A Critical Assessment of the Implications of Devolution on Fiscal Space for Health at County Level in Kenya

Thesis

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A critical assessment of the implications of devolution on fiscal space for health at county level in Kenya

Kenneth Kabubei Munge

PID: F2696407

PhD Thesis

Supervisors:

Dr Jane Mumbi Chuma (Director of Studies and Main Supervisor)

Dr Edwine Barasa (Second Supervisor)

Professor Kara Hanson (Third Supervisor)

The Open University

ARC: KEMRI/Wellcome Trust Research Programme
Abstract

Sufficient public expenditure on health (PHE) is critical to the attainment of universal health coverage (UHC). Fiscal space for health is the capability of a government to assign more resources to PHE without affecting its financial and economic position. Decentralisation arrangements have implications for PHE and therefore for fiscal space for health. This thesis critically assessed the implications of decentralisation on fiscal space for health at subnational (county government) level in Kenya and its implications on the attainment of UHC.

A convergent parallel mixed methods design was used informed by a conceptual framework that guided the collection, analysis and integration of the results. Qualitative data were collected using a multiple case study approach with a focus on fiscal arrangements and changes in the government-citizen relationship. The units of analysis were 3 purposively selected counties. Data collection was through document reviews, interviews with key informants and focus group discussions. Data analysis was using a thematic analysis method. Quantitative data were from panel data regression analysis of secondary data of PHE of all 47 county governments spanning three financial years (FY 2014/15 to FY 2016/17). The integration of mixed methods arms was performed through a narrative weaving approach.

Fiscal space for health was limited across all the case study counties evidenced by unchanging levels of per capita PHE and county government health expenditure as a proportion of total county government expenditure over time. There is overlap and poor
coordination in performance of functions and challenges in revenue assignments, with potentially constraining effects on fiscal space for health. PHE was also potentially discouraged by inappropriate public finance arrangements and low capacity for planning and budgeting e.g. fixed ratios on development and recurrent spending. Well designed and implemented conditional grants potentially encouraged growth in PHE but their effect was blunted by those that were poorly designed and implemented. Narrowly defined and poorly applied mechanisms for social accountability potentially discouraged PHE. Significant and contextual challenges in the application of electoral accountability were observed with unclear implications on PHE. The determinants of per capita public health expenditure at county level in Kenya are per capita total conditional grant, per capita share of equitable revenue and per capita conditional grant. From the random effects model there is the strongest evidence that a 1% change in per capita total conditional grant results in a 0.09% (p <0.001, 95% CI 0.04% – 0.14%) change on per capita public health expenditure by county governments; and that a 1% change in per capita equitable share results in a 0.68% (p<0.001, 95% CI 0.45% - 0.92%) change in per capita public health expenditure by county governments.

Decentralisation, mediated through fiscal arrangements and changes in the government-citizen relationship, has not increased fiscal space for health at decentralised level in Kenya. Better-functioning organisations and institutional arrangements that support these two mediators may expand fiscal space for health at this level. The design and operationalisation of vertical transfers and of conditional
grants is critical. Strengthening of accountability mechanisms through a move to strategic social accountability may also contribute to increased fiscal space for health.
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Dedication

To Clara

For everything.

And to Amara and Lulu

Run the world.
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Abbreviations

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<tbody>
<tr>
<td>ADP</td>
<td>Annual Development Plan</td>
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<tr>
<td>CBEF</td>
<td>County Budget and Economic Forum</td>
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<tr>
<td>CBHI</td>
<td>Community Based Health Insurance</td>
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<tr>
<td>CBIRR</td>
<td>County Budget Implementation Review Report</td>
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<tr>
<td>CBK</td>
<td>Central Bank of Kenya</td>
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<tr>
<td>CBROP</td>
<td>County Budget Review and Outlook Paper</td>
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<tr>
<td>CFSP</td>
<td>County Fiscal Strategy Paper</td>
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<tr>
<td>CGA</td>
<td>County Government Act of 2012</td>
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<tr>
<td>CIC</td>
<td>Commission for the Implementation of the Constitution</td>
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<tr>
<td>CIDP</td>
<td>County Integrated Development Plan</td>
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<tr>
<td>COB</td>
<td>Controller of Budget</td>
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<tr>
<td>CRA</td>
<td>Commission on Revenue Allocation</td>
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<tr>
<td>CSO</td>
<td>Civil Society Organisations</td>
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<td>DFRD</td>
<td>District Focus for Rural Development</td>
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<tr>
<td>EV4GH</td>
<td>Emerging Voices for Global Health</td>
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<td>FE</td>
<td>Fixed Effects</td>
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<td>FGD</td>
<td>Focus Group Discussion</td>
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<td>FY</td>
<td>Financial Year</td>
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<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>GHE</td>
<td>Government Health Expenditure</td>
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<tr>
<td>IBEC</td>
<td>Intergovernmental Budget and Economic Council</td>
</tr>
<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>HIC</td>
<td>High-Income Countries</td>
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<tr>
<td>Acronym</td>
<td>Full Form</td>
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<tr>
<td>HIV/AIDS</td>
<td>Human Immunodeficiency Virus/Acquired Immunodeficiency Syndrome</td>
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<tr>
<td>JLN</td>
<td>Joint Learning Network</td>
</tr>
<tr>
<td>KEMRI</td>
<td>Kenya Medical Research Institute</td>
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<tr>
<td>KEPH</td>
<td>Kenya Essential Package for Health</td>
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<tr>
<td>LMIC</td>
<td>Low- and Middle-Income Countries</td>
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<tr>
<td>MES</td>
<td>Managed Equipment Service</td>
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<tr>
<td>NHIF</td>
<td>National Hospital Insurance Fund</td>
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<td>OAG</td>
<td>Office of the Auditor General</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OOP</td>
<td>Out of Pocket Expenditure</td>
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<td>OSR</td>
<td>Own Source Revenue</td>
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<td>PFMA</td>
<td>Public Finance Management Act</td>
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<td>PHE</td>
<td>Public Health Expenditure</td>
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<td>PHI</td>
<td>Private Health Insurance</td>
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<td>RE</td>
<td>Random Effects</td>
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<td>SDG</td>
<td>Sustainable Development Goals</td>
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<td>SERU</td>
<td>Scientific and Ethics Review Unit</td>
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<td>SRC</td>
<td>Salaries and Remuneration Commission</td>
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<td>TA</td>
<td>Transition Authority</td>
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<td>THE</td>
<td>Total Health Expenditure</td>
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<td>UHC</td>
<td>Universal Health Coverage</td>
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<td>WHO</td>
<td>World Health Organization</td>
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Chapter 1: Introduction

1.1 Overview

Universal health coverage (UHC) refers to a situation where the entire population can access health services of good enough quality to benefit from, based on need and without the risk of financial impoverishment (World Health Organization, 2010). UHC goals can never be fully achieved, but all countries can make progress towards them (World Health Organization and the International Bank for Reconstruction and Development/The World Bank, 2017). The changes required will affect the entire health system including health financing (Frenk, 2015, Kutzin, 2013).

Progress towards UHC is predicated on a greater role for public expenditure in health financing. This conclusion is based on evidence such as that which suggests that the five revenue features of adequacy, stability, predictability, fairness and administrative efficiency are best met when the main source of funding is pooled public funds (Di McIntyre and Filip Meheus, 2014, Barroy H et al., 2017, Savedoff, 2012). Other evidence suggests that increasing spending from pooled public funds is accompanied by a decline in out of pocket expenditures for health services: a situation which improves the equity of financing health systems (Ke Xu et al., 2018).

The requirement for a greater role for public financing has directed attention to the capability of governments to increase expenditure on health without compromising their financial position or economic potential: a concept known as fiscal space (Di 

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McIntyre and Filip Meheus, 2014, Durairaj and Evans, 2010, Barroy et al., 2016, Heller, 2006). While the approach now favoured by the International Monetary Fund (IMF) views fiscal space as whole of economy phenomenon (International Monetary Fund, 2018), traditional approaches have sought to identify fiscal space for specific sectors or programmes, including health (Powell-Jackson et al., 2012, Barroy et al., 2016). The traditional approach has focussed on the “five pillars” of fiscal space for health, namely increasing economic growth and tax revenue; increasing budgetary allocations to health; improving the efficiency of the health sector; obtaining external grants; and earmarking taxes for health (Tandon and Cashin, 2010, Heller, 2006).

Health systems exist in societal and governance contexts that may influence the health financing system and fiscal space for health (Kutzin, 2000, Bossert, 1998, Berman and Bossert, 2000). Decentralisation is one such contextual factor. Decentralisation is the state in and process by which a set of responsibilities (political, fiscal, administrative and service delivery) and resources to deliver on those responsibilities (institutional, financial and human resources), are shared among levels of government in a way that seeks to attain social goals of equity, efficiency in resource use and responsiveness of governments to citizens (Treisman, 2002, Musgrave, 1961, Oates, 2006, Litvack and Seddon, 1999, Porcelli, 2009). Decentralisation’s implications for fiscal space are clearest if viewed through a functional lens which identifies two main pathways of influence: fiscal arrangements and changes in the government-citizen relationship (Ribot, 2002, Azfar et al., 1999, Regmi, 2014, Adam et al., 2012, Litvack and Seddon, 1999).
The existing literature on fiscal space for health tends to be predominantly conceptual and theoretical in nature and presents national-level analysis (Powell-Jackson et al., 2012, Barroy et al., 2016). This may be due to its reliance on the traditional “five-pillar” approach to fiscal space assessments (Tandon and Cashin, 2010, Brun et al., 2006). It may also be due to studies examining particular aspects of fiscal space such as tax administration without necessarily accounting for other determinants of fiscal space or for features of decentralisation such as revenue assignments (Doherty et al., 2014). When decentralisation does appear in the fiscal space literature, it is in consideration of its role as a driver of public health expenditure in quantitative empirical studies which are poorly linked to theory (Martin et al., 2011). This has resulted in a wide range of determinants being identified, with sometimes conflicting results and insufficient consideration of other evidence to support interpretation of the result.

Kenya’s current pursuit of UHC is in the context of a health system with lower than expected performance (Ministry of Health Kenya, 2014). Crucially, this pursuit is in the context of recent decentralisation reforms with the health sector being one of the most devolved functions. Kenya’s health financing system is characterised by low levels of public health expenditure despite positive economic growth, high levels of out of pocket payments, and concerns over efficiency in the use of funds (Ministry of Health Kenya, 2016, Ministry of Health Kenya, 2017, Dutta et al., 2018, Mulaki A and Muchiri, 2019).

Kenya has a long history of decentralisation that preceded independence in 1963 when 7 regional governments (Majimbo) and the Nairobi area were established with fiscal and
administrative responsibilities (Moss N C, 2016). This system was abandoned in favour of a strongly centralized one in 1964 (Othieno, 2011). Local government authorities in charge of urban areas continued to exercise delegated authority to provide some health services but were often under-resourced and therefore unable to deliver on their mandate (Wamai, 2009, Moss N C, 2016). Various decentralisation reforms were undertaken chief among which was the District Focus for Rural Development (DFRD) which began in 1983 (Wallis, 1990). The districts, and the provinces that supervised them, fared better with access to sources of revenue, and mandate to plan, budget for and utilize these resources (Ndavi et al., 2009, Ministry of Health Kenya, 2002). The evolution of this reform saw increases in health facility autonomy including greater planning responsibility and the direct funding of these facilities (Ndavi et al., 2009, Waweru et al., 2013, Muga et al., 2005, Oyaya and Rifkin, 2003). However, geographic inequalities in service delivery, insufficient fiscal and political decentralisation, and a growing push for democracy and accountability culminating in the post-election violence of 2007-2008 led to demands for greater decentralisation (Cheeseman et al., 2016, Stephen Ndegwa et al., 2012, Kenya Human Rights Commission, 2010). As a result, Kenya’s 2010 constitution established a devolved system of governance with 47 county governments loosely based on the 47 districts that had legal existence at the time (Ghai Y P).

Various reforms have been implemented to the pursuit of UHC since then. These include national health policy alignment to UHC (Ministry of Health Kenya, 2014); reforms to the
National Hospital Insurance Fund (NHIF) aimed at expanding coverage (Mwaura et al., 2015, Githinji, 2016, Barasa et al., 2018); development of the Kenya Quality Model for Health (Ministry of Medical Services and Ministry of Public Health and Sanitation, 2011); the waiver of user fees payable for all maternity and primary health care services (Wambui Ndonga, 2013, Ministry of Health, 2015b) and the drafting of a health financing strategy.

In 2017, Kenya’s President committed to accelerate progress to attain UHC by 2022 as part of his “Big 4 Agenda” (Nation Reporter, 2017). A pilot began in 4 of Kenya’s 47 counties that involves removal of user fees from primary care hospitals and county referral hospitals (Level 4 and 5 respectively) accompanied by provision of extra financing to support commodity purchases; train community health workers; and provide additional funding for health facility functions. Insufficient government expenditure on health services remains a challenge manifesting in part as continued overreliance on out of pocket expenditure for health (Barasa et al., 2017a, Barasa et al., 2018). Unchanged levels of health budget allocation in the 2019 Budget Policy Statement casts doubts on the potential for increased spending at the national level from its present level of about 7% of total budget (The National Treasury and Planning, 2019, Ministry of Health Kenya, 2017).

Studies of Kenya’s county health systems have demonstrated challenges with loss of autonomy of key decision makers, gaps in resource allocation and management
processes, and challenges with community involvement (Tsofa et al., 2017a, Nyikuri et al., 2017, Barasa et al., 2017b, Tsofa et al., 2016, Tsofa et al., 2017b, McCollum et al., 2018b, Kimathi, 2017, McCollum et al., 2018a). These findings from a governance lens are reflected in a recent study of strategic purchasing which highlighted challenges in linking available resources to services received by citizens (Mbau et al., 2018). Fiscal space for health at county level has not been comprehensively explored. Barasa et al (2015) identified the potential for efficiency improvements at county level with Kioko (2013) musing that these efficiency improvements could enhance fiscal space for health. However, these analyses have not examined how the effects of decentralisation arrangements would influence potential efficiency improvements or other changes factors that influence fiscal space for health.

This thesis seeks to fill this gap by providing empirical evidence on fiscal space for health at county level in Kenya supported by a sound conceptual and methodological approach.

1.2 Research Objectives

The aim of the study was to critically assess the implications of decentralisation on fiscal space for health at county government level in Kenya. Specifically, the objectives of the study were:

1. To describe fiscal space for health at county level in Kenya in terms of fiscal arrangements and changes in the government-citizen agency relationship
2. To analyse the effects of fiscal arrangements and changes in the government-citizen agency relationship on public health expenditure at decentralised level in Kenya
3. To analyse the determinants of public health expenditure at decentralised level in Kenya
4. To draw policy options for and identify obstacles to the expansion of fiscal space for health at the decentralised level in Kenya

1.3 Thesis Structure
My thesis meets these objectives in its seven chapters. In Chapter 2, I examine the concept of decentralisation and how this is linked to fiscal space for health through two related mechanisms: fiscal arrangements and changes in the government-citizen relationship. This chapter is important because these theoretical approaches are critical to conceptualisation fiscal space at decentralised level. It is accompanied by a review of the empirical literature on the determinants of public health expenditure at the decentralised level presented in Appendix 1.

The third chapter presents the conceptual framework that is built on this review and is central to the study design, data collection and analytical approach. This conceptual framework informs the convergent parallel mixed methods study design presented in the same chapter, and the study methods for the qualitative and quantitative arms of the study.
Chapter 4 is the first of three results chapters and presents the qualitative study methods, followed by an in-depth description of the fiscal arrangements and changes in the government-citizen relationship. I then provide an assessment of why these particular arrangements exist given Kenya’s context. It sets the stage for Chapter 5 which presents an analysis of how fiscal arrangements and changes in the government-citizen relationship have influenced fiscal space for health at county level informed by a qualitative multiple case study of three counties. Chapter 6 presents the study methods and findings from a quantitative analysis of the determinants of PHE at decentralised level in Kenya. In Chapter 7, I integrate and discuss the findings of this study using a weaving narrative approach.

My overall finding is that decentralisation, mediated through fiscal arrangements and changes in the government-citizen relationship, has not increased fiscal space for health at decentralised level in Kenya. I also find that (1) historical and political context strongly influenced the design and implementation of decentralisation in Kenya; (2) there are rigidities and ambiguities in the design and implementation of the institutional arrangements and organisations that underpin decentralisation; (3) there are limited and poorly functioning mechanisms for social accountability; (4) pre-existing low levels of public health expenditure were carried over into the decentralisation period; (5) the rushed assignment of functions failed to account for limited functional and revenue raising capacity of county governments; (6) persistent weaknesses in the planning and budgeting cycle weaken attempts to enhance budgetary space for health; and (7) the key determinants of public health expenditure at county level are per capita equitable
share of revenue, per capita county GDP and per capita conditional grants demonstrating the key role of fiscal arrangements as proposed by the conceptual framework.

In the same chapter, I present the five emerging themes from this study: (1) fiscal space for health assessments in decentralised countries should account for fiscal arrangements and changes in the government-citizen relationship; (2) context plays a significant role in shaping the policy and practice of decentralisation and its impacts on fiscal space for health at decentralised level; (3) institutions and organisational arrangements supporting decentralisation are still evolving and improving; (4) expansion of fiscal space for health at county level is largely dependent on vertical transfers; and (5) decentralisation has not enhanced the government-citizen relationship in Kenya in terms of social accountability. I conclude by providing policy recommendations and areas for further research.

1.4 Contributions of this thesis to the body of knowledge
This thesis makes conceptual, methodological and empirical contributions to the literature. The main conceptual contribution to the literature of this study was the development of a conceptual framework that is based on an in-depth review of theoretical and empirical literature from fields such as economics, public finance, political science, health policy, and governance. The conceptual framework was further enriched based on reflections on the findings of this study. It therefore has potential
relevance to scholars and practitioners working in a range of fields and settings. Second, while the concept of fiscal space has previously been mainly examined at national level, the revised conceptual framework considers fiscal space for health at decentralised level as an integral part of fiscal space for health in a country. It accounts for the individual and interactive influences of fiscal arrangements and changes in the government-citizen relationship, which are the mechanisms through which decentralisation acts. This enables consideration of fiscal space as whole while allowing for consideration of the various elements of a complex phenomenon. Finally, it allows for future analysis of the various relationships between the variables that influence fiscal space. The framework accommodates a variety of approaches to this analysis, as is demonstrated in this thesis.

The use of mixed methods to analyse fiscal space for health at decentralised level is a methodological contribution to the literature. This approach provided quantitative and qualitative data that deepened the description and analysis of the phenomenon of interest. The convergent parallel design used gave each data type equal weight in part through concurrent collection and analysis in exploring the phenomenon of interest. The integration of the results was through a weaving narrative approach where the quantitative and qualitative results were linked to each other based on themes or concepts (Creswell, 2013, Fetters et al., 2013, Classen et al., 2007). The weaving approach to integration was informed by the conceptual framework and a pragmatic world view. According to Creswell (2013), pragmatism as applied to mixed methods research allows the researcher freedom to choose from a variety of methods,
procedures and to meet the purposes of the work at hand; and encourages the consideration of social, political and historical context.

My findings contribute to the literature on health financing by providing new evidence about how decentralization influences fiscal space for health. The evidence presented here on how these mechanisms influence fiscal space for health is another contribution to the empirical body of knowledge. The evidence provided will be applicable in Kenya and in other decentralised settings, especially those pursuing UHC. It will also inform future studies such as enhancing the governance of fiscal decentralisation with a focus on intergovernmental institutions, and policy decisions such as the integration of fiscal space indicators appropriate to the fiscal characteristics of a country to UHC monitoring frameworks.
Chapter 2: Fiscal space for health in decentralised settings: towards a conceptual framework

2.1 Introduction
In this chapter, I present a review of the theoretical literature on decentralisation and its relationship with fiscal space for health at decentralised level. This review of the literature, complemented by that presented in Appendix 1, informed the development of a conceptual framework that guides the study methods and interpretation of the results the rest of this thesis. This chapter is organized in the following sections: decentralisation (2.2), fiscal arrangements (2.3), changes in the government – citizen relationship (2.4), changes in the level of government expenditure (2.5) and a summary (2.6).

2.2 Decentralisation

2.2.1 Definitions
There are various definitions of decentralisation as a result of the diverse fields of interest the subject attracts e.g. economics, political science and health (Adam et al., 2012, Bankauskaite and Saltman, 2007).

A useful starting point is Treisman’s conceptualisation of decentralisation which begins by noting that the term decentralisation encompasses a continuum from “centralized” to “decentralised” (Treisman, 2002). For Treisman, decentralisation is a characteristic of a compound system (i.e. one with more than one level or tier) where the following
powers are distributed across different levels: political decision making, appointment of officials, elections, fiscal management and management of human resources.

Eaton et al (2011) say that decentralisation means changes in the institutions that govern the relationship, in terms of resources and obligations, among levels of government. They view decentralisation as being concerned with the extent of transfer (whether limited or extensive); the kind of responsibility being of transferred (fiscal, administrative or political); the scope of the reform (whether sector specific or government-wide); and the degree of institutional and organizational change involved.

For Bossert (1998), decentralisation can be viewed through a variety of lenses including his own which draws on agency theory. Bossert describes decentralisation in terms of decision space which is the degree of choice left to agents (decentralised units) by principals (central authorities). Decision space is defined by formal and informal rules and regulations and is applied over a number of functions. This view of decentralisation resonates with Treisman’s and Eaton’s conceptualisations of decentralisation as a compound, dynamic relationship between tiers of government concerned about the allocation of power, responsibilities and resources.

This may seem to be in contrast to the public administration approach to decentralisation presented in introduction to this thesis (Chapter 1, Section 1.1.3) (Mills, 1990). This approach considers decentralisation as concerning the transfer of functions and authority from central to peripheral units along a scale ranging from
deconcentration to privatization. Underlying this scaling is the degree of autonomy enjoyed by the peripheral unit. This approach may seem to imbue decentralisation with a static characteristic. However, it is the underlying consideration of autonomy, and the understanding of continuous contestation over this, that also imbues this description of decentralisation with dynamism.

From the field of economics, the focus of the so-called first generation theories is mainly on issues of efficiency and equity with regards to the three fiscal roles of government: macroeconomic management, redistribution and allocation of resources (Oates, 2005). Decentralisation, then, is the allocation of macroeconomic stabilization, redistributive and allocative functions, along with the financial resources and tools to perform those functions, to different levels of government (Kee, 2003, Oates, 1999, Musgrave, 1961). This view is reflected in concepts such as the “Tiebout model” (Tiebout, 1961) which posits that decentralised arrangements will work like a market in which citizens move among subnational jurisdictions to select the combination of public goods and service, tax burdens and other regulation that they best prefer. From this perspective, the goal of decentralisation is to use government action to correct market failure at the lowest level than can accomplish the task (Oates, 1999, Inman and Rubinfeld, 2014).

Public choice theorists offer another perspective on decentralisation drawing on its assessment of public decision makers as utility maximisers of budgets and so will seek to increase tax income to this end (Butler, 2012). Decentralisation is therefore a political arrangement with fiscal and economic consequences that restrains the appetites of
politicians and the unimpeded growth of government by emphasising the notion that governments ultimately derive their powers from the consent of the governed (Buchanan J. M., 2000).

The field of political science has traditionally been concerned with the distribution of power between levels of government and between governments and citizens (Bednar, 2011). The distribution of the power between the levels of government may therefore be symmetrical with all subnational units having the same level of power, or asymmetrical with subnational units have varying levels of decision-making power. Similarly, the extent to which different levels of government are accountable to citizens identifies the form of decentralisation that exists (Bednar, 2011). For example, devolution implies that subnational levels of government can make decisions that directly affect their citizens and can expect to be held accountable directly. The boundaries of power are maintained using mechanisms such as constitutions, judicial processes, political party structures and popular support.

From these contributions from various disciplines, decentralisation refers to the state in and process by which a set of responsibilities (political, fiscal, administrative and service delivery) and resources to deliver on those responsibilities (institutional, financial and human resources), are shared among levels of government in a way that seeks to attain equity, efficiency in resource use and the responsiveness of governments to citizens.
2.2.2 Frameworks

Drawing on these descriptions of decentralisation, a number of frameworks for describing decentralisation are identifiable.

Decentralisation can be looked at as a state or process. As a state, its level – whether system wide or at organizational level – and degree – with decentralisation is at one end of a continuum and centralization at the other - can also be assessed (Adam et al., 2012). Decentralisation may then be described as comprising four forms. Deconcentration involves the transfer of specific authority and functions to a peripheral unit of the central institution or organization. Delegation involves the transfer of specific authority and functions to semi-autonomous institutions or organizations (Saltman et al., 2007, Work, 2002). Devolution is characterised by clearly defined substantially independent subnational units, which exercise legally-mandated and geographically defined authority, have the power to raise or receive resources and have a relationship with the other governments (devolved and central) based on mutual benefit and coordination (Bossert, 1998, Mills, 1990). Privatization occurs when authority and functions are transferred from public into private ownership (Saltman et al., 2007).

Treisman’s approach to decentralisation provides six ways of examining decentralisation: by examining the number of tiers present (vertical decentralisation); the decision space available (decision making decentralisation); procedure for selecting executive officials (appointment decentralisation); organization of subnational elections
(electoral decentralisation), distribution of personnel between national and subnational units (personnel decentralisation) and the distribution of public revenues and expenditures (fiscal decentralisation) (Treisman, 2002).

The more common frameworks in empirical literature for assessing decentralisation take a decision-making approach – assessing the “decision-space” available (Bossert, 1998) - or a functional approach - assessing fiscal, administrative and political dimensions (Regmi, 2014, Litvack and Seddon, 1999).

As described previously, decision space refers to the degree of choice that decentralised units have over a number of functions based on a set of formal and informal rules and regulations. Specific to the health sector, these functions are grouped onto five domains of governance, finance, personnel management, organisation of services, and target population (Bossert, 1998). These domains have sub-domains over which choice can be exercised on a scale from narrow, to moderate and to wide (Bossert, 1998).

A functional approach to decentralisation is concerned with the extent to which four key responsibilities, political, administrative, fiscal and service delivery, are shared among levels of governments (Litvack and Seddon, 1999). It draws on the public finance or fiscal perspective of decentralisation (Shah, 1994, Musgrave, 1961, Bankauskaite and Saltman, 2007, Litvack et al., 1998). This approach is therefore concerned with describing and analysing intergovernmental relations with respect to these particular responsibilities and how these affect the efficiency and equity of resource use (Litvack
et al., 1998). While in some ways this may seem similar to Bossert’s description above, the focus on intergovernmental relations implies a focus on political institutions and the distribution of power including between citizens and their governments (Oates, 2005, Prakash Chandra, 2012). This latter concern is a key feature of so-called “second-generation theories” of fiscal decentralisation which take into account political process and the problem of agency (Porcelli, 2009).

In an agency relationship, one individual (the agent) acts on behalf of the other (the principal) (Arrow, 1984). The agent is the individual specialized to offer a good or service that the principal desires. The principal determines how the agent will be rewarded. The principal is faced with uncertainty about the effort of the agent (“hidden-action”) and whether the agent is making use of the knowledge he or she has about the principal to the principal’s best interests (“hidden-knowledge”). The principal must then employ measures and create incentives (which are accompanied by their associated costs) to drive agent actions in a way that maximizes the principal’s interests (Schapiro, 2005). These measures and incentives comprise institutions: rules, laws, norms and customs to which an organization is subject (Ben-Ner and Putterman, 1998).

From this perspective, decentralisation is thought to reduce the inefficiencies of centralised decision-making through reductions in information asymmetry as described by the problem of agency (Bossert, 1998, Porcelli, 2009). The reduced information asymmetry also increases competition between decentralised units and enables citizens to demand greater accountability, which further enhances increases government
efficiency (Porcelli, 2009). These theories therefore identify four ways in which the government-citizen relationship changes: accountability, information asymmetry, citizen mobility and intergovernmental competition.

One can identify commonalities in the functional approach to decentralisation with health system governance frameworks such as that proposed by Greer et al (Greer et al., 2016). They propose that governance consists of five elements: transparency, accountability, participation, integrity and capacity. They propose that their framework betters alternative perspectives on governance including those based on agency theory. Specifically, they propose that the relationship between principals and agents in health systems is far too complex to be catered for by contracts and incentives. Their views of accountability in particular echoes and extends the broader view of second-generation theories, by defining accountability as a relationship in which an actor must inform others of and explain decisions made, must seek their mandate and can be sanctioned (Greer et al., 2016). This wide range of actions and means through which governments deliver on electoral promises and interact with citizens is known as social accountability (Aidspan;, 2015).

The rest of this chapter draws on this functional approach for its assessment of decentralisation with a focus on two related mechanisms: fiscal arrangements and changes in the government-citizen relationship. This is for three reasons. First, the general objective of my thesis is to critically examine the implications of devolution on fiscal space for health at decentralised level in Kenya. Assessments of fiscal space are
concerned with spending responsibilities, capabilities and priorities, which, in the context of decentralisation, require an examination of intergovernmental relations with respect to these issues (Regmi, 2014, Adam et al., 2012, Dafflon, 2006). Second, a functional approach to decentralisation necessarily includes an assessment of “decision space” by defining and analysing who has power over which decisions are made over particular domains. Finally, a functional approach permits a contextually appropriate assessment of the particular type of decentralisation based on the domains it is likely to affect. For example, devolution in Kenya should have resulted in changes in the amount of resources or responsibility for resources at the decentralised level – fiscal decentralisation – as well as changes in accountability and governance arrangements – political decentralisation (Adam et al., 2012, Bahl, 1999).

2.3 Fiscal arrangements
Fiscal arrangements in decentralisation are concerned with four roles – sometimes referred to as the four pillars of fiscal decentralisation (Bahl, 2008, Steffensen, 2010): expenditure assignment (the tasks assigned to decentralised units to perform), revenue assignment (the sources of income for decentralised units), financial flows between and within tiers of decentralisation (intergovernmental transfers), and arrangements for subnational borrowing (Litvack and Seddon, 1999).
2.3.1 Expenditure assignments

Expenditure assignments are considered the most fundamental pillar in terms of sequencing and importance (Bahl, 2008, Bahl, 1999). Though the term “expenditure assignment” is strictly speaking concerned with those activities that have a cost implication, the term is used here to encompass functional assignment i.e. the activities that each level of government performs regardless of cost implication (Dafflon, 2006, Shin, 2001, Kee, 2003, Oates, 2006, Ferrazzi et al., 2009).

From an economic perspective, the roles of government to be assigned are: macroeconomic management, redistribution and allocation of resources (Dafflon, 2006, Musgrave, 1961).

Macroeconomic management is concerned with economic growth and stability including the determination of monetary, tax and spending policies (Kee, 2003). Some have argued that subnational units lack fiscal capacity, have lower capacity to influence growth through investment, and may jeopardise the national economy through fiscal mismanagement or attempts to “free-ride” on other subnational units (Dafflon, 2006). As such, they argue that this role is best assigned to central governments, which is often the case in practice (Bahl, 1999).

Redistribution refers to the role of government in addressing the inequitable distribution of wealth, income or other indicators of well-being (Kee, 2003). As in the
case of macroeconomic management, there are arguments that the national governments is better placed to oversee this, partly because they have more taxation powers and wider and immobile tax bases (Litvack and Seddon, 1999). In practice, redistribution functions are shared with subnational units tasked with identifying recipients of nationally financed benefits (Dafflon, 2006).

The provision and allocation of public goods and services is the function that is thought to be the best suited for decentralisation (Dafflon, 2006, Musgrave, 1961, Tiebout, 1961, Oates, 2006). The rationale is that decentralisation has the potential to optimise the closeness between those who decide about the set of goods and services, those who utilise them and those who pay for them.

As such, efficiency is attained when the concurrence of these three relationships are optimised. Various economic criteria have been proposed to attain this concurrence including the degree of individual preference for a particular good or service, the potential for economies of scale, existence of externalities, congestion costs, and costs of collective action (Inman and Rubinfeld, 2014, Dafflon, 2006, Kee, 2003, Oates, 2006). However, non-economic criteria play an important role and often supersede when in conflict with economic criteria (Ter-Minassian and Fedelino, 2007). Examples of these include financial management criteria – such as institutional, administrative, technical and political capacity- and socio-political criteria - such as the historical context and principles such as subsidiarity, autonomy, accountability, and participative democracy (Shin, 2001, Dafflon, 2006).
Expenditure assignments can be classified in various ways: defined or undefined; obligatory or discretionary; concurrent or exclusive; symmetric or asymmetric; and involve production or provision (Ferrazzi et al., 2009, Steffensen, 2010). Defined expenditure assignments are usually contained in a constitution and will be a positive or negative list of responsibilities assigned to a level of government. Obligatory functions are those that are must be performed by the actor to whom the responsibility is assigned, usually linked to an enforceability mechanism. Concurrent functions are those that are shared by more than one level of government or can be taken up by one level if not overlapping with another’s functions. Asymmetric expenditure assignments refer to the differential allocation of functions to units of governments at the same level on the basis of a particular characteristic; usually capacity to perform this given function. Provision refers to activities that relate to governance while production refers to activities that relate to actual service production.

In summary, the literature suggests that criteria for expenditure assignments do not necessarily ascribe to a particular normative position but are instead the consequence of context; in particular the effective pattern of political decentralisation (Dafflon, 2006, Ferrazzi et al., 2009). This is because political decentralisation reflects the underlying distribution of power, values and interests whose influence on constitutional boundaries determines which level of government performs which function (Dafflon, 2006, Ferrazzi et al., 2009). The literature also suggests that expenditure assignments have process as well outcome dimensions. The process dimensions are concerned with how the
expenditure assignments were arrived and can draw on the criteria explored in the preceding paragraphs. On the other hand, outcome dimensions are concerned with the final locus of the expenditure assignments including how clearly outlined these are, whether they are applied equally, and to what extent these are enforceable.

2.3.2 Revenue assignments

Revenue assignments are primarily concerned with the allocation of tax powers between the levels of government in terms of choice of tax types, delineation of tax base, determination of tax rates and administration of the various tax instruments (Ter-Minassian and Fedelino, 2007, Ambrosanio and Bordignon, 2006).

