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Background: The African Healthcare Opportunity

The healthcare sector in Africa can be considered a major growth opportunity for two main reasons: because of the tremendous health challenges that the continent faces, and because of the very serious deficiencies that still exist in Africa's healthcare, compared to the rest of the world. This report will lay out the state of Africa's population and its health, look at the current state of healthcare on the continent, including some of the countries and companies that have made major contributions to improving the current state of healthcare in Africa, and will lay out and explain some of the broad drivers that are likely to continue making a contribution to the gradual improvement in healthcare in Africa.

Because of the many easily treatable conditions that still affect too many Africans, current improvements in life expectancy can be expected to continue as governments, with the help of foreign partners and the private sector, address the deficiencies in primary care, and large-scale communicable disease killers like malaria and Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome (HIV/AIDS). It will take longer to make a difference to the other major killers in Africa, or to retool healthcare systems to cope with the health problems that are currently the biggest killers in the developed world and which are going to become an increasing problem in Africa: the 'lifestyle, or non-communicable diseases' like cancer, diabetes or heart disease that result from lifestyle choices.



Africa lags behind other regions of the world on almost all healthcare indicators, as will be shown in greater detail below. Not only is Africa behind, but the gap between its health indicators and those of the rest of the world continues to widen. On many of these indicators, Africa has been overtaken by countries of South-East and South Asia which ranked lower than African countries a few decades ago. And, while progress is being made, it is slow, which is reason to expect that health outcomes in Africa will continue to lag behind those in the rest of the world for some time.

Epidemics that affect Africa more than other regions have played a large part in bringing about this situation. The HIV/AIDS epidemic has hit sub-Saharan Africa harder than any other region in the world, and is probably the main reason why the gap between Africa and the rest of the world has widened since the 1980s. In addition, policy factors have played a major role too, by rendering government responses to epidemics (especially HIV/AIDS) less effective than they have been elsewhere. Other political factors are important: war in many places across the continent for much of the second

half of the last century had terrible effects on local populations, pushing up death rates and resulting in yet more deaths indirectly, by interrupting food production and distribution chains, and by impeding relief efforts and the provision of emergency medical assistance.

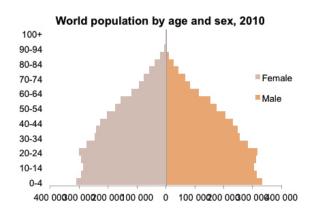
Poverty, finally, is keeping Africa unhealthy. Large percentages of the population are too poor to afford transport to treatment facilities, let alone to pay for medical treatment that can be expensive. The lack of a deep market for privatised healthcare has meant that private healthcare initiatives have only sprung up in a small number of big cities. The same small market for health insurance, except in the richest economies on the continent, has prevented the formation of large savings pools that could finance better healthcare. Current economic trends, especially high gross domestic product (GDP) growth in Africa, have the potential to address the issue of poverty, but well thought out government policy will be essential to ensure that economic growth takes place in such a way as to lift people out of poverty, and to provide better healthcare systems to citizens.

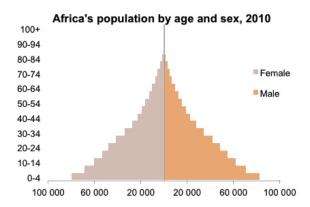


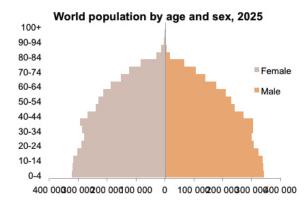
Demographics

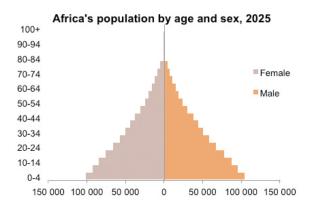
Africa's population is young. In 2010, according to the United Nations (UN), the median age in Africa was only 19.2 years, and 18.1 years in sub-Saharan Africa, compared to 28.5 globally and 40.3 in Europe. The median age in Uganda was only 15.5 and in Niger, 15.1 years, the lowest in the world. Africa's population will remain young for the next few decades as governments are (and will probably continue to be) slow in putting in place family planning programmes. Thus, when the UN published the 2012 Revision of its World Population Prospects, it revised its projections upwards, noting at the time

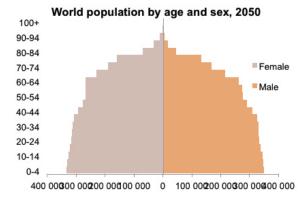
that "the estimated total fertility rate (TFR) for 2005-2010 has increased in several countries, including by more than 5 per cent in 15 high-fertility countries from sub-Saharan Africa." Even in 2050, when global population will be growing only slowly, Africa's population pyramid will still show a wide base from its large young population. This population structure presents many opportunities for economic growth on the continent, but will also serve up serious challenges, especially in the area of healthcare provision and, considered from a macro-economic perspective, employment.

