

Original Article**The use of Public-Private Partnerships in Health Supply Chain Management in Rwanda**

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Abstract**Background**

The Government of Rwanda considers the private sector to play an important role in supporting provision of strategic national investments through Public-Private Partnerships (PPPs).

Objective

This study aims to describe the various aspects of PPPs in Health Supply Chain Management (HSCM) in Rwanda.

Methods

A questionnaire was used to collect data from health professionals and individuals familiar with HSCM Public-Private Partnerships for this descriptive, cross-sectional and quantitative study.

Results

The PPP interventional areas used in HSCM in Rwanda were namely supply of commodities (99%), delivered health Information Technology (IT) supplies and equipment (operate) (53%), finance (52%), and maintenance area (40%). The main challenges were limited conversation and absence of formal platforms for public and private engagement (83.7%) and complex procurement requirements for medical products and equipment by public institutions (73.3%). The strategies to improve the PPPs in HSCM were effective coordination of PPPs (93.3%) and improved dialogue and formal platforms (90.6%)

Conclusion

These findings indicated that private sector through PPPs plays an important role in HSCM in Rwanda. The engagement of the private sector can increase the financial support in terms of financing HSCM activities like supply of health commodities and equipment.

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Keywords: Public-Private Partnership, Health Supply Chain, Management.

Background

Private sector engagement has gained an important momentum over the last two decades. The 2030 Agenda for Sustainable Development serves as a blueprint for global development and catalyse the private sector investment across various sectors.[1,2] This calls for the immediate mechanisms to enhance the partnership between the Government and private sector including civil society, businesses and others to achieve Sustainable Development Goals (SDGs).[3]

The Government of Rwanda (GoR) takes into consideration the important role of the private sector (both for-profit and not-for-profit) in supporting improvement in the delivery of strategic national investments through Public-Private Partnerships (PPPs) and strengthen of the health system.[2] The GoR is committed to promote Public-Private Partnership (PPPs) which could help to increase the participation of investment in health infrastructure and services.[4]

Different countries have deployed some efforts to strengthen the engagement of the private sector in health with the overall aim of relieving the burden on the public sector, leveraging on financial resources and capacities from the private sector and reduce inequalities in access and use of healthcare services.[5] The GoR considers access to affordable medicines and medical devices a priority for its citizens. The Fourth Health Sector Strategic Plan (HSSPIV) stipulates that essential medicines and health

equipment need to be available all the times in appropriate quality and at a reasonable price for individuals and households.[1]

Public-Private Partnerships (PPPs) are defined as a long-term contract between a private company and a government entity, for providing a public asset or service, in which the private company bears significant risk and management responsibility, and remuneration, is linked to performance.[3,6]

Internationally, Governments from both developed and developing countries consider the Public-Private Partnerships (PPPs) as one of the important mechanisms to expand access to quality health services, enhance the health financing system and leverage managerial capacity from the private sectors.[2] For the present health sector to be increasingly successful and sustainable in a declining external financing and donation, at that point the private sector needs to assume a crucial role in connecting the financing gap. This increased interests in PPPs can be attributed to several reasons including the escalating costs of providing health care services, increases in chronic diseases, inadequate public health infrastructure, medicine shortages, limited capacity of the public sector to meet the health needs of the population and rapidly changing and advancing medical technologies.[7]

However, according to Fourth Health Sector Strategic Plan (HSSPIV), there was outstanding challenges including the important external financing of the sector, which was not sustainable. There was also an outstanding challenge of

limited capacity in terms of internal revenues to address issues related to supply chain capabilities at different levels.[1] There was also an issue where private sector in supply chain management was not involved in solving the aforementioned challenges.