Various frameworks have been proposed to resolve these issues. According to the traditional normative approach, the best revenue assignments are those that match the expenditure assignments of government in terms of the normative roles of each level of government (Ambrosanio and Bordignon, 2006). This means, for example, that because the central government is best suited to the role of redistribution, then it should be assigned progressive income taxes. On the other hand, subnational governments would be best placed to charge user fees for services because of their role in provision of public goods and services, and charge tax on property, which is immobile.

Public choice theory assumes that governments are self-serving with citizens having little if any control over the actions of politicians (Butler, 2012, Buchanan J. M., 2000).
Predatory politicians and bureaucrats will therefore be driven to maximize their tax income to increase their spending power. As such decentralisation introduces competition between tax jurisdictions and allows mobile factors of production to move to the jurisdiction where, among other things, tax burdens are light; and this possibility restrains the appetites of politicians (Ambrosanio and Bordignon, 2006).

Political economy approaches, without offering a normative standpoint, suggest that politicians seek to minimize the electoral impact of revenue raising initiatives, and this will result in observed phenomena such as tax exemptions and complex tax structures (Ambrosanio and Bordignon, 2006). They also propose that observed tax arrangements are the result of an endless back and forth between the levels of government because of the incomplete nature of the constitutional contract and the changing bargaining power of the levels of government over time (Bahl, 1999).

The literature, while not providing the ideal tax mix for subnational governments, provides the characteristics for the ideal subnational tax. This tax should not cause fiscal imbalances, not distort the distribution of resources and other general economic conditions, be easy to administer and enforce, be visible to and reasonably burdensome on citizens, be stable over time and closely matched to the economic base, not result in tax exportation or adverse tax competition, and be politically acceptable (Martinez-Vazquez, 2008, Bahl, 1999, Ambrosanio and Bordignon, 2006). Based on these criteria, good subnational taxes include user fees, property taxes, excise tax and local business taxes – including some forms of value added tax (VAT) such as dual VAT where separate
national and subnational VAT rate apply to the same set of goods or services (Ambrosanio and Bordignon, 2006, Ter-Minassian and Fedelino, 2007, Martinez-Vazquez, 2008). Because this latter set of “ideal” subnational taxes is often lower yielding, there frequently results a mismatch between revenue and expenditure assignments with the resource needs of the latter exceeding the former (Steffensen, 2010).

In summary, while there exist a variety of normative positions on revenue assignments, none of these approaches fully explains observed arrangements. Instead, a variety of criteria are applied to the allocation of tax types, delineation of tax base, determination of tax rates and administration of the various tax instruments. For example, in practice, subnational governments may charge own taxes, tax surcharges (“piggy-back” on national taxes) and/ or share in purely national taxes (Ambrosanio and Bordignon, 2006, Litvack and Seddon, 1999). In addition, the mismatch between revenue and expenditure assignments necessitates the use of intergovernmental transfer, the subject of the next sub-section, to correct this vertical imbalance (Steffensen, 2010).

2.3.3 Intergovernmental transfers

Intergovernmental transfers are concerned with the flow of funds from national to subnational level with goals that include the correction of horizontal (fiscal inequity) and vertical (fiscal gap) fiscal imbalances; to cater for spill overs; and to incentivise subnational governments to implement specific policies (fiscal harmonization), act
efficiently (fiscal inefficiency) and enhance revenue collection (Litvack and Seddon, 1999, Ahmad and Searle, 2006). For example, intergovernmental transfers may be used to correct economic and fiscal inequalities among subnational units (horizontal fiscal imbalance) by offering additional funding for jurisdictions that have significant fiscal gaps even after accounting for own revenues and vertical transfers (Martinez-Vazquez and Boex, 2001).

Bahl (2008) suggests three political considerations that independently support the existence of intergovernmental transfers. First, the reluctance of central government bureaucrats to surrender budget power might result in the use of transfers with strict conditions for subnational governments. A second reason may be to ensure uniform provision of public services as means of securing nationwide political support. Finally, transfers may be used to transfer the budget deficit to subnational governments e.g. through underfunding of a transfers.

These characteristics may explain why intergovernmental transfers are usually underpinned by constitutional provisions and fiscal institutions that support their design and implementation (Ahmad and Searle, 2006). These frameworks address key elements of intergovernmental transfers including that their development and implementation be as objective and transparent as possible; that the transfers be predictable over time; simple; and not offer a soft budget constraint (Ahmad and Searle, 2006, Litvack and Seddon, 1999, Ahmad et al., 2006). For example, a budget constraint is concerned with the incentive that a guarantee or possibility of a fiscal bailout has on
the fiscal practices of subnational governments (Oates, 2006). Other causes of soft budget constraints include poor specification of fiscal responsibilities; excessive vertical fiscal imbalance with national governments controlling almost all revenue sources; uncontrolled local borrowing; weak capital markets; and precedent (Ambrosanio and Bordignon, 2006). Precedent can play an important role especially in situations where subnational government harbour a reasonable expectation of a bailout or coverage of shortfalls (Bahl, 1999).

Transfers can be classified as mandatory or discretionary (ad hoc); current or capital; matching or non-matching; conditional (earmarked) or unconditional (non-earmarked); open or closed ended (Litvack and Seddon, 1999, Oates, 2006, Ahmad and Searle, 2006, Bahl, 1999, Organisation for Economic Co-operation and Development, 2019). An alternative system of taxonomy proposed by Bahl and Linn (1992) utilises allocation criteria and the type of pool of distributable resources but results in types that can be classified under the descriptions in Table 1. For example, a transfer based on cost compensation regardless of source is necessarily a conditional grant.

<table>
<thead>
<tr>
<th>Type of Grant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mandatory</td>
<td>Based on obligation, usually grounded in the law, for the entity that issues the grant. Obligations are usually clear on the size of the grant, and other conditions for issuance of the grant</td>
</tr>
<tr>
<td>Type of Grant</td>
<td>Description</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Discretionary</td>
<td>Based on ad-hoc considerations and are often smaller, and time-bound than mandatory grants</td>
</tr>
<tr>
<td>Current</td>
<td>To be spent on day to day operations of government and its entities</td>
</tr>
<tr>
<td>Capital</td>
<td>To be spent on expenditures on long-term assets i.e. items that have value over a long period of time usually greater than one year</td>
</tr>
<tr>
<td>Matching</td>
<td>With a requirement to spend an equivalent or minimum amount for a particular purpose</td>
</tr>
<tr>
<td>Non-matching</td>
<td>Without a requirement to spend an equivalent or minimum amount for a particular purpose</td>
</tr>
<tr>
<td>Conditional</td>
<td>With constraints on the recipient on how to spend the money</td>
</tr>
<tr>
<td>Unconditional</td>
<td>Without constraints on the recipient on how to spend the money</td>
</tr>
<tr>
<td>Open ended</td>
<td>Without limits on the amount that can be issued</td>
</tr>
<tr>
<td>Closed ended</td>
<td>With limits on the amount that can be issued</td>
</tr>
<tr>
<td>Allocation criteria</td>
<td>Classification based on considerations used to distribute the grant e.g. source of revenue, formula, cost compensation and arbitrary</td>
</tr>
</tbody>
</table>


In summary, the existence of intergovernmental transfers is justified by economic and non-economic considerations. These considerations are usually elaborated on in the institutional frameworks that support decentralisation. The taxonomy of intergovernmental transfers makes provisions for the range of arrangements that may then follow. For example, a transfer whose allocation criteria is arbitrary and drawn from
an arbitrary pool of resources is incompatible with certain forms of decentralisation such as devolution.

2.3.4 Subnational borrowing

Borrowing by subnational governments may be justified by the need to cater for high cost local investments; to weather revenue instability and smooth out expenditure-revenue flows; and to encourage accountability through the use of markets as a mechanism to judge the fiscal performance of a subnational government (Litvack and Seddon, 1999, Ahmad et al., 2006).

Subnational borrowing is subject to controls imposed in keeping with the need to ensure macroeconomic stability and economic growth (Musgrave, 1961, Ahmad et al., 2006). These controls are classified as market discipline – where interest rates signal assessment of performance; rule-based controls – which include ceilings, deficit targets or link borrowing to certain forms of expenditure; administrative controls – where the national government exerts direct control by reviewing and authorising requests; and cooperation controls – where the different levels negotiate borrowing arrangements (Ahmad et al., 2006).

Some of these controls link subnational borrowing to public finance management (PFM) (Ahmad et al., 2006, Ter-Minassian and Fedelino, 2007, Bahl, 2008). The managerial capacity of subnational units to perform their PFM role can be assessed in four domains:
(1) political capacity (the extent to which political officials can translate citizens’ demands and preferences into policy and public goods); (2) institutional capacity (the legal and institutional, formal and informal, vertical and horizontal relations that govern decentralisation); (3) administrative capacity (the correct functioning of budget processes, accounting procedures, controls and rules); and (4) technical capacity (the ability of the subnational unit to produce or outsource the public good or service) (Dafflon, 2006). There is an acknowledged risk that subnational borrowing may present a soft budget constraint resulting in fiscal indiscipline, which may jeopardise national and subnational economies (Litvack and Seddon, 1999). This risk arises not because of the existence of subnational borrowing but rather because of poor design of the entire system of fiscal decentralisation (Litvack and Seddon, 1999) and challenges with subnational public finance management (Ahmad et al., 2006).

In summary, subnational borrowing is a characteristic of fiscal arrangements that is intricately linked to the overall design of decentralisation itself. Subnational borrowing is usually subject to controls some of which relate to public financial management.

2.4 Changes in the government-citizen relationship

Changes in the government-citizen relationship following decentralisation are addressed by various theoretical approaches.
Fiscal decentralisation literature explored in the previous section on fiscal arrangements (Section 2.2) groups these into two broad groups: classical/first generation and second-generation theories (Porcelli, 2009). In the classical theories, decentralised units have better information about local preferences than central units and are therefore more likely to deliver public goods and services that match these preferences while ensuring that the tax burden borne by citizens does not result in their relocating to other jurisdictions (Litvack and Seddon, 1999, Oates, 2005). The second-generation theories account for political process and the problem of agency (Porcelli, 2009). Decentralisation offers the opportunity for citizens to rein in self-interested public officials for example by increasing the likelihood of movement among jurisdictions based on preference for tax regimes (Buchanan J. M., 2000, Oates, 1999).

Agency theory lends a similar perspective (Arrow, 1984). Decentralisation reduces the inefficiencies of centralised decision-making and reduces information asymmetry as described by the problem of agency (Bossert, 1998), with citizens as the principals and the government as the agents in this scenario (Porcelli, 2009). The reduced information asymmetry increases competition between decentralised units and also enables citizens to demand greater accountability (Porcelli, 2009, Schapiro, 2005). Health system governance frameworks (Greer et al., 2016) as discussed in section 2.1.2 have a view of accountability that echoes and extend the broader view of second-generation theories.
In summary, these theoretical approaches emphasise that decentralisation results in changes in the government-citizen relationship in four ways: accountability, information asymmetry, citizen mobility and intergovernmental competition. These changes are discussed in more detail in the subsequent sub-sections.

2.4.1 Social accountability

Accountability is the means by which actors are held responsible for their actions (Greer et al., 2016). Accountability can be viewed through a variety of lenses. The first is through the lens of the principal-agent framework where citizens are considered principals and governments operating as their agents. The second expands on this framework to identify two forms of principal-agent relationships: a short route directly to service providers and a long route through political representatives and public administration (Camargo and Jacobs, 2013, Fox, 2015). It is in the latter arm that decentralisation can exert its greatest influence by inserting subnational representatives and administrators between citizens and the national government (Ahmad et al., 2005). The physical proximity of these local officials increases the strength of citizen voice, while potentially increasing the answerability of these officials (Camargo and Jacobs, 2013). A third approach views accountability using the spatial metaphors of horizontal, vertical and diagonal accountability. The vertical form is that between the elected officials and citizens; the horizontal being that within the state including checks and balances between state structures; and the diagonal being that the result of citizen
involvement in horizontal accountability structures such as through participatory planning (McGee, 2010, Fox, 2015).

The mixed bureaucratic and elected nature of governments at both national and subnational levels means that traditional views of accountability that rested on elected officials justifying themselves to voters has fallen out of favour (Aidspan; 2015, Newell and Bellour, 2002). Moreover, accountability as viewed through these lenses may fail to account for mutual and informal accountability relationships; contexts where electoral competition may be weak; and the complex relationships between long-short and vertical-horizontal-diagonal forms of accountability (Fox, 2015).

Social accountability describes an approach to accountability that offers a broader view of the devices available to citizens to interact with government and hold both elected and non-elected officials to account (Camargo and Jacobs, 2013, Friis-Hansen and Cold-Ravnkilde, 2013, Fox, 2015). Social accountability provides a means for citizens to engage with politicians and government bureaucracies in a systematic, informed and constructive way that is distinct from delegating this power to political representatives between elections (United Nations Development Programme, 2013, Fox, 2015). In social accountability, the four elements of an accountability relationship (mandate, resources, enforcement, performance and monitoring) are maintained and modified into three key elements: voice, enforceability and answerability (Camargo and Jacobs, 2013, Khadka and Bhattarai, 2012). Social accountability is therefore dependent not only on availability of information, but also on organized and capable citizenry and the
availability of frameworks that support aggregation and transmission of this voice to answerable actors (Camargo and Jacobs, 2013, Fox, 2015, Adsera et al., 2003).

The range of mechanisms within social accountability that are relevant to fiscal space for health include participatory planning and budgeting, public expenditure monitoring and participatory management (Friis-Hansen and Cold-Ravnkilde, 2013, Fox, 2015, Kohli, 2012). The effectiveness of these mechanisms may depend on the state and citizen factors. The former refers to the level of political will and the existence of institutional frameworks that supports sanctions and incentives (McGee and Gaventa, 2010). The latter refers to the capability of citizens to use accountability mechanisms, the extent to which these initiatives interact with other collective action strategies, and how engaged citizens are in developing and implementing the accountability frameworks.

However, Fox (2015) argues that theoretical and conceptual approaches to social accountability have failed to keep up with empirical literature and proposes a strategic approach to social accountability. Strategic social accountability means the use of a variety of synchronised tactics; creation of platforms for collective action that are safe from retaliation and fear; coordination of actions to amplify citizens’ voices with actions to make governments more responsive; building accountability structures that are both horizontal and vertical; and allowing for iterative uneven processes of implementation (Fox, 2015).
Nevertheless, elections remain a key mechanism for accountability in general and social accountability in particular (Fox, 2015, Batley and Mcloughlin, 2015). Elections sanction poor performance by incumbents through removal and maintaining incumbents or candidates “good behaviour” with the threat of the same (Przeworski and Stokes, 1999). For elections to be an effective accountability tool, therefore, voters must evaluate past performance, withdraw support from existing leaders and transfer that support to a more promising candidate (Schulz-Herzenberg, 2009, Przeworski and Stokes, 1999). However, there is evidence to suggest that voters may utilize elections also, and possible more so, as a means to select “good” leader types who demonstrate integrity or commitment to fulfilling voters’ wishes, share voters’ policy preferences and are viewed as capable of implementing these policies (Schulz-Herzenberg, 2009). By consistently choosing a “better” government, voters may find themselves incentivizing inappropriate behaviour by incumbents who know they will not be re-elected (Przeworski and Stokes, 1999).

However, other factors, such as ethnic, social or economic characteristics may reduce voters’ desire to punish incumbents or move their votes to another candidate (Schulz-Herzenberg, 2009). Evidence from an analysis of pre-devolution decentralised funding in Kenya, for example, shows that voters tended to elect candidates from their own ethnic group but also assessed their level of performance in the management of the decentralised funds if they were incumbent (Gutiérrez-Romero, 2013). At a global level, while some evidence indicates that more polarized societies are characterized by low investment in public goods and services, other evidence suggests that even ethnically
homogenous societies may display elite capture and the inappropriate effects of lobby groups (Azfar et al., 1999, Ahmad et al., 2005). As such, an additional concern in examining decentralisation is whether jurisdictions are designed in such a way as to maximize social capital and therefore the likelihood of cooperation and action to enforce answerability (Azfar et al., 1999, Lieberman et al., 2014).

In summary, traditional views of accountability may be inadequate to explore the changes in the relationship between governments and citizens following decentralisation. Social accountability provides an approach for examining the devices available to citizens to hold elected and un-elected officials in the period in between elections. Nevertheless, a more strategic approach to social accountability can be argued for. Elections remain an important mechanism for accountability that is nevertheless subject to the ethnic and socioeconomic characteristics of voters and their contexts.

2.4.2 Reduced information asymmetry

The introduction to this section (2.3) and the preceding sub-section (2.3.1) highlight information as a fundamental driver to changes in the government citizen relationship. To reiterate, at its most base, decentralization increases the physical proximity of citizens to government which increases the awareness of government actions by citizens, supports cooperation between citizens, raises the legitimacy of decision
making, and encourages ‘rule obedience’ by governments (Faguet, 2013, Azfar et al., 1999).

Information is also a critical driver to the appropriate functioning of accountability mechanisms. For example informed citizens are more likely to engage in voting, political meetings and protesting (Lieberman et al., 2014) while uninformed citizens are less likely to “demand” public services (Winters et al., 2014). Similarly, accountability mechanism linked to transparency require access to information (Greer et al., 2016, Azfar et al., 1999, Ahmad et al., 2005). Nevertheless, for information to contribute to social accountability, it needs to targeted at a particular user who will perceive it to be useful and linked to a plausible path of change (Fox, 2015). This is in contrast to approaches that, for example, would provide general access to data in the hope that this will enhance accountability.

In summary, arrangements that support the generation and dissemination of information on performance, such as public sector audits, provisions for public disclosure of information and the transparency of government operations are important considerations for assessment of the extent to which information asymmetry is affected by decentralisation (Azfar et al., 1999, Lieberman et al., 2014).
2.4.3 Citizen mobility and intergovernmental competition

Citizen mobility and intergovernmental competition are separate but related theoretical viewpoints in decentralisation. They are part of the classical Tiebout model (1961) for decentralisation based on a conception that decentralised arrangements will work like a market in which citizens move among subnational jurisdictions to select the combination of public goods and service, tax burdens and other regulation that they best prefer (Inman and Rubinfeld, 2014). The model rests on the mix of goods, services and regulations being provided at minimum cost while being subject to congestion costs; the perfectly elastic supply of subnational jurisdictions each producing at least the exact mix of goods, services and regulations of other jurisdictions; costless mobility of households and business; perfect information on tax burdens and regulations; and no externalities or spill overs (Inman and Rubinfeld, 2014). Second generation theorists see the interplay between intergovernmental competition and citizen mobility as key in constraining the growth of government and with it the unnecessary growth of taxation and budgets (Oates, 2005, Buchanan J. M., 2000).

This theoretical approach is necessarily constrained by some of the its underlying assumptions. For example, the free entry of new subnational jurisdictions into the “market” is restrained by issues such as scarcity of land (Inman and Rubinfeld, 2014, Dafflon, 2006). There are also ethnic, cultural and historical factors that explain the nature of political institutions including the very existence of subnational governments and that may restrict the free movement of citizens. These differences may even
necessitate the asymmetric application of fiscal arrangements, which may in turn influence the very existence of the federation by enhancing or decreasing the allegiance of differentially treated populations to the jurisdiction with the latter resulting in progressive Balkanization (Bird and Ebel, 2006).

In summary, while theory proposes intergovernmental competition and citizen mobility as changes that may occur in the government-citizen relationship following decentralisation, this is unlikely to observed in real life settings.

2.5 Conceptual approaches to changes in public expenditure
Changes in fiscal arrangements and in the government-citizen relationship should influence fiscal space for health and potentially increase public expenditure including on health. This section presents theoretical approaches that explaining public sector expenditure growth in general, which may also explain public expenditure on health in particular. This limited scope necessarily assumes the need for the public sector.

In summary, there appears to be a variety of theoretical approaches towards explaining public sector growth. The theoretical approaches to public sector growth can be divided into two broad families. The first set of theories attempts to explain observations without making normative judgements on whether the expenditure is excessive, appropriate or deficient (Hindriks and Myles, 2013). The second set of theories take a
normative standpoint and posit that government expenditure is in excess of requirements (Hindriks and Myles, 2013).

Of the first-generation theories, which include Wagner’s law, Baumol’s law and development theory, political theories demonstrate similarities to the approaches discussed in section 2.2 and 2.3. For example, Meltzer and Richard’s extension of the median voter hypothesis (Meltzer and Richard, 1981) examines the effects decisions made by voters on public expenditures (Larkey et al., 1981). Based on an assumption that the only role of government is redistribution, it posits that public expenditure will match the preferences of the voter with the median income in the economy (Meltzer and Richard, 1981, Hindriks and Myles, 2013, Scharmer, 2002). The median voter will set taxes lower than her income if she earns less than the mean income since this will maximize personal income (through a combination of personal income and public transfers), while if she earns more, she will set tax rates at zero (Hindriks and Myles, 2013). The level of public expenditure represents a political equilibrium, which is influenced by the relationship between median and mean income (Meltzer and Richard, 1981). As such greater income inequality will increase the demand for public expenditure (Hindriks and Myles, 2013). Nevertheless, this model is criticized for being too restrictive by assuming direct democracy, perfect responsiveness of politicians and bureaucrats to voter desires, and perfect information of voters on income distribution (Scharmer, 2002, Lieberman et al., 2014, Gutiérrez-Romero, 2013).
The second-generation theories bring together concepts such as agency, bureaucracy, budgets, cost diffusion, monopoly power and corruption. From the perspective of agency theory (Arrow, 1984), citizens have imperfect information about the level of taxes they need to pay obtain government services. This sets the stage for governments to maximise tax revenue while minimising output (Hindriks and Myles, 2013). Constraints on access to information, voice and mobility can affect the everyday ability of citizens to monitor and sanction governments, bureaucrats and politicians. Agency theory can therefore act as an overarching theory for the theories presented here which require informed citizens as a control for the excesses of politicians, bureaucrats and governments. Given its linkage with decentralisation theories presented in section 2.2 and 2.3, agency theory also provides a useful means to tie the disparate theories together particularly when predicting or addressing how decentralisation affects the relationship between the government and the citizen. For example, it allows for the hypothesis that increases in public expenditure may reflect the transfer of resources towards rent-seeking opportunities (Hindriks and Myles, 2013). This may occur at central and decentralised level though literature suggests that decentralisation may worsen corruption (bribery, theft and fraud etc.) by increasing the power of local elites, particularly where the local population cannot hold leaders accountable supported by a free press (Lessmann and Markwardt, 2010, Liang and Mirelman, 2014, Treisman, 2000, Fan et al., 2009).
2.6 Summary

In this chapter, I have provided an overview of the theoretical approaches to decentralisation in terms of fiscal arrangements and changes in the government-citizen relationship.

Drawing from a variety of definitions and approaches, decentralisation is described as the state in and process by which a set of responsibilities (political, fiscal, administrative and service delivery) and resources to deliver on those responsibilities (institutional, financial and human resources), are shared among levels of government in a way that seeks to attain social goals of equity, efficiency in resource use and responsiveness of governments to citizens.

A functional approach to assessing decentralisation and its two main mechanisms (fiscal arrangements and changes in the government-citizen relationship) is selected for use in this thesis. Specifically, this approach allows an examination of intergovernmental relations in respect to spending responsibilities and capabilities (Regmi, 2014, Adam et al., 2012, Dafflon, 2006); an assessment of the degree of choice that decentralised units have (Bossert, 1998); and a contextually appropriate assessment of devolution in Kenya which involved fiscal and political decentralisation (Adam et al., 2012, Bahl, 1999).

The chapter then discussed the theoretical foundations for the ways in which fiscal arrangements affect fiscal space for health at decentralised level. The literature highlights the importance of non-economic criteria such as historical context in the
various fiscal arrangements. It also shows that changes in the government-citizen relationship are mediated through four mechanisms: accountability, information asymmetry, citizen mobility and intergovernmental competition.

The literature shows that, working independently and synergistically, fiscal arrangements and changes in the government-citizen relationship can positively or negatively influence fiscal space for health. For example, poorly designed fiscal arrangements can reduce fiscal space by discouraging local revenue collection, encouraging duplication, presenting soft budget constraints and by poorly linking expenditure and revenue assignments (Ter-Minassian and Fedelino, 2007). Similarly, low levels of accountability may encourage local government capture by local elites who may then resist new taxes or insist on public spending that favour them (Azfar et al., 1999, Ahmad et al., 2005).

In the same way, fiscal arrangement and changes in the government-citizen relationship may act together to affect fiscal space for health. For example, poorly designed intergovernmental transfers may increase opportunities for leakages where accountability mechanisms are weak and where the lobbying power of key interest groups at local level is increased (Litvack and Seddon, 1999, Adam et al., 2012, Sow and Razafimahefa, 2015, Mills, 1990). Similarly, decentralisations may increase efficiency of spending decisions if local administrative and technical capacity is sufficient to make use of the information on needs provided by proximity to citizens (Adam et al., 2012, Litvack and Seddon, 1999, Azfar et al., 1999).
The theories of public sector growth support this view of decentralisation i.e. decentralisation and its effects on public financial arrangements and the relationship between governments and citizens can influence public expenditure including expenditure on health.

There is therefore a theoretical link between fiscal arrangements, changes in the government-citizen relationship and fiscal space that provides a framework for the assessment of fiscal space for health at decentralised level. This link will be considered in the development of the conceptual framework for this work (Chapter 3 of this thesis).
Chapter 3: Study Methods

3.1 Introduction
In this chapter, I present the convergent parallel mixed study design employed during the conduct of the study. The study methods for the qualitative and quantitative arms of the mixed methods design are presented in Chapter 4 and Chapter 6 respectively. The chapter is structured into the conceptual framework (3.2), research questions (3.3), study methods (3.4), study rigor (3.5), reflexivity (3.6), and ethical considerations (3.7).

3.2 Conceptual framework
The conceptual framework for this study represents the application of social science theory to research as described by Creswell (Creswell, 2013). This is because the conceptual framework draws on a number of social science theories, presented in detail in Chapter 2. In summary, the conceptual framework brings together economic theories of fiscal decentralisation (Oates, 2006, Oates, 1999), public expenditure (Musgrave, 1961), local expenditures (Tiebout, 1961), and agency theory (Arrow, 1984); and health system governance frameworks (Greer et al., 2016). It also appreciates the empirical evidence that demonstrates deviations from these theories is dependent on context and the atheoretical approaches to testing some of the consequences of decentralisation.

The overarching framework developed played three roles: it guided the study questions and the selection of a mixed methods study design; provided a framework for collection
of both quantitative and qualitative data collection; and provided a framework for interpreting the results of the study.

The conceptual framework is presented in Figure 1. The solid lines indicate phenomena and relationships that were explored as part of this thesis, while the dotted lines indicate phenomena and relationships that do exist but do not form the focus of this thesis.

Figure 1: Conceptual framework for the study

Having room to allocate more public resources to health (A) should ensure sufficient and sustained public health expenditure (B) for the journey towards universal health coverage in Kenya (C).
The availability of financial resources for health at decentralized levels (A) is determined by two key interacting factors: the availability of fiscal space at national level (D), and the effects of decentralization arrangements (E).

Fiscal space for health at the national level (D) is influenced by five elements: growth in the economy and in tax revenue; the level of budgetary allocations to health; availability of earmarked revenue for health; levels of efficiency; and availability of external grants. Decentralisation arrangements (E) interact with each of these elements. For example, allocations to non-health activities of decentralised units may limit the level of budgetary allocations available to national or subnational health budgets. Similarly, decentralised units may negatively impact economic growth through poor fiscal and macroeconomic performance. Decentralisation should, in principle, increase the level of efficiency in utilisation of resource, which may increase fiscal space for health at national level. In this way, decentralisation arrangements filter or modify the elements of fiscal space for health at national level.

As a result, the five pillars of fiscal space for health at national level should not be considered on their own regard as influencing fiscal space at decentralised level. Instead, it is important to assess fiscal space for health at decentralised level through the lens of decentralisation arrangements. In other words, and as presented in Section 1.1.1, fiscal space considerations in a decentralised setting, must account for the political, administrative and fiscal responsibility and authority assigned to the various levels of government. They must also account for the new set of accountability relationships that
result from decentralisation’s impact on governance arrangements. As such, the conceptual framework includes the influence of new or revised fiscal arrangements (F) and in changes to the government-citizen relationship (G).

Fiscal arrangements (F) are concerned with four issues: the sources of income for decentralised units (revenue assignments); the functions assigned to decentralised units to perform (functional or expenditure assignments); financial flows between and within tiers of decentralization (intergovernmental transfers); and arrangements for subnational borrowing. Changes in the government-citizen relationship (G) is used in this thesis to refer to the effects of decentralisation on accountability arrangements, information asymmetry, citizen mobility and intergovernmental competition. As discussed in Chapter 2, accountability arrangements include the set of institutional arrangements that allows citizens to engage with the public policy process and that includes the between-election period i.e. social accountability.

Each of fiscal arrangements and changes to the government-citizen relationship influences fiscal space for health (A) directly by increasing the amount of public expenditure on health. For example, the type of revenue sources available to subnational governments can influence the level of revenue they can generate and subsequently the level of fiscal space for health. Similarly, subnational politicians may wish to guarantee their re-election by spending on popular services such as health and so increase fiscal space for health at this level through higher budgetary allocations. Fiscal arrangements (F) and changes to the government-citizen relationship (G) also
interact in the sense that changes fiscal arrangements are influenced by government-citizen relationship and vice versa. For example, greater social accountability can lead to ring fencing of certain sources of subnational revenue for health expenditure, while subnational borrowing might be accompanied by provisions for accountability and transparency.

Political, economic, social and cultural contextual factors (H) interact with all the factors that influence the availability of extra resources for health. For example, political ideology can influence the level of fiscal space for health at national level through approaches to fiscal policy that reduce tax revenues. Similarly, historical factors may influence the functions or revenue sources that are assigned to decentralised unit. Economics factors such as geographic inequalities might influence the kind of spending selected by decentralized units and their citizens. Sociocultural factors may also limit citizen’s ability to express themselves in cases where ethnicity or gender impose barriers to accountability relationships. Context also has national and local dimensions. For example, ethnic heterogeneity within a subnational unit may influence the sociocultural context within that unit, while having limited influence at national level. Contextual factors are also important because decentralization is a dynamic and evolving process. For example, this study was conducted during a period of industrial action by health professionals followed by intense electioneering for the 2017 election. These factors influenced policy actions during the conduct of the study such as an increase in health professional’s fees negotiated at national level that had implications for fiscal space for health at decentralised level.
Increased fiscal space for health at decentralized level should manifest itself as sufficient and sustained public health expenditure (G). This can be measured using various indicators including the per capita public health expenditure of decentralized governments. Greater fiscal space for health, and greater per capita public health expenditure, should increase the likelihood of universal health coverage (H).

### 3.3 Research questions

The research questions were guided by the conceptual framework. They are:

1. What are the fiscal arrangements and changes in government-citizen relationship following the most recent decentralisation reforms in Kenya?

2. What is the influence of political and historical context on the overall design and implementation of decentralisation, fiscal arrangements and changes in the government-citizen relationship in Kenya?

3. How do changes in fiscal arrangements and the government-citizen relationship caused by decentralisation influence fiscal space for health at decentralised level in Kenya?

4. What are the drivers of changes in fiscal space for health as indicated by per capita public health expenditure of county governments?

The research hypotheses are:
Fiscal arrangements and changes in the government-citizen relationship are important mechanisms mediating the influence of decentralisation on fiscal space for health. There will be a strong influence of political and historical context on their overall design and implementation.

The changes in fiscal arrangements and in the government-citizen relationship brought about by decentralisation will increase fiscal space for health at decentralised level in Kenya. There will be a measurable change in the indicators of fiscal space for health such as public health expenditure per capita.

The main sources of additional fiscal space for health as indicated by their positive relationship with per capita public health expenditure per capita of county governments will be proxy indicators of fiscal arrangements: (i) equitable share of national revenues, (ii) grants to county governments, (iii) own source revenue and (iv) county GDP. This is because changes in government-citizen relationship and context will be slow, and the former is less amenable to quantitative measurement.

3.4 Study methods

3.4.1 Mixed Methods Study Design

This study used a convergent parallel mixed methods design (Figure 2) where qualitative and quantitative data are collected in parallel, analysed separately and then combined to understand the research problem being examined (Creswell, 2013). A mixed methods design was selected because it was anticipated that the results of each part of the study would provide results that were relatable and would increase the depth and breadth of
understanding of the issues at hand. Mixed methods design also minimize the limitations of either one of qualitative and quantitative data. A convergent parallel design was selected given the desire to give each data type equal weight in part through concurrent collection and analysis in exploring the phenomenon of interest: fiscal space for health at decentralised level in Kenya.

3.4.2 Qualitative Methods: Multiple Case Study

Qualitative data were collected using a multiple case study approach to explore the implications of fiscal arrangements and changes in the government-citizen agency relationship on fiscal space for health at decentralised level in Kenya (Objective 1 and 2 and boxes A, E, F and G in the conceptual framework Figure 1).

A case study approach was selected for two reasons. First, by definition, a case study is an approach to scientific analysis that involves an comprehensive investigation of an ongoing phenomenon within its real-life context (Yin, 2009). As described in chapter 1, there is scant evidence on fiscal space for health at decentralised level in Kenya. A case
study approach allows the utilisation of a number of data collection approaches, supports the convergence of various sources of evidence, and benefits from the use of conceptual frameworks to guide data collection and analysis (Yin, 2009). These three features, therefore, allow for a theory-informed in-depth examination of fiscal space for health in Kenya as was planned for this study.

Second, case study is particularly useful where the boundaries between the phenomenon and context are not well defined (Yin, 2009). As emphasised in the conceptual framework (Figure 1), contextual factors are integral to an examination of fiscal space for health at decentralised level including by contributing its dynamic nature. This is emphasised in the literature reviewed in chapter 2 and 3. For example, evidence shows that non-economic criteria can play a role in the assignment of functions to subnational levels with potential knock-on effects for fiscal space for health at this level (Shin, 2001, Shane, 2006). The case study approach is therefore useful to examining fiscal space for health at decentralised level in Kenya while accommodating and engaging with its context.

