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WHAT COULD BE ACHIEVED WITH GREATER PUBLIC HOSPITAL AUTONOMY? COMPARISON OF PUBLIC AND PNFP HOSPITALS IN UGANDA

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SUMMARY

The policy of hospital autonomy has been discussed for some time in Uganda. There is little evidence from Uganda or elsewhere that increased autonomy will improve hospital performance. This article compares the performance of three private not-for-profit (PNFP) and public hospital pairs to address this question. PNFP and public hospitals have similar management structures but PNFP hospitals had better trained managers and a church affiliated chair in the hospital management committee. Both types have problems with personnel management but these appear more pronounced in public hospitals. Drug supply management appears better in PNFP hospitals. Overall, workloads are similar, but analysis of patterns of utilisation and prices across services suggest that patient choice of facilities is influenced by relative price levels, and that willingness to pay is higher for PNFP services. PNFP hospitals are more successful at generating revenue. There are no clear differences in efficiency between PNFP and public hospitals but there is some evidence of higher quality levels in PNFP hospitals. PNFP hospitals' performance is plausibly related to three areas of managerial autonomy. First, better management of drug supply is facilitated by their freedom to purchase drugs from the open market. Second, greater success with personnel management is plausibly related to their greater autonomy over staffing. Third, higher levels of cost recovery are enabled by their freedom to set fees. However, differences in accountability and competence of hospital management, and population willingness to pay for services may also help to explain differences. Further, the use of PNFP financing strategy by public hospitals has implications for universal access to hospital services. Although there appear to be potential advantages from greater public hospital autonomy, the Ugandan government should ensure it has developed strategies to enhance public hospital management and to protect access to public hospitals before advancing further with hospital autonomy policy. Copyright © 2002 John Wiley & Sons, Ltd.

INTRODUCTION

Hospitals in Uganda are characterised by numerous problems that typify hospitals in many countries of the sub-continent. The referral system fails to function and service users largely ignore it and go directly to that level of the system which offers the best combination of quality and access (geographical and financial) from their perspective (Okello *et al.*, 1994). This often means that urban residents go directly to regional and national referral hospitals whereas rural residents do not have that option. While hospitals may be over-staffed, there is too little investment in maintenance of equipment and facilities (Health Planning Department, 1998). These factors combine to produce a sector in which hospitals provide care that is far less sophisticated than that expected by their designated role in the health system. Nevertheless, national referral hospitals alone consume approximately 20%–30% of the national

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health budget (Hanson *et al.*, 2002). Together, these issues raise serious concerns for the efficiency and equitable distribution of resources invested in hospital services.

These problems have long been recognised in a range of countries, but the policy response has largely been very weak. International and bilateral interest in the sector has been limited, apparently because commitment to primary health care has focused scrutiny elsewhere. However, the costs of maintaining an inefficient hospital sector are high, as evidenced by the scale of Uganda's investment. Neglecting any opportunity to improve the efficiency with which these resources are spent—the benefits of which might extend to the primary level—would seem to be severely short-sighted. Furthermore, hospitals are of great symbolic as well as practical importance to users of health services. Perceptions that hospitals are not performing well are likely to affect confidence in public systems in general, and may lead the consumers to defect from the public sector and use private for-profit and not-for-profit services instead. In the long run, the problem can contribute to the erosion of commitment and solidarity in the public sector.

The main approach to reforming public hospitals emerging from international debates in recent years has been the policy of hospital autonomy. Increasing hospital autonomy offers opportunities to use market pressure and decentralisation in order to improve the efficiency with which hospitals operate, by increasing public participation and prompting internal management reform. However, it also imposes risks that integration into the rest of the health system will be undermined and that equity objectives will be sacrificed to revenue generation objectives (McPake, 1996). The policy has been under consideration in Uganda for some years. At times, the policy's introduction has seemed imminent but to date, only limited steps in that direction have been made. The two national referral hospitals, Mulago and Butabika were given 'self-accounting' status in 1990 which introduced a direct relationship between them and the Ministry of Finance, and limited flexibility in budget. While decentralisation of public services in general occurred in 1993, management of district-level hospitals was decentralised only in 1998, until then remaining with the Ministry of Health. In 2001, 'self-accounting status' was granted to regional hospitals.

The slow pace of reform, and the number of policy reversals suggest that successive Ministers of Health have been cautious about introducing a full-fledged autonomy policy. This caution may reflect the absence of evidence that the policy succeeds in addressing the kinds of problems encountered by hospitals which have been outlined above. Few low-income countries have introduced autonomy policy, although several middle-income ones have (e.g., Malaysia, Indonesia and Tunisia). Even in middle-income countries, there has been little evidence of the capacity of the policy to improve efficiency, and some evidence of negative equity effects (e.g., Bossert *et al.*, 1996) are being documented. However, the problems which middle-income countries are trying to solve are often rather different from those described above. Low-income countries which have introduced the policy include Ghana and Zambia. In these too, little evaluation has taken place and in both countries, the degree of autonomy introduced on paper is much greater than that which researchers have found to have occurred on the ground (Larbi, 1998; Kamwanga *et al.*, 1999). Larbi (1998) argues that the reason for implementation failure in Ghana was that stakeholders, critical for the implementation of management decentralisation, were excluded from the policy design process. In Zambia, central controls over hospitals were re-asserted after changes in the political leadership of the Ministry of Health (Kamwanga *et al.*, 1999). In this light, and in the context of little relaxation of very tight budget constraints, it is not clear to what extent hospital services can be expected to improve. While these experiences provide evidence relevant to the strategy for policy implementation, they fail to provide evidence of the potential of effectively implemented autonomy policy to improve hospital service provision in these kinds of settings.

