

# Essential Medicines in Nigeria: Foregrounding Access to Affordable Essential Medicines

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## Abstract

*Within every functional healthcare system, access to quality and affordable essential medicine stands out as one of the building blocks. However, its significance has been underrated due to poor advocacy and research. The implication is that access to quality and affordable essential medicines remains a challenge to many people in low / middle income countries and could create difficulty in the attempt to reform healthcare systems and save lives if not given ample attention. This paper presents a critical discussion of the Nigerian health system with special focus on access to essential medicines as a component of the Nigerian healthcare system by drawing upon primary data, using qualitative research method.*

**Keywords:** *Access to medicines, Essential medicines, Healthcare, Public health facilities, Counterfeit medicines, Traditional medicines, Health systems, Systems theory*

## Résumé

*Au sein de chaque système de santé fonctionnel, l'accès aux médicaments essentiels de qualité et à prix abordable se distingue comme l'un des blocs de construction. Cependant, son importance a été sous-estimé en raison de la mauvaise sensibilisation et de recherche. L'implication est que l'accès à la qualité et aux médicaments essentiels abordables demeure un défi pour de nombreuses personnes dans les pays à faible revenu / moyennes et pourrait créer des difficultés dans la tentative de réformer les systèmes de soins de santé et sauver des vies si pas donné une grande attention. Cet article présente une enquête sur le système de santé du Nigeria avec un accent particulier sur l'accès aux médicaments essentiels en tant que composante du système de soins de santé du Nigeria en tirant sur des données primaires, en utilisant la méthode de recherche qualitative.*

**Mots clés :** *Accès aux médicaments, les médicaments essentiels, la santé, les établissements de santé publics, les médicaments contrefaits, des médicaments traditionnels, les systèmes de santé, de la théorie des*

## Introduction

Over the past 30 years, the issue of access to affordable essential medicine in a healthcare system has been a matter of worldwide concern<sup>1</sup>. In fact, since the 1976 Alma Ata, it has become part of the health system discourse.<sup>2</sup> literature survey revealed that the health of a country's general population is significantly affected by the access to health care and availability/affordability of medicines<sup>3,4</sup>. Consequently, it is not surprising that policy makers, practitioners and other stakeholders in the health sector should be concerned about poor access to essential medicines.<sup>3</sup>

However, little has been written on this issue, especially in Nigeria where the government and healthcare policy makers are trying to ensure greater access to medicines (ATM) through the introduction of programs such as 'the revolving drug fund' (Sambo et al, 2008). It is worth mentioning that according to WHO 30% of the world's population, (ranging between: 1.3 and 2.1 billion people), are estimated not to have regular access to essential medicines (EM).<sup>4</sup>. This paper discusses access to essential medicines in Nigeria with the simple aim of bringing the issue to wider attention. It is a product of a current study of access to essential medicine, which aims generally to contribute to filling the gap on this subject. The discussion in this paper includes a critical look at the notion of essential medicines and provides a contribution to the basis for the analysis of access to medicines within a health system. The paper is drawn from an ongoing study of access to essential medicines in Nigeria

## Underlining Rationale and Conceptualisation of Essential Medicines

The essence of making the essential medicines (EM) list flexible, according to the World Health Assembly,<sup>5</sup> was to increase the collection and availability of medicines for areas with poor access<sup>6</sup> and also, to ensure that countries create their own lists to suit their primary healthcare needs as affirmed by the 1978 Alma Ata declaration on primary healthcare. The declaration states, "the provision of essential medicine is a vital and dominant part of primary healthcare".<sup>7</sup> In 1977, the WHO established an Expert Committee on EM to

1 *World Health Organization (2000a). WHO medicines strategy: framework for action in essential drugs and medicines policy 2000–2003. Geneva, World Health Organization.*

2 *World health organization (2000b). The world health report 2000. Health systems: improving performance. Geneva, World Health Organization.*

3 *World Health Organization (2010). Key components of a well-functioning health system. World Health Organization, Geneva-Switzerland.*

4 *World Health Organization (2004). World medicines situation. Pp.61–74. Geneva, World health Organization*

5 *Laing R, Waning B, Gray A, Ford N, 't Hoen E. (2003). 25 years of the WHO essential medicines lists: progress and challenges. Lancet 2003 May 17;361(9370):1723–9*

6 *Stop stockouts initiative (2013) what are essential medicines? <http://stopstockouts.org/stop-stock-outs-campaign/what-are-essential-medicines/>*

7 *World Health organization. (1978) The Alma Ata declaration [http://www.who.int/hpr/NPH/docs/declaration\\_almaata.pdf](http://www.who.int/hpr/NPH/docs/declaration_almaata.pdf)*

help member countries in the selection and procurement of medicines. The report of the expert committee marked the 'formal launch' of the concept known as essential medicines (EM) given the fact that it established the criterion for medicines classification as well as the introduction of the first EM list abbreviated as 'WHO-EML', which comprised approximately 200 medicines. The list was subject to revision every two years. The Model List of EM is currently being used by countries as a guide for the development of their own national EML<sup>8</sup> which serves as: the basis for procurement and supply of medicines in the public and private sector, development of schemes that reimburse medicine costs, medicine donations and to guide local medicine production<sup>9</sup>.

The conceptualisation of EM was predicated on the fact that medicines are fundamental parts of the health care and the idea of present day health care systems are inconceivable without the availability of EM. Medicines do not only save lives and promote health, but prevent epidemics and diseases too. Therefore, the notion that medicines are undeniably one of the means for controlling diseases makes it the fundamental right of every human being. This further implies that accessibility to medicines is equally the fundamental right of every one. The issue of 'rights' in the field of health dates back to the WHO constitution of 1946, as part of social rights which details the progressive realization of the rights to health through four concrete steps, which includes access to health facilities, goods and services<sup>10</sup>.

Furthermore, the 22<sup>nd</sup> session of the United Nations<sup>11</sup> Committee on Economic, Social and Cultural Rights often referred to as 'the general comment' affirmed rather authoritatively, the principles of ATM as accessibility, availability, acceptability and assured quality to goods and services which includes not just EM but other medical diagnostics, supplies and consumables<sup>23-12</sup>. These pronouncements marked the confirmation that access to medicines was a global issue. However, the debate on 'Access to Essential Medicines' started in the late 1970s and 1980s when strong pressure from public health advocates led the pharmaceutical industry to accept the concept, which is now back on the international health policy agenda<sup>13</sup>.

