A comparative analysis of national HIV policies in six African countries with generalized epidemics

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Objective To compare national human immunodeficiency virus (HIV) policies influencing access to HIV testing and treatment services in six sub-Saharan African countries.

Methods We reviewed HIV policies as part of a multi-country study on adult mortality in sub-Saharan Africa. A policy extraction tool was developed and used to review national HIV policy documents and guidelines published in Kenya, Malawi, South Africa, Uganda, the United Republic of Tanzania and Zimbabwe between 2003 and 2013. Key informant interviews helped to fill gaps in findings. National policies were categorized according to whether they explicitly or implicitly adhered to 54 policy indicators, identified through literature and expert reviews. We also compared the national policies with World Health Organization (WHO) guidance.

Findings There was wide variation in policies between countries; each country was progressive in some areas and not in others. Malawi was particularly advanced in promoting rapid initiation of antiretroviral therapy. However, no country had a consistently enabling policy context expected to increase access to care and prevent attrition. Countries went beyond WHO guidance in certain areas and key informants reported that practice often surpassed policy.

Conclusion Evaluating the impact of policy differences on access to care and health outcomes among people living with HIV is challenging. Certain policies will exert more influence than others and official policies are not always implemented. Future research should assess the extent of policy implementation and link these findings with HIV outcomes.

Introduction

By the end of 2012, more than 7.5 million of the estimated 23.5 million people living with human immunodeficiency virus (HIV) in Africa were receiving treatment, compared to only 50,000 people a decade before.1 The scale-up of treatment services in such a short period of time has been remarkable. Recent evidence suggests that HIV-attributable mortality has declined by more than 50% since antiretroviral therapy (ART) became available.2–4 Nonetheless, considerable concerns remain regarding high attrition rates throughout the continuum of care from HIV diagnosis, pre-ART care, timely initiation of ART and long-term retention in treatment.5 Various studies have observed substantial drop-out of people living with HIV across this care cascade. A recent pooled analysis of 37 studies in sub-Saharan Africa indicates that among those knowing their status, only 57% completed ART eligibility assessment, 66% of those eligible initiated ART and 65% of those initiating treatment were retained on ART.6

The network for analysing longitudinal population-based data on HIV in Africa (ALPHA) is investigating the extent of declines in HIV-related adult mortality attributable to treatment and the distribution of deaths at each stage of the diagnosis-to-treatment cascade.11–14 The network collects community-based data from 10 health and demographic surveillance sites in six countries with generalized epidemics – Kenya, Malawi, South Africa, Uganda, the United Republic of Tanzania and Zimbabwe. Table 1 identifies the ALPHA network sites and provides contextual information on the epidemic and treatment programme in each country.

To interpret site- and country-specific differences in mortality rates across the diagnosis-to-treatment cascade, we analysed national HIV policies. It is helpful for the agencies that define programme priorities and analyse differences in outcomes to understand the incentives and barriers to accessing – and remaining on – ART in different contexts. Our analysis focuses on the policy response to the HIV epidemic. We have not investigated the sociocultural barriers within communities that influence access to services in different sites.

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Table 1. **Characteristics of the HIV epidemic in the six African countries**¹,²,³,⁴,⁵,⁶

| Characteristic                                      | Kenya        | Malawi   | South Africa | Uganda       | United Republic of Tanzania | Zimbabwe  |
|----------------------------------------------------|--------------|----------|--------------|--------------|----------------------------|-----------|
| Demographic surveillance site(s)                   | Nairobi and Kisumu | Karonga  | Agincourt and UmKhanyakude | Masaka and Rakai | Ifakara and Kisesa | Manicaland |
| Adult HIV prevalence in 201³                         | 6.0          | 10.3     | 19.1         | 7.4          | 5.0                        | 15.0      |
| Year of public sector ART introduction              | 2006         | 2004     | 2003/2004    | 2004         | 2003/2004                  | 2004      |
| Adult ART coverage in 201³ % (range)²²            | 42 (39–46)   | 51 (48–53) | 42 (40–43)   | 40 (38–43)   | 41 (38–44)                 | 51 (49–53) |
| PMTCT coverage in 201³ % (range)²²                 | 63 (55–72)   | 79 (71–88) | 90 (83–95)   | 75 (68–85)   | 73 (65–83)                 | 78 (70–87) |
| Adults knowing their HIV status¹ %                 | 36–56¹⁷      | 28¹⁵     | 36–55¹⁹     | 56¹⁰         | 54.5¹¹                     | 46.5¹²    |
| Pregnant women knowing their HIV status in 201³     | 88           | 76       | 93           | > 95         | 70                         | > 95      |
| Donor funding as a proportion of total HIV/AIDS budget in 201³  | 75–100       | 75–100   | 0–24         | 75–100       | 50–74                      | 75–100    |
| Doctors per 100,000 people                          | 1.8          | 0.2      | 7.6          | 0.1          | 1.2                        | 0.6       |

AIDS: acquired immunodeficiency syndrome, ART: antiretroviral therapy, HIV: human immunodeficiency virus; PMTCT: prevention of mother-to-child transmission.