It was thus crucial to conduct the study to describe various aspects regarding the PPPs in Health Supply Chain Management in Rwanda and came up with the findings and recommendations that may help decision makers and stakeholders to streamline the implementation of PPPs towards effective financing in health supply chain management in Rwanda. Specifically, this study intended to describe different areas of PPPs current in Health Supply Chain Management (HSCM) in Rwanda; determine benefits of PPPs and available opportunities in HSCM in Rwanda; identify challenges that hinder private sector engagement in HSCM in Rwanda; and identify strategies to improve PPPs in HSCM in Rwanda. [1, 3, 4, 8]

Methods

Study design, site, and population

The study used a descriptive, cross-sectional design with a quantitative approach. The study participants were 103 experts, health professionals and individuals with good understanding/familiar with PPPs from institutions namely the Ministry of Health (MOH), Rwanda Biomedical Centre (RBC) divisions, district pharmacies and private wholesale pharmacies. The 103 experts were

identified based on their routine involvement in the Health Supply Chain Management related to procurement, distribution, financing, inventory management, storage and use of medical products. The experts selected to participate in the study were contacted and given the questionnaires for filling. However, 15 did not agree to participate and 13 people were not found as they were absent during data collection.

Sample size and sampling technique

The sample size of this study was 75 respondents from relevant government and non-government actors including faith based organizations and private pharmacies. A purposive sampling was used to get the right respondents knowledgeable with PPPs in HSCM. The sample size was determined using the below formula Slovin's formula $n = N / (1 + Ne^2)$, where n was the sample size, N was the population size and e was the margin of error chosen by the researcher $n = 103 / (1 + 103 * 0.05^2) \approx 75$

Data collection tools

A semi-structured questionnaire (shown in Appendix 1) was used to answer the questions related to the study objectives. The questionnaire had part on demographic features of interviewee and main questions related to Public-Private Partnerships (PPPS) in HSCM.

Data collection procedure

The suitable method of data collection used for this study was the questionnaire. After consenting, the questionnaires were given in person by

the researcher to respondents who read and understood the questions and wrote down appropriately the responses in the space provided in the questionnaire. The questions were organised according to research topic to ensure that the research questions or objectives were covered throughout the questionnaire.

Data analysis

The data entry was done using Microsoft Excel. These data were exported into Statistical Package for the Social Sciences (SPSS) for further analysis. The analysis plan included descriptive analysis, univariate and Bivariate analysis

Ethical consideration

The ethical consideration was sought to ensure that the study conducted did not cause any harm to participants. The approval clearances were given by the University of Rwanda, Institutional Review Board (IRB) and National Health Research Committee (NHRC). The ethical clearances were: Approval Notice: No 351/CMHS IRB/2019 issued on 19th July 2019 from University of Rwanda,

Institutional Review Board (IRB) and Ref: NHRC/2019/PROT/045 issued on 6th August 2019 from National Health Research Committee.

Results

Sociodemographic characteristics of respondents

Most of the study respondents worked in public institutions and represented about 56 %. Among the respondents, majority were male 67 (89.3%) while female represented only 10.7% (Table 1). Regarding the age group, more than half respondents (57%) were aged between 35- 45 years while those aged between 25-35 years represented about 37.3%. only 5.3% of respondents were above 45 years old. Regarding the education attainment, the majority were bachelor's holders (73.6%) and the rest were master's holders. About the work experience, more than a half (53.3%) of the respondents had work experience of between 5-10 years in those companies and this demonstrated the richness of the information that was provided by those respondents.

Table 1. Sociodemographic characteristics of respondents

Characteristics	Private		Public		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Sex						
Female	3	4.0	5	6.7	8	10.7
Male	30	40.0	37	49.3	67	89.3
Age						
25- 35 years	17	22.7	11	14.7	28	37.3
35- 45 years	15	20	28	37.3	43	57.3
>45 years	1	1.3	3	4	4	5.3

Education Levels

Degree (A0)	23	30.7	32	42.7	55	73.3
Masters	10	13.3	10	13.3	20	26.7
Work experience						
1-5 years	7	9.3	1	1.3	8	10.7
5-10 years	16	21.3	24	32	40	53.3
> 10 years	10	13.3	17	22.7	27	36.0

Areas of PPPs in Health Supply Chain Management in Rwanda

Overall, the delivery area of health commodities was the most reported area of PPP in HSCM at about 99% (Figure 1). The delivery of IT supplies and equipment area (operate) represented 53% of the respondents. The finance

area in HSCM in Rwanda was reported by respondents at 52%. The maintenance area represented 40% of the respondents. In designing of projects, this was reported to be 35% whereas for build area, construction of health facilities/buildings was the least reported by respondents with 31%. The figure below shows the details.

