

Are public–private partnerships the future of healthcare delivery in sub-Saharan Africa? Lessons from Lesotho

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ABSTRACT

Many governments in sub-Saharan Africa are seeking to establish public–private partnerships (PPPs) for the financing and operation of new healthcare facilities and services. While there is a large empirical literature on PPPs in high-income countries, we know much less about their operation in low-income and middle-income countries. This paper seeks to inform debates about the use of PPPs in sub-Saharan Africa by describing the planning and operation of a high-profile case in Maseru, Lesotho. The paper highlights several beneficial impacts of the transaction, including the achievement of high clinical standards, alongside a range of key challenges—in particular, the higher-than-anticipated costs to the Ministry of Health. Governments have budget-related incentives to promote the use of PPPs—even in cases in which they may threaten financial sustainability in the long term. To address this, future proposals for PPPs need to be exposed to more effective scrutiny and challenge, taking into account state capacity to proficiently manage and pay for contracted services.

INTRODUCTION

Many governments in sub-Saharan Africa are seeking to establish public–private partnerships (PPPs) for the delivery of new health facilities and services.¹ While there is a large empirical literature on PPPs in high-income countries, we know much less about their operation in low-income and middle-income countries (LMICs).² This paper seeks to inform debates about the appropriate future role of PPPs in such contexts by describing the procurement, management and impacts of a PPP in Maseru, Lesotho, incorporating the part-financing, construction and operation of a 425-bed hospital, a gateway facility and three ‘filter’ clinics. The author was commissioned by the World Bank to assess the implementation of the PPP. This work, conducted between January and September 2013,³ included interviews with government officials, Tšepong staff and individuals involved in managing the contract. Alongside the academic literature (outlined in

Summary box

- ▶ The Lesotho public–private partnership (PPP) is an ambitious attempt to outsource new healthcare facilities and a broad range of clinical services.
- ▶ At the contract’s half-way point, the quality of services delivered is relatively high, but the costs to government have been greater than had been forecast.
- ▶ The Ministry of Health has limited capacity to plan, procure, manage and pay for the contract, undermining its ability to meet wider health system objectives.
- ▶ Policy actors that promote PPPs should ensure that new proposals are subject to independent challenge, taking into account domestic capacity to manage complex contracts.

section 2), this initial research had helped to shape the research questions addressed in this paper—though the data collected as part of that assignment are confidential and are not reported. The present paper is based on public documents alongside data obtained from key stakeholders through requests for specific information.

The deal was initiated by the Government of Lesotho and the International Finance Corporation (the private sector financing arm of the World Bank), which described the transaction as “an innovative and sustainable model for governments and the private sector to collaborate in delivering better health services... across sub-Saharan Africa”.⁴ The contract was signed in October 2008 by the Ministry of Health (MoH) and Tšepong—a consortium of investors led by Ntcare, a South African healthcare company.⁴ The deal is ambitious in terms of the range of activities outsourced to the private sector—including the responsibility to provide new healthcare facilities alongside a range of primary, secondary and tertiary care services (table 1).⁴ The present analysis was conducted half-way through the contract period—which, assuming it runs its full length, will terminate in December 2026.³



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Table 1 A typology of hospital public–private partnerships (PPPs)¹

PPP category	Common term (countries in the sub-Saharan Africa region where the model is being considered or implemented) ^{1†}	Definition
Services	Operating contract (Kenya, Uganda, Lesotho)	A private entity is brought in to operate and deliver publicly funded healthcare in a public facility
Facility/finance	Private Finance Initiative, PPP, P3 (Burkina Faso, Ghana, South Africa)	A private entity is contracted to design, build, finance and maintain a hospital. Most clinical services within the facility continue to be provided by the public sector
Combined	PPP (Benin, Lesotho, Nigeria)	A private entity is contracted to design, build, finance and maintain a hospital, and provide core healthcare services under public financing

The analysis begins in section 2 (below) with a brief overview of the theoretical and empirical research on PPPs in high-income countries. This defines the framework for the investigation of the Lesotho case, the findings from which are presented in section 3, and which focus on (1) the financial features of the transaction, (2) the procurement process through which it was established, (3) the management of the contract and (4) the annual costs of the deal to the MoH. Finally, in section 4, the key lessons of the Lesotho experience are drawn out to provide an assessment of the future role of PPPs in sub-Saharan Africa.