¹ Defined as the percentage of adults (15 years and older) living with HIV and receiving ART.

² Defined as the estimated percentage of pregnant women living with HIV who received antiretroviral medicines for PMTCT.

³ Defined as testing at least once in the last 12 months and receiving results. Note that dates of studies vary.

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Fig. 1. **Conceptual framework of HIV policy and service factors influencing HIV-related adult mortality**

![Conceptual framework of HIV policy and service factors influencing HIV-related adult mortality](image_url)

ART: antiretroviral therapy; HIV: human immunodeficiency virus. PLHIV: people living with HIV.

Note: Factors in italics are only measurable and comparable through facility-based research and are not included in this review.
Methods

A conceptual framework was developed, identifying key HIV policy and programmatic factors that may influence HIV-related adult mortality (Fig. 1). These factors were derived from a review of the literature (including a recent systematic review on health sector interventions to ensure a continuum of care), an initial review of World Health Organization (WHO) guidelines and expert review of indicators by 28 HIV researchers and clinicians. Through the literature review and preliminary analysis of ALPHA network mortality data, we identified three attrition points to inform the structure of our policy review: (i) access to HIV testing and counselling; (ii) access to HIV care and treatment (including assessment of eligibility for treatment initiation and initiation itself); and (iii) retention on ART. Across these three attrition points (diagnosis, HIV care and retention), relevant factors fell into the following five areas: (i) service access and coverage; (ii) quality of care; (iii) coordination of care and patient tracking; (iv) medical management; and (v) support to people living with HIV.

A policy extraction tool was developed to facilitate the indicator review (available from the author). Documents were searched online through ministry of health and national HIV organization websites and/or retrieved in person from official offices and libraries, using the following inclusion criteria: (i) nationally relevant (not clinic- or district-specific); (ii) containing programmatic or clinical guidance on one of the three key adult HIV services: HIV testing and counselling, prevention of mother-to-child transmission (PMTCT) or HIV care and treatment; (iii) published between January 2003 and June 2013. Documents likely to fit these three criteria were considered, including policy statements, clinical guidelines, training manuals, strategies, indicator guides and parliamentary acts. Guideline documents produced by WHO relevant to criteria (ii) and (iii) were also included.

The policy extraction tool was used to collect information on policy content, source, year and policy changes over time. Country teams completed gaps in data collection using unstructured informal interviews with key informants. Informants were either regional or national policy-makers, researchers or clinicians involved in policy development.

We summarized key policies judged most likely to affect access to HIV testing, access to HIV care and treatment and retention on ART. For each indicator, each country’s policy was categorized into one of the following: (i) has explicit policy; (ii) has implicit policy or policy has caveats or exceptions; (iii) is unclear whether policy exists or policy conflicts with other policies; or (iv) does not have policy. We also assessed whether the policy was consistent with WHO guidance or a country standard that went beyond such guidance.

Results

A total of 120 policy documents with guidance relevant to the indicators were identified and reviewed; references are available from the author.

Access to testing

Fig. 2 summarizes policies influencing access to HIV testing. Policies in the six countries were generally consistent and explicitly or partially adhered to the policy indicators, including provision of free testing services and provider-initiated testing and counselling. Malawi was the only country with no policy targeting testing among high-risk groups; while Uganda and the United Republic of Tanzania did not define the high-risk groups. Only South Africa and Uganda had explicit policies enabling minors to access testing without parental consent.

Indicators related to quality of care were more variable. Anonymous HIV testing was guaranteed only in South Africa and Zimbabwe, whereas in Kenya, Uganda and the United Republic of Tanzania names could be recorded in registers to facilitate patient management. Various WHO documents emphasized confidentiality and protection from discrimination, but did not offer explicit guidance on maintaining anonymity. Only Kenya and the United Republic of Tanzania had policies limiting the number of testing sessions that counsellors can perform per day. While all countries stipulated the need for periodic refresher training for counsellors and quality control checks at sites, they varied in stated frequency, with the United Republic of Tanzania and Zimbabwe most explicit about how often retraining is required.

Policies influencing coordination of care and patient tracking were more ambiguous in the United Republic of Tanzania where there was no clear policy on repeat testing intervals for negatives or on repeat testing during pregnancy, labour or after delivery. Malawi was also ambiguous in this area, with repeat testing for negatives advised every 6–12 months for high-risk individuals and no explicit policy on repeat testing during pregnancy.

Regarding patient support, Malawi, South Africa and Uganda also stipulated that pretest HIV counselling be conducted either individually or in groups; others recommended at least one individual session. While all countries promoted couple counselling, this was not explicit in WHO guidance.

