and between the innovator pharmaceutical manufacturers and generic producers. Meanwhile, the pharmaceutical market is highly prone to failure,⁸³ requiring the involvement of state authorities to compensate for inevitable market distortions. International agencies such as WHO/EDM have played a crucial role in expanding access to medicines over the past 25 years. In many cases, WHO has collaborated closely with NGO partners; in other instances, NGOs have challenged WHO policies and

⁸¹ In responding to this point, Barbara Klugman raised the question of how (and whether) this goal of broad consultation can actually be achieved. “How are we going to do this? This is a key issue for the task force to think about. [As currently formulated, this objective is] probably unrealistic, and the best we can do is to try to bring in representatives of some of the NGOs that try to monitor government. I think, for example, of Zimbabwe’s Community Working Group on Health.” Klugman, comments on an earlier draft of this paper.

⁸² Speaking for a number of Task Force members, Barbara Klugman challenges this desire to “preserve the overall framework.” She writes: “While we support an approach that seeks to interpret existing international trade rules in the light of human rights, public health and equity concerns, we do not think that this necessarily must be at the expense of challenging the very framework within which one is operating. Many of the international trade rules clearly clash with these [rights, health, and equity] concerns and should not be allowed to remain unchallenged. We think it would be inappropriate to proceed on the assumption that the broader framework remains intact.” Klugman, comments on earlier paper draft.

⁸³ E.g., Madrid, Velásquez et al. 1998, pp. 16-21. The key areas of market failure identified concern: (1)equity; (2)information imbalance between consumers and suppliers; (3)failure of competition due to high initial investment and other factors; (4)externalities, e.g., medicines’ contribution to public goods such as control of TB and STIs.

methods. Here, we present a schematic list of some of those actors whose input will be important for the elaboration of a long-term solution to the drug access challenge.

- **Patients:** the central stakeholders are the people—in particular the poor—who take the medicines or are denied the chance to do so. While the users of medicines are the actors most intimately concerned with the access issue, their voices are frequently ignored.
- **Public sector:** developing-country governments, in particular health, trade, and finance ministries; rich-country governments; international governance institutions (e.g., UN, regional organizations) and their health units (e.g., WHO, UNICEF, UNAIDS, regional health agencies); multilateral financial institutions such as the World Bank; educational institutions responsible for training pharmacists, doctors, and other relevant professionals; public sector pharmaceutical laboratories (e.g., Thailand's GPO and Brazil's FarManguinhos).
- **Private sector:** for-profit pharmaceutical firms (both research-based and generic) in high-income and developing regions; private educational and research institutions; private drug distributors, laboratories, and other for-profit enterprises involved in drug supply at national and local levels; physicians in private practice, pharmacists, and other health professionals operating in the private sector in developing countries; health insurance companies.
- **Civil society organizations:** international health organizations (e.g., HAI, IDA, INRUD, MSF, MSH); national NGOs (e.g., JMS, MEDS); other civil society organizations and stakeholder groups, including CBOs representing poor communities and activist organizations such as South Africa's Treatment Action Campaign (TAC).

3. Review of proposed strategies

In his September 2001 report on progress toward the Millennium Development Goals, Secretary General Annan made reference to a number of potential strategies for improving drug access: 1) Strengthening health systems for the provision of essential medicines; 2) Increasing affordability through differential pricing and the reduction or elimination of import duties, tariffs and taxes; 3) Mobilizing sustainable financing to support the costs of expanded access to drugs in poor countries; 4) Exploring the feasibility, in collaboration with non-governmental organizations and other concerned partners, of developing and implementing systems for the voluntary monitoring and reporting of global drug prices; 5) Urging drug companies not only to reduce prices of essential drugs but also to improve the distribution of life-saving drugs, especially in least developed countries; 6) Utilizing non-traditional and innovative mechanisms to increase the effective distribution of drugs to those who need them; 7) Ensuring further evaluation and assessment of international trade agreements that affect the availability of essential drugs; 8) Increasing research and

development of advanced medications for those diseases that primarily affect developing countries.⁸⁴

The Secretary General's observations underscore the range and variety of strategies required to address access to medicines. His remarks provide, not a menu of mutually exclusive alternatives, but an appropriately complex overview of policy directions to be explored concurrently. In what follows, we utilize the multiple horizons opened by the Secretary General to orient a discussion of policy options on essential medicines. These options are classified under five main headings, corresponding to the five major areas of constraint identified above (section B.1). For each of these areas, we provide (1) an overview of the problem and (2) a set of possible strategies to address it. We stress again that, because of time constraints, the options proposed here have not been developed, critiqued, and refined by the full membership of the MP TF 5 medicines working group, using the consensus-building procedures we hope to implement in the group's subsequent work. The contributors to this paper do not speak *for* the medicines subgroup, nor a fortiori for the Task Force as a whole. In laying out a necessarily incomplete menu of policy approaches, we speak *to* the full working group membership (and interested MP and HDR colleagues), aiming to provide initial impetus for an inclusive conversation that will unfold over the coming months.

3.1. Health systems inadequacies

Overview

Lack of effective pharmaceutical policy, inadequate implementation where policies do exist, and the poor condition of health systems and other infrastructure constitute barriers to reliable, equitable drug access in many developing countries. While health infrastructure deficits in LDCs have in many instances proven intractable, some progress can be reported on drug management systems,⁸⁵ and current discussions of dramatically expanded international donor support for health in the developing world raise hopes for the future.⁸⁶ Over recent decades, many developing countries have worked on national pharmaceutical policy and drug management issues in close cooperation with WHO's Essential Drugs and Medicines program (EDM) and with other UN agencies and NGOs, including Management Sciences for Health, the International Dispensary Association, the International Network for the Rational Use of Drugs, and Health Action International. Many countries have also benefited substantially from the contributions of bilateral aid programs in the pharmaceutical sector. This work has produced positive results in individual countries and also a robust knowledge base potentially applicable in many different national and local contexts.

⁸⁴ United Nations General Assembly. Follow-up to the outcome of the Millennium Summit: Road map towards the implementation of the United Nations Millennium Declaration; Report of the Secretary-General. U.N.D. No. A/56/326. New York: U.N.G.A., 2001. We interpret the Secretary-General's remarks to refer primarily to the major infectious diseases, particularly HIV/AIDS, TB, and malaria. However, as Trouiller et al. (2002) and others have argued, neglected "minor" diseases also contribute substantially to the burden of morbidity, mortality, human suffering, and socioeconomic degradation in developing countries. While new drug research on the major infectious killers should undoubtedly be prioritized, means must also be sought to stimulate research on other neglected conditions such as leishmaniasis, lymphatic filariasis, Chagas' disease, and schistosomiasis. See below, sec. B.5.

⁸⁵ See above, sec. A.5, discussion of Chad.

⁸⁶ Commission on Macroeconomics and Health 2001; Commission on Macroeconomics and Health 2002.

Coherent drug policy and planning at the national level are crucial to ensuring access to essential medicines. Focusing on the reliable supply of a limited set of essential drugs is the cornerstone of rational drug policy; indeed, establishing and utilizing a limited list of carefully chosen essential medicines is “perhaps the single most cost-effective action that any health care system or health care provider can take to promote regular supply and rational use of drugs.”⁸⁷ Thus, working with countries on the formulation and implementation of a national drug policy (NDP) and national essential drugs list (EDL) has been central to the WHO’s EDM program. Significant gains have been made in these areas during the past 25 years. Today, three out of four countries in the world, nearly 160 countries in all, have adopted national EDLs. Over 100 countries have NDPs in place or under development, and a growing number of countries are “moving from policy to action through coordinated national drug policy implementation plans.”⁸⁸ Moreover, many drugs registered on the WHO’s Model List have seen price declines and improved availability. On the other hand, existing national EDLs need to be carefully analyzed to eliminate gender biases and other distortions.⁸⁹

Where a coherent national drug policy has been established, practical management challenges arise at each stage of the drug supply cycle: from selection of pharmaceutical products to procurement, distribution, and use.⁹⁰ However, three decades of work by WHO, other international agencies, NGOs, and national stakeholders have yielded a substantial body of evidence and best practice documentation, available through publications such as *Managing Drug Supply* and numerous WHO/EDM technical papers on aspects of drug policy and oversight. With regard to many important components of successful national pharmaceutical policy and drug management, it can reasonably be argued that the required technical knowledge now exists, along with channels for its dissemination (including consultation and technical training of national health managers and providers by WHO and NGO experts).⁹¹ The evidence base is less robust in areas such as the treatment of chronic diseases and the use of medicines in hospital settings. More careful attention could also be given to the possible contribution of joint public-private initiatives (JPPIs) to effective knowledge-sharing on topics related to drug policy and management.⁹² Overall, delimiting the proper respective roles of government and the private sector in drug supply remains a significant challenge.⁹³

⁸⁷ Quick et al. 1997, p. 10.

⁸⁸ WHO/EDM/2000.1 (WHO Medicines Strategy), p. 8.

⁸⁹ Barbara Klugman, comments on an earlier paper draft. Klugman writes: “Have we analysed existing national EDLs? Do we know whose health interests they address? Consider e.g., pain relief in pregnancy; medicines needed for post-abortion care; technologies for cervical screening; which contraceptives are included, for example, emergency contraception. I raise these issues just as a reminder that EDLs aren’t neutral and represent specific interests, frequently not those pertaining to women’s human right to control their reproductive capacity; nor those concerned with dimensions of women’s health other than maternity.”

⁹⁰ Quick et al. 1997.

⁹¹ See Laing and Hogerzeil 2001; cf. WHO/EDM/DAP 2000.2 (Bhutan Essential Drugs Programme), p. xiii.

⁹² Robert Lefebvre, comments on earlier paper draft.

⁹³ Opinions on this topic among and within major international health and development agencies (including branches of the UN system) seem to be divided. The privatization agendas advocated by international financial agencies over the past decade may stand in significant tension to the emphasis on constructive government involvement associated with institutions such as WHO/EDM. Barbara Klugman, comments on an earlier draft of this paper.

Initiatives such as the International Conference on Harmonisation of Technical Requirements for Registration of Pharmaceuticals for Human Use (ICH) have raised concerns about the ability of national drug regulatory authorities to maintain appropriately rigorous drug testing and safety regimes. Some observers claim that “the regulatory streamlining of ICH has not been achieved without compromising drug safety standards,” and argue that critical examination of ICH should constitute a significant drug policy priority.⁹⁴ IFPMA and other industry groups, on the other hand, have maintained that industry involvement in the definition of regulatory standards through ICH has helped improve standards of drug manufacturing in developing countries.⁹⁵

The existence of a reasonable evidence base on good practices in many areas of the pharmaceutical sector renders even more urgent the question of why current dissemination channels and training initiatives still often fail to translate technical knowledge into improved performance. Despite the theoretical availability of technical guidelines and best practice data on numerous drug management topics, results on the ground are mixed, and some countries’ progress in drug supply management has been frustratingly slow.⁹⁶ Alongside notable successes exist an immense number of failed programs. The reasons for these failures are diverse. The multiplicity of sources from which people in poor countries tend to procure drugs complicate pharmaceutical management, regulation, and monitoring efforts. Shortages of skilled personnel and lack of adequate training are recurrent complaints, especially in rural areas. Poor pay, bad working conditions, and inadequate equipment demoralize professional health workers and add to the pressures fueling ‘brain drain.’ It is clear that, in many instances, failures in the effective management of drug supply are linked to wider inadequacies in health systems and other forms of national infrastructure (e.g., education). Success in expanding access to essential medicines in developing countries (especially LDCs) will require substantial strengthening of infrastructure within and beyond the health sector, with stress on developing human resources and effective monitoring and evaluation of all program components.⁹⁷ Some analysts charge that current health sector reform discourse disproportionately supports privatization, rather than strengthening public health systems, despite the fact that the public sector remains essential for delivery of essential medicines to most people in most developing countries.⁹⁸

The human resources issue is particularly critical. As WHO analysts have argued, “Many of the problems described ... can be fully resolved only if a country’s pharmaceutical sector is strengthened. This will in turn call for a greater number of well-trained pharmacists and a greater understanding of the potential role of the pharmacist in population health care.”⁹⁹ Currently, an enormous gap separates high-income from low-income countries in terms of pharmacy training. Countries such as Spain and Italy have more than 900 pharmacists per million population; in many Asian and African countries, including Indonesia, the Philippines, Côte d’Ivoire, and the CAR, there are fewer than 50 pharmacists for every

⁹⁴ Abraham 2002.

⁹⁵ E.g., Anon., IFPMA concerns on WHO health systems review. *Scrip* 2000;2553:15.

⁹⁶ See e.g. Ratanawijitrasin, Soumerai et al. 2001.

⁹⁷ See e.g. Quick et al 1997, p. 15.

⁹⁸ Barbara Klugman, comments on an earlier draft of this paper.

⁹⁹ WHO/EDM/2000.1 (WHO Medicines Strategy), p. 32.

million inhabitants. In some cases, the figure is as low as 5.¹⁰⁰ Human resource development and capacity strengthening in the pharmaceutical sector should be a high priority, and should be sustained and progressively expanded over a 5-10 year period, in order for disadvantaged countries to begin to close the gap. Enhanced human capital in the drug sector could also help accelerate broader improvements in the technological capacity of local industry.

