

Politics, Child Mortality, and Health System Development in Tanzania and Uganda, 1995-2009.

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ABSTRACT: Sub-Saharan African countries have diverged sharply in health status in recent years: Some have reduced premature mortality rapidly while others have made little progress, despite significant health-oriented foreign aid. This article identifies political economy and institutional factors that help explain dramatic differences in the pace of child mortality reduction between Tanzania and Uganda from 1995-96 to 2006-07. The existing literature largely explains divergence in basic health outcomes like child mortality with reference to economic variables such as GDP per capita, or in terms of inputs such as the level of public sector health spending. However, these factors cannot explain recent divergence across African countries with similar levels of GDP per capita, rates of economic growth, and levels of health funding. I argue that in addition to economic factors, governance-related variables can play a large role in determining health outcomes. I argue that institutional and governance divergences between Tanzania and Uganda can be linked directly to differing levels of coverage of key child health interventions (especially related to malaria control), and thus to differing child health outcomes. These governance-related divergences are found in the institutional dynamics of malaria control, in the degree of meritocracy and bureaucratic autonomy found at the Ministry of Health, in the political economy of health sector decentralization, and in corruption levels in the pharmaceutical supply chain. These institutional differences can be explained *in part* by historical factors, but the more relevant causes can be found in recent years. In Tanzania, there was an unusually effective project of institution-building in the health sector, centered on malaria policy and research institutions, and on district-level reforms driven by use of demographic surveillance systems. In Uganda, by contrast, there was a negative political shock to the health system, driven by the repatrimonialization of the Ugandan state after President Yoweri Museveni's decision to eliminate term limits in the 2001-2006 period and embark on the "president-for-life project." This repatrimonialization process reversed previous health sector institutional gains and had particularly negative effects on child health service delivery in Uganda.

Key words: child mortality – health – foreign aid – Tanzania – Uganda

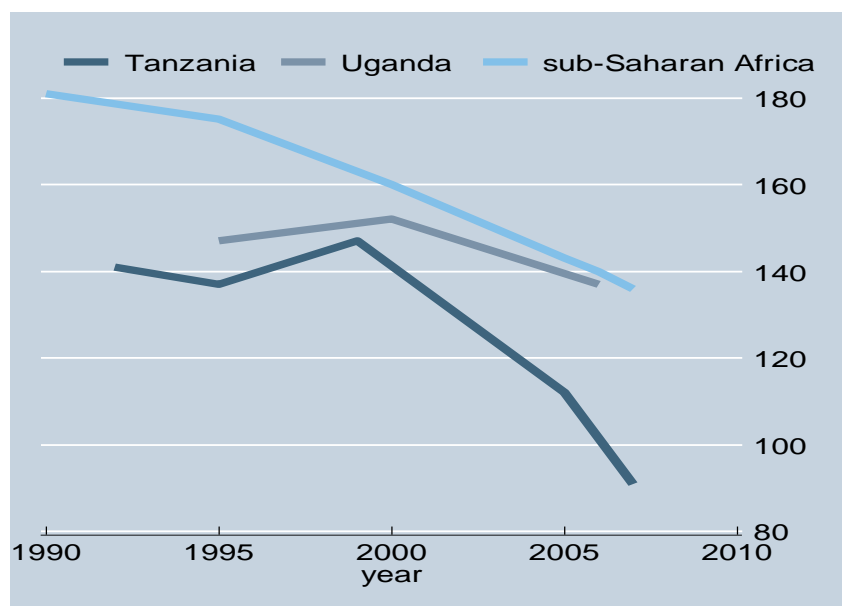
Introduction

In this paper I attempt to answer a real world puzzle of deep policy relevance: Why did Tanzania make rapid progress on basic health outcomes (such as under-5 mortality) over the past decade, while Uganda, which is very similar in many respects and which has received similar packages of health sector aid for this purpose, lag behind? Both countries started from similar place: in 1995, under-5 mortality was 137 per 1,000 in Tanzania (95% CI: 125-148) and 147 per 1,000 in Uganda (95% CI: 135-160)¹ A decade later, it had barely declined in Uganda, to 137 per 1,000, while it had declined 35% in Tanzania, to 91 per 1,000. The trends appear to have continued past 2007: Under-5 mortality has continued to fall in Tanzania, to 81 per 1,000 in 2010 (DHS 2010), and while 2009-2010 child *mortality* data is not available from Uganda, *morbidity* data suggests continued stagnation in child health: under-5 fever prevalence in 2009 was 45% (UMIS 2009), suggesting no reduction in morbidity levels over the past 15 years.² This article focuses specifically on the 1996-2007 period, when Tanzania's under-5 mortality declined by 34-35%, while Uganda's declined by 12-15%. The average decline for sub-Saharan Africa over the same period was 18%.³ What can explain this divergence?

¹ Excluding 6 northern war-affected districts in Uganda, the under-5 mortality rate was 156.

² Regression analysis of all DHS available surveys finds that a simple regression model of fever prevalence plus decade time trends captures 35% of the variation in child mortality.

³ Author's calculations from the institute for Health Metrics and Evaluation's under-5 mortality data set.

Figure 1: under-5 mortality decline in Tanzania, Uganda, and sub-Saharan Africa

Source: DHS data for Tanzania and Uganda, World Bank WDI data for sub-Saharan Africa

Direct comparison of the relationship between health sector interventions, policy changes, and health outcomes is challenging across African countries because reliable, survey-based population health data is usually collected sporadically, at non-standardized intervals. In this case, however, contemporaneous DHS and MIS surveys that were conducted in both countries over this period (in 1995, 2000, 2006, and 2009 in Uganda, and 1996, 1999, 2004, 2007, and 2010 in Tanzania) provide an unusual opportunity to compare differing relationships between intervention coverage, health status, and mortality change in the two countries. However, observing links between improved coverage of various health interventions and health impact simply pushes the question of causality one step back. What factors enabled improved coverage of certain interventions (and therefore improvements in health status)? I address this question with in-depth fieldwork in both countries (from May 2009-December 2010) that aimed to understand the underlying drivers of differences in health system performance.

Methods and literature review

This research relates to a broader empirical puzzle: Why is there so much variation in basic health outcomes across countries? There is a rich cross-country empirical literature which emphasizes the role of income per capita as the critical causal variable: Filmer and Pritchett (1999), for example, identify GDP per capita as the largest single determinant of under-5 mortality *levels*, while Summers and Pritchett (1996) find that economic growth is the single largest determinant of *changes* in under-5 mortality. These papers represent a much broader literature that finds an extremely robust and large relationship between income and key

summary measure of population health such as infant mortality, under-5 mortality, and life expectancy at birth (see figure 2). Yet income, while clearly very important, does not explain all of the variation – the existing literature still largely fails to explain the residual variation in mortality rates that is *not* explained by income levels. Many researchers have argued that governance-related variables play a role. Navia and Zweifel (2000), Lake and Baum (2001), and Przeworski et al (2000) all find that the advent of democracy enables countries to reduce child mortality, controlling for a range of relevant factors. Ross (2006), by contrast, argues that democracy does not reduce under-5 mortality, suggesting that Przeworski et al, Navia and Zweifel, and Lake and Baum fail to control for country and period fixed effects, and omit censored data from non-democratic regimes.⁴ Since Ross' 2006 article, both Kudematsu (2009) and Kiessling (2009) use different specifications and identification strategies that address much of Ross' methodological critique, once again finding that the advent of democratic rule *does* appear to reduce child mortality.

