Participatory Approaches to Strengthening District Health Managers’ Capacity: Ugandan and Global Experiences

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Umeå 2018
To my family: Barbra, Natalia, Daniel and Simeon
Who have shown me the joy of living for others

To my father, Philp Tetui
who taught me the value of being dependable and how to live on the top of a mountain but also in the depth of a valley

To my mother, Beatrice Tetui
who trained me never to fold my hands

To my brother and sisters: Jimmy, Doreen, Joan and David
who are my constant reminder of hope in hopeless situations

To my friends and colleagues, who have taught me that we are better together than alone.
“Good management is the art of making problems so interesting and their solutions so constructive that everyone wants to get to work and deal with them.” Paul Hawken
Table of Contents

**Abstract**

**Original papers**

**Prologue**

**Introduction**

- Health and health systems
- A snapshot of health systems challenges
- Health systems management
- What is health managers’ capacity?
- Approaches to building managers’ capacity
- Participatory action research

**Study context**

- Uganda- general facts and key health indicators
- District level public health services management in Uganda

**Study rationale**

**Objectives**

- General objective
- Specific objectives

**Methods**

- The emergent study design
- Data collection (papers 1-3)
- Data analysis (papers 1-3)
- Data sources, collection and analysis (paper 4)
- Ethics

**Results**

- Perceptions of approaches to strengthen health managers’ capacity
- Experiences when using PAR to strengthen local capacity
- Contributions of PAR to strengthen managers’ capacity
- Elements for harnessing PAR to strengthen managers’ capacity

**Discussion**

- The iterative process of strengthening health managers’ capacity
- The opportunities of PAR to strengthen managers’ capacity
- The challenges of PAR to strengthen managers’ capacity
- Considerations for harnessing PAR to strengthen managers’ capacity
- Methodological considerations
- Conclusions and study implications
- Recommendations for future research

**Acknowledgements**

**References**
Abstract

Introduction:
Residents of low income countries have persistently suffered poor health outcomes, modest progress made over time notwithstanding. Weak health systems are one of the key reasons for the less than optimum progress. These health systems are constrained by inadequately equipped managers who play a main role in curbing this progress. Strengthening the capacity of health managers capacity is one of the known ways to improve the performance of health systems. This study examined strategies for strengthening the capacity of health managers at the sub-national level, with a special focus on the Participatory Action Research (PAR) approach.

Methods:
I used an emergent qualitative design which included both primary data collection and a literature review. Primary data collection techniques included individual interviews, Focus Group Discussions (FGDs), participant observations, and a review of project documents and meeting minutes, while searching for peer-reviewed databases was used for the literature review. Several analytical tools were adopted to answer the objectives, including the grounded theory, content and thematic analysis approaches. The Critical Interpretive Synthesis (CIS) method was used to analyze the literature reviewed.

Findings:
Stakeholders’ perceived the approaches to strengthening health managers’ capacity as an overarching process comprised of three interconnected subprocesses namely: the professionalizing of health managers, the use of engaging approaches to learning, and the availability of a supportive work environment. PAR as an engaging approach to learning was experienced by stakeholders as a nuanced awakening approach. On the one hand, stakeholders felt engaged, valued, responsible, awakened and a sense of ownership. On the other hand, they felt conflicted, stressed and uncertain. The PAR approach enhanced health managers’ capacity to collaborate with others, be creative, attain goals, and review progress. Expanded spaces for interaction, the encouragement of flexibility, the empowerment of local managers and the promotion of reflection and accountability enabled this enhancement. Lastly, the literature reviewed revealed five interrelated elements for harnessing PAR to strengthen health managers capacity. These were: a shared purpose, skilled facilitation and social psychological safety, activity integration into organizational procedures, organizational support and supportive external monitoring.
Conclusions:

Health managers have a central role in strengthening health systems; hence the formalization of their role, especially within the public-sector, is needed. In addition, significant investments into developing and strengthening their capacity is required. Strengthening the capacity of health managers is an iterative process that draws synergies from different approaches. The process leans on formal trainings as well as more engaging means of learning, such as PAR. As an engaging approach to learning, PAR expands interaction spaces, provides inclusiveness and flexibility, promotes local ingenuity and shared responsibility, and allows for monitoring and learning. PAR had positive effects on the strengthening of the capacity of health managers while at the same time achieving other project outcomes. Participatory approaches are hence relevant for dealing with the complex challenges bedevilling health systems. The approach nonetheless should be applied with a more nuanced appreciation of the challenges when using it and the elements for harnessing it to strengthen health systems.

Key words: Participatory Action Research, Qualitative Research, Management, Health Managers, Systems Strengthening, Health Systems, Districts, Uganda.
Original papers

This thesis is based on the following four papers, referred to as papers 1-4


Prologue

I drew my inspiration to undertake this study from different relationships in my life.

First, was from my father Mr Philip Tetui. My father played many roles in his world. He was a husband, a father, a church elder, a businessman and a mentor. At the time of his passing at the age of 50 in 2010, he was pursuing the most prestigious Association of Chartered Certified Accountants (ACCA) scholarship, despite a very busy schedule. As a son, I admired the way his world seemed to fit in almost effortlessly; he understood systems and the role of management in their operation. I have a profound childhood recollection of one hot afternoon at our small family business store. While my father was away, one customer returned very angry, claiming that he had overpaid my mother for the goods he took. My mother was as sure as day follows night that the man had not paid anything extra. While she labored over and over to explain to the customer, the man only got angrier. When she was just about to give up, my father returned to the store, and with his signature beaming smile, he calmed down the customer. He then proceeded to resolve the impasse, after establishing that no extra money was paid, he gently asked the customer to review his purchase records for the day, noting that it’s his usual discipline to keep records when shopping. The man, who had surely kept his records, went through the long list one item by one; it took him almost an hour to complete, and by the time he was done, he was trembling and apologetic for the standoff he had caused at the store. He had actually spent all his money without realising it. Having the kind of father, I had and the family I grew up in, taught me how different aspects of our lives are so interconnected at an early age. To my family, magic (efficiency) is created, it doesn’t just happen.

Fast-forward, to my undergraduate studies; one of the courses I took was the sociology of health. Through this course, I came to appreciate that health transcends doctors, nurses and hospitals, to much more than I had ever imagined. After my graduation, in 2007, I had the rare opportunity of working with Dr. Elizabeth Ekirapa-Kiracho who I knew through her brother, Stephen. As a research assistant on the Future Health Systems project, my career focus found a home in systems. Elizabeth played an important role in nurturing and directing my early career path, which led to me enrolling for a Master’s in Public Health at the Makerere University School of Public Health.
The thesis of my masters sought to understand the institutional preparedness of Uganda to respond to the increasing trend of cancer diagnosis, guided by Dr. Suzanne Kiwanuka and Dr. Dunstan Bagenda. After completion, I continued to work with Elizabeth on a project named MANIFEST. The project aimed to strengthen health systems at district level, further deepening my knowledge of, and grounding my career in, systems.

As the coordinator of the complex MANIFEST project within which I undertook my PhD studies, I become more interested in the health systems dynamics at the district level in Uganda. The MANIFEST project worked more directly with local stakeholders, which heightened my appreciation of the challenges within which health workers and especially managers work as they provide services. Additionally, working within an academic institution created opportunities for me to learn and network within and outside, something that I am eternally grateful for.

In 2012, at an Emerging Voices program in Beijing, I met Dr. Paola Mosquera Mendez, then a PhD student at Umeå University; we quickly became friends, something that I have also come to appreciate of myself, I make friends quite easily. She later introduced me to Dr. Anna-Karin Hurtig, a professor at Umeå University. To cut a long story short, Anna-Karin-Hurtig later become my PhD supervisor when I enrolled for a PhD in December 2013; she continues to influence my career in many different ways. Through her, I met Anna-Britt Coe, who became my main supervisor and from whom I have learnt a great deal of things along this journey. My family history, the wonderful people I have met on my career path and working within an academic institution created the right ground for me to pursue a PhD. As you may notice, mine is a whole interconnected world that is a lot larger and more intricate than I have been able to describe here. For instance, as the MANIFEST project coordinator and at the same time a researcher, I learnt the science and art of separating the two roles through the dedicated support and guidance of my supervisors and colleagues at various levels. In a way, therefore, this PhD thesis, which largely looked at strengthening the capacity of health managers using participatory approaches is a reflection of my own growth as a manager.
“We can’t impose our will on a system. We can listen to what the system tells us and discover how its properties and our values can work together to bring forth something much better than could ever be produced by our will alone.” Donella H. Meadows

Introduction

Health and health systems

A healthy life as defined by the World Health Organization (WHO), is not merely the absence of disease, but encompasses the mental and spiritual wellbeing of an individual and society [1]. Achieving such a state of health requires several actors and structures of society. Some of these actors and structures come together in what I refer to as a health system in this thesis. Health systems play an important role, in ensuring that health is improved, making health systems a key part of our everyday lives [2]. What is a health system though? The World Health Organization (WHO) in 2000 defined a health system as “all activities whose primary purpose is to promote, restore, and maintain health” [3]. Health systems consist of multiple components and players that must be working in harmony to promote health among the population [4]. Indeed, the health of a population affects all other aspects of society; thus, it is no wonder that the recent Social Development Goals (SDGs) agenda has health at its center [5,6].

The WHO and other scholars have over time advanced several frameworks, arguments, and declarations to describe the health system and its response to people’s health needs [7]. Common to all of these is the interconnectedness of the different components of the health system. This promotes the holistic strengthening of the health system to respond to health needs. While this view has persisted over time, it has faced several challenges [2,7]. For example, the 1978 Alma Ata conference ambitious deceleration of “Primary Health Care for all” in an inclusive manner was quickly faced with implementation challenges of the time such as a weak political will, economic crisis and a lack of a consensus on the blue print for action. This gave rise to the “selective primary health care” concept that typically adopted a parallel programs implementation approach [7,8]. The parallel programs made substantial gains in limiting the progression and impact of diseases such as polio, measles, tuberculosis, HIV and Malaria, in addition, they promoted the notion of private-public partnerships in delivering health [9]. However, such approaches have also been critiqued for failing to strengthen the health system amidst growing system challenges that have weakened the sustained provision of quality health services for all [9–12].
Recently, there has been a re-emergence of systems thinking which seeks to make systems more integrated and responsive amidst the even more complex health systems of the 21st Century [13,14]. According to the WHO’s current framework, the health system is comprised of six building blocks including leadership and governance, financing, health information, medical technologies and products, health service delivery and health workers [2,15]. Other frameworks portray the centrality of people and depict the complexity through the interconnections between the blocks, dynamic social/political contexts, values, goals and the people the system serves as depicted in figure 1 [2,7,16]. These current frameworks call for critical attention to be paid to the functioning of the health system to achieve optimum human health [17]. This is inspired by the wider realization of the several challenges that have plagued health systems globally.

Figure 1. The health systems building blocks (16).
A snapshot of health systems challenges

As noted above, health systems in various parts of the world are faced with several challenges. However, these challenges invariably affect low and middle-income countries more severely given other systemic weaknesses within such countries, including poverty, civil unrest and inefficient governance structures [2,18]. For example, a recent WHO report on the global health workforce indicates that while there is a global health workforce deficit of 7.2 million, Africa alone accounts for 25% of this deficit [19]. Moreover, sub-Saharan Africa carries at least 24% of the world disease burden, which clearly demonstrates the challenges that health systems in low income countries have to deal with [20,21]. Worse still, challenges such as the growing triple burden of disease amidst inadequate equipment, drugs and technologies, infrastructure, low financing, unmotivated health workforce, weak health managers’ capacity and the like abound in such countries [18,22,23].

Despite these challenges, international reports indicate that progress has been made in some key health indictors over the last era of the Millennium Development Goals (MDGs). For example, the global maternal mortality ratio reduced from a high of 385/100,000 in 1990 to 216/100,000 in 2015, which was a 44% decrease [24,25]. Several successful investments went into disease-specific strategies, tackling diseases such as malaria, HIV and TB across the world especially in low and middle-income countries [7,26,27]. The use of disease-specific strategies to improve health outcomes has therefore received numerous positive assessments in recent times. While there is wide recognition of the contribution these strategies make, they have also exposed and further weakened the fragile health systems. For example, the sustained investment in specific diseases has undermined the integrated development of surveillance systems as human and other resources are concentrated on specific health events such as HIV incidence and treatment reporting leaving the integrated system lagging behind [28,29]. Therefore, a growing body of knowledge is increasingly advocating for a health system strengthening approach to improving health outcomes in the population [2,30].