Possible strategies

1. Across the board, coordinated international donor support for health work in the developing world must be dramatically increased: on the magnitude discussed in the 2001 report of the Commission on Macroeconomics and Health.¹⁰¹ A substantial portion of this increased donor funding should be assigned to develop health infrastructure and capacities, with particular attention to the infrastructure and human resources required for effective drug supply management.
2. Health sector funding increases should address both the absolute shortage of skilled health workers in many developing countries and the need to improve skills and retain existing personnel. National funding and international donor support in health should build up the number of trained health professionals, including pharmacists. Support should also be strengthened for continuing education and in-service training of licensed health workers, and for improvements in remuneration and overall system quality which will aid in combating “brain drain.”
3. Policy and technical assistance to countries through WHO/EDM must be strengthened and deepened. Current efforts to enhance WHO representatives’ collaboration with civil society should be encouraged at all levels. WHO/EDM’s capacity to provide both comprehensive program support and specific technical support to countries, as well as to conduct intercountry programs, must be reinforced.¹⁰² An opportunity exists to strengthen regional capacities by intensifying technical support to the expanding pharmaceutical sectors of bigger developing countries (e.g., Brazil, India) which are already achieving significant success. In order to enable this expansion of EDM activities, the division should be funded at a level well beyond its current budget.
4. As donors expand support to countries for improvements in drug management infrastructure (see above, Recommendation 1), issues such as pharmaceutical quality control and the efficacy of national drug regulatory authorities will claim central importance. In the short term, countries where effective QC mechanisms are absent may seek to enlist the services of NGOs such as the International Dispensary Association. In the longer term, the development of an independent national regulatory and QA/QC capacity will be an important priority for the national health system. As the work of the Millennium Project drug access group proceeds, the history of efforts to establish national and regional pharmaceutical laboratories should be reviewed in detail, in order to formulate a precise set

¹⁰⁰ WHO/EDM/2000.1 (WHO Medicines Strategy), p. 32. In response to an earlier draft of this paper, Dr. Graham Dukes noted: “Indeed there are often too few pharmacists, but we shall particularly need to consider WHO’s emphasis on the pharmacist’s training and role: too many are still trained to compound medicines and then essentially go on to become urban shopkeepers, neither of which is ideal.”

¹⁰¹ Commission on Macroeconomics and Health 2001.

¹⁰² WHO/EDM/2000.1 (WHO Medicines Strategy), p 23.

of recommendations that reflect these lessons. It may well be possible that the tremendous QC capacities existing in the pharmaceutical industry sector itself could be enlisted in innovative ways to address the challenges of guaranteeing drug safety and efficacy.

5. Questions of pharmaceutical technology transfer and the fostering of local production remain highly controversial. National contexts and objectives, but also local and subregional factors, are vital in evaluating options. “One-size-fits-all” recommendations are likely to prove unhelpful. The question of which technologies can reasonably be transferred where (and by whom) must be answered on a case-by-case basis, in light of the agendas of multiple stakeholders and a realistic assessment of opportunities.¹⁰³ What the Millennium Project drug access working group can perhaps most usefully provide would be a framework and set of criteria for the evaluation of options, including the key questions that must be answered in each case. Criteria would certainly include: short- and long-term effects of various scenarios on drug pricing; quality assurance/quality control concerns; and economic viability of options. The ATEM working group should plan to take up these complicated issues in its working debates.

Examples of successful “South-South” collaboration, technological assistance, and information sharing—such as Brazil’s offer of human resources training to other countries in HIV/AIDS clinical management and AIDS drug supply logistics—may provide important signposts for future initiatives.¹⁰⁴ Such programs should be furthered and facilitated whenever possible by WHO, other international bodies, and NGO partners. It should be noted that some interpretations of the TRIPS agreement have tended to question the legitimacy of certain forms of South-South collaboration (for example, cross-border supply of medicines produced under a compulsory license, an issue with which the Council for TRIPS continues to struggle as of this writing). On the other hand, technology transfer from North to South was expected to be one of the principal benefits of the TRIPS agreement. Examples of successful North-South transfers should be sought and analyzed by the Task Force. If few such examples can be identified, the Task Force should examine the reasons for this failure and formulate appropriate recommendations.

6. Operational research on drug procurement and supply management should be reinforced. There is no substitute for experience in creating effective structures for the procurement and distribution of essential medicines. Many countries have not yet been able to translate available information about drug supply management into effective practice; in some cases, reliable performance data are unavailable because effective monitoring is not being carried out. It is essential that the knowledge base be expanded through support of a targeted, pragmatic, and well funded agenda of operational research. This agenda should be coordinated closely with stakeholders in various settings and research areas, and a central information clearinghouse should be maintained at EDM.

¹⁰³Cf. Quick J, Bremer K 1997.

¹⁰⁴ Ministry of Health of Brazil 2001, p. 32.

3.2 Clinical Procedures, Prescribing Practices, and Rational Use

Overview

Poor clinical procedures, including improper selection, prescription, and use of drugs, pose a serious threat to patients and to the integrity of health systems. By some estimates, up to one-half of the drugs in the world may be wasted due to ineffective prescribing and patients' failure to comply with appropriate treatment regimens.¹⁰⁵ Up to 75% of antibiotics are prescribed inappropriately, even in teaching hospitals, according to the WHO.¹⁰⁶ Self-prescription, the acquisition of prescription-only medications without a proper medical prescription, has reached epidemic proportions in some areas.¹⁰⁷ In a Colombian study, of 100 products requested in pharmacies, 72% were chosen by the user, rather than prescribed by a qualified health professional; of these 72 self-chosen medications, almost two-thirds were officially classified as prescription-only.¹⁰⁸ Inadequate labeling of drugs and the failure of prescribers and dispensers to communicate effectively with their clients contribute substantially to poor compliance. Poverty constrains many patients to try and get by with subtherapeutic quantities of needed medicines. Meanwhile, false or misleading drug promotion and flawed information purveyed by both producers and drug dispensers exacerbate the improper use of medicines in many regions (see below, section 3.4).¹⁰⁹ The cumulative effect of these factors means that, worldwide, only 50% of patients are able to complete a full, correct course of their medications.¹¹⁰ Troubling and potentially disastrous consequences ensue: negative outcomes for individual patients, waste of health system resources, and the development and spread of drug-resistant pathogens.

Fortunately, the experience garnered by national health authorities, WHO/EDM, and allied institutions and NGO partners over the past 20 years has permitted the accumulation of a valuable evidence base on topics connected with effective selection, procurement, and rational use of medicines. In 1997, the International Conference on Improving the Use of Medicines, held in Chiang Mai, Thailand, marked the first-ever global conference devoted entirely to strategies for strengthening appropriate drug use in developing countries. The data and strategies generated at the Chiang Mai conference and subsequently have enabled experts to propose a core set of reliable rational drug use strategies, along with an agenda for further research.¹¹¹

¹⁰⁵ Quick et al. 1997, p. 11.

¹⁰⁶ WHO/EDM/2000.1 (WHO Medicines Strategy), p. 10.

¹⁰⁷ Dangerous self-prescription is distinct from legitimate self-medication, which is often unavoidable in areas with limited health infrastructure. Professor Graham Dukes, comments on an earlier draft of this paper.

¹⁰⁸ Zerda, Velásquez, et al. 2002, p. 17.

¹⁰⁹ See e.g., Goel P, Ross-Degnan D, Berman P, Soumerai S 1996; Kanji N, Hardon A, Harnmeyer JW, Mamdani M and Walt G 1992; Melrose D 1982; Montagne M 1992; Silverman M, Lee PR and Lydecker M 1992; van der Geest S, Reynolds Whyte S and Hardon A 1996; Wolf-Gould CS, Taylor N, Horwitz SM, Barry M 1991.

¹¹⁰ WHO/EDM/2000.1 (WHO Medicines Strategy), p. 10.

¹¹¹ See Laing, Hogerzeil and Ross-Degnan 2001.

Possible strategies

1. Community-based dialogue with and education of consumers is needed to promote rational medicines use. Efforts to change consumer behavior should be based on effective health communications methods. To achieve these objectives, national drug management authorities and their international supporters (including WHO, other international agencies, and donors) must strengthen their collaboration with national and local civil society organizations.
2. Relevant agencies must ensure that high-quality, independent medicines information is readily available to both prescribers and consumers in forms that are useful to them.¹¹²
3. Countries should be encouraged and assisted in the implementation of measures reliably shown to enhance the rational use of medicines. These include: (1)the use of standard treatment guidelines (STGs); (2)the use of national essential drugs lists (EDLs) developed to meet the differential needs of women, men, and children, along with the use of similarly differentiated hospital formularies to guide drug selection, procurement, and prescription; (3)encouragement for the creation of hospital Pharmacy and Therapeutics Committees (PTCs) with defined responsibilities for monitoring and promoting effective use of medicines (under the proviso that hospital staff receive the education and training necessary to understand the mandated changes in medical culture and apply the PTC model effectively); (4)implementation of problem-based training in pharmacotherapy as a part of professional medical education; (5)the provision of targeted, problem-based in-service educational programs to health professionals, and the requirement that health professionals participate in regular continuing education in order to obtain and maintain their licenses.¹¹³
4. Countries should be encouraged and assisted to establish routine monitoring systems for key pharmaceutical indicators, in order to track pharmaceutical use and to measure the impact of health sector reforms, regulatory changes, and other policies on the availability and use of medicines.¹¹⁴ Medicines monitoring should be integrated with other routine monitoring required for the overall functioning of the health system—still far from adequately assured in many places.
5. The “DOTS-Plus” protocol for treatment of MDR-TB, promoted through the Green Light Committee (GLC) of the Stop TB Initiative, offers an example of a demonstrably successful treatment procedure that minimizes inappropriate drug use and generates positive patient outcomes.¹¹⁵ Further study should be undertaken to confirm the efficacy of DOTS-plus in comparison to other treatment models. Implementation of the protocols judged most effective should be scaled-up internationally for the treatment of MDR-TB. Meanwhile, the

¹¹² In response to this proposal, Barbara Klugman suggests: “There’s too much embedded here that needs elaboration, for example, the role of pharmaceutical companies in providing information. Do we want to challenge pharmaceutical companies to do more than insert information with their drugs? [Regardless,] we need to separate this recommendation into a few points – the role of pharmaceutical companies in providing information, and the role of public health institutions in doing so.”

¹¹³ Laing, Hogerzeil and Ross-Degnan 2001.

¹¹⁴ Laing, Hogerzeil and Ross-Degnan 2001, p. 18.

¹¹⁵ Stop TB Partnership 2002, pp. 81-83.

applicability of the DOTS-plus strategy to the treatment of other diseases requiring complex drug regimens (e.g., AIDS) should be carefully studied.¹¹⁶

3.3 Resources, Financing, and Economic Solutions

Overview

The drug access problem is inseparable from its economic context. This context, in turn, involves multiple dimensions: from households to local and national economic systems (including local and national drug-financing mechanisms) to the global economy, with its flows of international trade and aid, and its systems of trade regulation and intellectual property rights protection. In the following discussion, we will be primarily concerned with economic and regulatory processes at the national and international levels and with ways in which policy interventions at these levels might improve access to medicines for the poor.

Much recent debate on access to medicines has centered around issues of price and the patent system. Drug prices are a key determinant of access, particularly for the poor in developing countries.¹¹⁷ Yet the price paid by the end-user of a pharmaceutical product is influenced by many factors besides patent protections. Indeed, of course, most WHO-defined essential medicines are no longer subject to such protections.¹¹⁸ For some this implies that debates about patents are simply irrelevant to efforts to improve access to essential medicines.¹¹⁹ Others maintain that, particularly given the need for new medicines to combat diseases prevalent in the developing world, patent rules and international trade policies are unavoidable topics for those seeking to expand access.¹²⁰

The global ascendancy of the World Trade Organization (WTO) and debates over trade agreements such as NAFTA fueled the interrogation of globalization and international economic governance in the late 1990s. In the international health field, this process involved deepening concern about the influence of trade policies, free trade agreements, and intellectual property (IP) regimes on drug prices and access to essential medicines.¹²¹ The 1999 World Health Assembly Resolution on the WHO's Revised Drug Strategy requested WHO to "monitor and analyse the pharmaceutical and public health implications of international trade agreements, such as the WTO TRIPS [Trade Related Aspects of Intellectual Property Rights] agreement," as part of WHO/EDM's ongoing work to promote access to essential medicines.¹²² The effects of IP rules, in particular TRIPS, on access to medicines were at the center of debate during the joint WHO/WTO Workshop on Differential Pricing and Financing of Essential Drugs, held in Høsbjør, Norway, in April 2001. The AIDS crisis has raised the stakes of such discussions. In 2000-01, international

¹¹⁶ Farmer, Leandre, Mukherjee et al. 2001.

¹¹⁷ World Health Organization, World Trade Organization 2001, p 2.

¹¹⁸ Cf. Perez-Casas C, Herranz E, Ford N 2001. Barbara Klugman observes that, "The EDL has traditionally largely excluded expensive medicines, most of which were patented." Klugman, comments on earlier paper draft.

¹¹⁹ Robert Lefebvre, comments on an earlier draft of this paper. Besides noting that most essential drugs are off patent, some analysts stress that the manufacturer's price for a drug is often only 1/3 of the final cost of the medication to consumers. They conclude that policy strategies should logically focus on reducing the other components--e.g., tariffs, taxes, supply chain expenses, and markups--that contribute to elevated final prices.

¹²⁰ Correa 2002; Commission on Intellectual Property Rights 2002.

¹²¹ WHO/DAP/98.9 (Globalization and Access to Drugs).