The clear identification of EM and the consequent provision of a list helped in firming up the notion of ATM due to concerns. These concerns were also intensified by the prevalence of very toxic or ineffective medicines and difficulty in treating patients due

8 Ruxin J, Paluzzi J, Wilson P, Tozan Y, Kruk M, Teklehaimanot A (2005). *Emerging consensus in HIV/AIDS, malaria, tuberculosis, and access to essential medicines*. *Lancet* 365, 618–621.

9 Stolk P, Willemsen M, Leufkens H (2006). "Rare essentials": drugs for rare diseases as essential medicines. *Bull. World Health Organ.* 84, 745–751.

10 World Health Organization (1946) "Constitution". <http://apps.who.int/gb/bd/PDF/bd47/EN/constitution-en.pdf>

11 United Nations (2000) "CESCR: *The right to the highest attainable standard of health*". 08/11/2000. E/C.12/2000/4. (General Comments) Geneva, 25 April–12 May 2000 <http://www.unhcr.ch/tbs/doc.nsf/%28symbol%29/E.C.12.2000.4.En>.

12 *Ibid*.

13 Ralyn S. Ritter O (2010) "Bridging the Gap in Access to Medicines". *The Lancet Infectious Diseases, Volume 10, Issue 8, Pages 514 - 515, August 2010*

to the fact that the required medicines are too expensive or no longer manufactured<sup>14</sup>.

Oliver and Mossialos<sup>15</sup> are of the view that there is no universally accepted definition of the term 'Access'. Peters et al. (2008)<sup>16</sup> however, posited that 'access' might be considered as 'the timely use of services according to needs'..., reflecting a general concept that sums up a set of more precise dimensions adjusting between the patient and the health care system (Penchansky and Thomas, 1981)<sup>17</sup>.

ATM is influenced by several factors out of which the demand and supply side features prominently (Penchansky and Thomas, 1981; Ensor and Cooper, 2004)<sup>29</sup>. These dimensions<sup>18</sup> are; availability, accessibility, affordability and acceptability otherwise known as the 4As. The 4As was first suggested by Penchansky and Thomas in 1981 and years later adopted by WHO<sup>30</sup>. The application of the demand and supply dimension to the understanding of ATM incorporates the ability of individuals', households' and communities' to use services vs aspects of health services and the health sector that hinder service utilization.

Globally, medicines and diagnostic products are costly, non-existent, difficult to get or of low quality<sup>19</sup>. However, in Africa, more than 70% of the population are affected<sup>20</sup> by EM issue which were available to 30% of all public and private health facilities in Africa<sup>21</sup>. Conceivably, the current state of global healthcare<sup>22</sup> prompted WHO and African leaders under the platform of African Commission Resolution on the Right to Health and Access to needed Medicines in Africa<sup>23</sup> into contextualising the 4As of ATM thus:

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- 14 Butler C (2007). "Human Rights and the World Trade Organization: The Right to Essential Medicines and the TRIPS Agreement". *Journal of International Law & Policy* 5: 1–27.
  - 15 O'Donnell O (2007). *Access to health care in developing countries: breaking down demand side barriers*. *Cadernos de Saude Pùblica* 23: 2820–34.
  - 16 Peters D, Garg A, Bloom G (2008). *Poverty and access to health care in developing countries*. *Annals of the New York Academy of Sciences* 1136: 161–71.
  - 17 Penchansky R, William T (1981). "The Concept of Access: Definition and Relationship to Consumer Satisfaction" *Medical Care* Vol. 19, No. 2 (Feb., 1981), pp. 128–139
  - 18 Maryam B, Bart J, Goran T, Richard L, Abdul G, Bruno D and Wim V (2012). *Access to medicines from a health system perspective*. *Health Policy and Planning* 2012;1–13 doi:10.1093/heapol/czs108. <http://heapol.oxfordjournals.org/>
  - 19 World Health Organizations (2007). *Medicines strategy: countries at the core 2004–2007*. Geneva; [http://whqlibdoc.who.int/hq/2004/WHO\\_EDM\\_2004.5.pdf](http://whqlibdoc.who.int/hq/2004/WHO_EDM_2004.5.pdf)
  - 20 (NA) (2008) "Health Systems and the Right to Health: an Assessment of 194 Countries". 2008. *The Lancet*, Volume 372, Issue 9655, Pages 2047 – 2085, 13 December 2008
  - 21 World Health Organization. (2010) *Monitoring the Building Blocks of Health Systems: A Handbook of Indicators and Their Measurement Strategies*. Geneva: World Health Organization; 2010.
  - 22 Pecoud B, Chirac C, Trouiller P. (1999). *Access to essential drugs in poor countries*. *Journal of the American Medical Association* 282: 631.
  - 23 African Union (2008). "Resolution on the Right to Health and Access to Needed Medicines in Africa". *The African Commission on Human and Peoples' Rights, meeting at its 44th Ordinary Session held in Abuja, Federal Republic of Nigeria, from the 10 th to 24 th November 2008* [http://www1.chr.up.ac.za/images/files/research/ahrru/news/ahrru\\_news\\_15\\_resolution\\_access\\_health\\_needed\\_medicines\\_africa.pdf](http://www1.chr.up.ac.za/images/files/research/ahrru/news/ahrru_news_15_resolution_access_health_needed_medicines_africa.pdf)

**Table 1 - : The Right to Health and Access to needed Medicines in Africa (WHO, 2000).**

Availability	The availability in sufficient quantities of needed (essential) medicines, including existing medicines and the development of new medicines needed for the highest attainable level of health
Accessibility	The accessibility of needed medicines to everyone without discrimination. It includes; Physical accessibility of needed medicines to all.
Affordability	Affordability or economic accessibility of needed medicines to all; Information accessibility about the availability and efficacy of medicines.
Acceptability	The Acceptability of medicine supplies, being respectful of cultural norms and medical ethics.
Quality	The quality of medicine supplies, ensuring that available medicines are safe, effective and medically appropriate.

### **World Health Organisation: 2000 & Penchansky et al: 1981**

In the context of Africa therefore, Access to Medicine - ATM is based on the notion that it is the “percentage of population who have access to a minimum list of 20 essential medicines, which are continuously available and affordable at a health facility or medicines outlet, within one hour’s walk from the patient’s home”<sup>24</sup>. Besides, rational use and the quality of medicines are also in the definition of ATM, as contained in WHO policy document of 2007. This is in understanding and acknowledging the fact that the concept of access goes beyond the general understanding. This definition proposes that in order to guarantee full access to medicine, countries and health systems must ensure that their strategies include but not limited to what would be regarded as the four *As*<sup>25</sup> of access: Availability, Affordability, Accessibility and Acceptability with its associated demand and supply aspects as proposed by Penchansky<sup>26</sup>. These four dimensions of ATM would allow a critical engagement with the access to essential medicines in Nigeria and an examination of its significance as a critical factor in the functioning of the Nigerian health system.