One source of comparative information which may shed some light on the potential of hospital autonomy is the private not-for-profit (PNFP) sector. There are 39 PNFP (mainly religious mission) hospitals in Uganda—or about 40% of the total number. In many respects they are similar to public hospitals. Their explicit mission is to serve the community, whether rich or poor, unlike the for-profit sector. Globally, religious mission health services have become increasingly resource constrained over the past three decades (Dave-Sen and McPake, 1993) and in Uganda, the point has been reached at which mission sector health workers are worse paid than their public counterparts. Since they now also receive a core grant through the Ugandan government, even their degree of autonomy is more circumscribed than in the past, although research in Zambia suggests that even where attempts to integrate the PNFP sector into the public system are more extensive, PNFP providers retain distinctively greater autonomy (Kamwanga *et al.*, 1999).

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The question that underpins this article is whether public hospitals' performance might improve or worsen through the granting of greater autonomy. Our approach is to compare public with PNFP hospitals and consider whether differences (positive or negative) in their performance are associated with the PNFP hospitals' greater autonomy. The specific research questions were therefore:

1. What are the differences in the characteristics and performance of public and PNFP hospitals?
2. To what extent can these be associated with PNFP hospitals' greater autonomy?
3. In what respects would more autonomous public hospitals' performance resemble that of PNFP hospitals?

To answer the first question, the article compares the managerial and performance characteristics of PNFP and public providers in three districts in Uganda using data from a study carried out with a view to understanding what could be learned about the prospects for autonomy from the comparison (Ssengooba *et al.*, 2000). In relation to the second question, a reasonable hypothesis would seem to be that PNFP hospitals' relative autonomy from government is the most important difference between the two types of services. There are alternative hypotheses however. It is possible that their core grant funding including the component received from government and the component received from external sources is greater than the total core grant received by the equivalent public provider. This greater level of funding might be a more important difference affecting the delivery of care than their relative autonomy. A second alternative could be that the motivation of providers, underpinned by religious belief, is quite distinct from that of those working in public institutions and that connections to church organisations enable them to attract expatriate managerial staff on favourable terms and conditions. In addressing the second question, we consider underlying causes of performance differences between the two types of hospitals bearing in mind these alternative hypotheses.

The third question requires consideration further of whether or not the same use would be made of greater autonomy in public hospitals as is made in PNFP hospitals. This implies that subsidiary explanations of performance differences must also be taken into account. Even if the most important explanation of a difference is the difference in degree of autonomy, the financial situation, managerial and staff motivations, or other factors might affect how autonomy would be used in public hospitals.

METHODS

The study was implemented as a two-period cross-sectional survey including both qualitative and quantitative elements (see below). Data were collected during (July–September) 1998 and (November–December) 1999. A purposive sample of eight hospitals was selected from four districts of Uganda (Rukungiri, Masaka, Luwero and Moroto), 'pairing' a PNFP and public hospital in each district. However, due to the security situation, Moroto had to be dropped from the second round of data collection, and its results have been excluded from this article. We therefore report findings from six hospitals—which constitute three district 'case studies' of differences between PNFP and public hospitals.

Information was collected at national, district and hospital levels. At national and district level, key stakeholders were interviewed. These included Ministry of Health officials, district health officials, district administrators and district political leaders. An interview schedule was used to collect views about health reforms in general and hospital management reforms in particular. At the hospital level, key informant interviews were conducted with managers, members of Hospital Management Committees or Boards and technical hospital staff to abstract information regarding management functions and decision-making processes.

A review of utilisation and financial records for two fiscal years corresponding to the period of primary data collection (1997–98 and 1998–99) was conducted. Revenue and expenditures data on drugs, personnel and other categories was collected. Hospital service data for both outpatients and inpatients was also collected. A facility checklist was used to collect data on structural dimensions of technical quality of care in hospitals. It included facility space, general cleanliness, availability of key supplies and medicines, and equipment. A random sample of 190 and 97 patients were interviewed on exit during the 1998 and 1999 periods of data collection respectively. These were selected from both OPD and inpatients to assess their perceptions of quality of services.

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The study was designed as a two-phase study so as to pick up the trends in change for possible future comparison with hospitals after the granting of greater autonomy as in the case of public hospitals, or after further integration with the public system, as in the case of PNFP hospitals. Although the trends are not of specific interest to this article, some of the data are presented for the two periods separately, where it seems relevant to draw attention to stability or fluctuation over time.

A methodology based on 'case study' is not intended to be capable of widespread generalisation, within or outside Uganda. Rather, it hopes to illuminate questions and issues that might be explored in other settings. Accordingly, we do not seek to argue that the findings of this study should be considered as the sole basis for national or international level policy development. Rather, we seek to add to the stock of documented experience which can be drawn upon for these purposes.

RESULTS

Characteristics of hospital management

There are many respects in which the management structures in the two types of institution were similar. Both PNFP and public hospitals used the same core internal management structure. The most senior medical doctor was the Director, and the core management team consisted of a senior nurse, an administrator and an accountant. Externally, public hospitals were overseen by Hospital Management Committees and PNFP hospitals by Hospital Management Boards, and in both cases these bodies were under-utilised and little consulted on the grounds that they were unable to respond to the urgency with which many relevant decisions had to be taken. They were consulted in relation to capital developments and in situations of financial crisis, however. There were nonetheless differences in the backgrounds of the individuals who filled these positions. In public hospitals, the Director was simply the most senior doctor who happened to be available. In rural areas (two of the three study locations), this doctor was a junior doctor with no management training whatsoever. In two of the three PNFP hospitals, the Director was an expatriate, and had management experience and training.

