

The Kenya Health System—Analysis of the situation and enduring challenges

JMAJ 52(2): 134–140, 2009

Richard G. WAMAI*¹

Country Context and Background to Health Policy

Kenya, a low income country in Eastern Africa, has an estimated population of 36.5 million, of which 75–80% lives in rural areas. Poverty levels are very high, with 46.6% of the population living on less than US\$1 a day, and the gross national income (GNI) per capita is just \$680¹ (Table 1). The under 5 mortality rate stands at 115 per 1,000 as of 2003, while maternal mortality rate was estimated to be 414 per 1,000 in 2003.² Like other sub-Saharan countries, Kenya faces major socio-economic and health challenges. Advances made against poverty and improvements in health indicators in the 1970s deteriorated from the mid-1980s with the growing population and worsening socio-economic and political environment, and a severe social development crisis occurred in the 1990s.³ The economic growth rate declined from a high of 6.6% between 1964 and 1973⁴ to a low of –0.3% in 2000.⁵ Peaking at 62 in 1991, life expectancy dropped to 55 in 2002² and adult HIV prevalence increased from 5.1% in 1990 to 13% in 1999⁶ and now stands at 7.8% as of 2007.⁷ With the change of government in 2003, there has been a socio-economic turnaround. The economy grew to about 6% in 2006 and healthcare reforms were intensified in an attempt to reduce the household burden of accessing primary health services.

Kenya's health policy has been based on the country's landmark post-colonial nation-building and socio-economic development blueprint, the Sessional Paper No. 10 on African Socialism and its Application to Kenya of 1965, which emphasized the elimination of disease, poverty, and illiteracy.

Since 1994, the health sector development agenda has been guided by the Kenya Health Policy Framework Paper (KHPFP) (up to 2010). KHPFP explicitly states the underlying vision for health development and reform to provide “quality health care that is acceptable, affordable and accessible to all.”⁸ The government also identified decentralization as the “key management strategy.”⁹ The implementation strategy for health policy has been devised in a series of two five-year documents called the National Health Sector Strategic Plan (NHSSP). The first NHSSP covered 1999 to 2004 and the second one covers 2005 through 2010. NHSSP-II emphasizes the need to better coordinate health activities across the country and adopts a Sector Wide Approach (SWAp). The SWAp brings together all stakeholders (the government, donors and non-governmental organizations both for-profit and non-profit) on a common platform that supports critical health priorities in a coordinated fashion. In June 2006, a Joint Program of Work and Funding (JPWF) was developed to map the implementation of the SWAp¹⁰ and a group of 17 leading donors, including Japan, developed a Joint Assistance Strategy (for 2007–2012) in 2007.¹¹ In addition to these policy documents, health sector development is also informed by other macro-economic and structural frameworks, the most important of which are: the medium-term Poverty Reduction Strategy Paper (2000 and 2005), stipulated as part of the lending criteria of the World Bank and International Monetary Fund (IMF); and the long-term government policy developed for 2003–2030 known as Kenya Vision 2030: Driving Change in National Development Across Kenya.¹²

*1 Visiting Assistant Professor, Department of African-American Studies, Northeastern University (r.wamai@neu.edu). Takemi Fellow (2006–2008), Harvard School of Public Health, Boston, MA, USA.

Table 1 Key socio-development and health indicators

Indicator	Kenya
Population (mil) (2006)	36.5
Pop. growth rate %	1.5
Life expectancy (2002)	45.2
Under 5 mortality rate per 1,000 (2004/05)	114
Maternal mortality rate (2004/05)	414
Poverty rate (d/d) % (2005/06)	46.6
GNP per capita \$ (2006)	680
Overseas dev. assistance % GNP	3.2
Pop with HIV % (2007)	7.8
Health expenditure % of GDP (2001/02)	5.1
Physician/100,000 pop. (2003)	14

Sources: Ministry of Health (2007, 2005a)^{2,25}; Harmonization Alignment and Coordination (HAC) Donor Working Group (2007).¹¹

Situational Analysis of the Healthcare System

A country's healthcare system may be analyzed on the basis of the healthcare infrastructure, the players and their roles, and financing mechanisms.^{13,15} Each of these features of the system in Kenya and their utilization are discussed.