Multiple case study design (Figure 3) is a variant of case study designs where more than one case is examined (Creswell, 2013). For this thesis, this approach was selected with the purpose of literal replication i.e. predicting similar results based on the examination of various cases on the basis of the theory-informed conceptual framework (Yin, 2009). This is because this study aimed at attaining theoretical generalisation (Yin, 2009, Flyvbjerg, 2006, Creswell, 2007) which may then allow the application of this framework
to a wider range of cases i.e. all the county governments in Kenya. This approach was also selected in order to assist the understanding of the research problem as part of the overall convergent parallel mixed methods design.

![Figure 3: Illustration of multiple case study design](image)

### 3.4.3 Quantitative Methods: Cross-sectional Analysis of Panel Data

A quantitative cross-sectional analysis of panel data from three financial years was performed to examine the determinants of per capita public health expenditure in all 47 counties in Kenya (Objective 3 and box A in the conceptual framework, Figure 1). Panel data, also known as longitudinal data or cross-sectional time-series data, are data that have multiple units, each with repeated measurements over different time periods (Park, 2011). Panel data allow the assessment of time and/or individual effects of the statistical unit of analysis, in this case county governments (Pedace, 2013). Accounting for time effects is important when considering the determinants of per capita health expenditure given the potential influence of time. In Kenya, for example, the Medium-Term
Expenditure Framework (MTEF) requires the budget process to make provisions for the subsequent 3 financial years while considering the preceding 3 financial years. Similarly, individual county characteristics can also affect the level of public health expenditures.

A general model for the per capita health expenditure for county $i = 1, 2...47$ on individual $y$ over a period of time $t = 1, 2...T$ was specified as:

$$y_{it} = \alpha + x_{it} \beta + \epsilon_{it} + \mu_i + \nu_t \quad (1)$$

where;

- $\alpha$ is the intercept
- $x_{it}$ are the explanatory variables
- $\beta$ are the regression coefficients
- $\epsilon_{it}$ is the error term
- $\mu_i$ is the devolved unit term
- $\nu_t$ is the year-specific term

The selection of unequal sample sizes in the qualitative (n=3 counties) and quantitative (n=47 counties) methods for this mixed methods study was not viewed as problem given the different intents of the two approaches. The goals of qualitative research are to allow for in-depth examination that support theoretical generalizability which support a relatively small sample to that required for statistical generalizability in quantitative research (Creswell, 2013). The overlap between case study counties and the population included in the quantitative methods was seen as advantageous as it would support the integration of the results.
3.4.5 Integration of the results

The integration of the results of the qualitative and quantitative methods was through a weaving narrative approach where the quantitative and qualitative results are linked to each other based on themes or concepts (Creswell, 2013, Fetters et al., 2013, Classen et al., 2007). In this thesis, the qualitative findings are presented and discussed in Chapter 5 and 6, followed by the quantitative findings in Chapter 7. These are then compared and synthesised in Chapter 8 which serves as the discussion section of the thesis.

The weaving approach to integration was informed by the conceptual framework and noted areas of convergence or divergence between the two data sources. This reliance on the conceptual framework and a desire to identify potential solutions in terms of policy recommendations (Objective 4) facilitates a pragmatic world view to the integration of the results. According to Creswell (2013), pragmatism as applied to mixed methods research allows the researcher freedom to choose from a variety of methods, procedures and to meet the purposes of the work at hand; and encourages the consideration of social, political and historical context.

3.5 Ensuring Rigor

Ensuring rigor in mixed methods research to maximize the trustworthiness of this study is somewhat complicated by the utilisation of both qualitative and quantitative research
methods. In qualitative research methods, the criteria are credibility, transferability, dependability and comparability; while in quantitative research these include validity, reliability, replicability and generalizability. Nevertheless, it was possible to enhance the rigor of this mixed methods study through various measures.

Beginning with the qualitative research methods, I utilised theory to inform the conceptual framework (Section 4.2) which is central to determining the study design, data collection and analytical approach. I utilised a multiple case study design for the purpose of literal replication and theoretical generalisation based on the conceptual framework developed for the study (Yin, 2009, Flyvbjerg, 2006, Creswell, 2007). The selection of cases was purposive to test any initial assumptions such as the possibility that existing levels of fiscal performance as measured through levels of own source revenue would influence fiscal space for health. I enhanced the construct validity of my research tools through an iterative design and modification process that included reviews from my supervisors and discussions with fellow researchers at KEMRI Wellcome Trust Research Programme.

I triangulated multiple data sources during qualitative data collection including documents, semi-structured interviews with key informants and FGDs. This approach allowed for convergence of data from multiple sources and strengthened the reliability and internal validity of the study even before integrating it with the quantitative data. I shared preliminary findings of the study, including preliminary codes, with research colleagues and supervisors for feedback that helped modify tools, identify the need for
repeat engagements with respondents, revise codes and inform the interpretation of the findings.

For the quantitative research methods, I began my approach on a review of the literature to develop the model i.e. identify dependent and independent variables and inform data collection and analytical approaches. I sample the entire population of Kenyan counties given the small size of the population, the ease of generalizing the findings to a theory that ought to apply to a wider range of settings: in this case decentralisation theory and the other theories contributing to the conceptual framework. Data obtained from secondary data sources were checked for accuracy and completeness, including through comparisons with data from other sources. For example, data of county government expenditure sources from county budget implementation review reports, was compared with that presented in county budget review outlook papers, and metadata from the Controller of Budget. Though the data from these sources were consistent, additional data were obtained from an independent source: The World Bank. The differences between the World Bank data and data from official government publications were examined as part of sensitivity analysis.

The analytical approach included assessments for the suitability of the model (e.g. fixed effects versus random effects), statistical tests for heterogeneity, and examination of residuals for to support the appropriateness of the model. Finally, results from various models developed were all presented and discussed as part of sensitivity analysis.
Through the conduct of both research approaches, I ensured an audit trail of the research activities, beginning with the development of a research protocol that described study procedures and method. I also documented all research activities and accounted for how methods evolved. I also utilised reflexivity as is presented in the next sub section.

3.6 Reflexivity: The Role of my Positionality in the Research

The role of the exercise of reflexivity is to enable the researcher to account for the influence of their background, experiences, values and perspectives on the research they are conducting (Creswell, 2013). This process teases out any biases or assumptions that may affect the study (Ritchie and Lewis, 2003). While often seen as particularly applicable to qualitative research, it is also applicable to quantitative research because of its emphasis on showing that all research is ultimately “viewed” through the “lenses” worn by the investigator (Kingdon, 2005).

In using reflexivity, I applied some of the variants of reflexivity described by Finlay (2003). The first of these is reflecting on the power imbalance between myself and the research participants particularly citizens taking part in FGDs. The sources of my power are a consequence of my academic and professional background; and the relationship between government organisation that I work for and the public. I am a medical doctor who has worked in the public and private sectors and in both urban and rural Kenya. I
am also a research scientist and undertaking PhD studies. My engagement with citizens was likely influenced by my position as a medical doctor and the power imbalance that exists between health workers, and particularly medical doctors, and patients or users of health services. My engagement was also influenced by my affiliation with a government agency, the Kenya Medical Research Institute (KEMRI). This likely worsened the power imbalance between myself and the citizens and may have influenced their responses to my research. A third contributor to the power imbalance was my ethnicity, particularly with regards to investigating social and electoral accountability given Kenya’s identity influenced political environment. To guard against this, I chose to engage with organised groups, with the aim of tapping into the additional power than participating in an organised group may have had on citizens. I also chose to include civil society organisations at county level in my list of respondents in order to triangulate responses from citizen groups and ensure that any issues that citizens may have been unable to respond to were highlighted from other sources. Finally, I included representatives from high-profile civil society organisation at national level, in part to triangulate the data, and in part to ensure a better matching of power during data collection.

I have had a long-standing interest in health systems and in health financing in particular. This interest found its first formal reflection in my master’s project which examine the fairness of financial contributions to the Kenyan health financing system (Munge and Briggs, 2014). This project influenced my outlook on life and my interests in health systems with a key aspect of my outlook being the pursuit of social justice. My work at
KEMRI Wellcome Trust Research Programme served to ingrain this outlook especially during time spent as a ward-based clinician at the Kilifi County Hospital. My views have also been shaped by the works of the well-known e.g. Michael J Sandel, Amartya Sen, Ngugi wa Thiong’o, Joseph Stiglitz, Michael Marmot; and less well-known e.g. Phil Hanlon, Arundhati Roy, Joseph Kutzin, David Ndii and Eric Toussaint. It is probable that my engagement with a topic that was concerned with increasing public health expenditure was informed by a belief that the state should actively participate in the lives of its citizens to the extent that enables them to flourish as human beings. My choice of a mixed methods study design probably reflected this viewpoint with a desire to give voice to citizens in the work, while also exploring the ways in which the accountability relationship between the state and its citizens was evolving under decentralisation, and could potentially be enhanced.

My interests in health financing, health systems and, more broadly, in social justice have led me to take part in activities along with my formal work and research. Just prior to commencing my PhD studies, I was a member of a team contributing to the drafting of the Kenya health financing strategy. I am an active member of the Country Core Group (CCG) of the Joint Learning Network (JLN) for Universal Health Coverage. The JLN is a networking, learning and partnership platform for countries on the journey to UHC. In addition to my CCG activities, I have participated in collaboratives (akin to task teams) dealing with efficiency and contributed to others on benefits policy development. This latter involvement was the result of my appointment as Joint Secretary to the Health Benefits Package Advisory Panel in June 2018. The Panel’s role is to advise the
appointing authority, the Ministry of Health, on health service entitlements due to citizens through an explicit priority setting process. In 2018, I was part of the Emerging Voices for Global Health (EV4GH) program which has introduced me to the world of decoloniality and the practice of knowledge translation. These experiences influenced my choice of research topic and have had an influence on the research process including how I have viewed and presented the results of my work.

3.7 Ethical Considerations

I obtained ethical review and approval from the KEMRI Scientific and Ethics Review Unit (SERU) as SERU Protocol No. KEMRI/SERU/CGMR-C/0059/3383 in January 2017 before commencement of the study (Appendix 4: KEMRI Ethics Review Approval Letter). The approval has been renewed on annual basis in 2018 and 2019 on submission of a request for the same and a continuing review report. I also obtained a research permit No. A16954 to conduct field work for the study from the National Council for Science and Technology in December 2017 after a decision was reached to require KEMRI researchers to comply with the permit requirement (Appendix 5: National Commission for Science, Technology and Innovation Research Clearance Permit).

I also sought permission to conduct research work from the county administration in each of the three case study counties, and obtained letter of approval or a stamp of approval. I also sought permission from the heads of organisations where necessary. When mobilising participants for FGDs, I contacted one of the officials of the group who
would then contact willing participants. In each of these initial contacts, I informed participants of the study purpose and its procedures and, where possible, shared a copy of the study information sheet and informed consent form.

At the time of conducting the semi-structured interviews, I obtained written informed consent from each participant. This involved informing them of the study objectives; the study procedures such as audio recording and the length of the interview; advantages or disadvantages of taking part; and steps I would take to ensure confidentiality and safety of the information I shared. I also emphasised that any participation in the study was voluntary and that they could withdraw from the study at any time without any consequences. Participants were then asked to consent to agree to be interviewed and to agree to be recorded. I took notes of responses where participants did not consent to recording. The procedure for the FGDs was the same with an additional request to participants to keep what was said at the discussion confidential. FGD participants also received refreshments and a fare reimbursement in keeping with KWTRP participant compensation policies at the time.

Data collected were deidentified using codes that indicated the case study county and the individual participant. All electronic data are stored on a password protected computer with backup on a server. All hard copy data are stored in locked cupboards at KWTRP and are only available to researchers concerned with the study. There remains a small risk to the confidentiality of respondents even though there were deidentified because the case study counties are identifiable by matching the information provided
in this study with public data bases. It may then be possible to link certain individuals to responses made. To guard against this, quotations have been labelled in a generic way e.g. “Senior County Government Official County A”. To further minimize this risk, feedback of research findings will be made in a way that leverages on the multiple case study and mixed methods approach to provide policy recommendations that cut across the three case study counties.
Chapter 4: Description of Fiscal Arrangements and Changes in the Government-Citizen Relationship Following Decentralisation

4.1 Introduction

In this chapter, I present a description of the fiscal arrangements and changes in the government-citizen relationship. I also assess why these arrangements exist given Kenya’s context.

I find that fiscal arrangements (section 4.3) and changes in the government-citizen relationship (section 4.4) are the main mechanisms through which decentralisation influences fiscal space for health, in keeping with the hypothesis set out in section 3.3. Fiscal arrangements and government-citizen relationship are supported by institutional arrangements and organisations, with the planning and budgeting process being central to the operationalisation of fiscal arrangements. However, in practice there is overlap of performance of functions; revenue assignments that favour the national level; underperformance in county own source revenue generation; and shortcomings in the design and implementation of conditional grants. There are gaps in the conceptualisation and application of accountability mechanisms; concerns about the effectiveness of applied accountability mechanisms; and the encouraging emergence of citizen and civil society initiatives to address these weaknesses.

In section 4.5, I posit that historical and political factors had a strong influence on the design and implementation of decentralisation in Kenya. Historical concerns over
accountability may have incentivised the creation of a rigid institutional framework for decentralisation supported by a written constitution. Inadequacies in the implementation arrangements for the new constitution played a role in shaping fiscal arrangements and changes in the government-citizen relationship. A standout example is the rapid devolution of the health function without assessment of capacity and where asymmetrical decentralisation had been anticipated.

4.2 Study Methods

4.2.1 Multiple case study

Three counties acted as cases for this multiple case study. Identifying the unit of analysis, the case, is an important part of the case study approach and depends on the research questions of the particular inquiry (Yin, 2009). In this thesis, the jurisdictional area of control of a county government in Kenya is defined as the case. This is because this is the locus of changes in fiscal arrangements and changes in the government-citizen relationship driven by the context in that county, while simultaneously being influenced by contextual factors operating at other, mainly national, levels (Figure 4).
4.2.2 Sampling

The case study counties were selected purposively. Purposive sampling is a subjective approach to selection of the sample with the goal that it is representative of the population in terms of key characteristics of interest (Palinkas et al., 2015). The selection was based on a best-worst ranking of counties on the basis of their fiscal capacity (Ministry of Health, 2015a) (measured by their ability to raise own revenue and the level of county government health spending), social cohesion (National Cohesion and Integration Commission, 2014) (measured by the National Cohesion and Integration Commission’s Social Cohesion Index), the extent of urbanization (ICT Authority, 2016) and the need to select at least one county with a Level 5 facility (former provincial general hospital). This last criterion was informed by the desire to explore the influence of utilisation of Level 5 health facilities by non-residents of the county on county public
health expenditure. The selection also considered working relationships developed in counties included in previous studies and restrictions on travel due to safety.

The characteristics of the cases are summarized in Table 2. The names of the counties are withheld given the sensitive nature of the material discussed during the interviews and focus group discussions including conversations concerning financial accountability and appropriate use of public funds. Nevertheless, much of the information displayed is available in the public domain and may allow the identification of the specific counties. To guard against this, quotations have been labelled in a generic way e.g. “Senior County Government Official County A”.

<table>
<thead>
<tr>
<th>Criterion</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fiscal capacity (Ministry of Health, 2015a)</td>
<td>2014/15 Own Source Revenue (KES Millions)</td>
<td>254</td>
<td>2200</td>
</tr>
<tr>
<td></td>
<td>2014/15 Health budget as proportion of total budget (%)</td>
<td>20</td>
<td>29</td>
</tr>
<tr>
<td>Urbanization (%) (ICT Authority, 2016)</td>
<td>18.1</td>
<td>45.8</td>
<td>100</td>
</tr>
</tbody>
</table>

**Data collection**

Data were collected between March 2017 and March 2018 through document reviews, semi structured interviews with key informants and focus group discussions.
**Document reviews**

Documents were reviewed to provide data to fulfil all four objectives of this thesis. Documents were primarily sourced from official repositories including websites and checked against other versions of the documents to ensure authenticity. Data from review of documents were transferred to a standard template document extraction form (Appendix 2: Document Review Extraction Form). At county level, the document reviewed included:

- statutes e.g. finance and health bills and acts
- integrated development plans,
- budgets and budgetary documents e.g. budget review and outlook papers, fiscal strategy papers; and
- reports e.g. county health accounts and statistical abstracts

At national level these included

- the Constitution of Kenya;
- statutes e.g. the Public Finance Management Act and County Government Regulations, The County Allocation of Revenue Act, The Intergovernmental Relations Act, The County Governments Act, The National Hospital Insurance Fund Act, The Controller of Budget Act;
- policy documents e.g. health policies and strategic plans, public participation guidelines, vision 2030; and
- reports e.g. budget implementation review reports, county and national health budget assessments, costing of devolution, Kenya economic updates

**Semi-structured interviews with key informants**
Interviews were conducted with key informants purposively selected from the case study counties and at national level to obtain information about decentralization in Kenya, the resultant fiscal arrangements and changes in the government-citizen relationship, and the potential impacts of these changes on fiscal space for health at county level. Some of the key informants were also selected through snowballing, where respondents recommend potential interviewees. A total of 27 interviews were performed at county level with the key informants from three main groups: officials from the county governments including the departments of health and finance; county-level representatives of national level institutions or organisations; and representatives of civil society including interest groups, public benefit organisations and business lobby groups (Table 3).

Table 3: Summary of county level respondents

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>County government officials</td>
<td>8</td>
<td>7</td>
<td>4</td>
</tr>
<tr>
<td>County-level representative of national level institutions</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Civil Society Organisation representatives</td>
<td>1</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>Total</td>
<td>10</td>
<td>11</td>
<td>6</td>
</tr>
</tbody>
</table>

A total of 11 interviews were performed at central government level with key informants from the Ministry of Health, Parliament and the Commission on Revenue Allocation, and with representatives of civil society (Table 4).
Table 4: Summary of national level respondents

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Officials and former officials of national level institutions</td>
<td>8</td>
</tr>
<tr>
<td>Civil society representatives</td>
<td>3</td>
</tr>
<tr>
<td>Total</td>
<td>11</td>
</tr>
</tbody>
</table>

Focus group discussions with citizen

Focus groups discussions were conducted with citizens from the case study counties who belonged to an organised group (Table 5). This was to take advantage of the proposition that organised groups are more likely to demand for and resist reduction in services or changes in key policies e.g. taxation (Larkey et al., 1981, Bardhan, 2002). The organised groups were identified through discussions with county-level representatives of the Ministry of Labour, Social Security and Services which registers many such groups. To capture the socioeconomic characteristics of the county, the organised groups were selected to represent women, persons with chronic disease or disability, persons involved in the transport sector, and the youth. One FGD was conducted with persons with a hearing disability and required the use of a sign language interpreter who was part of the organised group.

Table 5: Summary of Focus Group Discussion participants

<table>
<thead>
<tr>
<th>Focus Group Discussions</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>1</td>
<td>2</td>
<td>3*</td>
</tr>
<tr>
<td>People living with chronic disease (including PLWHA and PWD)</td>
<td>2</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>--------------------------</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Transport e.g. motorcycle operators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Youth</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Business Lobby</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>7</td>
<td>6</td>
<td>5</td>
</tr>
</tbody>
</table>

*included women whose children have severe disabilities; PLWHA = People Living with HIV/AIDS; PWD = Persons with Disability

Potential respondents were contacted in person, via email, official letter or telephone, explained to the purpose of the study and requested an appointment. For the FGDs this included a request to the contact person to mobilise 8 - 10 members of the group to attend the discussion. Interviews and discussions were conducted at a venue and time convenient to the respondents.

Key informant interviews were mainly conducted at the place of employment of the respondents, with written informed consent (Appendix 3: Informed Consent Forms) obtained for digital voice and written (through field notes) recording of the interview. Six key informants (1 in county A, 1 in county B, 2 in county C and 2 at national level) declined voice recording but consented to note taking. Each interview took about 30 to 60 minutes. Focus group discussions were usually conducted in hired meeting rooms. Consent was obtained as for key informant interviews but with the added caveat that there was a chance that some of the discussions in the room could be shared through some of the participants in the discussion (Appendix 3: Informed Consent Forms). Each FGD took about 60 to 90 minutes. One of the FGD was conducted with persons with a
hearing disability (deafness) and was performed in the presence of a sign language interpreter who verbalised in English the sign language responses of participants to the discussion topics and interviewer questions. I was assisted in the conduct of the FGDs by a research assistant who participated as note taker and asked questions at the end of the session to clarify issues or ensure completeness of the session.

The interview questions for the semi-structured interviews and the discussion topics focus group discussions were informed by the study’s conceptual framework. The participant information sheet, informed consent form and discussion topics for FGD were translated into Kiswahili to accommodate the language needs of respondents.

**Data Management and Analysis**

Data from semi-structured interviews and FGD were captured using digital voice recorders and interview notebooks and checklists. Unique codes were assigned to each audio file to de-identify at individual and county level. Audio files were then transcribed into MS Word. Any electronic data e.g. voice recordings and transcripts were stored on password protected computers. All physical objects e.g. interview notes, documents for review and voice recorders were stored under lock to ensure safety and confidentiality.

A sample of the transcripts was checked against audio recordings for quality, with corrections made where necessary. The transcripts were then imported into NVivo10 for coding. Data were analysed using a framework method. The framework method allows themes to be developed both inductively, from the responses of participants, and
deductively from existing literature (Gale et al., 2013). It therefore allows a link to be established between a pre-determined thematic framework and the data collected from interviews. This is done through a process that identifies similarities and differences in the data, then focuses on associations between different parts of the data, before arriving at descriptive or explanatory inferences based around themes (Ritchie and Lewis, 2003) (Gale et al., 2013). I undertook the following steps in applying the framework method: familiarisation, coding, charting the data, and interpretation.

**Familiarisation:**

Becoming familiar with the interview data was made easy by the fact that I had conducted the interviews myself. I immersed myself in the interviews by actively listening to the audio recording as I reviewed the transcripts which had been prepared by a professional transcriber. This process was augmented by a review of field notes that captured other aspects of the interview including observations and other contextual factors. My familiarisation with the data was also influenced by my existing ideas about what the data might reveal based on the conceptual framework for the study and my knowledge and interest in the area.

**Coding:**

I undertook a predominantly deductive approach to coding or development of an index (Ritchie and Lewis, 2003). The codes were drawn from the conceptual framework for the study and are illustrated in Table 6. The provisional index or codes were reviewed and agreed to by my supervisors. The index was then applied to the data with each
selection indicating where a certain concept was being referred to. At the same time, I applied an inductive approach to the data allowing for the emergence of concepts or themes not covered in the initial index. These codes were appended to existing themes and sub-themes where applicable and new sub-themes or themes were developed where necessary.

Table 6: Extract from Coding Framework for the study

<table>
<thead>
<tr>
<th>Fiscal arrangements (FA)</th>
<th>Expenditure assignments (EA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label</td>
<td>Code</td>
</tr>
<tr>
<td>EA1</td>
<td>General assignments</td>
</tr>
<tr>
<td>EA2</td>
<td>Rationale for general assignments</td>
</tr>
<tr>
<td>EA3</td>
<td>Evolution of general assignments</td>
</tr>
</tbody>
</table>

Charting:

In the next step I charted the coded data in order to sort it by theme and by other significant category such as the case study of interest or the group. The latter was a result of taking a whole group analysis approach (Ritchie and Lewis, 2003) to the data from FGD which treated the group as a unit of analysis in keeping with the conceptual framework for this study. The matrices that resulted had the themes and codes along the rows and the categories along the columns. The matrices were generated automatically using NVivo10 and augmented through a systematic review of the data.
within each cell. The latter was assisted by the generation of Ms Word outputs of all the references coded under a particular theme. These were filed in electronic folders under each theme and labelled using the code’s abbreviated label e.g. EA1 (Table 6).

*Interpretation:*

I then examined the data charted under each theme while also identifying relationships between the themes. The process of interpretation also involved relating the data to the conceptual framework; making observations if any patterns were observable within and across cases and other categories; identifying additional determinants of health for testing through quantitative approaches (Objective 3); and messages that could inform policy recommendations (Objective 4).

### 4.3 Fiscal arrangements

#### 4.3.1 Fiscal arrangements in Policy

**Fiscal arrangements are described mainly in legal instruments**

Fiscal arrangements include functional and revenue assignments, conditional grants and subnational borrowing.

*Functional assignments*

The fourth schedule of the Constitution is the basis for the division of functions between the two levels of government. The two levels are meant to perform their roles in a consultative and cooperative way (Article 6(2)). A number of statues including the Health Act (2017), Public Finance Management Act (PFMA), County Governments Act
(CGA) and Intergovernmental Relations Act (IGRA), build on these constitutional provisions. For example, the IGRA establishes structures for collaboration and cooperation between counties and the national government including technical committees which may be in charge of specific areas such as health. This legislation layers on pre-2010 statutes that address, among other things, functions such as the training and licensing of health workers; the policing function of public health; and roles of key health institutions.

Revenue assignments

County governments’ revenue assignments are the equitable share of national revenue, the equalisation fund, grants and own revenue sources. These are detailed in the constitution and operationalised through two key statutes: the Division of Revenue Act and the County Allocation of the Revenue Act. The former allocates revenue between the national and county levels (vertical sharing), while the latter allocates revenue among the county governments (horizontal sharing). The CRA makes recommendations on both steps to Parliament, with the Senate making the final decision on the horizontal sharing of national revenue. National and county-level finance and appropriation acts are also required in order to legislate revenue raising measures and allow drawings on funds based on the annual budget.

The vertical sharing between national and county levels should be equitable between the national and county governments though it is unclear in law how this is ought to be operationalised. The county level is entitled to a minimum of 15% of national revenues
as per the last accounts audited by Parliament. The horizontal sharing among the county
governments is based on criteria that include ensuring governments can perform their
functions, the need to correct disparities and the need to ensure stability and
predictability of revenues.

County government own revenue sources are designated as property rates,
entertainment taxes and charges for services they provide though Parliament may
legislate authority to impose additional taxes (Article 209(3)). The PFMA requires that
all monies generated, received by or on behalf of the county government and its entities
be banked into the County Exchequer Account (the County Revenue Fund) held at the
Central Bank of Kenya or into any other fund set up by an Act of Parliament or county
legislation.

The equalisation fund is managed by the national government. It is designed to address
regional inequalities in access to basic service including water, road, health facilities and
electricity over a period of 20 years from 2011. The fund receives 0.5% of all revenue
collected by the national government each year. Guidelines for the administration of the
Fund were developed in 2015, establishing a Board and procedures for managing the

Article 202 of the Constitution provides for counties to receive additional funds through
either conditional or unconditional allocations from the national government’s share of
the revenue. Article 204 also allows the Equalisation Fund to pay out conditional grants.
The PFMA defines a grant as a non-repayable financial or other assistance through which public money is transferred, used to help the recipient achieve goals consistent with national policy objectives usually with requirements for specific action from the recipients. The PFMA also provides for publication of criteria used to allocate grants, accounting and audit procedures, public disclosure to beneficiaries, complaints and feedback mechanisms for beneficiaries and sanctions for non-compliance (Section 47-48, 138-139).

Section 141(3) of the PFMA permits county governments to borrow based on provisions of the Act which included that the loan had to be guaranteed by the national government and be approved by the county assembly. The guarantee can only be provided if it for capital projects, fair to both levels of government, and accounts for the financial position of the entity over the medium term. Short term loans are permitted for the purpose of short-term cash management, but must not exceed 5% of the most recent audited account and must be repaid within a year (Section 142).

**Fiscal arrangements are supported by institutional arrangements and organisations at national and county level**

Parliament, made up of the National Assembly and the Senate, plays a central role in supporting fiscal arrangements. It oversees key processes including budgeting and planning, public financial management and fiscal performance of national and county levels. The Senate, among other things, protects the interest of the counties and their
governments, including in the vertical and horizontal sharing of revenue. It also guides and monitors the disbursement of funds from the national government to counties.

The National Treasury, the Central Bank of Kenya (CBK), the Controller of Budget (COB), the Commission on Revenue Allocation (CRA), the Salaries and Remuneration Commission (SRC) and the Office of the Auditor General (OAG) are organisations at national level with a role in fiscal matters in Kenya. The National Treasury in particular is responsible for maintaining Kenya’s economic and fiscal health through formulating and implementing macro-economic policies; mobilising resources to finance the functions of government; and ensuring sound financial management. The National Treasury should build the capacity of county governments and provide them with the information needed to perform their functions. The CRA provides recommendations on financial management to both levels and on the vertical and horizontal sharing of national revenue. The COB oversees the implementation of budgets; the SRC sets the remuneration of all state officers and advises on remuneration of public officers; the OAG audits the finances of government and its entities.

Other organisations function at the interface between national and county levels. For the budgeting process, the Intergovernmental Budget and Economic Council, established in Section 187 of the PFMA and chaired by the Deputy President, offers a forum for consultation and cooperation between the two levels of government.
The Constitution also established transitional arrangements to smooth the decentralisation process at the national-county interface. The aptly named now-defunct Transition Authority (TA), was mandated to, among other things, assist in the phased transfer of functions to decentralised units, assessing the capacity needs of the two levels of government, and coordinating support and assistance to build this capacity (Republic of Kenya, 2012). The TA’s undone tasks were transferred to the Intergovernmental Relations Technical Committee (IGRTC) which is meant to support the collaboration and cooperation between levels of government through its role of providing secretariat services to the National and County Government Co-ordinating Summit. This latter body comprises the President and the 47 governors and is chaired by the President deputised by the Chair of the Council of Governors (COG). The COG, among other things, provides a consultative forum for county governments at which information can be shared, and matters of common interest considered.

At the county level, the County Treasury is the custodian of the budgeting and planning process, public financial management and accountability arrangements at county level. As with Parliament, the County Assembly plays a central role in fiscal arrangements as it approves county plans, budgets and expenditures; makes legislation necessary for the effective performance of county government functions; and oversees the county executive and its organs (Constitution Article 185, CGA Section 8). The County Budget and Economic Forum (CBEF), provides a mechanism for consultation with the public representatives on county plans and budgets as well as economic and financial issues.
Public involvement in planning and budgeting at national and county level is required by Section 125(2) of the PFMA though the specific arrangements for this are left to regulations and guidelines to be developed at both these levels (Section 207). The CGA specifies some modalities that could be utilised for public participation including town hall meetings, notice boards and citizen fora.

The planning and budgeting process is central to fiscal arrangements

The various aspects of fiscal arrangements are brought together through the planning and budgeting process. This is because the budget is the primary instrument used to link government actions and expenditures to particular responsibilities.

Chapter 12 of the Constitution, the Public Finance Management Act (PFMA) of 2012 are the main basis for rules and regulations for this process and the County Governments Act. For example, the PFMA requires that 30% of the county government’s budget be allocated to development expenditure over the medium term (3-5 years). Counties are also required to ensure predictability in tax rate levels and size of tax bases (Section 107), to balance revenues and expenditures, and ensure that budget estimates consider expenditure priorities and desired policy outcomes (Section 31 of PFM-County Government Regulations).

The CGA obligates counties to develop the County Integrated Development Plan (CIDP): a five-year framework for planning and budgeting. The CIPD is informed by national development plans, and local priorities subjected to public participation and
engagement. The annual development plan (ADP) draws from the CIDP and is used to prepare the annual programme-based budget (PBB) over a defined budget calendar. Other documents important in the budget development process include the county fiscal strategy paper (CFSP) and the county budget review and outlook paper (CBROP). The CFSP provides an outlook on revenues and expenditures in the coming year, while the CBROP details the fiscal performance of the preceding year and updates the information in the CFSP with proposals to address any deviations from it.

4.3.2 Fiscal arrangements in Practice

There is overlap in functional assignments in practice

Findings from document reviews and interviews suggest that there was an overlap in performance of health functions. An example of encroachment of the national government on county functions is the Ministry of Health’s Health Sector Working Group Report 2016 which reports expenditure on service delivery, such as investments in health infrastructure in informal settlements in 12 towns in 7 counties (Ministry of Health Kenya 2016a). In this case the central government procured 100 primary care service delivery clinics at a cost of KES 1 Billion even though this is a constitutional function of county governments.

County government respondents were of the view that the national government had implemented certain projects in a manner that seemed to usurp county governments’
role in needs assessment, planning and budgeting. The Managed Equipment Service (MES) project\(^1\), implemented in 2015, was cited as one such example.

“There is no transparency... something like the MES [Managed Equipment Service] project ... the counties never saw the contract...Because we were doing our calculations, [KES] 38 billion is a lot of money and it could have done a way better job.” Senior Government Official County B

County governments also encroached on national government functions. For example, government officials from county A said that they were actively pursuing ways to deal with shortages in blood products by developing its own collection and storage systems, even though this was a national government function. The same county had taken responsibility for growing their human resource pool for example through the construction of training colleges for nurses.

\(^1\) The Managed Equipment Service (MES) is a public-private partnership (PPP) [63] through which ninety-eight Kenyan hospitals received equipment organized in seven lots: theatre, surgical, renal, intensive care units, and radiology. Though not formally evaluated, there are reports suggesting that it effectively included all stakeholders, and has increased access to care (e.g. renal dialysis ad radiology) while utilising an innovative financing strategy (See for example: https://blogs.worldbank.org/ppps/how-managed-equipment-services-kenya-help-private-sector-contribute-healthcare)
“For example, blood transfusion services because it’s a key service that without it then many facilities are not able to perform optimally...we’ve built a facility...we are going to equip it and staff it while it will still function under regulations of National Blood Transfusion Service.” Senior Government Official County A

Even with the overlap in performance of functions, some assignments seemed to be neglected. For example, while national government officials reported availability of policies and guidelines on many subjects, a review of online repositories and interviews with county-level respondents suggested some of these were out of date, absent or not disseminated (Ministry of Medical Services; & Ministry of Public Health and Sanitation 2009). County government officials also reported receiving limited technical assistance from the national level. The reasons for this neglect differed by respondent type. County level respondents felt that the national level was keen to continue performing roles meant for the county level; and did not offer sufficient recognition of the county level’s roles and responsibilities. National level respondents affirmed the mutual distrust between levels of government; and added that county governments were unwilling to accept technical assistance when it was offered. Both levels also cited the initial poor functioning of intergovernmental structures.