Hospital Management Committees (in the public sector) were appointed by the District Council. They were chaired by the District Health Secretary and included a series of district health officials mandated to serve by the Ministry of Health guidelines. PNFP Hospital Management Boards were chaired by the Bishop, and were further staffed by priests and a lay local prominent citizen such as a politician. Since by the time of the study, PNFP hospitals had started to receive the core government grant, district health officials had been appointed to the PNFP Boards resulting in more comparable membership to the public hospital committees.

There were complaints from public hospital management that Committees were engaged in rent-seeking behaviour. In many cases, district councillors themselves or their associates were awarded contracts for supply of goods and services to hospitals, and the Committees therefore failed to play a stewardship role in relation to such contracts. Ministry of Health guidelines in relation to the Committees did not appear to have improved their functioning. Furthermore, they suggested roles for the Committees that in the context of these complaints seemed ill advised—arbitration between management and staff, and supervisory oversight of drugs and supplies accounting. Despite the overlapping membership of Boards, the same complaints were not heard, perhaps due to the Bishop's chairmanship of the Boards. For whatever reason, PNFP hospitals did not contract for the provision of any services.

The unreliability of government funding provided a greater constraint to the operation of public hospitals than PNFP hospitals with respect to strategic planning, given public hospitals' greater reliance on the government grant. Nevertheless, only one of the three PNFP hospitals in the survey had developed even a medium-term plan. The two key resources that hospital managers have to manage are staff and drugs. Staff management in public hospitals had been subject to a series of policy changes. At the time of the first phase of data collection, those interviewed in public hospitals expressed concern regarding the decentralisation of some personnel functions to District Service Commissions (DSCs) which they feared would become subject to the politics of ethnicity. By the second round of data collection, these fears appeared largely to have subsided. However, shortly afterwards the payroll function was recentralised to the Ministry of Finance in response to complaints of delayed and non-payment of salaries. DSCs retained the functions of setting staff complement levels against budgets (for example they can decide to

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employ two nurses instead of one doctor) and they could dismiss staff. At central level, recruitment was delegated from the Public Service Commission (PSC) to the Health Service Commission (HSC) in parallel to delegation to other new Commissions such as the Education Service Commission, leaving the PSC as a small secretariat responsible for setting policy across the sectors. In principle, these changes should make the management of health staff more responsive to the needs and directions of institutions.

Despite these measures, public hospitals continued to be affected by part-time working practices of professional staff. Although hospital managers seemed more able to initiate disciplinary action through the DSC, they were loath to do so. During the second period of data collection, the reasons given for this were low pay and delayed payment of staff which left managers with little moral authority. This problem may be reduced by the re-centralization of the pay function. Nevertheless, rural hospitals are likely to require reassurance as to the availability of replacements before moving to dismiss poorly performing staff. PNFP hospitals also encountered some problems of part-time working practices, but were believed to control the problem better, especially in the case of staff in nursing and midwifery cadres and below. However, they were also affected by the need to retain scarce specialist staff on whatever terms possible.

Drug supply management appeared to be facilitated by the PNFP hospitals' freedom to purchase from the Joint Medical Stores (JMS), the National Medical Stores (NMS) or the open market. This was in contrast to public hospitals' mandated dependence on the NMS. The NMS supplied a limited range of drugs said to be insufficient to cover the range of cases dealt with at district and regional hospital level. When a drug was out of stock, the NMS was supposed to provide a 'certificate of non-availability' which allows the public hospital to purchase drugs from the private sector. However, the hospitals complained that they were unwilling to do so, perhaps because they were reluctant to give up revenues from the hospitals' drug budgets.

Hospital performance

(a) Workload

Table 1 shows the workload in terms of patient numbers using four services of the hospital: maternal care, child care, adult care and diagnostics, and weighted and unweighted total numbers. One interpretation of workload data is service popularity. Since the assumption of the study is that the hospitals within each district share the market for hospital services, the pattern of use of services might be interpreted as reflecting public choice given the set of observable characteristics of the service: price, perceived quality and distance.[1]

From this perspective, the contrasting profiles of services provided for each hospital pair, despite being broadly similar, aggregate workload numbers is of interest. PNFP hospitals uniformly provide less adult care and more diagnostic services than public hospitals. In two out of three pairs, PNFP hospitals provide more child care and more maternal care. In Masaka, the public hospital's greater success in attracting maternal patients may result from its regional referral status, and ability to provide more sophisticated services. These patterns suggest that distance is not the sole determinant of choice since proportions of patients at different distances from the hospital would not be expected to vary across the different services. The extent to which the data reflect patients' choices in relation to perceived cost–quality options is analysed further below.

(b) Financial position

Table 2 shows the revenue generated through 'cost-recovery' which includes user fees and the income from a pre-payment scheme in Kisiizi hospital. Whereas the three public hospitals earn about 4% of their total expenditure this way, the PNFP hospitals earn about 50%. In general in Uganda, there appears to be quite a wide variation in the cost recovery success of PNFP facilities. Cattaneo (2001) reports a range of 9.5%–87% of running costs recovered

[1]The availability of resources is expected to have a major effect on workload. To the extent that capacity does not expand to meet excess demand, that excess is instead reflected in poorer quality in dimensions relatively easily perceived by patients such as waiting times, drug shortages, and inadequately qualified staff, and in turn results in reductions in demand. This interpretation of workload as primarily reflecting demand-side factors therefore allows supply-side factors to play an indirect role. Bed occupancy data suggest that bed capacity does not constrain demand.