Access to care and treatment

Fig. 3 summarizes policies influencing access to care and treatment services, which varied more across countries. Free public sector access to PMTCT and ART was guaranteed everywhere, either explicitly in HIV policies or national health policies or implied in the national constitution, although WHO documents only implied free public sector access through promotion of universal access to HIV services. All countries promoted PMTCT availability within antenatal care and all allowed task-shifting of ART initiation to clinical officers, medical assistants or nurses (albeit with important variations in year of policy formulation, with Kenya, Malawi and the United Republic of Tanzania allowing task shifting as early as 2004/2005). Only Malawi and Uganda had explicit policies stating that all sites providing ART should also be able to initiate ART.

All countries had explicit policies on the need for CD4+ T-lymphocyte (CD4+ cells) testing at least every six months in the pre-ART phase and all recorded pre-ART visits in patient registers or forms. Only Kenya, Uganda and the United Republic of Tanzania had explicit policies on patient follow-up to ensure registration at treatment sites. All countries except Zimbabwe stipulated the need for PMTCT-ART referral, but only South Africa and the United Republic of Tanzania indicated when this referral should occur (six weeks after birth). Service integration between maternal and child health and ART was encouraged explicitly in Kenya, Malawi, Uganda and Zimbabwe.

Most countries adhered to WHO’s 2010 Option B regimen for PMTCT (provision of triple drug therapy to the mother during pregnancy until delivery
or cessation of breastfeeding), except the United Republic of Tanzania which still adhered to WHO’s Option A regimen at the time of the review (single dose drug therapy with zidovudine [AZT] during pregnancy, triple therapy at onset of labour using nevirapine, AZT and lamivudine [3TC], followed by dual drug therapy for seven days postpartum with AZT and 3TC). Malawi was the only country to have explicitly adopted WHO’s Option B+ regimen (initiation of life-long triple ART therapy during pregnancy) for all women in 2011, which was earlier than WHO guidance. Roll-out of Option B+ in Kenya and Uganda was dependent on the capacity of the health facility to initiate triple therapy. Most countries had explicit policies allowing all people co-infected with HIV and tuberculosis to initiate ART, but differed markedly in their year of uptake of this policy, ranging from 2004 in Malawi, to 2013 in South Africa. Country guidance varied on tuberculosis and HIV treatment initiation: Malawi and Uganda stated that co-infected patients must initiate ART on the same day or within two weeks of starting tuberculosis treatment (going beyond WHO guidance of within eight weeks); while Kenya stated that co-infected patients must initiate ART on the same day or within two weeks of starting tuberculosis therapy. Country guidance varied on tuberculosis and HIV treatment initiation: Malawi and Uganda stated that co-infected patients must initiate ART on the same day or within two weeks of starting tuberculosis treatment (going beyond WHO guidance of within eight weeks); while Kenya and the United Republic of Tanzania stated that treatment should preferably