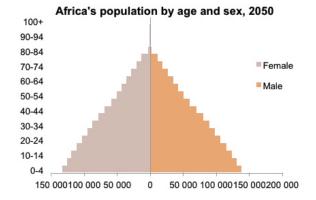












There are marked differences in life expectancy between Africa and the rest of the world. In 2011, Africans' life expectancy at birth was 56.3 years, well below the world figure of 69.9 years, and even much lower in comparison to the 76.3 years that people in the Americas can expect to live. The ten countries in the world with the lowest life expectancies were all in Africa.

Life expectancy at birth, 2011							
10 highest and 10 lowest							
10 lowest		10 highest					
Sierra Leone	47	83	Japan				
Central African Republic	48	83	San Marino				
Democratic Republic of the Congo	49	83	Switzerland				
Lesotho	50	82	Australia				
Somalia	50	82	France				
Swaziland	50	82	Iceland				
Angola	51	82	Israel				
Chad	51	82	Luxembourg				
Cameroon	53	82	Monaco				
Mozambique	53	82	Sweden				

Source: WHO

Fertility rates in Africa are quite high, a major factor that will keep Africa's population young for the projected future, with the exception of a few countries.

According to the forecasts from the UN, the fertility rate in Africa as a whole over the 2005-10 period was 4.88, compared to 2.53 globally and 1.66 – which indicates a shrinking population, net of migration – in the 'more developed regions'. The tremendous cohort of babies being born to the poorest families in Africa portends very difficult public health problems that governments and non-governmental organisations (NGOs) are unlikely to be able to address effectively even if healthcare systems are funded and managed appropriately, which they most probably will not be, or at least not everywhere.

Africa's adult mortality rate – the number of people, per 1,000 of population, who die between the ages of 15 and 60 – is the highest of any region in the world. At 339 per 1,000 in 2011, it was more than double the global average of 160, and 2.7 times as high as in the Americas, the region with the lowest adult mortality.

In Southern Africa, the region of the world that has been hit hardest by the HIV/AIDS epidemic, life expectancy figures will only recover to their levels from the early 1990s by 2030.

Diseases and Mortality in Africa

To better understand the low life expectancy levels in Africa, in relative terms, it is important to consider factors affecting life expectancy. At 12 per 1,000 people per year, Africa's death rate is the highest in the world, against a global figure of 8. The fact that

Africa's population is growing rapidly is a testament to very high birth rates, and not the result of effective policies to prolong lives. The table below shows the leading causes of death worldwide, in Africa and Europe:

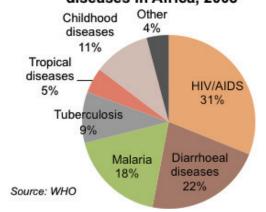
Cause of death, % of all deaths, 2008				
Cause of death	World	Africa	Europe	
Communicable diseases, maternal and perinatal conditions and nutritional deficiencies	27.5	65.0	5.8	
Of which infectious and parasitic diseases	15.3	41.4	2.6	
Non-communicable conditions	63.5	28.3	87.0	
Of which cancers	13.3	4.0	20.3	
Of which cardiovascular diseases	30.5	12.4	49.7	
Injuries	9.0	6.8	7.2	

The table clearly shows how different Africa's mortality profile is to that of the world as a whole. The proportions of deaths from communicable diseases & birth accidents on the one hand and non-communicable diseases on the other hand are almost perfectly reversed: in Africa 'communicable diseases, maternal and perinatal conditions and nutritional deficiencies' account for 65% of all deaths and non-communicable conditions account for only 28.3%, while globally the former class of causes of death accounts for only 27.5% of the total and the latter for 63.5%. In its 2013 World Health Statistics report, the WHO noted that Africa "remains the region with the highest maternal"

mortality ratio." In Europe, where the shift towards non-communicable conditions as the leading cause of death is most complete, these conditions account for 87% of all deaths, and the communicable diseases which are so deadly in Africa account for a mere 5.8% of deaths. Causes of death in Europe reflect a process that is still in its early stages in Africa: as a society grows more prosperous it is better able to control infectious and viral diseases, the hazards of unhygienic living conditions and the dangers of unsupervised childbirth. People in rich countries eventually die either of the inevitable consequences of ageing or from conditions brought on by unhealthy lifestyles.



Deaths from infectious and parasitic diseases in Africa, 2008



As incomes in Africa continue to grow and the more basic healthcare challenges are addressed, non-communicable diseases will become increasingly deadly and the overall burden of disease profile will become more similar to that of the world as a whole. This shift will take decades, however, and for the moment communicable diseases and maternal and perinatal threats present the most urgent challenges for policy makers. The graph above shows the breakdown of the infectious and parasitic diseases that kill 4.1 million people in Africa every year, more than 40% of all deaths. HIV/AIDS fully deserves

its reputation as the scourge of Africa, killing more than 1.3 million people a year. It is the leading single cause of death on the continent. Another 920,000 deaths are caused by the diarrhoeal diseases which adequate primary healthcare addresses through the provision of improved water supplies. Malaria, which has been eradicated in most parts of the world, causes another 750,000 deaths a year in Africa (91% of global deaths from the disease), and tuberculosis just under half a million.

