WHO-Intergovernmental Working Group on Public Health, Innovation and Intellectual Property (IGWG) Second Public Hearing

CONTRIBUTION TO REVIEW OF SECTION 2:

DRAFT GLOBAL STRATEGY AND PLAN OF ACTION

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The IGWG offers a unique opportunity for discussing various initiatives to stimulate research and promote access to medicines in developing countries. I am confident that the Working Group will find pragmatic ways for governments and stakeholders in order to achieve these purposes.

I was a member of the Commission on Intellectual Property, Innovation and Public Health(CIPIH). I do not recall that the CIPIH held the view that there was a uniform solution to public health problems for all developing countries. On the contrary, our consensus was: "One size does not fit all"[1]. Although the CIPIH report described various stages of drug discovery, development and delivery, it did not recommend that all developing countries should be investing and engaging in basic scientific research, drug discovery, development and production.

Public health needs of each country differ significantly, necessitating a very careful evaluation of each country's situation. I believe it is the task of each country, in cooperation with international organizations, specialized professionals and stakeholders, to identify its needs and different methods of providing solutions, in accordance with the spirit of humanitarian cooperation and economic rationality.

(1) Identifying appropriate technologies

The draft Global Strategy and Plan of Action appears to be saying that a uniform solution exists for all developing countries. This assumption is evident, for example, in the suggested "success indicators", almost all of which are quantitative. The draft plan indicates that the active participation of developing countries in the innovation process is measured by the number of patents generated within developing countries (page 18), and that the success of basic and applied scientific research on Type II and Type III diseases is measured by the number of patents held by developing countries' research and academic institutions (page 23). On the other hand, the plan suggests that success could also be indicated by the number of research exemptions (page 23) as well as the number of laws incorporating TRIPS flexibilities (page 32). The plan would need to add more explanation, in

[1] Carlos Correa, ICTSD-UNCTAD Dialogue, The Rockefeller Foundation's Bellagio Conference Center, 30 Oct.-2 Nov. 2002.

order to justify these apparently contradictory approaches to intellectual property. The plan probably assumes that patents are useful tools for licensing, marketing and recuperating research costs even at an early stage of research and development. Developing countries would then be better advised to strengthen reasonably their patent protection, in order to encourage domestic research and innovation.

Governments could consider establishing licensing policies and making patent protection arrangements to encourage the development of local technologies that would increase the safety and efficacy of known products, as well as inventing diagnostic methods or medical indications that are adapted to local needs. Such patent protection arrangements that encourage the development of local technologies will be a factor of economic growth..

(2) Identifying needs in healthcare systems

It is of crucial importance, therefore, to identify the needs of each country or region and to build integrated national and regional healthcare systems in order to ensure (i) disease prevention, (ii) quality of medical care, and (iii) a sustainable economic basis for such systems.

For this purpose, it would be helpful to obtain technical assistance from a body of individual professional economists, medical professionals, sociologists and scientists to assist in the development of wider national policy frameworks and individual country strategies. Integrated healthcare would help ensure that medical intervention is adequately coordinated and based on community initiatives for the effective prevention of disease and the proper use of drugs and medical care. An independent advisory service for national governments who are seeking funds from various donor organizations could contribute to the formulation of sustainable health policy by taking the following steps:

- Creating a capital market to cope with the country's disease burden,
- Prioritizing health care needs,
- Improving health insurance schemes,
- Creating incentives and regional training programmes for healthcare workers,
- Establishing prevention programmes,
- Improving the administration of quality drugs and medical care based on community mutual assistance systems at delivery points,
- Providing free medicines procured by appropriate funding organizations on the basis of competitive pricing, quality assurance and professional advice on their use.

These steps can help establish stable international cooperation based on public policy and contractual relations that are built on trust and pragmatic policy instruments. In examining requests, funding organisations such as Global Funds, PEPFER, the Bill and Melinda Gates Foundation and Clinton Foundation), should take into account whether the proposed projects are based on the

elaboration of properly constructed and integrated health policy prioritization plans. It is proposed that such services be provided by a small "light touch" coordinating committee composed of representatives from WHO, UNAIDS and the World Bank to assist all funding agencies.