### **Access to Medicines as part of a Health System**

Theoretical and empirical studies of access to health care have emphasized the importance of ATM<sup>27,40</sup> and how this affects healthcare outcomes<sup>40</sup>. This was alluded to

<sup>24</sup> *opcit*

<sup>25</sup> Penchansky R, Williams T. (1981). *The concept of access: definition and relationship to consumer satisfaction. Medical Care* 19: 127–40.

<sup>26</sup> *ibid*

<sup>27</sup> Robde J, Cousens S, Chopra M. (2008). *Alma-Ata: Rebirth and Revision 30 years after Alma-Ata: has*

in the introduction. ATM and access to health care are closely intertwined given the fact that the commonest constraints in access to healthcare facilities, either public or private, affect ATM. Furthermore, availability of medicines has been cited in literatures<sup>28, 29</sup> as a key factor in access to healthcare as well as utilization<sup>30</sup> of healthcare. When assessing a health system from a holistic perspective, the WHO and other stakeholders in healthcare have used availability of essential medicines as a measure of quality of care<sup>31</sup>. However, irrespective of the significant progress made by the WHO in advertising the EM list and publicising the concept of EM, the benefit has not been far reaching<sup>32</sup>, especially, in Africa and Asia. This raises the question of access to EM; what are the demand / supply constraints regarding ATMs? Can one say the global community is equipped to tackle the complexities surrounding ATM if countries do not understand the importance of ATM as a part of the health system? The issues being highlighted in this paper becomes also critical in terms of achieving goals four, five and six of the Millennium Development Goals (MDGs). This is because the number of preventable deaths; under five mortality rate, maternal mortality, and diseases; resistance to malaria etc. could be reduced if quality medicines are accessible, affordable and equitably distributed in time. In as much as it is generally argued that the high mortality rate in Africa could be reduced by access to quality medicines the term, access, has often been mistaken for entry and or use of a healthcare facility/ services. Whereas, Access to Medicine as a concept, as earlier discussed, comprises distinct dimensions<sup>33</sup>, which are influenced by an array of specific relationships among availability, accessibility, quality, affordability and acceptability (Penchansky<sup>34</sup> and O'Donnel<sup>35</sup>).

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*primary health care worked in countries? Lancet 372: 950–61.*

- 28 Chukwuani C, Olujobi A, Ugbene E. (2006). *Improving access to essential drugs for rural communities in Nigeria: the Bamako initiative re-visited. Pharmacy World and Science 28: 91–5.*
- 29 Kiwanuka N, Ekipara E, Peterson S. (2008). *Access to and utilisation of health services for the poor in Uganda: a systematic review of available evidence. Transactions of the Royal Society of Tropical Medicine and Hygiene 102: 1067–74.*
- 30 Pariyo GW, Ekipara-Kiracho E, Okui O. (2009). *Changes in utilization of health services among poor and rural residents in Uganda: are reforms benefitting the poor? International Journal for Equity in Health 8: 39.*
- 31 Ameli O, Newbrander W. (2008). *Contracting for health services: effects of utilization and quality on the costs of the Basic Package of Health Services in Afghanistan. Bulletin of the World Health Organization 86: 920–9.*
- 32 Quick J, Hogerzeil H (2002). *Perspectives: twenty-five years of essential medicines. Bulletin of the World Health Organization 80: 913–4.*
- 33 *Center for Pharmaceutical Management. (2003). Defining and Measuring Access to Essential Drugs, Vaccines, and Health Commodities: Report of the WHO-MSH Consultative Meeting, Ferney-Voltaire, France, December 11–13, 2000. Prepared for the Strategies for Enhancing Access to Medicines Program. Arlington, Va.: Management Sciences for Health. [http://www.msh.org/seam/reports/Access\\_Meeting\\_Ferney\\_Voltaire\\_1.pdf](http://www.msh.org/seam/reports/Access_Meeting_Ferney_Voltaire_1.pdf)*
- 34 *op cit*
- 35 O'Donnell O. (2007). *Access to health care in developing countries: breaking down demand side barriers. Cadernos de Saude Publica 23: 2820–34.*

## Access as Availability

As a dimension of access to medicines, availability is defined by the relationship between the type and quantity of product or service needed, and the type and quantity of product or service provided<sup>36</sup>. It is highly dependent in the location of the service provider and also the location of the household. This dimension of access takes into account, the WHO and UNDP's definitions<sup>37</sup> of having medicines constantly available and affordable at public or private health facilities or medicine outlets that are within one hour's walk from the home of the population. For example, Goddard & Smith<sup>38</sup>, described availability as increasing the number of facilities, in order to reduce the time it takes to reach the closest facility, an important first step. However, greater provision of facilities that can deliver effective care is necessary but is not, in itself sufficient. Availability of a healthcare facility does not necessarily guarantee care as proven by Florence Nightingale<sup>39</sup> during the Crimean War, where she discovered that access to a hospital actually increased the chance of dying, primarily because of the failure to address the risk of infection since the required medicine was not obtainable. Availability of medicines is a supply side dimension of ATM because it indicates the level of service which the health system offers the individual.

Penchanky's taxonomy<sup>40</sup> distinguished availability as the relationship of the volume and type of existing services (and resources) to the clients' volume and types of needs. It refers to the adequacy of the supply of physicians, dentists and other providers; of facilities such as clinics and hospitals; and of specialised programs and services such as mental health and emergency care. This suggests that if a patient suffers certain ailment, and in the case of any emergency, he or she should be able to obtain the right treatment at first call. The demand and supply aspect to this dimension of access simply means that bio medical healthcare workers, medicines and diagnostics would be the supply side while the demand for the services would remain the demand side.