Respiratory infections are nearly as deadly as HIV/ AIDS. These infections almost exclusively represent lower respiratory tract infections (pneumonia and bronchitis), and cause more than 1.1 million deaths a year in Africa, 11% of all deaths. They require reliable supplies of antibiotics to effectively address, although they remain major causes of death even in developed regions. Also to be considered are the diseases with relatively modest death tolls but with serious health impacts. The Carter Centre calls bilharzia (or schistosomiasis) "second only to malaria as the most devastating parasitic disease in tropical countries in terms of socioeconomic and public health impact." The mortality rate from the disease is low, but it has debilitating effects, especially on children who are particularly susceptible to contracting it. It most often affects the kidneys and liver, and in Egypt it indirectly resulted in the highest rate of hepatitis C in the world after a bilharzia eradication campaign used inadequate sterilisation. In Nigeria 20 million people require treatment for the disease.

Almost 900,000 African babies die in childbirth or immediately afterwards every year, 9% of all the deaths on the continent. Maternal mortality claims 190,000 mothers' lives every year, more than half of all maternal fatalities in the world. It is these deaths that can be addressed at relatively low cost by establishing clinics in rural areas and by training midwives. Effective basic healthcare can be expected to make a big difference in the area of maternal and perinatal mortality, but much work remains to be done. As of 2013, medical contact for women at the time of birth was still under 50%: more than half of births in Africa take place without the presence of medical personnel.

The Pandemics: AIDS, Tuberculosis and Malaria

HIV/AIDS, tuberculosis and malaria together cause nearly 2.5 million deaths a year in Africa, a quarter of all deaths. The first of the three in particular has caused governments and NGOs to mobilise massively against it. Mortality from the virus peaked and began to recede in developing countries in the early 1990s, but began increasing at an extremely rapid rate in sub-Saharan Africa from 1990. (By contrast, AIDS mortality in the WHO's Eastern Mediterranean region¹, which includes North Africa, is the second-lowest in the world, accounting for as many deaths as accidental falls). The virus remains a major killer in Africa, especially compared to other regions. In 2007 the HIV/AIDS mortality rate in Africa was 147 per 100,000 people; in the region in which it was the next highest killer, South East Asia, the figure was only 13. Africa bears more than 70% of the global HIV/AIDS burden, with an estimated total of 24.9 million people living with the disease (more than the total population of Angola) out of 35.3 million worldwide. There are 1.5 million new infections every year in sub-Saharan Africa.

The fight against HIV/AIDS has had some notable successes. In the past 10 years the HIV/AIDS incidence has dropped in 32 out of the 51 African countries in which the WHO measures it. In six countries (Burkina Faso, Burundi, Cape Verde, Eritrea, Ethiopia and Liberia) the figure has been reduced by half, although it should be noted that the incidence was under 4% in all these countries to begin with. The most successful programmes have been awareness programmes, usually 'ABC' programmes telling people to 'abstain, be faithful and condomise'. The other main leg of the fight has been in lengthening the lives of people already living with the disease, and here the biggest contribution was made by the organisations that fought often lengthy and expensive legal battles to provide affordable antiretroviral drugs. Thanks to these efforts. living with AIDS is now more in the nature of a treatable chronic condition than that of a fatal infection. While advances have been made in addressing the epidemic in Africa, the situation remains dire, to a large extent because of the many other threats to health that exist in Africa and which can swiftly prove deadly to an HIV-positive person with a compromised immune system. So, in 2011, Africa accounted for 70% of deaths from AIDS-related causes with over a million deaths in that year alone.

Africa is the region of the world most affected by tuberculosis, with South-East Asia a close second. In Africa, 2.3 million people have the disease (as of 2012), and it kills 230,000 people a year. (This figure excludes deaths from tuberculosis in which there is a link to AIDS - the final cause of many AIDS deaths is tuberculosis infection.) There has been more success against this infection than others in Africa, and the number of deaths has fallen by more than one-third since 1990. The treatment success rate in Africa is now over 80%, and immunisation of one-year-olds on the continent with the Bacillus Calmette-Guérin vaccine goes up steadily, from 75% in 1990 to 85% in 2010. Ongoing efforts, partly related to concerted international action against AIDS, are projected to further reduce the mortality in future.

Malaria has become an essentially African disease since its effective eradication in most of the rest of the world (apart from some parts of Asia). More than 91% of malaria fatalities occur in Africa. The number of deaths peaked in 2004, and has since declined by more than 20%. Namibia. Botswana. Swaziland. Cape Verde and South Africa have set themselves the target of completely eradicating the disease by 2015 and may succeed. Donor groups have been hugely important in contributing to this decline, in particular through the distribution of millions of insecticide-treated mosquito nets (the Bill & Melinda Gates Foundation has been especially visible on this initiative). However, mosquitoes in many places have evolved resistance to the pyrethroid insecticides used on nets: in 2012 the WHO reported that insecticide resistance was being reported in nearly two-thirds of countries with ongoing malaria transmission. The organisation considers that, if nothing is done, more than half the deaths currently being averted would again be recorded.

