

## Review

## 25 years of the WHO essential medicines lists: progress and challenges

Richard Laing, Brenda Waning, Andy Gray, Nathan Ford, Ellen 't Hoen

**The first WHO essential drugs list, published in 1977, was described as a peaceful revolution in international public health. The list helped to establish the principle that some medicines were more useful than others and that essential medicines were often inaccessible to many populations. Since then, the essential medicines list (EML) has increased in size; defining an essential medicine has moved from an experience to an evidence-based process, including criteria such as public-health relevance, efficacy, safety, and cost-effectiveness. High priced medicines such as antiretrovirals are now included. Differences exist between the WHO model EML and national EMLs since countries face varying challenges relating to costs, drug effectiveness, morbidity patterns, and rationality of prescribing. Ensuring equitable access to and rational use of essential medicines has been promoted through WHO's revised drug strategy. This approach has required an engagement by WHO on issues such as the effect of international trade agreements on access to essential medicines and research and development to ensure availability of new essential medicines.**

In 1977, the birth of the WHO model list of essential drugs led the organisation to advocate for the principle that some medicines were more essential than others, pointing out that many medicines in developing countries were not useful, whereas others that were did not reach populations at need. In the past 25 years, 11 revisions of the list have been published and 156 WHO member states have adopted medicines lists.<sup>1</sup> The list has been much debated: the pharmaceutical industry has attacked it for being too restrictive, and non-governmental organisations (NGOs) have been critical, in particular of the scant attention paid to AIDS. Selection criteria for drugs have evolved, including a change from an experience-based to an evidence-based approach. The name has also changed, from essential drugs lists (EDL) to essential medicines lists (EML).

In 1977, essential medicines were "of utmost importance, basic, indispensable and necessary for the health and needs of the population"<sup>2</sup> and criteria relating to safety, quality, efficacy, and total cost were defined.<sup>2</sup> By 2002 the following definition was proposed: "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. The implementation of the concept of essential medicines is intended to be flexible and adaptable to many different

situations; exactly which medicines are regarded as essential remains a national responsibility."<sup>3</sup>

In this paper, we review the list's history, evolution, application by countries, controversies, and future challenges.<sup>4</sup>

### History

The 1975 World Health Assembly<sup>5</sup> asked WHO to assist member states in selecting and procuring essential medicines, assuring good quality and reasonable cost (panel 1).<sup>2,4,5-18</sup> The first list of 205 items (186 medicines) was published 2 years later.<sup>2</sup> At the 1978 Alma Ata conference, provision of essential medicines was identified as one of eight key components of primary health care.<sup>6</sup> The 1985 Nairobi conference resulted in the development of WHO's revised drug strategy, in which the model list was recognised as important mainly for public sectors; the emphasis was moved beyond selection of drugs to their procurement, distribution, rational use, and quality assurance.<sup>9</sup> In 1991, membership of the WHO Expert Committee on the Use of Essential Drugs was balanced by including "professionals in essential drugs programmes in developing countries"<sup>4</sup> and by providing comparative cost information.<sup>4</sup> During this period, many countries and NGOs adopted the essential medicines approach,<sup>10</sup> and the UN emergency health kit included 55 of the list medicines.

When the 1999 expert committee met to revise the model list, they expressed concern at the lack of evidence provided to justify revisions and asked that "a summary of the appropriate evidence be presented for review".<sup>12</sup> Around this time, the effect of the World Trade Organization (WTO) trade-related aspects of intellectual property rights (TRIPS) agreement on access to medicines was being debated by NGOs, the pharmaceutical industry, and governments.<sup>13</sup> In a WHO discussion document

### Search strategy

We did comprehensive literature searches using Medline and EMBASE. Emphasis was placed on articles published from 1975–2002 containing information on the implementation, use, effect, and relevance of essential drug lists in developing countries.