(3) Negotiating mechanisms for drug prices

The CIPIH did not have sufficient resources to undertake empirical research on various developing countries' medicine markets, prices and the behaviour of suppliers, distributors and healthcare services organisations. The CIPIH report did not assume, however, that patents always raise price. Patents do not necessarily confer market power in the relevant market[2] . In order for a patent holder to raise the price above the competitive level, the patent in question must be sufficiently strong to exclude competitors on the product market (such as so-called follow-on drugs) . Furthermore, there are factors other than patents that influence prices, such as the number of patients, price regulation, etc., depending on the characteristics of the market and its regulations.

In 2006, we undertook a study at the Development Studies Center, Institute of Developing Economies (IDE-JETRO), Japan, using a data set derived from the price reporting mechanism of the Global Fund's transaction prices of ARVs[3]. The study demonstrated the following:

(i) Branded drugs supplied by originator pharmaceutical firms tend to be priced higher than their generic counterparts in middle-income countries, but this premium disappears in the lowest-income countries[4];

(ii) Originator firms tend to offer lower prices in developing countries with a high prevalence of HIV infection;

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2 Illinois Tool Works Inc et al. v. Independent Ink., 2006 U.S. LEXIS 2024 (S. Ct., March 1,2006); European Commission "DG Competition discussion paper on the Application of Article 82 of the Treaty to exclusionary abuses" (December 2005), para 40; ECJ Case C-53/03, Opinion of the Advocate General (28 October 2004).

3 Kensuke Kubo and Hiroko Yamane, "Determinants of antiretroviral drug prices: An analysis of Global Price Reporting Mechanism (GPRM) data", in Hiroko Uchimura et al., *Health Service and Poverty: Making Health Services More Accessible to the Poor*, JRP Series No. 142, March 2007, http://www.ide.go.jp/English/Publish/Jrp/pdf/jrp_142_05.pdf. The GPRM transactions, in turn, represent approximately 40% of the ARVs supplied to developing countries (World Health Organization 2006). The PRM database (http://web.theglobalfund.org/prm/) downloaded in December 2006 contains a total of 4,053 transactions that took place between June 2003 and December 2006, of which 2,638 were ARVs. A set of the most common oral solid formulations with complete information on Incoterms (International Commerce Terms which describe the terms of the transaction, such as who pays for the insurance, freight, and customs duties) were analyzed. Drugs with zero-price (donations) were dropped from our analysis. Patent information on each drug analysed was found in Médecins Sans Frontières (2003)*Drug patents under the spotlight: Sharing practical knowledge about pharmaceutical patents.*

4 In this regression analysis, the existence of patents turned out to be associated with lower prices for the originator's product in developing countries. This, however, does not necessarily mean that patents are the cause of lower prices.It is possible that these estimates are due to the endogeneity of the "patent" variable in the study. It may be translating the effects of exogenous factors such as policy or political elements, and not of patents. In order to uncover the *ceteris paribus* effect of patents on ARV prices, it is necessary to employ more sophisticated techniques such as instrument variable estimation. This is a topic of continuing research by the authors.

(iii) Meeting quality standards does not raise the price; in fact the price of ARV drugs that have been pre-qualified by the WHO is lower;

(iv) Firms tend to charge higher prices when supplying their home country market.

This may mean that governments of low income developing countries have much to gain by negotiating directly with originator companies to obtain acceptable prices. Originator companies should establish policies of differential pricing or cooperative purchasing scheme with groups of countries.

Donor countries are advised to increase the size of recipient groups in such a way that a large number of patients can be covered by one procurement programme. For instance, grouping together several recipient countries may make it easier to obtain quantity discounts from manufacturers.

Second, no country should be allowed to sacrifice quality control for the sake of keeping down drug costs. Our data analysis shows that pre-qualification does not raise drug prices. This means that high quality medicines should be available without extra cost to the patients. Given that poor quality medicines contribute to adverse effects as well as the growth of drug resistance, quality control should be one of the foremost requirements for a supplier.

The Global Fund should consider ways to lower the price of procuring medicines (both originator and generic). This could be achieved through collective (or regional) negotiations to increase the scale of purchase and/or centralize information on drug quality, price, and purchase conditions, as well as through price negotiations at the Global Fund Secretariat.