¹ Eastern Mediterranean region consists of North African countries excluding Algeria

Another issue with malaria is that if the disease (or its carrying vector) is not completely eradicated, all the success achieved can be undone by less than a decade's inaction.

Efforts to control these three pandemics have made real differences to longevity in Africa and should be applauded. However, many observers think that there is too much focus on these three pandemics. In healthcare this kind of focus on a specific health issue is called a 'vertical' focus, and many critics think that it too often prevails in preference to a

'horizontal' focus that aims to strengthen health systems in a more general way. As noted above, pulmonary infections kill nearly as many Africans as AIDS, and almost as many as tuberculosis and malaria combined. But the most effective way of responding to these infections is through the promotion of basic medicines and clinics, for which it may be difficult to whip up international enthusiasm. So combating pulmonary infections has been left to African governments, and African governments' healthcare efforts have not been universally impressive.

Poverty and Other Factors

The most important factor holding back advances on African health indicators is poverty. As noted above, high poverty levels act as a brake on improvements in healthcare, both on the micro level (by making it difficult for people to afford medicine or visits to a doctor) and at the macro level (by limiting the funds available for governments to spend on health).

Primary Healthcare and Administrative Improvement

In 1978 the WHO adopted what is now known as the Alma-Ata declaration in Kazakhstan, expressing "the need for urgent action by all governments, all health and development workers, and the world community to protect and promote the health of all the people of the world." In this declaration,

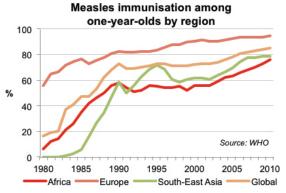


primary healthcare "addresses the main health problems in the community, providing promotive, preventive, curative and rehabilitative services accordingly." This type of healthcare includes health education, promotion of proper nutrition, safe water and basic sanitation, maternal and child health care (including family planning), immunisation against major infectious diseases, appropriate treatment of common diseases and injuries, and provision of essential drugs. With the exception of the highprofile pandemic diseases mentioned above, governments, multinational organisations and NGOs have been fairly diligent in focussing on primary healthcare because it is the most cost-effective way of improving the health of a population and to deliver high impact interventions at low cost. But further progress is possible if some NGOs change their focus from glamorous and dramatic high-profile work against AIDS and malaria to more humdrum but potentially more effective actions like improving water supplies or supporting vaccination drives.

Africa lags behind the rest of the world on safe water, a pivotal part of the fight against bilharzia, cholera, and typhoid fever. The WHO had set a target for 2015 that, by that date, 90% of people across the world would have access to safe drinking water, but noted in its 2013 World Health Statistics report that Africa and the Eastern Mediterranean² (which includes North Africa with the exception of Algeria) would not meet the target. Income inequality (which is elevated in Africa) makes matters worse and underlies disparities between households in the same cities: so the WHO states that in urban areas in Africa just 60% of the poorest household quintile has access to improved sources of drinking water (against 90% of the richest quintile), and in rural areas such safe sources are accessible to a mere third of households in the bottom quintile.

It may be easy to overlook the importance of administrative projects as potentially transformative healthcare initiatives, but an effective and well-run health ministry which is in control of roll-outs of medicine, aware of the priority areas, and in contact with external and private-sector partners, can rapidly make a difference to its population's health. The best recent example of this is Ethiopia, where success in improving healthcare has to a large extent been due to the government's willingness to recognise the importance of the healthcare bureaucracy's role. Former Health Minister Tedros Ghebrevesus (in office from 2005 to 2012), who believed that management was "the oil on which the complex organisational machinery of hospitals runs," reorganised the entire bureaucracy of his ministry, drew up new and simpler standard operating

procedures, decentralised as much authority as possible to teams working within each health facility, and improved communication structures in order to minimise the delays that emerged in instances where it became necessary to obtain instructions from the next level. In the two decades since 1990, Ethiopians' life expectancy has gone up by 11 years, from 49 to 60, and infant mortality has dropped by more than half.



In light of the specific and, in comparison to the rest of the world, primitive structure of the burden of disease in Africa, the biggest potential gains in healthcare on the continent are to be made in primary healthcare and in strengthening the health systems' performance in general. Weak health systems are particularly vulnerable and show where they fall short in the outbreak of highly infectious diseases, like was the case with the outbreak of Ebola recently. While private hospitals and similar advances in medicine will become increasingly important to Africans in cities and in wealthier countries, persistent inequality will mean that the most lives can be saved and improved by focussing on the basics.

Improvements have been apparent, but in absolute terms and in comparison to the rest of the world, Africa's metrics on the delivery of primary healthcare are still much lower than in the rest of the world. So the percentage of Africans with access to improved water sources went from 49% to 61% from 1990 to 2010, but that is still far below the global figure of 89%. Measles immunisation coverage for one-yearolds has gone up spectacularly in 30 years, from 6% in 1980 to 76% in 2010, but the global figure is 85%, and in the Western Pacific region, which was behind Africa in 1980, the percentage is 97%. The involvement of donors and NGOs can have, at best, a limited impact, and the biggest advances in this area will have to be made by African governments. As such, future advances can be expected to be spotty and to vary widely from country to country as different governments make positive changes at different speeds.