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**Boston University School of Public Health, Boston, MA, USA** (R Laing MD); **Massachusetts College of Pharmacy and Health Sciences, Boston, MA** (B Waning MPH); **Department of Experimental and Clinical Pharmacology, Nelson R Mandela School of Medicine, University of Natal, Congella, South Africa** (A Gray MScPharm); **Médecins Sans Frontières, London, UK** (N Ford BSc); and **Médecins Sans Frontières, Paris, France** (E 't Hoen LLM)

**Correspondence to:** Dr Richard Laing, Boston University School of Public Health, 715 Albany St, T4W, Boston, MA 02118, USA (e-mail: richardl@bu.edu)

**Panel 1: History of the essential medicines concept**

1970: Tanzania made its first EML

1975: Resolution WHA28.66 called on WHO to assist member states to select and procure essential drugs of good quality and at reasonable cost

1977: First list of 205 items published. WHO criticised for attempting to restrict the right of prescribers to prescribe<sup>7</sup>

1978: Alma Ata conference identified provision of essential drugs as one of eight key components of primary health care

1981: First edition of *Managing Drug Supply* identified drug selection as an essential management requirement<sup>8</sup>

1982: Bangladesh adopted essential drugs list based on the WHO selection and banned 1700 products. World Health Assembly gave little support to the essential medicines concept

1984: The World Health Assembly resolution known as the Nordic resolution obtained support of all delegations except the USA (West Germany and Japan abstain)

1985: Nairobi conference brought together NGOs, industry, and government representatives, resulting in the WHO Revised Drug Strategy, which put emphasis beyond selection on procurement, distribution, rational use, and quality assurance for the public sector

UK introduced a restricted list of medicines

1986: Revised Drugs Strategy received unanimous support by the World Health Assembly

1991: Review of changes in the essential drug list highlighted growth of list and increase in the number of substitutable drugs. Inclusion of comparative cost information suggested. Many countries and NGOs adopted the essential drugs approach

1997: Second edition of *Managing Drug Supply* included detailed descriptions on how to select medicines based on prevalent morbidity patterns and existing standard treatment guidelines<sup>11</sup>

1999: Concern expressed at lack of evidence provided to justify changes. Change from experience to evidence-based submissions occupied most of 2000–01

Increasing attention paid to effect of WTO TRIPS agreement. Suggestion made at Seattle WTO meeting that drugs on the WHO essential drugs list be subject to automatic compulsory licensing to ensure universal access

2001: The WHO discussion document *Updating and Disseminating the WHO Model List of Essential Drugs: the Way Forward* attacked by USA in 35-page memorandum. Final version of the revised procedure adopted by the WHO Executive Board in January, 2002

Doha Declaration stated that the TRIPS agreement should be implemented in a manner “supportive of WTO members’ right to protect public health and, in particular, to promote access to medicines for all”

2002: Several antiretroviral drugs under patent added to the list. New list published on the internet within days of the meeting; alphabetical and anatomical therapeutic chemical (ATC) classifications and translations in four languages appeared within months<sup>18</sup>

WHO developed a web-based Essential Medicines Library.

WHO stated at TRIPS Council meeting that “people of a country which does not have the capacity for domestic production of a needed product should be no less protected by [TRIPS safeguards than] people who happen to live in countries capable of producing the product.”

published in May, 2001,<sup>14</sup> an evidence-based transparent process for revising the list was proposed. This document was generally well received by member states, with the exception of the USA, which attacked every aspect of the list in a detailed memorandum.<sup>15</sup> Areas of dispute included the applicability of the list to developed countries and cost considerations. After detailed rebuttals, the final revised procedure was adopted by the WHO Executive Board in January, 2002.<sup>16</sup> In April that year, a meeting of the expert committee was held under the new procedures, and several patented antiretrovirals were added to the list.<sup>17</sup>

**Evolution of the EML**

The structure of the WHO model EML has remained largely unchanged since first published; medicines are divided into two categories: core, defined as efficacious,

safe, and cost-effective medicines for priority conditions (selected on the basis of current and estimated future public-health relevance and potential for safe and cost-effective treatment); and complementary, defined as “medicines for priority diseases which are efficacious, safe and cost-effective but not necessarily affordable, or for which specialized health care facilities or services may be needed”<sup>19</sup>.