LITERATURE ON THE COSTS AND BENEFITS OF PPPS

In this paper, we define PPPs as long-term contracts between a public and a private entity in which the latter is responsible for delivering new healthcare facilities and services. In PPPs of this kind, the private entity earns an income stream from a performance-adjusted ‘unitary fee’, paid by the public entity, alongside user fees (where applicable). Contracts usually last for more than 15 years, but can last longer.⁵ Governments often favour the use of PPPs over public procurement because they provide access to private capital and thus allow the impact on public budgets of any related up-front expenditures to be deferred. However, the result is a long-term financial commitment—to repay the private capital with interest, and pay service costs and the expected profits of the private companies involved.

The economic case for using the PPP model over a ‘conventional’ public procurement resides in its ability to transfer the risks of infrastructure and service delivery to the private sector, resulting in a lower risk-adjusted cost to the state—that is, better value for money.⁵ Theoretically, this transfer is achieved in three ways. First, the payment to the private sector is made *as, when and to the extent that* facilities and services are made available to users. Failure to achieve these outcomes results in reduced payments to the private sector. Second, the private sector’s profits are determined by its ability to minimise costs—for example, by exploiting *economies of scope* across the ‘bundled’ range of activities under its control (design, construction, maintenance, service delivery etc)—in ways that are

impossible under direct public procurement. Third, a degree of *contestability* during procurement constrains the state’s future costs by eliminating excess profits, enabling the state to capture a share of the efficiencies secured through risk transfer and bundling.⁵

In practice, these mechanisms do not always function. The extent to which they do so varies between contexts. To ensure the private sector’s revenues are determined by its performance, government must be able to (1) write a comprehensive contract with clearly defined outcomes, (2) establish effective processes for monitoring and verifying performance, and (3) impose deductions and penalties whenever performance falls short. To generate contestability, a government must be able to ensure competitive tension in procurement (which may not always be feasible given that, in many contexts, there will be few firms with sufficient capacity to undertake the full range of services over a long period), while bidders must have access to efficient capital markets.⁶ In reality, achieving contestability during PPP procurements has been rare in high-income countries, and the cost of capital has been higher than the risk-adjusted rate on government debt.⁶

The model has also been shown to generate a distinct set of incentive problems. As referred to above, the upfront costs of PPPs are often not recorded on government spending or borrowing statistics. Consequently, the use of the PPP model generates a short-term addition to public sector capital budgets compared with the use of conventional procurement (in which expenditure on construction is recorded as it is incurred).⁶ There has been a tendency for public authorities to see private capital as a ‘free good’ and to *overinvest* through PPPs.⁷ A common finding in the literature is that projects deemed affordable at the point of contract subsequently create financial problems for public authorities—that is, once new healthcare facilities are operational and the invoices fall due.⁷

Overall, the research on PPPs in high-income countries generates four key insights for analysing the appropriate future role of this model in sub-Saharan Africa. First, there is a tendency for states to *overinvest* via off-budget private financing, resulting in projects of a scale and a cost that can ultimately threaten the financial sustainability of health systems. This is a real concern where

there is a lack of capacity to take long-term spending commitments into account when preparing budgets, as is the case in most countries in the region.⁸ Second, the prospects for securing value for money depend on the state's contracting expertise. To transfer risk appropriately, state officials must be able to specify, in a comprehensive and enforceable contract, their goals over a long period of time, and design and enforce a payment mechanism that links private sector revenues to those goals. Third, value for money depends on there being a good level of competition in procurement. Once contracts are signed, the public sector must, finally, be able to establish a robust monitoring regime to ensure that the outputs being paid for are, in fact, being achieved.

Such competencies are lacking in some, perhaps most, LMICs in sub-Saharan Africa.⁹ On behalf of the World Bank, the *Economist Intelligence Unit* (EIU) analyses countries with regard to their capacity to undertake PPP projects, taking regulatory, institutional and operational competencies into account. Its most recent report on the African continent included an assessment of capacity for 12 LMICs in sub-Saharan Africa, summarising the results in scores of between 0 and 4 (4=best).¹⁰ Four of the studied countries (Angola, Cameroon, DRC and Nigeria) received a score of 1; seven a score of 2 (Cote D'Ivoire, Ghana, Kenya, Rwanda, Tanzania, Uganda and Zambia) and just one (South Africa) had a score of 3.