“And that’s part of why we have some of the pull and push between the two levels because now you have a Ministry of Health that is not focusing on its function but it is fighting counties to deliver services. You have actually a ministry that is insisting it’s doing parallel programs in the counties.” National Level Stakeholder
“We have to go back to schedule 4. Who is responsible for capacity building and technical assistance? It’s the national government. What did the national government do to prepare counties for devolution. I mean two years down the line they were still holding to payrolls and employee files” Government Official

National Senate

Revenue assignments were perceived as disadvantageous to county governments

The sharing of revenue assignments was perceived as unfair to county governments. For example, the equitable sharing of national revenue was regular source of conflict between the Senate, the National Assembly and national and county governments. The disputation was largely driven by the Senate and county governments view that they received too small a share of national revenues. This was contributed to by four factors.

The first were the legal requirements to base the county share of national revenues (vertical sharing) on the last audited accounts and to set a minimum threshold for the county share at 15%. These requirements meant that allocations did not match the cost of providing key services such as health; and that the county share of revenue did not match national government revenue growth because the process of auditing of government accounts lagged behind that of budget making. For example, the cost of county government service provision, excluding medical products and technologies, in 2014/15 was estimated to be KES 14 and KES 91 million for dispensaries and health centres respectively and KES 530 million for a level 4 health facility (Transition Authority
and Commission on Revenue Allocation, 2015). Multiplying these costs by the number of public health facilities reported in the 2013 -2017 Kenya Health Sector Strategic Plan, reveals a requirement for KES 245 Billion as show in Table 7. This cost also excludes that of other county health functions such as community health services, health system management and public health policing functions. This was against a total allocation for all functions made to county governments shown of KES 280 Billion in Table 8.

Table 7: Costs of County Health Functions in FY 2014/15

<table>
<thead>
<tr>
<th>Level of Care</th>
<th>Cost of Human Resources and Operations</th>
<th>Number</th>
<th>Total (KES Billion)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 2</td>
<td>0.014</td>
<td>2954</td>
<td>41.4</td>
</tr>
<tr>
<td>Level 3</td>
<td>0.091</td>
<td>682</td>
<td>62.1</td>
</tr>
<tr>
<td>Level 4</td>
<td>0.53</td>
<td>268</td>
<td>142.0</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>245.5</td>
</tr>
</tbody>
</table>

Table 8: Comparison of County Allocation of Equitable Share as a proportion of Last Audited Accounts and of National budget

<table>
<thead>
<tr>
<th>Current Financial Year (A.)</th>
<th>County Government Allocation in Financial Year (B.)¹</th>
<th>Base Year for most recent audited revenue approved by the National Assembly (C.)</th>
<th>Audited and approved revenues by the National Assembly (D.)</th>
<th>County Government Allocation as % of Audited and approved Revenues (B/D)</th>
<th>National Government Revenues in Current Financial Year (E)²</th>
<th>County Government Allocation as % of Current Revenues (B/E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013/14</td>
<td>KES 190,000</td>
<td>2009/2010</td>
<td>KES 529,300</td>
<td>36%</td>
<td>KES 938.711</td>
<td>20%</td>
</tr>
<tr>
<td>2014/15</td>
<td>KES 226,660</td>
<td>2012/2013</td>
<td>KES 776,900</td>
<td>29%</td>
<td>KES 1.055.584</td>
<td>21%</td>
</tr>
<tr>
<td>2015/16</td>
<td>KES 259,774.5</td>
<td>2012/2013</td>
<td>KES 776,900</td>
<td>33%</td>
<td>KES 1.173.304</td>
<td>22%</td>
</tr>
</tbody>
</table>
The second factor was the ‘unchanging’ nature of the formula for the horizontal sharing of these revenues among county governments. The formula is developed by the CRA and approved by the Senate. Revised once since the onset of devolution, its current iteration had an additional domain to account for the level of socioeconomic development of the county: the development factor. The CRA’s recommendation to include a domain to reflect the differing staffing structures that the counties may have inherited, was rejected by the Senate. This was after a lengthy period of negotiation that necessitated the extension of the life of the first formula (Table 9). The resultant minor changes meant that each counties’ share remained largely unchanged after the introduction of the new formula (Table 10).

*values in thousands e.g. 1,055,584 is 1,055,584,000; \(^1\)excludes conditional allocations; \(^2\)excludes appropriations in aid

<table>
<thead>
<tr>
<th>Current Financial Year (A.)</th>
<th>County Government Allocation in Financial Year (B.)(^1)</th>
<th>Base year for most recent audited revenues approved by the National Assembly (C.)</th>
<th>Audited and approved revenues by National Assembly (D.)</th>
<th>County Government Allocation as % of Audited and Approved Revenues (B/D)</th>
<th>National Government Revenues in Current Financial Year (E)(^2)</th>
<th>County Government Allocation as % of Current Revenues (B/E)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016/17</td>
<td>KES 280,300</td>
<td>2013/2014</td>
<td>KES 935,653</td>
<td>30%</td>
<td>KES 1,389,970</td>
<td>20%</td>
</tr>
</tbody>
</table>

\( R_i = 0.45PN_i + 0.25E_i + 0.20PV_i + 0.08L_i + 0.02F_i \)  

where

\( R_i = 0.45PN_i + 0.26E_i + 0.18PV_i + 0.08L_i + 0.01D_i \)  

where

**Table 9: First and Second-generation formulas for the horizontal sharing of revenue among counties**

<table>
<thead>
<tr>
<th>First generation formula (FY 2013/14 to FY 2015/16)</th>
<th>Second generation formula (FY 2016/17 to FY 2018/19)</th>
</tr>
</thead>
<tbody>
<tr>
<td>( R_i = 0.45PN_i + 0.25E_i + 0.20PV_i + 0.08L_i + 0.02F_i )</td>
<td>( R_i = 0.45PN_i + 0.26E_i + 0.18PV_i + 0.08L_i + 0.01D_i )</td>
</tr>
</tbody>
</table>

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First generation formula (FY 2013/14 to FY 2015/16)  

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Formula</th>
<th>Share of County Government’s Equitable Share</th>
<th>Case A</th>
<th>Case B</th>
<th>Case C</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014/15</td>
<td>First</td>
<td>1.97%</td>
<td>3.12%</td>
<td>2.00%</td>
<td></td>
</tr>
<tr>
<td>2015/16</td>
<td>First</td>
<td>1.97%</td>
<td>3.12%</td>
<td>2.00%</td>
<td></td>
</tr>
<tr>
<td>2016/17</td>
<td>Second</td>
<td>1.97%</td>
<td>3.12%</td>
<td>2.00%</td>
<td></td>
</tr>
</tbody>
</table>

The third factor was the inability of county governments to defend their position during the planning and budgeting process at national level. National level stakeholder respondents were of the view that the Senate had a poor negotiating position because of its lack of awareness of county budgeting needs; a confrontational approach to county governors; and failure to support county assemblies in addressing county-level oversight. Also, intergovernmental budget forums such as the IBEC were slow to kick off,
and when they did, were felt to have been captured by political interests and did not offer a platform for meaningful discussions.

The fourth factor was delays in the disbursement of the vertical share as evidence by reviews of documents and data from interviews. The cash flow problems may have been the result of a number of factors including problems with approval of county budgets, and the general mismatch between planned and actual disbursements even at national level. The bottlenecks of approval of county budgets also prevented counties from utilising any cash balances carried forward in county accounts. The cash flow problems distorted that budget implementation process at county level particularly those with a greater dependence on these vertical transfers. The effect of poor cash flow is reflected in the budget absorption levels for development expenditure (Table 11).

Table 11: Summary of differences in health expenditures and budget execution

<table>
<thead>
<tr>
<th></th>
<th>FY 2014/15</th>
<th>FY 2015/16</th>
<th>FY 2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>A  B  C</td>
<td>A  B  C</td>
<td>A  B  C</td>
</tr>
<tr>
<td>Recurrent</td>
<td>86% 92% 83%</td>
<td>93% 93% 101%</td>
<td>80% 91% 107%</td>
</tr>
<tr>
<td>Development</td>
<td>46% 25% 21%</td>
<td>74% 96% 59%</td>
<td>58% 38% 53%</td>
</tr>
</tbody>
</table>

County governments underperformed in own source revenue generation

According to budget implementation reports, and specific evaluations of revenue performance, county own source revenue (OSR) performance had improved between

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FY 2014/15 and FY 2015/16 in two domains. The first was in forecasting the revenue that would accrue to the county; the second was in the actual generation of revenue (Table 12 and 13).

**Table 12: Annual own revenue collected and as a percentage of target**

<table>
<thead>
<tr>
<th></th>
<th>Case A</th>
<th>as % of target</th>
<th>Case B</th>
<th>as % of target</th>
<th>Case C</th>
<th>as % of target</th>
<th>Average (47 counties)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014/15</td>
<td>KES 253,972,660</td>
<td>51%</td>
<td>KES 2,106,199,386</td>
<td>76%</td>
<td>KES 2,492,600,146</td>
<td>49%</td>
<td>67%</td>
</tr>
<tr>
<td>2015/16</td>
<td>KES 248,617,586</td>
<td>83%</td>
<td>KES 2,295,335,146</td>
<td>99%</td>
<td>KES 2,943,520,716</td>
<td>73%</td>
<td>69%</td>
</tr>
<tr>
<td>2016/17</td>
<td>KES 221,011,186</td>
<td>85%</td>
<td>KES 3,166,240,961</td>
<td>60%</td>
<td>KES 1,548,294,999</td>
<td>60%</td>
<td>56%</td>
</tr>
</tbody>
</table>

**Table 13: Percentage Contribution of Sources of Revenue to Counties***

<table>
<thead>
<tr>
<th></th>
<th>Equitable Share of Revenue</th>
<th>Conditional Grants</th>
<th>Own Source Revenue</th>
</tr>
</thead>
<tbody>
<tr>
<td>County A</td>
<td></td>
<td>2014/15</td>
<td>91%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015/16</td>
<td>90%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016/17</td>
<td>95%</td>
</tr>
<tr>
<td>County B</td>
<td></td>
<td>2014/15</td>
<td>75%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015/16</td>
<td>72%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016/17</td>
<td>85%</td>
</tr>
<tr>
<td>County C</td>
<td></td>
<td>2014/15</td>
<td>63%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2015/16</td>
<td>58%</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2016/17</td>
<td>64%</td>
</tr>
</tbody>
</table>

*Excludes equalisation grant due to County A
Evidence from interviews and document reviews suggested that county governments employed four mechanisms to raise revenue. The first was the identification and mapping of revenue sources in the county which had been completed to different extents in the case study counties. The second was increasing compliance through the use of inspections, and enforcement measures. The third was to increase efficiency of administration and reduce leakages through interventions such as automation and the use of electronic financial management systems. Finally, revenue departments recognised the need to demonstrate accountability in the use of funds as a measure for ensuring the compliance of citizens and firms.

“...citizens don’t want to pay tax. But when they see our services because that becomes our key, we are telling them, ‘Okay this money you are giving is still coming back to you in terms of bursary. So, if you don’t give it then you are telling us to withdraw the bursary.’ So, we push the other departments that as you perform then it’s easier for us in [Department of] Finance to collect.” Senior Government Official County A

“...if you make a mistake of introducing a charge that has not gone through public participation, believe me these guys will go to court and you can do nothing...”
Senior Government Official County C
Nevertheless, county governments were perceived by both national and county-level respondents to be performing below their true OSR potential. This was especially in view of declining performance in FY 2016/17 (Table 17 and 18). Four causes were cited.

First, county-level respondents felt that OSR generation was impaired by the limited number of assigned sources of revenue. Respondents identified that there were no mechanisms to adjust the revenue arrangements outside of constitutional amendments even though county governments had unpacked the description of revenue sources into a longer list of revenue sources (Table 14). This is affirmed by evidence that even with the expanded list of revenue sources, only five sources of revenue contributed greater than 75% of revenue in all three counties. Three of these were common to all three case study counties: land rates and related fees (property tax or plot rent and land rates), business permit fees (single business permit), and revenues from health facilities (facility improvement fund or clinic cost sharing).

Table 14: List of County Government Revenue Sources

<table>
<thead>
<tr>
<th>County A</th>
<th>County B</th>
<th>County C</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Rates</td>
<td>Single Business permit</td>
<td>Land rates and related fees</td>
</tr>
<tr>
<td>Single Business Permit</td>
<td>FIF</td>
<td>Business permit fees</td>
</tr>
<tr>
<td>Revenue from hospital</td>
<td>Property Tax (Plot rent and Land Rates)</td>
<td>Road maintenance fees</td>
</tr>
<tr>
<td>Royalties &amp; cess</td>
<td>Parking Fees</td>
<td>Sand, Gravel, and Ballast Extraction Fees</td>
</tr>
<tr>
<td>Advertisement</td>
<td>Other Fee and Charges</td>
<td>Clinic cost sharing charges &amp; Other services.</td>
</tr>
<tr>
<td>Transit Goods</td>
<td>Royalties</td>
<td>Market collection</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td></td>
<td></td>
</tr>
<tr>
<td>County A</td>
<td>County B</td>
<td>County C</td>
</tr>
<tr>
<td>--------------------------</td>
<td>-------------------------</td>
<td>----------------------------------------------</td>
</tr>
<tr>
<td>Parking Fees</td>
<td>Advertising</td>
<td>Advertisement income</td>
</tr>
<tr>
<td>Auction Fees</td>
<td>Market Fees</td>
<td>Development control income</td>
</tr>
<tr>
<td>Market Fees</td>
<td>Health Fees</td>
<td>Housing Estates Monthly Rent</td>
</tr>
<tr>
<td>House and Stalls Rent</td>
<td>House Rent</td>
<td>Fire brigade &amp; ambulance fees</td>
</tr>
<tr>
<td>Public Health and Sanitation</td>
<td>CESS</td>
<td>Financial related income</td>
</tr>
<tr>
<td>Building Plan Approval</td>
<td>Building Approval</td>
<td>Court Fines</td>
</tr>
<tr>
<td>Garbage Fees</td>
<td>Liquor Licensing</td>
<td>Plot rent &amp; related charges</td>
</tr>
<tr>
<td>Revenue from Agriculture, Livestock and Fisheries</td>
<td>Stock/Slaughter Fees</td>
<td>Valuation &amp; Survey Fees</td>
</tr>
<tr>
<td>Slaughter</td>
<td>Water and Sewerage</td>
<td>Legal department fees</td>
</tr>
<tr>
<td>Land Revenue</td>
<td>County Park Fees</td>
<td>Hotel Levy</td>
</tr>
<tr>
<td>Revenue from Trade and cooperative</td>
<td>Education, culture and social services</td>
<td>Environment management &amp; related income</td>
</tr>
<tr>
<td>Nursery fees</td>
<td></td>
<td>General enforcement charges</td>
</tr>
<tr>
<td>Mineral levy</td>
<td></td>
<td>Stadium &amp; Other Playing Fields</td>
</tr>
<tr>
<td>Bed Levy</td>
<td></td>
<td>Social halls hire</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tender Documents Sale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Education administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Structural Submission/Approval Fees</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Engineering &amp; works income</td>
</tr>
<tr>
<td></td>
<td></td>
<td>County Plants &amp;Equipment Hire</td>
</tr>
</tbody>
</table>

The second factor was that the revenue sources were low-yielding. For example, sources such as property or land rates were of low yield in largely rural counties such as county A. Moreover, revising land valuations rolls had proved difficult given public concerns, issues over custodianship and accuracy of land registries, and the general contestation
over land matters in Kenya. County government officials also cited socioeconomic characteristics, e.g. high levels of poverty, as an impediment on their ability to raise rates and fees.

Third, respondents from county governments A and C were of the view that the macroeconomic situation may have worsened their revenue potential. They were of the view that this situation was contributed to by the national government’s poor performance in areas such as the provision of security and support for key drivers of economic growth such as tourism.

“The central government’s been in place for 50 years and is still in place…their politics at those higher levels incited groups that killed tourism…” FGD Participant County A

“First of all, I look at the business environment how is it fairing. For example, in our area you know we depend so much on tourism, how has tourism been performing in the last let’s say three or four years?” Senior Government Official County C

Some respondents were also concerned that key revenue generating activities such as mining could not be subjected to county-level taxes ostensibly because they were judged to be of national importance by the National Treasury. This divergence of views led the county government of one of the case study counties to sue the national
government to obtain control of some of these revenue sources. This viewpoint also directed blame at the Senate. County government officials were of the view that the Senate had not lived up to its role as defender of the county governments leaving them open to unfair treatment by the national government’s executive and legislative arms. This view was echoed by citizens who felt revenues from these sources could have been better allocated to the county level.

“The county government has failed. A percentage of the revenue [from mining] should be benefiting the citizen but the county government has failed us” FGD Participant County A

Finally, there was concern that the counties lacked capacity for OSR. This lack of capacity underscored other shortcomings identified in documents and by respondents at national and county level. These included failures to map revenue streams, poor enforcement, leakages, and poor application of waivers and exemptions. The national government has proposed that the revenue collection role could be handed over to the Kenya Revenue Authority.

“You see the challenge with the county government is inherent in terms of most of the stock of the staff are inherited from the local authorities. Now in terms of capacity, local authorities focused on...collecting revenue in municipality, town council, county council...they are still collecting the traditional kind of revenue.”
Local Representative of National Government Institution County B
Heterogeneity in design and performance of grants

There were seven health-sector conditional grants, five from the national government, as at the time of the study as summarized in the Table 15 and 16. The conditional grants showed some differences in design, predominantly in whether they were earmarked or non-earmarked or for current or capital expenditure. Notably, none of the grants was a matching grant i.e. obliged the county government to contribute to the activity for which the conditional grant is provided.
<table>
<thead>
<tr>
<th>Grant name</th>
<th>Source</th>
<th>Earmarked or Non-earmarked</th>
<th>Mandatory or Discretionary</th>
<th>Matching or Non-matching</th>
<th>Capital or Current</th>
</tr>
</thead>
<tbody>
<tr>
<td>World Bank</td>
<td>World Bank</td>
<td>Non-earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Current</td>
</tr>
<tr>
<td>Donor Grants (DANIDA)</td>
<td>DANIDA</td>
<td>Earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Current</td>
</tr>
<tr>
<td>Conditional Allocation to Compensate Forgone User Fees</td>
<td>National Government</td>
<td>Non-earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Current</td>
</tr>
<tr>
<td>Conditional Fund - Leasing of Medical Equipment</td>
<td>National Government</td>
<td>Earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Capital</td>
</tr>
<tr>
<td>Conditional Fund - Free Maternal Health</td>
<td>National Government</td>
<td>Non-earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Current</td>
</tr>
<tr>
<td>Conditional Allocation for Level-5 Hospital</td>
<td>National Government</td>
<td>Non-earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Current</td>
</tr>
<tr>
<td>Other (doctors &amp; nurses’ allowances RTWA)</td>
<td>National Government</td>
<td>Earmarked</td>
<td>Discretionary</td>
<td>Non-matching</td>
<td>Current</td>
</tr>
<tr>
<td></td>
<td>County A</td>
<td>County B</td>
<td>County C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------</td>
<td>----------</td>
<td>----------</td>
<td></td>
<td></td>
</tr>
<tr>
<td>World Bank</td>
<td>0.00%</td>
<td>0.97%</td>
<td>0.65%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Donor Grants (DANIDA)</td>
<td>0.00%</td>
<td>0.24%</td>
<td>0.11%</td>
<td>0.25%</td>
<td>0.23%</td>
</tr>
<tr>
<td>Conditional Allocation to compensate Forgone user fees</td>
<td>0.00%</td>
<td>0.27%</td>
<td>0.26%</td>
<td>0.00%</td>
<td>0.34%</td>
</tr>
<tr>
<td>Conditional Fund -Leasing of Medical Equipment</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Conditional Fund -Free Maternal Health</td>
<td>0.00%</td>
<td>1.33%</td>
<td>1.46%</td>
<td>0.00%</td>
<td>1.66%</td>
</tr>
<tr>
<td>Road Maintenance Fuel Levy Fund (RMFLF)</td>
<td>0.00%</td>
<td>1.17%</td>
<td>1.41%</td>
<td>0.00%</td>
<td>0.93%</td>
</tr>
<tr>
<td>Conditional Allocation for Level-5 Hospital</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.00%</td>
<td>6.86%</td>
<td>3.39%</td>
</tr>
<tr>
<td>Other (doctors &amp; nurses’ allowances RTWA)</td>
<td>0.00%</td>
<td>0.00%</td>
<td>0.87%</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>Total</td>
<td>0.00%</td>
<td>3.83%</td>
<td>4.62%</td>
<td>7.11%</td>
<td>6.53%</td>
</tr>
</tbody>
</table>
There was similar heterogeneity in the performance of the grants. An example of the relatively well performing grants was that for Level 5 hospitals. Initiated in FY 2014/15, this grant was meant to cater for the cost of former provincial hospitals. County B and C each hosted a Level 5 hospital, and residents of County A sometimes utilised the facility in County B. Evidence from interviews with officials from these counties, facility heads and citizens, as well as from document review suggested that County B and C had indeed ring-fenced these funds for the Level 5 facility. This enabled them to provide services even when other parts of the health system experienced shortfalls such as in drugs and commodities. County B for example had permitted the hiring of staff on contract basis at the Level 5 facility to enhance service provision. The autonomy that the Level 5 facility in County B enjoyed was shared by other hospitals in the county which were allowed to retain and utilise funds obtained from charges for services. Similar financial autonomy of hospitals was observed in County A and C.

“We have the FIF which is mainly in the major hospitals…. They collect, bank [the collections] in their accounts. After three months, they come for an AIE [authorisation to incur expenditure] they spend. So those facilities do not necessarily have to depend money coming directly from the county.” County Government Official County B

“We just restrict ourselves to what we get as a resource…. [Level 5] conditional grant and cost sharing” Health Facility Manager County B
On the other hand, the performance of the conditional grant for Free Maternity Health Services experienced some shortcomings. Designed to reimburse facilities for services offered at delivery to mothers following a Presidential directive made in June 2013, evaluations of the policy showed that even with increased utilisation of services there were gaps in implementation and adherence to the policy. The implementation of the policy was hindered by gaps in the policy such as an initial lack of specification of services to be offered; lack of supply side investments to address increased utilisation; and inconsistencies in cash flows. There was also no condition on the county to ensure these funds were used to enhance maternity services with the result that health facilities in County B and C experienced difficulties in offering services when funds were held up at county treasury level. Health service providers said that these conditions compromised quality of care particularly owing to the limited capacity to respond to the increased utilisation of services.

"The issue of something like the free maternity fund it takes a long time for them to disburse – and you have used all your supplies. It can even take six months to eight months." Senior Government Official County B

A draft bill on the County Allocation of Revenue in FY 2016/7 sought to address some of these gaps by clarifying the conditions under the free maternity services grant could be made. These included ensuring the funds were earmarked for health facilities offering maternal health care; that the facilities should be licensed to operate and have functional governance structures; that the facilities should have approved work plans
and that reporting should be through the health and financial information systems. Instead, the program was transferred to the NHIF in FY 2016/17 to run as the Linda Mama program: a reimbursement-based insurance scheme paid on a fee for service basis. However, this had led to reductions in resource flows to public health facilities in part because the resource envelope was now shared with private sector health facilities.

“...the initial arrangement [for free maternity services], money was going to the counties and then the arrangement was changed midway without any consultation from the counties... And then you also have this reversal of funds to counties which are stronger, which have more facilities where you have NHIF.”

Government Official National Senate

Similar challenges were experienced with the conditional allocation to compensate foregone user fees and the medical equipment service (MES). For example, county government officials expressed concerns over the top-down nature of implementation of the MES; the absence of comprehensive needs assessment; the additional investment required to prepare facilities to receive the equipment; and the capacity, such as human resources, to implement the services.

“Well, largely we needed some of that equipment. Some we did not need... We had to kind of reorganize so that maybe certain programs that could be shelved then are shelved to provide funds for the essential services and then we budget
There was evidence of short-term and sometimes inappropriate borrowing

There was documentary evidence of county governments undertaking short-term borrowing for the purpose of cash management (particularly for wages) and to cater for short-term debt. The county budget implementation review report (CBIRR) of FY 2013/14 for example, notes that the counties spent KES 3.7 Billion all together to repay debt inherited from defunct local authorities: payments to suppliers, pensions and servicing of bank loans. However, county governments also accumulated inappropriate short-term debt in the form of pending bills i.e. committed payments for which no money had been disbursed at the end of the financial year. Table 17 shows pending bills for the three case study counties as reported in the CBIRR of FY 2016/17.

Table 17: Pending Bills Financial Year 2016/17

<table>
<thead>
<tr>
<th></th>
<th>2014/15</th>
<th>2015/16</th>
<th>2016/17</th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>Recurrent</td>
<td>Development</td>
<td>Recurrent</td>
</tr>
<tr>
<td>A</td>
<td>94,260,000</td>
<td>1,780,000,000</td>
<td>5,491,200</td>
</tr>
<tr>
<td>B</td>
<td>454,475,161</td>
<td>2,010,021,333</td>
<td>984,461,616</td>
</tr>
<tr>
<td>C</td>
<td>1,052,940,360</td>
<td>413,296,139</td>
<td>650,121,239</td>
</tr>
</tbody>
</table>

The large size of these bills had prompted the COB to recommend that they be subjected to audit. There was also the view that pending bills actually represented a form of deficit financing in contravention of PFMA rules. It was unclear whether these debts worsened
the cash flows of county governments. However, there was evidence of delays in salary payments in County B and nationwide concerns over delayed payments to suppliers and contractors.

**Progressive improvement in performance of organizations and institutional arrangements**

National and county-level respondents perceived improvements in the performance of organizations and institutional arrangements supporting fiscal arrangements over the period 2013 to 2017. For example, discussions between levels of government through the inter-governmental forum had led to county governments being identified as implementers of Global Fund projects in Kenya in 2017/18. Other discussions at this level had helped in reaching agreement on the counties’ equitable share of national revenue.

“But as it is right now with the discussions and counties are very heavily involved in the planning process and deliberations towards having counties also being recognised as sub-recipients to the global fund rather than just...receiving services directly from the national government” Senior Government Official County A

The CRA, SRC, COB and the Office of the Auditor General (OAG) engaged with county governments on a regular basis to encourage better financial management and fiscal performance. The COB had official representation in each county and published budget
implementation reports on each as required by law. Formal and informal interactions between the COB and county governments addressed budget development and implementation bottlenecks which had characterised the initial years of decentralization.

The Transition Authority (TA) was also key in fiscal arrangements. For example, it initiated an assessment of the capacity of county-level public service, and the preparation of an inventory of assets and liabilities. However, the unpacking, costing and transfer of functions as per the fourth schedule did not occur as planned by the TA. Instead a faster than anticipated transfer of functions occurred on orders of the President of the Republic of Kenya in part as a result of a strong political push from county governments. The TA also made slower than anticipated progress with the results that key tasks such as the audit of the inventory of assets and liabilities of county governments remained unfinished by the end of its existence.

“If we had done the costing we would have said for all the functions that have gone here, their cost is this, and the total comes to this. And if cost happens to be 30% of the national revenue...But what we did is put national revenue and say because the constitution says at least fifteen [percent] minimum...And I would like you to interrogate the fact that we ended up with a ministry of health having a bigger budget that they’ve ever had when then have scheduled the functions”

Former Official National Level Constitutional Body
County level structures had also matured with the relationships between the county executive and the county legislature, improving over time. For example, respondents from county health departments reported improvements in relationships with members of the county assembly; particularly members of the departmental committee on health during the planning and budgeting process. In fact, the departmental committee on health was increasingly seen as an ally in securing the interests of the health department.

This improvement in institutional relationships was also reflected in individual relationships between pre-devolution bureaucrats such as hospital managers and the post-devolution bureaucrats who formed part of the county executive. The former utilised their experience in the system to explore and build on relationships with new officials such as chief officers and governors. In county B for example, these relationships enabled hospital heads to secure autonomy, specifically financial autonomy, for their hospitals, and encourage the passage of legislation to support this move.

"[with reference to the Facility Improvement Fund] ...I think this was the initiative of the first individual who got into the health department that is specifically the Chief Officer of Health because in our discussion at the initial stages, we looked at how he can be able to assist us to make sure that the things that were happening in the facilities continue running smoothly. So, he took this positively and I think he introduced the idea to the county government, that is the executive, and eventually it was introduced to the county assembly and discussed and
eventually passed as an Act of parliament and implemented” Facility Manager County B

In a manner not fully envisaged by the constitution, county governments developed regional institutions to deal with cross-county relations in areas of mutual interest. For example, all three counties were members of regional economic blocs whose aims included optimising the efficiency with which they performed their functions and dealing with externalities such as financing of referral services. While these blocs demonstrated limited activity beyond consultative forums, there was evidence that there was movement towards enhancing their function including in addressing issues such as externalities in health.

“We use our share of revenues to provide services there [Referral Hospital] and the people who are receiving those services they come from County A some of them come from County K, some of them County T...the other counties they don’t contribute anything towards that... We’ve had several discussions trying to solve this by asking maybe the neighbouring counties to contribute but it is still in the early stages.” Senior Government Official County C

There was also some evidence of informal mechanisms developing predominantly among the counties. For example, county health mangers sustained relationships across jurisdictional boundaries that were important in managing the day-to-day complexities of delivering on their mandate. This included dealing with disease outbreaks, and cross-
border utilisation of health services. Respondents reported that the latter issue was of some concern as it affected resource availability in those facilities. Even though there was no mechanism to correct for this, respondents were of the view that whatever mechanism would not necessarily involve limiting access to health services to users from a particular county. This was in part due to the complexity of identifying county residents, but also due to the desire to ensure access to health services.

4.4 Changes in the Government-Citizen Relationship
The findings in this section show that the changes in the government-citizen relationship that resulted from devolution are mainly in accountability arrangements with limited evidence of citizen mobility and intergovernmental competition. I present these findings beginning with a description of these changes as described in policy, and how they occur in practice.

4.4.1 The Government-Citizen Relationship in Policy

Strong legislative and policy framework in support of accountability

Article 1 of the 2010 Constitution, in a significant distinction from the previous constitutional order, vests all sovereign power with the people who delegate this power to various organs to exercise at national and county level. This provision underlines the consistent emphasis on accountability between government and citizens that is reflected in other parts of the Constitution, statutes and policy.
For example, Articles 10(2) and 72(2) of the Constitution identify accountability, integrity, and transparency as key national values and principles of governance and leadership. The County Governments Act (CGA) requires that the organization of the county be responsive to the needs of the community; facilitate public service and accountability; and allow participatory decision making (Section 46(2)). The County Public Participation Guidelines (Ministry of Devolution and Planning and Council of Governors, 2016) defines accountability as a relationship with established performance standards and sanctions for failure to meet those standards.

This emphasis on accountability is underscored by guarantees to information, representation, political rights, universal suffrage, and free and fair elections. For example, Part VIII of the CGA addresses the principles of citizen participation including timely access to information; reasonable access to the process of formulation & implementing policies; and the protection and promotion of the interests of minorities. The Access to Information Act gives effect to the right of access to information including through provisions for organisational arrangements such as the designation of an information access officer. Similarly, the County Public Participation Guidelines identifies the requirements for meaningful public participation as: clarity of subject matter; well-defined structure and process; access to information; good distribution of power to influence; political will; integrity and commitment of actors; and transparency.

**Legislative requirements differentiate between and link mechanisms for social accountability**
Legislative and policy instruments support various forms of social accountability. This included when viewed from the perspective of internal and external accountability. Internal accountability refers to arrangements that are within government including between levels of governments, and the external accountability refers to arrangements with those outside of government, principally citizens.

Internal accountability arrangements included the description of responsibilities and roles for levels of government and officials including reporting requirements and sanctions for poor performance. For example, the County Treasury must submit quarterly and annual financial statements to the county assembly, the Auditor General, the National Treasury, the COB and the CRA. Sanctions for non-compliance with this requirement are conviction for a period not exceeding five years or a fine not exceeding ten million shillings (Section 198 and 199 PFMA and 210 of the County Government Regulations under the Act). The mechanisms for external accountability described by this legislative and policy framework can be categorised as public reporting, participatory governance, participatory planning, participatory monitoring and evaluation, access to information and electoral accountability.

The linkage between internal and external accountability mechanisms is addressed implicitly. For example, financial reporting requirements that are part of internal accountability arrangements between the county executive and the county assembly support external accountability between the county assembly and citizens. For example, the county assembly supervises the budget implementation process; receives financial
reports; and has the power to sanction the executive (see for example Article 185 of the Constitution and Section 30(j) of the CGA). On the other hand, the county assembly is subject to external accountability to citizens mainly through elections. Similarly, the CGA requires instruments of internal accountability such as sub-county, ward, village administrators and village councils to facilitate and coordinate external accountability mechanisms such as citizen participation (Section 91 CGA).

4.4.2 The Government-Citizen Relationship in Practice

Gaps in conceptualisation and application of accountability mechanisms

Evidence from document reviews and interviews demonstrated gaps and variability in the conceptualisation and application of accountability mechanisms. While county government officials from all the case study counties affirmed the existence of accountability mechanisms, these were mostly framed as “public participation”. This generic term was used to described the wide range of mechanisms described in policy and legislation, and implemented in practice. For example, public meetings were a frequently used mechanism for “public participation” at which a number of mechanisms could be identified including participatory planning, public reporting and access to information.

These gaps could also be identified across the case study counties with county A demonstrating a wider range of accountability mechanisms than B and C. County A’s mechanisms included the use of ward and village administrators to enhance
participatory planning; social audits; civic education; and participatory implementation. County B also displayed participatory implementation through project implementation committees for infrastructure projects. With regards to organisational arrangements, public meetings were held at various administrative levels with County A holding them at ward and village level and County B and C taking preliminary steps to decentralise the meetings from sub-county level.