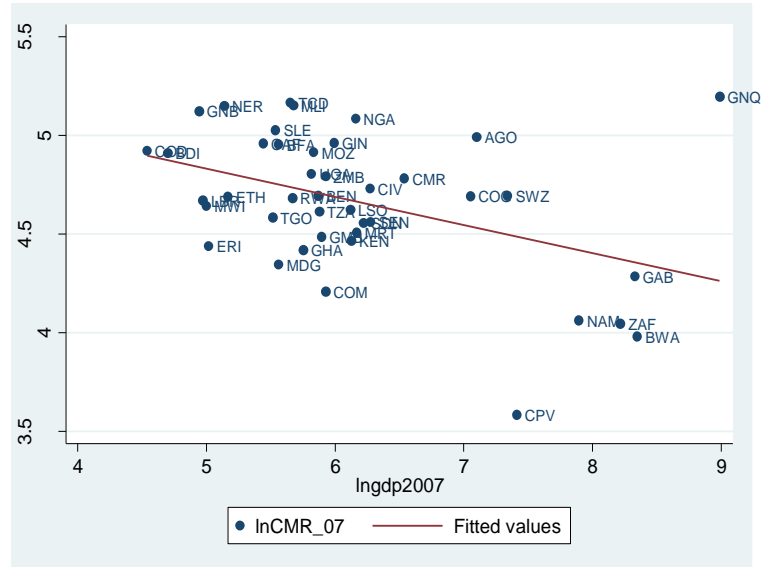
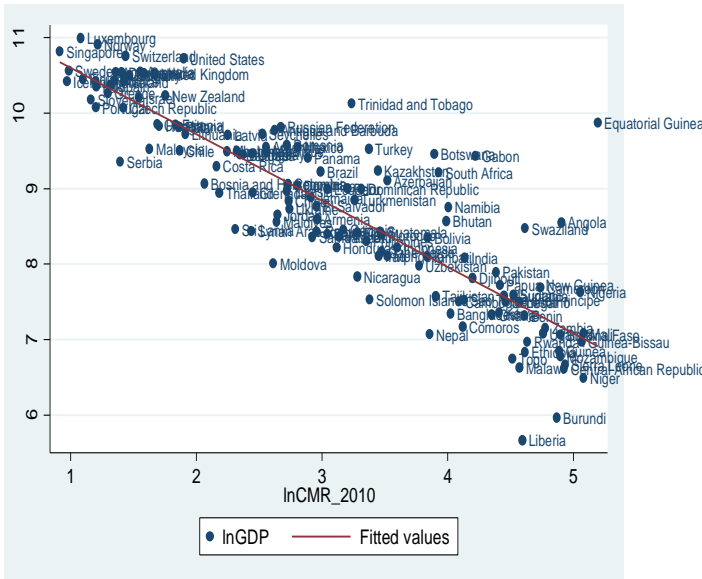
This literature appears to be at an impasse, possibly because of confusion about the *mechanisms* by which governance variables translate into improvements in health outcomes. While seems *a priori* highly plausible that governance affects key human development outcomes, the above researchers all focus on *democracy* as the key measure of governance. Yet democracy *per se* may not capture all of the relevant variation in governance. For example, Tanzania and Uganda are both rated as “partly free” by Freedom House, yet governance dynamics, especially as they relate to the health sector, are very different.⁵ Specifically, the sectoral distribution of patronage politics is different: the health sector is a major locus of patrimonialism in Uganda while in Tanzania the sector, particularly at the higher levels, is far more insulated from similar pressures. This suggests that “small N” analysis is needed to suggest *specific mechanisms* through which governance might affect population health outcomes. Furthermore, the Tanzanian and Ugandan cases are also examples of the small group of highly aid dependent sub-Saharan countries that have received massive scale up in development assistance for health over the past decade, from PEPFAR, the Global Fund for AIDS, TB, and Malaria, and other donors.⁶ Such countries are few enough in number that multivariate analysis is impossible. In-depth comparative case studies are therefore needed.

⁴ Ross shows that when censored data and time and period fixed effects are included, democracy has no independent effect on infant or child mortality.

⁵ Most of the above studies use Polity measures of democracy except Kudematsu, who self-codes democracy, and Przeworski et al, who use a dichotomous democracy variable. The Polity data provides 0-10 continuous rankings of democracy and autocracy for each country, which are typically merged into a single 21 point combined scale.

⁶ Tanzania and Uganda are both in the top five total recipients of health sector aid since 1990, according to data from the Institute for Health Metrics and Evaluation.

Figure 2: log under-5 mortality and log GDP per capita, entire world (a) and sub-Saharan Africa (b)



This article builds on the existing literature in two ways. First, it examines cases that show dramatic divergence on the dependent variable of child mortality despite extremely similar trends in both *levels* and *growth rates* of income per capita. Second, by providing a detailed account of links between institutional factors and health sector performance, it may help illuminate the current stalemate in the econometric literature (described above) about the role of institutional variables in child mortality reduction.

Comparative case study approaches are only valid if the countries in question are similar on the relevant independent variables (Przeworski and Teune 1971). Tanzania and Uganda make useful test cases because despite their sharp differences in health system performance in recent years, they are sufficiently similar in more general terms for the comparison to be valid. They are neighboring countries, with similar colonial heritages, climactic conditions, economic structures, levels of ethnic fractionalization, and political institutions. As table 1 shows, they have almost identical incomes per capita, and rates of growth have tracked each other closely in recent years.

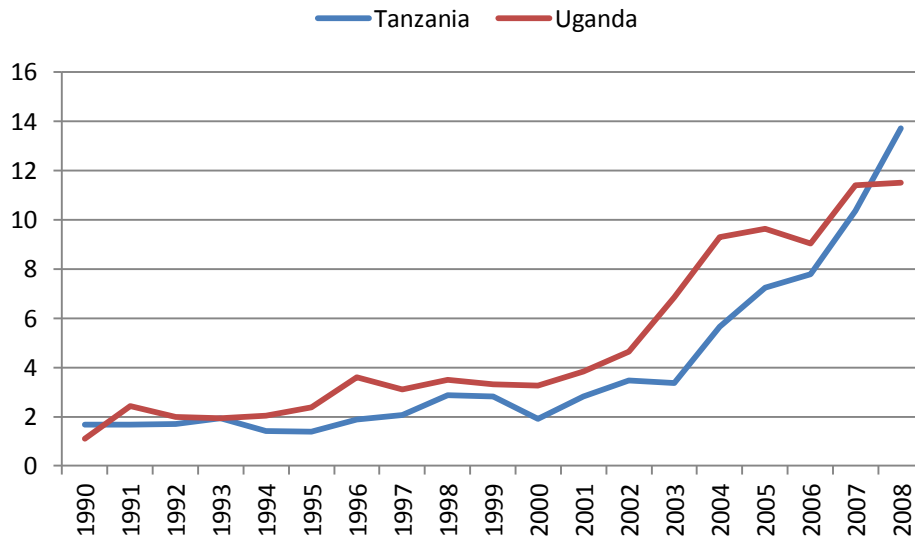
Table 1: Economic and social indicators, Tanzania and Uganda

indicator	Tanzania	Uganda	Source
GDP per capita	\$382	\$366	World Bank 2010
Poverty rate	0.34	0.23	Uganda Bureau of Statistics, Tanzania National Panel Survey 2009
Ethno-linguistic	0.90	0.93	Posner (2004)

fractionalization index			
Freedom house rating	partly free	partly free	Freedom House 2010
Human Development Rank	148	143	UN 2010
HIV prevalence	5.7	6.4	UDHS 2005, THMIS 2007