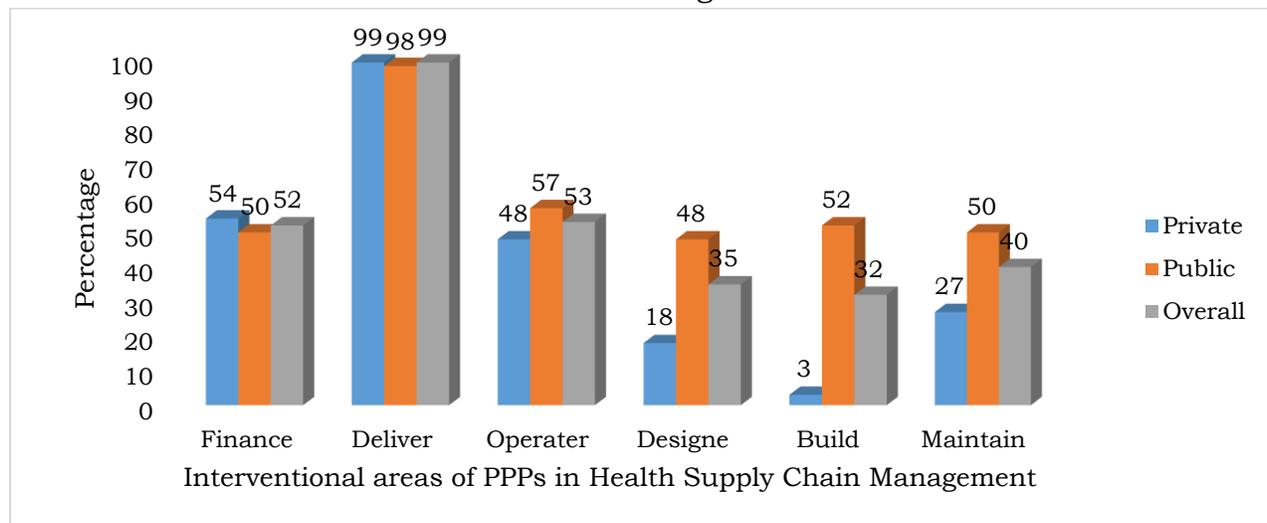


Figure 1. Distribution of interventional areas of PPPs in Health Supply Chain Management in Rwanda.

The benefits of the PPPs in Health Supply Chain in Rwanda

This study found that 90.6% of the respondents reported that PPPs have resulted to the availability of medicines, medical devices and medical equipment (health commodities) whereas 82% of respondents reported transportation

services as also the main contribution of PPPs in HSCM in Rwanda (Table 2). Similarly, almost 80 % of respondents reported that the PPPs have improved the cost effectiveness in treatment of diseases (e.g. availability of hepatitis C medicines at a lower cost). More than three quarters (77.4%) of the

respondents agreed that PPPs have resulted to the improved financing of health supply chain projects, while (62.6%) of the total number of the study interviewed reported that PPPs in HSCM contributed to availability of health

infrastructure. The table below indicates the views of participants in relation to the benefits in HSCM.

Table 2. The benefits of the PPPs in health supply chain management in Rwanda (1 strongly disagree to 5 strongly agree)

Statement	Responses from Private Sector		Responses from Public Sector		Grand Total		Final decision in % (rate 4&5 combined)
	Number	Percentage	Number	Percentage	Number	Percentage	
Financing of health supply chain projects							
1	0	0.0	5	6.7	3	4.0	77.4
2	0	0.0	5	6.7	3	4.0	
3	13	17.3	9	12.0	11	14.7	
4	39	52.0	33	44.0	35	46.7	
5	22	29.3	23	30.7	23	30.7	
Availability of health commodities							
2	0	0.0	2	2.7	1	1.3	90.6
3	5	6.7	7	9.3	6	8.0	
4	11	14.7	20	26.7	16	21.3	
5	59	78.7	46	61.3	52	69.3	
Health infrastructure							
1	7	9.0	1	1.3	3	5.0	62.6
2	0	0.0	7	9.3	4	5.0	
3	20	27.0	22	29.3	21	28.0	
4	28	36.0	23	30.7	25	33.3	
5	20	27.0	22	29.3	22	29.3	
Cost effectiveness to the patients							
1	2	3	0	0	1	1	80
2	4	9	4	5	5	7	
3	0	0	16	21	9	12	
4	32	42	29	38	30	40	
5	33	45	27	36	30	40	
Transportation services							
1	2	3	1	2	2	3	82
2	5	6	4	5	4	5	
3	9	12	7	10	8	11	
4	32	42	43	57	38	51	
5	27	36	20	26	23	31	