¹²² WHO/EDM/2000.1 (WHO Medicines Strategy), p 12.

public attention was focused on the issue to an unprecedented degree when 39 pharmaceutical manufacturers sued the South African government in an effort to preempt the use of mechanisms such as parallel importation and (possibly) compulsory licensing to obtain medications for AIDS and other diseases at reduced prices.¹²³ The parties to the South African suit agreed an out-of-court settlement in April 2001. Yet the issues raised by the case remain divisive. While some experts have argued that patent protections actually have little influence on the accessibility of ARVs and other medications in the developing world,¹²⁴ others have adamantly maintained the opposite view.¹²⁵

The need to understand and resolve potential conflicts between public health priorities and market interests, particularly with regard to essential medicines, remains a key item on the international policy agenda. (From a pro-poor standpoint, one might define the goal as an optimal balance between ensuring poor people's access to existing medicines and guaranteeing sufficient incentives for the research and development of new medicines.¹²⁶) An important step was taken with the WTO's "Doha Declaration on the TRIPS Agreement and Public Health," adopted by the WTO Ministerial Conference at Doha, Qatar, in November 2001. The Doha Declaration affirmed that TRIPS should be interpreted and implemented so as to protect public health. The Declaration underscored the right of WTO member states to make use of mechanisms such as compulsory licensing of patented pharmaceuticals in responding to a "national emergency or other circumstances of extreme urgency," while stressing each individual member country's freedom to determine the grounds upon which an eventual compulsory license might be granted.¹²⁷ Some welcomed the clear primacy the Doha Declaration assigned to public health over market imperatives, which are "forces that do not work in most of the developing world for the vast majority of inhabitants."¹²⁸

At the same time, the Doha statement left key questions unresolved, notably the issue of how compulsory licensing mechanisms might be appropriated by countries lacking domestic pharmaceutical production capacity (the case for many of the sub-Saharan African countries

¹²³ Barbara Klugman clarifies: "The [South African] Medicines Act could possibly have been used to issue compulsory licenses, but this was not its main aim, which was rather to facilitate parallel importation, [encourage] generic substitution of off-patent drugs, introduce a transparent pricing mechanism to the market, and prohibit drug firms from granting prescribing doctors "perverse incentives" to dispense their products. In short, a series of regulatory mechanisms designed to increase access to affordable medicines, not only for HIV/AIDS but also for all other illnesses. The Patents Act already included both government and third-party compulsory licensing provisions. Government made it quite clear at the time of the case that the Medicines Act would not be used to issues compulsory licenses." Klugman, comments on an earlier draft of this paper.

¹²⁴ Attaran and Gillespie-White 2001.

¹²⁵ Barbara Klugman argues: "The two views are not evenly divided, as this quote suggests. Very few people outside of the innovator drug industry subscribe to the Attaran-Gillespie-White view, which has been discredited as not being supported by its own research. In this regard, see two letters to the editor of the *Journal of the American Medical Association* under the title 'Do Patents Prevent Access to Drugs for HIV in Developing Countries?', available online at <<http://jama.ama-assn.org/issues/v287n7/ffull/jlt0220-2.html>>." Klugman, comments on an earlier paper draft. See also the materials submitted to South Africa's Competition Commission on September 14, 2002, by the Treatment Action Campaign (TAC) and other plaintiffs, in support of a trade practices complaint against GlaxoSmithKline and Boehringer-Ingelheim; documents available at <www.tac.org.za>.

¹²⁶ Barbara Klugman recommended this formulation in her comments on an earlier paper draft.

¹²⁷ World Trade Organization, Doha Declaration on the TRIPS Agreement and Public Health (14 November 2001), esp. paragraphs 5(c), 5(b).

¹²⁸ Dr. Eva Ombaka, comments on an earlier draft of this paper.

that might wish to employ compulsory licensing to obtain antiretrovirals and other costly medicines at favorable prices). The Declaration instructs the Council for TRIPS to “find an expeditious solution to this problem” and report its findings to the WTO General Council by the end of 2002.¹²⁹ However, the December 2002 TRIPS Council discussions in Sydney and Geneva failed to produce the hoped-for resolution. While the majority of countries, supported by NGOs such as MSF and Oxfam, argued for a permanent change to the TRIPS statutes, the US led a small group recommending a temporary moratorium on potential complaints regarding compulsory licensing, rather than a permanent amendment of TRIPS. The US has also sought to limit the number of diseases which would fall under the temporary exemption, and has suggested that only the 49 least-developed countries should be automatically eligible to benefit.¹³⁰ At the end of December 2002, stiffened US intransigence, apparently mandated directly by Vice President Dick Cheney, provoked a breakdown of the talks at WTO headquarters, threatening to “push the entire Doha agreement ... to the brink of collapse.”¹³¹

The September 2002 publication of the report by the Commission on Intellectual Property Rights (CIPR), established by British Minister of State for International Development Clare Short, inaugurated a new stage of the debate on IP protections and access to medicines. The study, *Integrating Intellectual Property Rights and Development Policy*, argues that the IP regime now in place largely benefits developed countries, not developing nations, in areas such as agriculture and health, and that current efforts to enforce standardized IP regulations internationally (including obligatory adherence to TRIPS as a condition of WTO membership) will likely increase global drug prices, exacerbate public health crises in the developing world, and undermine poverty reduction. In the short term, the report argues that poor countries confronting the effects of HIV/AIDS and other epidemics should make aggressive use of compulsory licensing in order to expand access to life-saving medicines.¹³² More broadly, the report’s authors open the perspective of a thorough recasting of existing international IP structures, including TRIPS, in light of concerns for economic development and the needs of poorer countries in areas such as drug access.

The evidence and positions put forward by the CIPR will inform future debates. However, the CIPR’s specific claims and overall methodology have also been sharply challenged. Some argue that the report offers insufficient numerical data and inadequate economic analysis to support its arguments, and that its recommendations regarding mechanisms such as compulsory licensing once again ignore the fact that the overwhelming majority of medicines on the WHO’s model EDL are not patented.¹³³

¹²⁹ World Trade Organization, Doha Declaration on the TRIPS Agreement and Public Health (14 November 2001), paragraph 6.

¹³⁰ “The US position is undoubtedly in line with the desires of industry. A letter dated 25 Nov, 2002, from 20 pharmaceutical companies to the US Trade Representative, Robert Zoellick, states: ‘An open-ended or unclear exception to the standards for patent protection would seriously undermine our interest and set back the long term public health objectives Doha was designed to achieve. We urge you to negotiate a solution that is specifically limited to the diseases that were the focus of the Doha Declaration, namely HIV/AIDS, TB and malaria and other epidemics of similar scale. In addition, it should be clear that only truly disadvantaged countries in sub-Saharan Africa, be the recipient of the changed rules.’” Bebe Loff, No agreement reached in talks on access to cheap drugs, *Lancet*, December 14, 2002.

¹³¹ Larry Elliott and Charlotte Denny, “US Wrecks Cheap Drugs Deal,” *The Guardian*, December 21, 2002.

¹³² Commission on Intellectual Property Rights 2002.

¹³³ Robert Lefebvre, comments on an earlier draft of this paper. See also Dr. Gail Cassell’s comments in the

On the other hand, some key medications, including present and future HIV/AIDS drugs, are and will be patent-protected in many countries. With the 2005 deadline for TRIPS compliance looming for Brazil and India, two of the developing world's largest generics producers, the issues raised by the CIPR report clearly seem to merit thorough discussion. To realize the MDG access to medicines target, those responsible for shaping health policy and trade rules at national and international levels must reach clarity on the fundamental question of how developing countries' need to obtain medicines at affordable prices relates to the interest of innovator pharmaceutical companies in maintaining strong patent protections on their products. In grappling with this issue, many will find an important orienting principle in the CIPR's argument that "there are no circumstances in which the most fundamental human rights [e.g., the right to life] should be subordinated to the requirements of IP protection."¹³⁴

Meanwhile, discussions of drug pricing in developing countries have also focused on the issue of taxes and tariffs, which in some cases contribute substantially to the final prices paid by consumers of medicines. Some analysts have argued that taxes and tariffs imposed on medicines and pharmaceutical raw materials constitute an area in which action by developing-country governments could speedily bring about reductions in the end-prices of essential drugs.¹³⁵ On the other hand, careful planning would be required to ensure that reductions in tax and tariff revenues, if enacted, do not lead to funding cuts in government programs benefiting the poor.

Possible strategies

Here, we survey a range of policy proposals dealing with drug pricing, drug financing, and IP rules at national and international levels. The strategies are categorized in three groups, according to the approximate length of time required to initiate their operationalization, if the relevant stakeholders elected to do so. The first group includes three options whose implementation developing-country governments could arguably envisage quite rapidly.

Short-term Measures at Country Level:

1. Taxes and tariffs imposed by developing-country governments on imported pharmaceuticals often contribute significantly to the cost of medicines for end-users. In many countries, tariffs add more than 10% to the price of imported medicines and pharmaceutical raw materials.¹³⁶ Governments should explore the possibility of reducing or eliminating such charges, in cases where analysis indicates the cuts would bring net benefits to consumers, especially in resource-poor communities.¹³⁷

2. Meanwhile, inefficient or corrupt distribution systems and high mark-ups imposed by importers, wholesalers, and retailers also raise the end-prices paid by consumers. Governments could seek short-term strategies to address some or all of these factors. They

appendix to the present document.

¹³⁴ Commission on Intellectual Property Rights 2002, p. 17.

¹³⁵ E.g., Bale 2001.

¹³⁶ Bale 2001, pp. 21-23.

¹³⁷ Cf. Binswanger 2001.

may also seek to limit the prices charged by manufacturers. Options would include various systems of price or markup controls. Virtually all OECD countries, with the notable exception of the United States, currently practice some form of price controls in the pharmaceutical sector.¹³⁸ Developing countries should examine the existing precedents and consider the potential utility of price control mechanisms in reducing drug prices for their populations.¹³⁹

3. Countries confronting high HIV/AIDS burdens should explore the possible advantages of participation in the Accelerating Access Initiative (AAI), given the AAI's track record in achieving substantial reductions in the prices of ARVs (upwards of 93% price reductions in some cases). AAI has enabled more African patients to access HIV/AIDS therapy than any other program attempted to date.¹⁴⁰

In the following pages, we present two further sets of policy options in the areas of drug pricing, drug financing, and IP rules. These recommendations focus on the short-to-medium and medium-to-long term, respectively (though such chronological framing is necessarily crude).¹⁴¹ A substantial portion of the discussion focuses on IP questions as they relate to drug access, and in particular on the TRIPS agreement. Our discussion and policy proposals are guided by the following principles:

- Essential drugs are special goods because they are essential to health, and they deserve special status under the world trading system. Although the TRIPS prohibits discrimination in patent rights among “fields of technology,” this principle should not be misinterpreted. Public health is an issue-area in which members may by agreement apply different standards than in other areas, and in which diverse fields of technology come into play. The Doha declaration is evidence of this.¹⁴²
- Health of populations must be safeguarded in both the short term and the long term. Tradeoffs posed between innovation and dissemination are tradeoffs between long-term and short-term health of populations. The key argument advanced by those who support strong patent protection of pharmaceuticals is that such protection contributes to health and welfare over the long term by increasing innovation. Yet such long-term benefits have not accrued to countries and communities equally, and the uneven distribution of long-term gains and short-term costs must be analyzed and rectified.

¹³⁸ Jacobzone 2000.

¹³⁹ This option was suggested by Dr. Richard Laing. Dr. Andrew Creese also underscored the importance of successive markups in raising the final price of medicines for consumers.

¹⁴⁰ Robert Lefebvre, comments on an earlier draft of this paper.

¹⁴¹ For present purposes, the short term can be taken as extending through 2005, the medium term through 2010, and the long term through and beyond the MDG target date of 2015.

¹⁴² “Regarding the issue of TRIPS prohibiting discrimination as to field of technology, it is worth recognising that a WTO panel has already determined that when TRIPS talks about discrimination in this context, it refers to unfair differentiation. Not only is it fair to treat public goods differently, but it is also rational and reasonable to do so.” Barbara Klugman, comments on an earlier draft of this paper.

- The consequences of stronger IPRs in increasing the net transfer of wealth from resource-poor countries to centers of innovation must be considered, and solutions must address these consequences.
- A strong domestic generic pharmaceutical industry can provide the basis for a strong domestic innovator industry. Evidence from India, Brazil, and Thailand shows this connection.¹⁴³
- Productive and innovative capacities in their national pharmaceutical sector provide governments additional flexibility in meeting the health needs of their populations. However, in a global marketplace, innovator drug firms based in developing countries respond to the same market pressures as their Northern counterparts, and may show just as little inclination to invest in medicines for diseases that disproportionately affect poor people. When market forces fail to provide adequate research and development incentives for urgently needed products, stakeholders must be prepared to seek innovative, non-market-based solutions. Meanwhile, it should by no means be forgotten that the very nature of research into innovative drug solutions is fraught with risk. There is no guarantee that those financing such research—whether in the public sector, private industry, or mixed ventures—will ever recover their costs, much less obtain a decent return on investment.¹⁴⁴

Possible policy strategies relative to IPRs, drug pricing, and drug financing are classified here as (a) short-to-medium term and (b) medium-to-long term, with each of these two categories subdivided into national and international measures.