## Access as Acceptability

Within ATM, acceptability as defined by Penchansky and Thomas<sup>41</sup> is "the relationship of clients' attitudes about personal and practice characteristics of providers to the actual characteristics of existing providers, as well as to provider attitudes about acceptable personal characteristics of clients"<sup>42</sup>. In his work, the term appears to be used most often

36 CPM/MSH -Center for Pharmaceutical Management/ Management Sciences for Health. 2011. *Center for Pharmaceutical Management: Technical Frameworks, Approaches, and Results*. Arlington, Va.: CPM

37 UNDP (2003) *Human Development Report*. 2003

38 Goddard M, Smith P(2001). *Equity of access to health care services: theory and evidence from the UK*. Centre for Health Economics, University of York, Heslington, UK. *Soc Sci Med Nov*;53(9):1149-62

39 *Journal of Nursing*. (1998). Florence Nightingale: Her Personality Type *J Holist Nurs* June 1, 1998 16: 202-222

40 *Opcit* : Penchansky pp. 127-40

41 *Ibid*.

42 *Ibid*, pp128

in reference to specific consumer reaction to provider qualities such as age, sex, ethnicity, type of facility, neighbourhood of facility, or religious affiliation of facility or provider. However, other authors also refer to it as consumer disposition to medicines with respect to safety, efficacy and side effects<sup>43</sup>.

Similarly, providers have attitudes about the preferred attributes of clients or their financing mechanisms. Providers might either be unwilling to serve certain types of clients (e.g. poor people who rely on charity) or, through accommodation, may make themselves more or less available. Therefore, acceptability as a dimension of access to medicine is distinguished on grounds that the efficacy of a particular medicine has been proven, it is considered safe for use by all and consumers are satisfied which further compels utilization<sup>44</sup>.

### Access as Accessibility

Here, accessibility is determined by the relationship between the location of the medicine and the location of the eventual user. While physical accessibility to medicines matter, there is also social accessibility, which is often ignored but plays a major role. Social accessibility comprises class structure, income, age, education, gender or ethnicity. The relationship between the location of supply and the location of users (demand), takes account of client transportation resources and travel time, distance and cost. Therefore, while the location of the service is considered the supply side, the household location becomes the demand side<sup>45</sup>. Again, if one has to look at accessibility from the demand and supply angle, the characteristics of the health services would represent the supply side while the attitude and expectations of patients would speak to the demand side<sup>46</sup>.

### Access as Affordability

Affordability of medicine is the relationship between prices of the medicine or diagnostics and the user's ability to pay for them. It is relationship of prices of services and providers' insurance or deposit requirements to the clients' income, ability to pay and existing health insurance. The clients' perception of worth relative to total cost is a concern here, as is their knowledge of prices, total cost and possible credit arrangements<sup>47</sup>. Costs and prices of services fall under the supply side while household resources and willingness to pay falls under the demand side of affordability.

While the outlined conceptual understanding of *access* is quite useful given the occasional misunderstanding, it is even more useful when *barriers to access* are part of the

43 Osemene P, Ilori O, Elujoba A, (2013). *Generation and acceptability of herbal medicines research and development outputs in Nigeria. Research Journal of Pharmacy and Technology Year : 2013, Vol : 6, Issue : 3*

44 *Opcit* –penchansky et al (1981).

45 *Opcit* (see peters et al (2008)

46 *Ibid*

47 *Opcit*. pp56



conceptualisation. As noted in the literature, there is no ultimate definition of *barriers to access*, nevertheless, the following is somehow widely accepted.

## Barriers to Access

Peter et al.<sup>64</sup> stating that ‘the timely use of services according to need’; and the other given by Penchansky and Thomas (1981)<sup>65</sup> ‘as a fit between the clients and the health system clearly captures the different dimensions of what constitutes access to medicines as outlined in the WHO report. These definitions of access indicate that there is a demand and supply side to ATM. Therefore, when we talk about barriers to ATM, it also raises the issue of the different sides of ATM. Ensor & Cooper<sup>48</sup> suggested that the demand side barriers to access at the individual, household and community levels are influenced by factors such as; ‘Perceived quality of medicines and health services, Cost of medicines and services, Irrational health-seeking behaviour: Management staff efficiency, technology, household expectations, community and cultural preferences, attitudes and norms; demand for and use of medicines; waiting time, wages and quality of staff, price and quality of drugs and other consumables, information, education; Social and cultural barriers - stigma related to poverty, ethnicity and gender’<sup>49</sup>. All these factors contribute to reduced access to medicines.

The supply side constraints to ATM focuses on the healthcare service provider/facilities; According to Cameron et al., (2009)<sup>50</sup>, the supply side barrier to access has to do with service location, quality of the medicine: counterfeits / sub standards, affordability and availability<sup>51</sup>. Other scholars<sup>52</sup> also cited unqualified health workers, staff absenteeism, opening hours, Information on health care services/providers, waiting time, Education/ Motivation of staff, irrational prescription and dispensing<sup>53</sup>. Essential medicines play a major role in healthcare delivery given the fact that the interaction between medicines and services yield positive health outcomes. However, there are numerous other multifaceted constraints to ATM which led to the underperformance of a lot of healthcare systems, especially in Low-income countries. How do we therefore understand access to essential medicines in light of the conceptual discussion so far?

48 Jacobs B, Ir P, Bigdeli M, Annear L, Van W (2012). *Addressing access barriers to health services for the poor: an analytical framework for selecting appropriate interventions in low income countries. Health Policy and Planning* 27: 288–300.

49 Atun R (2012). *Health systems, systems thinking and innovation. Health Policy and Planning* 2012; 27:iv4–8.

50 Cameron A, Ewen M, Ross-Degnan D (2009). *Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis. Lancet* 373: 240–9.

51 Kotwani A (2009). *Availability, price and affordability of asthma medicines in five Indian states. The International Journal of Tuberculosis and Lung Disease* 13: 574–9.

52 Holloway K, van D (2011). *Rational Use of Medicines. The World Medicines Situation 2011. Geneva, Switzerland: World Health Organization*

53 Shankar P. (2009). *Medicines Use in Primary Care in Developing and Transitional Countries: Fact Book Summarizing Results from Studies Reported between 1990 and 2006. Geneva, Switzerland: World Health Organization*

## Access and Barriers to Essential Medicines in Nigeria

ATM might not have been extensively researched in Nigeria as earlier noted, it is, however, an issue that draws the attention of policy makers and health professionals in the country. The significance attached to it is evident in various laws and organizations that have been established over the years in Nigeria to eliminate or reduce the barriers to it.<sup>54</sup> As part of its efforts and commitment towards the equitable and timely distribution of quality and essential medicines, Nigeria adopted the enlisting procedure 'WHO EML'<sup>17</sup> of EM and set up legislation to back it up in 1989<sup>55</sup>. Yet, decades later, over 60%<sup>56</sup> of its population still lack access to medicines. The primary goal of the Nigerian Medicines Policy is to ensure the availability of effective, quality and affordable medicine to all Nigerians at all times and in all sectors of the health care system. Yet, the population of people with access to essential medicines required for the treatment of acute and chronic sicknesses such as malaria and HIV is estimated at 40%<sup>57</sup>. While, from 2002 to 2012, the median availability of selected generic medicines in public facilities was 26.2% while that of the private sector was 36.4%<sup>58</sup>.

