

**Analysis of Financial Performance of Council Designated Hospitals (CDHs) and
Volunteering Agency Hospitals (VAHs) in Tanzania**

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Abstract

The primary objective of this paper is to analyze and compare the financial performance of council designated hospitals (CDHs) and volunteering agency hospitals (VAHs) in Tanzania. specifically, the study involves analysis of financial performance of the two categories of hospitals based on *operating margin, growth rate in equity, current ratios, days cash on hand, equity financing and average age of plant* during 2011/12 - 2014/15. Ratio analysis technique was employed in the analysis of performance of the two categories. Data were extracted from respective hospitals' annual reports and stratified sampling procedure was used to define the sample whereby *Lake Zone, Eastern, Western, Southern and Northern Zone* were treated as stratum. The aim of using stratified sampling aimed at obtaining representation of the total population (90 faith based private hospitals) in the country.

Result revealed that Hospitals in both categories seem to have good liquidity position, evidenced by current ratios which is above the required benchmark of 2.0 times, as well as reasonably average days cash on hand (DCH) of at least 20 days. However, CDHs seems to outperform the VAHs in terms of liquidity over the sampled period. As far as the operating margin is concerned both categories were not performing well, since they all have negative or almost zero operating margin. Result on growth rate in equity indicates that both categories

have zero or less than one percent growth in equity which is very marginal. Average age of plant was higher in VAHs category compared to their CDHs counterpart. Since both categories are not performing quite well in many aspects (such as profitability, equity financing, and growth rate in equity) the study recommends that administrators should ensure stability in liquidity. Good performance in liquidity and zero leverage make the hospitals safer (less risk) as far as solvency and financial condition is concerned.

Keywords: *financial performance, Council Designated Hospitals, Volunteering Agency Hospitals, Tanzania*

1. Introduction

Regardless of the nature of hospitals' ownership, health facilities in Tanzania are regulated and supervised by the Ministry of Health, Community Development, Gender, Elderly and Children. Private not for profit (PNFP), Private for profit (PFP) as well as publicly owned hospitals define the ownership structure of health facilities in Tanzania, and the three categories therefore are in the national health map. Majority of Private not for profit health facilities in the country are owned by faith-based organizations. Depending on the nature of contract signed with the government, faith based hospitals sometimes receive direct and indirect support from the government.

In Tanzania Private not for profit (PNFP) hospitals can be categorized into Voluntary Agency Hospitals (VAHs) and Council Designated Hospitals (CDHs). Voluntary Agencies Hospitals (VAHs) is the group in which all accredited faith-based hospitals fall while Designated Hospitals (CDHs) are VAHs officially designated to operate as councils or districts referral health facilities (PPP Guidelines, 2011). The Council Designated Hospitals (CDHs) are private not for profit hospitals which operate as council or district referral hospitals; on the other hand Volunteering Agency Hospitals (VAHs) are private not for profit hospitals which

do not have contract to operate as the council or district referral hospitals. According to Christian Social Services Commission (CSSC) number of CDHs and VAHs in the country is 37 and 53 respectively.

2. Statement of the Problem and Objective of the Study

Studies focusing on the hospitals' performance have increased speedily over the recent years. However, due to challenge in accessing hospitals financial data, few studies have been conducted to examine the hospitals financial health in Tanzania. This study bridges the gap by analyzing the financial performance of the council designated hospitals (CDHs) and volunteering agency hospitals (VAHs). The rationale of conducting the study has been built on the fact that there is limited empirical evidence regarding the hospitals' financial performance in Tanzania in terms of *liquidity, efficiency, leverage and profitability*. Both CDHs and VAHs are private not for profit (PNFP) hospitals in Tanzania and they fall under the same ownership structure. CDHs are operating under the partnership arrangement between government and owners (faith based organizations), the VAHs are largely operated by owners alone. Building on the Public Choice Theory, which suggests that, if public sector monopolizes the provision of services, the results is oversupply and inefficiency (McMaster et al., 1996), and since there is a very close relationship between efficiency and organizational financial performance, we are motivated to know and compare the financial performance and conditions of the hospitals in which the government has a stake in terms operation (CDHs) and hospitals which are fully operated by owners (VAHs).

This study attempts to shed light on the financial performance between VAHs and CDHs, using the sample size of 34 private not for profit hospitals (17 CDHs and 17 VAHs). General purpose of this study is to analyze financial performance and conditions of CDHs and VAHs *over the study period* (2011/12 - 204/15). Specifically the study aims to:

- i. Examine the performance of the two groups in terms of liquidity, profitability and assets management (efficiency)
- ii. Examine the financial position of the two categories in terms of Capitals Structure

Significance of this study stem from the fact that, most of previous studies on CDHs and VAHs performance in Tanzania have dealt with assessment of efficiency and productivity. None of them ever dealt with the comparative assessment of financial performance of the two categories. The result from this study will shed light on the *profitability, liquidity, assets management performance as well as and capital structure financial position* of private not for profit (PNFP) hospitals based on their categories. The remaining part of this paper include *section three* which comprises literature review, *section four* which involves techniques used in obtaining and analyzing the hospitals' data, *section five* includes findings and discussions in relation to result of previous similar studies. Conclusion and recommendations are presented in *section six*.