I have emphasized HIV/AIDS treatment in my comments because most patented medicines included in the WHO 15th Essential Medicines List (May 2007)[5] are ARVs (see footnote 4 for patented essential medicines). Furthermore, as the Médecins Sans Frontières has pointed out[6], the price of HIV/AIDS treatment will rise in the years to come, and the international community faces a formidable challenge, despite its considerable efforts of coping with the HIV/AIDS crisis in developing countries.

(4) Regional research focus in clinical studies

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[5] Medicines probably patented in developed countries (WHO 15th Essential Medicines List, March 2007):6.4.2 (ARVs); abacavir (ABC), didanosine (ddI), emtricitabine (FTC), lamivudine (3TC), stavudine (d4T), tenofovir disoproxil fumarate (TDF), efavirenz (EFV or EFZ), nevirapine (NVP),indinavir (IDV), lopinavir + ritonavir (LPV/r), nelfinavir (NFV), ritonavir, saquinavir (SQV),efavirenz + emtricitabine + tenofovir, emtricitabine + tenofovir, stavudine + lamivudine + nevirapine, zidovudine + lamivudine, zidovudine + lamivudine + nevirapin; 6.2.1 cefixime, imipenem + cilastatin; 6.5.3 artemether + lumefantrine; 8.2 dactinomycin, vincristine.

[6] MSF, "Untangling the web of price reductions: a pricing guide for the purchase of ARVs for developing countries" (2007). www.accessmed-msf.org/documents/Untangling10.pdf

The above empirical study also indicated that economies of scale, scope and aggregation still count in pharmaceutical development, production and quality control, although some researchers have suggested that conditions have changed for biotech innovation[7].

The idea of local drug production has been discussed since the 1970s.. A subsequent World Bank study[8] found that attempts at import substitution did not always achieve price reduction or quality, although there have been very successful cases since then. The WHO has recommended a cautious approach to local production[9]. Inefficient industrial policy could be costly to public health, so money must be spent efficiently. Each country should carefully identify the kinds of research most needed in order to meet its public health needs.

I recommend that developing country governments dedicate more effort to encouraging and financially supporting local research—especially clinical testing adapted to their local needs—primarily aimed at improving available technologies and adapting them to local conditions. One focus of such public health-oriented research may be drug quality evaluation.

Developing countries successful in clinical research should play a key role in regional cooperation in such research fields. They should take the lead in seeking international assistance in order to build up necessary clinical research infrastructure and gather specialists in key fields such as disease-specific diagnostics and vaccines.

(4) Create a virtual HIV research advisory institute

Governments could provide funding to create an international scientific advisory/coordinating body specifically for HIV vaccines and entirely new viral inhibitor technologies (i.e., other than the already existing reverse transcriptase inhibitors (RTIs), protease inhibitors (PIs), non-nucleoside reverse transcriptase inhibitors (NNRTIs), and fusion inhibitors). The WHO Special Programme for Research and Training in Tropical Diseases could be strengthened to harbour such an advisory and information-sharing centre. The role of this specialized advisory and coordinating body would be scientific. In encouraging research in various countries, it could provide information-sharing and advisory services on the research status of efforts to improve technologies and research tools. Advice would be provided particularly on those technologies and diagnostic methods which are declared available for free use by researchers. This would facilitate the use of available research tools,

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[7] For example, Cuatrecasas, P. (University of California San Diego), "Drug discovery in jeopardy", *J. Clinical Investigation*. 116[11], 2837–2842 (2006); Grabowski, H.G. & Wang, Y.R., "The quantity and quality of worldwide new drug introductions, 1982–2003", *Health Affairs 25*(2), 452–460, March–April 2006.

[8] Lashman, H.K., *Pharmaceuticals in the Third World: An overview*, PHN Technical Note 86-31, Nov. 1986, Population, Health and Nutrition Department, World Bank.

[9] WHO Secretariat "Antiretrovirals and developing countries: Report by the Secretariat", WHO EB115/32, 115th Session,16 December 2004; Kaplan, W and Laing, R., "Local production of pharmaceuticals: Industrial policy and access to medicines: An overview of key concepts, issues and opportunities for future research", January 2005, HNP Discussion Paper, World Bank.

compounds, and gene markers that could disable an infectious agent.