The process for creating and revising the EML (panel 2) has changed substantially. Selection originally largely involved decisions made by members of the expert committee, with sometimes little evidence. Before 1991, inclusion of medicines in the list was mainly a result of applications from WHO programme staff and the pharmaceutical industry (Mary Couper, personal communication). In 2002, an evidence-based approach was adopted, including public-health relevance, efficacy,

**Panel 2: The WHO expert committee**

A WHO expert committee, appointed by the WHO Director General, meets to decide which medicines are added or deleted. The members, ranging between seven and ten in number, are selected from WHO expert advisory panels; they are mainly clinical pharmacologists and physicians, although it is apparent today that pharmacists and public health professionals should be included. Most members have been men, although 50% were women in 2002. Despite attempts to represent all WHO geographic regions, the Western Pacific has been under-represented with no member present at four expert committee meetings. The USA is the only country with consistent representation at all of the expert committee meetings. The pharmaceutical industry had observer status in the expert committee meetings until 2001 when the new procedures were introduced.

	Total n medicines*	Total F+D	Ratio F+D per molecule
<b>Year</b>			
1977	186	0	..
1979	210	250	1.19
1982	216	265	1.23
1984	238	321	1.35
1987	257	375	1.5
1989	267	400	1.5
1991	277	414	1.5
1993	287	431	1.5
1995	286	435	1.52
1997	304	524	1.72
1999	308	547	1.78
2002	320	559	1.72

F+D=number of forms plus dosages. \*Multiple salt forms of a drug are counted as two distinct medicines; combination drugs are not counted as distinct medicines if the single components appear on the EML.

Table 1: Trends in WHO EML

### Panel 3: Tension between WHO's EML and treatment guidelines

The amodiaquine case illustrates the apparent disconnection between selection decisions made by WHO expert committees and those made by WHO experts creating treatment guidelines. Amodiaquine was deleted from treatment guidelines by the malaria expert committee in 1990 because of safety concerns and for lack of apparent advantage over chloroquine.<sup>23</sup> In 1993, however, amodiaquine use was recommended in cases in which benefits outweighed risks (WHO 19th Malaria Expert Committee, 1993) and eventually reinstated in WHO treatment guidelines in 1996<sup>24</sup> on the basis of results of a systematic review. Several countries have followed WHO treatment guideline recommendations, which has spurred many organisations to request that amodiaquine be re-added to the WHO model EML. The 2002 Essential Medicines Expert Committee deferred a decision to add amodiaquine to the model EML pending evidence on safety and efficacy in curative treatments. This decision is contrary to a WHO technical consultation on malaria published in April, 2001, that recommends the use of amodiaquine in areas where efficacy is high<sup>25</sup>

safety, and cost-effectiveness. However, cost-effectiveness is considered only within WHO therapeutic categories; WHO can establish the most cost-effective antimalarials to add to the list, but cost-effectiveness decisions regarding treating, say, malaria versus HIV/AIDS, are made at country level. Information and data used to make evidence-based decisions are supplied by the Cochrane Collaboration on request. The EML has nearly doubled in size from 205 items (186 medicines) in the first edition to 325 (320) in the 12th edition published in 2002; 195 medicines have been added, 86 removed, and 11 have been reinstated (table 1). Although criticised in the past for incomplete and non-transparent reasoning behind revisions, WHO now publishes clear explanations and evidence for decisions.

Over the past 25 years, some therapeutic classes have more than tripled in size, including antimigraine drugs,

	Total n medicines on EML†	Total n dosage forms	Ratio dosage forms to medicines
<b>Country or organisation*</b>			
WHO (1999 model EML)	309	547	1.56
Peru	341	423	1.36
Eritrea	325	457	1.4
Karnataka state, India	389	411	1.06
Uganda	317	345	1.09
South Africa	337	422	1.25
Nepal	276	377	1.37
Mongolia	229	374	1.63
Palestine	304	312	1.03
Madagascar	253	389	1.54
Yemen	203	268	1.32
Kazakhstan	335	434	1.3
Kosovo	204	253	1.24
Zimbabwe	196	208	1.06
Burkina Faso	220	239	1.09
Philippines	244	364	1.5
Senegal	176	188	1.07
Republic of Liberia	108	140	1.3

\*Countries were non-randomly chosen based on the following criteria: EML was revised in the past 5 years; EML formatted in same manner as the WHO model EML; medicines were listed by generic names. An attempt was made to obtain EMLs from all WHO geographic regions, with at least two countries from every region, and representation from large and small countries. The country EMLs were quantitatively and qualitatively compared with one another and with the 1999 WHO model EML. †Duplicates excluded.