Distribution and macro-organization of health system facilities

Kenya's health care provision and implementation infrastructure include the national teaching hospital, provincial hospitals, district and sub-district hospitals, health centers, and dispensaries, as well as a host of other operators within the private, non-governmental, and traditional/informal sectors. The system is a hierarchical-pyramidal organization comprising five levels, the lowest being the village dispensary and the Kenyatta National Hospital at the apex. The mandate for supervision, formulation of policies, establishment and enforcement of standards, and mobilization of resources for health care rests with the Ministry of Health.⁸ The country has eight provinces divided into lower levels of administrations called districts, which are responsible for delivering health services and implementing health programs. Under the decentralization strategy, districts form the central pillars of the public health system. Management of healthcare at the district

level is headed by a District Medical Officer of Health (DMOH) appointed by the Ministry of Health. The DMOH is supported by a District Health Management Board (DHMB) comprising officials appointed by the MOH and from local areas, and a professional unit, the District Health Management Team (DHMT). The DHMT prepares technical advisories and the District Health Plan in consultation with local health actors and the DHMB.

The provinces and districts vary in geographical size and population, as well as overall health and socio-economic indicators. Table 2 shows the structure and distribution of the health system by facility type and ownership per population, as well as the number of hospital beds and cots for each provincial region. According to the most recent health management information system (HMIS) data, there are over 5,000 health facilities across the country operated by three owner-systems, with the government running 41% of the facilities, non-governmental organizations (NGOs) 15%, and private businesses 43%.² The government owns most of the hospitals, health centers, and dispensaries, while clinics and nursing homes are entirely in the hands of the private sector.

As the table shows, health facilities are unevenly distributed across the country's seven provinces and Nairobi. For instance, the best-off Central Province has about twice the number of facilities per population as the worst-off provinces (Nyanza and Western). Central, Coast, and Eastern provinces have better ratios than the national average. On the other hand, Nyanza has a higher number of hospital beds and cots per 100,000 population than Central. Northeastern and Eastern provinces have the worst ratios of hospital beds and cots per 100,000 population, while Coast has the best (144, 145 and 274, respectively). Because of their relatively small geographical sizes, Nairobi followed by Central Province has the shortest distance to a health facility. Comparatively, Central Province has the best health and socio-economic indicators according to the 2003 Kenya Household Health Expenditure and Utilization Survey.^{16,17} For instance, levels are higher for life expectancy, literacy rate, income, contraception use, sanitation coverage, immunization coverage, and attended deliveries (except for Nairobi). The province also has the lowest IMR and U5MR trends (over thrice lower than the worst-off province, Nyanza). In 2002, the overall

Table 2 Demographic and Health System by Region in Kenya (2006)

Types of facility	Province/control	Nairobi	Central	Coast	Eastern	North eastern	Nyanza	Rift	Western valley	Kenya
Hospitals	GOK	5	8	9	15	4	13	21	10	85
	Miss/NGO	7	15	2	16	—	9	15	10	74
	Private	11	10	10	4	—	13	19	1	68
Sub. district hosp.	GOK	—	8	7	14	6	20	13	5	73
Nursing homes	Private	27	26	23	26	3	35	24	27	191
Health centers	GOK	23	51	32	70	8	72	138	65	459
	Miss/NGO	50	5	2	11	—	48	40	16	172
	Private	3	3	1	2	—	7	5	—	21
Dispensaries	GOK	18	222	152	302	63	183	489	74	1,503
	Miss/NGO	26	98	55	117	1	45	184	20	546
	Private	57	8	9	16	—	12	84	17	203
Clinics	Private	141	487	294	301	61	79	211	160	1734
FACILITIES GRAND TOTAL		368	941	596	894	146	536	1,243	405	5,129
Population (000s) (2003)/ health facility	Number	2,563	3,909	2,801	5,103	1,187	4,804	7,902	3,853	32,122
	No. per population	6,965	4,194	4,700	5,708	8,130	8,963	6,357	9,512	6,263
Total hospital beds and cots (2002)	Number	4,891	8,191	7,687	7,412	1,707	11,922	12,390	6,457	60,657
	No. per 100,000	190	209	274	145	144	248	157	168	189

Sources: Health Management Information System, 2006 (Ministry of Health, 2007)²; NHSSP-II (Ministry of Health, 2005a)²⁶; population data from the Household Health Expenditure and Utilization Survey, 2003.¹⁶

total number of health personnel was 59,000 (about 189 per 100,000 population), including about 5,000 doctors. About 60% of total health personnel work in the public sector, of whom about 70% are concentrated in hospitals.¹⁸