In addition, Tanzania and Uganda have very similar HIV epidemics, with 6% prevalence, and between 300,000 - 400,000 people in need of antiretroviral therapy. In broader socioeconomic terms, the 2010 UN Human Development Index ranks Uganda 143rd and Tanzania 148th out of 169 countries. It is also notable that foreign aid for health has followed an almost identical trajectory in the two countries over the period of this study. As figure 3 shows, both countries received in the range of \$50 million annually in the 1990s, with rapid scale up beginning in the latter part of that decade. And both countries dramatically increased health spending from domestic resources over the period in question.

Figure 3: Foreign aid for health per capita, 1990-2008



These similarities in socioeconomic variables and health system inputs suggest that differences between the two countries must be more complex than simple divergence in economic growth, social conditions, or levels of health sector financing. In this article, I identify differences in governance trajectories that affect the provision of key child survival interventions. Direct links from governance to concrete health service outcomes related to child mortality can be observed in at least 5 areas: malaria control, immunizations, decentralization of health services, sectoral governance at the Ministry of Health level, and the pharmaceutical supply chain. Ultimately, these differences can be linked to deeper political dynamics. First I will describe trends in these 5 health system areas, and then discuss the broader political economy trends that have driven them.

Determinants of child mortality

Drawing direct links from governance variables to specific health outcomes like under-5 mortality rates might seem challenging, but it is actually quite plausible in the Tanzanian and Uganda cases, in large part because the causes of under-5 mortality are extremely similar in both countries (neonatal causes, malaria, acute respiratory infection, and diarrhea account for over 80% of under-5 mortality), and these causes are directly addressable with well-known, cost effective interventions.⁷ Thus links between improved health services and lower child mortality should be visible via changes in coverage of key interventions that target these conditions, or else in contextual factors such as poverty, food security/malnutrition, female literacy, or access to water and sanitation (Mosley and Chen 1984). However, contextual factors do not seem to be important contributors to the divergence – DHS and household budget surveys show that neither country saw dramatic changes in these areas over the period in question. The only notable difference is Uganda’s strong progress on poverty reduction, which if anything, should lead us to expect faster mortality reduction *in Uganda*, not Tanzania. This leaves health interventions as the likely causal driver. Jones et al (2003) list the 18 interventions that are of proven efficacy for reduction of under-5 mortality in countries with Tanzania’s and Uganda’s burden of disease profile. DHS surveys provide reasonably comprehensive data on coverage of 13 of these interventions in both countries over the period in question. This data shows that for many of these 13 interventions, the changes in coverage rates in the two countries were fairly similar. For example, both countries made very little progress on key indicators related to maternal health, such as percentage of births attended by skilled health workers, and both had minimal change in immunization coverage rates. Both countries showed little to no progress in nutrition outcomes such as stunting or wasting.⁸

The category of interventions that shows the biggest difference is clearly malaria control, where Tanzania moved out ahead of Uganda. In Tanzania, coverage of key malaria control interventions like use of bed nets and access to first-line anti-malarial drugs has gone up sharply, with net ownership reaching 75% of all households, the percentage of children sleeping under a net reaching 72%, and the percentage of febrile children receiving first-line drugs reaching 37% (DHS 2010). In response to improved coverage, malaria prevalence rates appear to have decreased, and other intermediate outcomes such as fever in under-5s have dropped as well. DHS data shows that fever in children under-5 went from 35% in 1999 to 19% in 2007 (although the 2010 DHS shows a slight uptick to 23%), and severe anemia in under-5s (which is closely linked to malaria) decreased by 45% (Mandike, 2011). Smithson (2009) provides additional data from districts with malaria and other sentinel surveillance sites showing declines in malaria prevalence from 24% to 4% in Dar es Salaam between 2004 and 2008 (an 85% decline), and from approximately 35% to between 10%-15% (in Rufiji and Ifakara sentinel surveillance areas between 2000 and 2008). Moreover, he shows that in the 13 sentinel hospitals monitored by the National Malaria Control Program, the number of blood slides testing positive for malaria dropped by half between 2000/2001 and 2007.⁹

⁷ Undernutrition is also a common background condition contributing to under-5 mortality; see Black et al 2008.

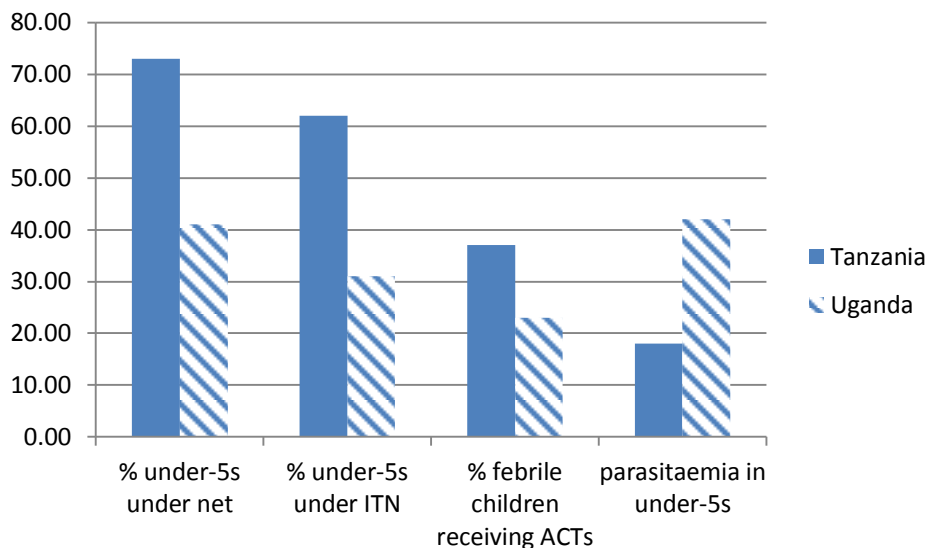
⁸ Looking at other key child health interventions, both countries made similar gains in Vitamin A supplementation. Prevalence of diarrhea was unchanged in both countries, although Tanzania did slightly better than Uganda on diarrhea treatment.

⁹ Shortly after Smithson’s work was published in 2009, the NMCP published the results of a group of surveys conducted by the NMCP and by evaluators of the Tanzania National Voucher Scheme. These show further evidence of progress on malaria; specifically they record even lower levels of malaria prevalence than the 18% found in the THMIS. NIMR recorded 20% parasitaemia in 2005 and 14% parasitaemia in 2006, while the NATNETS survey found 11% parasitaemia in 2008. Both surveys also largely confirmed the trends found in the DHS and THMIS surveys about bed net ownership and use, and malaria treatment practices.