3. Literature Review

Hospitals financial performance analysis has progressed in the past twenty years, and special financial ratios reflecting the unique characteristics of the hospitals industry have been developed and employed in the analysis (Cleverly and Nilsen 1980; Zeller et al., 1996). Financial ratios analysis is an accepted approach to hospitals performance evaluation. Hospital administrators, governing boards, and public policy groups utilize financial ratios to benchmark the financial health of a hospitals or group of hospitals (Glandon et al., 1987). Cleverley,(1993) reported 34 hospitals (industry specific) financial ratios classified into profitability, liquidity, capital structure, assets efficiency and other financial measures. This study assumes hospitals are homogeneous with respect to environmental variables exogenous to the study, such as demographic and professional personnel shifts; changes in demand; utilization; wage rates and other resources; cost as well as general state of economy. We followed Pink et al (2007) and use special hospitals financial ratios to assess the financial performance of hospitals under the study (CDHs and VAHs).

Literature shows that the use of the ratios analysis in analyzing the financial performance in the hospitals industry has been increasing. Especially where there is no clear model that can be employed or no enough data to satisfy the required model (Pink et al, 2007). There are several financial dimensions when measuring hospitals financial performance using ratios analysis. However the most common ones are *profitability, capitals structure, activity and liquidity*. Financial ratio is considered as the relation between two or more selected numerical values picked from a hospital's financial statements. In most cases financial ratios are applied in assessing the overall financial health or performance of a firm. Financial ratios may be applied by internal or external users depending on the motive and kind of the information the user want to extract. For example, financial analyst employs financial ratios to evaluate and compare the strengths and weaknesses in different companies or the same company in different two or more periods. Ratios can be presented using decimal value, for example 0.10, or expressed in percentage value, 10% value. In most cases ratios which are more than one are expressed in decimal (for example price/earnings ratios) on the other hand ratios which are less than one are normally expressed in percentage (for example earning yield). Values included computations of financial ratios can be selected from statement of financial position, statement of financial performance or sometimes statement of change in equity.

Empirical studies on the hospitals financial performance analysis using special financial ratios indicated that ratios have been adopted in both developed and developing countries. For example, Bhat and Jain (2006) conducted a study on financial performance of private hospitals in India, Zeller et al (1996) contended that day's cash on hand (DCH) is one of the important liquidity ratios in measuring hospitals financial performance. They argued that DCH helps the hospitals managers to control the hospitals expenditures particularly if the cash on hand is getting low. In the study conducted by Kane Consulting Group (2008) using financial ratio analysis on 23 acute non-profit in New Hampshire, it was found that the New Hampshire acute care hospitals' days cash on hand were higher than national or regional medians. Another element of hospitals financial ratio is average age of plant. It measure how old a hospitals' fixed assets are. It based on the assumption that hospitals are using the

straight line depreciation method. It is the hospitals plant that are used to generate revenue, therefore too old assets implies low ability of the hospital to generate revenue. Consequently, low profitability and to what extent the replacement fund will be required in the near future. In the study by Kane Consulting Group (2008) indicate that the median age of plant for New Hampshire is younger than the Northeast and National medians. In India, Bhat and Jain (2006) in a similar study assessed the performance of financial performance of private hospitals and one of the ratios used was the average age of plant. Their result revealed that average age of plant of private hospitals in India was increasing between the year 1999 and 2004. This study also follows Watkins (2000); Zeller et al., (1996) and Pink et al., (2007) and applies financial ratios computed from the audited financial statement to scrutinize financial health of the hospitals under the study. In a study by Pink et al., (2007) in which financial ratio analysis technique was used, it was found that community hospitals were experiencing negative total margin while teaching hospitals and small hospitals manifested small positive margin (operating margin). Using financial ratio analysis equity ratios was measured in a study by Zeller et al., (1996) result indicates that equity financing and fixed assets financing are strongly correlated ranging between 0.63 to 0.75, implying that low values of equity financing indicates more debt included in the capital structure, while low values for fixed assets financing lead to less debt. In the study by Kane Consulting Group (2008) using ratio analysis it was found that all Critical Access Hospital (CAH) of New Hampshire Hospitals falls within the benchmark of inter-quartile range of equity financing, and those hospitals tend to increase their proportion of equity financing. In another study by Pink et al., (2009) on financial performance of US Critical Access Hospitals (CAHs), it was found that on average 40% of hospitals under the study (421 hospitals) meet the benchmark of equity financing.

Given the fact that review of literature indicates that less attention had been paid to the financial performance of CDHs and VAHs in Tanzania, this study employs ratio analysis and tries to bridge the gap by measuring hospitals' profitability using operating margin ratio; liquidity using current ratio and days cash on hand (DCHs); leverage using growth rate in equity and equity ratio; efficiency using average age of plant. Zeller et al. (1996); Chu et al (1991) proposed the profitability as the characteristics of hospitals financial performance. Operating margin is applied as the measure of the control of expense relative to revenue (Pink et al., 2007)

4. Methodology

4.1. Data and Data Sources

Data employed in this study were extracted from respective hospitals' annual reports and collected using the stratified sampling procedure. The data set comprises five (5) years of panel data (2011/12 – 2014/2015) whereby the same hospitals in each group are traced for five years.