Health systems strengthening has indeed developed in popularity with now a growing field of scholars and bodies of practice being established worldwide. One of such bodies, is the renowned Health Systems Global (HSG), established in 2010 [14]. The body recognizes the need for a multi-disciplinary, multi-level and inter-sectoral collaborations in tackling health issues that affect populations across the world.
As such, interventions that are classified as systems strengthening seek to positively influence the functioning of systems in a holistic manner with or without focusing on a specific disease or health event [2,31]; for example, the strengthening of health managers’ capacity to facilitate the necessary interactions among health systems blocks [32].

**Health systems management**

Management is simply defined as the organization/coordination of resources and activities to achieve set goals. It is concerned with the social interactions within social institutions influenced by policies, structures, processes, values and context [33]. These human interactions across and within health systems blocks are vital for the superlative functioning of the health system [34]. Management plays a key role in facilitating the interactions that contribute to improvements in the overall coordination across the health system blocks. Specifically, it improves the planning and delivery of health services, enables better resource allocation and utilization, and develops a motivated health workforce, enhances supplies and logistics management and promotes evidenced based decision-making [35,36].

Health systems in low income countries are weak mainly because of poor management especially at sub-national levels, as is the case in Uganda [37,38,39]. The nation's health system performance in districts is affected by limited resources, poor staffing levels, limited capacity to do support supervision and mentorship, inadequate compensation and hostile work environments. This is largely because the districts suffer from severe capacity constraints, limiting the effectiveness of decentralized service delivery especially in the newly created districts [18,34,39]. The capacity of health managers at these levels is often overlooked, yet the expectation of the system to deliver is presumed [40]. Therefore, there is need to strengthen the capacity of health managers among other interventions for the system to improve the delivery of services [37,41,42].
What is health managers’ capacity?

As noted earlier management is about social behavior within institutions. Management plays the role of ensuring that both individual and collective behavior are harnessed for the realization of organizational goals [37,43]. In defining managers’ capacity, it is important to note that distinctions have been made between private business management and public-sector management. While the former is aimed at maximizing efficiency for the greatest gain, the latter is also concerned with government business, greater societal principles of social justice, equity, equality and inclusion and is more directly affected by politics [44,45]. Public-sector management has indeed recently evolved from public administration—a field that was preoccupied with advancing political agenda at service delivery points without a keen interest in efficiency and effectiveness [44–46].

In this thesis, we used existing general management frameworks to define capacity of health managers. Typically, management frameworks address the questions of how to manage and what it takes to be efficient and effective managers [43]. Management frameworks have evolved over time, thereby defining the capacity of managers in an emergent manner in response to historical developments. The competing values framework was used to define the capacity of health managers in this study. According to the Competing Values Framework (CVF), health managers’ capacity is their ability to simultaneously collaborate, create, control and compete in response to prevailing situations [43,47]. The framework was used for three main reasons. Firstly, it views managers’ capacity as more complex rather than a list of competencies, a view that was arrived at by drawing synergies from earlier (rational goal, internal processes, human relations and the open systems) frameworks in response to the increasing complexity seen in the 21st century organizations [43,48]. Secondly, I found this framework to be in synchrony with the complexity of health systems [7]. Lastly, the CVF represents managers as dynamic and flexible individuals, which also resonated with the principles of Participatory Action Research, the case of our inquiry in this study as an approach to strengthening health managers capacity [49]. Details of the CVF approach are later provided in the Methods Section.
Approaches to building managers’ capacity

Managers capacity building is the process by which specific management competencies are learned or achieved [42,43]. Several approaches have been advanced, and some implemented to strengthen managers capacity. These have been broadly classified into four; the formal training, on-the-job training, non-formal training and action learning [42]. The most common of these approaches is the formal training or educational programs, which are aimed at improving knowledge and skills of individuals and teams working in a specific organizational context. This is usually provided by universities or institutions and often presupposes the ideal or desired managerial behavior [50]. This approach is powerful in passing on knowledge, concepts and techniques of management. However, it is often weak in the acquisition of skills in the use of techniques, the analysis of organizational problems and solutions and in the development and implementation of action plans [42].

On-the-job training is informal and unintentional learning. It commonly takes the forms of supervision, and mentoring. While its application is wide spread in the private-sector, its use to develop health managers’ capacity is rare especially for prospective managers [42]. Its strength lies in enabling managers to attain practical management skills for problem analysis, solution identification and implementation. However, the learning of key managerial concepts using this approach is limited [51]. Non-formal learning on the other hand is a peer-to-peer learning approach in which peers share expertise and exchange practical ideas that inform learning [52,53]. Although it is not widely recognized as a managers’ capacity building approach, it does occur spontaneously in a variety of organizational forms from highly structured clubs to loosely structured support groups or networks [42,53]. Examples of this approach include annual meetings and work buddies, which provide fora for the sharing of experiences and learning. This approach has great potential in enabling the acquisition of knowledge and understanding techniques, with a moderate potential in enabling managers to understand key concepts. However, it is very individual based and has low potential in enabling managers acquire skills for critical problems and solutions analysis [42,52,53].

Finally, action learning has long been used in strengthening managers’ capacity, especially in high income countries [54–56]. It is an approach that uses real-life tasks as the vehicle for learning. It is based on the premises that there is no learning without action and no sober and deliberate action without learning. In this sense, it is a combination of formal training and on-the-job training [42].
Action learning has three main components: people who accept responsibility for taking action on a particular issue; problems or tasks that are locally identified and a set of participants who support each other in making progress on tasks [42]. Action learning usually happens in an iterative cycle of events that allows the participants to identify their common problems, come up with shared solutions, act to implement these solutions, reflect on and learn from their actions [56]. The proponents of Action Learning argue that it has a high potential in all key management capacity building areas i.e acquisition of knowledge, understanding concepts, the acquisition of skills in the use of techniques, the analysis of problems and solutions and the development and implementation of work plans [42,55,56]. Participatory Action Research which is the case of inquiry in this study is a sub-type of action learning and follows a similar iterative process [56–58].

“Experience, one often hears is the best teacher, but that is true only if one learns from it.”

Lee G. Bolman and Terrence E. Deal

**Participatory action research**

Participatory Action Research (PAR) seeks to understand and improve the world by changing it. At its heart is the collective and reflective inquiry that researchers and participants undertake to understand and improve social lives [49,58]. While there are different approaches to PAR, the iterative nature and the core principles of participation, action, reflection, flexibility and learning remain central to all [58,59]. Generally, PAR has five cyclic phases: problem identification, the deduction of possible solutions, taking action, reflecting on the consequences of the actions and specifying the learning achieved; the cycle is then repeated [58,60]. Below, I present a summary of the cycle and key principles of the Susman’s PAR cycle [49].
Figure 2. Gerald Susman’s PAR model showing the iterative cycle and key principles [49].

Under problem and solution identification, local stakeholders work together with external researchers to identify and define the problems or issues that they are faced with in a collaborative manner. They then move to identifying and selecting the courses of action. This is followed by an implementation of the preferred course of action. Next, a reflective critique of the actions and their consequences is undertaken which leads to specific learning. The cycle is then repeated for either the same problem or different emerging issues. At the center of PAR are principles that guide the enquiry and implementation processes [49]; which include: reflection, dialogue, collaboration, risk taking, plural structures, testing of theory and transformation. These principles create the space to change the traditional research paradigm to transform the role of research participants from mere study subjects to active researchers and agents of change [58].

Reflection enables the explicit critical thought processes of participants. Interpretations, biases, assumptions and concerns upon which judgments/decisions are made are reflected upon and discussed. In this way, practical means of dealing with situations are generated and implemented in a manner that is well understood by all stakeholders. Dialogue facilitates the understanding of relationships between actors, issues and the context within
which they are applied. Elements that are unstable or in opposition to one another have a high propensity to cause change and therefore require special attention during dialogue [61]. Collaboration promotes the notion of participants in research being co-researchers. The principle of collaborative resource assumes that each person’s ideas and other resources are equally significant, as potential elements for the needed change.

Risk taking as a principle stems from the open dialogue and collaborative engagement. The change process potentially threatens all previously established ways of doing things, thus creating fears among stakeholders. Taking the risk of challenging established methods is one way to cause the necessary learning and changes. The nature of PAR represents a multiplicity of views, explanations and critiques, leading to multiple possible actions and interpretations, which is the principle of plural structure. This means that there will be many accounts made explicit, with explanations on their contradictions, and a range of options for action presented. Finally, theory testing, and transformation promotes the testing of ideas, learning from them and causing the necessary change.

Through its nature and principles, Participatory Action Research empowers local stakeholders to undertake research as co-researchers and to shape the direction of the research. In so doing, it enables the communities to change their undesirable conditions by taking action and learning from the actions through a reflective process. Several benefits have been cited as a result of this kind of approach, including, building the capacity of existing local structures, empowering local communities and learning. Additionally, the development of such local capacity increases the chance of continuity and the scale-up of successful interventions especially in resource-limited settings [58,62]. Indeed, the PAR approach has been used widely in community empowerment initiatives, education, health, psychology, work place issues, farming systems and community development initiatives with positive effects related to sustainability and building local communities capacity to change different aspects of their lives [58,59].

Also, the use of PAR for the development of managers’ capacity dates to the early 20th century, making it time-tested [59,63,64]. Within published management strengthening literature, the approach, although with varying labels such as action research and action learning, has been used widely within the business and private-sector, primarily among high income countries [65–67]. Similarly, publications showing the use of the approach to strengthen health managers capacity were found among several high-income countries, but rarely within the low-income ones [35,65–67]. Within the health sector, PAR has wide spread use in community empowerment
endeavors to improve several health outcomes [58,62]. Today the use of PAR is becoming increasingly popular in the field of implementation science and systems strengthening even among low-income countries, hence creating the right environment to harness its benefits [58,68]. Indeed, a web portal with PAR resources has recently been developed to advance the use of the approach [69]. Nonetheless, the approach has been criticized for its time intensity, propensity to cause conflict and uncertainty synonymous with its flexibility principle [70–72].
“I do not fear truth. I welcome it. But I wish all of my facts to be in their proper context.” Gordon B. Hinckley

Study context

Uganda- general facts and key health indicators

Uganda is a land-locked country in Eastern Africa, neighboring Kenya to the East, the DRC to the West, South Sudan to the North and Tanzania and Rwanda to the South (See figure 3). Slightly more than half of Uganda’s population of about 40 million people is female. The annual average population growth rate is 3.0%, a rate that is predicted to stretch the country’s resources even further given the modest economic growth rate of 1.14% between 2011 and 2017 [73]. More than 75% of people in Uganda live in rural areas and are mostly subsistence farmers [74].

Figure 3. Map of Uganda showing her geographical boundaries and neighbors.
Administratively, Uganda is divided into districts that are further subdivided into counties, sub-counties and parishes under a decentralized governance system. Uganda adopted the devolved system of governance in the year 1997. Under this decentralized system, districts have been increasing in number from 45 in 1997 to 111 districts by 2014 and the number is still increasing [73]. This increase was aimed at increasing efficiency and making governance more responsive to local needs [75,76]. Nonetheless, while decentralization has registered some progress in this regard among a number of low-income countries, key challenges abound in Uganda. Among which, is the low capacity to govern at sub-national levels, this is partly depicted by the inability of the local governments to make substantive decisions, and generate reasonable amounts of revenue [76–79].