² Eastern Mediterranean region consists of North African countries excluding Algeria

Secondary Healthcare

Development, economic growth and urbanisation are driving rapid growth in the number of Africans who live in cities, have high levels of disposable income, and expect good standards of medical care. It is especially this market which has been driving the founding and expansion of private hospitals. The major private healthcare companies in Africa are three big South African operators, all listed on the Johannesburg Stock Exchange: Mediclinic, Netcare and the somewhat smaller Life Healthcare. It is understandable that private healthcare grew earliest in the most prosperous African country, but more recently other cities in Africa have become viable markets for private hospitals too. African Medical Investments operates private hospitals in Maputo, Dar Es Salaam and Harare, and plans to expand into other East African countries and Nigeria. In the latter country, Lagos State, home to more than 10 million people, boasts more than 80 private hospitals. In Tunisia private healthcare has become a profitable niche, catering to both Tunisian and Libyan customers – the latter make up 70% of the patients in some clinics.

Less advanced healthcare is also provided to poorer Africans by the private sector in the form of local doctors, and these suppliers of healthcare are busier than one might think. In 2008, according to McKinsey, 40% of people in the bottom 20% income bracket in Africa received their healthcare from private, for-profit providers. Not all private facilities are massive hospitals like the private hospitals in South Africa's cities: Cargo Livewell, for instance, is a Kenyan company which provides fairly basic services through five community-based clinics in the Nairobi region, and according to its founder it targets the "middle 60% of the population that can afford to pay something." Employer-sponsored health plans for workers are growing the number of people who approach private doctors, and in a number of countries governments are shifting to a national insurance scheme in preference to the more classic model of establishing a country-wide public health system.

For the above reasons, private healthcare will continue to develop over the next few years and represents an attractive investment opportunity. The World Bank's International Finance Corporation (IFC) estimates that US\$25 billion to US\$30 billion will be invested in Africa's healthcare infrastructure between now and end-2016, and that up to US\$20 billion of that will come from the private sector.



Expenditure on Healthcare in Africa

After results, the most important criterion in evaluating the effectiveness of healthcare systems is expenditure. Who pays how much for what? The answer to that question determines how many people obtain treatment, and what health issues are addressed as a matter of priority, and so impacts the overall health of a population. Internationally there has been a shift towards more affordable healthcare for the poor since 2005, when the (then) 192 members of WHO endorsed

a resolution entitled 'Sustainable health financing, universal coverage and social health insurance'. Member states were urged to develop their financing systems to ensure that their populations have access to needed services without straining national budgets. This is part of a broader trend away from expecting governments to supply the totality of healthcare in a country, but also away from the equally unrealistic idea that markets on their own will provide adequate healthcare.

Different health expenditure profiles in African countries, 2010						
Country	HC expenditure as % of GDP	Gvt health expenditure as % of total HC	Private HC expenditure as % of total HC	Out-of-pocket as % of total HC expenditure		
Angola	2.9	82.5	17.5	17.5		
Cameroon	5.1	29.6	70.4	66.5		
Equatorial Guinea	4.5	75.9	24.1	22.2		
South Africa	8.9	44.1	55.9	16.6		
Uganda	9.0	21.7	78.3	49.8		

Source: WHO

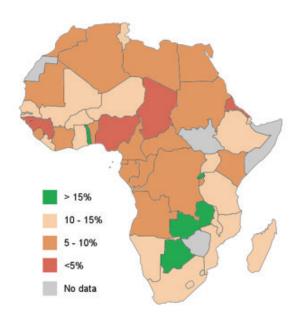
Expenditure on healthcare can be divided into three categories: government spending (which goes into directly supplied healthcare services as well as towards national health insurance schemes), private spending (out-of-pocket payments for healthcare services at point of delivery as well as private health insurance), and external sources. Some African governments can afford to provide good healthcare: in oil-rich Equatorial Guinea, for instance, general government health expenditure accounts for 76% of total health expenditure in the country, and total health expenditure per capita per annum is at the highest level of any country on the continent, at US\$897. The situation is similar in Botswana and Libya. This model breaks down in poorer countries, however - like Mozambique, where government spending represents 72% of all spending on healthcare, but per capita annual spending on health barely exceeds US\$20. That is extremely low - the WHO considers US\$34 per person per year a minimum to provide a population with basic health care.