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Table 1. Hospital workload by service category in study districts, activity rate aggregated over two years 1998 and 2000

	Rukungiri		Masaka		Luweero	
	Kambuga Public	Kisiizi PNFP	Masaka Public	Kitovu PNFP	Nakaseke Public	Kiwoko PNFP
Maternal						
Inpatient	3895	2990	10,366	5837	3264	5871
Outpatient	3507	15,590	7054	2863	5616	7318
Total	7402	18,580	17,420	8700	8880	13,189
Patient load*	15,192	24,560	38,152	20,374	15,408	24,931
Child						
Inpatient	3749	3805	3600	6047	2855	4407
Outpatient	29,109	53,937	23,056	41,033	45,761	20,067
Total	32,858	57,742	26,656	47,080	48,616	24,474
Patient load*	40,356	65,352	33,856	59,174	54,326	33,288
Adult						
Inpatient	5670	6097	7624	5942	3158	6340
Outpatient	46,957	24,872	61,625	30,875	47,656	30,331
Total	52,627	30,969	69,249	36,817	50,814	36,671
Patient load*	63,967	43,163	84,497	48,701	57,130	49,351
Diagnostics	19,691	19,033	19,533	30,494	4567	16,878

*Patient load = (3 × outpatient total) + (1 × inpatient total).

Table 2. Average fee revenue, expenditure and cost recovery rates 1998–99

	Public hospitals			PNFP hospitals		
	Kambuga	Masaka	Nakaseke	Kisiizi	Kitovu	Kiwoko
Average fee revenue (‘000)	39,605	40,578	8915	220,800	303,395	314,395
Average expenditure (‘000)	742,967	841,513	332,482	464,980	731,404	485,010
Cost recovery (%)	5.3	4.8	2.7	47.5	41.5	64.8

in PNFP facilities. Mathauer (2001) reports a range of 43%–100% and Pearson (1999) reports a range of approximately 12%–95%. These data are not directly comparable since components of the denominator vary between studies but where public and PNFP facilities are directly compared (in this study and by Mathauer), studies agree that PNFP facilities are universally more successful than public ones in recovering costs. In our sample, the difference is explained partly by a higher median fee paid in PNFP hospitals (U.Sh. 4000/- compared to U.Sh. 2000 in public hospitals), and partly by more efficient collection in PNFP hospitals which averaged about 90% of what would be expected given utilisation and fee levels in 1999 compared to about 44% in public hospitals. However, public hospitals' performance in this respect was improving, increased from 33% a year earlier.

Even without a public service mission, public hospitals would be constrained by the limits to demand in following PNFP pricing and charging practices. An analysis was conducted comparing utilisation and price levels in each of the three public–PNFP pairs for each of the four services: maternal care, child care, adult care and diagnostics (12 observations in total). The analysis seems to provide information relevant to the demand constraint. The ratio of PNFP to public hospital unweighted total utilisation (for both years added together) was plotted against the ratio of PNFP to public hospital prices. Figure 1 shows the resulting scatter plot. The linear correlation between the two sets of data is large and negative ($p = -0.54$). However, the negative relationship diminishes as the price ratio increases.

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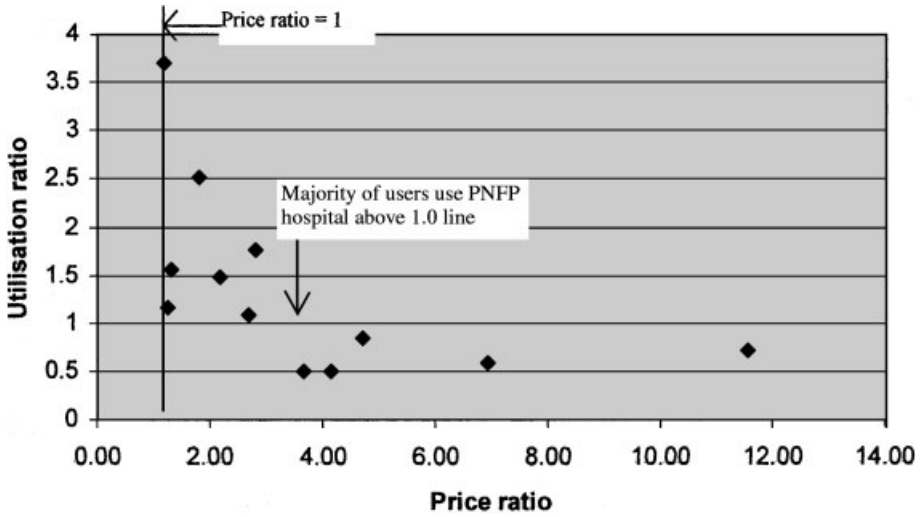

Figure 1. Price ratio plotted utilisation ratio, PNFP hospital: public hospital.

The scatter plot suggests that there is preference for PNFP services at similar prices. Where the price ratio is around 1, the utilisation rate ratio varies from just over 1 to over 3.5. Public hospitals only attract the majority of users at price ratios ranging upwards from 3.67. This simple analysis while failing to control for confounders, suggests considerable sensitivity to price in choice of facility used, and a perceived quality advantage which allows PNFP hospitals greater leeway to set higher prices.

The data shown in the figure aggregate inpatient and outpatient services and both years of data. This was done because we thought that the full range of prices would affect patient choice as patients may be uncertain whether they will be admitted or not, and this uncertainty is likely to lead them to respond to long run than short run prices. However, we also conducted the same analysis separating outpatient and inpatient service use and prices, and the two years of data collection. Each analysis continued to show the same negative correlation although the coefficient diminished to 0.32–0.33 for each of the other analyses.