With regard to disease, Uganda just like other sub-Saharan Africa countries continues to grapple with a high burden of infectious diseases such as HIV, malaria and diarrheal diseases [74]. This is made worse by a rapidly growing burden of non-communicable diseases exacerbated by high maternal morbidity and mortality rates [80]. Although Uganda’s expenditure on health has steadily increased over the years, it still falls below the Abuja declaration recommendation of at least 15% of the Gross Domestic Product [81,82]. In terms of the availability and distribution of the health workforce, the country still faces acute shortages of key health workforce carders, such as doctors and midwives especially in rural districts. Brain drain abounds, not just to other countries but also into other sectors within the country as reported by Samuel Kizito et al. 2015, in a related study [83]. Despite these challenges, the country has made considerable progress on several fronts. For example, the maternal mortality ratio has reduced from a high of 524 per 100,000 live births in the early 2000s to 336 per 100,000 live births in 2016 [74]. Also, considerable progress has been made in controlling HIV infections [84].

**District level public health services management in Uganda**

Generally, the National Health System (NHS) is made up of both public and private-sectors. While the public-sector serves most of the rural population, the private-sector is expanding in the urban areas [85]. At the district level, the Constitution and the Local Government Act mandate the local governments (LG) to plan, budget and implement health policies and health sector plans [86,87]. The LGs carry out this through their line departments of health which are given oversight by specific political and administrative offices within the local government. The health department is the main coordination structure for all health-related activities in districts.
The district health department is headed by the district health officer (DHO)-who presides over a team known as the district health team (DHT). The DHT is mandated to plan, implement, monitor and evaluate the health services. This team is comprised of several officers including nursing officers, who usually oversee the maternal and new-born health issues. The biostatistician is responsible for the health statistics, the health educator for mobilization and sensitization, and the health inspector for sanitation and hygiene, while several deputies help on programs such as Tuberculosis and HIV control. The DHT is supported by an expanded management structure referred to as the District Health Management Team (DHMT), which is also headed by the DHO. In addition to the DHT members, the DHMT includes health facility managers, select members from other district departments, representatives of implementing partners such as private providers of care, NGOs and development agencies related to health [40].

Below the district are health sub-districts, typically headed at hospitals or Health Centers (HC)-usually the HCIV. The health sub-district offers oversight to a number of HCs within a specified geographical area. Below the health sub-district are smaller health centers (HCIII, HCII and HCI) managed by facility managers or in-charges [40,88]. These health facilities provide various grades of care, with the highest level at the district hospital, and the lowest at HCI. HCI has no physical structure, but volunteers in villages whose role is to mobilize and sensitize communities on health issues and services. HCII offers preventive and curative outpatient services for common illnesses in addition to that which is provided by the HCI. HCIII adds inpatient services like maternity care and laboratory testing to the list of services, while HCIV is essentially a mini-hospital, performing select medical procedures and blood transfusions. At the helm of the district health services is the district hospital, with specialized clinics; this receives referrals from lower tier facilities in the district. Above the district health system are regional hospitals which serve as coordination and referral centres for several districts. At the summit are National Referral Hospitals and the Ministry of Health, which offer more specialized care and policy guidance respectively.

The head of the DHMT is a trained medical officer with a Master’s in Public Health as a pre-requisite, a qualification that typically offers limited training in management. First time health facility managers usually do not have formal management training. In addition to the managerial capacity constraints that health managers at the various levels typically face, they are often constricted by fiscal limitations, which make it even harder to overcome health system challenges.
In Uganda, civil servants including health managers are generally perceived as having a permissive attitude towards their work [89,90]. Additionally, poor links between different structures and levels further weaken the health system and make it difficult for health managers to deliver services because they are often caught up in conflicts with would-be supportive structures and stakeholders such as politicians [68]. External agencies such as Makerere University School of Public Health (MakSPH) often work with districts under the auspices of research, training and service to deal with some of these systems challenges in different ways, including training, providing specific financial and project support. While such support is usually appreciated, it also creates a dependence syndrome among the districts, making it difficult to make sustained progress [91].

The MANIFEST Project

The Maternal and Neonatal Implementation for Equitable Systems (MANIFEST) project served as the case for our primary data collection (see the Methods Section). The project was implemented in Kamuli, Pallisa and Kibuku districts found in rural Eastern Uganda (highlighted in red-figure 3). Kamuli has a population size of about 486,319, Pallisa of 386,890 and Kibuku of 202,033; all three districts have a fertility rate average of 6 children per woman [74]. The MANIFEST project was preceded by two projects implemented by the same research team at Makerere University School of Public Health. These were the Safe Deliveries Study (SDS) (from 2009-2011) and the Uganda New-born Study (UNEST) (from 2008-2011) [91,92]. These projects were designed and implemented with limited local involvement and flexibility at the district level. The SDS project used service and transport vouchers to increase access to quality maternal health services using a quasi-experimental study design [91]. The UNEST project on the other hand used community health workers also known as VHTs to encourage households and especially mothers to prepare for birth and promote new-born survival for low birth weight babies using the kangaroo mother care strategy among other things [93].

Both SDS and UNEST had positive effects on increasing access to care and improvement in the care practices and survival of new-borns respectively [91,93]. However, these interventions like many other projects were faced with the challenge of scale up and sustainability, which is partly explained by their parallel nature of design and implementation. This parallel design was typified by the introduction of new implementation structures as opposed to working within existing ones. A parallel design misses key opportunities for projects to strengthen the existing health system and the resulting increased chances of scaling-up and sustainability [91,92].
It is upon such a background that the MANIFEST project was developed in order to test a model that could support scale-up and sustainability by strengthening the local health systems, while implementing similar interventions aimed at improving maternal and neonatal health outcomes.

The use of the PAR approach was the key difference between the earlier projects and MANIFEST. This approach was envisioned to strengthen local capacity, including the capacity of health managers, which had been found to be weak in the design phase of the MANIFEST project. It is this PAR approach used in the MANIFEST project that I examined as a case for the strengthening of the health managers’ capacity in my PhD study. Under the MANIFEST project, activities were undertaken following Susman’s Participatory Action Research cycle [94]. Contrary to the previous projects, the district local governments through MoUs signed with Makerere University worked with researchers from MakSPH to lead efforts to improve maternal and neonatal health outcomes. Through the MoUs, some of the resources to carry out district-based activities were transferred to, spent by and accounted for by the districts. The resource allocation to some of the routine activities waned with time as the districts took over their implementation within existing resources and structures. In addition, the districts provided human resources, space for trainings and any such logistical resources (vehicles, motorcycles etc) that would be needed by the project activities from time to time. Under MANIFEST, the main coordination and implementation role at the district level was undertaken by the district health office, in collaboration with other district level stakeholders. The MakSPH researchers played a supportive role, which was aimed at strengthening local capacity in various ways.

The PAR cycle was implemented on a quarterly basis. Three different locally constituted committees met separately but their deliberations fed into each other. The first meeting took place at the community level, where community health workers met with their supervisors to deliberate on maternal and new-born health issues, find solutions, reflect on implementation during the previous quarter and learn from it. At the sub-county level, political leaders, technical staff, health workers, health managers and researchers reflected on the same for the entire sub-county to feed into the district-level implementation committee meeting. A similar structure at the district level allowed for deeper discussions on how to handle the different challenges, through mobilizing different local resources to handle the district level challenges as well as to support the lower structures.
The MANIFEST project was mainly evaluated by using a quasi-experimental study design, in which the intervention arm was contrasted to a comparison study arm over time. This evaluation was not part of this PhD thesis but provided an interesting background and is presented in detail elsewhere [95,96]. The results of the evaluation indicated modest changes in some of the key access and care indicators that were measured (e.g. facility deliveries, overall birth preparedness, individual saving for birth) [95,96], while a significant difference was noted for indicators such as clean cord care, group savings for birth, availability of drugs and supplies [95–97]. Qualitative assessments were also undertaken on processes and local capacity development. These indicated a general appreciation of the PAR approach marked with some challenges. The study also unveiled the growth of local capacity in undertaking such interventions, by responding to population health needs. It further revealed a wealth of local expertise and structures that could be harnessed for systems strengthening to improve maternal and neonatal health outcomes [39,68,96–99].
**Study rationale**

In this thesis, I examined the strengthening of district health managers capacity in Uganda’s public-sector, which plays a major role in providing health services. Uganda’s decentralized system of governance informed a focus on districts where service delivery occurs most often. Furthermore, the creation of more districts has placed an increasing strain on the delivery of health services partly because the capacity of management has not expanded proportionally [88]. Moreover, in many of the districts, old and new, managers are often placed in positions with the responsibility to improve health outcomes but with little or no ability to manage. This further cripples the system [40]. The capacity of health managers at district level is therefore crucial for the strengthening of the entire health system.

Additionally, the study was undertaken based on the desire to advance knowledge on health system strengthening, with particular focus on the capacity of health managers at the district level. For health systems components to function in harmony, and to increase their responsiveness to the populations they serve, a well-functioning management system is critical [37,41]. Strengthening the capacity of health managers has received relatively less attention. For example, while the health systems building blocks framework has been revised by several scholars, none of these give specific attention to management and the role of health managers [7]. Furthermore, low-income countries carry a substantial burden of the global disease and yet are challenged with perpetually weak management of health systems [19–21]. In these countries, the health managers capacity is weak and even worse at sub-national levels, ultimately undermining the optimal functioning of the health system [50].

Today, there is increasing focus on health system strengthening. This has thrown the spot light on the capacity of health managers in LIC, with several approaches being proposed and tested [4,16,18,100,101]. While a number of approaches to strengthening health managers’ capacity have been advanced and tested, the use of PAR is still scarce and has received limited documentation in LIC [65–67,102]. The rationale for this thesis was to bridge this gap by exploring strategies for building health managers capacity at the sub-national level from local stakeholders’ perspectives, with special focus on the strategy of Participatory Action Research (PAR).
Objectives

General objective

To explore strategies for strengthening health managers’ capacity at the sub-national level from local stakeholders’ perspectives, with a special focus on the strategy of Participatory Action Research.

Specific objectives

- To examine how local stakeholders perceived existing approaches to strengthening health managers’ capacity in Eastern Uganda.
- To explore stakeholders’ experiences when using PAR to strengthen local capacity in Eastern Uganda.
- To investigate the contributions of a PAR approach to local health managers’ capacity strengthening in Eastern Uganda.
- To synthesize the elements for harnessing PAR to strengthen health managers’ capacity.
“In my days as a skilled technician, I stood on the sidelines, directing the game and scoring. I was an observer and a manipulator of other people’s experience. Now I join in the game. I win, and I lose; I live, and I learn.”

Jean McNiff

Methods

I employed an emergent qualitative study design. Primary data collection took place in the same districts as the implementation of the MANIFEST project. The design allowed an in-depth study of the subject matter-approaches to strengthening health managers’ capacity. Different methods of inquiry into the research questions were employed. The study was divided into four sub-studies. The first used the Grounded Theory method to analyse in-depth interviews with local stakeholders on their perceptions of different approaches to strengthening health managers’ capacity [103]. The second used Qualitative Content Analysis to explore the stakeholder’s experiences of using Participatory Action Research to strengthen local capacity [104]. The third employed Thematic Analysis to examine multiple sources of qualitative data to examine the contributions of PAR to strengthening health managers’ capacity [105]. Lastly, the fourth employed the Critical Interpretive Synthesis (CIS) to review existing studies in order to explore elements for harnessing PAR to strengthen health managers’ capacity [106].

The emergent study design

I adopted an emergent and iterative design to achieve the different objectives (Fig 4). I conducted Individual interviews for the first two sub-studies between July and August 2014. This was during the third year of the MANIFEST project [94]. In the subsequent months, I undertook data analysis for objective one, which captured local stakeholders’ own perceptions of the strategies for strengthening health managers’ capacity. Three sub-processes of building a competent health manager were identified, one of which was, using engaging approaches to learning. In 2015, the analysis for objective two was further inspired by the results of objective one. The analysis captured the varying, dynamic and complex stakeholder experiences of using PAR as an engaging approach to learning. This stimulated the desire to learn more about the actual contributions that PAR had made to the strengthening of health managers’ capacity at the district level.
Later, in the second quarter of 2015, I conducted the preliminary analysis of observations, memos and quarterly meeting minutes whose time of collection spanned the entire MANIFEST project implementation period (2013-2015). In August, I carried out individual interviews for the third objective. This was the final year of the MANIFEST project. The analysis of the individual interviews undertaken for this objective started at the end of 2015. This analysis identified health managers’ capacities that had been strengthened using the approach and the pathways through which PAR enabled it. Nonetheless, as identified in the analysis of objective two, the ways in which PAR would be harnessed for health managers’ capacity strengthening were still lacking. This led to the fourth sub-study, which I started in the third quarter of 2016 after the end of the MANIFEST project. This sub-study explored literature (peer-reviewed articles) to gain a broader and richer understanding of the elements for harnessing PAR.