Note: We have combined the 4th and 5th score rate to inform the decision

Opportunities available for PPPs in Health Supply Chain Management in Rwanda

More than 94.7% reported that the political will from the government is the enabling factor for implementation of PPPs in HSCM. The majority of the respondents (92%), also reported that the existence of active private pharmaceutical institutions is key for the effective running of PPPs in HSCM. Four fifth of the respondents indicated that a well-structure health supply chain (82.7%) and Universal health coverage (80%) are crucial for the implementation of PPPs in HSCM. The

least reported opportunity was the e-health systems (e-procurement, online importation) representing 76%.

Companies/institutions have practice guidelines on PPP implementation

Most of the respondents (79%) indicated that they did not have guidelines or procedures in place for managing implementation of PPPs (Fig. 2). Only 21% of the respondents showed that they did possess guidelines on the PPPs implementation. The figure below shows the findings on guidelines availability for PPPs implementation

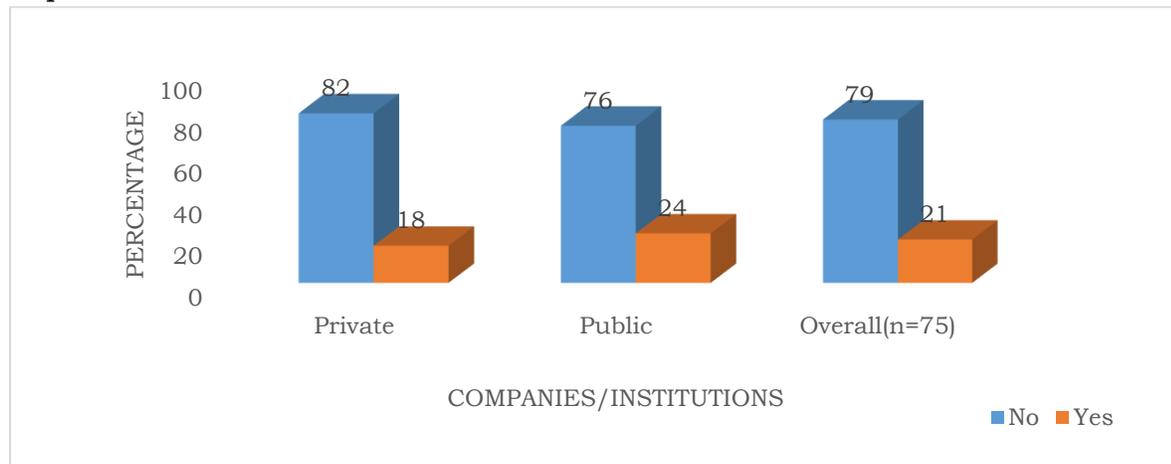


Figure 2. Institutions that have practice guidelines on PPP implementation

PPP projects/activities in health supply chain management meet their expected results

The majority of the respondents indicated that the PPPs projects in HSCM met their expected results during implementation and this represented 72% of the respondents (Figure 3).

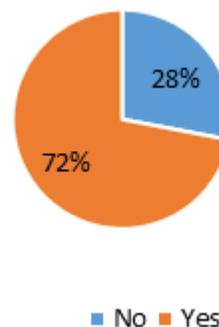


Figure 3. PPP projects in health supply chain management meet their expected results

Existence of challenges encountered when implementing PPPs in health supply chain management (HSCM) in Rwanda

Most of the respondents representing 95 % agreed that there were impediments in the execution of PPPs Projects. The remaining 5% of the respondents replied that there were no challenges encountered during the implementation of PPPs in health supply chain management (HSCM) in Rwanda.