### Table: WHO guidance and policies in six African countries influencing access to HIV testing, 2003 to mid-2013

| Policy | WHO guidance | Kenya | Malawi | South Africa | Uganda | United Republic of Tanzania | Zimbabwe |
|--------|--------------|-------|--------|--------------|--------|-------------------------------|----------|
| **Service coverage and access** | | | | | | | |
| Free testing at public facilities | 2001 Implied | 2006<sup>26</sup> | 2004<sup>27</sup> | 2010<sup>28</sup> | 2005<sup>29</sup> | 2005<sup>30</sup> | 2007<sup>31</sup> |
| PITC is standard for all clients including at ANK | 2004<sup>32</sup> | 2008<sup>33</sup> | 2006<sup>34</sup> | 2010<sup>35</sup> | 2010<sup>36</sup> | 2007<sup>37</sup> | 2005<sup>38</sup> |
| Testing targeted at high risk groups (e.g. sex workers, men who have sex with men, injecting drug users) | 2004<sup>39</sup> | 2010<sup>40</sup> | 2010<sup>41</sup> | 2010<sup>42</sup> | 2010<sup>43</sup> | 2010<sup>44</sup> | 2005<sup>45</sup> |
| Parental consent not required for youth testing (<18 years) | 2007<sup>46</sup> | 2008<sup>47</sup> If symptomatic, pregnant, married, parent, risky behaviours | 2009<sup>48</sup> Parents/guardian should know for youth <13 years | 2005<sup>49</sup> | 2010<sup>50</sup> | 2010<sup>51</sup> | 2007<sup>52</sup> | 2005<sup>53</sup> |
| **Quality of care** | | | | | | | |
| Anonymous HIV testing | | | 2006<sup>54</sup> Names in other registers (e.g. ANC) | 2010<sup>55</sup> | | | 2005<sup>56</sup> |
| Maximum of 15 clients/day per counsellor | | 2011<sup>57</sup> | | | | | |
| Periodic refresher training for counsellors required | 2001 onwards (all testing guidelines) | No frequency | 2009<sup>58</sup> No frequency | 2010<sup>59</sup> No frequency | 2010<sup>60</sup> No frequency | 2005<sup>61</sup> No frequency | 2015<sup>62</sup> At least every year | 2005<sup>63</sup> At least every year |
| Periodic quality control checks at testing sites required | 2005<sup>64</sup> No frequency | 2010<sup>65</sup> Twice a year (national) | 2009<sup>66</sup> Quarterly for laboratory | 2010<sup>67</sup> No frequency | 2005<sup>68</sup> Quarterly | 2005<sup>69</sup> Periodically, quarterly for laboratory | 2005<sup>70</sup> At least every year |
| **Coordination of care and patient tracking** | | | | | | | |
| Negatives retested every 6–12 months | 2007<sup>71</sup> | 2010<sup>72</sup> | 2009<sup>73</sup> Every 6–12 months for high-risk individuals | 2010<sup>74</sup> | 2005<sup>75</sup> | 2005<sup>76</sup> | | 2005<sup>77</sup> |
| Repeat testing in the 3rd trimester of pregnancy (if previously tested negative) | 2010<sup>78</sup> | 2010<sup>79</sup> | 2006<sup>80</sup> Implied | 2010<sup>81</sup> | 2011<sup>82</sup> | | | 2007<sup>83</sup> |
| Testing repeated during labour or after delivery if no prior test | 2010<sup>84</sup> | 2010<sup>85</sup> | 2006<sup>86</sup> Breastfeeding mothers offered routine testing every 3 months | 2010<sup>87</sup> | 2011<sup>88</sup> | | | 2007<sup>89</sup> |
| **Support to people living with HIV** | | | | | | | |
| Individual as well as group pre-test counselling recommended | 2003<sup>90</sup> | 2008<sup>91</sup> | 2006<sup>92</sup> Individual or group | 2010<sup>93</sup> Individual or group | 2005<sup>94</sup> Individual or group | 2005<sup>95</sup> | 2005<sup>96</sup> |
| Couple counselling encouraged | 2004<sup>97</sup> | 2008<sup>98</sup> | 2006<sup>99</sup> | 2010<sup>100</sup> | 2005<sup>101</sup> | 2005<sup>102</sup> | 2005<sup>103</sup> |

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**ANC:** antenatal care; HIV: human immunodeficiency virus; PITC: provider-initiated testing and counselling for HIV; WHO: World Health Organization.

* Information from key informant interview.
Fig. 3. **WHO guidance and policies in six African countries influencing access to HIV care and treatment, 2003 to mid-2013**