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In comparison, as figure 2 shows, Uganda has achieved malaria control coverage levels approximately half as high as Tanzania, with 41% of under-5s sleeping under any net and just 34% sleeping under an insecticide-treated net, while just 23% of sick children receive ACTs. Unsurprisingly, given these low coverage levels, malaria prevalence in under-5s is more than twice as high as in Tanzania (UMIS 2009). Similarly, measured fever levels in under-5s (a rough proxy for malaria in highly endemic countries) have not declined, as in Tanzania. Instead reported fever over the two weeks prior to the DHS survey remained essentially flat over the past 15 years, from 46% in 1995 to 45% in 2009 (UDHS 1995, UMIS 2009).

Figure 4: malaria control intervention coverage in Tanzania and Uganda, 2009-2010



Institutional determinants of successful malaria control

While DHS data tells us what outcomes Tanzania and Uganda have achieved with respect to coverage of malaria interventions, it does not tell us *why* those outcomes differed. After all, both countries have very similar malaria control strategies, both were approved for a number of large Global Fund grants for malaria control, and both were among the 15 “focus countries” for the US President’s Malaria Initiative. However, the *institutional environment* into which those resources and strategies were introduced was extremely different. In Tanzania, the most salient aspect of the malaria control institutional environment is the existence of a large policy network of malaria researchers and policymakers both inside and outside of government. The second factor relates to high-level political attention given to malaria, which has given sectoral leaders the freedom to benefit from the existence of this policy network. Specifically, high-level political attention support for malaria control resulted in meritocratic appointment, technical autonomy, and continuity in office for key National Malaria Control Program (NMCP) leaders. These leaders, in turn, showed openness to input and cooperation from the largely non-governmental malaria community. By contrast in Uganda, there have been numerous instances of political interference in technical NMCP matters, widespread corruption, and high levels of staff turnover in the NMCP. The NMCP in turn has demonstrated weak capacity, and little willingness to compensate for weak capacity by utilizing outside technical assistance from domestic or foreign researchers and malaria implementers.

Malaria control in Tanzania

Tanzania's malaria policy network encompasses domestic research organizations such as the Ifakara Health Institute (IHI), the National Institutes of Medical Research (NIMR), and the Center for Effective Malaria Interventions (CEEMI), multilateral organizations like the WHO and the Global Fund, bilateral donors like the US President's Malaria Initiative, and Swiss Development Cooperation, NGOs such as Population Services International, and international public health researchers from institutions such as the Swiss Tropical Institute and the London School of Hygiene and Tropical Medicine. This network has been incorporated at various times into formal institutional structures, for example as a Ministry of Health-led "Task Force" from 1999-2002, and later as a Steering Committee for the "NATNETS" ITN distribution program, or as the "ITN consultative group" (Magesa et al 2005). However, the strength of these formal institutions has been buttressed by informal networks largely centered on the Ifakara Health Institute, a malaria research facility based in the Kilombero district in rural Tanzania.¹⁰ Ifakara is unusual in the extent to which it has been able to translate research results directly into policy, driving Tanzania's early adoption of new malaria control interventions. The precise reasons for this kind of successful collaboration are necessarily quite specific to the particular actors, individuals, and relationships involved in the situation. However, one key factor appears to be related to *ownership*. While Ifakara was run by the Swiss Tropical Institute for many years, in 1996 it was endowed as an independent trust, with strong Tanzanian official representation on the governing board. As a result Ifakara (and accompanying malaria research) is "owned" not just figuratively but literally by Tanzanians. One researcher noted that:

You can get results translated, and you can make sure that the Minister and everyone is fully briefed, and can proudly raise the Tanzanian flag over these results. It's much easier for the Ministry to take on results that come from inside the country, and are presented by national scientists, then something that comes from far, far away.¹¹

While this local ownership is key, so too is *very long term and sustained* outside engagement (Ifakara was started in 1956). The sustained nature of outside engagement with Ifakara has had various institutional benefits. One example is that the connections with Swiss Tropical and Public Health Institute and Ifakara have resulted in a strong commitment to training Tanzanian researchers: by 2011, 50 Tanzanians had received PhDs at STI.¹² This in turn has created a cadre of technically strong Tanzania researchers, some of whom have become leaders at IHI, and others who have gone on to senior governmental positions. Moreover, many of these outside researchers themselves have maintained long term relationships and engagement in Tanzania, to positive effect. One donor representative noted the following:

STI [the Swiss Tropical Institute] has really played an empowering role, thanks to all the researchers that went through, and thanks to the fact that Ifakara is a district-based facility, not Dar es Salaam-based...The researchers go there, they stay there for years, they start to speak Kiswahili, they "go native" in a positive sense, and they empowered their Tanzanian colleagues and said, yes, you can

¹⁰ The Ifakara Health Institute was started in the 1956 in rural Tanzania by researchers from the Swiss Tropical Institute, see <http://www.ihl.or.tz/about-history.php>.

¹¹ Interview, Ifakara Health Institute malaria researcher, December 2009, Dar es Salaam.

¹² Interview, Don de Savigny, Swiss Tropical and Public Health Institute, Spring 2011.

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do it! And I think that has been an excellent process...And the link to the policy, that's interesting, how has it developed? ... There has been a continuous flow of information between Ifakara and the Ministry, and it's quite informal.

Outside influence has likely helped in a number of ways. Beyond technical expertise and additional resources, Njau et al (2009) note instances in which international intervention helped overcome implementation bottlenecks.¹³ Moreover Njau (2009) and Magesa et al (2005) both describe an iterative process whereby malaria policy stakeholders (domestic and international) embarked on a long term, painstaking process of *political coalition building* for malaria control. This extended beyond key health sector stakeholders to the Ministry of Finance, private sector actors, and political leaders up to and including the President. This kind of coalition-building for a particular development objective requires pre-existing relationships of trust between local and international stakeholders, and detailed, country-specific knowledge about the relevant actors and their interests. It also unfolds, as Njau et al point out, over quite a long period of time: The process began in the early 1990s, and in some sense has its roots in earlier malaria research. Therefore it is very difficult for very short term-oriented donors or outside actors unfamiliar with the country context to do successfully.

The second factor that has contributed to success of malaria control has been political interest in health in general, and malaria in particular, on the part of high-level political leaders. President Kikwete for example chairs the African Leaders Malaria Alliance, and has often spoken out in international fora about the importance of malaria control.¹⁴ This high-level political will has likely been a reason why the NMCP in Tanzania has been largely insulated from particularistic pressures and given substantial bureaucratic autonomy. Over this period, the NMCP had continuity in leadership (former NMCP head Dr. Alex Mwita, for example, held the position for over 15 years). Unlike in Uganda, where malaria policy was deeply politicized, Tanzanian NMCP leaders has substantial technical autonomy and made a number of decisions that were sound on the merits but went contrary to the interests of sectoral interest groups.¹⁵ A well-led NMCP was in turn open to technical assistance, both from the broader malaria community. As one Ifakara researcher noted:

There has been that sort of informal networking and the Ministry is very, very open to that. They don't say, we're going to hide in a corner and write our strategy and then ask you what you think of it. They do tend to say: Well, let's get everyone around a table and put our ideas together. And if there are people who are ready and willing to put some effort into that, then they do of course have an influence on strategy development.¹⁶

In a similar way, the NMCP also opened its doors to embedded units. For example, it hosts an embedded "ITN cell," which is a donor-funded project implementation unit which leads implementation of key activities such as the various bed net distribution programs. This positive relationship between the malaria research and policy community and the Ministry generated a virtuous cycle. Outside actors devoted time and money to malaria control in Tanzania in part because the government was receptive. Research was then successfully translated into policy, leading to malaria control success, which then attracted funding, which led to more reliance on the malaria community for policy advice, which led to further success.