“...we’ve got these [village] units all over. And in these units, you’ve got a village administrator. He is the link between the units and the county government. When the youth have certain issues, they summon the village administrator and say what they want...” FGD Participant County A

“When we go back to implement the projects, members of the public are fully involved.... the day we take this contractor to start the job, we ask the village administrator in that area to pick a project implementation committee comprised of members of the local community.” Senior Government Official County A

The reasons for these differences included the slow implementation of county decentralisation structures; lack of civic education and public engagement; failure to establish key entities such as the CBEF; and lack of political support from senior county government officials. For example, in County B, in the absence of ward administrators, MCAs took up some of the budget implementation tasks with the potential for conflict with their oversight role.
“It is the obligation of the county government to come and announce that tomorrow there will be a meeting so that people are involved in the making of the budget...But if they don’t tell us then we cannot know even if they say it’s our obligation we must get information that there is a meeting somewhere for us to go” FGD Participant County C

“The problem... was that these administrators came after MCAs. So, MCAs took up the role of the ward administrators and the sub-county administrators. So, they came and found MCAs doing what they are supposed to do.” Civil Society County B

**Concerns over effectiveness of accountability mechanisms**

Citizens questioned the effectiveness of accountability mechanisms in all three case study counties. This scepticism was mainly framed as concerns over financial accountability and poor service delivery. Concerns over financial accountability, which included corruption, fraud, bribery and conflict of interest, are echoed in reports from the Office of the Auditor General and the COB for the three case study counties. For example, the OAG’s report for county A in 2016 cites insufficient and inappropriate evidence on which to make an audit opinion informed in part by inaccuracies in financial statements. Concerns over poor service delivery were mainly over the availability and quality of health services. The former included in the availability of health workers and drugs, while the latter included concerns over satisfaction with services.
“Most of these doctors who are in charge of various hospitals within the counties if you follow them up, they are also the owners of private clinics...they tend to sabotage the county services for them to refer the patients to their own clinics and that is really killing all the counties.” Business Lobby Official County B

“For example, it is okay the county has opened up hospitals... But if you go to those hospitals you find that they don’t have qualified doctors.” FGD Participant County B

The reasons for the ineffectiveness of these mechanisms included limits to access to information; disempowerment of citizens; lack of enforceability of sanctions including voting; and poor performance of key institutions and organisational arrangements.

While all three case study counties reported that information was available to citizens on demand through their websites, notice boards and through direct contact with county officials, this information was often inaccessible or late. For example, internet access is not cheap in Kenya nor was it reliable in rural parts of county A and B. Physical forms of information were often scattered across a number of departments or offices which posed additional barriers to access. Formal processes for accessing information were unclear and posed significant problems even for this researcher. Most of the documents were printed in English, and there were not simplified versions for citizens.
for even key documents such as the budget. There was little support for persons with a hearing disability given the reliance on public meetings.

“So, for example like access to information we always say this, ‘Oh, we have a nice law now, whatever.’ But do you think a public officer will be like, ‘Ah, now we have access to information. Let’s now give all the information.’? Absolutely not.” Civil Society Representative National Level

“But do you think a public officer will be like, ‘Ah, now we have access to information. Let’s now give all the information.’? Absolutely not.” Civil Society Representative National Level

“Because in our Constitution sign language is there, it is approved as our language it is a third language... And our government must know sign language should be used in the hospital and courts and different department...But I don’t see it.” FGD Participant County B [Hearing impaired]

FGD participants noted that citizens lacked voice owing to long standing fear of government particularly in marginalised areas and would therefore be hesitant to demand for accountability. In addition, citizens felt that some of the elected officials were intentionally inaccessible to citizens and unwilling to communicate. Lack of civic education was also seen as a contributor to disempowerment. Finally, some legislative changes at national level, later determined to be unconstitutional, had made it difficult for citizens to recall elected representatives at county or national level as provided for in the constitution.
“Like you’ve heard the chairman mention that people still have fear…. It is very hard for the locals to get up and confront their leaders … there are very few who can stand up to the governor and express their discontent” FGD Participant County A

“…they [elected officials] are proud and selfish. They don’t care about their citizens...Even right now we don’t have the morale to follow up on our leaders to explain our problems because they won’t be solved. It doesn’t benefit to go, you better stay put” FGD Participant County C

Electoral accountability at county level was weakened by national level for example as the result of party nomination processes that shielded incumbents from competition or mandated support for candidates of a particular political party. Electoral accountability was also undermined by practices such as voter bribery. As a result, citizens viewed elections more as an opportunity to select a potentially better alternative, and less of a chance to assess the performance of the incumbent. They hoped that a newly elected official, eager to be re-elected, would look to deliver on their mandate. Citizens admitted that this led to some elected officials taking a short-term view and seeking to make the most for themselves during their term in office rather than working towards re-election through service to the community.

“If we’ve got parties giving direct nomination [to their candidates to contests the election], where’s the democracy in that?” Business Lobby Official County A
“When he [the MCA] knows he is about to be recalled, he visits various groups and bribes them. So, the groups go on his defence saying ‘He gave us this opportunity. He promised us this opportunity and gave us half the money; we are waiting for the other half’... You may want to recall him in the middle of his term but you’re unable.” FGD Participant County C

“We say yes we are going to elect other leaders maybe for a change but we don’t have high expectations as we did before... many people are saying “Let us see [if] this one [will perform]” ...not really knowing whether that the person will actually perform” FGD Participant County B

There was evidence of poor performance of institutions and organisational arrangements responsible for accountability arrangements. For example, there were no other formal complaints handling structures in the case study counties. Citizens were also of the view that county assemblies lacked the capacity to hold the county executive to account. For example, there was a concern that some members of the county assembly were unable to interrogate the performance of county departments such as that of health which were technically demanding. At the interface between county and national level, disputes between the Senate and governors were viewed as negatively affecting the Senate’s role in assisting county assemblies to better perform their function at county level. As noted in the preceding chapter, national level respondents
also expressed concerns over the Senate’s ability to articulate the county’s priorities owing to perceived or actual unavailability of information.

“But looking at the capacities of counties to be able to effectively undertake planning to drive the agenda of the county, I think there is a huge capacity gap in terms of skills, particularly technical skills and institutional arrangements to undertake that.” Civil Society Representative County B

“And then these petty political fights; members of National Assembly fighting governors, governors fighting senators; those things should be in the past. We understand – I mean, anywhere there is resources and there is politics of course there’ll be that but people need to realize that this is about basic service delivery to the citizen.” former-Senior Government Official National Level Institution

Citizens developed a number of strategies to tackle ineffectiveness of accountability mechanisms

Citizens reported a number of strategies to tackle the perceived ineffectiveness of accountability mechanisms. These can broadly be grouped as confrontational and non-confrontational approaches. Confrontational approaches included demonstrations and law suits, while non-confrontational approaches leveraged on membership to key bodies or direct engagement with county government officials. Citizens reported positive and negative experiences using these approaches. Positive experiences included resolution of problems and inclusion in subsequent decision making or
implementation processes. Negative experiences included violence, victimisation and discrimination on the basis of ethnicity and religion.

“The other time...they wanted to charge us for ‘branding’ our stores...so we told them, [assuming] today is Friday, ‘We’ll take you to court on Wednesday!’ They quickly called a meeting and stopped what they were doing.” Business Lobby Official County B

“We realized that there was a lot of issues such as poor situation and poor service delivery. We came together...and said we’ll demonstrate from this road to the County Commissioners office...We then found a large number of county officers on the way who began assaulting our colleagues. They really injured some” FGD Respondent County C

Citizen were of the view that collective action enhanced their ability to hold officials to account. Groups were useful for increasing access to information (e.g. to obtain and disseminate information), access to appointed and elected officials, and ensuring responsiveness of officials. Cultural, religious and ethnic heterogeneity were seen as assets to common action by citizens.

“...our government doesn’t recognize any person individually; they usually come if you have a group. Now that we are a group, whenever we sit down, those
Data from interviews and focus group discussions suggested that individuals and businesses were unlikely to exit from counties. In fact, businesses were more likely to relocate to neighbouring countries. This was more so an issue in County B which hosted a number of firms engaged in horticulture, farming and tourism, and less so for County A and C who were confident of the uniqueness of their offerings e.g. in tourism. Individual migration was hampered by a number of factors including bottlenecks in areas such as business establishment and land acquisition; and concerns over violence that characterised election periods in Kenya.

**Civil society organisations played an important role in accountability arrangements**

Civil society organisations (CSO) were an important enabler of accountability arrangements. They took direct and indirect approaches to engaging with county governments.

For direct engagements, civil society organisations operated as insiders or outsiders in the governance process. For example, CSO respondents from County B maintained and enhanced their insider position, by engaging regularly with lower and mid-level county government officials. These officials were seen as allies and achievers who would also outlast more senior officials and elected representatives. Civil society also worked with prospective representatives as a means to establish political will for social accountability.
mechanisms. On the other hand, outsider positions were taken by some CSO which
tended to offer evaluations of the performance of county governments. However, the
distinction between the two positions was not unambiguous with evidence that the CSO
navigated between the two positions depending on the issue at hand.

“Some of the people that we’ve trained are community facilitators. Some of them
want to be MCAs, some of them are key chief campaigners of the incoming
candidates. So, we want to work through them.” Civil Society Representative
County B

CSO’s indirect engagement was through activities with citizens. They did this by
empowering communities through training and other capacity building activities. They
galvanised communities around common interests based on the context of the
community e.g. whether rural or urban. Once this was done, they leveraged on these
groupings to address other issues within the county including holding the county
government to account. CSO’s also facilitated the interaction between county
government and citizens.

“There was a project ran here...That project made the community in County A
aware that they have to participate in the budget...and this led to the pre-budget
process...and this gives the citizen the chance to contribute [to the budget]” FGD
Participant County A
“First of all, we empower them [citizens], we create awareness...Then we also interact with the government...Then we create a platform for engagement where we bring the citizens and the government together to speak to each other” Civil Society Representative County B

4.5 Factors underlying fiscal arrangements and changes in the government-citizen relationship

In this section, I will examine the underlying factors that resulted in the desired and observed fiscal arrangements and changes in the government-citizen relationship. In summary, these are related to historical factors and implementation arrangements for the new constitution.

4.5.1 Historical Factors

Desire to return to peri-independence decentralisation arrangements

Evidence from interviews and document reviews suggests that the 2010 Constitution was the culmination of decades of efforts to reform governance in Kenya. A key feature of these reforms was devolution through the creation of 47 county governments that had significant political, fiscal and administrative responsibilities. The clamour for devolution was drive in part by a desire for better governance and accountability, but also by a desire to return to and safeguard the decentralisation arrangements envisaged in the independence constitution of 1963. The latter arrangements were rapidly eroded in part because they were not as extensive or as well entrenched in the constitution as
devolution is in the 2010 constitution. The emphasis on deepening decentralisation through fiscal and political decentralisation (i.e. devolution) is also traceable through the various drafts of the constitution that led up to the 2010 constitution.

“The governments at each level are distinct, inter-dependent, consultative and negotiative... All national state organs shall be decentralized to all regions equitably” Article 6(2) and 7(2) of the Draft Constitution of Kenya 2004 (the Bomas Draft)

“The Government and districts are distinct and inter-dependent and conduct their mutual relations on the basis of consultation and cooperation... The State shall decentralise State organs throughout the districts in order to ensure (a) equitable access to Government services and employment; and (b) effective communication between the State organs and the public” Article 6(2) and 8(2) of the Proposed New Constitution 2005

“So, there is that whole belief that decentralization is all about taking the basic services to the lowest level where it can be managed... For me all basic services can be devolved and what we did in 2013 was not new per se because there are other things that we had devolved before then.” Former Official National Level Constitutional Body

Existing decentralisation of functions influenced functional and revenue assignments
Documentary evidence suggests that historical factors may have also contributed to the assignment of particular functions and revenues to county governments. For example, the health function was a function of regional governments between 1963 and 1964; and then a function shared among provincial, district and local governments through delegated authority between 1963 and 2013. This evidence is corroborated by data from interviews with national level respondents. These respondents reported that the criteria for assigning health services to county governments included the existing decentralized nature of the health sector; consideration of capacity; the desire to improve access to and responsiveness of services; and the need to correct historical injustices through localising governance structures. Similarly, the now-defunct local government authorities and county governments share many of the same revenue sources including service charges and land rates.

“...when you look all over the world there are certain services that are devolved services and most of them are basic services. And to me health is a basic service. Health, education and all that....and also remember a lot of health services...were local government facilities.” Former Official National Level County Lobby

“Devolution...is about bringing services closer to the people...decision making at the centre ended up marginalizing many regions and therefore the devolution of services was one way in which locals participates effectively within governance...”

Former Official National Level Constitutional Body
Historical factors also imposed a need to enhance accountability with devolution seen as a key instrument to this end. This desire is captured in the wording of the promulgation of the New Constitution if Kenya.

“And whereas for the last two decades, the people of Kenya have yearned for a new Constitution which — (c) recognises and demarcates divisions of responsibility among the various state organs, including the executive, the legislature and the judiciary, so as to create checks and balances between them and to ensure accountability of the Government and its officers to the people of Kenya; (d) promotes the people’s participation in the governance of the country through democratic, free and fair elections and the devolution and exercise of power and further ensures the full participation of the people in the management of public affairs” Legal Notice No.133/2010

Specifically, Article 174(2) states that the objects of the devolution of government including promoting the democratic and accountable exercise of power. This desire for devolution to form a platform for accountability is underlined by constitutional provisions for accountability as one of the principles of governance; leadership and integrity of state officers; public financial management; public service and administration; (Article 73(2)).
4.5.2 Implementation Arrangements for the New Constitution

The desired and observed fiscal arrangements and changes in the government-citizen relationship are also a consequence of the implementation arrangements for the new constitution.

First, the decentralisation arrangements are specified in written form and in the form of a constitution. These two elements impose a rigidity that was observed by respondents at national and county level. While, there were mechanisms for addressing some of these rigidities e.g. the Intergovernmental Budget and Economic Forum (IBEC), their less than optimal functioning resulted in less than optimal outcomes such as overlap in functions.

“No, for Kenya now you see like the constitution strictly says, ‘Counties can only charge two taxes...entertainment tax and property,” ... See now the problem: it was not left to legislation, it was put in the constitution.” County Government Official County A

Second, the constitution vested key roles to national level institutions. Specifically, National Assembly and the National Treasury were assigned significant planning and budgeting decision makers powers even in the context of decentralisation. This arrangement disadvantaged county governments as is demonstrated by persistent concerns over the level of the vertical share to this level. The central role of Parliament
in legislation also influenced the functioning of key institutions in the decentralisation process such as the Transition Authority. The TA was unable to complete its mandate in the allocated time. Rather than extend its lifetime, Parliament decided to transfer its functions to the Intergovernmental Technical Relations Committee. Evidence from document reviews and interviews suggest that the latter body has not functioned as optimally as it could in facilitating the implementation of decentralisation.

“So IGRTC followed the transition authority and basically is you know responsible for the activities that the transition authority wasn’t able to complete... The IGRTC basically functions as a department within the Ministry of Devolution and Planning which is also one of those ministries at times I struggle to see its relevance within the context of devolution... I’m not sure whether they have a facilitative role or they have a policy.” Official National Senate

Third, the sequencing of implementation arrangements was not adhered to. This was alluded to previously and centred mainly around the transfer of functions to county governments. The constitution and statutes had envisaged that this would be performed in a phased manner, i.e. with different counties receiving different functions to different extents, based on an assessment of the capacity to perform the function. The accelerated and uniform transfer of functions may explain the reported lack of capacity in the performance of functions including own-source revenue generation; administrative arrangements in support of social accountability; and governance of county health systems.
A frequently cited example of the latter, was the loss of autonomy within county health systems. This was the result of recentralisation of public financial management processes at county level away from the former health districts (now sub-counties) and health facilities to which autonomy had been granted pre-2013. The recentralisation was made in order to meet various PFMA requirements including that all county monies be received in the County Revenue Fund, and designating departmental chief officers as accounting officers. In the three case study counties, this was translated to mean that facilities could no longer hold or utilise funds obtained from service charges or other sources (e.g. the NHIF). As a result, facilities were required to close their bank accounts, and lost autonomy in management of funds. This impediment meant that facility and sub-county annual work plans and budgets, if and when developed, were poorly financed with additional impacts on service delivery and staff motivation as detailed in the next section. Counties responded to this issue in various ways. County A did not establish legislation but undertook to collate funds at county level, and fund health facilities from this pooled source at a level that was sufficient to match resource needs. County B initially undertook administrative arrangements to permit hospitals to retain funds raised from service charges, and then passed legislation to support these arrangements. County C made similar arrangements to permit its main hospital to retain funds raised from service charges and was in the process of passing legislation. This variation demonstrates the effects of poor preparation with perceived or actual misalignment of public financial management requirements with the functioning of county health systems.
“I think after devolution...we ran into a couple of financial issues. The first one was the application of the facility improvement fund...with devolution that has become a very grey thing. So, some counties will say, “We are able to retain the money to use for our facilities,” some other counties will say, “For us we have to remit it to the county revenue fund.” Civil Society Representative National Level

Finally, arrangements in the planning and budgeting process have also impacted the observed fiscal arrangements and changes in the government-citizen relationship. For example, the near-parallel nature of the planning and budgeting process at county and national level as required by the constitution and public finance management statues affects the revenue sharing between the two levels. As the evidence presented in other sections of this chapter shows, this results in the Senate having insufficient evidence from county budgets to optimally negotiate the division of revenues between the national and county level. This deficiency is compounded by the insufficient data on the cost of offering key services in part as a consequence of the premature termination of the life of key institutions such as the TA. On the other hand, requirements for ‘public

2 Facility Improvement Fund refers to monies collected by the health facilities through charging of user fees as part of a cost-sharing approach to financing health services in Kenya. Facilities could utilise up to 75% of these funds for pre-approved expenditure usually operations and maintenance of the facility e.g. outsourced cleaning services, utilities and security services. The fund (See: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2683851/ and http://www.policyproject.com/pubs/policyplan/KEN_FIF_doc.pdf)
participation’ in the planning and budgeting process may have been a key driver in the restricted set of social accountability mechanisms. For example, county A, which demonstrated the widest range of mechanisms, implemented participatory planning, participatory implementation, social audits and participatory governance predominantly all tied to planning and budgeting activities. No evidence was found on what other mechanisms existed to support social accountability in other areas e.g. in-service delivery. Also, while participatory planning through the planning and budgeting process was in place in all three case study counties, there was evidence that citizens had limited ability to access information, utilise their voice, or enforce sanctions.
Chapter 5: Influence of Decentralisation on Fiscal Space for Health at County Level

5.1 Introduction

In this chapter, I analyse the influence of decentralisation mediated through changes in the fiscal arrangements and the government-citizen relationship on fiscal space for health at county level.

I find no evidence that decentralisation positively influenced fiscal space for health in the case study counties in contrast to the hypothesis stated in section 3.3. To explain this lack of influence, I look more closely at the mechanisms of influence of decentralisation on public health expenditure through the twin lenses of fiscal arrangements and changes in the government-citizen relationship.

It appears that the transfer of functional assignments failed to account for existing constraints in fiscal space for health and resulted in a transfer of a function to counties that did not have the capacity to perform key fiscal roles. The revenue assignments favoured the national level with counties assigned revenue sources with low revenue potential accompanied by lack of capacity to enhance these functions. Bottlenecks in the receipt of already inadequate vertical transfers further constrained county fiscal space for health for example due to reduced ability to enhance economic activity. Poor planning and budgeting activities at county and national level such as unrealistic expectations of revenue, inappropriate assessment of expenditure, poor budget...
implementation and monitoring, lack of accountability and poor budget execution also contributed to low levels of public health expenditure.

5.2 Influence on Level of Public Health Expenditure

Has there been a change in fiscal space for health at county level? The evidence is equivocal

Data on health expenditure at the equivalent of county level were unavailable for the pre-decentralisation period making comparison impossible. Document reviews showed that there were no benchmarks on the proportion of the county budgetary allocation and expenditure that should be on health. As such it is difficult to assess the appropriateness of the data displayed in Table 18.

Table 18: County Government Health Budget and Expenditure as a Percentage of Total County Government Budget and Expenditure FY 2014/15 – FY 2016/17

<table>
<thead>
<tr>
<th>County</th>
<th>Financial Year</th>
<th>County Government Health Budget as % of Total County Government Budget</th>
<th>County Government Health Expenditure as % of Total County Government Expenditure</th>
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<tr>
<td>A</td>
<td>2014/15</td>
<td>29%</td>
<td>22%</td>
</tr>
<tr>
<td>A</td>
<td>2015/16</td>
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<tr>
<td>A</td>
<td>2016/17</td>
<td>34%</td>
<td>27%</td>
</tr>
<tr>
<td>B</td>
<td>2014/15</td>
<td>43%</td>
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</tr>
<tr>
<td>B</td>
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</tbody>
</table>
In terms of per capita expenditure, the draft health financing strategy proposes that public health expenditure per capita should be US$97 in the period 2017 – 2022 to achieve UHC targets (Section 1.2.3). The CRA costing of functions suggest that county governments bear about 70% of the cost of health functions even with health products and medical technologies excluded which translates to about US$68 of this target (Section 1.2.3). Using this US$68 benchmark, it was possible to assess the level of per capita public health expenditure across the case study counties and within each county over time (Table 24). The per capita public health expenditures for the three case study counties were well below the threshold in each of the financial years under review. This may be due to several factors. First, county governments budgets and expenditures represent only a small proportion of total government budgets and expenditures (see section 1.2.3) and existing revenue assignments make it difficult for counties to raise sufficient revenues to perform their function (section 4.2.2). Second, grants that may have corrected for expenditure gaps were demonstrated heterogeneity in performance (section 4.2.2). This was compounded by the fact that these grants contributed to only a small amount of county government revenue and so were unlikely to influence the overall fiscal space for health (Table 19).

<table>
<thead>
<tr>
<th>County</th>
<th>Financial Year</th>
<th>County Government Health Budget as % of Total County Government Budget</th>
<th>County Government Health Expenditure as % of Total County Government Expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>2015/16</td>
<td>25%</td>
<td>27%</td>
</tr>
<tr>
<td>C</td>
<td>2016/17</td>
<td>23%</td>
<td>28%</td>
</tr>
</tbody>
</table>
Table 19: County Government Public Health Expenditure Per Capita FY 2014/15 - FY 216/17

<table>
<thead>
<tr>
<th>Financial Year</th>
<th>Per capita expenditure (real)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>County A</td>
</tr>
<tr>
<td>2014</td>
<td>KES 1727</td>
</tr>
<tr>
<td>2015</td>
<td>KES 2426</td>
</tr>
<tr>
<td>2016</td>
<td>KES 2433</td>
</tr>
</tbody>
</table>

*KES in 2017 terms

It is difficult to infer what the trends in county government public health expenditure may be given the length of the period over review. The initial increase in expenditure between FY 2014/15 was followed by a maintenance of established levels of county governments health expenditure at least in County A and C, with a slight decline in County B. This is corroborated by an official assessment of national and county budgets over this period (Ministry of Health Kenya, 2017). This increase in expenditure between the first and second financial years may be explained in part by an increase in budget absorption rates in the three counties (Table 16); and increased allocations through conditional grants from the national level (Table 18, Chapter 5 Section 5.2.2).

The subsequent maintenance of expenditure levels may be explained by two factors related to decentralisation. First, fiscal arrangements in decentralisation imply that funds should follow function. Even though county governments are free to choose whether to allocate that funding to other sectors, health sector expenditures are mainly recurrent and particularly on personnel, which limits their reallocation. Moreover, legal
arrangements meant that personnel costs could not be adjusted downwards, while the lack of clarity over issues such as implementation of early retirement schemes that it was impossible for counties to adjust the inherited health workforce structure.

Second, decentralisation increased the proximity of decision makers to the citizens. Interview data suggested that elected and appointed government officials supported health expenditures because the results of the use of these resources were easy to demonstrate to citizens for example in the form of better services, new infrastructure or equipment. Data also suggested that politicians took advantage of the lack of clarity over expenditure assignments to claim projects as their own in order to boost their popularity with the electorate.

“But obviously, every time we budget, we go to the people and ask them what they would like us to do for that particular fiscal year of course based on the proposals that they gave us in the CIDP [County Integrated Development Plan]. So, we always have a reference point, because at the beginning of all this business we went to them and asked them what they would like us as a government to do for them. And of course, that’s what we give priority in terms of the budgeting.”

Senior Government Official County A

“There have been major changes since the county government was given this responsibility. These days the hospital is clean, stocked with medicines, and
services have improved. Services that didn’t exist like x-rays...have been brought closer” FGD Participant County A

“Lack of clarity is also a problem, and...there is a lot of duplication of efforts. For instance, a project that is being carried out by the national government, county government takes credit...” Civil Society Representative County B

5.3 Mechanisms of Influence of Decentralisation on Level of Public Health Expenditure

As such, that data suggests that the level of county government public health expenditure remains low relative to requirements, and may not be increasing. How might this be explained? The evidence from document reviews and interviews suggest three possible reasons.

First, implementation arrangements did little to interrupt the chronic inequitable underfunding of the health sector that characterised the period preceding devolution. This legacy is evidenced by the fact that overall (national and county) public expenditure on health remained largely unchanged between FY2014/15 and 2016/17. Similarly, data from national health accounts studies shows that government health expenditure has remained fairly static when expressed as percentage of total health expenditure or of GDP (Figure 5).
These allocations were already below levels required to offer services at cost (Section 1.2.3). For example, KES 111 Billion allocated in FY 2014/15 was well below an estimate of KES 207 Billion that the implementation of the Kenya Health Sector Strategic and Investment Plan III would have cost in that year (Perales et al., 2015). This means that county governments’ expenditures on health were unlikely to exceed previous expenditure or to meet the costs of providing the health function. The horizontal revenue sharing formula also failed to account for the impact of cross-border utilisation of health services. The most visible result of this was the introduction of conditional grant for Level 5 hospitals to account for the fact that these facilities served a catchment area larger than the county jurisdiction. Unforeseen projects such as the Managed Equipment Service placed an additional strain on county health budgets with the leasing
costs deducted at source (Section 4.2.2). Operational bottlenecks such as cash flow problems are also likely to have negatively affected public expenditure (Section 4.2.2).

“Functions were unbundled and given to the counties but the cost like the resources to following those functions never came through. So, we found ourselves in a situation where we are blaming counties a lot for a lot of places in the health sector but I’m not sure how fair some of that criticism is.” Official National Senate

“...I remember sometimes back the national government did an analysis on counties, and they said for example in health, the counties have been under-funding health...How do you know we’ve been under-funding...if we don’t know how much was being spent? Because they were supposed to tell us before devolution the national treasury was spending [KES]10 billion on health, so that now they can challenge us when we give [KES]2 [billion].” Senior Government Official County C

An important example of the consequences of underfunding with the potential to create a negative feedback loop was that county governments faced significant challenges in meeting their health workforce needs. Case study counties’ inability to recruit sufficient staff to match needs undermined service delivery. Related to this, promotions were delayed in part because of fiscal implications of increases in salaries or allowances, and in part as result of poor human resource management capacity. County governments
were also unable to sustain performance incentives and other staff motivation mechanisms such as provision of lunch allowances and sponsorships for professional development. The resource limitations also resulted in challenges with handling movement of workers within and among counties as counties were unable or unwilling to adjust to the fiscal implications of staff movements. The limited fiscal space for health also had unintended consequences including limiting the recruitment of staff required for planning and budgeting which may have further negatively impacted fiscal space for health.

“We have a very huge wage bill, and for you to recruit a competent economist or accountant or finance person...might not be possible at the moment” Senior Government Official County C

“Now that structure [inter-county transfers] is not there to date, people have to swap and swapping now you have to find another person who wants to come to the county so that is one difficulty.” Senior Government Official County B

“Issues of let’s say training for maybe postgraduate studies where these are people that are still on county payrolls while the national government is the one paying colleges for their fees if somebody is given training support. Then there comes a question who bonds the officer? And this is something that is still under discussion...” Senior Government Official County A
The health workforce management shortcomings were central to the many instances of industrial action by health workers in these counties and at national level over the period under review (Section 1.2.1 and 1.2.2). The industrial action would then have undermined service delivery and subsequently affected the accountability relationship between governments and citizens. This would have negatively impacted the ability of county governments to raise revenues (Section 4.2.2).

**Second, the design and implementation of fiscal assignments negatively influenced fiscal space for health.** For example, counties were required to run balanced budgets and had limited access to borrowing. Also, counties relied greatly on their equitable share of national revenues and county A in particular was unlikely to raise sufficient OSR to reduce this dependence (Table 17 and 18). Cash flow problems with the equitable share of revenue was a major impediment to the effective implementation of budgets which may have negatively impacted health expenditure. This pressure was more significant in the early years of devolution but persisted throughout the study period. Moreover, the high volume of pending bills (Table 22) meant that whatever funds that was carried over from the preceding financial year were often already committed.

Respondents familiar with the process surrounding the design of revenue assignments cited both political and technical concerns as influencing the eventual design. There were political concerns that giving county governments revenue raising powers risked disintegrating the country, and there was no desire to create a federation. Technical
concerns drew on concerns over ensuring sound fiscal experience drawing on historical experience in Kenya and similar countries.

“Article 6 [of the Constitution] provides for the two levels of government, national, county. It then says they are distinct. It’s not federal, we are not a federal state, but they can make decisions only on respecting the functions the way they have been assigned” Former Official National Level Constitutional Body

“My view is it’s a good PFM measure...because if you remember our history was that we had those municipalities...many of them were in terrible and serious debts some of which have actually been imposed on the new counties... There is also a history about other countries where deficits run by some sub national government, [for example] Argentina and other places, then become huge, they become national debt.” National Level Stakeholder

In the same way, the design of conditional grants impacted health expenditures both positively and negatively (Table 20 and 21). The explanatory characteristics were whether or not they were earmarked; the organisational capacity of the grant maker; and whether or not a contract existed between the parties. For example, evidence from interviews suggested that earmarked grants such as the DANIDA grant were more likely to lead to increase in public health expenditure, with this grant of particular importance to expenditure at primary health care level. On the other hand, even though the World Bank grant was not earmarked, respondents highlighted the importance of contractual
requirements to ensuring performance including better planning. Both grants demonstrated the importance of the capacity of the grant making organisation to develop and implement contracts, monitor performance and enforce sanctions. This capacity often required multiple actors including externally contracted support for activities such as audits.

“It’s a performance-based financing framework. So, each facility has to present what it has performed over a quarter, there are verifiers and then once that information has been verified then they are reimbursed, they’re invoiced and they are reimbursed for the services they’ve performed.” Senior Government Official County A

“...RBF [results-based financing] is a new concept also. So, the other challenge is trying to train the counties on RBF and having the county government acknowledge or accept that form of change” Government Official National MOH

The existence of a contract was a necessary but not sufficient attribute to ensuring that grants led to increase in public health expenditure. The contract needed to be made between the two parties to the contract, without which it ceased to be an effective instrument. This was seen with the Managed Equipment Service where contract details were not available to counties which may have contributed to the difficulties experienced with the implementation of the program. The contract also needed to be clear about performance requirements from both parties and sanctions applicable. Gaps
with contract requirements were evident with the Free Maternity Services fund which had relatively few performance requirements, limited audit arrangements and problems with maintaining regularity of cash flows. As a result, receipt of the grant did not necessarily result in changes in health expenditure in general or specific to maternal services, while evaluation reports suggested shortfalls in quality of services provided. Similarly, the conditional allocation to compensate forgone user fees lacked clear conditions with the result that county government respondents in county B and C reporting that the grant was often not received at department or facility level.

“Sometimes those monies reach the treasury but they never reach us here or sometimes they delay. So sometimes that makes it very difficult for the users...and bearing in mind that health centres and dispensaries don’t collect any fees so they normally rely on these funds...their roles will paralyze” Senior Government Official County B

“Currently I think we’ve given a whole lot of money to the level 5 hospitals which has never really been properly...evaluated in terms of the impact it’s had in terms of service delivery.” Government Official National MOH

Even with these design features, poor fiscal performance may have constrained fiscal space for health. For example, several mechanisms were utilised to allow deficit financing which may have encouraged inefficiency. Chief among these was the overestimation of own source revenue capacities as reported by respondents and
demonstrated by data from the COB, CRA and the National Treasury. The second was through the use of pending bills which indicated unplanned expenditure, possible over expenditure and cash flow management problems. The third was that the medium-term expenditure framework looked to address budget making and not necessarily budget outcomes. This mean that county governments could set rolling targets for the former, for example with respect to attaining fiscal principles, without necessarily attaining those targets. This problem was exacerbated by the fact that accountability arrangements around fiscal performance were weak as discussed in the next sub-section on institutional arrangements.

The limited revenue raising mechanisms assigned to county governments, coupled with the limited potential for those sources to raise revenue made revenues raised by health facilities an attractive target for revenue-hungry county treasuries. Budget implementation reports show that actual revenue from health departments was on average 14%, 23% and 6% of total revenue from county A, B and C, respectively, from FY 2013/14 to FY2015/16. This may have encouraged the initial move to secure these funds centrally which resulted in a reduction in financial autonomy and ability to offer service of the health system as a whole. The reversal of this process of “centralisation within decentralisation” is still ongoing with the facilities and sub-county health structures enjoying varying degrees of autonomy in the three counties (section 4.2.2). Nevertheless, the loss of autonomy may have had negative consequences on health expenditure if officials at these levels, who often had institutional memory and capacity, were excluded from planning and decision making.
Finally, weaknesses and power differences in institutions and organisational arrangements undermined fiscal space for health at county level. For example, the dominance of the National Assembly over the Senate restricted the latter’s ability to defend increases in the county governments’ share of national revenue or tackle implementation bottlenecks. Constitutional provisions that placed the National Assembly at the apex of the planning and budgeting process, also meant that the National Assembly was the key decision maker on key appropriations including funds for the Parliamentary Service Commission. The latter included funds for Senate activities and potentially offered the National Assembly leverage over the Senate. This problem was exacerbated by poor linkage between the Senate and the county governments it sought to represent. Data from interviews suggested that the Senate lacked awareness of the county planning and budgeting process including access to key budget outputs. This lack of information meant that deliberations between the Senate and the National Assembly, the ultimate custodian of the process, were not well informed. The result was that county governments remained underfunded and faced significant financial management constraints.