**Figure 4.** The emergent and iterative study design
Data collection (papers 1-3)

For primary data collection, informants from the three districts where MANIFEST had been implemented were purposively selected. In addition, informants had to have been involved in the implementation of the project activities in one way or another. These individuals were considered the most appropriate because they possessed the kind experience and knowledge that the primary data collection exercise sought. The informants included the district and health facility level health managers, politicians and administrators, as well as MakSPH-based researchers. To collect primary data, I used qualitative techniques including individual interviews, focus group discussions, observations, researcher memos and document reviews. Table 1 shows the primary data collection techniques used to collect data for Papers 1-3.

Table 1. Primary data collection techniques.

<table>
<thead>
<tr>
<th>Objective</th>
<th>Individual interviews (n)</th>
<th>Researcher observations / memos</th>
<th>Focus group discussions</th>
<th>Meeting minutes</th>
</tr>
</thead>
<tbody>
<tr>
<td>To examine how local stakeholders in a rural setting in Uganda perceived existing approaches to strengthening health managers’ capacity.</td>
<td>District level Health managers= 6 Facility level health managers= 11 Politicians and administrators = 5</td>
<td>Yes</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>To explore stakeholders’ experiences for using PAR to strengthen local capacity in Uganda.</td>
<td>District level Health managers=5 Facility level health managers=6 Politicians=4 Administrators=3</td>
<td>Yes</td>
<td>MakSPH researchers, one FGD with 7 persons</td>
<td>N/A</td>
</tr>
<tr>
<td>To investigate the contributions of a PAR approach to local health managers’ capacity strengthening in Eastern Uganda.</td>
<td>District level Health managers=7 Facility level health managers =9</td>
<td>Yes</td>
<td></td>
<td>Yes</td>
</tr>
</tbody>
</table>
These qualitative techniques enabled me to collect in-depth data on the questions under inquiry, including diverse perspectives across the different groups of individuals interviewed. The data collection process followed the saturation principle of qualitative inquiry, where the inquiry was brought to a stop at the point where no new information was revealed [107]. An exception was the Grounded Theory Analysis, where saturation entailed full or completed conceptual categories developed from the interview data. For objective two, I also conducted a Focus Group Discussion (FGD) in which I explored the MakSPH researchers’ experiences of using PAR as an intervention approach. I facilitated the FGD, which allowed me to make my own reflections as a researcher using the PAR approach. Similarly, for paper 3, meeting minutes taken from the quarterly review meetings undertaken during the MANIFEST project implementation were reviewed. These triangulated the findings from the individual interviews. Finally, diverse interactions and relationships between the district level stakeholders were captured through observations made and memos written on the MANIFEST project implementation processes.

**Data analysis (papers 1-3)**

I analyzed the primary data using different qualitative analysis techniques according to the research questions.

**Paper One**

For objective one, I used the Constructivist approach to the Grounded Theory method [103]. This allowed for the capturing of informants’ perceptions and meanings related to health managers’ capacity strengthening at the district level [40]. The Grounded Theory method offered a systematic way of transforming empirical qualitative data into an abstract model that depicted the process of building a competent health manager at the district level. The analysis was initiated by memo-writing in the field as part of the data collection process. Once the audio recorded interviews were transcribed, I followed Charmaz’s three steps of grounded theory analysis (initial coding, focused coding, theoretical coding) through an iterative process aimed at constructing a model grounded in the data [103]. I developed a model with three sub-processes (professionalizing health managers, engaging learning approaches and supportive work environment) for building a competent health manager as explained in the Results Section [40].
**Paper Two**

For objective two, I used Qualitative Content Analysis to explore the stakeholder experiences of using PAR [68]. Qualitative Content Analysis allowed the exploration of rich and subjective experiences of the district level stakeholders and MakSPH researchers. The approach started by identifying meaning units from the individual interviews undertaken. Thereafter, I applied open coding to the meaning units while keeping the meaning closest to the data. Next, I grouped and regrouped the codes through an interpretive and iterative process, which yielded four rich and diverse categories exploring the stakeholder experiences. I then shared these preliminary findings with the informants for validation. Finally, I conducted an FGD, which reflected on both the district level experiences and also the unique experiences of researchers using a PAR approach [68,104].

**Paper three**

For objective three, I used both the inductive and deductive Qualitative Thematic Analysis techniques to illustrate the contributions of PAR to strengthening health managers’ capacity. The six steps for thematic analysis suggested by Braun and Clarke guided the inductive process. These included; becoming familiar with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes and producing the report [108]. Thereafter, the themes generated were interpreted deductively through the lens of the Competing Values Framework (CVF) of management [43]. Figure 5 is a graphical demonstration of the framework.
Figure 5. The Competing Values Framework [43].

The framework was developed from four earlier models of management. In the “collaborate quadrant”, (human relations model), a manager is expected to encourage participation and open communication within an organization to promote commitment and morale among workers. This involves a deep understanding and the concern for others as well as oneself. In the “create quadrant”, (open systems model) the ability to adapt to change and have an external focus to meet clients’ needs are the necessary managerial skills. Paying attention to the changing environment, identifying important trends and fueling and fostering innovation are fundamental tasks/skills for managers in this quadrant. These processes foster resource creation and organizational growth. In the “compete” quadrant (rational goal model), promotion of a common understanding of organizational goals is upheld to pave the way to achieve them. A thorough understanding of the external environment and clarification of employee expectations is critical to achieve this. Processes such as planning, goal setting, designing and organizing work, aid in the development of this management function.
Finally, in the “control quadrant”, (internal processes model) establishing and maintaining stability is the focus. Managers need to know what is going on in the organization, monitor compliance to rules and goal achievement. This is reached through a careful process of organizational documentation and information management [43]. According to CVF, an effective manager is one with a high level of behavioral complexity, with the ability to simultaneously collaborate, create, compete and control to make organizations more responsive [43,48].

Data sources, collection and analysis (paper 4)

Data sources and collection

With a co-author (JMZ) for paper 4, I searched the literature to identify the elements for harnessing PAR to strengthen health managers’ capacity. Here, we conducted a search using international electronic data bases which included, PubMed, BMC, Science Direct and Google Scholar. The key search words that we used both independently and in combination were; Participatory Action Research, Action Research, Action Learning, Management, Managers, Capacity building and Health [109]. In addition, we undertook reference chaining and asked two experts in the subject area for additional references. The approach used was rather flexible and broad enough to allow the inclusion of all relevant articles in accordance with the Critical Interpretive Synthesis (CIS) method that we adopted for this review [106]. We finally reviewed eight papers for this objective [109]. These included papers that reported the use of any form of action research to strengthen health managers’ capacity and were published in peer-reviewed journals. Moreover, the health managers’ capacity strengthening referred to in these papers had to have occurred in real work settings rather than in training institutions.

Data analysis

To undertake the analysis, the papers were independently reviewed by JMZ and I to identify the elements for harnessing PAR to strengthen health managers’ capacity. These were later iteratively reviewed by four other co-authors. The identified concepts were grouped interpretively to create meaning out of them following the lines of argument (LOA) approach of analysis as advanced by the founders of the CIS approach [106]. The identified arguments were further analyzed through the Atun et al. framework on the integration of health interventions (Figure 6) [110].
The Atun et al. framework was developed in 2009 as a response to continued debates on integration of health interventions. The developers of the framework envisioned it as a tool, for understanding the integration process of complex health systems interventions. They also viewed it as a tool useful for delineating the factors, that facilitate the integration process. The framework has five systems domains that interact in non-linear ways to facilitate the integration process: the problem being addressed, the intervention, the adoption system, the health system characteristics, and the broad context [110]. Figure 6 demonstrates the relationships between the domains using bi-directional arrows. We adopted the framework to synthesize the elements for harnessing PAR to strengthen health managers’ capacity. In the problem domain, the way in which health managers’ capacity gaps are perceived, defined and appreciated, influences the extent to which they will be resolved. The intervention’s features include, its relative advantage, complexity, and acceptability of design. The adoption system on the other hand deals with the level of alignment of the intervention to the existing systems. This also includes interests, values and norms of the different stakeholders within the systems. The system characteristics include standard procedures, monitoring and evaluation mechanisms and other financial practices.
Finally, the broad context encompasses all features in the past, present and future that shape the working of systems and interactions among actors. These include political, economic, technological, cultural, stakeholder relationships and any other such influences. As noted, the interaction between these domains is complex rather than unidirectional, thus the framework fitted well with the multi-stakeholder and flexible nature of PAR. The framework allowed for a deeper reflection on the interactions between the five elements identified as shaping the use of the PAR approach to strengthen health managers' capacity as shown in the Results Section.

**Ethics**

I obtained Ethical clearance to undertake the study from the Makerere University School of Public Health Higher Degrees and Research Ethical Review Committee (HDREC-00011353) and the Uganda National Council of Science and Technology (SS 3506). At primary data collection, I sought informed written consent from all participants and assured them of confidentiality when reporting the findings. The peer-reviewed publications were all open access and I made appropriate citations when reporting the review findings.
“The conventional definition of management is getting work done through people, but real management is developing people through work.”

Agha Hasan Abedi

Results

In this section, findings are presented by objective, starting with the first where I explored stakeholder perceptions to health managers’ capacity strengthening approaches. Secondly, I explored stakeholder experiences of using PAR, and thirdly, looked at the contributions PAR made to strengthening health managers’ capacity. For the last objective, I synthesized the elements for using PAR to strengthen health managers’ capacity.

Perceptions of approaches to strengthen health managers’ capacity

The objective of sub-study one (paper 1) was to explore stakeholders’ perceptions of existing approaches to strengthening health managers’ capacity, for which I developed a model through the grounded theory method. The model had three sub-processes of building a competent health manager, which were thought to be iterative and interrelated, as depicted by the three strands of the braid in the model below [40].

![Braided to Build Capacity: Professionalization + Engaging Learning + Supportive Environment](image)

**Supportive Work Environment**
- Teamwork
- External support and oversight
- Empowering conditions

**Engaging Learning Approaches**
- Mentoring and supportive supervision
- Quality regular meetings
- Specific in-service trainings
- Learning by doing
- Continuous learning atmosphere

**Professionalizing Health Managers**
- Formalization of management role
- Conscious career choice
- Formal training

**A Competent Health Manager**
- Understands his/her role well
- Is well informed
- Is empowered to execute management functions

*Figure 7. Model for building a competent health manager [33].*
Figure 7 depicts an iterative process of building a competent health manager. A competent health manager was understood as one who understood his/her roles, was well informed and empowered to execute management functions. This was envisioned as an end result of the three sub-processes of professionalization, use of engaging approaches to learning and having a supportive work environment. Below is a detailed description of the sub-processes.

**Professionalizing health managers**

Formalization of the management role within the health system was proposed to professionalize health managers. In addition, an informed free will to pursue a career in health management was emphasized and had to include formal training for the role. Professionalization formed the foundation of the process and was noted as requiring the least amount of time and effort to accomplish relative to the other two sub-processes. In Uganda, it was found that other than district level health managers, the other managers largely undertake management roles involuntarily and on an unpaid basis.

While management positions were formally recognized and enumerated at the district level, there are still officers appointed to or acting in such roles without the pre-requisite qualifications, especially in the new rural districts. This meant that a large proportion of the health managers operated without requisite skills, thereby making their performance sub-optimal. In addition, because some of them took on the roles reluctantly, they often lacked commitment, which subsequently affected the delivery of health services. This highlights the need to formalize these roles in order to gain role clarity, commitment and legitimacy. The quotes below illustrates the need for professionalizing health managers:

> “And another thing that I have learned, is that all health workers are the same; some of us don’t want to be managers but what can we do, we must be, that is how it is. We didn’t go to school to be managers, but we are forced to be” (A health facility manager).
“Here at the district we are many, we support the DHO (district health officer). But many of us are not trained managers, so we find some challenges. But at least for us we are lucky, sometimes we get the opportunities to go for some trainings and we are paid. But for the health facility in-chargers, we just request them to be managers because we don’t have such carders and some of them are not committed to working and you can’t do much, since they are recruited as nurses or clinical officers not managers—that’s a challenge” (A district level health manager).