¹³ An example of this is when the Global Fund was ready to pull the plug on Tanzania's first Global Fund grant, due to bureaucratic delays in program initiation. They were persuaded not to do so when the Roll Back Malaria ITN working group intervened (described in Njau et al 2009).

¹⁴ See for example, Kikwete's article, "We Must Do Better Against Malaria." *Guardian (UK)*, July 30 2010.

¹⁵ Interview, World Bank July 2009, Washington DC; interview with malaria technical expert, March 31 2011, Washington DC.

¹⁶ Interview, Ifakara Health Institute, September 2009, Dar es Salaam.

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Malaria control in Uganda

In Uganda, malaria control strategies and policies look very similar on the surface to those in Tanzania, but the *institutional context* has been extremely different. There were two main reasons for this. The first was related to the Global Fund scandal that was uncovered in 2005, where senior Ministry of Health officials were found to have used Global Fund resources, including malaria funding, for political and personal gain. This misuse of resources had direct effects on malaria control programming, helping to explain why Uganda's first malaria grant received a very low rating and was not renewed. In addition to explaining poor past performance, it harmed malaria control efforts from that point forward. Following the scandal's exposure, Global Fund grants were suspended temporarily, Ministry staffers were removed, and new staff were reluctant to implement programs aggressively in a politically-charged atmosphere. The subsequent delays in funding meant, for example, that an innovative program for home-based management of fever essentially collapsed, because it was predicated on reliable supplies of artemisinin combination therapy (ACT) anti-malaria drugs.

But corruption was not the only problem with Global Fund malaria grants. After the scandal, the Global Fund had imposed new conditions for the government of Uganda to fulfill before new grants could be initiated. Certain conditions were politically sensitive, such as prosecution of involved high-level officials and return of misused money. But these were not necessarily the conditions blocking implementation. The Global Fund appeared to show flexibility on these points: a 2009 Inspector General report, for example, gave Uganda credit for taking some preliminary steps towards accountability, and for the return of some of the misused money, and indicated that these conditions were no longer blocking funding (Global Fund OIG, 2009). The real sticking point by that stage was in what appeared to be a much simpler condition: the Global Fund insisted that procurement of bed nets be handled by third party actors. Ugandan officials rejected this, arguing instead for single source procurement from local suppliers.¹⁷ This resulted in a stalemate in malaria program implementation. A deal was eventually reached in 2009, but at cost of severely delayed bed net programs and lost opportunities to use Global Fund grant money (delays are especially costly because Global Fund grants expire five years from grant initiation). In this instance, malaria control stakeholders inside and outside government blamed interference from political leaders for overruling technical advice from health sector policymakers and thereby blocking progress on malaria.

Similarly, Uganda was eligible for an international facility for heavily subsidized anti-malarial medicines known as the Affordable Medicines Facility for Malaria (AMFm). For a period of time in 2010, Uganda had decided to reject the subsidy because of the interests of a local pharmaceutical factory that the government had invested in, known as Quality Chemicals. The government eventually reversed this decision and a compromise was reached in February 2011, but only after senior international health officials flew to Kampala to pressure Ugandan leaders. However, the episode again highlighted a pattern of deep politicization of malaria control policy. As one Ugandan malaria expert noted, the contrast with other AMFm-eligible African countries was clear: "Nigeria and Ghana have big local pharma, but they have signed their [AMFm] grants. And Nigeria, if you

¹⁷ Interview, Uganda NMCP official, Kampala, April 2010.

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look at first line buyers, they have hundreds! But here [in Uganda] we are talking about maybe ten or so. But in Uganda we have local pharma that has high political clout.”¹⁸

In addition to the corruption scandals and deep politicization of the malaria policy process, a further difference with Tanzania was very clear. Whereas in Tanzania the NMCP accepted embedded staff and had a close relationship with the technical community, this same process was completely absent in Uganda. Distrust, rather than close collaboration, was the norm. A strong public health research community exists in Uganda as in Tanzania, but it has more difficulty translating its findings into policy. The research-to-policy transmission mechanism that was so effective in Tanzania was almost completely absent in Uganda. As one former Ugandan Ministry of Health official put it:

The [Makerere University] School of Public Health is a very credible institution and it produces very good reports and research, but the Ministry does not care about these reports. They don't even look at it. These people could go and talk to them, but they will probably literally go to sleep until it is all done, and they will just close the books and that's the end of the story. And so we don't have that relationship ... [By contrast] I see that strong linkage also in Kenya. KEMRI [Kenya Medical Research Institute] is a very strong institution and ...there is also a much stronger link between KEMRI as a research institution and the Ministry's policies, just like the Ifakara one in Tanzania. But we don't have this relationship here in Uganda.

Political economy of health sector decentralization

A second area where institutional and governance-related factors played an important role was in health sector decentralization. Both countries decentralized responsibility for many public services, including health, to the district level over the course of the 1990s. In the health sector, both based their decentralization design on the same international model: the essential health interventions package model promoted by the World Bank in the 1990s. In Tanzania, decentralization is viewed as one of the major success stories in the health sector, while in Uganda it has been exactly the opposite. At a 2010 conference in Kampala, Minister of Health Stephen Mallinga argued that decentralization had created a fragmented, tribalized health system, stating that “you can decentralize many things, but health is dangerous.”¹⁹

In Tanzania, by contrast, there is broad agreement that decentralization was a major step forward for the health sector. For example, Masanja et al (2008) give decentralization significant credit for Tanzania's under-5 mortality decline, noting that “increased public expenditure on health could also be especially powerful in decentralized health systems when such resources are targeted towards essential cost-effective interventions...By introducing sector-wide capitation grants that gave districts substantial financial resources...[Tanzania] opened opportunities for local problem solving and provided resources for districts to selectively increase resources for key interventions.” While this interpretation seems plausible, many reforms occurred concurrently over this period, making it very difficult to untangle the effects of any individual reform. Yet whatever the independent effect of these reforms, it is clear that the positive aspects of decentralization are related to its origins in a pilot project, known as the Tanzania Essential Interventions Project, or TEHIP

¹⁸ Interview, malaria NGO director, Kampala, April 19, 2010.

¹⁹ Speech at Management Sciences for Health/SURE conference in Kampala, Protea Hotel, April 15-16 2010. Quote taken from author's notes.

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(DeSavigny et al 2004).²⁰ The TEHIP project sought to pilot the World Bank’s Essential Health Package concept by collecting detailed burden of disease data in two selected rural districts, and then providing district management teams with this data, along with new budgeting tools that showed, in clear graphic form, the match (or mismatch) between their spending and the actual burden of disease. Because the project was implemented in districts with Demographic Sentinel Surveillance systems,²¹ it was possible to show that the project had dramatic effects on population health outcomes: Under-5 mortality declined by 40-50% in the project districts of Morogoro Rural and Rufiji. Inspired by these quantifiable results, the Ministry of Health quickly decided to make TEHIP the model for national decentralization.