Power differences were also identifiable in the relationship between the National Treasury and other organisations. For example, even though Parliament (both the National Assembly and Senate) now had legal authority in the budgeting process, the NT maintained technical and traditional authority over the process. The NT also used its legal and administrative authority to superintend county government functions
particularly concerning public financial management, and to resist concerns over its management of cash transfers to counties. For example, the NT made use of circulars and media advertisements to report on cash transfer progress creating an impression of timeliness of transfers even when these were delayed (Figure 6). The NT was also thought to wield significant soft power with past officers being the President, the then head of the public service, and the then cabinet secretary for devolution and planning, among other officials at senior levels.

Figure 6: Screen Grab of Public Statement by the National Treasury on Transfers to County Governments in 2016


“…timeliness for disbursement [from national government] is a problem. Like now we are expecting disbursements for, I think it’s for January and it’s in April. …my anticipation is when there are heavier commitments at national government, counties become the second priority.” Senior Government Official County A
Weaknesses in institutional arrangements in support of devolution were most visible in the experiences of independent commissions and bodies such as the COB, CRA and SRC. These organisations had experienced resistance when they had tried to assert their authority particularly in the early days of devolution. These efforts had included threats of disbandment or reduction of budgets. For example, the lifetime of key transitional organisations such as the Transition Authority and the Commission for the Implementation of the Constitution was allowed to lapse before their functions were completed (see section 5.2.2). These undone tasks, and the disincentive for confrontation with governments, may have contributed to poorer fiscal performance by counties and reductions in fiscal space for health.

Similar concerns are observable at county level, where county assemblies demonstrated variable capacity for oversight of fiscal performance. For example, while their support for health department justifications for budgetary allocations had increased over time, there was still the view that the MCAs favoured capital expenditures even when these were likely to be an inefficient use of resources.

“You see...how politics play I think in Kenya or Africa as a whole, people want tangible things. Like you want to show that is a dispensary I built, that is the road I put tarmac, that is a bore hole...” Senior County Government Official County B

The power relationship between the county treasury and the health department also influenced health expenditure. County health department respondents from county B
and C suggested that the presence of donor funding, including conditional grants, caused county treasury officials to reduce allocations to the sector. County treasuries in these two counties were also accused of poor cash flow management. Respondents from County A highlighted that maintaining good relationships with treasury was key to ensuring successful budget implementation. This was achieved through addressing financial management concerns, accommodating reporting demands and including treasury officials in county department plans.

“But when we look at the allocation that we are giving to the health sector ...most of it will go to paying salaries...Then they are left with very little to maybe now increase their development or their service delivery...Unless now we close shop and give everything to health which is not possible” Senior Government Official

County C

County health departments also contributed to lower than optimal levels in public health expenditure. There were capacity constraints on planning at county level. For example, respondents in all three case study counties highlighted the incomplete planning surrounding investment in new health facilities. What often resulted were structures for which no equipment or staffing had been budgeted for. The budgeting for these then happened in subsequent years sometimes dragging implementation over three years. This factor was also related to the failure to consider the unintended consequences for other projects e.g. the installation of security lights at a health facility in county B with the subsequent increase in its running costs.
“Accountability in my view starts from the point of planning... But currently the way we are structured, the way we look at the planning process I think, we still plan or I see the department for health still planning alone. So, we do not see the mix or representation from what we call the citizen group.” Non-state Actor County A

“What we want what we call comprehensive budgeting. For example, if you were budgeting for let’s say a dispensary you budget everything. Right from the structures themselves the building, budget for water, budget for the equipment, budget even for the staff who will serve there.” Senior Government Official County A

“The MCA goes, because he or she wants to please the electorate, and erects his big security lights in a health centre... So that bill goes to the health centre. Now the health centre which used to maybe pay for its electricity of [KES] 8,000 per month, it’s now paying [KES] 25,000 and they don’t have that money...” Senior Government Official County B

There was also limited changes in the government-citizen relationship influenced the level of public health expenditure. For example, there was a prevailing perception that public health expenditure was skewed towards development expenditure and curative services since these were easy to demonstrate to the electorate. While this perception
was not borne out by financial data e.g. in terms of differences in absorption rates which showed that allocations to development budgets were poorly utilised relative to recurrent ones (Table 15), it was also in contrast to the expressed preferences of citizens. For example, the citizens who participated in the focus group discussions were more concerned with health service delivery including access to health workers and medicines.

“…how politics play I think in Kenya or Africa as a whole, people want tangible things. Like you want to show that is a dispensary I built, that is the road I tarmacked, that is a bore hole...we have 55 wards and I think every ward has a dispensary either refurbished or a new one.” Senior Official County B

“They [the county government] come to collect our views but they have already passed that they are going to build a hospital...so even if citizens refuse, it is of no consequence...” FGD Participant County A

“And for us as citizens we don’t have that chance to say the truth. We don’t get access to that money so that we know how it was used, there is no way we will be told.” FGD Participant County B

Several factors contributed to this disconnect. First, structures for participatory governance were either absent or inadequate. Second, concepts such as prioritisation and efficiency may have been difficult to communicate to the population. Other challenges included lack of formal complaints mechanisms, inaccessibility of elected and
appointed officials, fear of victimisation, and feelings of disempowerment (Section 4.3.2).

“So, people come and tell me, ‘We need a CT scan there.” What I’ll tell them, “Yes, a CT scan is good but remember if we use this percentage of the money we have to buy a CT scan we are going to deny this number of workers their salaries for this particular number of months, so it is good to have this but you also have to look at what you have.”” Health Facility Manager County B

“If this hospital had a chairman he would have the authority to directly forward those cases: this hospital has certain lack, it lacks doctors or lacks medicine.” FGD Participant County B
Chapter 6: Determinants of Public Health Expenditure at Decentralised Level

6.1 Introduction

In this chapter I present the study findings from the third objective of the study: to analyse the determinants of public health expenditure at decentralised level in Kenya (box A in the conceptual framework, Figure 1).

The conceptual framework presented in Chapter 3 proposed that fiscal space for health would be influenced by fiscal arrangements and changes in the government-citizen relationship. In this analysis, I operationalise fiscal arrangements as county gross domestic product, equitable share of national revenue, total conditional grants and own source revenue in per capita terms. Changes in the government-citizen relationship are proxied by the social cohesion index, and political party alignment. Contextual factors are operationalised as females with no education, population aged younger than 5 years, percentage of children who are stunted, levels of insurance coverage and density of health workers and hospitals. The detailed methods for the quantitative analysis of panel data from three financial years including all 47 counties in Kenya are presented in section 6.2 of this chapter.

In section 6.3, I find that that the equitable share of national revenues, grants to county governments and county GDP have a positive relationship with per capita public health expenditure of county governments in keeping with my hypothesis in section 3.3.
6.2 Study Methods

The choice of panel data estimation methods is explained in section 3.4.3. A general model for the per capita health expenditure for county \( i = 1, 2...47 \) on individual \( y \) over a period of time \( t = 1, 2...T \) was specified as:

\[
y_{it} = \alpha + x_{it}\beta + \varepsilon_{it} + \mu_i + \nu_t \tag{1}
\]

where;

\( \alpha \) is the intercept

\( x_{it} \) are the explanatory variables

\( \beta \) are the regression coefficients

\( \varepsilon_{it} \) is the error term

\( \mu_i \) is the devolved unit term

\( \nu_t \) is the year-specific term

Sampling

All 47 counties were included in the panel data to allow for adequate investigation of individual effects i.e. county level characteristics that will influence the level of public health expenditure that may not necessarily be captured by other variables. (Table 20)
The time period covered is from FY 2014/15 to FY 2016/17\(^3\). The start date omits the first of decentralisation FY 2013/14 that marked a transition period during which key financial management arrangements were not in place, and data are not reliable. With Kenyan elections due in December 2017, mid-way through FY 2017/18, FY 2016/17 was selected as the finish date for similar reasons.

### Table 20: Summary of County Characteristics

<table>
<thead>
<tr>
<th>County</th>
<th>Total population (2009)</th>
<th>% urban (2009)</th>
<th>Own source revenue (KES)</th>
<th>Share of equitable revenue (KES)</th>
<th>Total conditional grants (KES)</th>
<th>County GDP (KES)</th>
<th>Facilities</th>
<th>Health workers</th>
</tr>
</thead>
<tbody>
<tr>
<td>MOMBASA</td>
<td>938,500</td>
<td>100%</td>
<td>3,055</td>
<td>5,449</td>
<td>65</td>
<td>189,309</td>
<td>8.15</td>
<td>9.58</td>
</tr>
<tr>
<td>KWALE</td>
<td>649,588</td>
<td>18%</td>
<td>371</td>
<td>7,763</td>
<td>35</td>
<td>62,825</td>
<td>6.56</td>
<td>4.14</td>
</tr>
<tr>
<td>KILIFI</td>
<td>1,108,770</td>
<td>26%</td>
<td>506</td>
<td>6,603</td>
<td>32</td>
<td>54,781</td>
<td>5.97</td>
<td>3.96</td>
</tr>
<tr>
<td>TANA RIVER</td>
<td>240,008</td>
<td>15%</td>
<td>123</td>
<td>16,333</td>
<td>25</td>
<td>73,334</td>
<td>9.58</td>
<td>1.96</td>
</tr>
<tr>
<td>LAMU</td>
<td>101,483</td>
<td>20%</td>
<td>644</td>
<td>19,891</td>
<td>41</td>
<td>123,308</td>
<td>15.37</td>
<td>14.39</td>
</tr>
<tr>
<td>TAITA</td>
<td>284,516</td>
<td>23%</td>
<td>658</td>
<td>11,444</td>
<td>35</td>
<td>82,635</td>
<td>14.27</td>
<td>6.29</td>
</tr>
<tr>
<td>TAVETA</td>
<td>622,703</td>
<td>24%</td>
<td>171</td>
<td>9,119</td>
<td>82</td>
<td>34,503</td>
<td>7.55</td>
<td>3.57</td>
</tr>
<tr>
<td>GARISSA</td>
<td>661,769</td>
<td>15%</td>
<td>134</td>
<td>10,753</td>
<td>21</td>
<td>29,355</td>
<td>5.77</td>
<td>1.00</td>
</tr>
<tr>
<td>WAJIR</td>
<td>1,025,546</td>
<td>18%</td>
<td>75</td>
<td>8,591</td>
<td>13</td>
<td>18,580</td>
<td>3.79</td>
<td>0.82</td>
</tr>
<tr>
<td>MANDERA</td>
<td>291,075</td>
<td>22%</td>
<td>389</td>
<td>17,540</td>
<td>27</td>
<td>56,479</td>
<td>10.51</td>
<td>6.39</td>
</tr>
</tbody>
</table>

\(^3\) In Kenya, the financial year runs from 1\(^{st}\) July of one year to 30\(^{th}\) June of the next and so the notation of the three financial years is FY (for financial year) 2014/15, 2015/16 and 2016/17.
<table>
<thead>
<tr>
<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>County</td>
<td>Total population (2009)</td>
<td>% urban (2009)</td>
<td>Own source revenue (KES)</td>
<td>Share of equitable revenue (KES)</td>
</tr>
<tr>
<td>ISIOLO</td>
<td>143,211</td>
<td>44%</td>
<td>789</td>
<td>21,000</td>
</tr>
<tr>
<td>MERU</td>
<td>1,355,359</td>
<td>14%</td>
<td>403</td>
<td>4,714</td>
</tr>
<tr>
<td>THARAKA NITHI</td>
<td>365,142</td>
<td>2%</td>
<td>304</td>
<td>8,454</td>
</tr>
<tr>
<td>EMBU</td>
<td>515,959</td>
<td>16%</td>
<td>784</td>
<td>7,319</td>
</tr>
<tr>
<td>KITUI</td>
<td>1,002,236</td>
<td>14%</td>
<td>350</td>
<td>7,134</td>
</tr>
<tr>
<td>MACHAKOS</td>
<td>1,097,816</td>
<td>52%</td>
<td>1,135</td>
<td>6,066</td>
</tr>
<tr>
<td>MAKUENI</td>
<td>884,258</td>
<td>12%</td>
<td>243</td>
<td>6,642</td>
</tr>
<tr>
<td>NYANDARU A</td>
<td>596,053</td>
<td>19%</td>
<td>457</td>
<td>7,109</td>
</tr>
<tr>
<td>NYERI</td>
<td>693,354</td>
<td>24%</td>
<td>978</td>
<td>6,313</td>
</tr>
<tr>
<td>KIRINYAGA</td>
<td>527,880</td>
<td>16%</td>
<td>646</td>
<td>6,594</td>
</tr>
<tr>
<td>MURANG'A</td>
<td>968,661</td>
<td>15%</td>
<td>580</td>
<td>5,440</td>
</tr>
<tr>
<td>KIAMBU</td>
<td>1,595,803</td>
<td>64%</td>
<td>1,380</td>
<td>4,601</td>
</tr>
<tr>
<td>TURKANA</td>
<td>854,991</td>
<td>14%</td>
<td>174</td>
<td>12,058</td>
</tr>
<tr>
<td>WEST POKOT</td>
<td>512,572</td>
<td>8%</td>
<td>186</td>
<td>8,280</td>
</tr>
<tr>
<td>SAMBURU</td>
<td>223,897</td>
<td>17%</td>
<td>819</td>
<td>15,609</td>
</tr>
<tr>
<td>TRANS NZOIA</td>
<td>818,539</td>
<td>20%</td>
<td>360</td>
<td>6,130</td>
</tr>
<tr>
<td>UASIN GISHU</td>
<td>893,609</td>
<td>39%</td>
<td>815</td>
<td>5,715</td>
</tr>
<tr>
<td>ELGEYO MARAKWET</td>
<td>369,902</td>
<td>14%</td>
<td>319</td>
<td>8,699</td>
</tr>
<tr>
<td>NANDI</td>
<td>752,665</td>
<td>14%</td>
<td>345</td>
<td>6,216</td>
</tr>
<tr>
<td>BARINGO</td>
<td>555,441</td>
<td>11%</td>
<td>491</td>
<td>7,866</td>
</tr>
<tr>
<td>LAIKIPIA</td>
<td>398,992</td>
<td>25%</td>
<td>1,115</td>
<td>8,506</td>
</tr>
<tr>
<td>NAKURU</td>
<td>1,602,636</td>
<td>46%</td>
<td>1,257</td>
<td>4,983</td>
</tr>
<tr>
<td>NAROK</td>
<td>850,292</td>
<td>7%</td>
<td>1,931</td>
<td>6,118</td>
</tr>
<tr>
<td>KAJIADO</td>
<td>686,992</td>
<td>41%</td>
<td>967</td>
<td>6,319</td>
</tr>
<tr>
<td>County</td>
<td>Total population (2009)</td>
<td>% urban (2009)</td>
<td>Own source revenue (KES)</td>
<td>Share of equitable revenue (KES)</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------</td>
<td>----------------</td>
<td>--------------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>KERICOHO</td>
<td>590,371</td>
<td>39%</td>
<td>755</td>
<td>7,499</td>
</tr>
<tr>
<td>BOMET</td>
<td>891,390</td>
<td>15%</td>
<td>228</td>
<td>5,201</td>
</tr>
<tr>
<td>KAKAMEGA</td>
<td>1,659,578</td>
<td>15%</td>
<td>294</td>
<td>5,281</td>
</tr>
<tr>
<td>VIHIGA</td>
<td>554,357</td>
<td>31%</td>
<td>211</td>
<td>6,871</td>
</tr>
<tr>
<td>BUNGOMA</td>
<td>1,374,477</td>
<td>22%</td>
<td>436</td>
<td>5,494</td>
</tr>
<tr>
<td>BUSIA</td>
<td>743,592</td>
<td>16%</td>
<td>406</td>
<td>7,198</td>
</tr>
<tr>
<td>SIAYA</td>
<td>841,746</td>
<td>11%</td>
<td>176</td>
<td>5,838</td>
</tr>
<tr>
<td>KISUMU</td>
<td>968,451</td>
<td>52%</td>
<td>1,017</td>
<td>5,772</td>
</tr>
<tr>
<td>HOMA BAY</td>
<td>963,441</td>
<td>14%</td>
<td>168</td>
<td>5,754</td>
</tr>
<tr>
<td>MIGORI</td>
<td>916,665</td>
<td>34%</td>
<td>358</td>
<td>6,265</td>
</tr>
<tr>
<td>KISII</td>
<td>1,029,861</td>
<td>26%</td>
<td>283</td>
<td>6,777</td>
</tr>
<tr>
<td>NYAMIRA</td>
<td>720,066</td>
<td>9%</td>
<td>141</td>
<td>5,677</td>
</tr>
<tr>
<td>NAIROBI CITY</td>
<td>3,134,798</td>
<td>100%</td>
<td>3,630</td>
<td>4,079</td>
</tr>
</tbody>
</table>

**Data collection**

Secondary data were used for the analysis. The secondary data were obtained primarily from published, publicly available, official government reports including:

- County Budget Implementation Review Reports of the respective financial year
- Kenya Demographic and Health Survey 2014 Data and Reports
- Kenya National Census 2009 Data and Reports
These data were validated against other published official government reports, such as county integrated development plans, County Allocation of Revenue Acts of the relevant financial year, and published peer-reviewed and grey literature. I also had discussions with and obtained metadata with officials from the Ministry of Health, the Commission on Revenue Allocation and the Controller of Budget who had a detailed understanding of the data sources, and who guided or validated the choice of the source of data. Discussions with officials from the Controller of Budget and one of my supervisors raised concerns about the validity of the expenditure data reported in official reports. This was because existing public financial management and reporting arrangements, including information systems, did not guarantee accuracy of the published data. This guided the validation of the data against data collected independently by The World Bank Kenya Country Office and provided to me on request.

The choice of independent variables was informed by the conceptual framework and a review of the empirical literature on determinants of public health expenditure at decentralised level (Appendix 1). The review of the literature highlighted that the selection of variables remains largely atheoretical, with a wide range of determinants used as summarised in Table 21.
Table 21: Summary of determinants and their relationship with public health expenditure from previous studies

<table>
<thead>
<tr>
<th>Determinants with a positive relationship with health expenditure</th>
<th>Determinants with a negative relationship with health expenditure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Gross domestic product/Provincial income/Cash transfers per capita</td>
<td>• Fiscal health e.g. budget deficit or government debt interest level</td>
</tr>
<tr>
<td>• Population proportion that is elderly usually &gt;65 years</td>
<td>• Private share of health spending</td>
</tr>
<tr>
<td>• General physician density</td>
<td>• Social health insurance coverage rate</td>
</tr>
<tr>
<td>• Specialist density</td>
<td>• Urbanization</td>
</tr>
<tr>
<td>• Hospital staff density</td>
<td>• Rural population below poverty line</td>
</tr>
<tr>
<td>• Hospital beds density</td>
<td>• Population density</td>
</tr>
<tr>
<td>• Technological advancements</td>
<td>• Population size</td>
</tr>
<tr>
<td>• Insurance coverage (all types)</td>
<td>• Specialist density</td>
</tr>
<tr>
<td>• Population density</td>
<td>• Time since decentralisation</td>
</tr>
<tr>
<td>• Public share of total expenditure</td>
<td>• Proportions in managed care</td>
</tr>
<tr>
<td>• Health service utilization</td>
<td>• Population proportion that is young usually &lt;5 years</td>
</tr>
<tr>
<td>• Decentralisation</td>
<td>• Child mortality</td>
</tr>
<tr>
<td>• Fiscal capacity and responsibility</td>
<td>• Proportion of older adults</td>
</tr>
<tr>
<td>• Unemployment rate</td>
<td>• Hospital bed density</td>
</tr>
<tr>
<td>• Population share of foreigners</td>
<td>• Left wing party</td>
</tr>
<tr>
<td>• Health status e.g. Mortality ratio, proportion who are diabetic or disabled or obese</td>
<td>• Socioeconomic status e.g. education levels</td>
</tr>
<tr>
<td>• Socioeconomic status e.g. human poverty index, literacy rate or education levels</td>
<td>• Health status e.g. exercise</td>
</tr>
<tr>
<td>• Reimbursements rates</td>
<td></td>
</tr>
<tr>
<td>• Number of women in parliament</td>
<td></td>
</tr>
</tbody>
</table>
The dependent variable for this analysis is **per capita total public health expenditure by county governments**. This choice was informed by the objective of this study which was to explore fiscal capacity of county governments, and the lack of data on private health expenditure at county level at the time the study was conducted. Similarly, public health expenditure is not disaggregated into departments or service types for reasons of data availability and concerns over data fidelity around reporting of expenditures by county governments as highlighted above. Public health expenditure excludes expenditure by the NHIF at these levels but may include funding from conditional grants drawn from donor funds.
The independent variables were grouped into three to reflect the conceptual framework for the study: fiscal arrangements-related; government-citizen relationship-related and context-related. The exact variables were selected to be contextually appropriate and analytically sound. For example, regional per capita income would not apply in the Kenyan context but might best be replaced with per capita equitable share of national revenue and per capita own source revenue. Similarly, while empirical evidence suggests a positive relationship between the elderly and decentralised health expenditure, their inclusion may not have been appropriate given Kenya’s youthful population. Poverty rates at county level were excluded since they are part of the formula that determines county governments’ equitable share of national revenue and as such may have confounded the analysis by introducing endogeneity.

The names, definitions and data sources for the variables used in this analysis are summarised in Table 22.
<table>
<thead>
<tr>
<th>Variable name</th>
<th>Rationale for inclusion</th>
<th>Definition</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita total public health expenditure</td>
<td>Per capita total public health expenditure is an indicator of fiscal space for health. It accounts for the various factors that contribute to fiscal space for health such as prioritisation and available revenue.</td>
<td>All reported expenditure by the county government department in charge of health. Where this was divided into several departments e.g. medical services and public health, the value was the aggregate of expenditure by these departments. Total public health expenditure included recurrent and development expenditure. Recurrent expenditure means salaries for health workers, expenditure on health products and medical technologies (colloquially called medical drugs, commodities and consumables), and administrative expenses (colloquially called operations and maintenance). Development expenditure means expenditure on equipment, and buildings. The total expenditure</td>
<td>Data were obtained from the Controller of Budget Annual County Budget Implementation Review Reports FY 2014/15 – FY 2016/17 (2017, 2016, 2015) and validated against microdata obtained from Controller of Budget with sensitivity analysis performed against data obtained from the World Bank</td>
</tr>
<tr>
<td>Variable name</td>
<td>Rationale for inclusion</td>
<td>Definition</td>
<td>Data source</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td></td>
<td>A measure of health care expenditure per capita</td>
<td>was divided by the total population of the county to provide per capita measures. The analysis included data for the financial year 2014/16 to 2016/17. Financial year 2013/14 was omitted from the analysis given concerns over its quality including completeness since this represented the transition to decentralized government.</td>
<td>Gross County Product 2019 report by Kenya National Bureau of Statistics (2019).</td>
</tr>
</tbody>
</table>

**Fiscal arrangements-related determinants**

<p>| County Gross Domestic Product Per Capita | Theory and evidence from literature suggests that the subnational GDP can positively influence the level of health expenditure. Subnational GDP is utilized as a proxy for income in these analyses; even though its use may be disputed for subnational units given its dependence on economic functions, which reside | The GCP was obtained through a top-down allocation of the national estimate of GDP to counties based on a weight equivalent to the county’s contribution to a particular economic activity. Taxes on products are not allocated to counties because of data limitations. The total of GCP added to taxes on products and value added | Gross County Product 2019 report by Kenya National Bureau of Statistics (2019). |</p>
<table>
<thead>
<tr>
<th>Variable name</th>
<th>Rationale for inclusion</th>
<th>Definition</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equitable Share of National Revenue Per Capita</td>
<td>Theory and evidence from literature suggests that the subnational share of national revenues, separate from subnational GDP can positively influence the level of health expenditure at subnational level.</td>
<td>The share of national revenues that is disbursed to individual county governments by the end of the financial year.</td>
<td>Data were from the Controller of Budget’s Budget Implementation Review Reports FY 2014/15 – FY 2016/17 (2017, 2016, 2015). The data were validated against data from the obtained from County Allocation of Revenue Act of the relevant financial year</td>
</tr>
<tr>
<td>Total Conditional Grants Per Capita</td>
<td>Theory and evidence from literature suggests that conditional grants can positively influence the level of health expenditure at subnational level. Moreover, conditional grants in themselves are often designed to increase government expenditure in particular areas.</td>
<td>Conditional grants from any source that were meant to be spent on health services, regardless of the conditionality attached to the grant, that were received by county governments in the relevant financial year</td>
<td>Data were from the Controller of Budget’s Budget Implementation Review Reports FY 2014/15 – FY 2016/17 (2017, 2016, 2015). The data were validated against data</td>
</tr>
<tr>
<td>Variable name</td>
<td>Rationale for inclusion</td>
<td>Definition</td>
<td>Data source</td>
</tr>
<tr>
<td>--------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Per capita own source revenue</td>
<td>Theory and evidence from literature suggests that the subnational own revenues, separate from subnational GDP, can positively influence the level of health expenditure at subnational level.</td>
<td>County revenue generated from sources that are permitted by existing fiscal arrangements. These are termed “own source revenue” and include fees for services, and land rates.</td>
<td>Data were from the Controller of Budget’s Budget Implementation Review Reports FY 2014/15 – FY 2016/17 (2017, 2016, 2015). The data were validated against data from the obtained from County Allocation of Revenue Act of the relevant financial year</td>
</tr>
</tbody>
</table>

**Context-related determinants**

<p>| Percentage females with no education | Education and literacy levels will potentially influence healthy behaviour, health seeking behaviour and uptake of insurance. This could reduce utilization of | Percentage of women with education level classified as none                                                                 | Kenya Demographic and Health Survey 2014                                                                                                                                                                |</p>
<table>
<thead>
<tr>
<th>Variable name</th>
<th>Rationale for inclusion</th>
<th>Definition</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td>health services and therefore decrease allocations over time. On the other hand, a well-educated or highly literate populace might demand greater accountability for county governments, including increased expenditure on health services. Because of the link between female education levels and literacy rates with health status, the level of education in women is used.</td>
<td>Percentage of the population in the age strata four year and younger</td>
<td>Kenya National Census 2009 data and reports</td>
<td></td>
</tr>
<tr>
<td><strong>Percentage Age &lt;5 years</strong></td>
<td>Empirical evidence suggests a positive relationship between the elderly and subnational health expenditure. This is in keeping with increased expenditure necessitated by the old age and the growing number of the elderly in high-income countries. Countries such as Kenya with younger populations may display a different pattern, though</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable name</td>
<td>Rationale for inclusion</td>
<td>Definition</td>
<td>Data source</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td>Percentage</td>
<td>The relationship is likely to remain positive. Given the urban population focus on children under five in policy and service delivery, this age group is selected as the variable of interest.</td>
<td>Percentage of the population that is classed as living in an urban area</td>
<td>Kenya National Census 2009 data and reports</td>
</tr>
<tr>
<td>urban population</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Percentage</td>
<td>Theory and empirical evidence suggest a mixed picture for the effect of urbanization on public health expenditure. It may increase public health expenditure as part of the developmental stage of the economy e.g. to deal with the externalities of urbanization. On the other hand, urban areas may make it more efficient to provide services by providing higher population densities and greater access.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>children</td>
<td>The level of stunting in a particular county may indicate the level of need for health services in the population, regardless of health seeking behaviour.</td>
<td>Percentage of children with stunting i.e. height for age &lt; 2 SD</td>
<td>Kenya Demographic and Health Survey Reports</td>
</tr>
<tr>
<td>stunted</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Variable name</td>
<td>Rationale for inclusion</td>
<td>Definition</td>
<td>Data source</td>
</tr>
<tr>
<td>---------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Health insurance coverage</td>
<td><em>This is in spite of stunting being a measure of long-term nutritional deficits because of its association with malnutrition, ill health and other social determinants of health such as poverty. A higher level of stunting should increase the level of public health expenditure by influencing decision makers who may wish to address this health outcome, and also by increasing utilisation of health services. However, the usual bias towards curative expenditure, and the situation of nutrition as a multisectoral issues, will mean any increases in health expenditure are unlikely.</em></td>
<td>Percentage of county citizens with insurance coverage of any kind in the relevant financial year</td>
<td>Kenya Household Health Expenditure and Utilization Survey 2013 with coverage assumed to remain unchanged over the period</td>
</tr>
<tr>
<td>Variable name</td>
<td>Rationale for inclusion</td>
<td>Definition</td>
<td>Data source</td>
</tr>
<tr>
<td>---------------</td>
<td>------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------------------------------</td>
</tr>
</tbody>
</table>
| Hospitals per 10,000 population and Health workers per 10,000 population | Hospitals may be associated with higher levels of public health expenditure since these usually cater for more costly services. However, primary care facilities in Kenya also offer “bed” services e.g. for deliveries, and some may offer admission services for key population groups e.g. paediatrics which may be costly. Counties with a higher density of health workers may have higher levels of health expenditure as health workers salaries are part of county health services, or may opt out of using public health services. The resulting decrease in utilization rates may cause planners and budgeters to decrease spending to health services. | i) the number of health facilities per 10,000 population;  
ii) the number of health workers per 10,000 population; | Service Availability Readiness Assessment Mapping survey 2013 Report |
<table>
<thead>
<tr>
<th>Variable name</th>
<th>Rationale for inclusion</th>
<th>Definition</th>
<th>Data source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>expenditures, and because they may prescribe costly treatments.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changes in the Government-Citizen relationship-related determinants</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Social cohesion index</td>
<td>Theory suggests that more homogenous societies are more likely to demand greater accountability and greater expenditure on public goods. The social cohesion index is a concept that includes elements such as trust, equity, peace and diversity.</td>
<td>Unweighted social cohesion index score calculated for the county in question</td>
<td>The Status of Social Cohesion in Kenya 2013 Draft Report from the National Cohesion and Integration Commission</td>
</tr>
<tr>
<td>Political party alignment</td>
<td>Theory and empirical evidence suggest that the ideological leaning of a party might influence the level of public health expenditure. Kenya’s key political groupings show little ideological differentiation with existing evidence suggesting no difference in relationship. However, the level of political alignment between the county executive and county legislatures</td>
<td>The political coalition to which the governor of the county government belonged compared to that to which the majority of elected members of county assembly belonged at the time of their election in 2013 i.e. excluding nominated members of the county assembly and any changes in political alignment</td>
<td>Independent Electoral and Boundaries Commission based on the elections of 2013</td>
</tr>
<tr>
<td>Variable name</td>
<td>Rationale for inclusion</td>
<td>Definition</td>
<td>Data source</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------</td>
<td>------------</td>
<td>-------------</td>
</tr>
<tr>
<td>(assemblies) may contribute to differences among counties</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Data Management and Analysis

Data which had been extracted to a MS Excel workbook during data collection were transferred onto a single worksheet with column heads indicating the variable of interest ordered by time (financial year) and the rows referring to the county of interest. The data were saved in .csv format and then imported into Stata 11.1 (Stata/IC 11.2 for Mac (64-bit Intel)) for cleaning and management. The cleaning process included checking for missing data, ranges and distribution, and formatting. The management process included reshaping the data from the wide format to the long format, regrouping variables such as age groups, generating additional variables such as per capita health spending and generating summaries.

Model specification, building and estimation

The panel regression model to be estimated is presented in Equation 1 above. The model was specified as:

\[
\text{Per capita total PHE} = \beta \text{ Per capita GDP} + \beta \text{ Per capita equitable share} + \beta \text{ Per capita total conditional grants} + \beta \text{ Per capita OSR} + \beta \text{ Percentage females with no education} + \beta \text{ Percentage Age <5years} + \beta \text{ Percentage urban population} + \beta \text{ Social cohesion index} + \beta \text{ Political party alignment} + \beta \text{ Percentage children stunted} + \beta \text{ Hospitals per 10,000 population} + \beta \text{ Health workers per 10,000 population} + \beta \text{ Health insurance coverage} \quad (2)
\]
The model was tested for multicollinearity using the variance inflation factor (VIF). All variables were retained as none had VIF greater than 10. Univariate regression was then performed as summarised in Table 23:

Table 23: Univariate regression results

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-value</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Per capita GDP</td>
<td>0.0030</td>
<td>1.55</td>
<td></td>
</tr>
<tr>
<td>Per capita equitable share</td>
<td>0.1673</td>
<td>10.58</td>
<td>***</td>
</tr>
<tr>
<td>Per capita total conditional grants</td>
<td>2.3551</td>
<td>5.50</td>
<td>***</td>
</tr>
<tr>
<td>Per capita OSR</td>
<td>0.0117</td>
<td>0.88</td>
<td></td>
</tr>
<tr>
<td>Percentage Females with no education</td>
<td>696.8449</td>
<td>1.91</td>
<td></td>
</tr>
<tr>
<td>Percentage Age &lt;5 years</td>
<td>-1914.018</td>
<td>-0.51</td>
<td></td>
</tr>
<tr>
<td>Percentage Urban population</td>
<td>58.5627</td>
<td>0.14</td>
<td></td>
</tr>
<tr>
<td>Social cohesion index</td>
<td>6.8416</td>
<td>0.64</td>
<td></td>
</tr>
<tr>
<td>Political party alignment</td>
<td>-205.63</td>
<td>-0.97</td>
<td></td>
</tr>
<tr>
<td>Percentage children stunted</td>
<td>-1272.56</td>
<td>-1.04</td>
<td></td>
</tr>
<tr>
<td>Hospitals per 10,000 population</td>
<td>114.3126</td>
<td>8.20</td>
<td>***</td>
</tr>
<tr>
<td>Health workers per 10,000 population</td>
<td>84.1958</td>
<td>4.11</td>
<td>***</td>
</tr>
<tr>
<td>Health insurance coverage</td>
<td>-513.136</td>
<td>-0.54</td>
<td></td>
</tr>
</tbody>
</table>

*p<0.05; ** p<0.01, ***p<0.001

There were no zero correlations between all of the variable pairs. Strong and expectedly positive correlations were present between per capita GDP and per capita own revenue (0.8481), proportion of the population that is urban (0.7606), health worker density (0.6909) and health insurance coverage levels (0.6512). Strong and expectedly positive correlation were also present between per capita own revenue and proportion of the population that is urban (0.8187). Strong and expectedly negative correlations were identified between the proportion of females with no education and the social cohesion index (-0.6800) and insurance coverage levels (-0.6356).
Residual plots suggested that either a linear model, log-linear or log-log model could be used to examine the relationship between per capita public health expenditure and the monetary variables (own revenue, equitable share, total conditional grants and gross domestic product per capita). The normality of residuals from the three models was assessed using graphical summaries and the Shapiro-Wilk W test against the null hypothesis that the residuals are normally distributed. Graphical and statistical assessment of the linear and log-linear models suggested violations of the assumption of normality. For the log-log model, the graphical summaries suggested normality, while the Shapiro-Wilk test suggested was strong evidence to reject this null hypothesis ($p < 0.001$).