Engaging approaches to learning

The second sub-process was using engaging approaches to learning. Informants said such approaches provided an opportunity to practice theory attained through formal trainings. This process required more resources relative to the professionalization sub-process. It included approaches such as learning by doing, mentorship and supervision, meetings and in-service trainings. All of these enabled an endless learning atmosphere in which managers continually improved their skills. Such approaches nonetheless need to be managed appropriately to ensure the maximum benefit from their utilization, otherwise they could become problematic and cause resentment among managers. For example, ensuring free and open discussions during meetings was thought to be essential. The quotes below illustrate the role of engaging approaches to learning in building a competent health manager:

“Learning, I think is a continuous skills development of a given individual. So, we need continuous mentoring and even support supervision. Like for us we have our monthly meetings where we help each other improve in different areas be it in management or our technical skills. For example, the CMEs [Continuous Medical Education sessions], when someone learns something new, they share it with the rest of the team, so that we can all improve, which is a very good approach” (A health facility manager).

“There is always a need for continuous improvements, feedback and sharing. Continuous mentoring and supervision that is not fault finding is critical. People learn best when they practice something and make some mistakes, that’s the way we should go” (A district level administrative and political manager).
**A supportive work environment**

This sub-process according to the informants required the most resources to accomplish. This category provided the right environment to nurture the growth of health managers. It involved teamwork, external support and oversight and empowering conditions. Teamwork was aimed at promoting the legitimacy of the managers through openness and collaboration with other health workers and stakeholders, while external support was meant to expand resources and to promote accountability. However, external support also tended to create a dependency syndrome if it was not well handled. Lastly, empowering conditions that enabled the managers sufficient decision-making space and positive political influence were found to be critical in developing their competencies. The quotes below illustrated the significance of a supportive work environment in building a competent health manager:

“We create the annual leave roster as a team, otherwise you will find chaos at the facility. So, team work for us is good, it helps us learn how to work with others and to find solutions to our problems” (A health facility manager).

“Yes, external partners are very useful, apart from the skills building, they have provided computers and equipped health facilities. But, when they leave, we tend to suffer” (A district level administrative and political manager).

**Experiences when using PAR to strengthen local capacity**

The second objective (paper 2) was to explore stakeholders’ experiences of using a Participatory Action Research to strengthen local capacity in Uganda. As an engaging approach to learning, the stakeholders studied experienced PAR in varying and yet interrelated ways. The experiences were depicted in four intricate and yet sequential categories: stakeholder involvement, being invigorated, risks of wide stakeholder involvement and balancing wide stakeholder involvement.

All of the stakeholders felt adequately **involved** in the MANIFEST project. This created a sense of local ownership and responsibility. In addition, the stakeholders felt that their local knowledge and experiences were valued as making a meaningful contribution to the success of the MANIFEST project, especially during the PAR cycle phases of taking action and evaluation. This quote demonstrated the level of involvement that the stakeholders felt:
“MANIFEST has involved all people, right from the bottom to the top, the village health teams (VHT's), us the health workers, the managers, it is for us all, it makes one feel responsible for it. So, when I work, I put in more effort, knowing I am responsible for its success” (A health manager).

In terms of being **invigorated**, the district health managers, politicians and administrators felt awakened and supported. This was primarily experienced when taking action and during the quarterly review meetings. Here, the district level stakeholders felt the approach created a supportive environment, which increased their sense of self-worth and creativity. The approach empowered them to actively implement and find solutions to challenges, an aspect that was widely admired by the stakeholders. On the other hand, the external researchers felt that their skills to strengthen local capacity were enhanced.

“There were some structures that were lying idle and these structures are being activated. One of them includes the savings groups, we could never believe that they can be used for health, so really, we are learning that we can do a lot of things by ourselves” (An administrator).

Nonetheless, the stakeholders experienced some **risks with the wide stakeholder involvement**. This included stress, uncertainty/ambiguity and conflicts. The high level of engagement was experienced as stressful especially for the health managers who helped coordinate and implement the project. Similarly, between the health managers and researchers, there was ambiguity on their specific roles and project boundaries. It was noted that sometimes the researchers felt that they were being overly involved in dealing with local conflicts between health managers. On the other hand, conflicts between the stakeholders arose from time to time given their varying interests and power dynamics. This was experienced mainly during activity implementation and quarterly reviews majorly between the health managers and their political and administrative supervisors.

“These health workers don’t respect us the politicians, they think we have not gone to school. They forget that we are their supervisors, so you find that they can do some things without us, which is very bad, they don’t know that we can fail the whole program” (A politician)
Lastly, to **balance these risks**, stakeholders exercised tolerance, collaboration and risk consciousness. Given the divergent experiences, strengths and weaknesses of all of the stakeholders, they noted that they had to be tolerant with each other to make progress with project implementation. In addition, collaborating with other stakeholders served to build trust between the stakeholders while synergizing their different strengths and energies. Finally, the external researchers were risk conscious as a means of safeguarding their interests and those of the funding agency. This was done through formal agreements between the districts and Makerere University by signing Memoranda of Understanding (MoUs)

> “We realized that we need to work with the district stakeholders. Having the money was not enough, we also had our fears of trusting the districts with donor resources. So, I think the MoUs were helpful in creating a sense of security but also responsibility” (MakSPH researcher 7).

**Contributions of PAR to strengthen managers’ capacity**

Our third objective (paper 3) was to investigate the contributions of a PAR approach to local health managers’ capacity strengthening. The findings here were thematically categorized under the four-management functions proposed by the competing values framework (CVF) as noted in the Methods Section. These were the; collaborate, create, compete and control functions. Here it was found that the PAR approach enabled health managers to: enhance team commitment and cohesion, promote change and adaptability, attain goals, and to enhance the efficient use of resources respectively as elaborated below.

**The “collaborate” function of management: enhancing commitment and cohesion**

Generally, managers noted that the PAR approach enabled greater commitment and teamwork although challenging in some instances. An increased sense of commitment towards project goals and activities came from an atmosphere of free and open dialogue, thereby enhancing the health managers’ team-building skills. The PAR approach opened spaces for a wide range of stakeholders to work together to deliver on the project activities and aim. The stakeholders included; health workers, other district technical staff such as community development officers, politicians, development partners and district administrators. This inevitably challenged the health managers who were the lead coordinators at district level to learn how to manage this diverse group, which had initially not worked together on such endeavors.
While the managers found this, an enriching and inspiring experience of harnessing the different expertise and rich experiences of the other stakeholders, they also found it a challenging task given the varying, and sometimes conflicting stakeholder interests. This challenging and yet inspiring experience of learning is illustrated in the quote below by one of the health managers interviewed:

“I will start with team work, there is increased teamwork in this project, especially with the CDOs (community development officers) because they are in the community. This has given us an opportunity to work with them, which was not there before. We have also worked closely with other departments and with local leaders like politicians. This has really improved our ability to collaborate with others, but its sometimes challenging especially with the politicians. Sometimes they are too demanding, but we are learning to understand them because they are our bosses” (District health manager 1).

The “create function of management”: promoting change and adaptability

The health managers found the PAR approach as having challenged them to create positive change and to be more adaptable to their clients’ needs and work environment. The approach empowered the managers to collectively resolve problems within their own means. This led to the unmasking of existing resources and promoted ingenuity among the health managers. The managers noted that this achievement was possible partly because while the MakSPH project team was supportive, it consciously challenged them to find local solutions to their problems rather than offering external solutions. In addition, the expanded interaction spaces were noted to have allowed the managers a better appreciation of their clients’ needs, which made them more responsive aided by feedback loops. This yielded creative means of tackling problems, such as creating more storage for drugs, extending health facility opening hours to increase client satisfaction and building partnerships and collaborations with other stakeholders. The quote below illustrates the creativity garnered through the PAR approach:
“One thing I have learned is being creative. I have been somebody who would sit and complain about the government and the district. But now I am more concerned, I now appreciate that it’s my responsibility to ensure the proper running of the facility. For example, putting in place a duty roaster that is agreed upon by all staff has helped us to ensure that we always have at least one midwife on duty because of the high number of deliveries” (Health facility manager 4).

Nonetheless, at times the managers were seen to prefer external solutions. This was a depiction of the deeply entrenched legacy of dependency. In addition, the use of a PAR approach was noted to be time intensive and required extended periods of time to see sustained change in behavior. Nonetheless, the quarterly project reviews were noted to have continuously challenged health managers to be creative.

**The “compete function of management”: attaining set goals**

The approach opened opportunities for the health managers to define their own problems and created the impetus to find solutions to resolve them. The health managers noted that they learnt how to diagnose their problems, a skill that they found useful when dealing with undesirable conditions. In addition, working with different stakeholders opened spaces for collaboration on several goals, which yielded positive results and allowed them to learn how to be flexible, when working with others. The managers boasted of having managed to achieve many targets, in areas including infrastructural projects, attitudes of health workers, and community/health worker relations. These were achieved through deliberate actions, taken by different stakeholders who worked as a team. The quote below shows some of the achievements the managers made:

“We have now fenced our health facility, the LC3 chairperson (the sub-county political head) was very instrumental in pushing for this. You see, if you don’t work with the politicians they can fail you—they are our leaders, sometimes they have resources they control, and people listen to them. So, for me I have really achieved much working with these people, they even help in sensitizing the communities about birth preparedness and immunization activities” (Health facility manager 9).
Also, the health managers reported that the spaces opened up to interact, diagnose and resolve local problems increased their sense of self-confidence. They became more analytical and strategic in thinking, which improved the quality of decisions made. The interactions were noted to have challenged them by allowing, varied views from all of the stakeholders. These held diverse experiences and knowledge, essential for achieving better health outcomes. The quote below illustrates the gain in confidence and how it affected the operations of the managers:

“When you work with others, you become more confident. I can tell you that I find my decisions now firmer and they are of better quality. You see, getting the input of the politicians, CDOs (community development officers) gives you a lot of confidence. It’s like a backing for the implementation of action points, so having everyone on board has really boosted by confidence to work (District health manager 6).”

The “control function of management”: enhancing the efficient use of resources

Finally, the health managers said that they learnt how to efficiently use their resources through the PAR approach. The approach empowered them to plan and coordinate project activities at the district level. This enhanced their management skills in many ways. For example, budgeting, expenditure and accountability skills, team building, task allocation, delegation and partnership management. Similarly, the managers’ abilities to review progress, was enhanced through the cyclic approach of PAR that allowed time to plan, act, reflect and learn. This was noted to have enhanced their abilities to monitor and evaluate activities, a culture that was missing before. The managers noted the usefulness of these phases in enabling them to make better decisions and maximize the use of resources. For example, the use of data to make decisions improved accountability and responsibility among the health managers. While this was a positive development, the health managers were observed to have initially found this burdensome, since they were used to these tasks being undertaken by external partners. The quote below illustrates the growth in management control skills:
“We are now using our data more efficiently, we set up our data center for the district and every quarter we look at how we are doing, and we review our progress. This has really helped us to see where we are not doing well and then the good thing is that the politicians are involved in this review. This makes the implementation of our recommendations even easier, for example last time, the RDC (Resident District Commissioner) was able to secure for us free airtime at the radio station to boost our health education programs” (District health manager 4)

However, planning and coordination skills were observed to have improved minimally compared to the other functions given the competing demands on health managers. In addition, health managers were inclined to being dependent on the external teams. They expected the MakSPH project team to spear head the coordination, as had been the case with all of the other projects as noted earlier in the Study context Section. The MakSPH project team on the other hand was also at times preoccupied with the need to implement activities according to schedule, which limited the learning space for the managers. Sometimes, the MakSPH project team was directly involved in the planning and coordination of project activities at the district level to ensure timely implementation.