| Policy | WHO guidance | Kenya | Malawi | South Africa | Uganda | United Republic of Tanzania | Zimbabwe |
|--------|---------------|-------|--------|--------------|--------|-----------------------------|-----------|
| **Service coverage and access** | | | | | | | |
| Free PMTCT at public facilities | Universal access | 2011<sup>a</sup> | 2004<sup>a</sup> | 1996<sup>a</sup> | Implied in the constitution | 2011<sup>a</sup> | 2007<sup>a</sup> | 2005<sup>a</sup> |
| Free ART at public facilities | Universal access | 2011<sup>a</sup> | 2004<sup>a</sup> | 2010<sup>a</sup> | 2011<sup>a</sup> | 2007<sup>a</sup> | 2007<sup>a</sup> |
| PMTCT available at all ANC facilities | 2010<sup>a</sup> | 2012<sup>a</sup> | 2004<sup>a</sup> | 2010<sup>a</sup> | 2011<sup>a</sup> | 2012<sup>a</sup> | 2011<sup>a</sup> |
| Clinical officers, medical assistants and/or nurses initiate ART | 2005<sup>a</sup> | 2004<sup>a</sup> | 2010<sup>a</sup> | 2011<sup>a</sup> | 2013<sup>a</sup> | 2015<sup>a</sup> | 2010<sup>a</sup> |
| All sites providing ART also initiate ART | | | | | | | |
| **Coordination of care and patient tracking** | | | | | | | |
| HIV-positive clients followed-up to ensure registration at treatment site | 2004<sup>a</sup> | 2010<sup>a</sup> | No clear follow-up | No clear follow-up | 2005<sup>a</sup> | 2010<sup>a</sup> | |
| Clear guidance on when HIV-positive pregnant women referred to ART clinic | 2006<sup>a</sup> | 2012<sup>a</sup> | After delivery | 2012 | No specified time of referral<sup>a</sup> | 2010<sup>a</sup> | 6 weeks after birth | 2011<sup>a</sup> | No specified time of referral | 2012<sup>a</sup> | Day 42 after birth |
| MCH and ART integration for mother and child encouraged | 2006<sup>a</sup> | Implied | 2010<sup>a</sup> | 2011<sup>a</sup> | 2010<sup>a</sup> | ART for mother not specified | 2013<sup>a</sup> | 2010<sup>a</sup> |
| 6 monthly CD4 testing in pre-ART with CD4 count < 500 cells/µL | 2011<sup>a</sup> | Earlier if CD4 close to 500 cells/µL | 2011<sup>a</sup> | Every 3 months | 2010<sup>a</sup> | Every 6 months | 2003<sup>a</sup> | Every 6 months | 2005<sup>a</sup> | Every 6 months | 2010<sup>a</sup> | Every 6 months |
| Pre-ART visits recorded (registers or forms) | Left to country | 2011<sup>a</sup> | 2011<sup>a</sup> | * | | 2009<sup>a</sup> | 2009<sup>a</sup> | 2010<sup>a</sup> |
| **Medical management** | | | | | | | |
| WHO Option B ARV prophylaxis and ART regimen is the standard | 2010<sup>a</sup> | 2012<sup>a</sup> | 2011<sup>a</sup> | (Extended to B+) | 2010<sup>a</sup> | 2011<sup>a</sup> | 2010<sup>a</sup> |
| WHO Option B+ is the standard (all HIV-positive pregnant women initiate life-long ART) | 2012<sup>a</sup> | 2012<sup>a</sup> | Sites with capacity to initiate | 2011<sup>a</sup> | | | 2011<sup>a</sup> | At Level III and selected Level II health centres |
| All patients with tuberculosis eligible for ART initiation | 2009<sup>a</sup> | 2007<sup>a</sup> | 2004<sup>a</sup> | 2013<sup>a</sup> | Previously only MDR/XDR tuberculosis | 2013<sup>a</sup> | 2012<sup>a</sup> | 2010<sup>a</sup> | Once stabilized on tuberculosis treatment |
| Coinfected tuberculosis/HIV should initiate ART on the same day or within 2 weeks of starting tuberculosis treatment | 2013<sup>a</sup> | As soon as possible within 8 weeks | 2011<sup>a</sup> | Within the initial 2–8 weeks | 2011<sup>a</sup> | 2013<sup>a</sup> | 2013<sup>a</sup> | 2012<sup>a</sup> | As soon as possible, within 2 weeks preferably |
| Initiate ART at WHO stage 3/4, or 1/2 with CD4 count < 350 cells/µL | 2009<sup>a</sup> | 2011<sup>a</sup> | 2011<sup>a</sup> | 2013<sup>a</sup> | 2013<sup>a</sup> | 2011<sup>a</sup> | 2011<sup>a</sup> | 2012<sup>a</sup> | 2010<sup>a</sup> |
| Initiate ART within 7 days of ART eligibility | 2005<sup>a</sup> | 2011<sup>a</sup> | 2011<sup>a</sup> | 2013<sup>a</sup> | 2013<sup>a</sup> | As soon as possible | |
| Laboratory tests not required to start ART (e.g. FBC, LFTS/RFTS) | | | | | | | | | | | |
| Adherence counselling not compulsory before ART initiation | Strongly recommended | | | | | | | |

<sup>a</sup> Has explicit policy, <sup>b</sup> Has implicit policy, or policy has caveats or exceptions, <sup>c</sup> Is unclear whether policy exists, or policy conflicts with other policies, <sup>d</sup> Does not have policy

ANC: antenatal care; ART: antiretroviral therapy; ARV: antiretroviral; CD4: cluster of differentiation 4; FBC: full blood count; HIV: human immunodeficiency virus; LFTS/RFTS: liver function/renal function tests; MCH: maternal and child health; MDR/XDR: multi-drug resistant/extensively-drug resistant; PMTCT: prevention of mother-to-child transmission; WHO: World Health Organization.

* Information from key informant interview.
be initiated within two weeks. While all countries shared the standard ART initiation criteria, only Kenya and Malawi stipulated explicitly that ART should be initiated within seven days of being found eligible for treatment. Malawi and South Africa also had more liberal policies allowing ART initiation with minimum requirements for tests and counselling. Malawi has not required laboratory tests for initiation since the beginning of the treatment programme (2004). South Africa brought in this change in 2013 and stated that adherence counselling should not be compulsory before initiation.

**Retention on ART**

Fig. 4 summarizes policies influencing retention on ART. Stipulating that ART clinics include a doctor or clinical officer could be a barrier to access in resource-constrained contexts. This requirement is still applied in Kenya, Malawi, the United Republic of Tanzania and Zimbabwe (even though task-shifting for initiation occurred). Quality indicators also varied, with staff retraining and quality control intervals varying or not made explicit; for example no quality control was required after initial accreditation in South Africa, versus quarterly checks in Malawi, Uganda and the United Republic of Tanzania.