Table 2: Cross-sectional analysis of national EMLs

antidotes and other substances used in poisonings, antiallergic agents and medicines used in anaphylaxis, antineoplastics and immunosuppressive medicines used in palliative care, and disinfectants and antiseptics. Other therapeutic classes that account for substantial increases include anaesthetics, analgesics, anti-infectives, and dermatological medicines.

Some medicines have been added and deleted many times. Amodiaquine was on the original list, deleted in 1979 because "of its similarity to chloroquine",<sup>20</sup> re-added in 1982 as a suspension on the complementary list, and removed by name in 1987 "since the square symbol [which indicates that there are many possible medicines in a therapeutic class that can be used to treat a given condition] before chloroquine adequately covers use of this drug".<sup>21</sup> In 1995, the expert committee clarified that the square box next to chloroquine "is retained solely to accommodate hydroxychloroquine" (panel 3).<sup>22</sup>

### Relevance of the EML to countries

A cross-sectional analysis of 17 national EMLs, shows that 68% contain fewer than 300 medicines (range 108–389), compared with 309 on the WHO EML in 1999 (table 2).

Medicines not on any national EML	Medicines on 1–3 national EMLs	Medicines on 4–6 national EMLs	Medicines on 7–8 national EMLs
Chloroxylenol	Amphotericin B	Alcuronium chloride	Captopril
Eflornithine	Artemether	Aluminium diacetate	Clomipramine
Melarsoprol	Artesunate	Amiloride	Coal tar
Nevirapine	Benznidazole	Azathioprine	Glutaral
Oxamniquine	Calcium gluconate	Calcium folinate	Influenza vaccine
Pentamidine	Chloral hydrate	Carbamazepine	Levamisole
Pertussis vaccine	Chloroquine	Chloramphenicol	Meglumine iotroxate
Potassium iodide	Cyclophosphamide	Chlormethine	DL-methionine
Suramin	Diaphragms with spermicide (nonoxinol)	Codeine	Morphine
	Diethyltoluamide	Daunorubicin	Nicotinamide
	Ephedrine	Desmopressin	Sodium nitrite
	Epinephrine	Dextromethorphan	Sodium nitroprusside
	Quinidine	Diphtheria vaccine	Prazosin
	Flucytosine	Dithranol	Propylthiouracil
	Hydrochlorothiazide	Doxycycline	Quinidine
	Imipenem + cilastatin	Ether (anaesthetic)	
	Iodine	Fluorouracil	
	Levamisole	Hydrocortisone	
	Mefloquine	Idoxuridine	
	Nifurtimox	Immunoglobulin (human normal)	
	Penicillamine	Isoprenaline	
	Prussian blue (potassium ferric hexacyanoferrate[III])	Levonorgestrel	
	Pyrimethamine	Mefloquine	
	Sodium fluoride	Meglumine antimoniate	
	Sodium thiosulfate	Proguanil	
	Sulfadiazine	Propylidone	
	Sulfasalazine	Pyrantel	
	Suramin	Pyridostigmine	
	Triclabendazole	Riboflavin	
	Trimethoprim	Silver nitrate	
	Urea	Co-trimoxazole	
		Valproic acid	
		Yellow fever vaccine	
		Zidovudine	

Table 3: Medicines not on country lists but on WHO model list

The ratio of dosage forms to medicines ranged from 1.03 to 1.63.