The policy cuts across the four dimensions of ATM and each of the 4As have two constituents relating to demand and supply. On the other hand, the constraints to ATM in the country could be summed up as a lack of affordable healthcare coverage or long waiting times before innovative medicines are approved or made broadly available. The Nigerian government and other stakeholders in the health sector have made attempts at tackling the constraints of ATM in the country. Nevertheless, ATM in Nigeria still remains a big challenge. Statistics from Demographic and health Survey<sup>59</sup> of the country between 2004 and 2011<sup>60</sup> indicated poor medicine availability, particularly in the public sector. The WHO report stated that although basic medicines were generally more available in all outlets, a range of 34 priority medicines was particularly low within the public and private health facilities in Nigeria<sup>61</sup>. The survey also revealed that patients in Nigeria pay more than international reference prices for medicines in public and private facilities.

In addition, although medicine costs in the public facilities were almost same with those in the private facilities, private health clinics were shown to charge up to 184% more than the

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54 Ransome O (1992). *National Drug Policy in Nigeria*. *Journal of Public Health Policy* Vol. 13, No. 3 (autumn, 1992), pp. 367-373. Published by: Palgrave Macmillan Journals. <http://www.jstor.org/stable/3342734>

55 *ibid*

56 World health Organization (2014) *World health statistics*. Geneva, Switzerland

57 Federal ministry of health (2006) *Baseline Assessment of the Nigerian Pharmaceutical Sector*. A publication of the Federal Ministry of Health in collaboration with the World Health Organization, DFID and HAI

58 *ibid*

59 *National Demographics Survey (2008) Measure DHS*. Federal ministry of health.

60 *ibid*

61 Federal Ministry of Health. (2004) *Medicines Price Survey - the prices people pay for their medicines in Nigeria*. Federal Ministry of Health in Nigeria and sponsored by the World Health Organization -WHO and Health Action International -HAI.

public health facilities and 193% more than private retail pharmacies<sup>62</sup>. WHO statistics have shown that medicines are too expensive to 90.2% Nigerians who live below 2 US dollars a day and these also included government employees who earn a minimum wage of 1.4 US dollars daily<sup>63</sup>. Affordability in Nigeria, as indicated in the survey report, was essentially dependent on the choice of therapeutic class, product or sector from which the medicine was bought. This further confirms the estimation that the percentage of Out-of-Pocket expenditure as a proportion of private expenditure on health is about 94.5% in Nigeria<sup>64</sup>.

Another baseline survey<sup>65</sup> of the Nigerian Pharmaceutical Sector, showed that due to unavailability of key medicines in public health facilities (Only about 46% of a basket of key medicines were found in all facilities both public and private), patients in Nigeria utilize private healthcare facilities (private clinics, retail pharmacies, chemists, and mobile medicine sellers) resulting in over 95%<sup>66</sup> of the populace using inappropriately prescribed drugs. Given the condition they find themselves, it would not be out of place to say that medicine sellers, local chemist shops (often untrained and unlicensed) and private pharmacies /clinics provide healthcare more than public facilities.

ATM in Nigeria has been constrained by healthcare expenditure, which has been regarded as abysmally low when compared to the WHO standard. The Total expenditure on health as a percentage of gross domestic products in 2010 was 5.42% while general government expenditure on health as a percentage of total expenditure on health in 2011 was 36.69<sup>67</sup>. The total expenditure on health care as percentage of GDP is 4.6, while the percentage of federal government expenditure on health care is about 1.5%<sup>68</sup>. Although the Nigerian government spends about 70% of its healthcare budget<sup>69</sup> in urban areas where 30% of the population live, there is no record of how much of this allocation goes into the procurement of medicines within these areas.

A *Business Day* publication reported that: "The 2013 budget allocation to the healthcare sector is 239 billion and on a per capita basis, comes to N1, 680 as against a WHO recommendation that governments spend a minimum of N6, 908 per head, on providing healthcare services to their citizens". The report added that the 2013 budgetary allocation to healthcare delivery is made even worse by the fact that 77 per cent or N77 of every N100 allocated to the Ministry, would be spent on paying personnel employed in the sector, leaving just N20 of every N100 spent, for capital expenditure incurred by over 50 Federal Medical Centres and Teaching hospitals across the federation and just N3 of

62 *Ibid*, pp6-7

63 *Ibid* pp63

64 *opcit*

65 Federal Ministry of Health (2002) *Baseline assessment of the Nigerian pharmaceutical Sector, a publication of the Federal Ministry of Health in collaboration with the World Health Organization*

66 Federal Ministry of Health. (2003). *Situation of Antiretroviral Drug Use in Nigeria. Federal Ministry of Health in collaboration with WHO, November 2003*

67 World Health Organization. (2013). *Global Health Observatory Data Repository. WHO, Geneva*

68 Rais A(1991) "Health Care Patterns and Planning in Developing Countries", Greenwood Press, 1991. pp 264

69 Ronald J. Vogel; *Financing Health Care in Sub-Saharan Africa Greenwood Press, 1993. Pp 9 - 18*

every N100 budgeted for healthcare to cover overheads incurred. The gap of N5, 224 per head at the Federal government level is too wide to be filled by autonomous spending from state government allocation. A closer look at the 2013 budget shows that out of the total budget, a low sum of 32,258,446 (thirty two million, two hundred and fifty eight thousand, four hundred and forty six naira) was allocated to drugs & medical supplies.

The availability of EM in all sectors within Nigeria is also low especially, at 22.6% with half of the generic medicines found in 5.4% to 45.2% of the private pharmacies<sup>70</sup>. The average availability of all medicines in the three dominant sectors in Nigeria is represented in Table 2 below:

**Table-2: The availability of EM in different health sectors of Nigeria.**

<b>Public facilities</b>	<b>Private clinics</b>	<b>Private Pharmacies</b>
Innovator brands – 2.4%	21.6%	5.1%
Lowest Priced Generic medicines – 2.6%	34.1 %	16.7%
Most Sold Generic medicines- 2.4%	13.6%	2.6%

**Source: Baseline Assessment of the prices people pay for medicines in Nigeria, 2006, published by the Federal Ministry of Health in collaboration with the World Health Organization.**

From the Table above, it is evident that the public and private health clinics stocked almost entirely lowest priced generic equivalent products while the private pharmacies had a mix of all products. Also, the availability of all medicines was lowest in private health clinics. The table also showed that availability of both innovator brand and generic medicines are mostly in private pharmacies.