There were also important differences in coordination of care and patient tracking. Since the beginning of the treatment programme, Malawi did not promote routine CD4 monitoring, unlike all other countries where yearly or six-monthly monitoring was standard. While most countries advised that stable patients receive a three-month supply of drugs, two months of supplies were stipulated in the United Republic of Tanzania and one month in South Africa. All countries promoted regular pill counts, but only South Africa and Zimbabwe had explicit policies on home visits following signs of poor adherence – others recommended home visits or telephone contact following missed appointments. Only Kenya explicitly recommended daily register reviews to appointees, referral to peer support or home-based care programmes. Support to those on ART varied. All countries explicitly or implicitly recommended individual adherence counselling, but Malawi and Uganda did not stipulate referral to peer-support. Kenya and Uganda provided nutritional support to ART patients; Malawi stopped this in adults due to lack of evidence. Only South Africa, the United Republic of Tanzania and Zimbabwe routinely referred all ART patients to home-based care programmes.

All sites recommended routine screening for tuberculosis, but Zimbabwe did not routinely provide isoniazid preventive therapy for tuberculosis prevention. All countries except Zimbabwe recommended at least four first-line ART regimen choices to patients, but not all complied with WHO’s 2010 recommended first line standard therapy (tenofovir, 3TC and nevirapine/efavirenz). Zimbabwe was the first to introduce WHO’s recommended regimen in 2010. All countries except Malawi had clear criteria for switching to efavirenz-based regimens for patients who develop tuberculosis.

**Discussion**

Here we demonstrate wide variation in national HIV policies influencing service access and attrition through the diagnosis-to-treatment cascade across six countries with generalized HIV epidemics. Given that African countries usually adopt guidance from WHO, such a degree of policy variation is surprising.

Several indicators were consistent across all countries, but for many indicators, countries were progressive in selected areas and no country stood out as having a consistently enabling policy context that would have a decisive impact on service access and attrition. In Malawi, for example, policies designed to facilitate access to care (such as no requirements for routine CD4 testing, early adoption of the Option B+ PMTCT regimen, rapid ART initiation for those eligible), contrasted with certain policy gaps (such as targeted testing for high-risk groups, repeat testing during labour/after delivery, referral to peer support or home-based care for patients on ART). South Africa is another case where policies aiming to enhance access in some areas contrasted with policy gaps in others. South Africa had policies on anonymous HIV testing, home visits following signs of poor adherence and few barriers to starting ART (no required laboratory tests, adherence counselling, or physician presence in ART clinics), but lacked policies on quality control for ART, provision of three-monthly ART supplies, guidance on missed appointments or loss to follow-up and compliance with WHO first-line regimen standards. In the United Republic of Tanzania, an enabling policy environment for retention of patients in care and treatment contrasted with the slow adoption of WHO Option B+ and ART regimens containing tenofovir (both subsequently adopted in September 2013), as well as weaknesses in repeat testing intervals.

There were also important differences in the timing of policy implementation in some indicators. Malawi adopted Option B+ in 2011 (before WHO guidance) and has not required laboratory tests for ART initiation since 2004 (versus South Africa, which made this change in 2013). Policies to trace missed appointments with home visits or phone contacts vary in dates of implementation from 2004–2005 in Malawi and the United Republic of Tanzania, to 2011 in Kenya. While countries often lagged behind WHO in national policy adoption, in some instances countries went beyond WHO standards; notable examples included policies related to pre-ART CD4 monitoring intervals, rapid initiation of ART, task-shifting for ART initiation, drug resupply intervals, pill count recommendations, drug collection by designees, referral to peer support and home-based care. The fact that WHO had no explicit guidance on such topics may contribute to the differences in adoption of policies across countries.

Policies are likely to differ in their potential impact on service access and attrition. We are unable to judge, therefore, how policy differences are likely to influence mortality. There seems to be little correlation between policy profile and service coverage (Table 1). Our analysis did not attempt to weight policies – as this is likely to be highly subjective. One might expect that policies on patient coordination and tracking (e.g. pre-ART monitoring, timely initiation of ART
Fig. 4. **WHO guidance and policies in six African countries influencing retention on ART, 2003–mid-2013**