According to Christian Social Services Commission (CSSC), faith based hospitals in Tanzania are mapped into five zones, that is *Eastern, Western, Northern, Southern and Lake Zone*. In this case zones (lake, eastern, western, southern and northern zone) were treated as stratum from which the data for VAHs and CDHs were drawn. The aim of using stratified sampling was to get representation of the total population (90 private not for profit hospitals) in the country; the method is also suitable for the study which focuses on specific issues. Hospitals included in the study were 17 from CDHs category and 17 from VAHs. Names of VAHs category; were Bukumbi, Iambi, Igongwe, Ilembula, Lugalawa, Lutembo, Marangu, Mbesa Mission. Others were Mbozi Mission, Mkula, Ndolage, Nkinga, Nkoaranga, ST.Benedict, Uhai Baptis, St. Corneleous and St. Raphael Hospitals. On the other hand,

CDHs included in this study were Biharamulo, Bunda, Huruma, Kilema, Rubya hospitals. Others are Sengerema, Sikonge, Sumve and Muheza hospital. Others CDHs include Ilula, Makiungu, Mbalizi Evangelism, Peramio hospitals. Others were Tosamaganga, Turiani, Mvumi, and ST. Gema hospitals.

4.2. Data Analysis Technique

This study employs ratio analysis, financial ratios measure several aspects of a firm and they are integral part of the financial statement analysis. Generally, financial ratios can be categorized according to the aspect of the firm which the ratio tries to measure. For example *Liquidity ratios* evaluate the liquidity position of the firm or availability of cash to pay short term liability. In this study ratios that measure hospitals' liquidity include *current ratio* and *days' cash on hand*. *Efficiency or Activity ratio* (sometimes also known as turnover ratio) represents group of ratios that measure the extent to which the firm converts or change non-cash assets to cash assets, in this study hospitals' efficiency is measured using average age of plant. *Equity ratios* are group of ratios that assess the firm's ability to finance its assets using equity(internal sources of financing) while the *Profitability ratios* examine the firm's use of assets and control of its operating expenses to generate an acceptable rate of return, in this study hospitals profitability is measured using operating margin.

Financial ratios are very useful and suitable for comparisons *between companies; between industries; different time periods for one company or between a single company and its industry average*. In assessing hospitals financial performance, ratio analysis is one of suitable and efficient methods of examining hospital's financial health. Through ratio analysis user of financial can establish the important relationship between numerical values in financial statement and convert financial details to a meaningful performance standards. However, financial ratios generally are not fruitful unless they are *benchmarked* against

something else, like past performance or another company. Thus, the financial ratios of firms in different industries, which face different risks, capital requirements, and competition, are usually hard to compare. Literature contends that there are specific ratios which are much meaningful when applied in specific sector (i.e ratios used in measuring financial performance in hospitals sector). Therefore this paper employs specific hospitals ratios to examine comparatively the financial health of CDHs and VAHs hospitals under the study. Ratio analysis is suitable for comparison of the performance of two groups of hospitals, we therefore, compare the financial performance of VAHs and CDHs over the period of four years (2011/12 - 2014/15). Types, meaning and implications of the ratios employed are as follows:

- *Operating margin*-the ratio of operating profit to net sales, usually presented in percentage. Operating margin ratio Measures whether the particular hospital is profitable or not, it also implies the hospitals' ability to cover the operating expenses with operating revenues.

$$= \frac{\text{Total revenue} - (\text{operating exp} + \text{tax paid})}{\text{total revenue}}$$

- *Growth rate in equity*-it is the ratio that measures the amount of additional equity being added to the equity provided by stockholders.

$$= \frac{\text{Change in fund balance}}{\text{fund balance}}$$

This ratio measures the increase in the value of equity after the end of each financial year. The hospital will experience increase or growth in equity if it generates the surplus. An increase in stockholders equity growth rate over several time indicate a good sign as more percentage of equity being held in stockholders' equity. On the

other hand a decrease of the same may indicate that the company is taking in fewer net earnings or is giving out more stock dividend.

- *Current ratio*—it is the ratio that reflect liquidity position of the hospitals, in other words larger current assets in relation to small amount of current liabilities gives assurance the maturing financial obligations will be paid.

$$\frac{\text{current} \cdot \text{assets}}{\text{current} \cdot \text{liabilities}}$$

It is the ratio of current assets to current liabilities. Implies access to the unrestricted cash which is used or employed in the financing of the short-term needs, it measures ability to meet short term lender requirements

- *Days cash on hand (DCH)* - it is the ratio that measure liquidity, it shows the number of days an organization can continue to finance its activities even if new cash are not coming in.

$$\frac{\text{Cash} + \text{marketable securities}}{\text{operating} \cdot \text{exp} - \text{depreciation}} \times \frac{1}{365}$$

In other words it reflect how many days the hospitals could continue to operate if no additional cash were collected from clients (in this case patients). If the DCH is too high it may have bad impact since the cash is not allocated to areas of business activities to generate high returns, on the other hand low DCH is risk to the hospitals since it cannot operate for long time without collecting new cash.