Challenges that hinder private sector engagement in HSCM in Rwanda

The respondents showed that there was a challenge of insufficient information sharing between public and private and this was representing 83.7%. Another major issue was complex procurement requirements for medical products and equipment by public institutions in private sector representing 73.3% of the respondents.

Ineffective management/coordination and clear roles and responsibilities between public institutions and key stakeholders was also another issue that was reported by 67.6% of the respondents. The challenges of contracts including delay payment, clauses favouring one part etc. was pointed out to be hindering the implementation of PPPs in HSCM representing 64.8% of the respondents. The least issue reported was lack of regulations/laws about PPPs in HSCM representing 58.1 % of the respondents.

Measures that can be put in place to improve PPPs in health supply chain management in Rwanda

The majority of the respondents (93.3%) reported that for PPPs in HSCM to be

more effective, there should effective management/coordination of such PPPs. Again there should be high improved dialogue and formal platforms as reported by 90.6% of the respondents. More than four fifth reported that enhancing transparencies from all partners involved in PPPs would lead to effective implementation of PPPs and this was reported by 89.3% of the respondents. The respondents also indicated that trust between parties in PPPs (84.0%) and appropriate risk allocation (financial) (81.3%) will lead to improved performance of PPPs in HSCM. The respondents also mentioned that there should be laws and regulations about PPPs in HSCM that are flexible to all parties and make known by concerned people. This was reported by 65.4% of the respondents. Finally, the issue of contracts was indicated to be solved by having well prepared contract document with equally shared risks and this was reported by respondents representing 64.0%.

Experiences shared about PPPs in HSCM IN Rwanda

The respondents shared their experiences or testimonies about PPPs in HSCM. Most of them highlighted PPPs in supplying hepatitis C treatment medicines; PPPs in supplying Non Communicable Diseases medicines, & PPPs with Abbott in distribution of laboratory reagents for Viral Load, Biochemistry & Haematology that contributed a lot for health public. Others said leasing of medical equipment where health facilities do purchase only the reagents.

Others said that successfully implemented collaboration between District Pharmacies and private health posts by putting them under the same conditions as other public health facilities for example during active distribution where they transport health commodities for them together with those of the health centres they belong to. PPPs in regards with Health Supply Chain Management is a key approach to increase supply chain performance through readily health commodity availability, accessibility and affordability to the public.

Discussion

Different Interventional Areas of PPPs in Health Supply Chain Management in Rwanda

This study investigated the different interventional areas of PPPs existing in HSCM in Rwanda. These PPP areas include Finance, Maintain, Operate & Deliver, Design and Build. The most predominant PPP area was, the delivery of health commodities, representing 99 %. Other areas were the supply of IT supplies and equipment (operate) (53%), the finance area (52%) the maintenance area (40%), designing of projects (35%) and build area, construction of health facilities/buildings (31%).

Similar findings were seen in the study that was conducted in Canada by David Barrows et al., where it was found that PPPs were involved in designing and building areas of hospitals and the delivery of non-clinical services which was reported at 61%.[9] However, these

results are different from those of this study in relation to areas like financing, delivery and maintenance as these were not discovered in PPPs of that study.

The results of this study were also similar to those of the study that was conducted by Global Health Group from University of California, San Francisco in partnership with PwC Global Healthcare in as far as Public-Private Partnerships (PPP) in health was concerned.[6] It was found that the private institutions had the mainly in charge for; providing financial support or co-financing the capital cost or project, maintenance of buildings and equipment required to offer health supply chain management services, organization and provision of specific HSCM services; delivery of equipment, the design of the facilities, building of new, or renovation of existing, buildings. [6] In this study the private companies involved in the maintenance and building of health facilities like health posts where the Ministry of Health worked in collaboration with development partners like One Family Health Project.