By giving districts real autonomy over health funding, these reforms appears to have increased ownership and therefore performance by Council Health Management Teams, and to have improved allocation of funding towards the real burden of disease. Perhaps most important, by creating a relatively functional district health management structure, decentralization inspired the donors to create the district level basket fund, which has generated significant resources for service delivery at the local level. This basket fund has typically comprised 10-20% of the total health budget, reaching approximately \$75 million annually by 2008-2009 (Ministry of Health 2008). As such, it has provided a source of predictable and stable funding for front-line health services.²²

In Uganda, the story was very different, even though the design of decentralization was extremely similar.²³ Health sector leaders also began to implement decentralization in the late 1990s, following the essential health package model. Yet in contrast to Tanzania, in Uganda this process was undermined by the political economy of decentralization, as manifest in the rampant creation of new districts over the past decade. In 2002 Uganda had 56 districts; today there are 114. Green (2010) has documented this process, showing that districts have typically been created immediately before and after elections, in politically sensitive areas, and that the result has been increased vote shares for Museveni in new districts. This had a clear negative effect on health sector decentralization. For example, Tanzanian interlocutors stressed that decentralization only works if district health management teams can be intensively trained in their new management tasks, and Smithson (2010) notes that decentralization’s success in Tanzania was in part due to “significant investment in procedures, guidance, and training for district-level health planning.” Yet in a context of haphazard multiplication of districts, comprehensive training and careful handover of responsibility became impossible in Uganda. As one Uganda doctor put it:

²⁰ TEHIP, in turn, was based on the “essential health package” concept found in the 1993 World Development Report. This report suggested that if high mortality countries shifted health spending away from expensive curative services in urban areas towards an “essential health package” of specific interventions that targeted the main drivers of the burden of disease, they could make major progress against mortality and morbidity. By the mid-1990s, donors were looking for a country to pilot this approach. Tanzania expressed interest and was selected.

²¹ There was one pre-existing DSS system, and one developed for the purposes of the TEHIP project.

²² In Uganda, where the donors give general budget support (and where no district basket fund was ever instituted), the districts often complain that they are starved of resources, and indeed the increase in funding for districts in Uganda has been exclusively for the wage bill (World Bank, 2009).

²³ While similar in many respects, there are also several key technical differences in decentralization design between the two countries, relating both to Uganda’s lack of burden of disease data for planning purposes, and limited autonomy given to district health teams due to extensive earmarking of the district health budget.

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You see, when they break up a district...what do you have at the new district? The mother district never gives away its headquarters. The mother district never gives away its good staff, because they get to choose. So to build capacity in terms of staff, in terms of infrastructure, all that kind of stuff, even knowledge, it becomes very difficult, because most of the guys who are going there are junior people.²⁴

More generally, rampant district creation threw health service delivery in Uganda into chaos, and drove increases in administration costs at the expense of service delivery. Given that decentralization was the heart of Museveni's patronage strategy for regime maintenance, health sector decentralization never really had a chance.

Political dynamics of Ministry-level governance

A third link from institutional factors to health outcomes can be seen by examining health sector governance, with a focus on the Ministry of Health. Both Tanzania and Uganda started from similar places in the mid-1990s, with relatively strong leadership and technical teams in high-level Ministry positions. In Tanzania this was the era of the TEHIP pilot and other district-level experimentation; in Uganda, this was similarly a period of reform: as one Makerere University health expert noted, it was "a time when technocrats could drive the process."²⁵ Yet the dynamics at the Ministry level diverged in the early 2000s. Tanzania continued on a positive path, with continued strong leadership, especially senior technical positions such as the Chief Medical Officer role. By contrast, Uganda underwent a severe decline in capacity and autonomy in the Ministry between 2001 and 2005. As one former Ministry official noted:

At that time [late1990s/early 2000s], you had from the political leadership, these very highly committed, strategic thinkers. The then-Minister was first of all chairman of the Global Fund board.... And then if you look at the head of the technical leadership, it was also very committed - an impeccable long serving civil servant, Professor Omaswa - and this has changed. And the people in the planning department, Dr. Kadama is out, at the time that Professor Omaswa is out, at the time that [Minister] Kiyonga is going out. And then you have a new set of managers from both the technical and the political, and I think that has affected [things], and I think it's really governance and stewardship at that level.²⁶

The new team that came in, led by Minister of Health Jim Muhwezi and Deputy Ministers Mike Mukula and Alex Kamugisha, had very clear negative effects on Ministry capacity. Most notably, this team was directly implicated in the Global Fund scandal, which (as described above) resulted in the critical funding cuts and severely damaged malaria control programming. These three officials were also directly implicated in a similar scandal related to Global Alliance for Vaccines and Immunization (GAVI) funding, which had similarly negative effects on immunization programming. Beyond direct effects on programming, the involvement of these leaders in high profile scandals created serious institutional decay in the Ministry. Highly qualified, skilled professionals did not want to work in a Ministry led by corrupt leaders, and many left. As one interlocutor noted;

The good people who were in the Ministry - the ones who were expert in their field, the ones who go to Durban, to Geneva [for international health conferences] - if they had a good leader, they would really blossom. But I guess when they get the military guys put on top, then they just get snuffed out and try to find other ways out...And then when the Global Fund crisis came, it was even worse, because they were all under suspicion. Even the good ones became suspect.²⁷

²⁴ Author interview, March 30, 2010, Kampala.

²⁵ Author interview, MUSPH researcher, Kampala, August 2009.

²⁶ Author interview, April 19, 2010, Kampala.

²⁷ Author interview, April 21, 2010, Kampala.

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Another interlocutor noted that “All the champions [in the Ministry] fought, they were cornered, and then they left.” The turmoil associated with this period started a period of short tenure and high levels of turnover in high-level Ministry positions. By early 2010, for example, the Ministry had had four Permanent Secretaries in the five years since the Global Fund scandal (*Monitor*, March 16, 2010). Tanzania, by contrast, had continuity in high level Ministry positions over this period.

Missing drugs? Differing supply chain dynamics

A final area of linkage between governance factors and basic health system outcomes is in the supply chain for essential medicines. In this area, the formal reform programs and strategies pursued in the two countries were extremely similar, yet the results were quite different. In both countries, the late 1990s saw a series of supply chain reforms centered on installation of “pull” systems, whereby districts order drugs from the central government based on their usage, in place of kit-based “push” systems in which standardized drug kits were sent out on a bi-monthly or quarterly basis. Resources for drug procurement also increased sharply in both countries (Nazerali et al 2006; Euro Health Group 2007). In Tanzania, however, stakeholder interviews suggested that gradual progress was occurring, albeit in a frustratingly slow manner, and with distressingly frequent ACT stock outs in 2010-2011. By contrast, in Uganda stakeholders spoke of tangible *decline* over the period in question. In empirical terms, the differing drug supply situations can be best demonstrated by the identical Service Provision Assessment facility surveys that took place in both countries in 2006-2007. In Tanzania, this survey showed that 77% of all facilities had three essential child survival medicines in stock: a first-line antimalarial, a first-line oral antibiotic for pneumonia, and oral rehydration salts for diarrhea, with no difference in availability between public and private facilities. By contrast, in Uganda, just 23% of facilities had all three of these, and *only 12% of public sector facilities* had all three drugs.²⁸

These differences could not be caused by the technical strategies pursued for supply chain strengthening, which were virtually identical in the two countries. A more likely cause is the degree of corruption in the supply chain. This point was made by none other than President Museveni: In late 2010, for example, he held a press conference in which he stated that it was pointless to allocate more money from the budget for medicines, since he knew that the drugs would simply be stolen and smuggled to southern Sudan or DR Congo anyway: “The issue is not about increasing the budget because even if we did and the drugs are stolen because there’s a big need in the DRC, we would not get enough drugs to survive our own hospitals.” (*Daily Monitor* September 10, 2010). On another occasion he said: “Local governments have not made the purchases, and even the few drugs that reach health centers from the National Medical Stores have been stolen, leading to shortage of drugs.” (*New Vision*, February 7 2010).