Approximately half of the generic medicines are found in both public and private health facilities and about a quarter of the innovator brands are found within the same facilities. For example, in terms of affordability, the survey<sup>71</sup> specified that the most sold generic medicine was obtained at the lowest price in public health facilities but cost as much as 143 times in private clinics. Also, the lowest price for a generic medicine known as Meprasil was found in private pharmacies but cost about 840% higher in private clinics.

The minimum and maximum prices for the same medicine were more expensive in public facilities than in private pharmacies. This implies that all medicine prices are

<sup>70</sup> Federal ministry of health (2006) Baseline Assessment of the price people pay for Medicines in Nigeria. A publication of the Federal Ministry of Health in collaboration with the World Health Organization, DFID and HAI

<sup>71</sup> Federal ministry of health (2006) Baseline Assessment of the price people pay for Medicines in Nigeria. A publication of the Federal Ministry of Health in collaboration with the World Health Organization, DFID and HAI

higher in private clinics but there is no pattern in the pricing of the same medicines in public facilities and private pharmacies. While some medicines are higher in public facilities, others are higher in private pharmacies. Generally, the prices of the same medicines are not so different in public facilities and private pharmacies, but show a large difference when compared with the cost in private clinics.

A further look at the components of medicine prices in Nigeria shows that the import cost of most medicines is less than half of what the patient eventually pays. The rest is spread out over government tariffs and cost of distribution. Thus, it is evident that government levies, charges and supply costs make up a large part of the amount people pay for medicines as portrayed by a study of medicine pricing structure in Nigeria<sup>72</sup>. If that be the case, would a new pricing policy improve ATM and eliminate all pricing variations across all sectors? Presently, there is no standard medicine pricing policy in Nigeria- this perhaps explains pricing disparities in similar facility types within a particular geographical location. And, most importantly, it could probably account for high mark-ups by importers and other pharmaceutical supply chain stakeholders. Nigeria's 1989 legislation on essential medicine contained protocols on how to control the production and importation of counterfeit / sub-standard drugs as well as harmful advertisements of health products<sup>73</sup>. However, despite the effort of the government, drug counterfeiting has remained an obstacle that has prevented people from having access to quality medicines.

The high cost of medicines in private pharmacies and healthcare facilities coupled with scarcity of essential medicines in public facilities compels consumers to use inappropriately prescribed medicines. And, often times, these inappropriately prescribed (inappropriately prescribed medicines are those prescribed without due adherence to clinical guidelines such as proper diagnosis by a certified personnel) medicines are bought across the counter from unauthorised but cheap and easily accessible sources. Furthermore, counterfeits and substandard medicines are often supplied through various distribution networks such as public/private healthcare facilities (out of greed and other unspecified factors which could possibly be due to irregular supplies by the government; most bio medical healthcare personnel purchase medicines from the open market and sell to patients), private pharmacies, local unauthorised drug stores, and the Internet. And, they often have instant effect on patients who do not receive the necessary treatment as well as increasing their resistance to treatment for severe ailments. What does this mean for ATM? What is being suggested here is very simple: that medicines are available but what seems to be a problem is the access to medicines that are listed as essential generally, and adopted in Nigeria as such. The quality of these medicines, one would like to assume, is one of the reasons why there is still the resort to the use of traditional medicines in the country. In fact, the resort to and use of traditional medicines

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72 *Ibid.*

73 Ransome O. (1992) "National Drug Policy in Nigeria". *Journal of Public Health Policy* > Vol. 13, No. 3 (Autumn, 1992), pp. 367-373

is prevalent in LICs. For example, data from the WHO shows that 80% of Asians and Africans depend on traditional medicine for primary health care due to their inability to access or afford essential medicines<sup>74</sup> Statistics show that in many developed countries, 70% to 80% of the population has used some form of alternative or complementary medicine (e.g. acupuncture)<sup>75</sup>. According to the WHO Traditional medicine has been defined as "the sum total of knowledge, skills and practices based on the theories, beliefs and experiences indigenous to different cultures that are used to maintain health, as well as to prevent, diagnose, improve or treat physical and mental illnesses"<sup>76</sup>.

Studies conducted in 2004 and 2010 show that traditional medicine remains the most affordable and accessible form of healthcare for most Africans, especially, the rural dwellers<sup>77</sup>. Having recognised and acknowledged the role of traditional medicine within the continent, the African Union declared 2001 to 2010 'the Decade for African Traditional Medicine' with the aim of producing "safe, effective, quality, and affordable traditional medicines accessible to all"<sup>78</sup>. Traditional medicine was considered primitive and backward in the past; however, its undeniable role in the delivery of healthcare and the threat of counterfeit which is associated with its relevance has compelled more than 100 countries<sup>79</sup> into setting up regulations for traditional/ herbal medicines.

The importance of traditional medicines cannot be overemphasised given the fact that beyond its easy reach and affordability, it has been reputed to treat different kinds of infectious and chronic conditions<sup>80</sup>. Moreover, the WHO discovered that the new antimalarial drugs were developed from the discovery and isolation of artemisinin from *Artemisia annua* L., a plant used in China for almost 2000 years<sup>81</sup>.

Although the general utilization ratio of traditional medicine in Nigeria is not totally documented, research has shown that there is a strong evidence of use by pregnant women<sup>107-</sup>

74 World Health Organization (2008). *Traditional Medicine Fact sheet*

75 I. A. Oreagba, K. A. Oshikoya, and M. Amachree, (2011) "Herbal medicine use among urban residents in Lagos, Nigeria," *BMC Complementary and Alternative Medicine*, vol. 11, pp. 117–125, 2011.

76 World Health Organization (2002) *Traditional Medicine Strategy 2002–2005*, WHO, Rome, Italy, 2002

77 Stanley B. (2004). "Recognition and Respect for African Traditional Medicine", <http://www.idrc.ca/EN/Resources/Publications/Pages/ArticleDetails.aspx?PublicationID=713>

78 *ibid*

79 *Opcit* :WHO 2002

80 Helwig D (2010). "Traditional African medicine". *Encyclopedia of Alternative Medicine*.

81 World Health Organization, (2000d). *General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine*. Geneva: World Health Organisation; 2000.