- *Equity financing ratios*- is the ratio that indicates the proportion of the equity that is applied to finance the assets of the hospitals. Sometimes is sometimes referred as net worth to total assets.

$$\frac{\text{Fund balance}}{\text{total assets}}$$

The ratio Shows inclusion of equity in the capital structure of hospitals (the part of capital structure that is equity).measure the ability of the hospitals to finance its assets using internal sources of financing

- Average age of plant

$$\frac{\text{Accumulated depreciation}}{\text{depreciation expenses}}$$

Measure the relative age of fixed assets and technology used in provision of hospitals services. The median value for the average age of plant provides indications on the replacement cost to be incurred in the near future, It also signify the hospital's ability to generate revenue (obtained through examining the accumulated depreciation and gross fixed assets to net fixed assets). As the assets become used and get older it shows the capital expenditure in the near future (capital expenditure required replacing the existing asset), on the other hand when the assets are younger it implies the hospitals ability to generate revenue

5. Findings and Discussion

This section presents result of the study; **Table 1** summarizes the median-financial performance indicators of Council Designated Hospitals (CDHs) in terms of *operating margin, growth rate in equity, current ratio, days' cash on hand, equity finance and average age of plant* while **Table 2** presents result for Volunteering Agency Hospitals (VAHs) on the same

Table 1: Median–Financial Performance Ratio for CDHs 2011/12 – 2014/15

Financial Performance (indicators)	2011/2012	2012/2013	2013/2014	2014/2015
Operating margin (%)	-0.109082	-0.050969	-0.001785	-0.468977
Growth rate in equity (%)	0.026615.	-0.327327	1.154752	0
Current ratios	1.852557	0.472149	3.423267	5.353724
Days cash on hand	110.021789	117.999899	120.665655	123.059452
Equity financing (%)	-4.384568	-14.717859	-4.119960	-4.936417
Average age of plant	8.633151	12.7611203	8.713363	11.827273

Source: Research Findings, 2015

The financial ratios used in the analysis of both categories are specific financial ratios that have been employed in the previous hospitals' studies. These ratios (ref: *Table 1 and Table 2*) include *Operating Margin, Growth Rate In Equity, Current Ratios, Days Cash on Hand, Equity Financing, Average Age of Plant.*

Operating margin

Result (*Table 1 & 2*) indicates that *operating margin* of both group of hospitals (VAHs and CDHs) was not healthy. Both group experienced the low ability to generate profit since they all have negative operating margin. Therefore on average faith-based hospitals (both CDHs and VAHs) in Tanzania manifested relative low level or negative financial viability over the sampled period of five years. For example CDHs had operating margin ranging between -0.1090% and -0.468977% in the year 2011/12 and 2014/15 respectively, on the other hand operating margin of VAHs was ranging between -3.9% and -1.46% in the year 2011/12 and 2014/15 respectively. The findings report that probably both VAHs and CDHs are not careful

in cost control management (expenses control over revenue). Generally, surplus generation is very important to ensure that the hospital remains sustainable in the long run, it also attract the resources as the means of performance evaluation. In the study conducted by Pink et al (2005) on hospitals financial performance in Ontario, it was proposed that a hospital should be considered to have good a financial performance if it has the operating margin ranging between 0% and 5%, therefore in this case both CDHs and VAHs are considered to have been performing poorly with regards to operating margin given the proposed benchmark by Pink et al (2005).

Liquidity

Results revealed that as far as current ratios is concerned, hospitals under scrutiny (both CDHs and VAHs) exhibited good performance in terms of liquidity position, since most of them have the current ratios of more than 2.0 over the study period (Ref : Table 1& 2).Moreover, the current ratio in CDHs category was increasing over the sampled period from 1.8 in 2011/12 to 5.3 in 2014/15(Table1) on the other hand, the current ratio of VAHs was stable above bench mark of 2 during the entire period of analysis (Table 2). Although CDHs experienced current ratio of less than 2.0 in the year 2011/12 and 2012/13 but for the subsequent years it continues to grow up to 5.3 times in the year 2014/15 . the possible cause of a sharp decrease in liquidity of the in the year 2012/2013 can either be increase in current liability or sudden decline in cash or other current assets that which can be used to cover the current liability in that particular year. From the survey conducted in Ontario in 2005 the benchmark was established that the hospital is considered to have a good liquidity position if it has the current ration of at least 2.0 (Pink et al., 2005). This means that both CDHs and VAHs have the higher current ratio since the hospitals under scrutiny depicted average current ratio of above 2.0 (benchmark).