Even where such capacity exists, low levels of contestability between bidders and high private finance costs are likely to inflate contract prices, just as they have in high-income countries (though there is debate about whether these costs can be offset through the efficiency benefits of having private capital *at risk*).¹¹ The impacts of these factors are likely to be more severe in LMICs because equity investors will require additional margins for *political* and *macroeconomic* risks. In addition, the EIU 2015 report considers countries' access to markets for debt capital. All countries except Kenya (2) and South Africa (4) received a score of 0 or 1 on this indicator, suggesting that in most countries long-term debt capital will either be unavailable or available only at a very high cost. In this respect, it is worth noting that the concessional financing on which LMICs in sub-Saharan Africa rely for most of their 'conventional' public procurement carries very low interest rates (often 0%–1%), and repayments are usually stretched over 30–38 years, including a grace period of 5–10 years.¹²

THE LESOTHO PPP CONTRACT

In January 2007, the Government of Lesotho initiated the tender to replace the ageing Queen Elizabeth II hospital. On 27 October 2008, it signed a contract with Tšepong, a consortium led by Netcare, a company based in South Africa, to design, build, part-finance and operate a 425-bed tertiary hospital (the Queen 'Mamohato Memorial Hospital) in the capital city, Maseru, and a gateway clinic adjacent to the hospital. The project also

Table 2 Details of funding sources, revenues and returns*¹⁵

Sources of capital expenditure		
	April 2007 Maloti (million)†	%
Government grant (excluding VAT)	400	34.3
Commercial debt—drawdowns	589.83	50.6
Commercial debt—capitalised interest	70.62	6.1
Junior debt—DBSA and Netcare	93.68	8
Shareholders' contribution		
Equity—local firms	6.25	0.5
Equity—Netcare	4.16	0.4
Total private finance	765	65.7
Total	1165	100
Private sector revenues and returns		
The unitary fee	255.55	
Equity IRR (after advance company tax)		25.2
Interest rate on 'junior' debt		13.1
Interest rate on senior debt		11.62

*Errors due to rounding.

†1 Maloti=US\$0.12 (2018).

DBSA, Development Bank of Southern Africa; IRR, internal rate of return.

refurbished and re-equipped three 'filter' clinics, also located in the capital at Qoaling, Mabote and Likotsi, that would manage patient referrals to the hospital.¹³

At the time the contract was signed, the upfront capital cost of the project was estimated to be M1.165 billion (US\$84 million in 2007 dollars) (table 2).¹⁴ Construction was to last 2 years and be followed by a 16-year operational period in which Tšepong would maintain the facilities and manage all clinical and non-clinical services within them. During this period, Tšepong would receive a 'unitary fee' from the government, set to cover all expected operational costs plus a return to debt and equity. The fee was set at M255.6 million (US\$18.4 million in 2007 dollars).¹⁴ Use of the facility would be free for patients, except for a small co-payment for some services, 90% of which would transfer to the MoH.¹⁴

The contract required both the government and Tšepong to contribute to the upfront capital costs.¹⁴ Public capital of M400 million was provided, and private capital of M765 million financed the rest. As is normal for a PPP, the majority of the capital cost that was financed by the private sector did not score in measures of government expenditure or borrowing.⁹ Of the amount that was privately financed, a loan provided by the Development Bank of Southern Africa (DBSA) accounted for the

majority, at an annual interest rate of 11.65%. The DBSA and Netcare also provided loans at a rate of 13.1%.¹⁴

Finally, Netcare and a group of local investors provided share capital (ie, equity) of M10.41 million. Netcare was the largest individual shareholder.¹⁴ When the contract was signed, the forecast internal rate of return—analogueous to an annual interest rate—on shareholder capital was 25.2%. It should be noted, however, that the *actual returns* may have been higher or lower than this rate (as this information is not in the public domain).

The weighted rate of return on these sources of capital are, as expected, far higher than would have been the case on the concessional funding on which Lesotho, in common with most other governments in the region, relies for ‘conventional’ public procurements. (The average interest rate on the government’s debt in 2011/2012 was 0.6%, for example.)⁹

The procurement process

Two consortia, both anchored by South African hospital operators (Netcare and Life Healthcare), submitted responses to the government’s Request for Proposals (RfP).¹⁵ At the end of this process, it was determined that neither twice daily was compliant, and in October 2007 the government asked for more detailed bids in a request for Best and Final Offers (RfBAFO).¹⁵ This document highlights that, at this point in the procurement process, the government was proposing a project that was *materially different to the one implemented*.