(c) Efficiency

Figure 2 shows 'unit cost' data for the six hospitals. These figures were calculated by dividing the total expenditure on each category of cost by aggregate hospital workload (the simple sum of numbers of cases of maternal care, child care, adult care and diagnostics irrespective of whether the case was an inpatient or outpatient, or a first attendance or later within a given episode of care). The figure shows no clear pattern in either total unit cost or breakdown of input cost category between public and PNFP hospitals. Cost per patient increased between 1998 and 1999 in four of the six hospitals, two each of the public and PNFP hospitals in the sample. This 'unit cost' figure is really expenditure per patient which is affected by both quality of care and efficiency. In this light, it is perhaps not surprising that there are no clear patterns of relative levels across the paired comparisons with public hospitals having higher levels of expenditure per patient in two of the three pairs.

However, a rather different pattern emerges when workload per clinical health worker (doctors and nurses) is analyzed (Figure 3). In each of the public–PNFP pairs, clinical workers in PNFP hospitals see more patients per year. These data also suggest that efficiency rather than quality is reflected by the comparison, since workloads in all hospitals appear low in absolute terms. Kisiizi hospital has the highest workload per health worker, at 2500 patient load units per year (see Table 1 for the simple weighting system used here). However, even in Kisiizi hospital, a clinical staff (doctors and nurses) of 27 saw a total of 152 outpatients and admitted 16 inpatients per day in its busier year of the two, 1998. That amounts to less than six outpatients per day and only just over one admission every two days per health worker. In Masaka hospital, where workload per health worker is lowest, the equivalent numbers are 1.4 outpatients and less than one admission every five days per clinical health worker.

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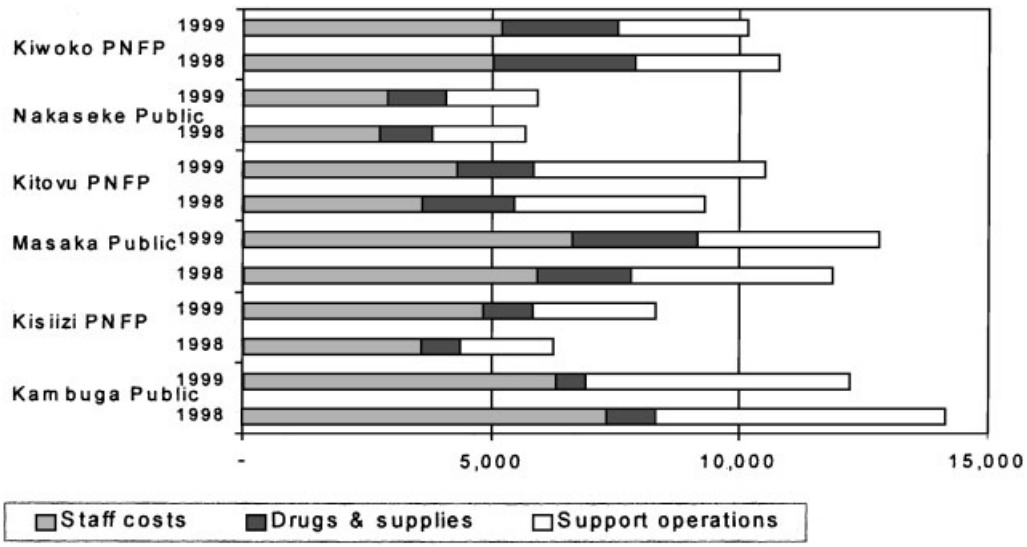

Figure 2. Composite unit cost of services by input category 1998 and 1999 at constant 1998 prices.

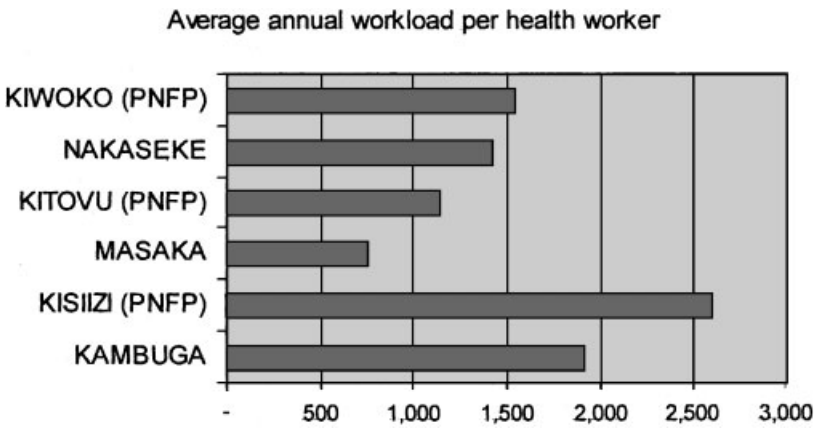

Figure 3. Average annual workload per health worker.

A final approach to evaluating efficiency is depicted in Figure 4. This approach (Pabon-Lasso, 1986) graphs the bed occupancy rate (the number of occupied bed days as a proportion of the available bed days) and the bed turnover rate (the number of patients occupying each bed per year). The figure is divided into four quadrants by the mean values of the two graphed variables; and each sector is then associated with particular characteristics. Sector 1 (lower left) is considered relatively inefficient, and Sector 3 (upper right) more efficient. Sector 2 is associated with relatively short hospital stays which increase bed turnover but reduce bed occupancy due to unoccupied periods between patients. Sector 3 is associated with long hospital stays, for example hospitals specialising in chronic diseases. The hospitals in our sample are all in Sectors 1 and 3, and there is no clear pattern of bed-use efficiency comparing public and PNFP hospitals.

To conclude, in relation to efficiency, it would seem that PNFP hospitals make more efficient use of staff but are not clearly more efficient in relation to total expenditure or bed-use.