Healthcare utilization

While availability of healthcare facilities does not guarantee utilization,¹⁹ utilization is an important indicator of health status, health-seeking behavior, and cost and quality of services. In particular, cost remains a great impediment to utilization, although improvements in quality may offset cost barriers.^{20–22} The 2003 Kenya Household Health Expenditure and Utilization Survey shows that overall utilization of health services by people reporting being ill was 77.2%, meaning that 22.8% did not seek healthcare.¹⁶ The national utilization rate was 1.92 visits per person annually, with females having a higher

utilization rate than men (2.1 and 1.7, respectively). Furthermore, more urban dwellers reported being ill than rural dwellers (19.5% compared to 16.9%) and were more likely to utilize health services (81.5% compared to 75.9%). This is despite the fact that average cost for outpatient utilization in urban areas was twice that of rural areas. Nevertheless, cost remains a barrier, as those who reported being ill but never sought treatment cited healthcare costs (44%) and distance to health facility (18%) as the main barriers to utilization. Utilization varies greatly across the provinces: Northeastern Province has the lowest utilization rate, with 63.4% of those who reported being ill never seeking treatment, whereas Nairobi had the highest rate (90.6%).¹⁶

Utilization data from the HMIS indicate that malaria is the leading cause of outpatient morbidity at 33.5%, followed by diseases of the respiratory system (24.8%).² Some 63% of admissions are

Table 3 Health expenditure by major source classifications in Kenya (2000)

Source	Percent
Government	29.6
Donors	16.3
Households	53.1
NGO (local + Intl)	0.6
Private	2.3
Total	100

Source: National Health Accounts 2001–2002 (Republic of Kenya, undated).¹³

to government hospitals, 10% to NGO hospitals and 14% to private hospitals, with the rest distributed among the three systems.² That hospitalization rates are 50% higher in urban areas than in rural areas likely reflects the higher concentration of inpatient facilities and doctors. Gender is another observable factor in admission rates. Hospitalization for women is 1.5 times greater than for men. In addition, while demand for inpatient services increases with income, hospitalization costs for women are higher, over twice as the cost for men. Insurance may cushion some of the healthcare costs, but only about 10% of Kenyans have insurance and men are more likely to be insured than women, while people in urban areas are more than twice as likely than people in rural areas to be insured, and those in higher income groups are more likely than the poor to be insured.¹⁶

Healthcare financing

According to the 2001–2002 National Health Accounts (NHA), Kenya spends 5.1% of its GDP on health.¹³ The health budget has grown significantly from Ksh15.2 billion (US\$197.4 million, in 2008 exchange rate) in Fiscal 2001/02 to Ksh34.4 billion (US\$446.6 million) in Fiscal 2008/09.²³ In contrast, the proportion of overall government expenditure the government spends on health declined over the same period from 9% to 7.9% in Fiscal 2006/07.² There are three major sources of financing for health services in Kenya. As summarized in the NHA, the government (central and local) contributes 30%, with households paying 51% out of pocket and donors (international and domestic) 16%; the statutory National Hospital Insurance Fund (NHIF) and

other private insurers and sources contribute the rest (Table 3).¹³ Some 48% of MOH spending is skewed towards curative services, even though the national health policy expects the government to focus more resources on preventive health in areas where Kenya's burden of disease is concentrated.

In 1992 a cost-sharing system was introduced to leverage more resources for health services.²¹ Revenue from the cost-sharing system has increased exponentially from Ksh60 million (approximately US\$770,000 in 2008 dollars) in Fiscal 1992/93 to over Ksh1,468 million (US\$19 million) in Fiscal 2005/06. However, the revenue's overall share of total health expenditure for Fiscal 2005/06 was just 6.4% of the MOH's total spending.² This revenue is expected to decrease as a result of the introduction of a new policy called 10/20 in July 2004 that mandated maximum charges of Ksh10 at dispensaries and of Ksh20 at health centers per visit.²² In contrast, the role of insurance through the NHIF, which covers only inpatient services, has grown. According to data provided by the insurer, membership has increased from 205,698 in 1998 to 1,371,554 in 2006, resulting in significant revenue increases. Some 88% of people with insurance in Kenya are insured by the NHIF.¹⁶