Some differences between WHO and national lists are expected and justifiable (table 3). Local and regional morbidity patterns will result in certain medicines, such as pentamidine and eflornithine, appearing on few national EMLs. Likewise, medicines newly added to the WHO list, such as nevirapine and zidovudine, might not be included on national EMLs because of a time lag. Of especial interest are medicines such as quinidine and ephedrine that have been on the WHO list for many years, but have been deleted from most national EMLs because of lack of use, new information, or more cost-effective alternatives. Such medicines probably have no evidence base justifying inclusion on the WHO list, but will remain until the list is systematically revised. Similarly, some formulations, such as reserpine injection, are no longer necessary but have never been deleted from the model EML.

The following examples from South Africa and Eritrea show how two countries—one large and relatively developed, the other small and underdeveloped—have used the EML as a key component of their national drug policies and drug access initiatives.

### South Africa and essential medicines

South Africa's experience in many ways mirrors global challenges. In 1994, the country emerged from decades of isolation and a political system geared to meet the needs of an affluent elite. Among the first new health strategies was the 1996 national drug policy, which was firmly committed to the use of an essential medicines list.<sup>26</sup> Although a limited list had been used in the public sector from the mid-1980s, this list had expanded to include some 2600 items. In the immediate political pre-transition period, the Department of Pharmacology at the University of Cape Town put forward a list of around 250 active medicines (350 formulations) organised in four levels of care ranging from self-medication to medical specialist.

The South African list was developed by a committee under intense time pressure, much of it from the political leadership. The first edition of standard treatment guidelines and medicines (about 160) for primary health care was released within 2 months of publication of the national drug policy. Critics immediately claimed the committee lacked input from primary-care providers and was pharmacist-dominated, and that the list was overly focused on disease rather than on syndromes or presenting problems.<sup>27</sup> After a review process, membership of the committee was expanded. Although the South African committees still mainly drew on experience and expert opinion, they sought first to develop standard treatment guidelines, from which necessary medicine lists were extracted. At the end of 1998, a three-volume set of these lists was released, aimed at primary health care and paediatric and adult hospital care.

Although the lists were widely distributed, implementation was described as patchy and considerable challenges remained,<sup>28</sup> including the apparent dislocation between the EDL committee and the structures responsible for design of programmes and training material. The committees were, in effect, dissolved once the books were published; maintenance of the lists was therefore neglected, and guidelines produced by national vertical programmes increasingly deviated from the selection made by the EDL committee. A prominent example was the guideline for postexposure prophylaxis for rape victims, which in addition to including antiretrovirals suggested the use of azithromycin;<sup>29</sup> the drug is not available in state facilities and no tender for its procurement has been issued. HIV has

been an issue of great concern in the EDL process. Although the 1998 list mentions an ideal treatment approach for HIV and opportunistic infections, it includes a warning that the medicines are "very costly and cannot be provided on a mass scale by the public health services . . . it may only be provided on a limited and selective basis or for academic and research purposes only".

A new committee is being appointed to revise the list, including people from major programmes such as maternal and child health, non-communicable diseases, AIDS, tuberculosis, and mental health. Nominations have also been sought from provincial pharmacy and therapeutics committees. There is also commitment to an evidence-based approach. Furthermore, the new lists will address allocating prescriber levels, neglected in the 1998 lists, partly because of time pressures.

However, country-level EMLs face challenges that the WHO model list does not—they must result in changes in the field, save costs, increase rationality of prescribing, and improve patients' outcome. Although some baseline data were collected, follow-up studies are too small to provide meaningful conclusions. To align procurement processes with the list is also difficult; around 1600 different medicines are still procured by the South African public sector. The increasing use of evidence-based formularies in the private sector is, however, promising.<sup>30</sup>

### Revising the Eritrean national list of drugs

The first Eritrean national list of drugs was defined in 1993 and contained 305 medicines, the second (in 1996) contained 315, and the third (2001) contained 325. All three editions underwent exhaustive review involving most health professionals in the country. The WHO model list served as the basis for the first edition, which was produced by about 30 health professionals. For the second and third revisions, comments were reviewed at national workshops attended by more than 100 people, including health professionals and officials of the Ministry of Health, professional associations, governmental and international organisations, and international consultants. Immediately after its publication, the list gained almost universal acceptance. The formation of hospital drug and therapeutic committees and compilation of individual hospital lists of medicines into a national list assisted this evidence-based approach and is recommended for future reviews (Information provided by Embaye Andom, Ministry of Health, Eritrea).