(a) Short-to-Medium Term

National Measures:

1. Domestic drug financing schemes should be made responsive to the needs of the poor, through national policies developed and implemented in close consultation with poor people themselves, with WHO and NGO partners, and with the donor community. While many forms of national and community-based drug financing are possible, a national social insurance scheme that fully covers the cost of prescription medicines offers numerous advantages in terms of equity goals and meeting the urgent health needs of the poor. Such a system should be seriously considered in all situations where research shows it to be feasible.¹⁴⁵

In drug financing, as with other aspects of the access problem, appropriate strategies vary across different high-burden settings. For example, in South Africa, some employers have begun to take significant financial responsibility for the drug costs of their HIV-positive workers—a development that would be reinforced by a proposal under consideration by the

¹⁴³ Barbara Klugman, comments on earlier paper draft.

¹⁴⁴ Robert Lefebvre, comments on an earlier draft of this paper. Such being the case, Lefebvre notes, those advocating “not-for-profit” drug research initiatives on neglected diseases might perhaps more honestly label their strategy a “cost-recovery with no guarantee of even this” approach.

¹⁴⁵ See e.g., Madrid, Velásquez et al. 1998; Zerda, Velásquez et al. 2002.

Johannesburg stock exchange to require all listed companies to report on AIDS control efforts.¹⁴⁶ For countries with less advanced industrial and financial infrastructure, clearly, such private-sector solutions are unrealistic. Even more importantly, large numbers of poor people in most developing countries do not belong to the formally employed workforce, and so cannot benefit from workplace-based solutions of this kind.¹⁴⁷

Unfortunately, in recent years, many governments have increasingly withdrawn from commitments to finance essential drugs for their populations.¹⁴⁸ In spite of—and sometimes explicitly because of—government and international policy, the financing of drugs has tended to become a private responsibility (see above, section A.4). Yet the “stewardship” duty of government is of special importance in relation to medicines. To ensure access to essential medicines for the poor, both effective regulation and public finance are required.

Medicines feature in many of the most cost-effective interventions for saving and improving life from HIV/AIDS, malaria, tuberculosis and other sources of avoidable mortality and disability. WHO economists have shown that cost-effective interventions for the poor should be supported by public finance.¹⁴⁹ In many countries this means *re-assuming a financial responsibility* for key medicines which has dwindled to insignificance in the last two decades. User charges should have at most a minor role in financing medicines for the poor. Rather, low-income countries should be encouraged and enabled to make essential medicines available to the poor *at no charge*.

A national social insurance scheme is an immediate-to-short-term possibility in only a handful of countries, for reasons of institutional capacity as much as finance. For most low-income countries, full national social insurance remains a remote objective. Pluralistic financing, with a large private sector, will be the dominant pattern for decades to come. This being acknowledged, the short-term goal must be to create drug financing systems that allow low or no copayments for essential drugs for poor people. Steps can be taken in the short run to promote expansion and linking of existing risk-sharing mechanisms, including community-based schemes and employer-based schemes. However, the most dramatic short-term route to expanded access will come through public subsidy for selected medicines (e.g., artemisin combination therapy for malaria in East African countries). Such subsidies should address “the poor” according to a very wide definition. Worries about exemptions should be secondary to concerns to get the drugs to the people who need them. At present, where such drugs are available at all they are available only through the private sector or at unsubsidized prices. On antimalarial drugs, because of growing resistance, fast and large-scale public sector funding commitment is needed immediately. A “new public funding” approach to key medicines will send important signals to the population about government stewardship, and will be the most effective route to the regulation of private providers, who should become niche providers rather than exclusive sources of these medicines.¹⁵⁰

¹⁴⁶ Lamont J, South African Companies Face AIDS Reporting Requirement, *Financial Times* (London), August 15, 2002.

¹⁴⁷ Barbara Klugman, comments on an earlier draft of this paper.

¹⁴⁸ The following three paragraphs consist of input from Andrew Creese and Jonathan Quick. Both ideas and verbal expression are drawn from written comments provided by Drs. Creese and Quick in response to an earlier draft of this paper.

¹⁴⁹ See e.g., World Health Organization, *World Health Report 2000*, p. 55.

¹⁵⁰ Actual costs of such a strategy need to be worked out in specific settings but should be met from: a) cuts in

Clearly, the approach just described involves transmitting very different messages to governments and people than those which have emanated from Washington since the 1980s. Essential drugs should be publicly, not privately, financed. Bank and IMF policies have tended to let governments “off the hook” in this area of public stewardship. A strong message which might be sent via the 2003 Human Development Report and the work of the Millennium Project is that both developing-country and donor governments are back *on* the hook in this decisive sector.¹⁵¹

2. Countries should familiarize themselves with their full range of TRIPS-authorized options for procuring medicines. Developing countries may wish to avoid enacting so-called “TRIPS-Plus” standards in national law. TRIPS-Plus standards could unnecessarily constrain countries’ policy options in responding to health crises and in promoting other aspects of their national political, economic, and social agendas. Countries having adopted TRIPS-Plus legislation may wish to amend these laws, at least so far as pharmaceuticals are concerned, to return to TRIPS minimum standards, securing maximum flexibility to design and implement health policies corresponding to countries’ particular needs.¹⁵² Countries explicitly seeking to nurture innovation by domestic industry might constitute exceptions to this principle.¹⁵³ Least-developed countries might consider delaying implementation of TRIPS as it relates to pharmaceutical products until 2016, as the Doha Declaration permits.¹⁵⁴ For some countries, taking advantage of this provision would require amending national legislation or treaty law.

3. Sharp disagreement continues to surround the question of whether developing countries should employ TRIPS-authorized mechanisms such as compulsory licenses, parallel importing, and government use provisions to obtain patent-protected medicines at reduced cost. Some argue that, in confronting HIV/AIDS and other national health emergencies, many resource-poor countries could usefully avail themselves of these devices, and should do so rapidly. Others maintain that the legal, political, economic, and logistical stresses involved in seeking compulsory licenses on pharmaceutical products would waste developing countries’ time and resources, since the vast majority of essential medicines are no longer patented in any case, and since, even when a given drug is on patent, negotiated solutions are likely to be preferable for many reasons to a unilateral imposition of authority. As debates continue, the following points can be kept in mind:

public subsidy to non-essential medicines, b) increases in government funding for health in general and key medicines in particular, and c) external assistance.

¹⁵¹ Content and form of this paragraph stem from comments by Dr. Andrew Creese.

¹⁵² “There is a strong argument that in terms of international human rights law (in the context of HIV/AIDS understood in the light of Revised Guideline 6 of the International HIV/AIDS Guidelines), resource-poor countries not only may wish to avoid “TRIPS-Plus” standards, but are indeed obliged to do so to increase access to medicines. Rather than merely permitting countries to [abandon TRIPS-Plus standards], they should be encouraged (and obliged) to do so. Further, one needs to consider the roles of various international bodies (such as WIPO, WTO, WHO, etc) in providing appropriate assistance. Many argue that entities such as the WTO and WIPO are not the appropriate bodies to offer such assistance, given their interests.” Barbara Klugman, comments on an earlier draft of this paper.

¹⁵³ Commission on Intellectual Property Rights 2002, pp. 49-50, 162-3.

¹⁵⁴ World Trade Organization, Declaration on the TRIPS Agreement and Public Health, sec. 7, WTO/MIN(01)/DEC/W/2, 14 November 2001.

- Members of the Millennium Project ATEM group should monitor and analyze the ongoing discussion surrounding the TRIPS Council's deliberations on compulsory licensing options for countries with inadequate domestic production capacity. The Council's decisions and their reception by various constituencies in governments, the private sector, and global civil society will need to be considered in our further work. Any solution to the compulsory licensing dilemma must be economically, as well as legally, workable; for some diseases, the expansion of international pooled procurement systems may be required to generate market incentives to production.¹⁵⁵
- Some resource-poor countries would need to amend national legislation to permit or streamline compulsory licensing under Doha-approved conditions.
- Resource-poor countries could employ "government use" or "crown use" provisions in their national laws, and enact strong ones where they do not exist. Under many such public non-commercial use provisions, governments may simply make use of a patented product, paying the patent holder appropriate compensation, if agreement on terms for use has not been reached within a reasonable time.¹⁵⁶ Some countries' provisions are stronger than this. In US law, for example, the government does not first need to negotiate with the patent holder.¹⁵⁷ (One should note that US government use provisions have generally been invoked to address anti-trust issues or anti-competitive situations arising through acquisitions or mergers.) This is consistent with TRIPS, which does not require prior negotiation with patent holders in cases of public non-commercial use.¹⁵⁸ In many developing countries, at least some major diseases are treated almost wholly in the public sector. Tuberculosis is a leading example. For such diseases especially, government use provisions might under certain circumstances be a valuable complement to compulsory licensing.

International Measures:

1. In the short and medium term, drug company donation programs should be encouraged and facilitated as a remedy to specific shortfalls in drug availability in developing regions. Properly planned and administered,¹⁵⁹ donation programs can achieve highly positive results, as attested by Merck's mectizan donation initiative.¹⁶⁰ Other significant donation programs include campaigns against lymphatic filariasis and trachoma, as well as Boehringer-Ingelheim's decision to make its antiretroviral drug nevirapine available free of charge to developing countries for the prevention of mother-to-child transmission (MTCT) of HIV. However, their necessarily limited scope and voluntary nature mean that donations will be, at best, a complement to more robust, long-term measures.

¹⁵⁵ World Health Organization. Implications of the Doha Declaration on the TRIPS Agreement and Public Health. 2002. Geneva, WHO. WHO/EDM/PAR/2002.3

¹⁵⁶ MSF, CPTech, Oxfam et al. Implementation Of The Doha Declaration On The Trips Agreement And Public Health: Technical Assistance – How To Get It Right (Conference Report), 28th March 2002, International Conference Centre of Geneva (CICG), p 6.

¹⁵⁷ 28 U.S.C. § 1498.

¹⁵⁸ Agreement on Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, 33 I.L.M. 81 (1994), art. 31b.

¹⁵⁹ WHO 1999 (Guidelines for Drug Donations); Binswanger 2001.

¹⁶⁰ Dull and Meredith 1998.

2. The Doha declaration has extended the grace period for TRIPS implementation for LDCs until 2016. For other countries not providing pharmaceutical product patents as of 1995, the 2005 TRIPS deadline is nearing. WTO members should consider revising this requirement in favor of a regime that would permit phased-in TRIPS for pharmaceuticals based on a country's health needs.

3. An international working group should pursue Secretary General Annan's call for the collaborative exploration--involving the pharmaceutical industry, NGOs, and other concerned partners--of a workable system for the voluntary monitoring and reporting of global drug prices. The case is sometimes made that the ability to conduct price negotiations without public disclosure enables producers and purchasers to come to mutually beneficial solutions. However, on balance, we believe allowing the dynamics of open, transparent market competition to operate will improve results. The availability of price information and comparisons is a key feature of such an open marketplace. The *International Drug Price Indicator Guide*, published annually since 1986 by MSH, has proven an invaluable resource for procurement specialists; the drug price information services now provided by WHO and its NGO partners represent a further important step.¹⁶¹ Such efforts to facilitate transparency and information-sharing should be expanded. Optimally, price transparency initiatives should enable the examination and comparison not only of manufacturers' prices, but also of the final cost of medicines to consumers in different settings and locations.

4. The WHO's prequalification initiative to identify reliable suppliers of medicines for HIV/AIDS, TB, and malaria shows considerable promise as a means to facilitate procurement of high-quality drugs for the treatment of these infectious killers.¹⁶² The prequalification project should be strengthened and expanded.

5. In light of the success of the Global Drug Facility/Green Light Committee model in moving large quantities of first- and second-line TB and MDR-TB medications, and in obtaining sharp reductions in the prices of these drugs, we urge that a similar drug procurement model be deployed for other complex infectious diseases, notably HIV/AIDS. The possibility of a centralized global procurement facility for HIV/AIDS medications, particularly antiretrovirals, should be evaluated rapidly, in consultation with the Procurement and Supply Management Task Force of the GFATM and other experts.

(b) Medium-to-Long Term

National Measures

1. Pooled procurement mechanisms should be maintained in those countries and regions where they have been found to be effective, and the mechanism should be studied as an option in other countries and regions. Though there have been numerous failed programs, a number of successful pooled procurement mechanisms have reduced prices of essential

¹⁶¹ WHO/EDM, Annual Report 2001: Essential Drugs and Medicines Policy: Extending the Evidence Base, p. 3. See the website <<http://www.who.int/medicines/organization/par/ipc/drugpriceinfo.shtml>>.

¹⁶² See <<http://www.who.int/medicines/organization/qsm/activities/pilotproc/pilotprocmain.shtml>>.

medicines.¹⁶³ Such procurement strategies have taken diverse forms, and all should be considered, to the extent they meet specific national or regional needs. The different modalities include NGO-managed procurement (e.g., Uganda's Joint Medical Stores or Kenya's MEDS¹⁶⁴) and regional groupings such as the Eastern Caribbean Drug Service (ECDS).¹⁶⁵

2. Countries should be encouraged to take advantage of the benefits offered by international bulk purchasing structures focused on medicines for specific diseases, such as the Global TB Drug Facility and the Green Light Committee (GLC) of the Stop TB initiative.¹⁶⁶ These mechanisms have demonstrated a strong capacity to bring down prices on the medicines they supply.

3. In framing AIDS control strategies for the medium-to-long term, countries should again be advised to examine the possible benefits of partnership with the AAI, given the program's results in increasing the number of patients with access to ARV therapy.