<sup>09</sup>[<sup>82</sup>, <sup>83</sup> & <sup>84</sup>], hypertensive<sup>85</sup> and asthmatic people<sup>86</sup>, children<sup>87</sup>, and cancer patients<sup>88</sup>.

The use of traditional medicine is not new in Nigeria. Traditional / herbal Medicine has been the first choice of treatment for illnesses in Nigeria before the advent of western medicine. Most people who used traditional medicines in Nigeria always alluded to; the fact that it is organic and safe, easy to access, cheap as compared to the high cost of conventional healthcare and medicines, effective when used for prolonged illnesses that had defied conventional medicines<sup>89</sup>. Other motivating factors have been religious or cultural beliefs as well as the fact that traditional medicines do not come in strict doses<sup>90</sup>.

## Conclusion

In conclusion, the issues surrounding ATM in Nigeria range from an uncoordinated medicines supply chain to lack of price regulation resulting in shortage of essential medicines in primary healthcare facilities across the country. These issues are all indicative of poor health system governance and weak coordination between health system leadership and operations. Therefore, there is need for the government to introduce strict and uniform medicines pricing mechanisms not just in the public sector (as evident in the NHIS medicines pricing list) but in private facilities as well to ensure that all citizens irrespective of their locations or income have timely access to essential medicines at all times.

The issues and challenges that characterise access to essential medicines in the country are multi-dimensional; On the supply side, constraints such as poor coordination of medicines procurement and supply to public facilities leading to stock outs and shortage of medicines; a poorly regulated and laissez-faire market where wholesalers and distributors add high mark ups without due consideration or regard for the purchasing power of poor consumers results in high cost of medicines in the private sector; poor

82 Fakeye T, Adisa R, Musa E (2009). *Attitude and use of herbal medicines among pregnant women in Nigeria*

83 Gharoro P, Igbafè A (2000). *Pattern of drug use amongst antenatal patients in Benin City, Nigeria. Med Sci Monit. 2000 Jan-Feb;6(1):84-7*

84 Tamuno A, Omole O, Fadare J. (2010) *Use of Herbal Medicine Among Pregnant Women Attending A Tertiary Hospital In Northern Nigeria. The Internet Journal of Gynecology and Obstetrics. Vol. 15 No. 2*

85 Nwako S, Fakeye O (2010). *Evaluation of use of herbal medicines among ambulatory hypertensive patients attending a secondary health care facility in Nigeria*

86 Adeyeye O, Onadeko B, Ogunleye O, Bamisile T, Olubusi A (2011). *The use of complementary and alternative medicine by asthma patients receiving care in an urban tertiary centre in Nigeria. <http://goo.gl/MU8iw4> accessed 09/09/13*

87 Oshikoya K, Senbanjo O, Njokanma O, Soipe A (2008). *Use of complementary and alternative medicines for children with chronic health conditions in Lagos Nigeria: <http://www.ncbi.nlm.nih.gov/pubmed/19113999>*

88 Ezeome E, Anarado N (2012). *Use of complementary and alternative medicine by cancer patients at the University of Nigeria Teaching Hospital, Enugu, Nigeria*

89 Collins D, Oakey S, Ramakrishnan V (2011) *Perioperative use of herbal, complementary and over the counter medicines in plastic surgery patients. Eplasty 2011, 11:e27.*

90 Obi E, Akunyili D, Ekpo B, Orisakwe E (2006) *Heavy metal hazards of Nigerian herbal remedies. Sci Total Environ 2006, 369:35-41*

medicines financing by the government-effects are visible in delayed treatments /poor access to most innovative and lifesaving medication in public facilities; low performance benchmark for professionals as a result of the weak monitoring system-evident in absence of qualified personnel in both public and private facilities; neglect of village dispensaries by local and state governments, lack of synergy and information gap between the three tiers of government and other stakeholders- undermining the role and importance of medicines vendors in access to essential medicines, information gaps between supply and demand side; and poor poly-pharmacy practice( prescribing and dispensing practices). There are other remote issues, but those issues are summed up in the highlighted ones.

On the demand side: low education, low purchasing power, irrational use of medicines appear to be a direct factor of poor prescribing and dispensing practice. Even though there are policies and standard practice guidelines in place as evident in the national EM list, the challenge appears to be that of implementation, regulation, monitoring, synergy among stakeholders and sustainability of initiatives/projects.

## References

- Atun R. (2012). Health systems, systems thinking and innovation. *Health Policy and Planning* 2012; 27:iv4-8.
- Adam T, Hsu J, de Savigny D, (2012). Evaluating health systems strengthening interventions in low-income and middle-income countries: are we asking the right questions? *Health Policy and Planning* 2012; 27:iv9-19.
- Bodeker G, Kronenberg F (2002) "A public health agenda for traditional, complementary, and alternative medicine," *American Journal of Public Health*, vol. 92, no. 10, pp. 1582–1591, 2002.
- Butler C (2007). "Human Rights and the World Trade Organization: The Right to Essential Medicines and the TRIPS Agreement". *Journal of International Law & Policy* 5: 1–27.
- Cameron A, Ewen M, Ross-Degnan D (2009). Medicine prices, availability, and affordability in 36 developing and middle-income countries: a secondary analysis. *Lancet* 373: 240–9.
- Collins D, Oakey S, Ramakrishnan V. (2011) Perioperative use of herbal, complementary and over the counter medicines in plastic surgery patients. *Eplasty* 2011, 11:e27
- Ezeome E, Anarado A (2012). Use of complementary and alternative medicine by cancer patients at the University of Nigeria Teaching Hospital, Enugu, Nigeria
- Federal Ministry of Health (2002) Baseline assessment of the Nigerian pharmaceutical Sector, a publication of the Federal Ministry of Health in collaboration with the World Health Organization