Countries in which private expenditure on healthcare dominates, are of two types: those in which almost all spending is out-of-pocket spending at point of delivery, and those where the private spending

is collected on a regular basis and pooled so that provision is made for unexpected health problems. The latter model results in better outcomes and allows for better central planning as government co-ordinates with private operators. Guinea is representative of the first category: in that country private health expenditure makes up 89% of total health expenditure, but out-of-pocket expenditure represents 88% of private health expenditure and total health spending per person per year is only US\$23. It is up to citizens to find the money to pay for their healthcare; government impact is low and there is very little in the way of pooled savings to smooth health expenditures over time and across categories of patients. The second type is best represented by South Africa: in that country private health expenditure accounts for 56% of the total, but only 17% of that is out-of-pocket. The fact that only 17% is out of pocket from total expenditure says that people are either covered through free government services or that they are insured and pay a monthly premium and receive benefits in-kind. The trend in Africa, as elsewhere, is to increase the funds available for private, pooled healthcare by encouraging health insurance schemes.

The Millennium Development Goals (MDGs) were adopted at a meeting in September 2000 that brought together 189 Heads of State. There are eight MDGs, and three of them relate to healthcare: reducing child mortality rates, improving maternal health, and combating HIV/AIDS, malaria, and other diseases. In order to make progress in achieving the MDGs, the Heads of State of African Union (AU) countries met in April 2001 in Abuja, Nigeria, and pledged to commit 15% of their national budgets to health spending. In 2010 only four African countries (Rwanda, Botswana, Zambia and Togo) were compliant with the Abuja pledge. Another 22 countries spent between 10% and 15% of their budgets on health, but 25 countries spent less than 10% of their budgets on health, and five spent less than 5%. A number of countries now allocate a lower proportion of their budgets to healthcare than before the Abuja declaration.

General government health expenditure as % of general government expenditure, 2010



Source: WHO

While pooling schemes and private healthcare have their place in improving health outcomes in Africa, as will be explained below, clinics providing basic care are still crucially important in addressing the most common causes of illness and mortality: the communicable diseases and birth issues described above. This is apparent from the dramatic improvements observed in some countries when fees were waived for medical services. Removing fees in rural Zambia in April 2006 and January 2007, for example, resulted in a 55% increase in the use of government facilities. Attendance rates at health centres in Uganda jumped 84% when fees were scrapped in 2001. Ghana's initiative in exempting women from fees helped to reduce maternal mortality from 500 per 100,000 live births in 2000, to 350 in 2008. The same success story does, however, also show up one of the limitations of making healthcare free: because the measure made no direct difference to the supply of healthcare, the number of deliveries attended by skilled nurses actually declined from 2005 to 2007 as the same number of nurses had to cope with a much higher number of deliveries.

At the moment the governments which are successfully addressing their populations' medical needs are combining direct expenditure with other financing models. In some, government chooses to finance the administrative side of healthcare, leaving specific projects relating to the control of epidemic diseases to external donors, and an increasing share of healthcare delivery to the private sector. When funding healthcare, governments also increasingly prefer to pay into health insurance schemes, instead of paying directly for medical services as in the past. The future of healthcare in Africa, especially in secondary healthcare and in confronting the noncommunicable diseases that are shaping to become more deadly, lies in health insurance which could be offered through a government run national insurance scheme, or offered through the private health insurance and private medical companies although government and external funding will be important for the foreseeable future.

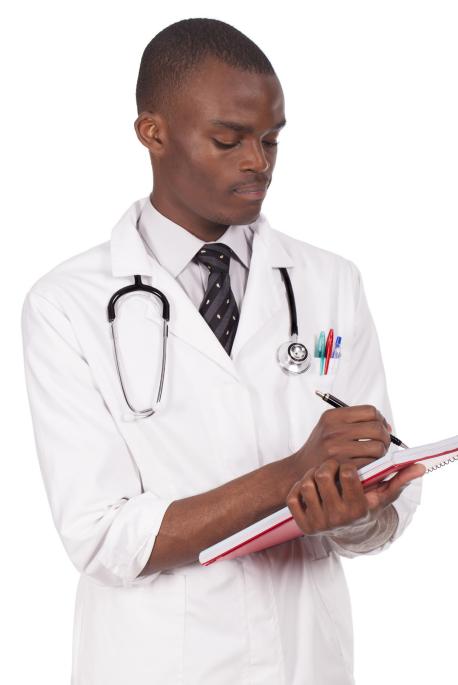
Expenditure on Healthcare in Africa

External Funding

Because of the inadequacy of government programmes to address Africa's health emergencies, the continent has long been a big recipient of external aid in the healthcare sector. External donors are of two types: foreign governments and NGOs. While foreign governments have more funds at their disposal, the strings attached to their aid are sometimes onerous, and NGOs' relative independence (especially from large pharmaceutical corporations) can make them more effective. So the Clinton Foundation's success in fighting HIV/AIDS had much to do with its willingness to go up against pharmaceutical companies and lobby them to allow generic versions of their drugs to be manufactured.