4. In general, countries should consider a range of measures to ensure stronger, more evidence-based drug purchasing. International price comparisons and "reference pricing" procedures, as well as bulk and pooled procurement arrangements, could play a central role.¹⁶⁷

International Measures

1. Implement, with the cooperation and participation of the pharmaceutical industry, a global system of differential pricing for those medicines sold in both industrialized countries and developing world markets. If a differential pricing system for pharmaceutical products were formalized on a global level, it would mean that prices for key drugs in developing countries could be reduced to near the level of marginal cost, while companies could continue to earn profits on the same medications in rich-country markets.¹⁶⁸ Since developing country markets represent only a tiny share of major pharmaceutical companies' global earnings, this situation should not pose an overwhelming problem for the companies. The concept of differential pricing was broadly endorsed by participants at the WHO/WTO Hosbjor conference, and in the 2001 report of the Commission on Macroeconomics and

¹⁶³ Huff-Rousselle M, Burnett F 1996.

¹⁶⁴ Kawasaki and Patten 2002.

¹⁶⁵ In response to an earlier version of this paper, Dr. Graham Dukes suggested: "We need a decent enquiry into why pooled procurement has so often failed; there are plenty of adders under the grass. I am not sure that Uganda's JMS can really be called a pooled procurement programme - it simply supplies the mission health services, and it is successful because it is run by devoted and incorruptible nuns."

¹⁶⁶ Stop TB Partnership 2002, p. 46; World Health Organization, Global TB Drug Facility Prospectus (Geneva: WHO, 2001). WHO/CDS/STB/2001.10a.

¹⁶⁷ This recommendation was formulated by Dr. Andrew Creese, commenting on an earlier paper draft.

¹⁶⁸ Beyond the marginal costs of manufacturing drugs, the costs of freight, insurance, importation, in-country distribution, and other factors would of course need to be taken into consideration. Furthermore, a detailed plan would need to envisage the expenses involved in disseminating adequate information on the use of the products, as well as the costs of post-marketing surveillance, mandated by most regulatory authorities. In the absence of provisions to meet such expenses, suppliers would be expected to supply drugs at a loss, raising issues of sustainability. Robert Lefebvre, comments on earlier paper draft.

Health.¹⁶⁹ Technical challenges and details of implementation have been analyzed in a number of scholarly papers.¹⁷⁰

The pharmaceutical industry is increasingly prepared to envisage a solution of this kind.¹⁷¹ The industry's reluctance about differential pricing has been motivated by three primary factors: (1) awareness that selling drugs at cost in the developing world will produce little or nothing in the way of profits for the companies involved; (2) the possibility of a "backflow" of discounted medications from the developing world to rich-country markets, where clandestine importers could resell the drugs profitably at prices well below current market prices; (3) the risk of a backlash among political leaders and citizens in rich countries, who might demand that drug prices in their countries be reduced to match levels in the developing world.¹⁷² Credible mechanisms must be utilized to preempt the latter two possibilities, in particular. These objectives appear achievable. The backflow problem can best be addressed through high-income countries' drug regulatory authorities. National drug registration procedures could effectively block backflow, particularly if the same drug is marketed in different regions under different brand names and/or with an altered physical appearance. Successful examples of differential pricing already exist, for example in the case of vaccines and oral contraceptives distributed in developing countries through UNICEF. Both the longstanding successes and recent examples of failure (e.g., the ARVs diverted from Africa to the European market) must be studied carefully in order to draw the appropriate lessons and ensure the creation of an effective program.¹⁷³ In addition, it may be necessary to address industry's concern about potential accusations of "price fixing," given that the differential pricing system will involve inter-firm agreements to set similar price levels in the developing world for products that would ordinarily compete with each other.¹⁷⁴ Scholars have explored approaches to resolving this latter problem.¹⁷⁵

2. World health leaders should study the possibility of establishing a permanent international therapeutic drug funding scheme (comparable in some respects to the GFATM). The drug fund would mobilize resources from the public and private sectors and would provide block grants to qualifying low-income countries for the development of infrastructure and programs specifically targeted to increasing access to essential medicines.

The preceding discussion focused on drug markets and drug financing in a limited sense. Broader socioeconomic issues—such as the forces shaping and perpetuating poverty in many developing countries, and the gendered character of poverty—have not been directly addressed. Yet poverty, socioeconomic inequality, and social power dynamics will be pivotal themes as the ATEM group pursues its work. Such issues must not be ignored by those seeking to promote effective pharmaceutical systems management and expand access to essential medicines. Paraphrasing a comment from Barbara Klugman, there would be a serious risk in focusing only on strategies for getting the drugs to the villages, without also

¹⁶⁹ World Health Organization, World Trade Organization 2001; Commission on Macroeconomics and Health 2001.

¹⁷⁰ Danzon 2001; Binswanger 2001.

¹⁷¹ Commission on Macroeconomics and Health 2001, pp. 88-89.

¹⁷² See Kremer 2002.

¹⁷³ Cf. the discussion on the prevention of reverse flows in Barton 2001, pp. 12-16.

¹⁷⁴ Robert Lefebvre, comments on an earlier draft of this paper.

¹⁷⁵ See Barton 2001, pp. 9-10; Danzon 2001.

asking how to get the people in the villages to the drugs, i.e., how to ensure that when medicines are delivered to the local level, local people actually have enough money to pay for them. How the ATEM group should engage these wider problems in its analysis is an issue for the group's membership to resolve collectively. In addition to discussions of national and international policy, Barbara Klugman argues, the working group should consider strategies to encourage the building of consumer movements at local and national levels which could then support or challenge—and ultimately help determine—national and international agendas.¹⁷⁶

3.4 Cultural Issues

Overview

Embedded within any discussions of rational drug use, local health care systems, and utilization of health resources are complex social and cultural issues that include class-mediated relationships, patient and physician compliance,¹⁷⁷ traditions of authority, dominance and resistance,¹⁷⁸ variable degrees of illness stigmatization,¹⁷⁹ gendered, ethnic, and generational differences¹⁸⁰ and culturally-mediated perceptions of illness, health, and health care interventions.¹⁸¹ Underlying these intricate social constructions are the economic determinants that define, and in many cases severely limit, the therapeutic options realistically available within a particular geographic or social setting.¹⁸²

Establishing global lifelines of essential medicines is the focus of our efforts. Inherent in that effort must be the understanding that production, trade, and distribution mechanisms operating on an international scale must also ultimately function on the local level. In other words, because of the scope of this project and its goals, we are obliged to think in terms of global distributions; yet we must remain cognizant that we are attempting to serve the needs of communities, families, and individuals. Much of our analysis thus far has focused on international structures and national policies. But the effectiveness of local drug distribution networks and their integration with the provision of appropriate community-level medical care will be the ultimate measure of success. Issues requiring consideration include:

- **Education:** Increasing the availability of essential medicines in cultural and social settings in which biomedical treatments have historically been either absent or only nominally available carries with it the responsibility to provide appropriate training and educational resources to both health care providers and the public.¹⁸³
- **Access, alternative medicines, and economic constraints:** In areas with strong histories of traditional healing practices and other alternatives to biomedicine, there

¹⁷⁶ Barbara Klugman, comments on an earlier draft of this paper.

¹⁷⁷ E.g.: Lerner BH 1997; Kamat VR 2001; van der Geest S, Reynolds Whyte S, Hardon A 1996.

¹⁷⁸ E.g. Farmer P 1990.

¹⁷⁹ E.g.: Lönnroth K et al. 2001.

¹⁸⁰ E.g.: Karlsen S, Nazroo JY 2002; Liefvooghe R 1998.

¹⁸¹ E.g.: Alter JS 1999; Craig D 2000.

¹⁸² E.g. Coburn D 2000; ; Navarro 2002; Saradamma RD, Higginbotham N, Nichter M 2000.

¹⁸³ E.g.: Denis MB 1998; Homedes N, Ugalde A 2001; Okumura J, Wakai S, Umenai T 2002.

is less a system of “hierarchy of resort”¹⁸⁴ than one in which people will utilize, often simultaneously, all the health resources available to them. Both patients and healers often have a clear understanding of the appropriateness of biomedical vs. traditional therapies for specific illness symptoms.¹⁸⁵ The critical issue becomes the extent and quality of access to biomedical health services and supplies. Assumptions that, for example, indigenous people will consistently first seek traditional modalities and that these patterns emerge from local (and immutable) “systems of belief,” rather than from economic and geographic exigencies, must be viewed with skepticism.

- **Expanding access through local networks:** It must be borne in mind that in many of the regions hardest hit by epidemics of HIV/AIDS, malaria, TB, MDR-TB, and other acute illnesses, health care networks are minimally developed. Within these settings, chronic shortages (or the complete absence) of physicians, pharmacists, and professional nurses will be most acutely experienced. It is also within these settings that an appropriate utilization of existing social and kinship networks will facilitate the introduction of effective biomedical treatments. Mapping area-by-area needs and resources with attention to such networks—and to the gendered, economic and cultural contexts in which these networks function—will facilitate the expansion of health care distribution structures and referral systems.¹⁸⁶

A critical intersection between cultural processes and drug access issues can be found through an examination of advertising and promotional practices connected with pharmaceutical products. Studies of the marketing, prescription, dispensing, and use of medications in the developing world have identified drug advertisements and promotional messages as powerful shapers of behavior around health and illness.¹⁸⁷ The issues raised concern both the marketing of prescription medications to healthcare professionals and the promotion of a range of drugs to the public via advertising and recommendations from healthcare professionals and pharmacy staff.¹⁸⁸ While distinctions must be made between patterns involving prescription drugs and those that concern over-the-counter medications, the situation is complicated by the fact that drugs requiring prescriptions in some settings can be obtained over-the-counter in others. Moreover, consumer behaviors acquired in connection with OTC drugs may be transferred to the use of prescription medications. In addition to the problems of wasted medicines and the spread of drug resistance, inappropriate and misleading advertising and promotion encourage misallocation of household resources and can further impoverish vulnerable individuals and families.

Despite strong legislation in most developed countries¹⁸⁹ to make at least some distinction between regulated drugs and other types of commodities, the status of medicines as commercial products subjects them to the vagaries of market economics, including

¹⁸⁴ See Romanucci-Ross L 1977.

¹⁸⁵ Gessler MC, Msuya DE, Nkunya MHH, Schär A, Heinrich M, and Tanner M 1995; Menegoni L 1996.

¹⁸⁶ Responding to this point in an earlier paper draft, Barbara Klugman suggested: “Mapping won’t promote action. I’d put in more active proposal for giving priority to building on existing networks or developing new community-based consumer advocacy mechanisms.”

¹⁸⁷ See: Chirac P, Pikon A, Poinsignon Y, Vitry A 1993; Hartog R 1993; Kim JY 1993.; Melrose D 1982; Silverman M, Lee PR., Lydecker M 1986; Zarate Cardenas E, Liosa Isenrich L 1995.

¹⁸⁸ See e.g., Homedes and Ugalde 2001; Goel, Ross-Degnan, Berman and Soumerai 1996.

¹⁸⁹ See e.g., Wieringa NF, deMeijer AHR, Schutjens MDB, Vos R 1992.

promotional strategies aimed to maximize profit. These issues become magnified in developing countries' under-regulated medicinal drug markets. Advertising campaigns that manipulate well-established cultural symbols with historic metonymic associations to desired qualities such as health, vitality, and strength shape not only consumer behavior but also concepts of illness and disease causality. The impact of pharmaceutical advertising on illness meanings calls for research that not only traces the complex network of meanings inherent in any local cultural system but situates such meanings within appropriate historical, political and economic contexts.

Drug advertising is only one of numerous cultural practices influencing patterns of therapeutic drug use. However, the demonstrated power of promotional messages to shape community behavior (including the habits of both prescribers and consumers) requires particular vigilance from policymakers and regulatory authorities. Economic vulnerability, information imbalances between producers and consumers, and the power of advertising create a dangerous synergy that can compromise efforts to promote the rational use of medicines. Subsequent developments may further complicate the situation, if the system of direct-to-consumer advertising (DTCA) of prescription medicines now familiar in the USA eventually gains support among legislators and market regulators in developing countries.

Possible Strategies

1. Enhanced training for health professionals and culturally appropriate community education in the use of pharmaceuticals must be integral parts of the effort to expand access to medicines. The experience gained over recent decades in this area can be used to scale-up programs raising community awareness around appropriate drug use.¹⁹⁰ Wherever possible, existing community networks and peer education strategies should be mobilized to strengthen educational messages. With communities, the goal must be not only to provide education, but also to foster stronger advocacy capacities and build up the ability for concrete participation.

On the other hand, health professionals and those responsible for planning pharmaceutical policy and managing drug systems should attend carefully to anthropological data indicating that patients' noncompliance with treatment regimens often has more to do with economic vulnerability than with "traditional beliefs" or cultural practices. Thus, community education, the improvement of drug financing options within poor communities, and overall anti-poverty efforts must advance together if access to medicines and their rational use are to progress.

2. Industry drug promotion both to prescribers and consumers must be strongly regulated at the global level by binding multilateral agreements, and at the national level by legislation. Governments should be assisted to rigorously monitor the promotional practices of pharmaceutical manufacturers and drug retailers in poor communities, vis-à-vis both health professionals and the general public. Strict legislation regarding acceptable conduct in the area of drug promotion and advertising should be established and enforced.

¹⁹⁰ See e.g., Quick et al. 1997, pp. 496-512.