### Implementation and advocacy: the role of NGOs

The first director of the WHO Action Programme on Essential Drugs described the essential medicines concept as a peaceful revolution in international public health. Others characterised the EML as "a brilliant symbolic strategy on the part of WHO for mobilising opinion and resources".<sup>31</sup> However, pharmaceutical companies have consistently opposed the concept. In 1987, the International Federation of the Pharmaceutical Manufacturers Associations (IFPMA) called the medical and economic arguments for the EML fallacious and claimed that adopting it "could result in sub-optimal medical care and might reduce health standards".<sup>32</sup> The pharmaceutical industry was concerned that the EML would become a global concept applicable to public and private sectors in developing and developed countries, and were especially opposed to attempts by developed countries to introduce limited medicines lists. In 1982, a spokesman of the US pharmaceutical manufacturers organisation said "The industry feels strongly that any efforts by the WHO and national governments to implement this action program



should not interfere with existing private sector operations". The Italian drug industry put it more crudely in response to the Italian senate's attempts to introduce an EML, stating "If they want to turn Italy into a third world country, this is the way to go about it".<sup>33</sup>

The drug industry's view that EMLs are only for the public sector of the poorest nations has not changed much in the past 25 years. The current IFPMA paper about essential medicines repeats that view and says that policies extending restrictive drug policies to industrialised countries pose a serious threat to the delivery of effective health care and to investment in drug research.<sup>32</sup>

NGOs have advocated for political support for WHO's work on essential medicines and for implementation of essential medicines policies at the national level (panel 4). Furthermore, they have a substantial role in the provision of health care in resource-poor settings, and have used the EML for the selection and procurement of medicines. The importance of this approach is perhaps best illustrated by the chaos and risks posed by inappropriate drug donations; in Lithuania 11 women went blind as a result of a veterinary drug, donated by a European NGO, being given mistakenly for gynaecological problems.<sup>34</sup>

By the mid-1980s, international agencies including NGOs such as Médecins Sans Frontières and Oxfam and professional bodies such as the British Medical Association

and the International Pharmaceutical Federation (FIP) had adopted essential medicine policies.<sup>7</sup> The International Federation of Red Cross and Red Crescent Societies has a comprehensive essential medicines policy<sup>35</sup> and Médecins Sans Frontières has an essential medicines guide designed to address practical field needs.<sup>36</sup> In 1998, a group of NGOs published a guide to encourage NGOs to adopt such policies for their own operations or as a condition for funding other groups.<sup>37</sup>

In 1981, around 50 NGOs met in Geneva to form Health Action International (HAI) whose aims include "the safe, rational and economic use of pharmaceuticals world-wide . . . and full implementation of the WHO Action programme on essential drugs." HAI has been a strong advocate for EMLS at the national and international level.

However, advocacy for the availability of essential medicines and removal of non-essential and dangerous medicines from the market was not sufficient to ensure their rational use. In 1982, HAI put forward a draft code of practice that addressed the need for international norms on promotion, distribution, trade, and technology in the pharmaceutical sector. Though an international code on the pharmaceutical sector was never devised, the World Health Assembly adopted a comprehensive pharmaceutical policy within the WHO Medicines Strategy in 1986.<sup>38</sup> The strategy has the aim of ensuring equitable access to essential medicines of acceptable quality, promoting rational use of medicines, and implementing national medicine policies. In 2001, the WHO Medicines Strategy was expanded to include a mandate for WHO to work on trade-related issues affecting the availability of medicines.<sup>39</sup>

### EML and intellectual property

The AIDS crisis has highlighted the grave inequity in access to essential medicines and has drawn attention to the potential consequences of WTO agreements on the availability of medicines. Most AIDS medicines are fairly new and are produced in what is effectively a monopoly. Once the TRIPS agreement is fully implemented (by 2016 for least-developed countries) the cost of all new medicines worldwide will largely depend on price setting by the patent holder.