Relying on government aid has another serious drawback: such aid is often withdrawn for political reasons. In 2014 Uganda thus suffered hits to some of its healthcare programmes after the US withdrew aid in response to Uganda's Anti-Homosexuality Bill. Still, foreign governments remain generous towards Africa: the WHO estimates that disbursements of official development aid (ODA) to the African region have multiplied by 4.5 in 10 years, from US\$1.85 billion in 2002 to US\$8.3 billion in 2011, and this amount may still be an undercount. But an irrational discrimination between countries can be observed: some countries attract solid amounts of donor funding while others do not. Often, countries that are on their way to becoming middle-income countries receive more than neighbouring countries that are worse off. In 2007 Namibia, classified as a lower middle income country on the World Bank's scale, received about US\$34 per capita for health, while in the same year the Democratic Republic of the Congo (DRC) received US\$4.40 and Guinea received US\$2.80.

NGOs are the other significant contributors of aid. One big problem with NGOs, however, is their propensity to adopt a vertical focus on an issue like malaria or HIV/AIDS, to the neglect of potentially more effective efforts in primary healthcare, for example. Experts from the Yale School of Public Health credit Ethiopia's success in delivering better healthcare to its willingness to negotiate determinedly with donors. Minister Tedros found ways to channel funds earmarked for AIDS, tuberculosis and malaria to systems that treated many other problems as well.



Health Insurance Schemes

Direct payment at point of use is the least optimal way of financing healthcare, as in poor countries in particular dramatic and expensive ailments can push the poor into bankruptcy, or else high costs can dissuade people from seeking desperately needed medical care. So, according to the WHO, two years after Burundi introduced user fees for healthcare in 2002, four out of five patients in that country were either in debt or had sold assets to pay for healthcare. It is routine for more than 2% of the population of low-income countries to suffer 'financial catastrophe'- defined as having to spend over 40% of income after food - because of healthcare costs. In the estimation of the WHO, reliance on direct payments has to fall to at most 20% of total health expenditures to bring the incidence of financial catastrophe down to negligible levels. Only a few African countries meet this target, and in this context South Africa, where out-of-pocket payments account for 16.6% of total healthcare expenditure even though private expenditure makes up more than half of total spending on health, can offer an example to other countries. In South Africa, 55% spent on private health caters for 16% of the population while 45% is spent on the remainder of the population.

For an unchanged level of government and external funding, improving Africa's healthcare expenditure profile will thus mean shifting private expenditure from direct payment to prepaid, pooled expenditure. Analysts see this shift as the most important shift in Africa's healthcare environment. The countries most often held up as examples of successful health policy are those in which health insurance schemes cover the greatest part of the population, or where the proportion is growing fast. Two countries often cited in this context are Rwanda and Ghana. In the former country, 91% of the population belongs to one of three health insurance schemes, thanks to a government programme to match member contributions one-to-one (with some donor support). Out-of-pocket expenditure now only accounts for 22% of private health expenditure in Rwanda, and the improvements in child and maternal mortality have been impressive: child mortality dropped from 121 per 1,000 live births in 1995 to 39 in 2012. In Ghana, the National Health Insurance Scheme (NHIS) was formally launched in December 2004 and since then it has been mandatory for all residents to be members of a district mutual health scheme, a private commercial insurance scheme or a private mutual health scheme. Around nine million Ghanaians, almost 40% of the total population, are now covered, and the scheme's beneficial effects on health have been evident: infant mortality has dropped 19% since 2000, and the number of infant deaths from malaria has dropped by almost a third since the scheme's inception.



Continental and Global Trends

What trends will make a difference to healthcare in Africa? The most important one is already underway: the steady rolling out of primary healthcare into ever more remote areas, providing vaccinations, clean water, midwife assistance and basic health advice to ever larger numbers of people. Another one which

has been discussed is taking place in Africa's cities, where new private hospitals are providing outpatient services and the reassurance of quality emergency care to the new middle class. Listed below are some other drivers which an examination of healthcare in Africa should include.

Economic Outlook, Budgets and Regional Integration

It is somewhat tautological to point out that smaller budgets will mean smaller healthcare budgets, and it is possible that African governments will have to tighten their belts in the next few years. It is not only the economic environment of Africa itself which is relevant: if the economic slowdown in developed countries persists, then the pressure on their funding commitments (which is already severe enough to have resulted in aid cuts in 2012, 2013 and 2014) may drive governments to tighten their purse strings even more. African governments will thus be forced to improve their revenue collection systems and to come up with innovative financing for programmes. 'Innovative' financing usually means finding new things to tax: recent examples are a 'solidarity levy' on airfares which funds UNITAID, an international medicine purchasing scheme, special telecoms taxes in Gabon, or the sin taxes raised on alcohol and tobacco in most countries which tend inexorably upwards.

On the other hand, and more positively, there are signs that the private sector will be willing to compensate for much of the funding lost as governments cut back. The rise in popularity of corporate social responsibility (CSR) and 'double bottom line' or 'triple bottom line' accounting, in which corporations keep track of social and environmental achievements alongside their financial performances, will mean that many large international corporations may be happy to participate in helping to improve the state of the healthcare industry in Africa. Unfortunately, the demographic trends and financial constraints pointed out above will interact, with the result that primary healthcare will still be unavailable to very large numbers of Africans, especially in the poorest countries.