Donor funding for the health sector as a share of the total budget has increased from 8% in Fiscal 1994/95 to 16% in Fiscal 2001/02.¹⁰ Major donors include Japan, the US, the UK, and the European Commission.^{24,25} Traditionally, donor funding has gone to the development budget of the Ministry of Health, which for many years has amounted to 60–90% of budget support.²⁵ The Joint Program of Work and Funding devised by the stakeholders—government, donors and NGOs—expected donor funding to fill a gap of US\$92 million for supporting health services in districts for Fiscal 2006/07.¹⁰ The bulk of donor funds to the health sector is allocated directly to specific interventions according to the programs agreed between donors and the Ministry of Health. Hence, the MOH and implementing agencies have limited flexibility to reallocate donor assistance to fit government priorities.¹⁰ Funds donated through other programs such as Global Fund and the US President's Emergency Program for AIDS Relief (PEPFAR) are off-budget support and go directly to the implementing agencies, whether government or NGO.¹²

Conclusion and Enduring Challenges

With the formation of a coalition government in 2008 after the political crisis following the 2007 general elections, the Ministry of Health was split into two: the Ministry of Public Health and the Ministry of Medical Services. The only reason for the split was the power-sharing which caused the government to double the ministerial portfolios. This has brought inevitable politicization beyond healthcare policy to service provision. Duplication and competition for resources, control, and influence may slow reforms, weaken management functions, and affect morale among senior planners and managers at the provincial and district levels who may be torn between allegiances as the departments are reorganized into parallel management structures. The ministries will also have to share a common budget which has not increased correspondingly. Determining which ministry is responsible for HIV/AIDS programming is contentious because it has both curative and preventive components; this contention was apparent during the launch of the first Kenya AIDS Indicator Survey released in July 2008, at which I was present. In general, senior planning officials, expatriates, and researchers I spoke to about the split expressed discontent. The impasse is also likely to further hamper the decentralization strategy which already faces numerous management handicaps.^{27,28}

The cost of healthcare is a heavy burden on households. While health financing has undergone numerous reforms, more changes are needed to ease the burden of healthcare costs on households in a bid to increase utilization and subsequently improve the health status of the population. As observed above, fees remain a significant barrier to utilization. While the NHIF opened membership to informal workers in 1998 and to persons aged over 65 in 2006, expanding coverage to everyone and to outpatient services should be pursued. Plans to expand and transform the NHIF into a social health insurance system in 2004 were never realized due to political handicaps.²⁹ Nevertheless, this option should be re-considered, though this is unlikely in the current political climate in which political leadership and commitment is largely lacking. Another area of reform that is underway is the transfer of budgetary allocations from the central government

to health facilities. Although health facilities collect user fees, these are often insufficient. Transfer of budgetary support for recurrent spending is cumbersome, however, resulting in delays and drug stock-outs. This has prompted reforms that allow the transfer of allocated funding directly to each health facility. In line with this is the drive to improve the supply chain management of the government's Medical Supplies Agency. This is paramount given that 15.5% of patients avoided utilizing their nearest health facilities due to the unavailability of medicine and the fact that 69.4% of out-of-pocket spending is on drugs.¹⁶

Another area of crucial importance to the health system is coordination among the various players: government, NGOs, private providers, and donors. On the positive side, the SWAp mechanism is already underway and annual progress reports are prepared to assess progress towards implementation of the NHSSP. Nevertheless, since the publication of the NHSSP in 2005, the JPWF in 2006, the Joint Assistance Strategy (for 2007–2012) in 2007, and preparation of a government bill for joint funding in 2008, realization of this effort is still hampered by politics and competing interests and priorities among donors. Meanwhile, health NGOs have initiated a Health NGOs Network (HENNET) whose objective is “to stimulate linkages and strategic partnerships among health NGOs, government and private sector.”³⁰ Earlier steps to form a coordinating mechanism for NGOs and donors within the Ministry of Health failed.¹⁷ Progress on NGO and donor harmonization and coordination needs to be urgently accelerated to achieve the goals for NHSSP-II and the Millennium Development Goals (MDGs).