3.5 Research and development of new medicines

Overview

An effective access to medicines strategy must do more than provide for wider availability of existing medications in disadvantaged regions. Meeting the MDG target will also require mechanisms to stimulate new drug research aimed at maladies which are disproportionately concentrated in the developing world, and which have so far drawn insufficient attention from the international pharmaceutical industry. Between 1975 and 1997, only 13 of 1223 new chemical entities found to have useful pharmacological properties were for the treatment of diseases predominantly prevalent in poor countries.¹⁹¹ The category of neglected diseases includes tropical diseases such as kala-azar, Chagas' disease, and sleeping sickness, but also the major infectious killers HIV/AIDS, tuberculosis, and malaria. Together, tropical diseases and TB account for 11.4% of the global disease burden in 1999. Yet of 1393 new drugs approved between 1975 and 1999, only 16 (just over 1%) were specifically developed for these ailments.¹⁹² In 1999, HIV/AIDS represented 5.1% of the global disease burden. Yet during the period 1975-1999, HIV/AIDS saw the development of only 0.37 new chemical entities (NCEs) per million DALYs lost, in contrast to central nervous system disorders, where the rate was 1.32 per million DALYs; neoplasms (1.31 NCEs per million DALYs); and non-infectious respiratory ailments (1.44 NCEs per million DALYs).¹⁹³

Recent scholarly work has highlighted the deficit in pharmaceutical research on diseases of poverty.¹⁹⁴ This distortion arises in part through the pressure of market forces. Pressure to maximize profitability has increasingly driven innovator drug companies to concentrate resources on the search for blockbuster "lifestyle" drugs and to neglect research on key health tools such as new antibiotics. This development would seem to compromise not only the interests of the sick poor, but also the needs of medical consumers in wealthy countries.¹⁹⁵

Different strategies are needed to stimulate new drug research than are required for achieving a more equitable distribution of existing medicines. Differential pricing schemes, for example, could function effectively for drugs addressing conditions prevalent in both the developing world and industrialized countries. However, such schemes offer companies no incentives to develop new medicines for diseases exclusively or predominantly focused in poorer countries.¹⁹⁶

Current efforts to promote increased R&D on medicines for neglected diseases include a range of programs and proposals, from adapting orphan drug laws in the United States and Europe to provide incentives for tropical disease research,¹⁹⁷ to various forms of public-private partnership (PPP), to proposals for the creation of a parallel drug industry functioning on a not-for-profit basis. We survey several of the more promising approaches.

¹⁹¹ Byström and Einarsson 2001.

¹⁹² Trouiller et al 2002.

¹⁹³ Trouiller et al. 2002, p. 2189.

¹⁹⁴ Pecoul, Chirac et al. 1999 ; Perez-Casas, Herranz et al. 2001; Trouiller et al. 2002.

¹⁹⁵ See e.g., Panos Institute 2002.

¹⁹⁶ Danzon 2001.

¹⁹⁷ Milne et al. 2001.

Possible Strategies

1. Large, credible purchase precommitments should be created, funded by wealthy-country governments and private foundations, to incentivize private-sector drug research toward medicines for neglected diseases.

Despite the burden of mortality and morbidity imposed by HIV/AIDS, TB, and malaria, research on vaccines and other medicines for these diseases remains inadequate, in large part because potential developers fear they would not be able to sell enough of their product at a sufficient price to recover R&D investments and earn a satisfactory profit.¹⁹⁸ While government-sponsored “push” programs are important to stimulate the early phases of research on new medicines, at the later, more applied stages of investigation, “pull” programs have important advantages—the clearest being that the public’s money is disbursed only when a demonstrably successful product has been developed. Precommitments on the part of wealthy-country governments (and other sponsors) to purchase large quantities of new vaccines or drugs and distribute them in poor countries may be the most attractive form of pull program for research on neglected diseases.¹⁹⁹

The design of a purchase program will be critical to its success. To pursue the product for which the purchase precommitment has been established, drug developers must have confidence that the sponsors of the program will fulfill their obligations once a satisfactory product has been developed. A legal ground exists, in that United States courts have held that public commitments to reward contest winners or purchase specified goods constitute legally binding contracts. Adjudicators of the award must be trusted by all parties. From the point of view of the pharmaceutical industry, the credibility of a purchase commitment could be enhanced by “clearly specifying eligibility and pricing rules [and] insulating decision makers from political pressure.”²⁰⁰

2. Expanded support should be provided for public-private partnerships (PPPs) targeting specific diseases or needs primarily focused in developing countries. Recently, PPPs have gained favor as a response to the challenges of drug development for neglected diseases. PPPs seek to combine the respective strengths of industry, NGOs, and the public sector. Several of the most prominent PPPs focus on specific diseases. Examples include: the Medicines for Malaria Venture (MMV); the Global Alliance for TB Drug Development; and the International AIDS Vaccine Initiative (IAVI). While it remains too early to judge the success or otherwise of specific PPP ventures, some certainly show promise (see Box 1), and they should be robustly supported as long as no alternative model has emerged as more effective.²⁰¹

¹⁹⁸ Trouiller et al. 2002, p. 2188-2190.

¹⁹⁹ Kremer 2001.

²⁰⁰ Kremer 2001, p 4.

²⁰¹ Kettler and Towse 2001.

3. Technical assistance and funding from public and foundation sources should be mobilized to support the creation of a “not-for-profit” drug industry for diseases of poverty. Several

Box 1: The Medicines for Malaria Venture (MMV)

The Medicines for Malaria Venture (MMV) was established in 1999 to support the discovery and development of new medicines for the treatment and prevention of malaria in poor countries. By bringing together public and private sector resources, MMV provides financial, managerial, and logistical support to research that will lead to new, affordable and accessible antimalarials. The MMV hopes to register one new antimalarial drug every five years, at an estimated cost of \$186 million per drug.

Organization, Resources, Partnerships

The MMV is administered by a management team whose responsibilities include the selection of proposals for funding; the creation and administration of “virtual” development operations; the negotiation of partnership contracts; fundraising; and ensuring a scientifically balanced portfolio. While the MMV is a non-profit organization, it is managed like a small R&D company, with projects performed outside the organization and subject to centralized monitoring and management. To fulfil the need for developing regulatory strategies that will ensure rapid global approval of new products, a regulatory expert has recently been added to the MMV’s managerial team.

As the MMV is a public-private partnership, each partner contributes resources. Financial resources are provided by the public and philanthropic sectors, while the private sector provides gifts-in-kind, including access to compound libraries and high throughput screening systems. The MMV will maintain all IPRs on drugs developed for use in endemic countries, while the private sector partner will obtain product rights in the travelers’ market as well as the rights to any non-

efforts have been launched to work toward this goal, most prominently the Drugs for Neglected Diseases Initiative (DNDi) spearheaded by MSF. In contrast to the PPP model, the DNDi aims to shift a portion of research on drugs for diseases of poverty resolutely out of the private sector, relying to the greatest possible extent on support from public and non-profit entities. Participating organizations to date include the Pasteur Institute, the Indian Council on Medical Research, the Brazilian government pharmaceutical laboratory Fiocruz, and the Special Program for Research and Training in Tropical

Diseases (a joint undertaking of the World Bank, the United Nations Development Plan, and WHO). The initiative aims to test the possibility of establishing a major drug research network, equipped with centralized management structures, in the developing world.

Philippe Kourilsky, director general of the Pasteur Institute, has stated that, if successful, the effort will achieve nothing short of “creating a global, not-for-profit pharmaceutical industry.”²⁰² Meanwhile, the Gates Foundation has funded the recent launch of the San Francisco-based Institute for OneWorld Health, a non-profit drug company also committed to research targeting diseases disproportionately prevalent in the developing world.²⁰³

²⁰² Cited in Yamey 2002, p 177. Opinions differ, however, on the question of precisely how far the DNDi initiative departs from previous public-private venture paradigms. Robert Lefebvre writes: “DNDi has approached the R&D Industry to gain access to its bank of molecules and to its capacity for large scale, rapid screening technology. This makes the DNDi more of a JPPI, more similar than dissimilar to existing JPPI’s.”

²⁰³ Perlman 2002.

malarial product that is developed. The MMV will provide funds to take potential compounds through development and regulatory processes, but it will not produce or commercialize successful candidates. Rather, these products will be licensed-out for commercialization, with agreements paying particular attention to the end-product's affordability and cost-effectiveness. If the commercial partner withdraws, MMV retains the right to continue development.

Portfolios

Most of the projects are currently focused on identifying molecules to treat uncomplicated malaria. The hope is to develop an orally active compound capable of curing the disease "with a 3-day regimen using once-a-day dosing." Both the selection of research projects for funding, and the selection of partners for drug development, proceed on a competitive basis.

Currently, the MMV portfolio contains 11 active projects and 3 projects in planning. Nine of the active projects have partnerships with one of six pharmaceutical companies: GlaxoSmithKline (partnered on 4 projects), Bayer (partnered on 2 projects), Bristol-Myers Squibb, Jacobus Pharmaceuticals, Hoffman LaRoche, and Korea SP Pharmaceuticals. Two active projects have yet to sign on a private sector partner. It is estimated that maintaining the 11 active projects will cost \$15 million per year, while meeting the target for one new drug registered every five years will require 20 active projects by 2004, at an annual cost of \$30 million.

Potential for Success

In 2001 MMV submitted its first patent application, maintaining ownership and rights to all antimalarial applications. This arose out of a partnership between the University of Nebraska, Monash University, the Swiss Tropical Institute, and the Roche Synthetic Peroxide Project, leading to the design of compounds with "enhanced longer lasting activity than artemisinin derivatives.

The Bayer Project on Artemisone was another success of 2001. Within three months of project selection, a full scale pre-clinical investigation was underway with Phase I clinical studies projected for 2003.

Other projects expected to enter clinical trials in 2003 are the GSK/University of Liverpool/WHO partnership, and the Korea SP Pharmaceuticals/WHO project.

Sources: Brown 1999; MMV 2001; Ridley 2002; Ridley and Gutteridge 1999; Ridley and Ubben 2001; Trouiller et al 2002; Wheeler and Berkley

Such initiatives seek to establish a pharmaceutical research and production system driven not by market pressures and profit opportunities, but by patient need, above all the health needs of the poor. While the effectiveness and staying power of these undertakings remain to be demonstrated, the model should be strongly supported.

4. Publicly funded clinical trial units once played a significant role in advancing the development of new treatments for diseases such as TB. The British Medical Research Council's TB Unit, which ceased operations in the 1990s, represents an example. Such publicly funded clinical trial structures for neglected and tropical diseases should be created where they did not previously exist and revived where they have been allowed to languish.²⁰⁴ In the case of

HIV/AIDS, such a model seems to have survived in the form of the American ACTG and its Canadian and European counterparts. It should be noted that these groups have worked closely with and been supported by the research-based pharmaceutical industry in pursuing their objectives.²⁰⁵

5. Developing countries should launch their own disease-specific research initiatives. The example of tuberculosis is instructive. In spite of impressive new efforts through global partnerships to stimulate research for TB drugs and vaccines, no one believes a new drug will be available before 2012, or a new vaccine before 2020.²⁰⁶ The sums being invested

²⁰⁴ This strategy was suggested by Dr. Richard Laing.

²⁰⁵ Robert Lefebvre, comments on an earlier draft of this paper.

²⁰⁶ Stop TB Partnership. The Global Plan to Stop TB. 2002. Geneva, WHO. WHO/CDS/STB/2001.16, pp.

remain painfully small. At the current rate, another 20-30 million people will have died prematurely from TB before a new product appears.²⁰⁷

This year, 95% of new cases and nearly 99% of TB deaths will take place in developing countries.²⁰⁸ Why aren't the affected countries taking the lead in developing new drugs and vaccines? With the support of donors, they could invest pooled resources in a built-from-scratch, world-class discovery and development facility focused on drugs and vaccines for that disease. Countries would be (unequal) partners in a private non-profit corporation based in one of the member states. The facility would pay full price for research talent on the world market, and operate in other respects like any other private company. It would retain full IPR for its products.

It may be objected that developing countries lack the resources to do this for TB or any other major disease. This is not necessarily the case. Twenty-two countries are designated by the Global Partnership to Stop TB as priority "High-Burden Countries." Together, they account for 80% of the world's TB burden.²⁰⁹ They are large (China) and small (Cambodia), relatively wealthy (Brazil) and poor (Afghanistan). But their combined GNP in 1997 was nearly \$4 trillion – as much as the combined GNPs of three of the top four European economies (France, United Kingdom, and Italy).²¹⁰ Four trillion dollars is power to mount a crash research effort against tuberculosis that could deliver new products within a few years, and radically improve TB treatment and prevention. The resulting products would be available immediately at or near marginal cost in member countries (with appropriate cooperative arrangements to cover distribution, registration, post-marketing surveillance, and other expenses), and could be licensed to producers in other countries to help defray R&D costs. The total investment required is considerable for countries facing numerous competing budget pressures – up to \$240 million for a new TB drug.²¹¹ Yet TB places such a burden on these societies that the investment would be worthwhile. Nor is tuberculosis the only disease for which such an approach is likely to prove beneficial. The Millennium Project drug access group should pursue the question why affected countries have not yet undertaken initiatives of this kind. Concrete recommendations should be developed based on the results of this assessment.²¹²

122-125.

²⁰⁷ Stop TB Partnership. Global TB Drug Facility Prospectus. 2001. Geneva, WHO.

WHO/CDS/STB/2001.10a, p. 17; Dye C, Scheele S, Dolin P et al. Global Burden of Tuberculosis: Estimated Incidence, Prevalence, and Mortality by Country. JAMA 1999; 282(7): 677-686.