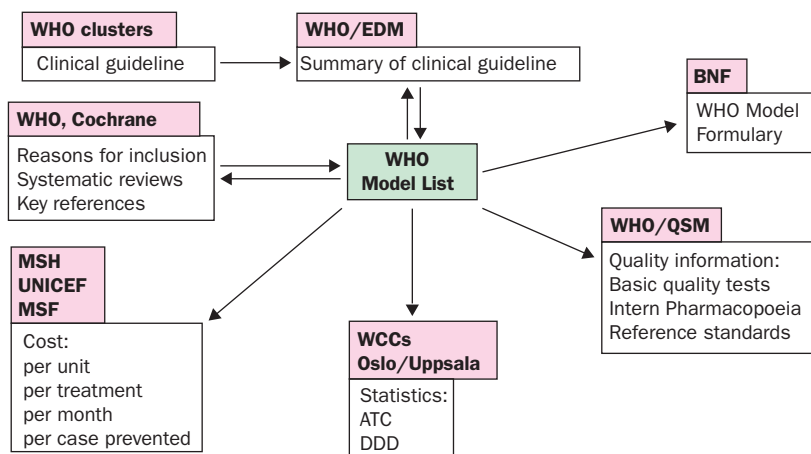
In 1996, an Assembly resolution requested WHO to "report on the impact of the work of the World Trade Organization with respect to national drug policies and essential medicines and make recommendations for collaboration between WTO and WHO, as appropriate".<sup>40</sup>

In 1998, WHO published the first guide containing recommendations to member states for implementing TRIPS while restricting the negative effects of increased patent protection on drug availability.<sup>41</sup> At that time, WHO's involvement in trade issues was highly controversial. The emphasis on public health needs versus trade was seen as a threat in the industrialised world. In 1998, the Directorate General for Trade of the European Commission concluded, referring to "considerable concern among the pharmaceutical industry", "that no priority should be given to health over intellectual property considerations".<sup>42</sup> However, subsequent resolutions of the World Health Assembly have strengthened WHO's mandate with respect to trade. In 2001, two resolutions addressed the need to strengthen policies to increase the availability of generic medicines and assess the effect of TRIPS on access to medicines, local manufacturing capacity, and development of new medicines.<sup>43,44</sup>

At the 1999 third ministerial conference of WTO in Seattle, several developing countries proposed adding medicines on the WHO list to the exceptions to what could be patented allowed under TRIPS article 27.3(b).<sup>45</sup> A

#### Panel 4: NGO influence on the EML

- Since the publication of the first WHO EDL, Acción Internacional para la Salud (AIS) Bolivia has translated and distributed the list throughout Bolivia using a network of 15 volunteer groups. AIS also uses the EML as a basis for consumer education and campaigning to ensure that essential medicines remain in production and are available and affordable
- In Malaysia, the National Poison Centre educates the public about essential medicines by regularly publishing articles in the Malaysian newspaper *New Strait Times*
- In Latvia, the independent drug bulletin *Cito!* led campaigns to stop the sales of inessential medicines such as obsolete anti-diarrhoeals and painkillers using the essential medicines concept
- In 1982, the Dutch parliament adopted a decision that development aid could be used only to purchase essential medicines. This action followed a campaign by WEMOS (Dutch Working Group on Health and Development Issues) showing that a Dutch company was exporting anabolic steroids to Bangladesh for use by children to stimulate growth with development aid
- Since 1988, BUKO (German Federal Congress of Development Action Groups) Pharma-Kampagne has published an assessment of the product range of German pharmaceutical companies to determine whether it addresses the health needs of people in developing countries. One of the benchmarks used is the WHO EML. The latest study on the marketing of German medicines *Poor Choices for Poor Countries*, published in 1999, shows that more than 40% of the medicines sold in developing countries still do not meet the basic criteria for rational medicines. However, there are also improvements: 15 years ago two-thirds of German medicines were rated irrational
- Pakistan Network for Rational Drug Use has successfully campaigned for the abolition of sales tax on essential medicines in Pakistan leading to increased affordability