Finally, HIV/AIDS and malaria pose the greatest disease burden on the healthcare system, as indicated by morbidity and spending data. HIV/AIDS alone consumes 17% of the general health spending.¹³ While 50.9% of HIV/AIDS funding comes from donors, households still contribute 26.3% of the total.¹³ And while 47% of this spending is on prevention efforts, 59% of the over 200,000 patients eligible for antiretroviral drugs are not receiving medication.² It is clear that HIV/AIDS and malaria will continue to pose serious challenges to the healthcare system for reasons other than cost. For example, 40.5% of admissions in 2003 were due to malaria but AIDS patients in 2000 occupied 51% of the

hospital beds.⁶ Furthermore, as the 2007 Kenya AIDS Indicator Survey revealed, four out of five people with HIV do not know their status and as many as 63% who need antiretroviral therapy (ART) do not even know they have AIDS.⁷

Major progress in treating these diseases and improving healthcare in Kenya will likely only be achieved with a strengthening of the health

system. Indeed, it is now well recognized that healthcare improvements and health MDGs in Africa will not be achieved without robust health systems.^{31–36} Hence, it is encouraging that a growing movement for health system strengthening has emerged^{37–39} and the World Health Organization has taken up the call for primary healthcare and health systems in its 2008 report.⁴⁰

References

- World Bank. Kenya at a Glance. 2008 Feb 24. http://devdata.worldbank.org/AAG/ken_aag.pdf (accessed March 4, 2009).
- Ministry of Health. Facts and Figures at a Glance: Health and Health-related Indicators 2006. Nairobi: Division of Policy and Planning, Ministry of Health; 2007 Jan.
- Mwabu, G. Health development in Africa. Economic Research Papers Series (38), The African Development Bank Group: Abidjan, Cote d'Ivoire; 1998.
- M'Amanja D, Morrissey O. Fiscal policy and economic growth in Kenya. CREDIT Research Papers, No. 05/06; 2005 Jun.
- Republic of Kenya. National Development Plan 2002–2008: Effective Management for Sustainable Economic Growth and Poverty Reduction. Nairobi: Government Printer; 2002.
- Office of the President. The Kenya National HIV/AIDS Strategic Plan 2000–2005. Nairobi: National AIDS Control Council (October); 2000.
- Ministry of Health. Kenya AIDS Indicator Survey 2007. Nairobi: National AIDS and STI Control Program, Ministry of Health; 2008 Jul.
- Ministry of Health. National Health Sector Strategic Plan: 1999–2004 (NHSSP). Nairobi: Ministry of Health, Health Sector Reform Secretariat; 1999.
- Ministry of Health. Report of a Workshop on Decentralization. Nairobi: Health Sector Reform Secretariat, Ministry of Health; 2000.
- Ministry of Health. Joint Program of Work and Funding: 2006/07–2009/10 for the Kenya Health Sector. Nairobi: Health Sector Reform Secretariat; 2006.
- Harmonization, Alignment, and Coordination (HAC) Donor Working Group (2007). Kenya Joint Assistance Strategy (2007–2012). Nairobi: HAC Kenya; 2007.
- Government of the Republic of Kenya. Kenya Vision 2030: A Globally Competitive and Prosperous Kenya. Nairobi: Ministry of Planning and Development; 2007. http://education.nairobi-unesco.org/PDFs/Kenya_VISION%202030-final%20report-October%202007.pdf (accessed April 15, 2009).
- Republic of Kenya. Kenya National Health Accounts 2001–2002. Nairobi: Ministry of Health. Undated.
- Hsiao WC. What Is A Health System? Why Should we Care? Harvard School of Public Health, Program in Healthcare Financing. Mimeo; 2005.
- World Health Organization. The World Health Report 2000: Health Systems: Improving Performance. Geneva: WHO; 2000.
- Ministry of Health. Kenya Household Health Expenditure and Utilization Survey. Nairobi: Ministry of Health; 2003.
- Wamai RG. Recent International Trends in NGO Health System Development, Organization, and Collaborations with Government in Transforming Health Care Systems: The Case of Finland and Kenya. Department of Social Policy/Institute of Development Studies. Finland: University of Helsinki; 2004 Jun.
- James J, Muchiri S. HR Mapping of the Health Sector in Kenya: the Foundation for Effective HR Management. HLSP Institute, Ministry of Health, Kenya; 2006. <http://www.hrresourcecenter.org/node/869> (accessed March 20, 2009).
- Reerink IH, Sauerborn R. Quality of primary health care in developing countries: recent experiences and future directions. International Journal for Quality in Health Care. 1996;8(2):131–139.
- Haddad S, Fournier P. Quality, cost and utilization of health services in developing countries: a longitudinal study in Zaïre. Social Science & Medicine. 1995;40(6):743–753.
- Collins DH, Quick JD, Musau SN, Kraushaar DL. Health Financing Reform in Kenya: The Rise and Fall of Cost Sharing, 1989–1994. Stubbs Monograph Series No.1. Boston: Management Sciences for Health; 1996.
- Ministry of Health. RHF Unit Cost/Cost Sharing Review Study and the Impact of the 10-20 Policy. Nairobi: Department of Planning, Ministry of Health; 2005b.
- Republic of Kenya. Budget Speech for the Fiscal Year 2007/2008. Nairobi: Ministry of Finance; 2008. http://www.treasury.go.ke/downloads/budget_speech_2007.pdf (accessed March 19, 2009).
- Watanabe M, Takahashi M. The effectiveness of donor aid in Kenya's health sector. In Carlsson J, Somolekae G, van de Walle N ed. Foreign Aid in Africa: Learning from Country Experiences. Uppsala: Nordiska Afrikainstitutet; 1997.
- OECD. Development Database on Aid from DAC Members. Paris: OECD/DAC; 2006.
- Ministry of Health. National Health Sector Strategic Plan 2005–2010. Nairobi: Ministry of Health, National Health Sector Reform Secretariat; 2005a Jul.
- Oyaya CO, Rifkin SB. Health sector reforms in Kenya: an examination of district level planning. Health Policy. 2003;64:113–127.
- Wamai RG. Experiences of decentralization in the context of healthcare reforms in Kenya. Journal of the Takemi Fellows in International Health, Harvard School of Public Health. 2007;1:47–60.
- Wamai RG. Healthcare policy administration and reforms in post-colonial Kenya and challenges for the future. In Tuija Veintie and Pirjo Kristiina Virtanen ed. Local and Global Encounters: Norms, Identities and Representations in Formation. Finland: Renvall Institute Publications 25, University of Helsinki; 2009.
- Health NGOs Network (HENNET). Constitution for the Health NGOs. Draft Document. Nairobi, Kenya. Undated.
- Task Force on Health Systems Research. The Millennium Development Goals Will Not Be Attained without New Research Addressing Health System Constraints to Delivering Effective Interventions. WHO; 2005 Mar. http://www.who.int/rpc/summit/en/Task_Force_on_Health_Systems_Research.pdf (accessed February 13, 2009).
- Reich MR, Takemi K, Roberts MJ, Hsiao WC. Global action on health systems: a proposal for the Toyako G8 summit. Lancet. 2008;371 (March 8):865–869.
- Gawanas B. African Union and Health Care Challenges in Africa: Strategies and Initiatives on Health Care Delivery. African Renaissance 2006 (July/August). Commissioner of Social Affairs, Africa Union Commission, Addis Ababa, Ethiopia. <http://www.hollerafrica.com/showArticle.php?catId=1&artId=174> (accessed Feb 25, 2009)
- Task Force on Health Systems Research. Informed choices for attaining the millennium development goals: towards an