Elements for harnessing PAR to strengthen managers’ capacity

Our last objective (paper 4) was to synthesize elements for harnessing PAR to strengthen health managers’ capacity. We found five elements that were modeled after the Atun et al framework of integration. These included; a shared purpose, skilled facilitation and social psychological safety, activity integration into organizational procedures, organizational support and supportive external monitoring.

The problem: a shared purpose was found to be essential in aligning the different parties’ energies to achieving the set goals when using PAR. This was understood as an overt definition of the purpose of the learning process, which should pay attention to individual managers’ learning needs. It created an avenue of defining managers’ learning gaps and the needs to be tackled through the PAR process. In addition, a shared purpose was the wheel around which the managers’ motivation rotated, without which polarized pursuits of purpose ensued leading to demotivation [57,66,67,111–114].
The intervention: skilled facilitation and social psychological safety provided the basis upon which the other elements could work. Social psychological safety grew as a result of skilled facilitation and facilitated the development of a shared purpose. Skilled facilitation entailed promoting proactive and creative ways of thinking among the health managers undertaking PAR to improve their management capacities. This was aimed at enhancing self-efficacy and it involved tailored facilitation, effective group management and the promotion of reflective thinking [57,66,67,111–115].

Social psychological safety meant creating a conducive learning environment, described as non-threatening. In addition, confidentiality was found to be key, which was ensured by having a heterogeneous learning group. Such a group guaranteed openness as well as synergy of the different players thereby maximizing learning. Similarly, building of social capital which entailed networks of professional support was found to develop in such an environment [57,66,67,111–115].

The adoption system: activity integration into organizational procedures meant receptiveness of the managers’ and their organizations to PAR. This was found to be critical in harnessing organization support and was created by having local champions and mainstreaming of activities within organizational procedures. Local champions monitored and ensured the implementation of the PAR processes, they were also critical for the continuity of the processes within the organization. Mainstreaming on the other hand ensured the relevancy of the processes and minimized the introduction of extra work which could become burdensome and undermined the learning processes [57,66,111–113].

The health system characteristics: organizational support meant flexibility and senior management support. Organizational support was found to be useful in enabling the implementation of PAR processes and action points. This entailed flexibility with the reallocation of resources, openness to new ideas and being adaptable. Similarly, such support meant that health managers received backing from their superiors. This included, having senior managers attending the learning meetings or PAR sessions together with the junior managers, empowering junior managers to make decisions and having free and open interactions. These enabled the development of self-efficacy among the managers, which was found to be critical for the development of key management capacities [55,57,67,111,112,115].
**The broader context: external supportive monitoring.** Support from external players such as researchers or external facilitators was found to be critical for quality control as well as the development of local capacity. As noted earlier, the need for skilled facilitation when using PAR is paramount, such skills are usually lacking within local organizations. Therefore, having external experts that work along local champions to build local capacity was found to be useful for harnessing PAR to strengthen health managers’ capacity [55,57,66,67,111,114].
“Management is, above all, a practice where art, science and Craft meet.”
Henery Mintzberg.

Discussion

I present a four-pronged discussion in this chapter. Firstly, the iterative process of strengthening health managers’ capacity. And secondly, opportunities within the PAR approach to strengthen capacity of health managers. I then highlight challenges, and lastly suggest considerations for using the PAR approach.

The iterative process of strengthening health managers’ capacity

In our first paper, a competent health manager was perceived as one who understood his/her roles, was well informed and empowered to execute management functions. Subsequently, this perception was further enhanced by adding the importance of behavioral complexity to the understanding of a competent health manager [40,43,98]. Empowered managers, need the capacity to build a more responsive system by developing their skills to ensure that the health system can collaborate with others, be creative, control and be competitive in a harmonious manner, opposing situations notwithstanding. Undeniably, varying skill sets are indispensable for health managers’ operating in today’s dynamic and complex health systems [16,43]. Strengthening health managers’ capacity was found to be an iterative process that managers perceived as involving three sub-processes as noted in our first paper, which included different approaches to capacity building [40]. In putting together these processes in a single model, the study provided a synergistic model for strengthening health managers’ capacity.

These three processes were; professionalization, use of engaging approaches to learning and having a supportive work environment. Professionalizing of the management role formed the foundation upon which to strengthen the capacity of health managers. From this thesis, it was noted that most health managers at district level are often ill equipped and usually undertake the management role on an involuntary basis. This perpetuates their weaknesses and often creates a loss of commitment to the management role as some managers clearly preferred to concentrate on their medical, nursing or clinical roles.
The lack of formal recognition of the health managers’ cadre further denies the development of structures to grow such a cadre especially within the public-sector, whose image is often scandalized with several inefficiencies [18,44]. However, these inefficiencies are now increasingly being challenged globally, in the reawakening of the key role that governments must play in providing key social services such as health [44]. Indeed, Karen and other management scholars asserted that there is an increasing advocacy for strengthening public-sector management [44,45]. Therefore, the formal recognition of the role of management to strengthen health systems especially in the public-sector and their subsequent equipping deserves more attention [57,116].

Secondly, the use of engaging approaches to learning was found to create an iterative learning atmosphere for the managers, in order to equip managers with the right competencies. Engaging approaches to learning created the right atmosphere within which the managers, would practice and continue to learn from daily management practices. These included, professional support teams or networks, meetings, learning by doing, mentorship and supervision. These are time tested approaches to learning and gaining relevant experience that span across my fields of practice. For example, the central government in Uganda is the main funder of all local governments, and funding is largely through conditional grants, leaving very little space for flexibility. Such conditions limit the learning spaces for health managers by shrinking their decision-making and fiscal spaces [18]. This therefore, creates a great opportunity to use engaging learning approaches such as PAR to strengthen local capacity as seen in the next sub-section.

Three, the supportive work environment was noted to be essential for promoting the right environment for responsiveness within the entire health system. Teamwork, supportive monitoring and empowering conditions create the right environment for the health managers to grow several abilities. Indeed, the WHO underscores the importance of a supportive work environment for health managers [41]. I asserted that the “building a competent health manager” model observably operationalized the WHO framework by suggesting ways in which such a supportive environment could be achieved [40,41]. I advocate for working in teams, both with partners and across different disciplines and with stakeholders as a means of creating and nurturing such a supportive work environment. I found that such environments are useful in ensuring efficiency and responsiveness towards the dynamic needs of both the health system and the population that it serves [41].
The opportunities of PAR to strengthen managers’ capacity

Through the second and third papers that make up this thesis, I explored stakeholder experiences when using PAR and the contributions that PAR made to strengthening health managers’ capacity. The opportunities within PAR to strengthen health managers capacity are related to its principles and iterative nature as discussed in the Introduction Section. These opportunities include the expanded interaction spaces, flexibility, empowerment, reflection and accountability.

The expanded interaction spaces came about through the wide stakeholder involvement synonymous with the PAR principles of plural structure, participation, dialogue and collaborative resource [49,58,59]. The stakeholders interviewed in our second paper testified to the high level of involvement they felt during the MANIFEST project period. They noted this as a reflection of the level of appreciation given to their local needs, knowledge, expertise and experiences by external partners [68]. This created learning spaces for the managers by challenging them to collaborate with others and learn better communication and team work skills.

Inclusiveness in processes such as decision marking is certainly being advocated for in many management strengthening aspirations globally [117]. In fact, scholars have considered the quality of management decisions reached through an inclusive process superior to those reached in an autocratic manner. These decisions have been shown to be more acceptable and have higher chances of being implemented [117–119]. Through free participation and critical dialogue therefore, the approach provides an opportunity for the managers to develop their skills in promoting inclusiveness in management practices [61,120]. Additionally, and in a more general sense, the expanded interaction spaces actually create the right environment for promoting the systems thinking approach when tackling health system challenges [121].

PAR promotes a flexible approach to dealing with problems, which was found to be essential for creativity but also encouraged shared responsibility among stakeholders. The growth of ingenuity, as noted earlier, is critical for a health manager. The district level managers interviewed indeed found PAR to have challenged them to think outside the box, to deal with the managerial issues at hand [68,98]. On the other hand, shared responsibility was ALSO found to be essential in expanding the resource base for the health managers.
The managers learnt how to access, and indeed taped into, the varying and rich local expertise, financial resources and experiences of politicians, development partners, administrators, opinion leaders and other community leaders within their districts [98]. Indisputably, the need for collaboration and flexibility is a cornerstone of health systems strengthening given the complex nature of systems problems [16,122].

Empowerment of local stakeholders involves putting local actors at the forefront of tackling undesirable conditions or situations. Stakeholders interviewed in this study appreciated the pooling together of local resources, expertise and knowledge; this was noted as empowering to them. Conversely, over-reliance on external experts as established in this study and elsewhere was found to be disempowering to local stakeholders [98,123]. Empowerment enables the managers to set achievable goals for themselves as it enhances self-efficacy. Self-efficacy plays a key role in enabling the attainment of set goals [111,112,124]. Empowerment is achieved through principles that challenge local actors to take action, test their ideas and learn from them. Such principles have been shown to be key for any learning process and indeed enabled the managers interviewed in this study to achieve a number of goals, as noted in the third paper of this thesis [61,66,98]. Nonetheless as noted in our second sub-study, the level of involvement could also be perceived as stressful and needs to be balanced to yield greater results [125]. One way to do this is through creating activity integration right from the start of the PAR project by working through existing structures, as noted in our fourth paper [109].

The reflection and accountability principles stimulate critical thinking and a weighing of several action options hence promoting a learning environment. Reflection facilitates learning from the past and making better decisions, which are skills that managers must develop to increase their efficiency, effectiveness and responsiveness [50]. Reflection is undeniably central to the struggle to make health systems more responsive to the dynamic needs of the population it serves. The managers interviewed testified to their increased sense of responsiveness, as they started to reflect on their actions and received feedback from other stakeholders, an attribute that they found to be key in meeting the needs of the populations they served [98]. Related to the reflection principle is the iterative nature of PAR [49]. This iterative nature resonates with the “building a competent health manager” model developed in this thesis [40]. A cyclical process allows for a continuous process of learning and being responsive, in an age where health needs are constantly and rapidly changing [22,23].
The challenges of PAR to strengthen managers’ capacity

The application of PAR comes with challenges that must be appreciated to fully harness, the opportunities that the approach creates to strengthen health managers’ capacity. It was found that the challenges relate to the time intensity that the approach requires, the uncertainty/ambiguity, stress and conflicts that come with the wide stakeholder involvement and open engagements [68]. The use of PAR generally requires an extended period of engagement for it to cause the systemic and sustainable changes needed to make systems more responsive. Health systems and development initiatives in low income countries are often supported by external funding, often with a limited period within which to show case results. This makes it difficult for approaches like PAR that seek to improve systems to attract prolonged and sustained funding [11]. However, there is a growing realization of the need to invest in sustained engagements to achieve lasting changes [16,121].

Uncertainty/ambiguity and stress were the other interrelated challenges of using PAR. PAR generally provides a non-rigid approach to systems strengthening, which conflicts with the tendency to control procedures and stick to protocols thereby creating uncertainty. This uncertainty requires a high level of flexibility and adaptability to changing circumstances, as is often the case in real-life situations that are marred with dynamic and unpredictable changes [28,126]. Relatedly, ambiguity was noted as arising from the fluid boundaries within which PAR operates. Because of the interconnectedness of system components, issues not directly related to the subject matter of interest are often drawn in. Our interviewees noted that the high level of involvement and wide stakeholder engagements during the MANIFEST project, were at times more stressful than in non-participatory projects [125]. While these were at times noted as causing additional stress, frustration and demotivation to its users, they also represent the complexity of dealing with social and systems challenges [16]. The promotion of creativity, tolerance and the appreciation of collaboration was encouraged to deal with such challenges [125].