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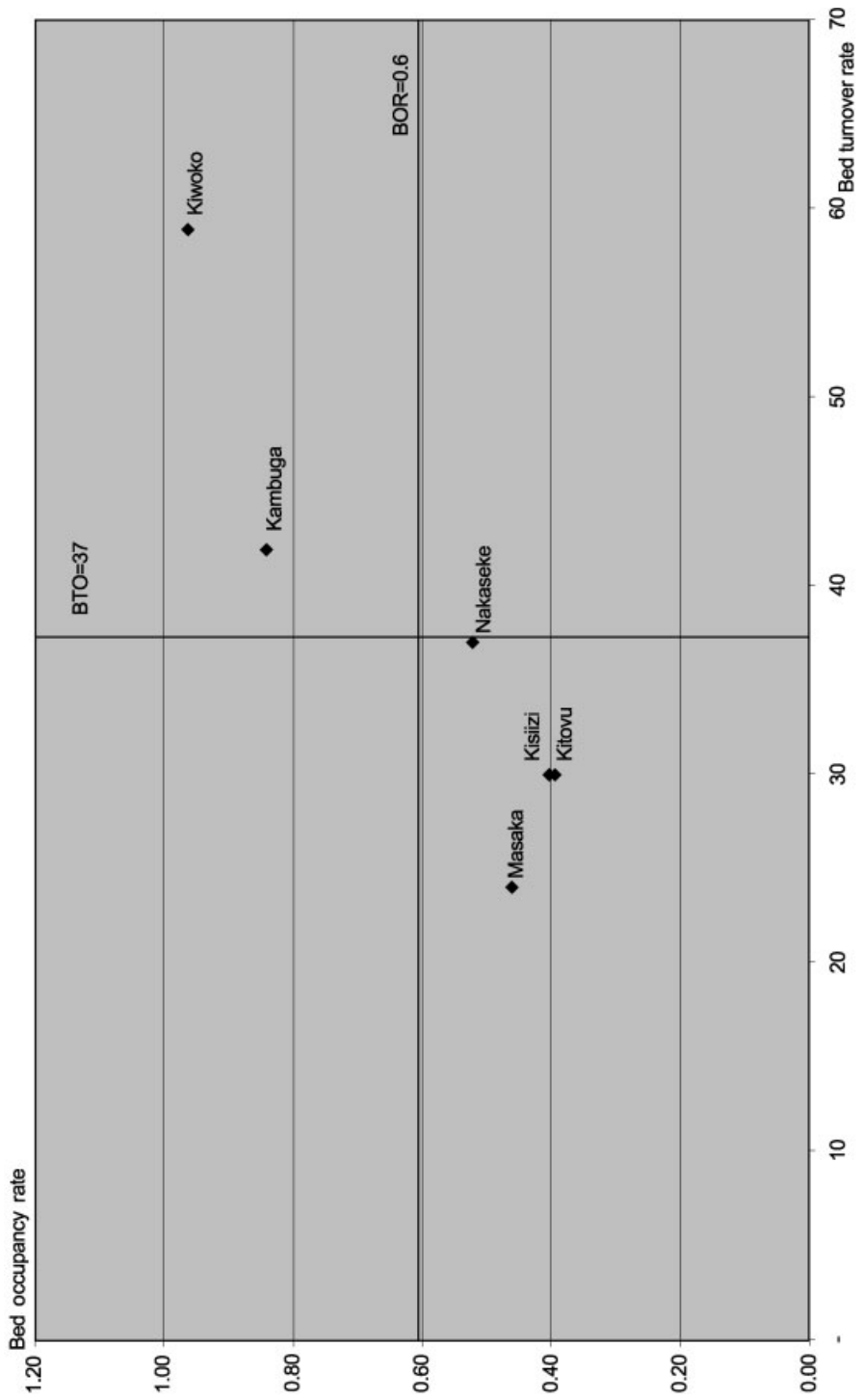

Figure 4. 'Pabon-Lasso' analysis of efficiency of bed-use.

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(d) Quality of care

Quality of care is typically considered in three dimensions: structure, process and outcome, and it is common for analyses to omit the outcome dimension owing to unavailability of appropriate data. This study considered *structure* by measuring the quality of space, drug stocks and the availability of equipment and of doctors, and *process* by measuring patterns of receipt of drugs by patients, and patients' satisfaction with the quality of care. This last measure is sometimes considered a measure of outcome, but we consider (following studies of those components of care that matter most to patients, e.g. Chalmers *et al.*, 1980; Calnan, 1988) that patient views are most dependent on care process and that the outcome dimension should be reserved for consideration of health outcome.

All the facilities had a clean designated waiting area with comfortable seating, separate laboratory facility and curtains or partitions between patient beds or consultation rooms for privacy. All facilities had separate rooms for maternity wards and a functional theatre, and potable water in the compound or vicinity. The major difference between PNFP and public hospitals was in the disposal of hospital waste. Two PNFP hospitals lacked incinerators, and one lacked a placenta pit. On the other side of the balance, one public hospital lacked adequate sheets and blankets, and two lacked autoclave facilities for sterilisation and relied on boiling of instruments instead. These observations were constant across the two years of observation.

Key drugs were in adequate supply at most hospitals during the two surveys although stocks of secondary level antibiotics and pain relief were lower in public hospitals (although improved in 1999 compared with 1998). Two of the three PNFP hospitals lacked basic family planning supplies owing to religious affiliation. All the study hospitals had working emergency lighting systems, and stocks of gloves, plastic sheeting, sterile gauze pads, disinfectants, needles and syringes, intravenous fluids and theatre linen.