On the strength of the graphical assessment, a log-log model (3) was selected for the analysis.

\[
\ln\text{Per capita total PHE} = \beta_1 \ln\text{Per capita GDP} + \beta_2 \ln\text{Per capita equitable share} + \beta_3 \ln\text{Per capita total conditional grants} + \beta_4 \ln\text{Per capita OSR} + \beta_5 \text{Percentage females with no education} + \beta_6 \text{Percentage Age <5years} + \beta_7 \text{Percentage urban population} + \beta_8 \text{Social cohesion index} + \beta_9 \text{Political party alignment} + \beta_{10} \text{Percentage children stunted} + \beta_{11} \text{Hospitals per 10,000 population} + \beta_{12} \text{Health workers per 10,000 population} + \beta_{13} \text{Health insurance coverage} \quad (3)
\]

Additional diagnostics were performed on model 3 to identify outliers (observations with large residuals); and check for leverage (observations that deviate from the mean
which could affect the estimation of regression results) and influence (an observation whose removal can change the estimation of regression coefficients) (UCLA Institute for Digital Research and Education, 2019). The results suggested influence of some observations from Kisumu, Kirinyaga, Kiambu, Machakos and Bomet counties; while observations from Kisumu and Laikipia counties had influence on the coefficients for per capita equitable share, per capita total conditional grant, and facility density. Reviewing the data did not suggest any reason for dropping these observations.

However, given concerns over the validity of expenditure data reported in official government publications, sensitivity analysis was performed using alternative data for county level health expenditure obtained from the World Bank.

Fixed effects (FE) estimation methods were considered for these data which are obtained from repeated observation from the same set of units i.e. 47 country governments over three financial years 2014/15, 2015/16 and 2016/17. Since these measures are obtained at the lowest level of analysis, then the data is not considered to be multi-level data. Fixed effects do not work well for data with minimal within-cluster variation or for variables that change slowly over time. This was assumption was tested by checking for heterogeneity across place and time for the independent variables found to be significant in the univariate regression. Graphical analysis suggested that there was heterogeneity within the county and across time for the monetary variables while this was not the case for the non-monetary variables. For this reason, a second model (4) was specified:
\[
\ln \text{Per capita total PHE} = \beta \ln \text{Per capita GDP} + \beta \ln \text{Per capita equitable share} + \beta \\
\ln \text{Per capita total conditional grants} + \beta \ln \text{Per capita OSR} \quad (4)
\]

A modified Wald statistic suggested that there was evidence to reject the null hypothesis of homoscedasticity for model 3 (\(p = 0.0037\)) but not for model 4 (\(p = 0.2339\)). For model 4, therefore, robust standard errors were requested to account for potential bias. Because the Hausman test cannot be applied in a straightforward way with heteroskedasticity or with specification for robust standard errors, the choice between a fixed effects (FE) and random effects (RE) model for model 3 was made using the Sargan-Hansen test (Schaffer M E and Stillman S, 2016). The results suggested that a FE effects model was more suitable for model 3 (\(p=0.0107\)). The Hausman test for model 4 (\(p <0.001\)) supported the use of a FE model.

I employed a two-stage estimation method described by Nguyen et al (2009) to obtain estimates from the non-monetary variables in the FE panel data model because they were likely to be excluded because of collinearity. This is because these variables were not necessarily time invariant, but rather were likely to change slowly over time. In the second stage of this method, residuals from the least-squares estimation method, where these time-invariant variables are dropped, are regressed on the time-invariant variables which generates their coefficients.
The results from the random effects (RE) regression model are used to interpret the findings of this study given challenges with the fixed effects (FE) model estimation of the time invariant variables and concerns with the validity of the estimation method proposed by Nguyen et al (2009). For completeness, however, pooled OLS, fixed effects and random effects regression results are reported.

6.3 Results
RE model (1) and RE model (2) both estimate that the coefficient for per capita total conditional grant is positive and statistically significant at the 0.1% level respectively thought the size of the coefficient is small (Table 24 and 25 respectively). RE model 2 also estimates that the coefficient for per capita share of equitable revenue is positive and statistically significant at the 0.1% level, and that the coefficient for per capita county gross domestic product is positive and significant at the 5% level. These findings are consistent with the hypothesis in section 3.3 and in Table 22 that the fiscal arrangements-related variables would have a positive relationship with per capita public health expenditure.

The FE models explained only 33% of the variation in per capita total public health expenditure (Model (1) FE and Model (2) FE in Table 24 and Table 25 respectively). In both models, only the relationship between per capita equitable share of revenue and per capita total PHE was statistically significant at the 1% level and 5% level respectively. The positive relationship between per capita total public health expenditure and per
capita equitable share of revenue is as predicted and in keeping with findings from other studies. The negative sign of the coefficients for per capita county gross domestic product and per capita total conditional grant is against prediction but is not statistically significant \( (p=0.118 \text{ and } p=0.853 \text{ respectively}) \). The positive sign of the coefficient for per capita own source revenue is as predicted but is not statistically significant \( (p=0.380) \).

The pooled OLS regression model (2) estimates the coefficient for per capita equitable share is positive and statistically significant at the 0.1% level and those for per capita GDP and per capita total conditional grants are also positive statistically significant at the 5% level.

Coefficients for the other variables were not statistically significant regardless of the model or estimation method used suggesting no relationship between them and per capita public health expenditure. This finding is consistent with the hypothesis that only fiscal arrangements-related variables will have a relationship with per capita public health expenditure of county governments. This finding is also consistent with the empirical literature which finds context-related and government-citizen relationship-related variables have a varying association with per capita public health expenditure at decentralized level. These characteristics are also presented in Table 21 and 22.

In summary, the determinants of per capita public health expenditure at county level in Kenya are per capita total conditional grant, per capita share of equitable revenue and per capita conditional grant. From RE model (2) in Table 25, there is the strongest
evidence that a 1% change in per capita total conditional grant results in a 0.09% (p <0.001, 95% Confidence Interval 0.04% – 0.14%) change on per capita public health expenditure by county governments; and that a 1% change in per capita equitable share results in a 0.68% (p<0.001, 95% Confidence Interval 0.45% - 0.92%) change in per capita public health expenditure by county governments.

6.3.1 Sensitivity Analysis

Sensitivity analysis was performed using data on one variable obtained from the World Bank: county public health expenditure (Section 3.5 and Table 26 and 27). As with the main analysis, in the random effects specification of model (2), the relationship between per capita GDP, per capita equitable share of revenue and per capita conditional grants were statistically significant at the 5%, 0.01% and 5% level respectively. The overlap between the 95% confidence intervals for the coefficients obtained from the sensitivity analysis and that of the main analysis suggests the two estimates are not different. The pooled regression of model 2 shows similar results for the three variables, while the fixed effects regression of the same model identifies per capita equitable share of revenue as significant at the 5% level.
Table 24: Results from the estimation of the determinants of public health expenditure at county level in Kenya

<table>
<thead>
<tr>
<th></th>
<th>Pooled Regression</th>
<th>FE</th>
<th>RE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>95% Confidence Interval</td>
<td>P&gt;</td>
</tr>
<tr>
<td>Per capita GDP</td>
<td>0.4529</td>
<td>-0.0443 - 0.9502</td>
<td>-1.2944 - 2.9117 - 0.3429</td>
</tr>
<tr>
<td>Per capita equitable share</td>
<td>0.2807</td>
<td>-0.2962 - 0.8576</td>
<td>2.8554 - 0.9737 4.7370 **</td>
</tr>
<tr>
<td>Per capita total conditional grants</td>
<td>0.1896</td>
<td>-0.0039 - 0.3832</td>
<td>-0.0071 - 0.0841 0.0698</td>
</tr>
<tr>
<td>Per capita OSR</td>
<td>-0.0829</td>
<td>-0.3026 - 0.1368</td>
<td>0.2332 - 0.2959 0.7624</td>
</tr>
<tr>
<td>Percentage females with no education</td>
<td>0.3680</td>
<td>-0.5164 - 1.2524</td>
<td>-0.0145 - 0.4470 0.4180</td>
</tr>
<tr>
<td>Percentage Age &lt;5years</td>
<td>-2.1380</td>
<td>-7.3014 - 3.0254</td>
<td>-0.0341 - 2.8463 2.7781</td>
</tr>
<tr>
<td>Percentage urban population</td>
<td>-0.5029</td>
<td>-1.2616 - 0.2558</td>
<td>0.0136 - 0.4401 0.4673</td>
</tr>
<tr>
<td>Social cohesion index</td>
<td>0.0023</td>
<td>-0.0160 - 0.0206</td>
<td>-0.0001 - 0.0097 0.0095</td>
</tr>
<tr>
<td>Political party alignment</td>
<td>0.0230</td>
<td>-0.2401 - 0.2861</td>
<td>-0.0005 - 0.1368 0.1358</td>
</tr>
<tr>
<td>Percentage children stunted</td>
<td>0.2033</td>
<td>-1.4512 - 1.8578</td>
<td>0.0052 - 0.8553 0.8656</td>
</tr>
<tr>
<td>Hospitals per 10,000 population</td>
<td>0.0230</td>
<td>-0.0121 - 0.0581</td>
<td>-0.0008 - 0.0186 0.0170</td>
</tr>
<tr>
<td>Health workers per 10,000 population</td>
<td>0.0178</td>
<td>-0.0020 - 0.0059</td>
<td>0.0009 - 0.0205 0.0223</td>
</tr>
<tr>
<td>Health insurance coverage</td>
<td>-1.0795</td>
<td>-3.1428 - 0.9838</td>
<td>0.0289 - 1.0267 1.0845</td>
</tr>
<tr>
<td>_cons</td>
<td>0.9805</td>
<td>-3.4779 - 5.4389</td>
<td>-4.8499 - 19.4180 9.7182</td>
</tr>
<tr>
<td>Within R²</td>
<td></td>
<td></td>
<td>0.3311</td>
</tr>
<tr>
<td>Between R²</td>
<td></td>
<td></td>
<td>0.1796</td>
</tr>
<tr>
<td>Overall R²</td>
<td>0.4773</td>
<td></td>
<td>0.1441</td>
</tr>
<tr>
<td>Number of observations</td>
<td>47</td>
<td></td>
<td>141</td>
</tr>
<tr>
<td>Number of periods</td>
<td>3</td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>
*p<0.05; ** p<0.01, ***p<0.001
Table 25: Results from the estimation of the determinants of public health expenditure at county level in Kenya

<table>
<thead>
<tr>
<th>Model (2)</th>
<th>Pooled Regression</th>
<th>FE</th>
<th>RE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>95% Confidence Interval</td>
<td>P&gt;</td>
</tr>
<tr>
<td>Per capita GDP</td>
<td>0.3566</td>
<td>0.0685 - 0.6446</td>
<td>*</td>
</tr>
<tr>
<td>Per capita equitable share</td>
<td>0.6672</td>
<td>0.4428 - 0.8917</td>
<td>***</td>
</tr>
<tr>
<td>Per capita total conditional grants</td>
<td>0.2188</td>
<td>0.0534 - 0.3841</td>
<td>*</td>
</tr>
<tr>
<td>Per capita OSR</td>
<td>-0.0833</td>
<td>-0.2481 - 0.0814</td>
<td>**</td>
</tr>
<tr>
<td>Within R²</td>
<td></td>
<td>0.3311</td>
<td></td>
</tr>
<tr>
<td>Between R²</td>
<td></td>
<td>0.1796</td>
<td></td>
</tr>
<tr>
<td>Overall R²</td>
<td>0.5153</td>
<td>0.1441</td>
<td></td>
</tr>
<tr>
<td>Number of observations</td>
<td>47</td>
<td>141</td>
<td>141</td>
</tr>
<tr>
<td>Number of periods</td>
<td></td>
<td>3</td>
<td>3</td>
</tr>
</tbody>
</table>

*p<0.05; ** p<0.01, ***p<0.001
Table 26: Results from the sensitivity analysis of the determinants of public health expenditure at county level in Kenya

<table>
<thead>
<tr>
<th></th>
<th>Pooled Regression</th>
<th>FE</th>
<th>RE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef.</td>
<td>95% Confidence Interval</td>
<td>P&gt;z</td>
</tr>
<tr>
<td>Per capita GDP</td>
<td>0.4903</td>
<td>-0.0379 - 0.0379</td>
<td>1.0186</td>
</tr>
<tr>
<td>Per capita equitable share</td>
<td>0.4303</td>
<td>-0.1825 - 0.1825</td>
<td>1.0432</td>
</tr>
<tr>
<td>Per capita total conditional grants</td>
<td>0.1802</td>
<td>-0.0254 - 0.0254</td>
<td>0.3858</td>
</tr>
<tr>
<td>Per capita OSR</td>
<td>-0.1226</td>
<td>-0.3560 - 0.3560</td>
<td>0.1108</td>
</tr>
<tr>
<td>Percentage females with no education</td>
<td>0.0437</td>
<td>-0.8958 - 0.8958</td>
<td>0.9832</td>
</tr>
<tr>
<td>Percentage Age &lt;5years</td>
<td>-3.5351</td>
<td>-9.0201 - 9.0201</td>
<td>1.9499</td>
</tr>
<tr>
<td>Percentage urban population</td>
<td>-0.3431</td>
<td>-1.1491 - 0.1491</td>
<td>0.4628</td>
</tr>
<tr>
<td>Social cohesion index</td>
<td>0.0063</td>
<td>-0.0131 - 0.0131</td>
<td>0.0258</td>
</tr>
<tr>
<td>Political party alignment</td>
<td>-0.0742</td>
<td>-0.3537 - 0.3537</td>
<td>0.2053</td>
</tr>
<tr>
<td>Percentage children stunted</td>
<td>0.2526</td>
<td>-1.5050 - 1.5050</td>
<td>2.0102</td>
</tr>
<tr>
<td>Hospitals per 10,000 population</td>
<td>0.0232</td>
<td>-0.0141 - 0.0141</td>
<td>0.0605</td>
</tr>
<tr>
<td>Health workers per 10,000 population</td>
<td>0.0096</td>
<td>-0.0309 - 0.0309</td>
<td>0.0502</td>
</tr>
<tr>
<td>Health insurance coverage</td>
<td>-1.8282</td>
<td>-4.0200 - 4.0200</td>
<td>0.3636</td>
</tr>
<tr>
<td>cons</td>
<td>-0.2561</td>
<td>-4.9922 - 4.9922</td>
<td>4.4799</td>
</tr>
<tr>
<td>Within R²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between R²</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall R²</td>
<td>0.4974</td>
<td>-0.1186 - 0.1186</td>
<td>0.4783</td>
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<tr>
<td>Number of observations</td>
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<td>141</td>
<td>141</td>
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<tr>
<td>Number of periods</td>
<td>3</td>
<td>3</td>
<td>3</td>
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*p<0.05; ** p<0.01, ***p<0.001
Table 27: Results from the sensitivity analysis of the determinants of public health expenditure at county level in Kenya

<table>
<thead>
<tr>
<th></th>
<th>Pooled Regression</th>
<th>FE</th>
<th>RE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coef. 95% CI</td>
<td>Coef. 95% CI</td>
<td>Coef. 95% CI</td>
</tr>
<tr>
<td>Per capita GDP</td>
<td>0.4201 0.1121-0.7282</td>
<td>** -1.3162 -3.2227 0.5903</td>
<td>0.3969 0.0915 0.7024  *</td>
</tr>
<tr>
<td>Per capita equitable share</td>
<td>0.7656 0.5256-1.0056</td>
<td>*** 2.4321 0.4268 4.4374  *</td>
<td>0.7954 0.5409 1.0498  ***</td>
</tr>
<tr>
<td>Per capita total conditional grants</td>
<td>0.1894 0.0126 0.3663  *</td>
<td>0.0051 -0.1053 0.1155</td>
<td>0.0652 0.0154 0.1151  *</td>
</tr>
<tr>
<td>Per capita OSR</td>
<td>-0.1120 -0.2881 0.0642</td>
<td>-0.0494 -0.5534 0.4547</td>
<td>-0.0724 -0.2390 0.0943</td>
</tr>
<tr>
<td>_cons</td>
<td>-2.8047 -6.5580 0.9487</td>
<td>0.8445 -15.6357 17.3246</td>
<td>-3.8668 -7.6448 0.0888</td>
</tr>
<tr>
<td>Within R²</td>
<td>0.3311</td>
<td>0.2613</td>
<td></td>
</tr>
<tr>
<td>Between R²</td>
<td>0.1796</td>
<td>0.5127</td>
<td></td>
</tr>
<tr>
<td>Overall R²</td>
<td>0.5258</td>
<td>0.1441</td>
<td>0.4314</td>
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<tr>
<td>Number of observations</td>
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<td>141</td>
<td>0.2613</td>
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<tr>
<td>Number of periods</td>
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</tr>
</tbody>
</table>

*p<0.05; ** p<0.01, ***p<0.001
Chapter 7: Discussion and Policy Recommendations

7.1 Introduction
This thesis sought to critically examine the implications of devolution on fiscal space for health at decentralised level in Kenya. Building on theoretical and empirical literature on fiscal space for health in decentralised settings presented in Chapter 2, I developed a conceptual framework as described in Chapter 3. In the same chapter, I set out a convergent parallel mixed method design informed by the desire to accommodate the collection and analysis of both qualitative and quantitative data so as to give these data equal weight and permit an in depth and broad understanding of the phenomenon of interest. In Chapter 4 and 5, I presented the results of the multiple case study approach used to collect qualitative data. Chapter 4 presented a description of the fiscal arrangements and the changes in the government-citizen relationship following devolution in Kenya and an assessment on why these arrangements were adopted given Kenya’s context. Chapter 5 presented an assessment of the implications of fiscal arrangements and changes in the government-citizen relationship on fiscal space for health at county with a focus on the level and pattern on county-level public health expenditure. In Chapter 6, I presented the results of the quantitative assessment of the determinants of county-level public health expenditure and critically analysed these results.

In this chapter I discuss the results presented in Chapter 4, 5 and 6. I then merge the qualitative (Chapter 4 and 5) and quantitative (Chapter 6) arms of the convergent
parallel mixed methods study design employed through a narrative integration of the findings. I also identify policy recommendations as fulfilment of the fourth objective of this thesis.

The chapter is organised into the following sections: discussion of the findings (7.2); summary of key findings and emerging themes (7.3); strengths and limitation of this thesis (7.4); recommendations including areas for further research (7.5) and a conclusion (7.6).

7.2 Discussion of findings
The findings presented in Chapter 4 are important for those grappling with decentralisation arrangements and how these may impact subnational health systems particularly in Kenya. To my knowledge, this presents the first detailed assessment of these arrangements that accounts for the two broad ways in which decentralisation is predicted to operate as presented in the conceptual framework for this study. The description provides an important addition to existing Kenyan literature in this area as highlighted in the introduction to this thesis.

A key finding was the role of history and political context in informing the design and implementation of decentralisation. This finding corroborates literature that asserts that non-economic criteria can trump economic criteria in determining key features of decentralisation such as the allocation of revenue and functional assignments (Shin,
The criteria for allocation of the health function to county governments does not seem to be predicated on economic considerations only e.g. potential for efficiency gains (Dafflon, 2006). Instead non-economic criteria in policy, such as promoting self-governance, and in practice, such as previous experiences of allocation of that function to sub-national units, may have played a role in the decision to assign the majority of health functions to the county level. The role on non-economic criteria is also visible in the rapid transfer of functions where political considerations may have played a part. This finding is of particular relevance when considering the capacity of counties to generate own source revenue.

The results in Chapter 4 suggest that county governments have limited options for expanding fiscal space using own revenue sources for four reasons related to political and economic context. First, the number of income sources is limited particularly for counties with few or small urban areas that would concentrate businesses and public services such as parking and refuse management. Second, while some measures such as automation may increase efficiency of tax collection, they do not fundamentally alter the low revenue potential of many of the sources of revenue. Third, the low revenue potential of these sources is contributed to by the need for county governments to balance concerns over guaranteeing access to services in a context of high poverty levels, political considerations that preclude rapid rises in tax rates, and shortcoming in public participation that often hamper proposed revenue raising mechanisms. Finally, contextual factors at the national level such as delayed land reforms and tax exemptions for key investors, also negatively influence the ability of counties to raise own revenues.
The second key finding in Chapter 4 relates to the institutional arrangements and organisations that underpin decentralisation and in particular fiscal arrangements. These are usually the set out in a constitution (Dafflon, 2006, Shane, 2006, von Hagen, 2006). In Kenya’s case, the legislative framework establishes permanent and transitory institutional arrangements and organisations to support decentralisation and smooth out some of the challenges of implementation. However, the presence of a written constitution can impose rigidity including to the arrangements between levels of government and may mean gaps or ambiguous clauses are contested or exploited (Tremmel, 2017, Ghai and Cottrell, 2015). The relationship between the National Assembly and the Senate is an important example of the consequences of this rigidity. The National Assembly is vested with control over budget setting and approval which includes control over the Senate’s funding. This gave the National Assembly power over the Senate which in turn influenced the outcome of key mechanisms for fiscal arrangements such as in the division of national revenue between the two levels of government.

The third key finding in Chapter 4 was the narrow range and poor functioning of mechanisms for social accountability. For example, while participatory planning through the planning and budgeting process was in place in all three case study counties, there was evidence that citizens had limited ability to utilise their voice, demand answers or enforce sanctions (Camargo and Jacobs, 2013). A number of factors are related to citizen’s lack of voice including a lack of information. Access to information is a right
enshrined in the Kenyan constitution and legislated in various statutes. Nevertheless, the operationalisation of these statutes remains poor. This may be explained by various theoretical approaches including agency and public choice theory. Agency theory presupposes that information asymmetry exists between principal and agent: in this case the citizen and the government (Porcelli, 2009). The suite of incentives that the citizenry can apply to obtain information about government action on its behalf is limited. For example, Kenyan citizens cannot withhold taxes for the most part, and cannot exit the jurisdiction without travel documents provided by the government. Public choice theory assumes that government officials are self-interested and this would incentivize the withholding of information: including that on performance (Buchanan J. M., 2000). This is a particular concern in Kenya where accountability of public officials remains a concern (Ghai and Cottrell, 2015, Odhiambo-Mbai, 2003). This is also in spite of evidence that suggests that well designed and implemented citizen engagement mechanisms can improve social accountability and potentially service delivery (Danhoundo et al., 2018, Bailey et al., 2016). Civic education is one such mechanisms with potential to influence both social accountability and fiscal arrangements through its potential effects on knowledge of constitutional and legal issues, and political empowerment and participation (Finkel et al., 2012). Strengthening County Budget and Economic Forums (CBEF), and other county stakeholder fora, may also deliver the success enjoyed through existing participatory governance mechanisms such as health facility committees (O’Meara et al., 2011).
There were three other potential contributors to the observed challenges with social accountability at county level. The first was the continued dominance of national level politics over local level politics. This may in part be due to constitutional design, which invested powers in an executive president, and also due to the ethnicization of Kenyan politics. The latter means that governors function not only as local representatives but also as ethnic mobilizers who can trade a bloc of votes for rewards from the centre (A singo, 2015, Mueller, 2011). While evidence following decentralisation remains largely anecdotal, pre-decentralisation studies suggest that ethnicity is an important determinant of how citizens engage with government in Kenya (Tshangana, 2010, Hornsby and Throup, 1992, Gutiérrez-Romero, 2013, Kimenyi and Romero, 2008).

Kenya’s second election under decentralised governance arrangements took place on 8th August 2017 with all electable seats in the executive and legislative arms at national and county level being contested. As with previous elections, there were episodes of violence with mobilisation along ethnic lines in line with Kenya’s clientelist political culture (Opondo, 2014, Moss N C, 2016, Odhiambo-Mbai, 2003, Kagwanja, 2005).

The second is perceived or actual flaws in the electoral process that may disincentivize voting. There is evidence to suggest that Kenyan elections suffer from credibility concerns (Wanyeki, 2015), and the most recent presidential election experienced a boycott by voters. The third is the persistence of power asymmetries between citizens and the state that remain unresolved by decentralisation of the expansion of democratic space in Kenya. The failure to address historical injustices for example may contribute to perceptions of impunity on the side of government officials, and disempowerment on
the part of citizens (Truth Justice and Reconciliation Commission, 2013). Added to this was the use of state violence by the Kenyan government, as in other African countries, in part as a consequence of colonial legacy, contextual factors such as the Cold War, but also to further the political and personal agenda of governments (Anderson and Rolandsen, 2014, Kagwanja, 2003).

Civil society organisations were a significant contributor to accountability mechanisms in the case study counties. The results identified key mechanisms utilised by the civil society organisations including citizen empowerment and capacity building, direct engagement with governments and a formalisation of relationships between citizens and governments. Some of these mechanisms are identifiable in other settings such as Zimbabwe, where resident associations play a role in participatory planning and budgeting (Muchadenyika, 2017). An assessment of the effectiveness of CSO-led accountability approaches suggested that the evidence not definitive but indicated potential for positive impact (Devarajan et al., 2011, McGee and Gaventa, 2010).

The results do not support the Tiebout (Tiebout, 1961) model of decentralisation which predicts movement of citizens and competition among counties in search of the most optimal set of public goods and services and tax regimes. They are more aligned with empirical findings which suggest that contextual factors including those that determine the very creation of subnational governments with particular boundaries may limit movement of persons and result in progressive Balkanization (Bird and Ebel, 2006). Commentators have raised concerns that the geographical boundaries of Kenya’s
counties closely mirror the settlement patterns of ethnic groups and may exacerbate the ethnicization of Kenyan politics (Aisingo, 2015, Kenya Human Rights Commission, 2018). The ethnicization of Kenyan politics in general may also contribute to the limited movement of persons particularly around election periods given that this study was conducted in 2017, an election year. A related finding in empirical literature is that factors such as scarcity of land may act as a limiting factor on movement of persons (Inman and Rubinfeld, 2014). This is of particular relevance in a country such as Kenya where land rights have been used to alter electoral bases including through violence (Boone, 2011, Klaus, 2017).

The findings in Chapter 5 are that there are low levels of public health expenditure in the case study counties. This is in keeping with evidence that suggest that Kenya’s health system is still characterised by insufficient levels of public health expenditure. This finding is important even given the global movement away from specifying benchmarks for public health expenditure, and instead toward encouraging a focus on consequences of that spending in terms of service coverage and financial protection for users (Jowett et al., 2016, World Health Organization, 2019, Barroy et al., 2018). This is because it allows us to explore its causes. The findings in Chapter 5 show that the key explanatory fiscal arrangements are functional and revenue assignments, and the role of planning and budgeting in determining? fiscal space for health.

The evidence presented shows that assignment of the health function to the counties may have adversely affected fiscal space for health through two mechanisms. First, the
transfer of functions may have been informed by non-economic criteria including political and historical considerations which may have failed to account for capacity of county governments to address existing low levels of fiscal space for health. The role of non-economic criteria is not unique to Kenya and there is evidence to suggest that the mere event of fiscal decentralisation may not necessarily create fiscal space for health (Ter-Minassian and Fedelino, 2007). Evidence from Indonesia identifies increasing local autonomy as a goal of decentralisation but that functional assignments were not necessarily followed by sufficient control over budgets (Purwanto and Pramusinto, 2018). Evidence from Uganda, in keeping with that from other parts of Africa (Conyers, 2007), demonstrates that decentralised units may not improve service delivery (Akin et al., 2005).

Second, the failure to adhere to the phased transfer of functions meant that counties had insufficient time to develop the capacity for key activities such as planning and budgeting (Ferrazzi et al., 2009). Moreover, functions were transferred before they were fully unbundled and costed leading to potential mismatches between functions and resource availability. This also meant that there was insufficient time for institutions and organisational arrangements meant to address implementation bottlenecks to establish themselves. The limited time also meant it was difficult to address the lack of trust between key national level and county level organisations, in particular the MOH and the CDOH, and otherwise build organisations at county level. These factors have been identified in other examinations of the decentralisation process in Kenya. Tsofa et al’s (2017a) examination of one county in Kenya raises specific concerns with
management of health workforce and supplies that results from the absence of county-level structures and capacity to undertake these functions. Assessments performed from the perspective of decentralised units within the same county suggest negative consequences as a result of weakness in institutions and organisational arrangements including loss of autonomy, lack of clarity of accountability arrangements and loss of trust and motivation (Nyikuri et al., 2017, Barasa et al., 2017b). These findings are echoed in a country-wide assessment of healthcare delivery under the devolved system that identified challenges in key capacities including management of health workforce, planning and budgeting, and monitoring of health service delivery (Mugo et al., 2018). This limited technical capacity has been identified as a trigger for the capture of key processes by political and power interests at county level (McCollum et al., 2018b) which potentially undermines social accountability.

The second key finding in Chapter 5 is that the limited fiscal space for health at county level is explained by the nature of revenue assignments. The key finding here is that public health expenditure is unlikely to expand in the near term without increases in vertical transfers from the national level. This is in part the result of low revenue-raising capacity; insufficient funding of functions transferred to county governments; and operational bottlenecks such as cash flow problems. While conditional grants might have presented an option to increase vertical transfers separate from the equitable share of national revenue, there is limited evidence in this chapter of an increase in county public health expenditure as a result of these grants. Literature suggests that grants may be most effective when they are predictable; easy to understand; well-
coordinated; support clear goals e.g. equity and efficiency; and do not offer a soft budget constraint (Ahmad and Searle, 2006, Spahn, 2012, Glassman and Sakuma, 2014, Shah, 2007). Other assessments of the Kenyan context have proposed providing adequate administrative infrastructure, monitoring and evaluating performance, improving capacity and involving stakeholders (Chen et al., 2014). This lack of uniformity of characteristics may explain the lack of effect on county public health expenditure that was observed in chapter 5 and that is examined in more detail in chapter 6. Steps have been made to redesign grants, for example, with the move of the Free Maternity Service grant to Linda Mama managed by the NHIF as a means of improving the linkage of resources to services delivered (NHIF Kenya, 2017).

The third key finding in Chapter 5 is that planning and budgeting determines fiscal space for health at decentralised level in Kenya through four mechanisms. First, planning and budgeting activities influence the level of the vertical transfer that county governments receive and this may be lower than that required to deliver the services transferred as is identified in the previous chapter and in literature. Second, poor planning and budgeting at county level may limit fiscal space through unrealistic expectations of revenue, inappropriate assessment of expenditure and poor budget implementation and monitoring. Third, planning and budgeting that is inadequately accountable (e.g. through participatory planning, implementation or audit) will suffer shortcomings in the purchasing function of financing making it difficult to guarantee efficiency and quality (Mbau et al., 2018). Finally, poor budget execution may result in lower budget allocation
in subsequent financial years which may widen the mismatch between resource needs and resources made available (World Health Organisation et al., 2017).

Drawing on political science literature helps explain this finding. In his examination of the political economy of fiscal institutions, Jürgen von Hagen, identifies planning and budgeting activities as the third of the fiscal institutions that are meant to govern decisions over public finance; the other two being ex ante rules such as statutory rules on deficits, and electoral rules in support of electoral accountability (von Hagen, 2006). These rules are designed to address to key concerns in public finance: the principal-agent problem and the common-pool problem. The principal-agent problem is concerned that because of the incompleteness of the contract between voters and politicians, the latter retain significant power over public finances. The common-pool problem refers to the potential that public funds will be spent on issue prioritised by politicians and key groups that are better positioned to demand the spending, rather on spending that benefits the society as a whole. The common pool problem may also manifest as poor fiscal performance by subnational units on the premise that they may still benefit from common resources e.g. the equitable share of national revenue.

The Kenyan budget process, demonstrates characteristics that allow decision makers to externalise the costs and consequences of their decisions, exacerbating the common pool problem. These include allowances for budgetary decisions outside of the budget process (e.g. the implementation of the MES project or the roll out of user fee reimbursement schemes), and accumulation of unreported liabilities (e.g. pending bills).
These factors allow for the actual allocation of public funds to differ from that agreed on during the budget process.

The ineffective inclusion of the public from the budget and planning process may be seen as the result of the principal-agent problem. All three case study counties also demonstrated weaknesses in social accountability mechanisms that were also poorly linked to subsequent public health expenditure decisions. This suggests that both ex ante and electoral rules were insufficient to address the agency problem predicted in literature, and suggests that public health expenditure was influenced by other considerations.

The analysis of the determinants of public health expenditure at decentralised level in Kenya presented in Chapter 6 found a positive association between per capita county public health expenditure and the fiscal arrangements-related variables: per capita equitable share of revenue, per capita county GDP and per capita conditional grants. This finding is consistent with literature from country settings that are less decentralised e.g. Uganda (Mujasi and Puig-Junoy, 2015), and more decentralised e.g. Canada (Di Matteo, 2004) than Kenya. Equitable share of revenue for instance is analogous to regional income used in other settings which may include the value of vertical transfers to subnational units from the national government. It underscores the importance of this source of revenue to county governments in Kenya.
The positive but small association between per capita total public health expenditure and per capita total conditional grant can be explained in three ways. First, the conditional grants assessed for this study are non-matching grants and had varying degrees of description and enforceability of conditions which may have weakened their conditional nature. Second, weaknesses in accountability arrangements within the Kenyan systems may permit diversion of these funds to non-health expenditures. Third, the presence of conditional grants may be crowding out or replacing public health expenditure from other more routine sources such as the equitable share of national revenue by county governments. The possibility of grants crowding out local level expenditure is recognized in theoretical literature with some limited evidence in empirical literature (Steffensen, 2010, Knight, 2002, Smith, 1968). This crowding out effect may also explain the absence of a positive association between per capita own source revenue and per capita public health expenditure.