Conflicts arising from varied stakeholder interests and unforeseen expectations. For example, managing vested interests for extra earnings (per-diems) arising from involvement in project activities versus a genuine interest in contributing to change was noted [68]. Striking a balance is often a challenge and would require open, long-term and deliberate engagements to overcome. PAR through its principle of risk taking creates space for constructive conflict, the principle accepts a certain level of risk and in fact views it as necessary for desired changes to occur [70,72].
Being in control of procedures and situations could be more attractive to simple and quick result-oriented projects; however, the natural setting of health systems is often more complex to deal with and comes with conflicts [16,72]. In addition to the risk principle, promoting ingenuity akin to the flexibility principle of PAR creates space in which to deal with such challenges as found in this thesis [68].

**Considerations for harnessing PAR to strengthen managers’ capacity**

Lastly, we synthesized the existing literature to explore elements for harnessing PAR. We found that a shared purpose, skilled facilitation and social psychological safety, activity integration into organizational procedures, organizational support and supportive external monitoring were useful considerations [109]. In accordance to the Atun et al, framework on integration that guided our analysis, all of these elements interact with each other in bi-directional ways which resonates with systems thinking [16,110].

For example, creating a shared purpose was found to be influenced by the skilfulness of the facilitators of the PAR processes (see figure 8), and also the level of activity integration and the web could become even more complex. A shared purpose creates commitment and motivates participants to actively be engaged in the PAR processes which promotes learning. Indeed, the MANIFEST project, within which this PhD study was nested had an initial phase of stakeholder engagement that was dedicated to, arriving at a shared purpose between the external researchers and the local stakeholders at various levels [94].
Skilled facilitation involved, tailored facilitation, effective group management and the promotion of reflective thinking. These are key elements of stakeholder engagement usually aimed at boosting self-efficacy by stimulating active and ingenious ways of thinking [112,127]. In our third sub-study, the deliberate and conscious handing-over of district level project coordination to local stakeholders was an illustration of skilled facilitation. This opened spaces for innovation by challenging the local stakeholders to find their own local solutions to challenges [98]. Skilled facilitation also resulted into social psychological safety, which generally meant creating a safe and non-threatening learning environment. Such an environment bolstered self-efficacy and enabled the creating of learning networks.

Similarly, the use of existing structures to implement the MANIFEST project created an opportunity to increase activity integration. Activity integration was found to be useful for the harnessing of PAR to strengthen health managers’ capacity [109].
managers’ capacity [109,129]. In addition, strengthening existing structures would increase the chance of continuity after project cessation [18,129]. In the MANIFEST project, using these structures meant working with the available health managers and other local stakeholders to implement project activities, within the existing public health infrastructure. This ensured local responsibility, spearheaded by local champions as found in the literature review [109].

For example, the health managers were actively involved in coordinating the project activities, which created learning opportunities, but this involvement was also found to be stressful as noted earlier. Such stress was mainly created by what seemed like “extra work” since the local stakeholders were not usually as involved, owing to limited capacity, fiscal and decision-making spaces [68].

Organization support plays a key role in ensuring that learning takes place but also in creating avenues for local relevancy of capacity being built or strengthened. The findings from our literature review indicated that organizational support also boosted the health managers self-efficacy which is critical for learning [55,57,67,111,112,115]. In our second paper, the interviewees noted the importance of a high and wide level of stakeholder involvement. The role of key resource brokers such as politicians, in “blessing” a project and ensuring its successful implementation was emphasized [68].

Lastly, the external supportive monitoring as an element for harnessing PAR created space for learning and quality control. Skilled facilitation for PAR is usually lacking in local implementing institutions, such as local governments. This makes the supportive role of external partners useful for both building local capacity and stimulating the necessary changes. Under the MANIFEST project, the regular working and consistent presence of the MakSPH researchers in the field, to provide support to local stakeholders was appreciated by the stakeholders [68,128]. It created avenues for mentoring, learning and growth, and for the formation of networks for professional support. Nonetheless as noted earlier, such close support also created some ambiguities and was also viewed as inhibiting the growth of local capacity in some instances [68]. However, if well managed this was found to be a healthy relationship that promoted the growth of local health managers’ capacity.
Methodological considerations

Here, I reflect on four means of assessing trustworthiness of qualitative research advanced by Susan Morrow [130]: social validity, subjectivity and reflexivity, adequacy of data and adequacy of interpretation.

Social validity; my research into strengthening the capacity of health managers at sub-national levels, contributes to firming up the health system in the respective jurisdictions. Prior to starting my PhD project, I was involved in two previous projects that sought to improve maternal and neonatal outcomes at district level. These projects as described in the Study Context Section were largely run by the MakSPH team and faced major sustainability challenges, although they had successfully improved outcomes during the project periods. With this background, the inception phase of MANIFEST involved consulting several stakeholders at the district and national levels on how maternal and neonatal outcomes could be improved in a sustained manner. Through the PAR approach, weak health managers capacity was identified as one of the challenges at the district level inhibiting the continuation of interventions. It was found that the managers at this level were not well equipped to respond to the needs of the populations they serve; therefore, my research made the following contributions. Firstly, my research contributed new knowledge on how local stakeholders perceived health managers capacity and approaches to improve them. Secondly, knowledge regarding the opportunities within PAR to strengthen managers’ capacity and how they can be exploited is provided, thereby advancing the applicability of the approach. Thirdly, my research contributes to promoting social equity by increasing the chances of improved service delivery at sub-national levels. Lastly, drawing on Charmazs criteria [103], the results presented in this thesis can be used by practitioners and researchers alike to strengthen health managers' capacity, including in other settings, and in turn be modified.

Subjectivity and reflexivity: through this principle, I made my implicit assumptions and bias overt during the research process. To ensure that my biases and assumptions did not overly influence the research process, I undertook the following. First, I undertook a process of self-awareness in which I reflected on my position as a researcher and the MANIFEST project coordinator as well as my personal experiences, as described in the Prologue. As a researcher, I initially sought to understand how the sustainability question would be answered by looking at the capacity of health managers.

While this was a desirable question, a few months into the initial process of plan and proposal development, I came to appreciate the difficulty of
studying sustainability within the MANIFEST project as a coordinator and also within the project timeframe. The process of strengthening health managers’ capacity therefore narrowed my focus. While as a coordinator I constantly viewed health managers’ capacity as a pre-requisite for sustaining interventions, the researcher in me kept the focus to understanding the process of strengthening the managers’ capacity. These mental battles were very much supported through scholarly discussions at seminars and supervision meetings. Whereas the position of a project coordinator could not be devoid of influences, it served not only as an observation stand point but also created space for building trust among prospective informants. This position allowed me to appreciate how different PAR and management aspects played out among different stakeholders as they acted in their natural and local context. Additionally, being a part of the context, interviews were more conversational and rich, delving into hidden aspects of the research question, a process that was supported by the transparency, trust and honesty that I had built with the informants. Secondly, during the interview process, probing was used as a technique to seek clarity and to check for accuracy. Thirdly, the involvement of supervisors and co-authors who were not directly involved in MANIFEST helped to keep my researcher views more nuanced. For the literature synthesis objective, myself and one other author (JMJ) independently led the literature search and initial analysis to allow for a comparison and to check for bias. This was later iteratively reviewed by all of the authors of our last sub-study (paper 4) for the same purpose.

Under adequacy of data, I discuss the amounts of evidence, variety and interpretation. In terms of the amount of evidence, the qualitative principle of collecting data until no new evidence is found (saturation) was applied for all interviews undertaken and also on the peer-reviewed papers assessed. In addition, purposive sampling was applied, in which only informants and papers deemed to have rich experience and information were included as sources of data, this ensured the quality of the data in terms of length, depth and relevancy respectively. The informants included researchers, politicians, administrators, and the district and health facility level managers from three different districts. Similarly, for the primary data, the interview guide focused on the research question, allowing for deeper exploration while remaining adaptive to informants’ responses by adopting a conservational style. I approached the variety of evidence through the use of multiple data collection methods; these included the interviews, focus group discussions, observations and meeting minutes.

I ensured interpretive status of the evidence by working closely with the would-be informants as a coordinator of the MANIFEST project, a
relationship I held with the three districts for over 5 years. This grounded me in the local context and created a rich basis upon which to interpret the findings, while the reading and re-reading of papers for the literature review did the same for objective four. The analysis was also enriched through an iterative process that involved not only additional researchers but also going back to the field to collect specific data to enrich emerging categories.

Adequacy of interpretation: I approached this in four different ways. One, I immersed myself in the data by listening to the audio recordings of the interviews. Additionally, I read and re-read the transcripts and peer reviewed literature for paper four. This allowed me to have an adequate level of appreciation of the data, which formed the foundation for the analysis alongside the observation memos and rich contextual knowledge. Two, the analysis process was an iterative one that started with memo taking and was enriched by other researchers. The variety of researchers not deeply involved in the MANIFEST project played a critical role in balancing the interpretation of the findings through offering alternative explanations. Three, the analysis process for each of the research questions was guided by analytical frameworks that enriched the interpretation of the results. Lastly, the interpretation of the results was balanced by keeping it as representative as possible to the views of the informants and authors of the reviewed papers. This was achieved through an iterative process that grounded the findings in the data; a few quotes were used to illustrate the interpretation as rooted in the interviews. In addition, a process of validation was undertaken by sharing preliminary study findings with several of the study participants. For the literature review, appropriate citing and referencing was undertaken.

Conclusions and study implications

From this thesis, I draw four conclusions and implications for strengthening the capacity of health managers at the sub-national level.

One, health managers’ capacity building is an integral part of health system strengthening initiatives. The call for a well-coordinated system cannot be achieved without investing in the frontline managers that must deal with everyday operational issues of an even more dynamic health system. Indeed, while the public-sector provides a unique management space, its development to meet the current demands of management is increasingly being advocated for. Demands for accountability, inclusiveness, efficiency and effectiveness are now advocated for and promoted by civil societies, populations, government agencies, development partners and researchers, among others. Ministries of health, working with their counterparts in public service, need to make a case for the formal recognition of the key role of
management to systems strengthening within the public health sector. Subsequently, critical investments into developing health manager’s capacity by government and others should be advocated for.

Two, the process of managers’ strengthening is iterative, dynamic and complex. This therefore is a time-intensive process. The “building a competent health manager” model developed in this study provides a synergistic relationship between the different approaches to strengthening health managers’ capacity. The process leans on formal trainings but also on other non-formal means of learning such as PAR. In addition, considerable efforts to create favourable working environments for managers are critical. These will include understanding the political economy within which health managers’ work and creating avenues through which the politicians (“resource brokers”) and the managers work together to find common grounds to advance the development of responsive health systems. Governments, development partners, researchers, academic institutions, health workers, managers and donors need to appreciate and be willing to invest in this iterative and time-intensive endeavour.

Three, the utility of the PAR approach in strengthening health managers’ capacity is well grounded. As discussed, it creates many avenues for strengthening local capacity through its principles which leverage the energies, resources, expertise and knowledge of different actors. Actors such as researchers, academic institutions, governments, health workers and managers need to take advantage of the opportunities within PAR in order to foster the development of local capacity.

Conceivably, it is time for the approach to gain more recognition, usage and documentation for strengthening not only capacity of health managers, but also other aspects of health systems in low income countries.

Finally, an appreciation of the challenges of PAR by all actors seeking to use it is critical for it to yield maximum benefit. The appreciation of the stress, time intensity, conflict, uncertainty and ambiguity that comes with the use of PAR yields a level of preparation to circumvent them. Additionally, being lost in a maze of processes is a real threat that could jeopardize the functionality of the PAR learning process. However, with the right considerations, such challenges could very much be turned into catalysts for desired changes. In addition to tolerance, being cautious and managing collaborations through agreements, this thesis also synthesized other useful elements for harnessing PAR to strengthen managers’ capacity. These included, having a shared purpose, skilled facilitation and social psychological safety, activity integration into organizational procedures,
organizational support and supportive external monitoring.