The notable points that emerge from this comparison are as follows (see table 3):

1. In the RfBAFO, the expected capital cost is recorded as M500 million, including VAT. This is less than half the final cost of M1.165 billion.¹⁵ It appears that, after publication of the RfBAFO, the government decided to add a further filter clinic, a gateway clinic and additional services, such as a neonatal intensive care unit, laparoscopy, neurosurgery and MRI facilities, to the specification of the contract. Therefore, the more than 100% increase in the expected capital cost was negotiated between the parties in the absence of any competition tension in bidding.
2. At the time that the RfBAFO was published, it was expected by the government that its capital budget of M400 million, including VAT, would be sufficient to finance some 80% of the capital costs of the project. In other words, it was expected that only *one fifth* of the

capital would need to be raised by Tšepong. In fact, as table 2 shows, the scheme actually implemented was mostly financed by private capital (65.7% private against 34.3% public finance),¹⁴ highlighting the extent of the changes that took place in the final phases of negotiations—not just to the output specification and the price but to the extent of private involvement in the contract.

3. In the RfBAFO, the government recorded the maximum fee it could afford at M180.4 million per year, excluding VAT.¹⁵ In contrast, the financial model specifies the initial unitary fee as M255.6 million, excluding VAT—an increase of 42%.¹⁴

The government’s capacity to manage the contract

The three filter clinics began operating in May 2010 and the Queen ‘Mamohato Memorial Hospital opened in October 2011.¹⁶ The services delivered in these facilities include a broad range of specialisms, omitting certain interventions that would normally be expected in a national referral hospital, such as transplants, joint replacements, dialysis, planned cardiac surgery, chemotherapy and radiotherapy, obstetrics and gynaecology, plastic surgery and dentistry.¹³ The contract specifies a minimum and maximum number of patients to be treated per year—for *inpatients* 16 500 to 20 000 and *outpatients* 258 000 to 310 000.¹³ It defines extra fees to be paid if the upper parameter is exceeded. These are M9491.64 (including VAT) per inpatient and M57 (including VAT) per outpatient (all in 2007 prices).¹³

The MoH is allowed to monitor performance—but, in practice, has not established sufficient capacity to do so. As of 2015, only two full-time MoH employees managed *all* outsourced services, collectively accounting for 52% of the total health budget of the country in that year.¹⁶ In the absence of effective monitoring, the payment mechanism outlined in the contract is made redundant. For example, the government has been unable to impose deductions and penalties when the private sector’s performance has fallen short of contracted standards.³ However, the arrangements for the governance of the services also include an interesting ‘back-stop’ arrangement. Tšepong must obtain and maintain accreditation by COHSASA, the Council for Health Service Accreditation of Southern Africa, and if it fails to do so, the MoH has a right to terminate the contract.¹⁷ COHSASA evaluates standards across 32 domains within the hospital

Table 3 Comparison of financial values between RfBAFO and financial close^{14 15}

Financial variables	Financial values expected at RfBAFO (30 October 2007)	Financial values recorded at financial close (20 March 2009)*
Capital expenditure	M500 million	M1165 million
Public vs private financing	M400/M100 million (80% public vs 20% private)	M400/M764.5 million (34.3% public vs 65.7% private)
Expected unitary fee	M180.4 million	M255.6 million

*Note all figures are in 7 April 2007 monetary values.

Table 4 Forecast and actual fees (invoiced and paid) under the public–private partnership contract, in Maloti (M)^{14 16}

Financial year	Unitary fees as forecast in the contract (net of VAT) (M million)	Invoiced amounts (M million)	Actual expenditures (net of VAT) (M million)	Invoiced amounts minus forecast unitary fees (M million)	Actual expenditures minus forecast unitary fees (M million)
2012/2013	352.86	435.55	409.86	82.69	57
2013/2014	377.56	575.3	463.58	197.74	86.02
2014/2015	403.99	598.12	482.44	194.13	78.45
2015/2016	432.27	641.99	439.42	209.72	7.15

and assesses these as being either ‘compliant’, ‘partially compliant’, ‘non-compliant’ or ‘not applicable’.

To achieve accreditation, a compliance rate of 80% against International Health Standards is required, with all areas designated as ‘critical’ being compliant. Tšepong obtained COHSASA accreditation in November 2013 with an overall score of 94%.³ This has not previously been attained by any public sector hospital in sub-Saharan Africa (except in South Africa). This provides evidence that, despite the lack of effective use of the contract and payment mechanism, the hospital is delivering a high standard of care by historical and regional standards. It is important to acknowledge, however, that the process of accreditation is separate from the contract itself, and without an effective payment mechanism, it is difficult to compare the contract’s costs and benefits—that is, value for money.