²⁰⁸ Authors' estimates based on World Health Organization. Global Tuberculosis Control WHO Report 2001. 2001. Geneva, WHO. WHO/CDS/TB/2001.287.

²⁰⁹ World Health Organization. Global Tuberculosis Control WHO Report 2002. 2002. Geneva, WHO. WHO/CDS/TB/2002.295.

²¹⁰ Authors' calculations based on OECD. Development Cooperation Report 2000. 2001. Paris, OECD, Statistical Annex, Table 25.

²¹¹ Global Alliance for TB Drug Development, 2001, p. 66.

²¹² In commenting on this point in an earlier draft, Barbara Klugman noted that to build "capacity for innovation in the third world" requires addressing the "underlying problem that people with promise are lured to the north either because of salary or because of facilities." Confronting this situation will require finding ways to put into the hands of people in developing countries "some laboratories and funds and control over journal priorities about what constitutes 'real' knowledge." Here we may see the emergence of promising possibilities for dialogue between the TF 5 ATEM working group and MP TF 10, focused on issues of technology transfer.

6. Fresh strategies should be sought to stimulate research on new medicines for the diseases of poverty within academic institutions, government laboratories, and the private pharmaceutical sector. Major pharmaceutical companies could be asked to voluntarily set aside 1% of their major-market promotional and advertising budgets to fund R&D on drugs for neglected diseases. If companies were unwilling to participate voluntarily, legislative or regulatory approaches could be explored.²¹³ Similarly, publicly funded research institutes could be required to dedicate a set percentage of their resources to research on developing-country diseases.²¹⁴

7. All parties to the debates over intellectual property rights and access to drugs should be able to agree on at least two things. First, all have a vital interest in speeding the development and dissemination of new lifesaving medicines. Second, patent regimes have played an important role in the development of existing medicines and the technologies necessary thereto. On the basis of this agreement, all parties should engage in a vigorous debate over ways to improve the current intellectual property regime to reflect both the changing structure of pharmaceutical research and the obligation to meet people's health needs. The controversies over ARV prices that have brought IPR questions to public attention are likely mere warning shots in a wider struggle over what kinds of entities should be patentable, how different contributors to innovation should be rewarded, and what rights patents should confer. This may be a moment for all parties to step back from the debates over TRIPS. TRIPS is the international culmination of the patent system that came of age with Edison in the final third of the 19th century, as invention became corporatized.²¹⁵ Every bit as much as deviling out the details of Doha, we need to frame the next patent system, for in several respects we are on the cusp of a world far different from that of the post-World War II era, and a fortiori from the 19th-century world of Edison. Several points merit attention:

First, the speed limit on pharmaceutical innovation is likely to increase; this may deepen inequalities in access to medicines between wealthy and poor populations. For all the benefit pharmaceutical innovation has delivered to some, its pace in the last half-century has been staid compared to what it might be between now and 2050. The confluence of genetic and molecular technologies with information technology and increased computer power is likely to increase the speed limit for pharmaceutical innovation—for those countries and companies with the fastest vehicles. For instance, pharmacogenetics holds out the prospect

²¹³ The idea of the “1% contribution” was proposed by Dr. Richard Laing.

²¹⁴ This proposal was offered by Robert Lefebvre.

²¹⁵ See e.g., Peter Drahos and John Braithwaite, *Proceedings Of The 2002 Conference Access To Medicines In The Developing World: International Facilitation Or Hindrance?: Panel # 1: The World Trade Organization's Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) in Context: Economics, Politics, Law and Health: Intellectual Property, Corporate Strategy, Globalisation: TRIPS in Context*, 20 *Wisconsin International Law Journal* 451 (2002).

Like many other features of our legal and political culture, patent protection has antecedents reaching back to antiquity. The United States PTO was established in 1802, within the lifetime of the younger members of the Revolutionary generation. Nevertheless, the modern era dawned in the wake of the Civil War. During this period, as Drahos and Braithwaite chronicle, the patent system developed hand in hand with the “industrialization of invention” and the growth of US economic might. During the last third of the 19th century, nearly 10 times as many patents were issued as in the preceding sixty years, and corporations, rather than individual inventors, became typical patent holders. Edison, whose great early inventions took place in the 1870s, and who in some sense invented the “corporate engine of invention,” is the seminal figure of this era.

of drugs tailored to human groups or individuals.²¹⁶ The result may be more effective drugs with fewer side effects and shorter, less costly development cycles.²¹⁷ Yet researchers' ability to distinguish among population groups could actually worsen the position of the world's poorest consumers relative to today's "one-size-fits all" methods. Drug companies may develop variants specifically designed for wealthy population groups; the poor may find themselves without a useable drug at all, even after patent expiry. In short, there is every chance the first decades of the 21st century, while ushering in more pharmaceutical innovation, will witness a greater divide between the respective shares of innovation directed to the health problems of wealthy and poor populations. Thus, intensified controversy over international patent and trade regimes may be on the horizon.

Second, patent systems even in wealthy countries will find it increasingly difficult to cope with innovation. Whole new categories of product, recognizable neither as preventive nor curative pharmaceuticals, nor as diagnostics, nor as devices, are likely to arise. They may incorporate biomolecular or silicon-based circuits, and will be even trickier to assess than patents on software or genetic technologies alone. Already, US patent examiners are ill-equipped to handle the complexity and volume of biotechnology applications, a problem by some accounts more severe than that affecting software applications.²¹⁸

Third, the previous trends, together with other economic changes, are likely to lead to modifications in the organization of discovery and development. Pharmaceutical giants will continue to exist, but collaborations and outsourcing at every stage may become the norm.²¹⁹ Public-private and international collaborations will increase. Our patent system already does a poor job apportioning the rewards of collaboratively developed ideas; as collaborations become more complex, this feature of patent systems may be due for revision.²²⁰

Fourth, the current patent system contributes to investments that do not optimally serve the health needs of a majority of any population—rich or poor.²²¹ At issue are investments in "lifestyle medicines," medicines that are "intended or come to be used for conditions that currently lie at the socially constructed boundary between lifestyle wishes and health needs."²²² In affluent societies, questions of lifestyle are in the foreground of individual and collective consciousness; many serious diseases, being both more rare and less visible, recede into the background of consciousness. In many markets, consumers' willingness to pay sends signals that drive utility-maximizing investment. In other markets, consumers' cognitive biases may result in investments that do not maximize social utility. Some markets for

²¹⁶ Hammond JW 2002, p. 167.

²¹⁷ Sandra Levy, How genomics will impact pharmacy, *Drug Topics*, February 4, 2002.

²¹⁸ Naomi Aoki, Patent applications booming in biotech strides in human genetic code, drive to accrue intellectual capital cited, *Boston Globe*, August 30, 2000.

²¹⁹ Diane West, Pharmaceuticals industry, trends, industry outlook/overview: pharmacy's future may be in the genes, *Drug Store News*, January 21, 2002.

²²⁰ Lester Thurow, Needed: A new system of intellectual property rights, *Harvard Business Review* 95, September-October 1997.

²²¹ In commenting on an earlier version of this paper, Robert Lefebvre marked his very strong disagreement with this claim. "This seems to be a nonsensical statement. How could a system designed to respond to society's needs (successful products are paid for by someone who believes they bring value. If they do not bring value, nobody agrees to pay for them) not serve the needs of a sizable portion of that society?"

²²² Gilbert D, Walley T, New B, Lifestyle Medicines, *BMJ* 2000 Nov 25;321(7272):1341-4. Cf. Walley T, Lifestyle medicines and the elderly, *Drugs Aging* 2002;19(3):163-8.

pharmaceuticals likely now exhibit these features. As average wealth in societies with innovative pharmaceutical industries continues to increase, companies may find lifestyle drugs increasingly profitable investments compared with life-saving ones. It has for instance recently been reported that some 50 to 100 drugs for obesity are in development.²²³ Many patent systems have a requirement of utility, excluding socially noxious inventions and inventions for which no credible, specific utility has been disclosed, but make no distinctions about levels of social utility. The time may have come to question this feature of patent systems.

Finally, and most important, the illusion that what is good for wealthy countries is good for all countries has been fatally punctured, in IP as in macro-economic policy. This illusion was nourished by a mix of the best and worst in human motives. Elites from both wealthy and poor countries participated in it, though not on equal terms. The question now is whether an accumulation of adjustments such as the Doha Declaration can give rise to a regime that delivers a morally acceptable, politically sustainable share of innovation's benefits to the world's poorest people.²²⁴ Secondly, will this regime and the world trading system of which it is a part help narrow the gap between the innovative capacities of wealthy and poor nations? If the answers to these questions are negative, then we must think afresh about IP and trade, national prerogatives and responsibilities, and the international order.

C. Conclusion

1. Relationship to other MDG objectives

Although this paper has focused exclusively on the issue of access to medicines, drug access remains inextricably linked to other goals and targets defined within the Millennium agenda.

These linkages are evident where the health goals are concerned. The planned reductions in the prevalence of tuberculosis and malaria cannot be realized without expanding access to effective TB therapy and to antimalarials in the developing world. The case is most clear-cut for TB, since preventing the spread of TB is impossible without the provision of effective chemotherapy (through DOTS or DOTS-plus) to patients with active disease. In the case of AIDS, drug access is again at the center of debate, both as regards the feasibility and cost-effectiveness of treatment with antiretroviral drugs in resource-poor settings, and in connection with efforts to accelerate the development of an AIDS vaccine, the ultimate prevention tool. Success in achieving maternal health and child mortality goals will also depend significantly on securing improvements in access to essential medicines over the coming decade.²²⁵ Close coordination among the Millennium Project Task Forces and sub-

²²³ Nanci Hellmich, A body of work; 50 to 100 drugs to counter obesity are in early stages, USA Today, April 29, 2002. "We think obesity represents what is unquestionably the largest future market for pharmaceuticals," says John Maraganore, senior vice president for strategic product development for Millennium Pharmaceuticals, which is working with Abbott Laboratories to develop obesity and diabetes drugs."

²²⁴ In responding to an earlier draft of this paper, Robert Lefebvre commented on this point as follows: "The Doha declaration, fully implemented as desired, will make little difference to the problems faced by the Task Force. Since the vast majority of EDL drugs are not patented, tinkering with TRIPS will not help address the fundamental problem of access to essential drugs by the world's poor NOW."

²²⁵ See Laing, Waning et al. 2002.

groups responsible for these issues will be vital in formulating an agenda for action that takes account of all relevant data.

In this connection, Barbara Klugman sounds a warning, however: “The bottom line is the need to address the poverty-related factors that facilitate the spread of TB or HIV. Hence the importance of making links with other MDGs. Medicines are not enough. For example, with DOTS, one needs community capacity (if community members are to be the people observing treatment, without which the technology cannot work). Similarly in relation to AIDS, the reason we’re so focused on a vaccine is because governments, donors, and society don’t want to invest in the social relations dimension. So we continually try for a ‘cosmetic’ approach, avoiding the fundamental causes which will continue to manifest, if not in AIDS because people are vaccinated, then in other syndromes, such as violence against women, for which there is no chance of a vaccine at this point! The strategies for achieving the MDGs will fail, as have so many other major international interventions, if they remain technicist, avoiding investment in sustainable and long term social interventions.”²²⁶

With drug access as with other health issues, overcoming the specific clinical and technical challenges is not enough, if the economic, social, and environmental roots of poor health outcomes remain unaddressed. Thus, access to medicines inevitably intersects MDG trajectories outside the health sector. As our discussions of drug financing issues in the developing world have confirmed, poverty and economic development (TF 1) decisively shape drug access patterns. Designing an action framework capable of attacking the vicious circle of poverty and ill health from both sides simultaneously must be a major concern of the Millennium Project as a whole. As higher incomes enable people to obtain needed healthcare and medicines more easily, so access to medicines that can restore their health enhances people’s capacity to work and generate income.

Likewise, the questions of agricultural productivity which concern TF 2 depend on farmers’ health and thus on their ability to obtain medicines when they fall ill. The question of urban-rural imbalance in access to essential drugs is centrally in play here.

Discussions of access to medicines cannot avoid topics such as TRIPS and the effects of patents on access—particularly though by no means exclusively in connection with HIV/AIDS medications. Thus, the drug access agenda is closely bound up with MDG Goal 8, Target 12: “Develop further an open, rule-based, predictable, non-discriminatory trading and financial system.” The work of TF 9 on international trade and finance will presumably have to address the issue of intellectual property rights and public health (with particular reference to pharmaceuticals). We believe close consultation between the drug access group and those members of TF 9 specializing in intellectual property rights will prove fruitful for both parties. Questions of technology transfer in the pharmaceutical sector remain divisive. Dialogue with members of MP TF 10 may help us frame these issues in terms of a wider vision of the scientific and technological initiatives required to secure more equitable patterns of global development.

Gender is a particularly important codeterminant of access to medicines, and the ATEM working group hopes to cooperate closely with the members of TF 3 in the design of effective strategies. Barbara Klugman has offered a list of concrete questions which can help the ATEM group more clearly assess the relevance of gender issues to drug access and consider how these issues might inform the group’s work:

²²⁶ Barbara Klugman, comments on an earlier draft of this paper.