### WHO medicines library

BNF=British National Formulary. QSM=Quality and Safety of Medicines. WCC=World Council of Churches. MSH=Management Sciences for Health. MSF=Médecins Sans Frontières. ATC=Anatomical and Therapeutic Chemical classification. DDD=Defined Daily Dose. Intern=international.

counterproposal led by the European Communities was “to issue . . . compulsory licenses for drugs appearing on the list of essential drugs of the WHO.”<sup>46</sup> But because only around 15 of the 306 products on the WHO list were patented in certain countries (at the time drugs such as antiretrovirals were excluded because of cost),<sup>47</sup> this proposal would have greatly limited the scope of compulsory licensing. The Seattle conference collapsed and no conclusion was reached.

2001 saw the WTO Doha Declaration on TRIPS and Public Health, which acknowledged the right of countries to take measures to protect public health: “. . . while reiterating our commitments to the TRIPS Agreement, we affirm that the Agreement can and should be interpreted and implemented in a manner supportive of WTO Members’ right to protect public health and, in particular, to promote access to medicines for all.”<sup>48</sup> For this statement to be of practical use, the issue of the right of countries to produce generic medicines for export must be adequately addressed.<sup>49</sup>

### Future perspectives

The 25-year-old essential medicines concept serves as the basis for the WHO medicines strategy in operation today.<sup>50</sup> It has become a global concept used by governments and health-care providers worldwide.

The development of an evidence-based list within WHO will be mirrored in countries attempting to implement the essential medicines concept, which poses major challenges. Evidence used by WHO to add or remove a drug might provide some basis for change in country-level decision-making, but in some cases local trials might also be necessary. WHO’s web-based Medicines Library will provide information,<sup>51</sup> prices,<sup>52</sup> and evidence for decisions, to assist national committees (figure). Training committee members in the use of evidence-based medicine resources might also be necessary.

Another area that national committees could find challenging is cost-effectiveness analysis. International measures of effectiveness might be locally applicable and local costs can be incorporated, but local clinical trials might be needed to measure effectiveness and international prices might have to be used for medicines which are not yet available in the country. Countries might benefit from international assistance with these issues, as occurred in Eritrea.

Changes are underway within WHO to ensure that future EMLs are evidence based. The Essential Drugs and Medicines Policy Department has defined the new processes, and for the 2002 revision of the list it provided technical assistance to specific departments in developing submissions to the expert committee. It also supports the identification of medicines that are no longer essential and could be removed. However, the implications for the clinical or disease control departments in WHO are profound. In the past, every department developed treatment guidelines as an independent activity. Now, they will all need to provide evidence that supports inclusion of the medicines in their guidelines on the model list. For example, on May 8, 2002, WHO announced a new formula for oral

rehydration solution,<sup>53</sup> but the 2002 model list that had been approved the previous month contained the old formulation; the new formulation was included the following year.

Given that the EU and US delegations to the TRIPS Council considered WHO’s recent advice<sup>54</sup> on how to ensure production and export of generic medicines as being outside WHO’s mandate, WHO will have to insist on its duty to advocate for health in future trade debates. This role includes addressing the issue of the lack of pharmaceutical research and development for health needs in developing countries. Only 1% of medicines developed in the past 25 years have been aimed at these diseases, despite the substantial burden that they cause.<sup>55</sup> The pharmaceutical industry has engaged in several public-private partnerships, but they are largely still focused on diseases where there is an economic incentive (ie, AIDS, malaria, and tuberculosis) and it is too early to say whether they will be successful. Where will the new essential medicines for meeting needs specific to developing countries come from?

Although many people in the world still lack effective access to essential medicines, the work done by WHO and its partners has done much to bridge this gap. The original insight that a restricted list of well chosen medicines could meet the needs of most of the world remains as valid now as it did in 1977. However, the fundamental human right to access to these medicines remains a challenge and will require further action at the national and international levels.

### Conflict of interest statement

None declared.

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