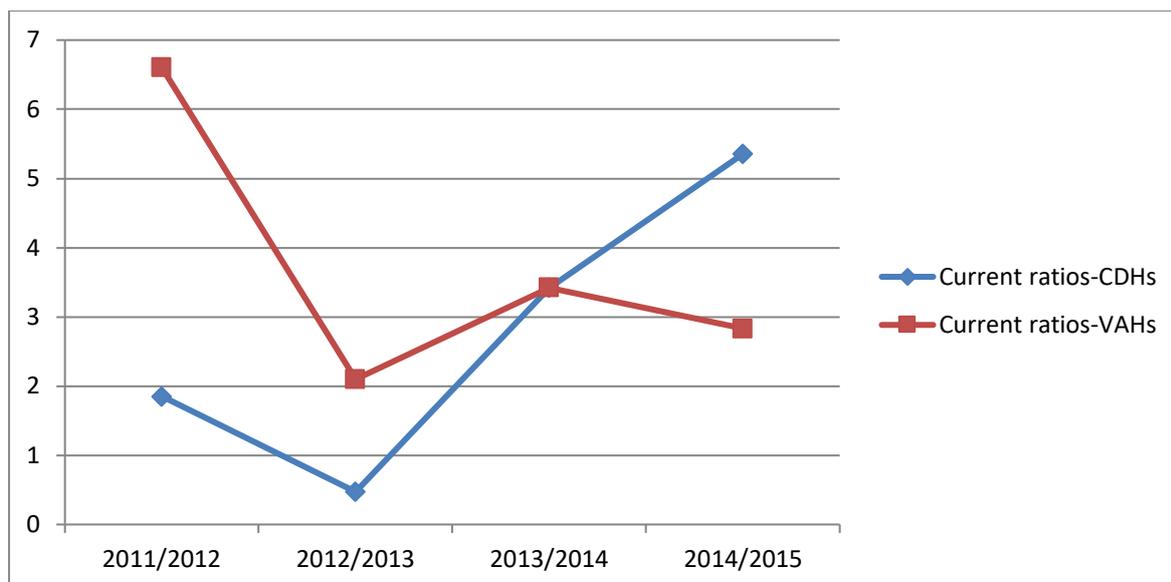


Figure 1: Comparison between CDHs and VAHs in terms of Current Ratio 2011/12-2012/15

As far as *day's cash on hand* is concerned, result revealed that day's cash on hand in both categories (CDHs and VAHs) was more than 60 days. This implies that on average private not for profit(PNFP) hospitals in Tanzania can operate for sixty days without depending on collection from their operating activities. Days cash on hand for CDHs were ranging from 110 days to 123 days in the year 2011/12 and 2014/15 respectively. While that of the VAHs were 84 days to 60 days in the same period. In both categories (CDHs and VAHs) day's cash on hand were showing the ability of the hospitals to adjust or accommodate changes in case there is a need to do that. Though both CDHs and VAHs were performing above the propose benchmark, CDHs were performing relatively better (in terms of liquidity) compared to their VAHs counterparts. Days cash on hand also implies that the higher the days cash on hand the lesser the risk of becoming insolvent and higher the room for hospitals adjustment. In the study conducted by Pink et al., (2009) on financial performance of Critical Access Hospitals in USA, it was established that Days cash hand of 60 days should be used as the appropriate benchmark. Therefore in this study all hospitals from both categories (CDHs and VAHs)

manifested the days cash on hand of above 60 days which implies high (liquidity) ability of hospitals to meet short term financial obligations. The conclusion with this regard is in line with McCue and Nayar (2009) who contended that, not for profit hospitals may have high liquidity but not cash flows to access tax exempt debt market to fund future capital expenditure.

Table 2: Median–Financial Performance Ratios for VAHs 2011/12 – 2014/15

Financial Performance (indicators)	2011/2012	2012/2013	2013/2014	2014/2015
Operating margin (%)	-3.980712	-1.45481	-1.264843	-1.468977
Growth rate in equity (%)	-0.132363	0.002789	-0.077689	0.383678
Current ratios	6.604267	2.098809	3.423267	2.832436
Days cash on hand	83.72614	80.106989	98.316455	60.022252
Equity financing (%)	-5.384387	-6.317465	-7.324270	-5.936989
Average age of plant	4.633151	9.7611203	8.513363	11.825988

Source: Research Findings, 2015

In the first two years (2011/12 & 2012/13) CDHs experienced current ratio below the proposed bench mark and above bench mark in the subsequent years. When compared to VAHs both *current ratio and days cash on hand* was decreasing though was still above the proposed bench mark of 2 and 60 days respectively. Therefore CDHs were experiencing high growth in liquidity than their VAHs counterparts.

Equity finance

This ratio gauges the ability of the hospitals to finance its assets using the equity financing (internal sources of financing). As the percent of equity financing become less it reflects the extent to which the hospitals depend on the external source of financing (debt financing). It is appropriate indicator of the level of leverage used by hospitals (www.wikipedia.org/wiki/equity_ratio). Generally, higher equity financing is healthier, although most financially healthy hospitals should have some debt for working capital as the way to minimize overall cost of capital (Kane Consulting Group, 2008). In the study conducted by Kane Consulting Group (2008) on the US Acute non-profit hospitals, it was pointed that the appropriate range is between 40% and 70% equity financing. Findings shows that most of CDHs and VAHs in this study have equity financing of less than this proposed bench mark, which implies that ability of these hospitals to finance their assets from internal sources was very questionable over the sampled period. Therefore, result implies that not for profit hospitals (CDHs and VAHs) in Tanzania are less capable of financing their assets using equity. Therefore in totality the equity financing in Tanzania faith based hospitals is still low compared to findings in previous similar studies.