Technology

Possibly the most exciting application of technology to the healthcare industry lies in the field of 'telemedicine', which usually refers to the use of telecommunications to allow healthcare workers in out-of-the-way places to diagnose patients remotely in conference with specialists. As part of the Pan-African e-Network Project, a co-operation between the government of India and the AU, doctors in India are helping to remotely diagnose patients in 53 hospitals in Africa. The same project makes it possible for African students to study medicine under lecturers at seven universities in India. In South Africa a specific programme to address the AIDS epidemic sends up to two million text messages a day to patients to remind them of treatment schedules or doctors' appointments. Future initiatives will warn people about the dangers of specific diseases (like cholera outbreaks) or help vaccination programmes reach more children.

Technology can also provide more orthodox solutions to bureaucratic issues that can sometimes be overlooked by actors in the healthcare space with a propensity to look for the dramatic fix. CargoLivewell, the Nairobi-based healthcare company referred to above, specialises in providing healthcare facilities with software to simplify their clinical and business processes and for regional and national healthcare organisations and governmental departments to co-ordinate better.

Advances in chemistry will save and improve lives, as researchers develop drugs specifically for Africa, or at least for low income societies. One good example is the retroviral treatment developed by Indian pharmaceutical company Cipla: unlike previous drug cocktails, Cipla's fixeddose combination does not require refrigeration, which played an important part in prompting its uptake in Africa. If heat-resistant insulin is ever developed, for instance, it is certain that its effect in Africa will be tremendous. Of relevance here is the issue of patents. The Agreement on Trade Related Aspects of Intellectual Property Rights (TRIPS) is an agreement that introduces patent law into world trade, and is binding upon all members of the World Trade Organisation (WTO). Because of the huge beneficial effect that generic drugs have had in addressing health crises in developing countries, most lower income countries were given 10 years in which to comply with the clauses in TRIPS relating to medicines. In this regard, India was allowed to produce generic medicines until 2005 and the least developed countries were given until 2016. When these deadlines are reached there will again be difficult debates about profits versus people, of the kind that raged around anti-retrovirals in the 1990s.

The Rise of Noncommunicable Conditions

As infectious and parasitic diseases and perinatal dangers are brought under control in Africa, the continent's mortality profile will increasingly come to resemble that of more advanced societies. At some point (which is still some way off), noncommunicable conditions like cancer, diabetes and heart failure will kill the most people, resulting in a complete change in the demands on healthcare systems. It is estimated that non-communicable diseases, including 'lifestyle diseases' related

to sub-optimal lifestyle choices, will overtake communicable and parasitic diseases as the main cause of death in Africa by 2030. It will be a challenge for health departments currently focussed on the very basic aspects of healthcare—preventing child mortality and eradicating diseases that no longer exist in more advanced countries—to start addressing these very modern diseases, for which, moreover, there is usually no cure, only treatment.

Conclusion: The Future of Healthcare in Africa

As shown above, the state of healthcare and health indicators in Africa is still far behind the rest of the world, and progress made on addressing the challenges in this sector is not as speedy as one would expect given the continent's economic growth. The biggest killers are the great epidemics and communicable diseases, and a large part of the problem can only be addressed by effective government action. Such action is less widespread than one would expect, and the continent's vertiginous population growth exacerbates the problem.

At the same time, progress is being made in a number of countries, and within urban populations especially in most countries. It is in these areas that the burden of disease is shifting fastest to the profile seen in developed countries, where noncommunicable diseases are the main causes of death, and also where private healthcare provision and systems of pooled savings for health insurance are becoming common. It is in these countries and sub-national markets that the most attractive opportunities in the healthcare sector will emerge in the coming years. This report will conclude with a brief look at the countries that present the most interesting aspects from the point of view of advances in healthcare.

Future healthcare developments in South Africa will be interesting to watch: it is the country in Africa in which the burden of disease transition from communicable to non-communicable diseases is most advanced, and the way in which public and private healthcare providers address this transition will serve as a model for other countries. Mauritius is interesting for much the same reason: basic healthcare has been achieved, and now the private sector (including insurers) is positioning itself to take advantage of the growing demand for worldclass services for the well-off. Botswana has achieved very decent health indicators (it is ranked 8th in Africa in terms of the human development index, ahead of South Africa) by applying best practice: spending more than 15% of its budget in line with the Abuja commitment, and encouraging the development of a sophisticated health insurance market.

Some of the poorer economies in Africa are also notable for the way in which, despite lower spending levels, governments have been able to make a big difference to healthcare delivery. Rwanda's progress has been most impressive: spending one tenth as much as Botswana per capita on health, the country has managed to reduce mortality from AIDS, tuberculosis and malaria by 80% in ten years, and has reduced maternal mortality by 60%. These stunning achievements came thanks to thorough planning, the prioritisation of primary healthcare and the central provision of health insurance. In Ethiopia, a poor country with a large population, improvements to the healthcare bureaucracy to improve primary healthcare in remote areas has made a huge difference to maternal and infant mortality. The methods used with such success in these two countries could be copied in other poor countries on the continent, to very beneficial effect.





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