The scale and predictability of the costs to government

It has already been noted that the government chose to proceed with the contract despite a substantial increase in the annual unitary fee—from M180.4 million during bidding to M255.6 million at the point the contract was signed. The costs to government have also continued to increase beyond those forecasted during the post-contractual period. One reason for this is that the unitary fee is linked to inflation, by an index referenced to the Lesotho Consumer Price Index (CPI) and a composite index consisting of Lesotho CPI plus the difference between South African Medical CPIX and South African CPIX.³ The adjustment is applied to the entire unitary fee, even though around 30% of Tšepong’s costs relate to financing, and are unaffected by price changes.¹⁴ The effect of indexation was to increase the fee by 68%, from M255.6 million in 2008/2009 to M439.4 million in 2015/2016 (net of VAT).

In addition, the amounts paid to Tšepong by government during the operation of the contract have been higher than the increases in the unitary fee, for two main reasons:

1. *The treatment of patients has exceeded expectations.* In each year of operation (at the time of writing), the number of patients treated has exceeded by several thousands the upper parameters for inpatients and outpatients. This allows Tšepong to levy higher payments, as described. In 2011 and 2012, Tšepong chose to defer fees

for these treatments. However, it did elect to invoice the government for additional treatments from the beginning of 2013, and patient numbers exceeded the upper parameter by about 25% in that year.¹⁶

2. *The government has not been able to pay the unitary fee on time.* This results in extra costs as Tšepong has the right to charge interest on amounts outstanding. In addition, due to late payments, there have been several instances of Tšepong defaulting on its debts—and the penalties associated with these are passed to the government in higher invoiced fees.³

As table 4 shows, the combination of these factors has led to large differences between the amounts paid to, or invoiced by, Tšepong, compared with the unitary fees forecast in the original financial model contained within the contract. In addition, the MoH has paid considerably less than the amounts invoiced (eg, in 2015/2016, in which all payments due for treatments above the upper demand parameter went unpaid).¹⁶ This raises a question about whether the shortfall in payments due will, at some stage, have to be corrected, with additional and potentially serious financial implications for the MoH, and its ability to meet health need in the country.

Analysis of the future role of PPPs in the LMICs of sub-Saharan Africa

The experience of the Lesotho PPP is mixed. New facilities were delivered to time and to budget. The quality of clinical services has been high by both historical and regional standards. However, there is no evidence that these outcomes resulted from the contract itself. Instead, it appears that the COHSASA accreditation process—which focuses on clinical standards in particular specialisms and has limited overlap with the key performance indicators of the contract—has been crucial. Accreditation is a regulatory instrument more commonly applied to private hospitals than public hospitals operating under contract. However, as an additional source of performance pressure for the private entity, this is a feature of the Lesotho experience that may be replicated elsewhere, especially when public purchasers are unable to enforce contracts that can, alone, generate good value for money.

In Lesotho, the effect of such costs have been to channel resources towards hospital services in the capital and away from primary care settings in rural areas. When accounting

for district population, per capita expenditure on health in Maseru (at M995 per capita) was in 2015 double the amount of the second-place district, Qacha's Nek (M460).¹⁶ Currently, Tsepong's doctors account for close to half of all those in Lesotho.¹⁶ There is pressure on the government to reallocate clinicians to underserved districts to broaden access to healthcare, but it is apparent that the scale of the payment to Tsepong—which accounted for some 60% of the total payments made by the MoH to healthcare providers in 2015/2016⁷—makes progress on this agenda harder to achieve.

Many of the challenges experienced in Lesotho were predictable in light of the existing empirical literature on PPPs, which points to the importance of state capacity, contestable markets, and degree of access to capital markets as key determinants of long-term costs and benefits. None of these were adequate in Lesotho, and existing analyses suggest this inadequacy will be common among other LMICs in the region. Development agencies and national authorities considering the use of PPPs in such contexts therefore need to acknowledge these lacunae in their assessments of the role this model should play.

At a minimum, governments that promote such initiatives should ensure they invest in dedicated and specialist human resources for planning, designing, negotiating and managing complex contracts. Where multilateral banks are involved in such plans (as is often the case), it would be useful to earmark funds for capacity-building in these areas (eg, to enable permanent staff for PPP centres of expertise to be recruited and trained), in addition to the project loans and/or transactions advice that are routinely provided.