Growth rate in Equity

This measure the increase in the value of equity after the end of each financial year, the hospital will experience increase or growth in equity if it generates the surplus, obviously since these faith based hospitals in Tanzania experienced the negative or very insignificant operating margin it means there is (nothing or) insignificant amount to be added back to allow growth in equity. Our findings reveled that hospitals in CDHs and VAHs categories have growth in equity of less than two percent and in some years it is even negative. For example CDHs category in year 2012/13 had -0.3%, On the other hand the VAHs had negative equity growth rate of -0.132% and -0.077%; in the year 2011/12 and 2013/2014

respectively. Therefore, there was a slight improvement in VAHs (from -0.132% in 2011/2012 to 0.38% in 2014/2015) compared to CDHs whose growth rate in equity declined from 0.02% in 2011/2012 to 0 in 2014/2015.

Average age of plant

It is the financial measurement indicating how old a hospital fixed assets are. It premises on the assumption that hospitals use the straight line depreciation methodology. The median value for the average age of plant provides indications on the replacement cost required for the assets in the near future, It also signify the hospital's ability to generate revenue (it is obtained through examining the accumulated depreciation and gross fixed assets to net fixed assets). Results of our study revealed that average age of plant was lower in VAHs category (particularly before 2012/13) compared to their counterpart CDHs category, in other words increase in the age of plant VAHs was relatively higher (138%) compared to the increase in the age of CDHs (41%) over the sampled period, this also implies that, plants owned by CDHs were relatively younger than those owned by the VAHs. This study also revealed that, over the study period VAHs have the median value for average age of plant from 4.6 years in 2009/10 to 11.82 years in 2012/13, meanwhile the CDHs category have 8 years in 2009/10 to 11.34 years in 2012/13. Implying that the VAHs category in the year 2012/13 had plant or assets which could not generate revenue compare to their counterpart CDHs due to the age of the plant or assets.

Therefore, though the age of plant of CDHs seems to be younger than that of the VAHs, comparatively both categories (CDHs and VAHs) have relatively higher age of plants compared to the age of plants of hospitals in India. In the study by McCue and Nayar (2009) it was found that non-profit possess old plants and equipments which in future may affect their ability to operate. Findings in this study conform to findings by McCue and Nayar,

since both categories (VAHs and CDHs) in Tanzania, have average age of plant which is higher than that of the private hospitals in India. They added that non-profit are not good in controlling their cost (cost control). Generally, our result supports the findings by McCue and Nayar (2009) in the sense that since VAHs and CDHs under the scrutiny have less capability of equity financing and they maintain very old assets or plants the faith-based hospitals subject themselves into financial hardship during the replacement of plant or assets, which may lead to further usage of very old plant or assets which affect their ability to generate revenue as well as increasing equity financing capability. Generally, the two categories of hospitals (VAHs and CDHs) are likely to face the assets replacements (expected to incur capital expenditures in the near future) as both are maintaining relatively old assets. However, CDHs maintain relatively older assets as compared to VAHs counterparts.

6. Conclusion and Recommendations

The study aimed at examining comparative financial performance of CDHs and VAHs using specific financial ratios. Hospitals in both categories seem to have good liquidity position, evidenced by current ratios which is above the required benchmark of 2.0 times, as well as reasonably average days cash on hand (DCH) of at least 20 days. The finding is supporting the existing argument in the hospitals' financial management that, not for profit hospitals are good at maintaining high liquidity and cash flow but are facing low profitability and difficulties in accessing the external funds. As far as operating margin of is concerned over the same sampled period the *operating margin* of both group (VAHs and CDHs) was not financially healthy. Both groups experienced the low ability to generate profit since they all have negative and some almost zero operating margin. Result also revealed that hospitals in both categories (CDHs and VAHs) have growth in equity of zero and less than zero and sometimes less than one percent which is relatively small. The result also revealed that

average age of plant was higher in CDHs category compared to their counterpart VAHs category; this also implies that, plants owned by VAHs were relatively younger than those owned by the CDHs.

Therefore too aged hospitals' plants and assets lead to low ability to generate revenue, and low profitability which influences low growth rate in equity financing of faith-based hospitals. The basic descriptive analysis that compares CDHs and VAHs(*Ref. Appendix 1&2*), support findings from ratios analysis where VAHs seems to have high growth rate in average age of a plants compared to their CDHs counterparts. Therefore, from the fact that most of the not-for-profit hospitals (VAHs and CDHs) have less access to external funds such as debt financing (apart from donors funds and grant from the government), both CDHs and VAHs hospitals continue to depend on the government grants and donors funds or sometimes constrained themselves to maintain high level of cash to support assets/plants replacements when they get obsolete.

Conclusively, the financial performance of the VAHs and CDHs in Tanzania in terms of liquidity is good. However, liquidity position of CDHs was increasing while that of VAHs experienced a slight decline. This gives the idea that, though not for profit hospitals in Tanzania are not performing good in terms of other aspects (such as profitability, equity financing, growth rate in equity) performance in liquidity and zero leverage make the hospitals safer (less prone to financial risky) as far as solvency and financial condition is concerned.