Nor was Museveni was the only government authority highly critical of the medical supply chain: the 2006/07 Auditor General’s Report noted a gap of 6.6 billion UGX between Parliament’s allocation and National Medical Stores’ delivery of drugs, noting that funds had also been re-allocated for things like foreign travel for NMS senior staff (Ssewanyana et al 2010). In August 2010 the Auditor General showed that 6.7 billion worth of drugs expired between July 2005 and June 2008, while 736m UGX was lost via the storage and eventual

²⁸ Similar results were seen in 2003 in a 4 district drug tracking study (cited in World Bank 2004), which found that stock outs were much higher in the public sector than in private facilities, and that they were particularly high for antibiotics use to treat acute respiratory infection.

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destruction of unneeded drugs (*New Vision*, August 20, 2010). The Danish aid agency DANIDA, which had been a major supporter of efforts to reform the supply chain, decided not to renew its support, and as a result the health sector in 2010 was facing a shortfall in financing for essential medicines.

The final indication that reforms to the essential medicines supply chain did not have the desired effect is that these reforms were, as of mid-2010, in the process of being completely reversed. Persistent failure of the pull system to ensure supply at the facility level led NMS first to attempt to decentralize ordering down to the facility level, and then to request the Ministry to simply to return to the kit system (*Monitor*, February 24 2010). The clear implication is that a full decade of “reform” was wasted, in large part due to Uganda’s inability to stem corruption in the pharmaceutical supply chain. A further governance-related complicating factor relates to decentralization – several supply chain stakeholders noted that the task of delivering medicines to the district level has become exponentially more difficult as the politically-motivated creation of new districts continues apace (Ssewanyana et al 2010).²⁹

Tanzania had its share of supply chain challenges over this period as well. In 2009 for example the Global Fund Inspector General found significant weaknesses in Tanzania’s procurement and storage practices. However, Tanzania’s subsequent supply chain reforms were strong enough that in 2010, the Global Fund cited their supply chain strengthening actions as an example of “best practice” response to an Inspector General audit (Global Fund Observer, Sept 2010). By 2011 there were more signs of progress, such as an SMS-based system providing real time data on ACT malaria stock levels, and new supply chain system investment from PEPFAR and Global Fund. Other health system functions were poised to improve in Tanzania, particularly the use of data and evidence, thanks to the innovative plan, funded by the Global Fund, to expand Tanzania’s network of Demographic and Health Sentinel System (DHSS) sites into a nationally-representative surveillance panel. The contrast with Uganda, where system-level weaknesses in the supply chain and elsewhere have remained unaddressed for many years, is striking.

Conclusion: Historical Legacies, Bad Luck or Deliberate Political Choices?

The policy implications of this story become apparent when we consider *why* health sector governance differed so sharply between the two countries. If it was simple bad luck, or the product of deep historical forces, then the policy relevance is quite limited. On the other hand, if there are more recent factors or deliberate decisions that have contributed to this divergence, then there may be a potential policy response.

Accidental decline?

Given that the change in Ministerial leadership was a key event in Uganda’s health sector decline, it is important to establish the motivations behind this change. One could certainly imagine, for example, a less competent leadership team coming about more or less by accident—in most political systems, ministers are

²⁹ In the pre-election period of 2010-2011, drug availability became a political issue, and President Museveni instituted a new team at the Ministry of Health called the Medicines Monitoring Unit, whose mandate was to crack down on drug-related corruption. (*Independent*, February 7 2010). But it was hard to find observers of the health sector in Uganda during this period who viewed this as a genuine commitment to improved accountability, rather than election year posturing.

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shuffled periodically, and competence levels vary. The backgrounds of the Ministers and Deputy Ministers from the period in question, however, strongly suggest that their appointment was not an accident. Then-Minister of Health Jim Muhwezi was not a medical doctor but a former army officer, former intelligence chief, and a major ruling party power broker.³⁰ Prior to being appointed Minister of Health, he *had already been dropped from the cabinet once before because of corruption*. Deputy Minister of Health Mike Mukula was also a former army officer and senior party official (he is currently Vice Chairman of the NRM for the Eastern Region of Uganda.) Deputy Minister Alex Kamugisha was also an NRM political figure from the same district in western Uganda as Muhwezi and many other party leaders.³¹ These three officials were all identified as key culprits in both the Global Fund and GAVI scandals. In the hearings associated with the Global Fund scandal, Justice Ogoola repeatedly uncovered expenditures that he identified as related to political mobilization, including Museveni's campaign to eliminate presidential term limits.³² By virtually all accounts, sectoral governance deteriorated sharply when these leaders came into office, and the health sector in Uganda has not recovered from the patrimonial dynamics that became entrenched in the Ministry of Health during this period.

Historical roots

If Uganda's decline was not simply bad luck, a second possible explanation is that the differences in health sector governance (and thus outcomes) between Tanzania and Uganda have deep historical roots and therefore could not be avoided. The strongest evidence for this is the fact that the post-independence Tanzanian state had an unusually strong ideological commitment to basic social services, based on Nyerere's distinctive brand of humanistic socialism. Nyerere relinquished the presidency (voluntarily) in 1985, but this welfarist legacy lives on via the institutions that he created, especially the ruling party, Chama cha Mapinduzi (CCM). The party's political culture is still influenced by the ideology of its founder, and this helps explain the priority attached to health services in Tanzanian politics.³³ President Kikwete, for example, has taken an active role in international forums on malaria control. The contrast with Museveni's lack of interest in the health sector in recent years (in contrast to his early leadership on HIV/AIDS) is glaring. Nyerere also cultivated a national Tanzanian identity, and established strong norms against politicization of ethnic or regional identities. Museveni also de-emphasized ethnic identity in his early years, but has reverted to instrumentalization of ethnic and regional identity via his decentralization patronage strategy in recent years.

Critical junctures: The President-for-Life Project and Health Sector Institutional Decay

³⁰ Muhwezi had a very different professional background from the highly-regarded Minister of Health that he replaced (Former Minister Crispus Kiyonga was an MD and had also received his MPH from Johns Hopkins.)

³¹ Current Minister of Health Stephen Malinga was an opposition MP who got the Minister of Health post after switching parties to join the NRM, and current Minister of State for Health James Kakooza was the main political mobilizer behind the third term project, and is a current promoter of a seven year term for Museveni.

³² In one example, funds went to pay NRM campaign workers (Kasfir 2010), while in another, Vice President Gilbert Bukenya channeled funds to an NGO under his control to do voter mobilization activity in his parliamentary constituency (*New Vision*, March 29 2006). Deputy Minister Mukula was also found to have used Global Fund money for political travel (*New Vision* Nov 25 2006).