Benefits of PPPs in HSCM in Rwanda

From the results of this study, the respondents revealed that there were benefits of using PPPs in HSCM in Rwanda. The benefits that the respondents indicated were availability of health commodities (90.6%), transportation services involved in HSCM (82%), cost effectiveness to patients in relation to their treatment (80%), financing of health supply chain

projects (77.4%), and Health infrastructure (62.6%). The Government of Rwanda has benefited from HSCM PPPs where cost of treatment for some health conditions has been reduced. These include treatment of Hepatitis C condition where the private sector plays a role in availability, accessibility and affordability of the medicines to treat such condition. The private sector also plays a role in financing of HSCM activities organized by the public health institutions by supplying medicines or providing funds for such activities. Private pharmacies have also seen in distribution and transportation of medicines to district pharmacies free of charge in implementing the HSCM PPPs.

Similar study that was conducted by Caines et al., in Sri Lanka, Uganda and Zambia, found that the involvement of various pharmaceutical companies through PPPs aided to effective medicines availability very significantly in those three concerned study countries.[10] In Zambia, there was also expansion of access to malaria drug Coartem® at an affordable price via partnership with private pharmacies and retail outlets that were selected.[10]

In Rwanda for instance, the PPPs have led to cost effectiveness to patients. The patients at first could not afford the hepatitis C medicines. They were expensive and not accessible. With PPPs, the Hepatitis C medicines were made accessible, available and affordable to the patients and hence real sense of cost effectiveness to patients as a result of PPPs.

This was also in line with the GOR vision 2020 where PPPs contributed to the economy scale of the country by providing quality infrastructure, services delivery and pharmaceutical products, and helped in achieving GOR's goals/objectives in Vision 2020, Vision 2050 and the Economic Development and Poverty Reduction Strategy (EDPRS).[4]

The GOR also has done tremendous efforts in implementing PPPs in HSCM especially in the availability of health commodities at affordable cost for instance hepatitis C health commodities and these available in selected wholesale pharmacy (ies). There has been also signing agreement between GOR with private companies in construction of health facilities for instance, health posts that have been build country wide especially in remote areas.[11] This is also in line with the results of this study.

Opportunities available for PPPs in Health Supply Chain Management in Rwanda

This study found out that there were opportunities available for the implementation of PPPs in HSCM in Rwanda. These include the political representing 94.7% of respondents, active private pharmaceutical sector (92%), a well-structure health supply chain (82.7%), of a well-functioning e-health systems (e.g. e-procurement, online importation) and high enrolment and health insurance schemes, representing 76% and 80% respectively. The GOR is dedicated to offer a smooth environment for the investment in all

sectors including HSCM. This has led to private pharmacies to frequently opening and operating and hence able to contribute in PPPs of HSCM.

The study conducted by Global Health Group at the University of California, in relation to Public-Private Partnerships (PPPs) in health care, it came up with some similar opportunities for PPPs in HSCM. In that study, it was found that the key enabling conditions or opportunities for PPPs in healthcare were; political will, legislative and regulatory framework, transparency, public sector capacity, contract completeness, flexibility and governance and broad stakeholder engagement.[6]

Company/institution have practice guidelines on PPP implementation

The results of this study revealed that from all respondents, the availability of guidelines on the PPPs implementation was at 21%. Most of the respondents (79%) replied that they had no guidelines on how to deal with PPPs HSCM projects. This is an issue as the implementation of the PPPs would be difficult and reach the expected targets.

Similarly, in the study that was conducted in Canada by David Barrows et al., which found out that the majority of respondents did not have a working knowledge on PPPs (56%).[9]

PPP projects/activities in health supply chain management meet their expected results

The findings of this study found that the implementation of PPPs projects in HSCM that met their expected results as indicated by 72% of the respondents. This is an indication that the PPPs in HSCM are crucial to public at large.

In the study that was conducted in South Africa, it was found that the respondents the private sector gave security in that they executed the project effectively and efficiently within cost, on time, and to the specifications. However, the government can open doors, provide legislation, get things passed, but they rarely can execute.[12]

Existence of challenges encountered when implementing PPPs in health supply chain management (HSCM) in Rwanda

The findings of this study came up with 95 % of the respondents indicating that there were challenges in the implementation of PPPs Projects.