A check was conducted of the availability of equipment out of a list constructed of expected items across five departments (ante-natal, OPD, laboratory, maternity ward and theatre). Items were judged 'present' where they were both available and in good working order. A total of 43 items were included in the list checked. Across the PNFP hospitals, 237 (or 79 per hospital) items were counted in 1998 and 252 in 1999. In public hospitals, the numbers were 160 and 214. We did not design the analysis according to an expected number of pieces of each item of equipment which might vary according to the size of hospital and number of different departments. However, if for each item the expectation were 'at least one', PNFP hospitals lacked 12% of expected equipment in 1998 and 8% in 1999 whereas public hospitals lacked 16% in both years. These measures give a very crude picture of the better availability of equipment in PNFP hospitals and the improvement in equipment availability between 1998 and 1999 in public hospitals according to the first measure and in PNFP hospitals according to both. The data indicate that inadequacies were more common in public hospitals. For example, in both years only one of three public outpatient departments had an otoscope, and only one maternity ward had a foetal heart monitor.

Table 3 shows the numbers of doctors located in the six hospitals. Other than in Masaka regional hospital, PNFP hospitals tended to have more doctors. Masaka hospital was better staffed with doctors than the other public hospitals because it is the regional referral hospital. This difference accounts for the result that the total number of doctors was higher, on average, in the public hospital group.

Table 3. Number of doctors by facility

District	Name of hospital	Type	Number of doctors	
			1998	1999
Rukungiri	1. Kambuga	Public	3	3
	2. Kisiizi	PNFP	5	5
Masaka	3. Masaka*	Public	16	17
	4. Kitovu	PNFP	8	9
Luweero	5. Nakaseke	Public	4	4
	6. Kiwoko	PNFP	8	8

*Regional Referral Hospital.

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Table 4. Perceived quality scores

	Average score, 1998		Average score, 1999	
	Public hospitals	PNFP hospitals	Public hospitals	PNFP hospitals
Availability of drugs	1.25	1.57	0.93	1.80
Attitudes of providers	1.50	1.50	1.18	1.56
Technical skills	1.64	1.45	1.36	1.65
Privacy	1.66	1.67	1.39	1.53
Overall	1.61	1.62	1.21	1.50

Responses are weighted: good = 2; satisfactory = 1; poor = 0. A score of 1 is equivalent to evenly spread responses across the three categories (or an average response 'satisfactory').

Patterns of receipt of drugs by patients were assessed by exit interview, in which patients were asked which of the drugs that had been prescribed were received at the facility. Most (92%) patients received all the drugs prescribed at PNFP hospitals with 8% receiving some, and no patients receiving none. In contrast, at public hospitals, 46% received all, 47.5% some and 6.5% received none, and the situation worsened between 1998 and 1999. The exit interview further solicited patients' views as to the quality of care ('good', 'satisfactory' or 'poor') in relation to five areas, as shown in Table 4. These responses were translated into a score by weighting.[2] The table shows a mixed picture of quality perceptions in 1998. PNFP hospitals were perceived to perform better in relation to drug availability (a perception consistent with the data presented above) but worse in relation to the technical skills of providers. Other dimensions produced similar results. However, quality perceptions in relation to public hospitals declined sharply in 1999 with the effect that quality of care was perceived to be uniformly better in PNFP hospitals in that year.

It is difficult to explain why perceptions of quality of public hospitals should have declined over this period. Drug availability is an unstable variable, and it is possible that measures are highly sensitive to the moment at which data collection occurs. However, this is unlikely to be the case in relation to the other dimensions of quality measured. The technical skills and attitudes of staff are unlikely to change markedly in a short period, and privacy would seem to be dependent on structural factors in which we observed no change. It is possible that dissatisfaction with drug availability (in which we have independently measured a decline) 'contaminates' the other measures. In other words, general dissatisfaction, fuelled by drug availability problems might be reflected in responses to questions concerning other dimensions of quality.

DISCUSSION

The specific research questions addressed in this article required a depiction of the differences in characteristics and performance of PNFP hospitals which have been presented above, an analysis of the extent to which PNFP hospitals' greater degree of autonomy is the main factor underlying differences and of whether the same use would be made of greater autonomy in public hospitals as is made in PNFP hospitals. Along with some further summary of characteristic and performance differences, the latter two questions are the subject of this discussion.

Despite similar management structures, there seem to be important differences between PNFP and public hospitals in management capacity and reliability. Key differences are the role of church structures and hierarchies in PNFP hospital boards, which may explain the greater transparency of decisions made there, and the role of trained expatriate management in PNFP hospitals. The lack of equivalence in religious motivation and technical managerial capacity is likely to constrain the success of hospital autonomy policy in public hospitals. One example of the resulting differences is the different attitude to and development of contracting-out in the hospitals. Public hospitals have embraced this policy, but the motivations of public hospital committees are questioned and it seems that

[2]Responses were weighted: good = 2; satisfactory = 1; poor = 0. A score of 1 is equivalent to evenly spread responses across the three categories.

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there is a lack of confidence in their management of contracting-out. This highlights a risk in extending further autonomy to hospitals operating under these governance structures.

However, public hospital managers are constrained by their lack of autonomy in important dimensions. The constraints provided by their mandated dependence on the National Medical Stores has direct effects on their ability to deliver on a key dimension of quality as judged by consumers. Public hospitals' consistently worse performance in relation to drug availability would seem at least partly to be attributable to this deficiency of autonomy.

Despite the changes in personnel management policy, which should have facilitated better ability to control staff on the part of hospital management, it would seem that they have not achieved the same level of control as their PNFP counterparts. This is partly because of their more constrained financial position and greater degree of dependence on the government grant. However this itself is to some extent a facet of limited autonomy which might change in the context of a greater degree of independence for public hospitals.