- international cooperative agenda for health-systems research. *Lancet*. 2004;364:997–1003.
35. Murray CJL, Frenk J, Evans T. The Global campaign for the health MDGs: challenges, opportunities, and the imperative of shared learning. *Lancet*. 2007;370:1018–1020.
 36. Travis P, Bennett S, Haines A, et al. Overcoming health-systems constraints to achieve the millennium development goals. *Lancet*. 2004;364:900–906.
 37. WHO Secretariat. Experiences of the GAVI Alliance Health System Strengthening Investment. The Global Fund's Strategic Approach to Health System Strengthening. Background note 5 for July 30/31, 2007 consultation. <http://www.who.int/healthsystems/gf23.pdf> (accessed Jan 20, 2008).
 38. Action for Global Health. Global Fund Board Backs Health Systems Strengthening and Gender Approach. http://www.actionforglobalhealth.eu/news/global_fund_board_back_healthsystems_strengthening_and_gender_approach (accessed Jan 20, 2008).
 39. Task Force on Global Action for Health System Strengthening. Global Action for Health System Strengthening: Policy Recommendations to the G8. Japan Center for International Exchange. Tokyo, Japan; 2009. <http://www.jcie.org/researchpdfs/takemi/full.pdf> (accessed March 31, 2009).
 40. World Health Organization. The World Health Report 2008: Primary Health Care: Now More Than Ever. Geneva: WHO; 2008.