- Federal Ministry of health (2003) Situation of Antiretroviral Drug Use in Nigeria. Federal Ministry of Health in collaboration with WHO, November 2003
- Federal Ministry of Health. (2004) Medicines Price Survey - the prices people pay for their medicines in Nigeria. Federal Ministry of Health in Nigeria and sponsored by the World Health Organization -WHO and Health Action International -HAI.
- Federal ministry of health (2006a) Baseline Assessment of the price people pay for Medicines in Nigeria. A publication of the Federal Ministry of Health in collaboration with the World Health Organization, DFID and HAI
- Federal ministry of health (2006b) Baseline Assessment of the Nigerian Pharmaceutical Sector. A publication of the Federal Ministry of Health in collaboration with the World Health Organization, DFID and HAI
- Fakeye T, Adisa R, Musa E (2009). Attitude and use of herbal medicines among pregnant women in Nigeria. *BMC Complement Altern Med.* 2009;9:53. doi: 10.1186/1472-6882-9-53
- Francis K, (2013) "Unlike India, China not helping Nigeria stop fake drugs'," *New York Daily News*, May 15, 2013
- Gharoro E, Igbafe A (2000). Pattern of drug use amongst antenatal patients in Benin City, Nigeria. *Med Sci Monit.* 2000 Jan-Feb;6(1):84-7
- Goddard M, Smith P *Soc Sci Med.* 2001. Equity of access to health care services: theory and evidence from the UK. Centre for Health Economics, University of York, Heslington, UK Nov;53(9):1149-62
- Helwig D (2010). Traditional African Medicine. *Encyclopedia of Alternative Medicine.* [http://findarticles.com/p/articles/mi\\_g2603/is\\_0007/ai\\_2603000708/](http://findarticles.com/p/articles/mi_g2603/is_0007/ai_2603000708/).
- Holloway K, Van D (2011). Rational Use of Medicines. *The World Medicines Situation 2011.* Geneva, Switzerland: World Health Organization
- Jacobs B, Ir P, Bigdeli M, Annear P, Van D (2012). Addressing access barriers to health services for the poor: an analytical framework for selecting appropriate interventions in low income countries. *Health Policy and Planning* 27: 288–300.
- Kotwani A. (2009). Availability, price and affordability of asthma medicines in five Indian states. *The International Journal of Tuberculosis and Lung Disease* 13: 574–9.
- Ransome O,(1992) "National Drug Policy in Nigeria". *Journal of Public Health Policy* > Vol. 13, No. 3 (autumn, 1992), pp. 367-373
- Nwako S, Fakeye T. (2010). Evaluation of use of herbal medicines among ambulatory hypertensive patients attending a secondary health care facility in Nigeria
- Obi E, Akunyili D, Ekpo B, Orisakwe O (2006) Heavy metal hazards of Nigerian herbal remedies. *Sci Total Environ* 2006, 369:35-41
- Oshikoya K, Senbanjo O, Njokanma F, Soipe A (2008). Use of complementary and alternative medicines for children with chronic health conditions in Lagos Nigeria. <http://www.ncbi.nlm.nih.gov/pubmed/19113999>

- Ogunleye A, Adeyeye O, Onadeko O, Bamisile T, Olubusi A (2011). The use of complementary and alternative medicine by asthma patients receiving care in an urban tertiary centre in Nigeria. : [http://www.biomedscidirthe\\_use\\_of\\_complementary\\_and\\_alternative\\_medicine\\_by\\_asthma\\_patients\\_receiving\\_care\\_in\\_an\\_urban\\_tertiary\\_centre\\_in\\_nigeria&ei=](http://www.biomedscidirthe_use_of_complementary_and_alternative_medicine_by_asthma_patients_receiving_care_in_an_urban_tertiary_centre_in_nigeria&ei=)
- Penchansky R, Williams T (1981). The concept of access: definition and relationship to consumer satisfaction. *Medical Care* 19: 127–40.
- Quick J, Hogerzeil H (2002). Perspectives: twenty-five years of essential medicines. *Bulletin of the World Health Organization* 80: 913–4.
- Rais A (1991) “Health Care Patterns and Planning in Developing Countries” Greenwood Press, 1991. pp 264
- Ronald J. (1993) *Financing Health Care in Sub-Saharan Africa* Greenwood Press, 1993. Pp 9 - 18
- Stanley B (2004). *Recognition and Respect for African Traditional Medicine*, Canada’s International Development Research Centre., <http://www.idrc.ca/EN/Resources/Publications/Pages/ArticleDetails.aspx?PublicationID=713>
- Shankar PR. (2009). *Medicines Use in Primary Care in Developing and Transitional Countries: Fact Book Summarizing Results from Studies Reported between 1990 and 2006*. Geneva, Switzerland: World Health Organization
- Tamuno A, Fadare J (2010) Use of Herbal Medicine Among Pregnant Women Attending A Tertiary Hospital In Northern Nigeria. *The Internet Journal of Gynecology and Obstetrics*. 2010 Vol. 15 No. 2
- Tonia C, Humphrey A, Ogochukwu M, Emeka A, Elias C, Samson U, Timothy E (2012). Herbal medicine: a survey of use in Nigerian presurgical patients booked for ambulatory anaesthesia. *BMC Complementary and Alternative Medicine* 12:130 doi: 10.1186/1472-6882-12-130 <http://www.biomedcentral.com/1472-6882/12/130>
- Tinde V, Luísa C, (2013) “Why Urban Citizens in Developing Countries Use Traditional Medicines: The Case of Suriname,” *Evidence-Based Complementary and Alternative Medicine*, vol. 2013, Article ID 687197, 13 pages, 2013. doi:10.1155/2013/687197
- World Health Organization (2000a) *world medicines strategy: framework for action in essential drugs and medicines policy 2000–2003*. Geneva, World Health Organization, 2000.
- The World Health Report. (2000b). *Health systems: improving performance*. Geneva, World Health Organization, 2000.
- World Health Organization. (2000c). *Promoting the Role of Traditional Medicine in Health Systems: a Strategy for the African Region 2001–2010*. Harare: World Health Organization; 2000. Document reference AFR/RC50/Doc.9/R.
- World Health Organization. (2000d) *Traditional and Modern Medicine: Harmonising*

- the two approaches- Western Pacific Region. Geneva: World Health Organisation; 2000.
- World Health Organization,(2000e). General Guidelines for Methodologies on Research and Evaluation of Traditional Medicine. Geneva: World Health Organisation; 2000.
- World Health Organization.(2004). “The world medicines situation” .pp61-74. Geneva, WHO
- World Health Organization. (2005). “National policy on Traditional Medicine and Regulation of Herbal Medicines”: Report of a WHO global survey, Geneva. pp 68, may 2005
- World Health Organization. (2006). Quality of care: a process for making strategic choices in health systems. World Health Organization, France
- World Health Organization (2008). Traditional Medicine Fact sheet
- World Health Organization (2010). Key components of a well-functioning health system. World Health Organization. Geneva.
- World Health Organization (2013). Global Health Observatory Data Repository. WHO, Geneva.