| Policy | WHO guidance | Kenya | Malawi | South Africa | Uganda | United Republic of Tanzania | Zimbabwe |
|--------|--------------|-------|--------|--------------|--------|-----------------------------|----------|
| **Service coverage and access** | | | | | | | |
| ART clinic staffing does not have to include doctor or clinical officer | 2008a | | | | | 2011a |
| **Quality of care** | | | | | | | |
| Periodic refresher training for ART staff required | 2010b | 2009b Implied | 2006b Every year | No frequencya | 2003b No frequency | 2005b Periodically | 2010b No frequency |
| Period quality control checks at ART clinics required | 2010b | 2011b No frequency | Every quartera | | 2003b Quarterly | 2012b Quarterly supportive supervision | 2010b No frequency |
| **Coordination of care and patient tracking** | | | | | | | |
| Routine 6 monthly CD4 count monitoring on ART | Not a prerequisite | 2005a | | | | | |
| 3 monthly drug supplies once stable on ART | 2011c | 2011c Monthly | | | | | |
| Pill counts at every visit | 2005d | 2003d | 2011f No frequency | | 2003d | 2009d | 2010d |
| Home visits following signs of poor adherence | | 2011g | | | | | |
| Missed appointment defined when 1 week late | 2011g | 2011g From 2 weeks | Not clear; 1 day common practicea | | | | |
| Home visit or telephone contact for missed visits | 2013g | 2011g | 2011g | | | | |
| Daily review of missed appointment registry | Patient scheduling system may assist | 2011h | 2011h Regularly reviewed | Not clear, common practicea | 2008h Implied | 2009h | 2012h |
| Lost to follow up defined with no attendance for at least 90 days | 2006h | 2010h | Not clear policy; common practicea | 2011h | 2009h | 2012h |
| Drugs can be collected by a designee | | | | 2006h | 2004h | | 2005h |
| HIV and tuberculosis services should be integrated within 1 facility | | | | | | | |
| Support to people living with HIV | | | | | | | |
| At least 1 adherence counselling conducted individually | 2005j | 2011j | 2011j | 2011j | 2003j | 2009j Implied | 2010j |
| All patients on ART referred to peer support groups | | | | | | Peer support recommended | 2012j |
| Nutritional supplements for malnourished patients | 2006k | 2005k | Adult programme stopped; now, only for children | | | | 2012k Therapeutic foods |
| All patients on ART referred to home-based care | | | | | | | |
| Medical management | | | | | | | |
| IPT for all HIV patients without active tuberculosis | | | | | | | |
| Tuberculosis screening at every pre-ART and ART visit | | | | | | | |
| WHO first line ART as standard | | | | | | | |
| At least 4 first line regimen choices in national programme | 2006k | 2011k | 2011k | 2011k | 2011k | | 2012k |

* Has explicit policy  ** Has implicit policy, or policy has caveats or exceptions  [ ] Is unclear whether policy exists, or policy conflicts with other policies  — Does not have policy

3TC: lamivudine; ART: antiretroviral therapy; AZT: zidovudine; CD4: cluster of differentiation 4; d4T: stavudine; EFV: efavirenz; HIV: human immunodeficiency virus; IPT: isoniazid preventive therapy; NVP: nevirapine; WHO: World Health Organization.

* Information from key informant interview.
Our review has some limitations. First, establishing the precise date of policy enactment was challenging. Publication dates represent formal enactment, but key informants reported instances in which policies came into effect earlier. Certain policies did not reappear in more recent documents, casting doubt on their validity. Furthermore, countries that recently produced HIV guidelines (South Africa: 2013 ART guidelines; Kenya: 2012 PMTCT guidelines) may appear to have more ‘advanced’ policies than those currently in the process of updating their guidelines, including Malawi and the United Republic of Tanzania. Second, the extent to which all relevant policy indicators were captured is uncertain. Our systematic approach to develop tools and indicators attempted to minimize this, but there may be other factors that were missed. We did not investigate the broader national policy environment (Fig. 1). Factors such as national politics, laws and the criminal justice system, programme financing mechanisms and donor coordination have been shown to have strong influences on health seeking-behaviour and service response.96–101 Country-specific policy analyses will be needed to analyse these national influences in detail.

Interpreting these findings with regard to potential programme impact is challenging. In part this stems from the wide variation demonstrated in our analysis, but perhaps more importantly because policies are only the first step in programme delivery. Their effectiveness depends on service-level implementation, as well community-level factors.99,100 Further analysis will examine how these different policies are implemented in ALPHA’s network of health and demographic surveillance sites. This will allow us to assess whether policy translates into practice and whether practice exceeds stated policies, as often claimed by our key informants. International efforts to monitor policy implementation – such as WHO’s estimates on ART policy implementation14 – are increasing and we hope that this review and its tools can support other efforts to track national policies.

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and adherence monitoring) have greater impact than policies on quality of care (e.g. staff training or quality audits). The relative emphasis on different policies also varied; some indicators were only mentioned once in one document, while others were core tenets of HIV service delivery and repeatedly mentioned.