The study recommends that since the VAHs and CDHs both are less pressured to focus on profit, and in many cases they deal with less profitable services to serve community (especially where /public health facilities are inadequate). The government should continue supporting these hospitals in assets acquisition and replacements as most of them serve the

community on behalf of the government and they have negative or very small margin which lead to no/very little growth in equity which could have been reinvested in the acquisition of the assets and hospitals plants. It is also recommended that since both VAHs and CDHs are well known for having low access to external financing the government has the role to make follow up on long term financial stability of the two categories by monitoring the capital structures, as indulging in long-term borrowing may lead to financial insolvency of the hospitals and threatens the existence of the CDHs and VAHs, hence affect the healthcare delivery in the country. Hospitals administrators (in CDHs and VAHs) should also revisit cost structures in their respective hospitals as poor performance in the operating margin may be partly attributed poor control of expenditures against revenue.

REFERENCES:

1. Bhat, R and Jain, N. (2006). Financial Performance of Private Hospitals In India: Some Further Evidence Research and Publications, *Working Paper No 2006-04*
2. Chu, D., Zollinger, T., Kelley, W and Sayawell, RM, Spring Jr. (1991). An empirical analysis of cash flows, working capital and the stability of financial ratios groups in the hospitals industry, *Journal of Accounting and Public Policy 10*, pp 39 – 58.
3. Cleverley, W.O (1993). *The 1993 Almanac of Hospitals Financial and Operating Indicators*, The Center for the Health Care Industry Performance Studies; Columbus, OH.
4. Cleverley, W. O., & Nilsen, K. (1980). Assessing Financial Position with 29 Key Ratios. *Hospital Financial Management*, 34(1), 30.
5. Glandon, G., Counte M, Holloman, K and Kowalezyk, J. (1987). An analytical Review of Hospitals Financial Performance Measures. *Health and health Services Administration 32(4): 4939-455*.
6. Kane Consulting Group. (2008). Report on the Financial Conditions of the 23rd. Acute Non- profit New Hampshire Hospitals.

7. McCue, M.J and Nayar, P. (2009). A Financial Rate Analysis of for Profit and Non-Profit Rural Referral Centers, *the Journal of Rural Health, RHA*.
8. MOHSW (2008) , Report on medicine coverage and health insurance program survey in Tanzania
9. MoHSW. (2011); Health Sector and Social Welfare Public Private Partnerships Policy Guidelines. Available at: www.moh.go.tz.
10. Pink, GH. Brown, AD., Daniel, I., Hamlette, ML. Markel, F., McGallis, H and McKillop. (2006). Financial Benchmarks for Ontario Hospitals, *Health Quarterly* 9(1) 40 – 45.
11. Pink, GH. Daniel, I., McGill, L and McKillop, I. (2007). Selection of Key Financial Indicators; A literature, Panel and Survey Approach, *Healthcare Quarterly*, Vol 10 (1) pp 87–98.
12. Pink, GH. Daniel, I., McGills, L and McKillop, I. (2007). Selection of Key Financial Indicators; A literature, Panel and Survey Approach, *Healthcare Quarterly*, Vol 10 (1) pp 87–98.
13. Pink, GH. Holmes, GM., Slifkin, RT and Thompson, RE. (2009). Developing Financial Benchmarks for Critical Access Hospitals, *Health care Financing*, Vol 30 (3) pp55 – 69.
14. Watkins, A.L. (2000). Hospitals Financial Ratio Classification Patterns Revisited: Upon Considering Non- Financial Information, *Journal of Accounting and Public Policy*, Vol 19, pp 73 – 95.
15. Zeller, T.L, Stanko, B.B, Cleverley, W.O. (1996). A Revised Classification Pattern of Hospitals Financial Ratios. *Journal of Accounting and Public Policy*.15 (2), 161-182.

Appendix 1: Financial Data - Summary Statistics for CDHs 2011 - 20115

2011					
Indicators	Observatio n	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-1.024765	3.074693	-12.2512	.94238
Growth rate equity	17	7.554031	14.04394	-.88316	32.09341
Current ratio	17	19.003	68.4856	1.023146	284.7373
Days cash on hand	17	110.5999	39.77009	65.03714	216.0315
Equity financial ratio	17	-9.660121	14.59933	-61.0288	-.11525
Average age of plant	17	14.72431	26.59472	1.638989	113.4161
2012					
Indicators	Observatio ns	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-1.337263	4.067928	-16.3765	.958983
Growth rate equity	17	1.383796	8.145282	-1.85285	32.84276
Current ratio	17	1.70105	4.039957	.265252	17.29443

Days cash on hand	17	107.2311	32.7898	20.69945	145.0903
Equity financial ratio	17	-34.52298	47.61711	-191.719	.001943
Average age of plant	17	20.45834	24.93917	1.439695	112.5423
2013					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-3.860185	9.304256	-37.0121	.749508
Growth rate equity	17	9.49304	12.93701	-.27284	28.77946
Current ratio	17	12.11985	29.96567	2.282285	128.0668
Days cash on hand	17	126.4777	36.35234	72.66269	218.4213
Equity financial ratio	17	-5.783898	6.11671	-23.471	.023711
Average age of plant	17	11.89914	18.46598	1.717169	79.92119
2014					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-3.059048	4.196197	-12.6676	.916295