**Recommendations for future research**

Most research funding in Uganda, like other low-income countries, is externally obtained, usually time-bound and tied to quick deliverables. Additionally, rural or remote district officials are usually on the move, given low remuneration and other unfavourable work conditions. Given this context, I make two recommendations for future research: one, to investigate the feasibility of using PAR to strengthen the capacity of health managers given the funding dynamics and high staff turnover in low income countries, and two, to determine the willingness of key stakeholders such as local and central governments, international donor agencies and partners to invest in the time intensive systems strengthening processes of PAR. A deeper understanding of how one could use PAR under such circumstances would be enlightening.
Acknowledgements

Firstly, I am indebted to the funders of my studies. Comic Relief, a UK based NGO played a significant role in the funding of my studies. I thank the entire Comic Relief team for their responsiveness and grant management support. In particular, I recognize the distinctive roles played by Harriet Jameson, Mary Myaya, Lucie Graham, Anna Maria and Caroline Baker. I am especially grateful for the flexibility of the funding towards the MANIFEST project which made the use of the Participatory Action Research approach more natural-thank you. This kind of funding is indeed required for complex and dynamic health systems research. My Swedish funders (the Swedish Center Party, the Centre for Global Health Research at Umeå University and the Swedish Research School), I am forever grateful for the opportunity to study in Sweden, it brought with it many learning opportunities, I simply fell in love with the thoughtfulness with which the Swedish society has been created and continues to grow. I think you provide a good example of how humans should treat each other and use the resources they have to give everyone a life-worth living.

DFID a UK organization through a grant to the Future Health Systems (FHS) consortium made it possible for me to access technical and other support from several members of the FHS family- Sara Bennett, Asha-George, Ligia Pina, Mary Qiu, David Peters, Daniela Rodriguez, Nasreen Jessani, Gerry Bloom, Tom Barker and Jeff Knezovich-thank you for your technical support towards the MANIFEST project and for some of you directly towards my PhD studies. I made many friends in the FHS consortium, thank you for making this possible.

Secondly, I am grateful to the four supervisors that I had during this Journey. You were all amazing in many different ways; I can’t not fully describe this in words. I know that our journey together has just started, I look forward to more amazing times-thank you.

Anna-Britt my main supervisor, thank you very much for the unwavering dedication to this piece of work. I have learnt a lot from your rich methodological knowledge and approach to supervision. You have been patient and gentle, allowing me to learn and discover things through your guidance. You planned out every step of the PhD; I always felt like we are in this together, which gave me the confidence that this would be done and done well.
You have taught me patience, encouraged me and inspired me to do better. Conversely, you made my PhD journey enjoyable in many ways, I cherish all the light moments we have shared together, you introduced me to your friends and family—thank you.

Anna-Karin, you believed in me from the time we met in Beijing; I am eternally grateful. Without you, I don’t think the Umeå connection would have been complete, at least not at the time at which it was made. As a supervisor and leader of the unit, I admire your simple and yet very wise approach to life. Your high level of responsiveness is covetable, I wonder how you attend to all of your responsibilities so gracefully. You hold a wealth of knowledge and experience in health systems, which you have freely shared with me and others. Every opportunity that you thought I would benefit from, you made freely available to me. I have met many people through your network and my life has not remained the same—thank you.

Elizabeth, in many ways my career in Public Health started with you, what can I say? It’s gratifying that you have walked with me for this long. You opened many doors for me and I am infinitely grateful. Through your generosity, patience and open-heartedness, I have been connected to many people; it’s a virtue that should be grown and emulated—I hope to grow into it. You have been with me through some of the greatest challenges I have faced and have also shared some of my best moments—thank you. Through your leadership, I have learnt many things and continue to grow. Thank you for your thoughtful guidance during my PhD journey and for making it possible for me to pursue my PhD within MANIFEST, a project that was my making in numerous ways.

Suzanne, I am grateful for having met you at Makerere University. From the time of my master’s, you helped shape my career in Public Health as my master’s supervisor. Thank you for the insightful comments and guidance throughout this PhD journey. Thank you for the opportunity to be involved in the knowledge translation network, as it broadened my knowledge of health systems. As a co-team leader of the MANIFEST project within which my PhD was nested, I learnt a lot from your leadership and guidance—I am grateful.

Thirdly, I would like to thank all of the MANIFEST team; without you this PhD journey would have been much more difficult. Peter Waiswa, Olico Okui, Rornald Muhumuza Kananura, Gertrude Namazzi, Aloysius Mutebi, John Bua, Judith Ajanei, Ayub Kakaire, Josephine Adikini, Stella Kakeeto, Olivia Nakista, Juliet Tumuahirwe, Jane Pacuto, and Abubakar Batambuze—thank you all—you are a great team. Some of you were not only helpful in challenging me to do better but also a great support both academically and even to my family while I was away—thank you.
My heartfelt gratitude extends to all the districts (Kamuli, Pallisa and Kibuku) and their staff that we worked closely with during the MANIFEST project especially the DHOs (Wilison Namungha, Ahmed Bumba, Dinah Nakiganda-Busiku, Godfrey Mulekwa and David Okoth) and the focal persons (Agatha Kulwenza, Moses Lyagoba, Harriet Nanyiga, and Mary Putan)-thank you. I am also grateful to the research assistants that supported the MANIFEST project. Specifically, I want to thank George Toskin for supporting me during my PhD primary data collection and transcription, you did a great job.

Similarly, I am grateful to all of my friends and colleagues at Umeå, Makerere and around the world. Vu Kien, Vijendra Ingle, Maquins Sewe, Iratxe Urdiales, Regis Hitimana, Aditya Ramadona, Prasad Liyanage, Sulistyawati Sulistyawati, Ida Linander, Anna Brydsten, Francisca Kanyiva Muindi, Julia Schröders, Kamila Alawi, Cahya Utamie Puijistersi, Osama Ahmed Hassan, Atakelti Abraha, Tsigemariam Teklu, Rakhal Gaitonde, Pamela Tinc, Melissa Scribani, Daniel Rodriguez, Ama Laa, Raman Preet, Hendrew Lusey, Kaaren Mathias, Paul Amani, Yercin Ortiz, Malale Tungu Monde, Susanne Ragnarsson, Johanna Sundqvist, Jonas Hansson, Anne Gottfredsen, Anna Stenling, Frida Jonsson, Ryan Wagner, Masoud Vaezghasemi, Dickson Mkoka, Gladys Mahiti, Lorena Ruano, Thaddaeus Egondi, Jing Helmersson, Kateryna Karhina, Fredrik Norström, Evalina Landstedt, Barbara Schumann, Lars Weinehall, Joacim Rocklöv, Klara Johansson, Kerstin Edin, Dorcus Kiwanuka Henriksson, Agnes Nanjonjo, Oskar Mårtensson, Emil Carstensen, Walter Flores, Chrispus Mayora, Freddie Sengooba, Elizeus Rutebemberwa, Sebastian Baine, Stefan Swartling Peterson, Fredrick Makumbi, Garimoi Orach, Tim Martineau, Alvaro Alonso Garbayo, Joanna Raven, Susan Bulthuis, Bruno Marchal, Helene Schneider, Lucy Gilson, Thulani Masilela, and Ann Nolan. I definitely can't mention all of your names here-a big thank you goes to all of you from the depth of my heart. I am grateful that you traveled this journey with me, it would have been too lonely and difficult without you. You are all very close to my heart and we have shared very special moments. I enjoyed all of the discussions, the games, the PhD days, Fikas, laughter, food, comments, and intellectual arguments-it's my hope that we remain connected. In a special way, allow me to recognize a few individuals in a distinct manner, Paola Mosquera Mendez, thank you for the friendship; you initiated the link to Umeå- I will always be grateful. Fredinah Namatovu-you always made me feel at home away from home and I enjoyed all the discussions, arguments and being a part of your family-thank you. I have learnt many things about life from you and I am grateful.

Mikkel B Quam-thank you for always being there when I need someone-you rock.
Nathanael Sirili, Iratxe Perez, Mazen Baroudi, Alison Hernandez, Joseph Zulu, Richard Mangwi and Freddy Kitutu, in addition to being great friends, thank you for being an active part of of my PhD through your thoughtful reviews, inputs and other support. I also grateful to David Malingha Doya my childhood friend and brother for the many reviews along the way and Godfrey Toskin my other brother for the support with the design of the cover.

To all of my reviewers at the different millstones of my studies, Miguel San Sebastián and Linda Sundberg for the plan and Isabel Goicolea, Elisabet Höög and Ulrica Nylen during the midterm seminar and Elisabet Höög and Annica Backman for the pre-defense; thank you all very much for your thoughtful feedback- I will always be grateful. Miguel, you are also the director of studies at the unit, thank you for being responsive whenever I had questions. Lars Lindholm -thank you for being there for me as my examiner- I felt secure knowing that you are looking out for me.

Also, to all those who taught me on some of the courses that I took, I am grateful; with some of you, I became fond of. (Anna-Britt Coe, Anna-Karin Hurtig, Miguel San Sebastian, Anni-Maria, Lars Lindholm, Kjerstin Dahlblom, Alison Hernandez, Per Gustafsson, Klas-Göran Sahlén, Malin Eriksson, Isabel Goicolea, Maria Emmelin, Anna Mansdotter, Christianson Monica, Janlert Urban, Nilsson Ingeborg, Wiklund Maria, John Kinsman and Kristina Lindvall).

I am also very grateful to the amazing administrative staff at the unit. Birgitta Åström, Ulrika Harju, Lena Mustonen, Susanne Walther, Veronika Lodwika, Ulrika Järvholm, Eva Selin, Carolina Näslund, Karin Johansson and Angelica Johansson. You made the logistics and life around Umeå, so easy, what could we ever do without you? Thank you for supporting and being friendly to me. Similarly, I am grateful to Wolfgang Lohr, and Göran Lönnberg for the friendship and computer related support offered during my studies. In addition, the print media staff were so helpful, thank you Sonja Nordström, Mikael Kohkoinen and Minna Oscarsson. At Makerere, I am grateful for all the support provided by all administrative staff under the leadership of Elizabeth Nambi and Jennifer Muheesi; thank you all for the wonderful work and support.

Fourthly, I am grateful to Umeå, University and more so the Unit of Epidemiology and Global Health. You carefully created both the human and non-human environment within which I was able to learn so much as I pursued my PhD studies-thank you.
Special thanks to the entire leadership at the unit under the able stewardship of Anneli Ivarsson—you make many proud including me. Many thanks go to the earlier leaders (Stig Wall, Lars Weinehall and Peter Byass), who have continued to influence the unit positively. The Theme three and Qualitative space colleagues, I want to specifically thank you all for the great academic arguments and discussions; they are so enriching and yet presented in very simple and inspiring ways—thanks to the leadership of these themes for the great job they are doing.

In the same vain, I am grateful to the leadership of Makerere University School of Public Health (headed by William Bazeyo then and now Rhodah Wanyenze), thank you for making it possible for me to pursue my studies alongside my job requirements. Also, thank you for putting in place the PhD forum which challenged me and continues to challenge many for greater heights through the networks created in there. My heartfelt gratitude goes to my department, health policy planning and management for inspiring me in many different ways.

Lastly, no words can describe the level of gratitude I feel towards my family. Daddy, even in your absence I can’t stop to imagine the warm smile and tight hug I would receive from you at this achievement—thank you for the inspiration. Mummy you are our bed rock, held us together since dad passed on. Thank you for taking care of my family while I was away—its means a lot to me, without you, there would be no me. Jimmy, Doreen, Joan and David, thank you for being great siblings, am proud of all of you. To all of my extended family members— I am grateful for all of the support. To all my in-laws, thank you for the support during this PhD journey. I am grateful to Daddy (Mr. David Kissa)—thank you for taking me in as your own son and believing in me—it means a lot to me. Mummy (Hon. Phyllis Chemutai Kissa), I am always grateful for all of the support you have offered me and the family—thank you mama.

My children, Natalia, Daniel and Simeon you are the strength that keeps me going, I enjoyed you missing me, it made me feel very special. Thank you for making my home-coming very special every time I returned. I love you so much—I will make it up to you. My wife, Barbra no amounts of text are sufficient to describe the gratitude I feel towards you. Thank you for being a super mother and father (in my absence). You gave me strength in very difficult times and I am grateful: May God richly bless your great heart—I will always love you.

Finally, and most importantly, I am forever grateful to God for all the grace that enabled me to pursue this PhD. As a Christian, I know that God is the wind under my wings, working to make me a better person in my generation. A big thank you to all my spiritual leaders, wherever you are.
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