Staff management differences are further reflected in the more efficient use of staff which PNFP hospitals seem able to achieve. The particular inflexibilities of the public sector most relevant to this comparison are probably rules which prevent civil service staff from being easily reallocated to where they can best be used, and line-item budgets which prevent hospitals from benefiting from saved staff costs, and therefore rule out pressure from hospital managers for appropriate release or relocation of staff.

However, the most marked difference between PNFP and public hospitals is the pattern of financing. User-fees are not playing a big role in public hospitals due to low levels of fees charged and inefficient collection mechanisms. The fee-for-service schemes are new to public hospitals and the central government has not set out a firm policy direction for their operation in public hospitals. The policy indecisiveness has made the fee-for-service schemes vulnerable to political interference and poor management by those concerned. Other studies have illustrated the role of under-the-table payments and irrational exemption criteria among the causes of inefficiency in revenue collection (McPake *et al.*, 1999; Mills, 1995). It was observed in the second round of data collection that management systems are streamlining the collection of fees with emphasis on more transparent collection procedures and improvement in the declaration of fees collected from each department.

In PNFP hospitals, the fee-for-service revenues were covering a higher percentage of total expenditures. In one case (Kisiizi), high rates of collection resulted from the operation of a prepayment scheme. That such schemes have been more common in PNFP hospitals has been ascribed to their institutional autonomy and perceived higher quality of services (Green, 1987). However, there is need for great caution in relation to the optimism this greater success with both user fees and insurance might engender, which provides the most difficult issues within autonomy policy. The following are some of the reasons for concern and suggestions as to implications for autonomy policy.

First, the difference between the PNFP and public hospitals in collected-relative–to-expected fee income is as important as that in overall collection levels. This has been related in other studies to petty corruption at staff and management levels of hospitals (Jitta and van der Heijden, 1993; McPake *et al.*, 1999; Mathauer, 2001), implying the need to resolve personnel management problems, and also to ensure that hospital management is rendered accountable to district or central levels of the system. Ability to imitate PNFP hospitals in this respect does not therefore follow automatically from the allocation of greater autonomy.

Second, we need to understand better the exemption practice of PNFP hospitals. The fee-exemption mechanisms are difficult to implement and in many public hospitals, these were not targeted at the poor but at senior civil servants. Unlike most PNFP hospitals, funds are not provided to underwrite exemptions in public hospitals. In PNFP hospitals, the availability of a fund for cross-subsidy of those exempted is insufficient to ensure that fee levels are not a serious barrier to access. Even where exemption is effective, it is usually targeted on the destitute, which is unlikely to be a wide enough net in the context of some very high fees for life-saving services. In practice, the public hospitals are likely to provide the exemption mechanism for PNFP hospitals, or in other words to act as 'providers of last resort'. This means that public hospitals cannot simply imitate the fee structures of PNFP hospitals without serious implications for access.

Third, hospital based insurance schemes, and willingness to pay higher level fees are associated with community confidence in hospital services, which is often not present for public hospitals. Both are clearly incompatible with informal charging, may require management skills beyond those present in public hospitals, and are

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Table 5. Summary of the potential for PNFP experience to guide development of public hospital autonomy

Performance difference attributable to greater PNFP autonomy	Constraints to replication of PNFP experience in public hospitals	Desirability of public hospital emulation of PNFP performance
Better drug availability at PNFP hospitals	Requires breaking of tie to NMS	Desirable
Better ability of PNFP hospitals to manage the personnel function	Better personnel management in public sector also constrained by management accountability and competence, financial position and dependence on government grant	Desirable
More efficient use of staff	More efficient use of staff in public sector constrained by inflexibilities in civil service staffing allocations, and inability of public hospitals to 'vire' staff cost savings to other budget lines	Desirable
Higher level of cost-recovery	Also requires improved financial management (advances already made) and improved willingness to pay for public hospital services	Not necessarily—difficulties of covering whole population with universal financing strategy resembling PNFPs'

incompatible with mismanagement of revenues—reinforcing many of the foregoing points. Table 5 summarises the key points from the above discussion as they respond to the second two specific research questions.

In conclusion, and in response to the general question whether public hospitals' performance might improve or worsen through the granting of greater autonomy, for autonomy to have success in public hospitals, these case studies suggest that attention should be prioritised in relation to two areas. The first is improving the reliability and capacity of hospital managers. Reliability is dependent on the broader political context in which public hospital services are delivered, and the willingness of the political system to reward good hospital performance and penalise poor performance.

Public hospitals do not seem hopelessly handicapped in competing with PNFP hospitals for customers. Many features of services provided were as good or better than in PNFP hospitals. However, perceived quality still seems highest for PNFP hospitals, judged both by patient survey, and by an analysis of how users were 'voting with their feet'. Remaining problems might well be tackled in an environment which gave hospital managers the incentive to do so—but this raises important questions about the protection of access for the poor.

The second priority area for attention would therefore seem to be the need to protect access for the poor and even average-income earner in the context of more autonomous hospitals' enthusiasm for the development of high revenue yielding user charge systems. Public managers of the health system as a whole need to find tools to leverage the interests of these majority users.

Lastly, we should emphasise the preliminary nature of conclusions based on case studies of three out of 48 districts in Uganda—for either national or international policy development. We consider that the issues raised deserve consideration in other districts and countries, and the underlying issues of governance and governance mechanisms are familiar concerns in systems and reform debates. However, the specific strengths and weaknesses of public and PNFP service provision and characteristics of governance are likely to differ across districts and countries—and do differ among our three district case studies. We believe the three case studies elucidate the ways in which decentralisation and autonomy can impact on service delivery, and the mechanisms by which they might do so, but do not exhaust the possibilities.

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