Growth rate equity	17	.8034491	3.658332	-1.82749	14.83223
Current ratio	17	9.370954	7.48727	2.61709 7	23.6235
Days cash on hand	17	123.6664	31.28669	84.4236 7	181.7974
Equity financial ratio	17	-6.027926	6.753457	-22.6084	.043673
Average age of plant	17	11.9021	11.39386	2.87699 8	42.81215
2015					
Indicators	Observations	Mean	Std.deviation	Minimum	Maxim
Operating margin	17	-7.240791	18.42666	-58.413	1
Growth rate equity	17	1.318732	5.122859	-.1703	21.18699
Current ratio	17	17.33502	49.02283	3.699089	207.555
Days cash on hand	17	121.0344	35.44541	55.08747	185.9999
Equity financial ratio	17	-5.668557	5.408987	-19.3989	.091973
Average age of plant	17	10.41891	10.65208	0	47.24046

Appendix 2: Summary Financial Statistics – VAHs 2011 - 2015

2011					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-3.511051	3.812275	-10.1097	1.430958
Growth rate equity	17	-.0622075	.2060311	-.25799	.667465
Current ratio	17	5.638884	1.599536	1.8212	6.604267
Days cash on hand	17	93.45648	36.2848	50.37941	159.2091
Equity financial ratio	17	-4.821853	2.954425	-8.614418	1.091365
Average age of plant	17	5.607923	2.735286	4.633151	15.56787
2012					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-3.45121	5.390149	-18.1753	.854989
Growth rate equity	17	.0654996	.2523099	-.50045	.862521
Current ratio	17	1.967383	.5875157	.472149	3.419937
Days cash on hand	17	113.4371	136.4669	37.87328	628.8901
Equity financial	17	-5.804752	3.88938	-14.08333	.571087

ratio					
Average age of plant	17	9.374649	.2692553	8.90361	10.33493
2013					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-5.347734	6.899465	-18.1867	.823833
Growth rate equity	17	-.0440272	.2480049	-.65834	.667465
Current ratio	17	3.741011	1.279067	1.53537	7.458528
Days cash on hand	17	107.5145	81.60996	25.99569	390.3612
Equity financial ratio	17	-6.014757	3.762574	-11.96703	-.0801664
Average age of plant	17	9.137247	2.179416	8.513438	17.49258
2014					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-4.591089	7.017289	-20.3686	.735061
Growth rate equity	17	-.6053753	.9872704	-2.25206	.508269
Current ratio	17	4.261228	3.565615	.569256	17.71763
Days cash on hand	17	99.47463	40.48365	33.46703	154.1446

Equity financial ratio	17	-9.942917	10.06153	-35.81581	-.2656753
Average age of plant	17	9.974639	2.387531	9.107429	18.49258
2015					
Indicators	Observations	Mean	Std.deviation	Minimum	Maximum
Operating margin	17	-2.1308	2.426149	-6.2211	1.103342
Growth rate equity	17	3.750971	7.989962	-.31605	20.48047
Current ratio	17	2.84444	1.348298	.184429	5.390124
Days cash on hand	17	77.78415	36.50727	38.09397	148.3397
Equity financial ratio	17	-7.445325	5.873982	-19.24522	-.4540671
Average age of plant	17	15.33778	1.593353	10.49865	16.77816

Appendix 3: Regions, Districts and Hospitals from Each Zone Included in the Study

ZONE	Regions in Each Zone	Districts	Name of Hospitals
Eastern	Dodoma Morogoro, Tanga,	Muheza, Mvomero, Korogwe, Chamwino,	Mvumi, Turian ,ST. Gema, Muheza, ST. Raphael ,

Zone		Dodoma Municipal,	
Western Zone	Singida , Kigoma , Tabora	Sikonge District, Singida Rural, Iramba, Igunga,	Sikonge DDH, Makiungu, Iambi, Nkinga
Northern Zone	Arusha Region , Kilimanjaro	Moshi Municipal, Moshi Rural, Arusha Municipal, Rombo District	Huruma CDH, Kibosho CDH, Kilema CDH, ST. Joseph Hospital, Marangu, ST. Elizabeth Hospital,
Southern Zone	Ruvuma, Iringa, Njombe, Lindi, Rukwa, and Mtwara Region	Kilolo, Iringa Rural, Songea, Njombe, Rungwe , Mbozi, Mbeya City, Masasi, Tunduru, Ludewa,	St.Corneleous , Tosamaganga, ST.Joseph mission, Mbesa, Ilembula Hospital, Igogwe Hospital, Mbozi Mission, Uhai Baptist, ST. John Lugarawa
Lake Zone	Kagera , Mwanza , Mara Region, and Shinyanga	Bunda District, Muleba District, Sengerema-District, Kwimba-District, Biharamulo-District, Shinyanga Rural, Misungwi District, Muleba District,	Bunda DDH Hospital, Rubya DDH Hospital, Sengerema Hospital, Sumve Hospital, Biharamulo DDH Hospital, Kolandoto Hospital, Bukumbi Hospital, ST.Joseph Kagondo, Mkula Hospital and Ndolage Hospital