In Lesotho, private finance filled a gap between capital funds available and those necessary to deliver a desired project—but the longer-term impacts were marginalised in planning. To address the potential for poor decision-making on PPPs, new proposals should be exposed to challenge by agencies genuinely independent of projects. The need for scrutiny goes beyond the mere consideration of fiscal impacts at the whole-of-government level (the recently developed World Bank Group—IMF *PPP Fiscal Risk Assessment Model* tool can be used to assess implications at this level),¹ and consider the likely impacts on the health sector specifically, and its ability to sustain equitable access to needed healthcare.

CONCLUSION

In this paper, we have highlighted several aspects of the Lesotho experience that are instructive for practitioners elsewhere. While PPPs may enhance quality of clinical services, weaknesses in the state's capacity to run competitive procurements, write complete contracts and budget for them proficiently generate risks. Governments in sub-Saharan Africa need to strengthen crucial elements of capacity to mitigate such risks. Even with additional capacity in place, it may be that the regulatory instruments—such as accreditation—can play a useful role as an additional source

of performance pressure. The experience of Lesotho also underlines the central role of independent scrutiny, both before and during procurement, to ensure that projects do not breach their affordability ceilings.

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REFERENCES

1. Independent Evaluation Group. Public private partnerships in health: World Bank Group engagement in health PPPs, an IEG synthesis report, 2016. Available: http://ieg.worldbankgroup.org/sites/default/files/Data/Evaluation/files/lp_Health_PPP_1116.pdf
2. Roehrich JK, Lewis MA, George G. Are public-private partnerships a healthy option? A systematic literature review. *Soc Sci Med* 2014;113:110–9.
3. World Bank Group. 2013 Implementation completion and results report on a grant in the amount of \$6.25 million to the Kingdom of Lesotho for a new hospital PPP project. Available: <http://documents.worldbank.org/curated/en/docsearch/projects/P104403> [Accessed Dec 2018].
4. International Finance Corporation. Lesotho: new public-private partnership set to boost access to health care for the poor, 2010. Available: <http://www.worldbank.org/en/news/feature/2010/06/22/lesotho-new-public-private-partnership-set-to-boost-access-to-health-care-for-the-poor> [Accessed Dec 2018].
5. Iossa E, Martimort D. Risk allocation and the costs and benefits of public-private partnerships. *Rand J Econ* 2012;43:442–74.
6. McKee M, Edwards N, Atun R. Public-private partnerships for hospitals. *Bull World Health Organ* 2006;84:890–6.
7. Irwin T, Mazraani S, Saxena S. How to control the fiscal costs of public-private partnerships, 2018. Available: <https://www.imf.org/en/Publications/Fiscal-Affairs-Department-How-To-Notes/Issues/2018/10/17/How-to-Control-the-Fiscal-Costs-of-Public-Private-Partnerships-46294> [Accessed Dec 2018].
8. Goryakin Y, Revill P, Mirelman A, et al. *Public financial management and health service delivery: a literature review*. London: Overseas Development Institute, 2017.
9. Budget Methods and Practices. *Budgeting and budgetary institutions*. Washington DC: The World Bank, 2007.
10. Economist Intelligence Unit. Evaluating the environment for public-private partnerships in Africa, 2015. Available: <https://ppiaf.org/d/2399/download> [Accessed Dec 2018].
11. IJ Global. RFQ for US university energy project. Available: <https://ijglobal.com> [Accessed Dec 2018].
12. Department of Public Debt Management Ministry of Finance. 2015/16 annual public debt Bulletin. Available: www.finance.gov.ls/documents/debt%20downloads/2016%20Debt%20Bulletin.pdf [Accessed Dec 2018].
13. Vian T, McIntosh N, Grabowski A, et al. *Endline Study for Queen 'Mamohato Hospital Public Private Partnership (PPP): Draft Final Report*. Boston, United States: Boston University, 2013.
14. Government of Lesotho. *New referral hospital public private partnership—financial model v6.01*. Maseru: Government of Lesotho, 2009.
15. Government of Lesotho. *New referral hospital public private partnership, Request for best and final offers*. Maseru: Government of Lesotho, 2007.
16. Unicef and World Bank Group. *Lesotho: public health sector expenditure review 2017*. Washington DC: The World Bank, 2017.
17. Downs S, Montagu D, da Rita P, et al. *Health system innovation in Lesotho*. San Francisco, United States: UCSF and PricewaterhouseCoopers, 2013.