According to the study that was conducted in Canada by Barrows et al., it was found that PPP arrangements used in resulted in issues/challenges especially in the delivery of care by 58% and contracts by 24%. [9]

Furthermore, and similarly in the study that was conducted in Iran by Ehsan Zarei et al., it was found that there were challenges that faced PPPs in health sector including the complexity, low-quality evaluation and irregular

supervision, lack of transparency, and inadequate coordination.[13]

Challenges that hinder private sector engagement in HSCM in Rwanda

The findings of this study indicated that there were challenges in the implementation of PPPs projects in HSCM. These were limited dialogue and no formal platforms or systems for public and private engagement (Information Sharing) (83.7%), complex procurement requirements for medical Products and equipment by public institutions (73.3%), ineffective coordination and clarity of roles and responsibilities between Public institutions and key stakeholders (67.6%), contracting issues (64.8%) and lack of regulations/laws about PPPs in HSCM (58.1 %). These challenges bring attention that need to be considered so that they can be mitigated and hence have smooth PPPs in HSCM. Thus the recommendation from this study included to promote and enhance significant engagement of all private companies in the development of HSCM PPP policies, laws, regulations and guidelines so as to guarantee awareness, ownership of the PPPs. Another recommendation would be to strengthen the coordination and collaboration between the public and private sectors in HSCM on regular basis so that private sector is participative in health sector activities especially financing.

In the study that was conducted in Germany, it was found that PPPs projects faced challenges namely; poor management of the PPPs, conflicts of

interests between the public and the private sectors, accountability, risk management, costs of regulation and transaction costs.[14] The results of that study were difference to this one except for poor management of PPPs that was also identified in this study. The recommendation here would be to establish and discover the possibility for privatization of medicines procurement and distribution both national and internationally by public institutions. In the study that was conducted by UN Commissions globally on PPPs in Health supply chain, the challenges were lack of control over resources, delayed decision making by public sector, contracting issues, payment terms and information sharing issues.[15] These were somehow similar to those of this study like issues of contracting, and information sharing. The recommendation would be to potentially initiate and enhance private sector contributions especially financial support in HSCM PPPs.

Measures that can be put in place to improve PPPs in health supply chain management in Rwanda

The findings of this study showed that there are measures/strategies to improve the PPPs in HSCM and these were to enhance effective management/coordination of PPPs (93.3%), to improved dialogue and formal platforms (90.6%), to foster transparencies from all partners (89.3%), trust between parties in PPPs (84%), appropriate risk allocation (financial) (81.3%), put and make aware laws and regulations about PPPs in HSCM (65.33%) and well prepared

contract document (64%). Though there were challenges in implementing PPPs in HSCM, the respondents gave their views on the measures that could be taken to mitigate the existing challenges.

Similar findings to this study were also found in the study that was conducted by United Nations (UN) Commissions globally on PPPs in Health supply chain, where it was found that the strategies or measures to improve PPPs in HSCM were to start with realistic vision of what can be attained, build partnership based on the mutual trust, foster transparency from all parties, demonstrate commitment from PPPs, learn from other sectors, advocate for changes.[15]

Limitations of the study

The study was not conducted in both public and private institutions that were not involved in the Public-Private Partnerships in Health Supply Chain Management. It was also not conducted in health facilities like hospitals, health centres, clinics, dispensaries, health posts and community because of their limited involvement in PPP in HSCM.

Conclusion

From the study results, it was found that private sector through PPPs plays an important role in the Health Supply Chain Management in Rwanda. The engagement of the private sector can increase the financial support in terms of financing the projects of HSCM, delivery or supply of health commodities and equipment. Through PPPs in HSCM, there has been also effective and affordable cost of treatment to patients,

availability of medicines and accessibility of health services. Thus the GOR should keep on use of PPPs when appropriate.

However, there were challenges that hinder the implementation of PPPs in HSCM which should be resolved for the benefit of the concerned parties and the public in general.

Therefore, with PPPs in HSCM, there may be sustainable financial support, affordability of treatment costs to patients and availability of medicines and equipment in public. This calls for the public decision makers in different levels to greatly and always consider the involvement of private sector in HSCM.

Conflict of interest

All authors report no conflict of interest.

Authors contribution.

EB was the principal invigilator, he designed, collected the data and developed the content of the study. PCK and SMU have critically reviewed the manuscript. They all helped in reviewing, commenting and streamlining the study until it was finalized.