- Who defines priority health issues on which to conduct medicines research?
- Does medicines research include women in equal numbers (i.e., do we know as much about the impact of medicines on women as we do about those medicines' impact on men)?
- Who decides on EDLs? What are their interests? Who gives input? What is the social process of developing EDLs? Is there mobilization capacity amongst consumer groups, human rights groups, women's health groups, groups of people affected by specific illnesses or disabilities that require medicines?
- What determines health providers' decisions to use medicines correctly?
- Is sex of user a dimension that influences if and how medicines are provided? Is sex of provider a dimension that influences how medicines are provided? E.g., refusal of pain relief to punish women; refusal of STD treatment for adolescents.
- Who benefits from community financing of drugs? Do specific groups have less access? Specific groups of women? Children? Specific ethnic groups? Mechanisms for local-level community participation in health tend to exclude women; such mechanisms are also generally administrative, rather than decision-making, regarding health or medicine priorities. To what extent do initiatives seeking community participation invest in building the capacity of community representatives to really represent interests of diverse community members?
- Who benefits from the interventions programmed as a result of globally defined priorities regarding medicines? Consider the current global pressure for addressing mother to child transmission of HIV: what is a child without a mother? Why do these interventions not seek to make safe abortions an equally accessible option for HIV-positive women? Above all, why have antiretrovirals for all not gained equal global interest and political pressure? Is it partly because the burden of care falls on women, and hence there is little concern amongst decision-makers about lifting that burden?

There are, Klugman notes, "many possible questions and many different potential answers." But the research agenda, documents, and policy recommendations of the ATEM working group need to "indicate an awareness of these issues, rather than assuming (a) that medicines are neutral and (b) that medicines without a strong health system and changes in social relations can solve health problems in a sustainable way."²²⁷

2. Summary of Possible Strategies

The principal strategic options described in this paper can be summarized as follows. We stress again the provisional nature of these suggestions, whose purpose is to open a discussion, and in particular to lend impetus to future conversations within the ATEM working group. Working group members will elaborate and refine together, in the coming months, a concrete action agenda, which may include some of the following elements:

²²⁷ Barbara Klugman, comments on an earlier draft of this paper.

2.1 To address health systems inadequacies:

- Substantially increase cross-the-board international donor support for health work in the developing world, with significant resources dedicated to the infrastructure and human resources required for effective management of essential drug supply.
- Increase, in absolute and relative terms, domestic and international health funding in developing countries dedicated to the training and retention of health professionals, including pharmacists.
- Substantially increase funding for the country-level and regional activities of WHO/EDM and encourage WHO's collaboration with civil society.
- Explore short- and long-term strategies for bolstering pharmaceutical quality assurance and quality control in developing countries, in light of the history of efforts to establish national and regional laboratories and considering QC capacities within the pharmaceutical industry itself.
- Develop a framework and set of criteria for the evaluation of options in the contested area of pharmaceutical technology transfer and the fostering of local production.
- Strengthen programs of operational research in the pharmaceutical sector, with a central database maintained through EDM.

2.2 To improve clinical procedures, prescribing practices, and rational use:

- Promote community-based dialogue with consumers to strengthen rational medicines use, basing efforts to change consumer behavior on effective health communications methods.
- Ensure that high-quality, independent medicines information is readily accessible to prescribers and consumers in developing countries.
- Encourage and assist countries in the implementation of measures reliably shown to enhance the rational use of medicines.
- Assist all countries that have not yet done so to establish and maintain reliable routine monitoring systems for key pharmaceutical indicators.
- Expand the deployment of the "DOTS-Plus" protocol for the treatment of MDR-TB, and explore the possibility of applying similar protocols to the treatment of other complex infectious diseases, notably HIV/AIDS.

2.3 To address issues in economics, drug prices, and drug financing:

Near term:

- Reduce or eliminate taxes and tariffs on imported drugs and pharmaceutical raw materials, while ensuring that these revenue reductions do not lead to cuts in services for the poor.
- Encourage and assist developing countries to explore possible systems of price or markup controls in the pharmaceutical sector, given that the majority of OECD countries utilize such mechanisms.
- Encourage countries to explore the possible advantages of participation in the Accelerating Access Initiative.

Short to medium term:

- Encourage and assist countries to invest substantial public funding in domestic drug financing, and notably to institute public subsidies providing selected essential medicines to poor people at no charge.
- Assist developing countries, in particular those confronting high prevalence of HIV/AIDS, to familiarize themselves with the full range of TRIPS-legal options for obtaining medicines.
- Where appropriate, assist and enable resource-poor countries confronting national health emergencies to avail themselves of TRIPS-authorized mechanisms such as compulsory licenses, parallel importing, and government use provisions to obtain patent-protected medicines at reduced cost.
- Encourage pharmaceutical company drug donation programs under established international guidelines.
- Support an incremental phasing-in of TRIPS regulations on pharmaceuticals, based on objective assessment of countries' health needs.
- Explore a system of voluntary monitoring and reporting of global drug prices, developing current initiatives by WHO and NGOs.²²⁸
- Strengthen and expand the WHO's prequalification initiative on medicines for HIV/AIDS, TB, and malaria.
- Explore the option of an international bulk procurement facility for AIDS medications, based on the Global Drug Facility for TB medicines.

Medium to long term:

- Encourage and support the implementation, where appropriate, of pooled drug procurement arrangements, with particular attention to successful NGO models such as Kenya's MEDS and Uganda's JMS.
- Support countries in accessing medicines via international bulk purchasing facilities such as the Global TB Drug Facility and Green Light Committee of the Stop TB Initiative.
- Assist countries to explore a range of approaches to stronger, more evidence-based drug purchasing, possibly involving international price comparisons and "reference pricing" procedures.
- Implement, with the cooperation and participation of the pharmaceutical industry, a global system of differential pricing for those medicines sold in both industrialized countries and developing world markets.
- Evaluate the possibility of a permanent international therapeutic drug funding facility which would provide block grants to countries for infrastructure and programs expanding access to essential medicines.

²²⁸ In his comments on an earlier paper draft, Robert Lefebvre noted that such a system of global price reporting should be implemented "only if the database is able to capture price to consumers. A manufacturer price database could capture only 1/3 of the total cost to the consumer. This of course presumes that the database will be updated regularly enough to capture ongoing currency exchange and competitive pricing changes on a sufficiently regular basis to be of value to decision makers."

2.4 To overcome cultural obstacles:

- Include culturally appropriate community education in the use of pharmaceuticals as an integral part of the effort to expand access to medicines, using the evidence base already gained to scale-up community-focused programs.
- Regulate drug promotion to prescribers and consumers at the global level via binding multilateral agreements and at the national level by legislation and strict enforcement.²²⁹

2.5 To stimulate research and development of new medicines for diseases of poverty:

- Create credible purchase precommitments to stimulate private sector drug research toward medicines for neglected diseases.
- Expand support for public-private partnerships.
- Support efforts to create and consolidate a “not-for-profit” drug industry targeting diseases of poverty.
- Create or revive publicly funded clinical trials units to facilitate development of new medicines for neglected and tropical diseases.
- Support the launch of collaborative disease-specific research initiatives among developing countries.
- Urge major research-based pharmaceutical companies to dedicate 1% of their advertising and promotion budgets to research on neglected diseases.
- Require publicly funded research institutes to commit a set percentage of resources to work on developing-country diseases.
- Consider long-term modifications of international intellectual property rights structures to better accommodate the changing nature of pharmaceutical research, the interests of developing countries, and the health needs of communities.

3. Agenda for the ATEM Working Group: Analysis, Framework for Action, Operationalization

The implementation of even a portion of the preceding recommendations will present formidable challenges. However, the gravity of the drug access problem and its multidimensional character demand an ambitious action program, if a solution is to be achieved.

The Millennium Project aims to distinguish itself from comparable exercises by an emphatic commitment rapidly to operationalize the plans produced—moving swiftly from words toward on-the-ground implementation. To be effective, of course, action must be guided by sound analysis. In this paper we have sought to provide: (1) a general analytic overview of the global situation with regard to access to medicines; (2) an account of the principal obstacles preventing many people in developing countries from obtaining needed medicines; (3) an initial set of policy suggestions to overcome these obstacles.

²²⁹ Robert Lefebvre comments: “Agreed, but why not also suggest that regulators themselves be regulated and bound legally via multilateral agreements to ensure they discharge their duties as fully as possible?”

We hope the contents of this paper can help stimulate and structure a fruitful conversation among the members of the ATEM working group, leading rapidly to the adoption of a collaboratively designed Global Framework for Action on essential medicines. Once the Framework for Action is complete, the group will move quickly to establish a detailed implementation agenda; calculate the costs associated with each operational phase; enlist the participation of key actors; and initiate efforts to identify funding sources, in coordination with the UN agencies and other entities that will take the lead in operationalizing Task Force recommendations.

Rather than a conclusion, the close of the present paper is a commencement. The real work begins now. The potential for robust action to redress global inequalities has probably never been greater. The very existence of the Millennium Project reflects an unprecedented level of determination within the international community to address critical issues of global inequality, including disparities in access to essential medicines.

Appendix: Comments from Dr. Gail Cassell on November 10, 2002 draft

Suggested Corrections on the November 10, 2002, draft of *Background Paper for Millennium Project Task Force Five – “Expanding Access to Essential Medicines in the Developing World.”*

General Comments: If properly written, the paper could play a contributing role in addressing the access to essential medicines debate. However, I disagree with several key aspects of the paper in its current form. In order to enhance the effectiveness of the paper, I suggest that the Task Force leverage existing efforts by the WHO/IFPMA Access to Medicines Working Group and the WHO Microeconomic Commission Access to Medicines Working Group.

Specific Comments: I agree with most of those specific changes made by Task Force member Robert Lefebvre. In addition, I recommend the following conceptual changes.

Focus on HIV/AIDS, TB, and Malaria. I strongly believe that the paper and the Task Force should remain focused on HIV/AIDS, TB, and malaria because these diseases are the leading killers worldwide. Because of the crisis we currently face in Africa, China, and Russia with HIV/AIDS and TB (especially MDR-TB), our Task Force must develop achievable solutions. The October draft of the paper indeed was focused on HIV/AIDS, TB, and malaria, but the current draft has a much broader objective. Each disease and access to medicines certainly has similarities, but each also has different issues and solutions. Thus, if we do not maintain our focus, I fear we will end up with a document that is all encompassing and achieves nothing. I do believe there are workable solutions for these three major diseases and greatly improving access to medicines given the progress made since 2000. Let us remain focused on completing this most urgent task.

Healthcare as an Investment. The paper should include a thoughtful inclusion of “healthcare as an investment” possibly appearing in the first section as context, and then possibly continuing in the second section as a complement to the various strategies presented. Regardless of where placed, the notion of “healthcare as an investment” is an important one, which should not be overlooked when examining the access to medicines debate.

Intellectual Property (IP). The overall tone of the paper is hostile to IP protection. Without IP protection, there can be no new drugs. IP lies at the very heart of innovation and the development of new and improved products (not just pharmaceuticals). The right of inventors and authors to the protection of their creations is named in the U.S. Constitution. Its central role in the American system of enterprise was recognized by Abraham Lincoln, who said that our patent system “adds the fuel of interest to the fire of genius.” The innovator is given exclusive use but only for a limited period time. When that term expires, the innovation passes into the public domain and all competitors are free to copy it. In this way the pharmaceutical industry is different. Companies can preserve their research results and other vital data as trade secrets... forever. One hundred years from now the formula for Coca-Cola could still be secret. In the pharmaceutical industry, we can only keep competitors from acquiring and using our most valuable trade secrets—our clinical

data—for five years, in some cases only four years, even though these data may have taken up to fifteen years and millions of dollars to develop. Without IP there is no incentive and more importantly no monies to fund the expensive costs of research and development (average per drug of \$850 million).

The current version of the manuscript makes certain references to a controversial report, established but not officially sanctioned, by the Commission on Intellectual Property Rights (CIPR) established by the British Minister of State for International Development. That report sheds little new light on the challenges facing developing countries in seeking to meet the real public health needs of their citizens or achieving their economic development goals. Because of the makeup of the panel involved in generating the report, it begins with a false premise – that intellectual property protection impedes economic development efforts and forces a transfer of wealth from poor nations to the rich. Clearly this is at odds with mainstream economic theory and the foundation upon which the U. S. economy is based.

Narrow Focus and Lack of Emphasis upon Infrastructure. The paper is narrowly focused. The pharmaceutical industry (which is only a small part of the overall solution) is linked as a major variable in the access debate, effectively ignoring the major roles and responsibilities of national governments. The paper neglects several major issues such as disparities in infrastructure, healthcare delivery, basic nutrition, and potable water. While one third of the world's population is infected with TB, over 80% of the cases are in those countries that have not implemented DOTS.

There are also other areas where the paper is narrowly focused. The paper needs to provide accurate information and a balanced view. Some specific areas of concern are :

- **Affordability:** The paper focuses too much on the concept of “affordability”, which takes the reader away from important variables in the access to medicines debate, and fails to illustrate that nothing is affordable in developing countries let alone commercially feasible, and that third party financing, ostensibly based on an international commitment, is needed to facilitate a workable solution.
- **Human Rights:** The manner in which the paper is positioned (i.e., as a resource for the 2003 UNDP Report) inappropriately links human rights issues to access. I recommend that such a link not be the focus of the background paper since it is, in essence, the 4th prong approach utilized by several groups to weaken IP protection from all quarters. (The 1st approach is based on health needs, the 2nd on economic development, the 3rd on trade, and the 4th on human rights). In none of these approaches, historically, has IP been appropriately characterized, let alone placed in its proper context.
- **Generic Industry:** There is no mention of the generic industry in countries such as Brazil, China and India. I recommend that there be a reference to the fact some of these countries do not benefit from local generic production due to the generics industry exporting to commercially lucrative markets.

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