We attempted to frame all policies as designed to increase service access and reduce attrition, but the direction of effect was not always clear-cut. For example, anonymous testing may promote access to diagnosis by reducing stigma, but may hamper linkage to care. Group pretest counselling may facilitate test access but have quality implications. Requiring people co-infected with HIV and tuberculosis to stabilize on tuberculosis treatment before initiating ART may be beneficial only for patients with very low CD4 counts.45 Allowing certain sites to provide ART refills may also be advantageous, allowing patients to access drugs nearer home. Fast-tracking patients into care (with rapid ART initiation and no requirements for laboratory tests or adherence counselling) may increase immediate uptake of services, but could undermine long-term adherence if patients are inadequately prepared for treatment. Not insisting on routine CD4 monitoring of ART patients in Malawi forms an important aspect of the public health approach to scaling up access, but may have negative consequences for timely identification of treatment failure.
Analyse comparative des politiques nationales de lutte contre le VIH dans six pays africains où l'épidémie est généralisée

Objectif Comparer les politiques nationales de lutte contre le virus de l'immunodéficience humaine (VIH) qui influencent l'accès aux services de dépistage et de traitement du VIH dans six pays d'Afrique subsaharienne.

Méthodes Nous avons examiné les politiques de lutte contre le VIH dans le cadre d'une étude multi-pays sur la mortalité des adultes en Afrique subsaharienne. Un outil d'extraction de données a été mis au point et utilisé afin d'examiner les documents et les directives des politiques nationales de lutte contre le VIH publiés en Afrique du Sud, au Kenya, au Malawi, en Ouganda, en République-Unie de Tanzanie et au Zimbabwe entre 2003 et 2013. Des entretiens avec des informateurs clés ont permis de combler les carences de ces résultats. Les politiques nationales ont été classées suivant leur degré de correspondance, explicite ou implicite, avec 54 indicateurs relatifs aux politiques, déterminés d'après des analyses documentaires et des examens d'experts. Nous avons également comparé les politiques nationales avec les recommandations de l'Organisation mondiale de la Santé (OMS).

Résultats Nous avons observé de grandes différences entre les politiques de ces pays, chaque pays étant avancé dans certains domaines et pas dans d'autres. Le Malawi l'était particulièrement en matière de promotion du démarrage rapide du traitement antirétroviral. Cependant, aucun pays n'avait un contexte politique pouvant systématiquement permettre d'augmenter l'accès aux soins et d'éviter l'arrêt du traitement. Dans certains domaines, les pays allaient plus loin que les recommandations de l'OMS et les informateurs ont indiqué que la pratique dépassait souvent le cadre des politiques.

Conclusion Évaluer l'impact des différentes politiques sur l'accès aux soins et les résultats en termes de santé des personnes qui vivent avec le VIH n'est pas chose simple. Certaines politiques exercent une influence plus forte que d'autres et les politiques officielles ne sont pas toujours mises en œuvre. Les travaux ultérieurs devraient évaluer le degré de mise en œuvre des politiques et mettre en lien leurs conclusions avec les résultats de la lutte contre le VIH.
Resumen

Un análisis comparativo de las políticas nacionales sobre el VIH en seis países africanos con epidemias generalizadas

Objetivo Comparar las políticas nacionales relativas al virus de la inmunodeficiencia humana (VIH) que influyen en el acceso a las pruebas del VIH y a los tratamientos en seis países sub-saharianos.

Métodos Se revisaron las políticas relativas al VIH como parte de un estudio multinacional sobre la mortalidad de adultos en África Subsahariana. Se desarrolló una herramienta de extracción de políticas y se utilizó para revisar los documentos y guías de las políticas nacionales relativas al VIH publicadas en Kenia, Malawi, República Unida de Tanzania, Sudáfrica, Uganda y Zimbabue entre 2003 y 2013. Se hicieron entrevistas a informantes claves que ayudaron a llenar los vacíos en los resultados. Las políticas nacionales se clasificaron según se adversarian explicit o implícitamente a 54 indicadores de políticas, identificados mediante bibliografía y opiniones de expertos. Asimismo, se compararon las políticas nacionales con las directrices de la Organización Mundial de la Salud (OMS).

Resultados Se descubrió que habla una amplia variedad entre las políticas de los países. Cada país estaba más avanzado en algunas áreas que en otras. Malawi estaba especialmente avanzado en la promoción de empezar rápidamente la terapia antirretroviral. Sin embargo, ningún país tenía un contexto de introducción de políticas consistente que incrementara el acceso a la atención primaria y evitara la deserción. Algunos países iban más allá de las orientaciones de la OMS en algunas áreas e informantes clave informaron de que la práctica relativa a menor se superaba la política.

Conclusión Evaluar el impacto de las diferencias en las políticas relativas en el acceso a la atención primaria y los resultados en la salud entre aquellas personas con VIH es un reto. Algunas políticas ejercerán más influencia que otras y las políticas oficiales no siempre se aplican. Las investigaciones futuras deberían evaluar el grado de aplicación de las políticas y vincular estos resultados con los resultados del VIH.

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