³³ This can be seen in the way CCM still uses health-related promises as an electoral tactic: The Ministry of Health, for example, produced its highly ambitious Primary Health Care Development Plan ("MMAM," or *Mpango ya Maendeleo ya Huduma za Afya za Msingi*), which promises a dispensary in every village by 2017, in response to a commitment in the last CCM election platform (Smithson, UNICEF 2009). While the thrust is on building structures rather than improving services (a similar plan in education resulted in an unfortunate quality/quantity tradeoff), it is at least a manifestation of some degree of popular responsiveness on health issues.

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This discussion of historical factors may make it seem as if the divergence between Tanzania and Uganda was inevitable. It was not. Specific political choices in the recent past have played a greater role than deep historical factors. Despite the historical differences mentioned above, by the mid-1990s the two countries had converged on a similar level of under-5 mortality, and by that period, Ugandan President Yoweri Museveni had begun an institutional reform process that made Uganda one of the higher capacity states in the region. By the mid-1990s, Uganda was a star economic reformer and Museveni was dubbed a leader of an “African Renaissance” by President Clinton. Museveni was hailed for his innovative state building approaches in key governance areas such local-level governance (Ndegwa and Levy 2004) and public financial management (Mallaby 2004). In the health sector, Uganda was internationally hailed as a pioneer in successful HIV/AIDS policies. High-level political leadership enabled an innovative HIV prevention campaign that helped Uganda cut its prevalence rate from an estimated 18% at the height of the epidemic to the most recent estimate of 6% (Uganda AIDS Commission 2007). Successful promotion of large scale health behavior change was clearly well within the capacity of the Ugandan state. Moreover, in both countries, the mid-to-late 1990s were a period of institutional reform in the health sector, marked by the initiation of sector-wide approaches (SWAPs) for foreign aid, decentralization of health services to district governments, and the development of five year “Health Sector Strategic Plans.” If Ugandan political leaders had wanted to build on this promising beginning to make a push for broader health system improvement analogous to their earlier success on HIV prevention, there is little reason to believe they could not have done so. Historical legacies were not holding them back in any direct or deterministic way.

Instead Uganda shifted course, and the health sector began a process of rapid institutional decay. Understanding the reasons for this change is key to understanding why Tanzania and Uganda diverged in health sector governance, and therefore in basic health outcomes. The question that must be answered, therefore, is: What caused this dramatic change in Uganda in the early 2000s?

After winning re-election in 2001, President Museveni faced term limits. This meant that unless the constitution was changed, he would have to leave office in 2006. He faced a critical decision about whether or not to attempt to remain in power. He chose to hold on to power, despite constitutional restrictions, and in the face of considerable political opposition. The scope of opposition became clear in the 2001 presidential election, when Museveni faced a serious challenge from his former personal physician and Bush War comrade, Kizza Besigye.³⁴ In this challenging political environment, the political tasks required for the “president-for-life” project – winning a referendum in 2005 to change the constitution, and a presidential election in 2006 – required extraordinary means. Museveni took two key steps that directly affected the health sector. First, Museveni placed key regime leaders in donor-funded ministries where significant resources could be diverted. This explains the installation of NRM grandees such as Muhwezi, Mukula, and Kamugisha in the Ministry of Health. (It is notable that they were not put into ministries that were personal priorities for Museveni, however – as Mwenda (2011) notes, the Ministry of Finance, the Central Bank, and Revenue Authority were more insulated.) The installation of these corrupt power brokers in the Ministry led directly to the Global Fund

³⁴ Besigye’s candidacy was particularly dangerous for Museveni because it signaled a split within the NRM elite, and within Museveni’s ethnic base in the Ankole region of Western Ugandan.

scandal (which eviscerated malaria control) and also to the GAVI scandal (which harmed vaccination programs.) It also led to a major exodus of technical staff from Ministry of Health, who were loath to continue working in that kind of atmosphere.

Second, Museveni dramatically increased the practice of creating new districts, and in doing so, vastly expanded his patronage network by coopting local ethnic elites. Between 2002 and 2011, for example, over 50 new districts were created. Since each new district entails 204 new administrative jobs (Mwenda 2010), Museveni created on the order of 10,000 new NRM supporters. Given the pyramidal logic of patrimonial systems, these 10,000-plus clients were themselves patrons to their own lower-level clients and supporters. While the political logic was clear, the implications for health services were dire. According to the World Bank (2010), “newly-created districts—bedeviled by poor infrastructure and inadequate staffing—are small, remote, and lack the requisite capacity to manage and deliver health services.” Nor was this just the World Bank’s opinion. A handful of newspaper headlines after a flurry of district creation in 2010 show the response of Ugandan society: In the *Daily Monitor*, one article noted that “Civil Society Decries Formation of Districts” (April 24, 2010); another was blunter: “To Hell with the District Craze.” April 26 2010). An editorial in the government-aligned *New Vision* asked, “Do we need all these new districts?” The *Observer* carried an editorial titled “New Districts Don’t Bring Service Closer,” (April 26-28, 2010) and an analysis stating that “New Districts Sting and Sink the Poor” in the same issue.

The contrast with contemporaneous events in Tanzania is stark. Just as Uganda was experiencing the term limits turmoil in 2005, Tanzania was also facing a difficult political transition. President Mkapa, only the second president since Nyerere’s retirement in 1985, was preparing to leave power after two terms, and a competition ensued within CCM for the party’s presidential nomination. Unlike in Uganda, however, there was no discussion of Mkapa changing the constitution to eliminate term limits. Moreover, the competition for the party nomination was ultimately settled in an institutionalized manner. Current president Jakaya Kikwete defeated Salim Ahmed Salim in a vote of CCM’s National Executive Council. The institutionalization of political succession in this way is not a panacea: it does not necessarily generate any bottom up pressure for improved governance, for example, nor does it mean that there was no horse-trading or corruption associated with the formation of Kikwete’s winning coalition. Nor does it generate generic “good policy” – Tanzania’s record on poverty reduction over the past 15 years, for example, is quite poor, despite strong economic growth. What the process did, however, was enable Tanzania to avoid a downward governance spiral of the kind that Museveni’s efforts to hold onto power have sparked in Uganda. There was already an innovative process of health system strengthening occurring in and around the margins of the formal health system in Tanzania, related to malaria control, demographic and health surveillance, and district-level capacity building. Institutionalized political succession did not create these processes, but it meant that they could continue more or less undisturbed by high politics.

The broader lesson appears to be that strong Institutions (defined, per Douglass North, as organizations or rules that constrain opportunistic behavior by political leaders) benefit human development outcomes, but that democracy *per se* is not always the relevant institution. In both Tanzania and Uganda elections are of dubious importance, dominated by the respective ruling parties which use both formal and informal mechanisms to ensure their victory (Hoffman and Robinson 2010). However, intermediate institutions, such as

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political parties with formalized rules and established principles for circulation of power, can de-personalize politics and limit the power of any individual political leader. This institutional difference has had, through a fairly direct causal chain, dramatic effects on the differential ability of the Tanzanian and Ugandan states to implement successful health sector policies and thereby improve basic indicators of population health.

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