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APPENDIX 1: QUESTIONNAIRE FOR THE STUDY

"The use of Public-Private Partnerships in Health Supply Chain Management in Rwanda"

Name and contact information of principal investigator

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The following questionnaire will be completed with voluntary participation noted as consent.

PART I: Demographic Features of Interviewee

Name of company:

Province:

District:

Sector:

Date:

1. Type of organization: Public
Private

2. Please indicate your age:

- a) Below 25 years
b) Between 25- 35 years
c) Between 35- 45 years
d) Above 45 years

3. What is your level of education?

- a) Certificate (A2)
b) Advance diploma (A1)
c) Degree (A0)
d) Masters
e) Other (specify)

4. What is your working experience?

- a) Less than a year
b) Between 1-5 years
c) Between 5-10 years
d) Above 10 years

PART 2: Public-Private Partnerships (PPPS) In HSCM

5. What are different models of PPPs existing at your company in health supply chain management?

PPP Models	Description	Yes	No
Finance	Financing or co-financing of the project		
Deliver	Delivery and management of Health commodities		
Operate	Supply of applicable equipment and IT		
Design	Design of the project, including design of the infrastructure and care delivery model		
Build	Construction or renovation of facilities included in the project		
Maintain	Maintenance of hard infrastructure (facilities as well as equipment as applicable)		

6. What are the benefits of the PPPs in health supply chain management in Rwanda?

	RATES (1-5, with 1 as strongly disagree and 5 as Strongly agree)				
	5 Strongly agree	4 Agree	3 Neutral	2 Disagree	1 Strongly disagree
Benefits of PPPs					
Financing of health supply chain projects (purchase of medicines)					
Availability of health commodities					
Health infrastructure (Accessibility of health services to public)					
Cost effectiveness to the patients					
Transportation services (eg. of health commodities)					

7. What are your company’s contributions PPPs in health supply chain management in Rwanda?

Company contributions to PPPs	YES	NO
Health Financing support		
Availability of health commodities		
Health infrastructure (Accessibility of health services to public)		
Cost effectiveness to the patients		
Transportation services (eg. of health commodities)		
Other (Please specify):		

8. What are the opportunities available for PPPs in Health Supply Chain Management in Rwanda?

Opportunities available for PPPs	RATES (1-5, with 1 as strongly disagree and 5 as Strongly agree)				
	5 Strongly agree	4 Agree	3 Neutral	2 Disagree	1 Strongly disagree
Political will					
Well-structured health supply chain					
Active private pharmaceutical sector					
Universal health coverage					
e-health systems (e-procurement, online importation etc)					
Other (Please specify).....					

9. Does your company/institution have practice guidelines on PPP implementation?

- Yes
- No

10. Do PPP projects in health supply chain management end up meeting their expected results?

- Yes
- No

11. Are there any challenges encountered when implementing PPPs in health supply chain management (HSCM) in Rwanda?

Yes

No

12. If yes, what are the challenges that hinder private sector engagement in HSCM in Rwanda?

Challenges	RATES (1-5, with 1 as the least and 5 as highest)				
	5 Strongly agree	4 Agree	3 Neutral	2 Disagree	1 Strongly disagree
Lack of Regulations/laws about PPPs in HSCM					
Limited dialogue and no formal platforms or systems for public and private engagement (Information Sharing)					
Ineffective coordination and clarity of roles and responsibilities between Public institutions and key stakeholders					
Contracting Issues					
Complex procurement requirements for medical Products and equipment by public institutions					

13. What measures that can be put in place to improve PPPs in health supply chain management in Rwanda?

Measures that can be put in place to improve PPPs in HSCM	RATES (1-5, with 1 as the least and 5 as highest)				
	5 Strongly agree	4 Agree	3 Neutral	2 Disagree	1 Strongly disagree
Foster transparency from all partners.					
Appropriate risk allocation (financial)					
Effective management/coordination of PPPs					
Trust between parties in PPPs					

Well prepared contract document					
Put and make aware laws and regulations about PPPs in HSCM					
Improved dialogue and formal platforms					

14. Any experience/testimony with PPP health supply chain management projects that you would like to share?

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I thank you so much for your kind participation in this study!