The density of facilities had a negative but not statistically significant association with per capita total public health expenditure as predicted in literature. This finding is somewhat unexpected in the Kenyan context given statutory requirements for fixed allocations to development expenditure (2015); and the perception that this kind of expenditure is favoured by politicians and bureaucrats. Nevertheless, the evidence presented in Chapter 5 of this thesis suggests little linkage between these policy requirements and widely held perceptions, and actual growth of expenditure on capital items. This issue will be discussed in more detail in the next section (Section 7.3) that
synthesises the results of the quantitative and qualitative arms of this mixed methods study.

The density of health workers had a positive but not statistically significant association with per capita total public health expenditure. In literature this variable usually has a positive association with per capita public health expenditure (Di Matteo, 2014, Giannoni and Hitiris, 2002, Cantarero, 2005, Costa-Font and Moscone, 2008). The finding in this analysis may have been influenced by the construction of the variable which merges various cadres of health professionals who may influence cost of care in various ways. The merger of cadres was adopted informed by the low number and skewed distribution of health workers in Kenya (Wakaba et al., 2014, Government of Kenya, 2013, Ministry of Health Kenya, 2015).

7.3 Emerging themes

The emerging themes are presented here informed by the conceptual framework for this study (Section 3.1) that served as a basis for a pragmatic interpretation of the results of the study.

Fiscal space for health assessments in decentralised countries should account for fiscal arrangements and changes in the government-citizen relationship

The results suggest that in countries with decentralised governance arrangements, fiscal space for health is mediated not only through national level influences but also through
the institutions and organisational arrangements that mediate decentralisation changes i.e. fiscal arrangements and changes in the government-citizen relationship. This is all the more important in settings with significant political and fiscal decentralisation: a consideration that is absent from current discourse on the subject (Barroy et al., 2016, Barroy et al., 2018).

Kenya’s case presented in this thesis highlights the importance of this approach. Orthodox approaches to fiscal space for health assessments, i.e. focussed on the “five pillars” would have identified economic growth and growth in national revenues as contributing to increased fiscal space for health. They would potentially have missed out on the role of counties in public health expenditure and how the structure of vertical transfers may mask its stunting e.g. through reduced allocations of the county share of equitable revenue, or through poor design and implementation of conditional grants.

The influence of decentralisation is not only important from an academic perspective but may have significant implications from a policy perspective. For example, the draft health financing strategy proposes an increase in the level of public health expenditure. The strategy does not yet account for the fact that county governments should contribute a significant proportion of public health expenditure, yet they are operating in a context that restricts their potential to do this. This thesis demonstrates that the existing fiscal space for health in Kenya does not reflected at either at county or national level, and explores the reasons specific to the county level. Proposals for expanding
public health expenditure in Kenya will therefore need to wrestle with these facts and as such this thesis fills a gap in policy dialogues.

**Context plays a significant role in shaping the policy and practice of decentralisation and its impacts on fiscal space for health at decentralised level**

The contribution of contextual factors to the policy and practice of decentralisation is a key finding of this thesis. This is particularly clear in the assignment of functional assignments and the shaping of social accountability arrangements at decentralised level.

With reference to the assignment of functions, the evidence suggests that the criteria for allocation of functions seemed to be informed by both economic and non-economic considerations that reflected the Kenyan context. For example, the qualitative data suggests, in keeping with literature, that non-economic criteria such as historical experiences, the desire to promote self-governance, and political expediency played a part. The role of context is seen in the potential violation of economic criteria such as efficiency given the relatively small size of counties. These findings mirrored those of the quantitative arm of this study, where determinants that are linked to economic criteria such as capacity (e.g. density of health workers and of health facilities) and need (e.g. key age groups and health status) did not demonstrate a statistically significant relationship with county-level public health expenditure. More importantly, the regression model explained only a fraction of variability in the county-level of public health expenditure.
health expenditure suggesting the influence of other unmeasured and perhaps unmeasurable factors.

It is important at this point to reflect on the contextual factors that may be at play in Kenya with regards to fiscal arrangements and changes in the government-citizen relationship. In section 4.4, I identify two main contextual factors: historical factors and implementation arrangements for the new constitution. These factors relate mainly to Kenya’s political economy context within which the distribution of power remains contested and closely linked to the enjoyment of economic benefits through patronage networks (Eaton et al., 2011). For example, there is evidence that political arrangements perpetuate the dominance of the central government over the county-level so that local representatives act mainly as ethnic mobilizers who can trade a bloc of votes for rewards from the centre (Asingo, 2015, Mueller, 2011). The ethnicization of politics exacerbates perceived or actual flaws in the electoral process that may disincentivize voting and with it limits avenues for nurturing and enforcing accountability.

**Institutions and organisational arrangements supporting decentralisation are still evolving and improving**

Decentralisation is a dynamic process that is reflected in the evolution of the institutions and organisation arrangements supporting it. These changes may have implications for fiscal space for health at county level.
The qualitative arm of this study demonstrates how improvements in intergovernmental relations can increase fiscal space for health for example through increasing access by county governments to conditional grants from donor agencies. Similarly, key organisations such as the CRA, COB and the OAG are working to enhance fiscal performance which may have positive effects on fiscal space for health. Ongoing fiscal reforms, such as proposals for a new formula for revenue allocation put forward by the CRA, may also have profound implications on fiscal space for health at decentralised level.

The somewhat spontaneous development of regional institutions may be another cause for optimism with regards for fiscal space for health if they do serve their role of dealing with areas of mutual interest. The growing profile of the Council of Governors, for instance, has had this effect by providing a mechanism for addressing county interests which may include enhancing county performance in health.

Nevertheless, there persist significant power differences in the institutions that support decentralisation. The dominance of the National Assembly and the National Treasury over fiscal matters is highlighted in Section 4.2. In particular, the National Treasury retains significant legal and administrative authority, and soft power over other institutions, including over Parliament. This may continue to constrain fiscal space for health in general and at decentralised level particularly if the current approach to prioritisation of public expenditure on health persists.
These findings are neither supported nor refuted by the quantitative arm of this study: political party alignments had no statistically significant relationship with per capita county-level public health expenditure. Nevertheless, they remain an area for further assessment.

Expansion of fiscal space for health at county level is largely dependent on vertical transfers

The third emerging theme from the two arms of the study is that in the near term, any expansion in county-level public health expenditure is dependent largely on increases in vertical transfers from the national level.

A key piece of evidence in support of this conclusion is from the quantitative arm of this study reported in Chapter 6. The results show a positive and large association between per capita county public health expenditure and per capita equitable share of revenue; and an absence of this association with total conditional grants and own source revenue.

The findings of the qualitative arm of this study predict this result. There is evidence of fiscal arrangements that entrench reliance on the equitable share of national revenue and on vertical transfers more generally (e.g. low yield of OSR); inadequate funding of county governments through the equitable share of national revenues; and persistence of amenable operational bottlenecks such as cash flow problems. Here too, contextual factors play a role as is the case with delays in reforms to land tenure and valuation.
further affecting the scope and yield of land rates as a revenue source for county
governments.

What shape would these vertical transfers take? Data from the qualitative study
suggests that grants may be best suited to this role. This is based on extent of vertical
fiscal imbalance; the need to expand fiscal space for health at county level; and the
complexities of increasing the equitable share of national revenue for counties. Even
though data from the quantitative arm of this study demonstrates a relationship
between equitable share of national and county-level of public health expenditure, it is
also likely that the former will continue to lag behind the needs of county governments
given its slow growth over time.

Conditional grants have the potential to be less constrained by the planning and
budgeting process including the tensions between the key institutions such as the
National Assembly and the Senate (Bahl, 2008). They can also be structured to better
match requirements for funding health services, and to link funding to performance
(Ahmad and Searle, 2006). Moreover, they can be used to align performance with health
system goals in an explicit way (Shah, 2007). However, this is contingent on the
conditional grants not crowding out existing expenditures on health as has been
suggested in literature on earmarked taxes (Barroy et al., 2016); and overly stringent
conditions not being used as a device to retain budget power (Bahl, 2008, Bahl and Linn,
Decentralisation has not enhanced social accountability

Decentralisation should enhance social accountability arrangements by increasing the physical proximity of agents (governments) to their principals (citizens); improving availability of information; strengthening voice mechanisms; and providing more avenues for citizen involvement in state structures (Camargo and Jacobs, 2013, Fox, 2015).

The results of the qualitative analysis suggest that the narrow description of mechanisms for social accountability found in policy and legislative frameworks, and limitations in their operationalisation may form the basis for the less than optimal application of mechanisms seen in practice. These factors may in turn be perpetuating existing gaps in accountability of government officials in Kenya (Ghai and Cottrell, 2015, Odhiambo-Mbai, 2003). This lack of accountability impacts on key processes that support fiscal space for health such as the planning and budgeting cycle (von Hagen, 2006). The lack of accountability in the Kenyan planning and budgeting process allows decision makers to externalise the costs and consequences of their decisions e.g. through budgetary decisions outside of the budget process and accumulation of unreported liabilities. The retention of significant decision-making power over the budget and planning process at the national level also exacerbates the lack of social accountability. These factors contribute to limited fiscal space for health at county level since the actual allocation of public funds can differ significantly from that agreed on during the participatory aspects of the budget process.
There was also limited evidence of the existence or functioning other key mechanisms that would support changes in the government-citizen relationship such as citizen mobility and competition among governments. This in keeping with empirical findings which suggest that contextual factors including those that determine the very creation of subnational governments with particular boundaries, or scarcity of land, may limit movement of persons and result in progressive Balkanization (Bird and Ebel, 2006, Inman and Rubinfeld, 2014, Boone, 2011, Klaus, 2017).

These findings are supported in part by the quantitative literature finding that political determinants such as the level of social cohesion or political party alignments had no relationship per capita county-level public health expenditure.

7.3 Strengths and limitation of this thesis

7.3.1. Strengths

The development of a conceptual framework that drew on theoretical and empirical literature is a key strength of this study. The conceptual framework proposes that examinations of fiscal space in setting of decentralisation needs to account for that very fact. However, my findings are that fiscal arrangements and changes in the government-citizen relationship interact with each other and with the “five pillars” of fiscal space for health. For example, non-economic criteria such as promoting self-governance (a change in the government-citizen relationship) played a role in the transfer of the health function to decentralised units (a fiscal arrangement). Similarly, the allocation of
revenue sources (a fiscal arrangement) can influence the ability to grow tax revenues (a pillar of fiscal space for health). This implies that the conceptual framework for this study needs revision as illustrated in Figure 7.

![Figure 7: Revised Conceptual Framework](image-url)

The revised conceptual framework therefore considers fiscal space for health at decentralised level as an integral part of fiscal space for health in a country (A). This means that the traditional “five pillars” of fiscal space for health should be assessed at both national and decentralised level. The assessment should account for the individual and interactive influences of fiscal arrangements and changes in the government-citizen relationship (B and C respectively). These two are in turn the main consequences of the institutions and organisational arrangements that mediate decentralisation (D) and...
other contextual factors. Increase fiscal space for health should translate to adequate and predictable public health expenditure (E) which is seen as critical for progress towards universal health coverage (F).

The conceptual framework nevertheless fails to capture the dynamic nature of decentralisation with changes occurring over time in all the domains considered. This is also a limitation of this study which was conducted at a time when Kenya was still transitioning to devolution. This may have influenced some of the findings of the study as some factors such as fiscal performance were under regular review from various actors, while there may have been insufficient data to tease out key findings in the quantitative analysis. However, the conceptual framework and the study aim at theoretical generalizability which is expected to be stable over time. The unexamined determinants remain avenues for future research.

The use of mixed methods for this study is a key strength of this study. This approach provided quantitative and qualitative data that deepened the description and analysis of the phenomenon of interest. It mitigates against the perceived weakness of qualitative research in terms of statistical generalisability in two ways. First, it emphasises the value of theoretical generalisability that qualitative research brings. Second, the use of quantitative methods with statistical generalisability enhanced the theoretical generalisability of the study.

Several contextual factors may have influenced the results of the study. These include
episodes of public-sector industrial action and the Kenyan general elections. For example, concerns over being critical of incumbent politicians may have contributed to some respondents declining interviews or audio recording. These factors were nevertheless useful in highlighting nuances over the functioning of organisational arrangements and institutions as part of decentralisation. Periods of industrial action also provided a useful counterfactual during the conduct of interviews by allowing respondents to reflect on the situation during normal operations.

A key challenge when conducting the study were two episodes of public-sector industrial action at national level: 5th December 2016 to 14th March 2017 (100 days) by doctors and 5th June to 1st November 2017 (150 days) by nurses. This may have influenced and potentially negatively biased respondents’ views of health under decentralisation. This was nevertheless useful in highlighting nuances over the functioning of organisational arrangements and institutions as part of decentralisation. The period also provided a useful counterfactual during the conduct of interviews by allowing respondents to reflect on the situation outside of the period of industrial action.

7.3.2 Limitations

This study had some limitations. First, the qualitative methods part of this study had to grapple with the concerns about statistical generalisability. As discussed earlier, the goal of selecting the multiple case study design was theoretical generalisability i.e. allowing observed relationships to be transferred to other settings. The inclusion of all 47
counties in the quantitative methods part of the study and the integration of results is another approach used to ensure the theoretical generalisability of the study.

The Kenyan general elections were held in 8th August 2017 and repeated on 26th October 2017 with violence experience in some areas including some of the case study counties. The electoral period affected my ability to conduct research and access to officials particularly in county C. This was in part because government officials were concerned about being critical of incumbent politicians. This challenge was dealt with by ensuring respondents of their confidentiality and the safety of their information. Nevertheless, some respondents did decline interviews, while others decline audio interviews, and this required noting down of their responses.

The available data limited the period and the number of variables included in the quantitative analysis while other data were entirely unavailable. For example, it is not possible to estimate local income and so tease out the flypaper effect i.e. an increase in government expenditure greater than an increase in citizen income following receipt of funds from outside the jurisdiction (Inman, 2008). Nevertheless, I demonstrate the process of selection of a justifiable set of variables guided by theoretical and empirical literature. Including the other variables with the limited amount of data present would have risked overfitting the model. Also, the utilisation of a mixed methods study design assists in comprehensively explaining the level of public health expenditure at county level.
A fourth limitation was with the validity of the quantitative data. This was addressed through validation against other published official government reports, discussions with experts and against data collected independently by The World Bank Kenya Country Office and provided to me on request. Sensitivity analysis was performed against this latter set of data with little variation in the overall result.

Spatial and multilevel models could have been applied to these data. Spatial models have shown interdependencies at subnational level (Costa-Font and Moscone, 2008, Moscone et al., 2007, Moscone and Knapp, 2005, Gopffarth et al., 2016), and would form the basis for future work in this area as more data becomes available. Multilevel models were not applicable in this analysis but it reasonable to expect variability within counties for example at ward level. Such analyses can be explored if additional data is made available. However, current reporting of expenditures is not disaggregated to ward level which may limit this approach.

Finally, the study was conducted at a time when Kenya was still transitioning to devolution. This may have influenced some of the findings of the study as some factors such as fiscal performance were under regular review from various actors. It may be desirable to update the finding of this study later in the course of decentralisation should there be a desire to track changes in fiscal space for health.
7.4 Policy recommendations and areas for further research

The final objective of this thesis was to draw policy options for and identify obstacles to the expansion of fiscal space for health at the decentralised level in Kenya. The results of this thesis and this chapter have highlighted the obstacles to expansion of fiscal space for health at the decentralised level in Kenya. In this subsection, I focus on recommendations for expanding fiscal space for health at decentralised level.

First, there is a need to include tracking of fiscal space for health that accounts for decentralisation arrangements in the metrics for tracking progress towards UHC. This implies that country-level UHC progress measuring frameworks should account for both quantitative and qualitative measures of fiscal space for health at the level most appropriate for that setting. In Kenya, this would include quantitative measures such as county-level per capita public health expenditure and county-level share of total government health expenditure; and qualitative assessment of domains such as fiscal arrangements between levels such as role clarity and sufficiency of revenues assigned.

Second, Kenya needs to revisit the arrangements that support decentralisation. This will at minimum require a review and strengthening of the institutions and organisational arrangements that mediate fiscal arrangement and changes in the government citizen relationship. An immediate target that would impact fiscal space for health is a process of reviewing and improving existing grants to county governments. This would include clarifying their objective with reference to societal goals; aligning their conditions with political and fiscal consequences for decision makers; and clarifying their linkages with
other funding streams including own source revenues (e.g. matching requirements) and with shares of equitable revenue (e.g. as part of an overall goal to increase overall government health spending to meet a set target).

A medium-term target would be a comprehensive review of planning, budgeting and public financial arrangements and how these interact with and influence fiscal arrangements. This would entail addressing the power imbalances between the two levels of government; different houses of Parliament; the county department of finances and health; within the county department of health; and between county governments and their citizens. This may include, for example, increasing the autonomy of health facilities while at the same time enforcing and ensuring predictability of funding to these units through enabling regulations linked to public financial management legislation. This also implies the need to build and maintain the capacity of government units responsible for health in planning and budgeting.

Two initiatives should be explored in the medium to long term. The first should seek to address the power the National Treasury enjoys over public financial management issues in Kenya that may be distorting fiscal arrangements and limiting fiscal space for health. This may include strengthening the decision-making authority of intergovernmental institutions such as the Intergovernmental Budget and Economic Council (IBEC); supporting oversight by the Senate over the responsibilities of the National Treasury with respect to the county governments; and strengthening fiscal institutions relative to the National Treasury specifically the CRA, COB and the OAG.
Actions to address the latter would include enhancing the capacity of these institutions to operate independent of the National Treasury in terms of information systems; mandating them to review the performance of the National Treasury in supporting decentralisation of public finance; and deepening their linkages with key institutions of decentralisation such as the Council of Governors and the IBEC.

Second, there is a need to address the misleading narrative that implies that the future for resourcing of county governments (including their spending on health) is primarily related to their OSR performance. This narrative provides an excuse for the continued skewed sharing of resources between the two levels of governments and also encourages the blurring of functional assignments with consequences for efficiency of government expenditure. More importantly, it stunts fiscal space for health in Kenya. This is necessarily a political process as it involves negotiations about the distribution of power including legitimate authority and financial resources.

A third, but related, recommendation involves the strengthening of social accountability mechanisms. This implies moving towards “strategic” social accountability. A key tenet of strategic social accountability is providing “teeth” to empower citizen’s voice mechanisms. In Kenya’s case, there is potential to connect accountability structures at county level with those at national level by building linkages across civil society groups working at those levels. There is also room to better coordinate actions of citizens including civil society groups, and other organised groups. Finally, there is room for reform-minded institutions to provided safe spaces to amplify citizen’s voices safe from
fear of retaliation. This includes using existing fora such as the Kenya Health Forum, and scaling up other initiatives such as youth assemblies and public budgeting forums. This also implies the need to invest in civic education and critical media coverage as mechanisms to ensure a flow of information between “insider” reformists and “outsider” public interests.

Finally, this study highlights several issues that require further examination in future studies:

- An application of the conceptual framework developed for this study to other decentralised settings to assess for fiscal space for health. This would seek to identify the applicability of the conceptual framework to settings other than Kenya given its claims on theoretical generalizability.

- An in-depth examination of principles and practice of intergovernmental transfers in the context of the pursuit of UHC. This would include a critical review of the principles of intergovernmental transfer design and implementation, an assessment of how these play out in practice in a variety of settings, and how these relate to the enhancing progress towards UHC. The knowledge obtained would add to the analyses presented in this thesis and to the growing emphasis on harnessing public financial management for progress towards UHC.

- An in-depth examination of the governance of fiscal decentralisation with a focus on intergovernmental institutions such as the Senate and constitutional commissions. This would seek to account for the factors that facilitate or hinder
the effective functioning of these institutions with a view to address identified challenges.

- An examination of the prospects for strategic social accountability as part of governance arrangements for UHC. This would entail a critical assessment of proposals for strategic accountability, an assessment of how these would play out in practice and potentially implementing and evaluating these approaches.

- An examination of the determinants of fiscal space for health at decentralised level using a longer duration of data. This would imply allowing for a longer period to allow for a panel with more data than was provided for in this study.

- The integration of fiscal space indicators appropriate to the fiscal characteristics of a country to UHC monitoring frameworks. This would imply selecting appropriate quantitative and qualitative metrics that are appropriate to settings for tracking of UHC given the imperative for public financing for UHC.

7.5 Conclusion
This thesis sought to critically examine the implications of devolution on fiscal space for health at decentralised level in Kenya. This final chapter has presented the key themes emerging from my work. These are that assessments of the five pillars of fiscal space for health should account for decentralisation arrangements; that institutions and organisational arrangements supporting decentralisation are still evolving and improving; that expansion of fiscal space for health at county level is largely dependent on vertical transfers and that decentralisation has not necessarily enhanced social
accountability. I have revised my conceptual understanding of fiscal space for health at decentralised level and suggest that it is an integral part of fiscal space for health. My recommendations seek to increase fiscal space for health in Kenya with the aim of driving progress towards UHC.

The findings of this thesis point to the continued need to expand fiscal space for health in Kenya for the pursuit of UHC. There is a long way yet to go.
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Appendices

Appendix 1: Literature Review on the Determinants of Public Health Expenditure

The literature search involved a search of Web of Science and PubMed electronic databases, and online libraries of the World Bank, the Organization for Economic Co-operation and Development (OECD) and World Health Organization (WHO). The reference lists of retrieved full text articles were also screened and relevant studies included in the review. The search was for peer reviewed and grey literature in English with no limits on the year of publication. The definition of decentralised included sub-national, regional, district, municipal, provincial and county level: usually the first level of decentralisation after national. The open search terms used were “determinants or factors or causes or influences” and “decentralised or devolved or delegated or subnational or regional or county or local government” and “health spending or expenditure”. The initial search was conducted between 2nd May 2016 and 2nd September 2016, complemented by automated updates until 4th March 2019.

Full texts were retrieved for the studies selected for review. A narrative summary approach (Dixon-Woods et al., 2005) was used to organize, describe the papers based on the objectives of the review i.e. to obtain a systematic overview of this body of literature; and, to identify the key variables identified as determinants emerging from this literature. Though there are tools and techniques described for narrative synthesis, these are not applicable to the studies considered for this review (Popay et al., 2006).
As such a thematic summary approach as described in (Snilstveit et al., 2012) was utilised for this review. Themes were drawn from a framework based on the objectives of the review and an integrative approach was used as described by Dixon-Woods et al (2005) with a focus on summarizing the data into key categories or conceptual classes. A weakness of this approach is that it is prone to presenting counts of the data and to being simply descriptive while a strength is that is allows for contextual variations and studies with limited data (Snilstveit et al., 2012). Because of the nature of the field of the studies included in the study, i.e. with varying theoretical and methodological approaches, no quality assessment was conducted.

The summary of the search of the literature are summarised in Figure 8.
Figure 8: Summary of Search Strategy
General description

Of the 39 studies reviewed, 32 were conducted in high-income countries: 7 USA (Gordon et al., 1997, Freeman, 2003, Rettenmaier and Wang, 2012, Zuckerman et al., 2010, Sheiner, 2014, Thornton and Rice, 2008, Joshi, 2015, McCullough, 2017), 6 Canada (Di Matteo and Di Matteo, 1998, Bilgel and Tran, 2013, Di Matteo, 2004, Landon et al., 2006, Ariste and Carr, 2003, Di Matteo, 2014), 6 Spain (Costa-Font and Moscone, 2008, Prieto and Lago-Penas, 2012, Cantarero and Lago-Penas, 2010, Costa-Font and Pons-Novell, 2007, Cantarero, 2005, Ridao-López et al., 2018), 4 Switzerland (Reich et al., 2012, Braendle and Colombier, 2015, Crivelli et al., 2006, Vatter and Rüefli, 2003), 2 England (Moscone and Knapp, 2005, Moscone et al., 2007), 1 Korea (Han et al., 2013), 1 Germany (Gopffarth et al., 2016), 1 Japan (Hayashi and Oyama, 2014), 1 Finland (Nguyen et al., 2009), 1 Italy (Giannoni and Hitiris, 2002), 1 of USA & Canada (Di Matteo, 2005) and 1 of eighteen OECD countries (Lopez-Casasnovas and Saez, 2007). Two each were from China (Pan and Liu, 2012a, Chou, 2007) and India (Hooda, 2015, Rahman, 2008), 1 from Peru (Huichó et al., 2018), 1 from Brazil (Araújo et al., 2017), while only one was from Africa: Uganda (Mujasi and Puig-Junoy, 2015). All but two of the studies were conducted after the year 2000, but the data sets utilised extended as far back as the 1970s and as recently as 2012. The number of decentralised units examined ranged from 16 to 415, though the lowest number of units examined for a single year data set was 48. The unit of analysis was the decentralised administrative unit i.e. province, state, municipality or canton.

Theoretical approaches
Overall, as with the literature on country-level and cross-country analysis, there is limited reference to theory informing the selection of determinants. It is implied, however, that some authors view public health expenditure as excessive. This is especially the case for studies from the USA and Canada (Di Matteo, 2005, Di Matteo, 2010, Di Matteo, 2014, Landon et al., 2006). Di Matteo (2014), Han et al (2013) and Sheiner (2014) propose that this may be explained by physician induced demand, a viewpoint that is linked to the theories of excessive expenditure examined in the previous section. Hayashi and Oyama (Hayashi and Oyama, 2014) specifically mention Roemer’s Law which posits a positive relationship between utilization of hospitals and bed availability (Ginsburg and Koretz, 1983). In fact, concerns over supplier-induced demand may form the basis for inclusion of supply side variables in all the analysis. However, overall health expenditure growth is also a concern in other settings such as Switzerland (Reich et al., 2012, Vatter and Rüefli, 2003, Braendle and Colombier, 2015), Korea (Han et al., 2013) and Germany (Gopffarth et al., 2016). Decentralisation theory is implicitly addressed by a number of authors with references to efficiency and equity, increased accountability, jurisdictional competition and spill over effects (Costa-Font and Moscone, 2008, Moscone and Knapp, 2005, Gopffarth et al., 2016, Hayashi and Oyama, 2014, Nguyen et al., 2009). The information asymmetry and accountability benefits that are predicted by decentralisation theories are reflected in the use of proxy measures such as democratic indices (Hooda, 2015, Crivelli et al., 2006, Vatter and Rüefli, 2003), and the proportion of women in parliament (Braendle and Colombier, 2015, Hooda, 2015). Decentralisation theories concerning functional and revenue assignments may also influence studies from Canada (Di Matteo and Di Matteo, 1998) and China (Pan
and Liu, 2012b) where the role of intergovernmental transfers is considered as a key determinant.

Vatter and Rüefli (2003) consider four approaches from public policy. The first, partisan theory, describes political parties as agents of voter ideology and this consideration might have influenced authors who suggest that left-leaning parties are more likely to support growth of public expenditure in a variety of settings such as the USA (Joshi, 2015), Spain (Costa-Font and Pons-Novell, 2007) and Switzerland (Vatter and Rüefli, 2003). The second, the power resources theory, is akin to the lobby group problem in cost diffusion theory presented in the preceding section. This theory proposes that the size of the state relates to the market and political power of social classes specifically labour when compared to capital (Vatter and Rüefli, 2003). As such organized labour is more likely to influence expansion of the welfare state. Vatter and Rüefli (2003) also reference neoinstitutional economics and veto player theory, which posits that the institutions such as direct democracy and decentralisation limit the growth of central government through the exercise of a form of veto power (Tsebelis, 1995). Finally, policy inheritance theory proposes that present actions by bureaucrats are influenced by policy decisions made in the past with change inhibited by political inertia (Rose, 1990).

**Data & econometric methods**

All the studies utilized secondary data from various sources including statistical reports and databases, data from social health insurance funds and surveys. Two studies specifically used individual level survey data (Rettenmaier and Wang, 2012, Zuckerman
et al., 2010). Twenty-seven (27) studies using multi-period data and 9 used data from a single year or pooled several years of data. The regression models specified for the analysis differed from study to study. In general, the functional form of the models specified was either linear, log-linear or log-log with log transformation commonly undertaken for health expenditure and income and the other variables expressed in percentage form. It is common for the model to be expressed in log-log form with the log of health expenditure regressed against the log of income or its proxy variables i.e. gross domestic product or intergovernmental transfers; while other variables are maintained in percentage form. This expression allows for the coefficients to be interpreted as elasticity. Box-Cox transformation analysis was utilised by some authors to test the suitability of these specifications (Pan and Liu, 2012b, Giannoni and Hitiris, 2002, Gordon et al., 1997).

Ordinary least squares (OLS) was the main estimation method though generalized least squares (GLS) was also in random effects panel regression models, and least-squares dummy variables (LSDV) was utilised in some of the fixed effects panel regression models (Pan and Liu, 2012b, Crivelli et al., 2006).

For single year or pooled data studies, the regression methods utilised included stepwise multiple linear regression (Gordon et al., 1997, Mujasi and Puig-Junoy, 2015), hierarchical (Han et al., 2013, Lopez-Casasnovas and Saez, 2007), multivariate linear regression (Zuckerman et al., 2010) and spatial regression models (Gopffarth et al., 2016).
Spatial regression models were utilised by four authors. The choice between a spatial lag or spatial autoregressive models was made empirically using Moran’s I statistic and Lagrange multiplier tests (Costa-Font and Moscone, 2008, Moscone and Knapp, 2005) while Moscone selected a random effects model with spatially lag (Moscone et al., 2007) and Gopffarth elected to use an autoregressive model (Gopffarth et al., 2016).

Pooled cross sectional analysis was undertaken in by Rettenmaier and Wang (2012) with dummy year variables corresponding to the years when major legislative changes occurred.

Panel regression models were the most widely used. Many authors specified both random effects (RE) and fixed effects (FE) model and utilised the Hausman test to determine the most suitable specification (Cantarero, 2005, Crivelli et al., 2006, Rahman, 2008, Pan and Liu, 2012b, Lopez-Casasnovas and Saez, 2007, Reich et al., 2012, Nguyen et al., 2009). Braendle and Colombier (2015) specified a dynamic panel estimation method, with the choice of variables informed using a bias-corrected least-squares-dummy-variable estimator, which results in standard errors that are robust towards heteroscedasticity and autocorrelation. Bilgel (2013) likewise specified a dynamic panel model but took an instrumental variable approach to deal with correlation. Huicho et al (Huicho et al., 2018) utilised a stepwise multilevel mixed-effects regression model with fixed effects for the various determinants including time, and random effects for the variability between departments.
Finally, time series regression analysis was utilised by a number of studies. Tests were conducted for unit root and for cointegration respectively using the augmented Dicky-Fuller tests and the Kao method (Ariste and Carr, 2003); Levin-Lin-Chu and Harris-Tzavalis tests and Westermund tests (Di Matteo, 2014); Lagrange-Multiplier and Pedroni tests (Chou, 2007). Di Matteo (Di Matteo, 2004) and Giannoni used (Giannoni and Hitiris, 2002) a technique that allows for heteroscedasticity, dependence or independence and time-wise autoregression (Di Matteo, 2004).

**Choice of variables and relationship with health expenditure**

*Dependent variable:* Total health care expenditure per capita was the most frequently used dependent variable. The components of total health care expenditure differed by country context but usually included both public and private health expenditure within the decentralised unit. In cases where transfers from the federal to regional level were thought to be a significant part of public health expenditure, these too were included. There was also disaggregation of total health expenditure into private or public, or by service i.e. inpatient care, outpatient care, drug expenditure or other forms of care. Other dependent variables included social health insurance expenditure per capita and per capita pharmaceutical expenditure.

*Independent variables:* As alluded to in the overview of empirical literature from country-level and cross-country analysis, a wide range of independent variables was utilised. Where a categorisation was attempted, demand-side and supply-side
allocations were popular (Mujasi and Puig-Junoy, 2015, Gopffarth et al., 2016, Costa-Font and Moscone, 2008, Vatter and Rüefli, 2003, Braendle and Colombier, 2015). Other categories used were macro-economic environment and health policy (Han et al., 2013, Vatter and Rüefli, 2003); demography (Gopffarth et al., 2016, Nguyen et al., 2009, Zuckerman et al., 2010); socioeconomic factors (Nguyen and Hakkinen, 2004); and social structure (Gopffarth et al., 2016). Thornton and Rice (2008) categorise the independent variables as those with a direct effect, indirect effect or mixed direct-indirect effect on health care spending.

Taking the liberty to categorise the variables after Vatter and Rüefli (2003), the key variables included in the analysis were:

**Demand-related determinants:** GDP per capita of the decentralised units was a predominant and positive predictor of health expenditure in the studies in keeping with the national-level comparisons. Alternatives to this variable included regional per capita income, which sometimes incorporated the value of transfers received from national government. Other demand-related determinants identified that were positive impact on health expenditure were the proportion of the elderly population (usually defined as those >65 years), mortality and morbidity rates, poverty rates and insurance coverage rates.

**Supply-related determinants:** These included physician density, facility density, facility characteristics and proportion of specialist care. Supply-related determinants that were positive drivers of health expenditure included physician density, hospital bed density
and technological advances. Time was included in various forms e.g. as trend variable to cater for technological advancements.

**Policy-related determinants:** These included the kind of political party, its ideological leanings, the extent of female representation in elected positions and whether there were pre-existing policies supporting public health expenditure. Additional categories included organizational indicators such as fiscal capacity and decision space, and social indicators such as proportion of foreigners or number of women in decision-making. The number of women in parliament for example, was a positive determinant of per capita total municipal expenditure on health care services in Finland (Nguyen et al., 2009). Those with negative effects were fiscal capacity (local revenue generation), having a left-wing government, and longer experience with decentralisation.

Table 28 summarises the determinants identified in literature and their relationship with public health expenditure at decentralised level.

**Table 28: Summary of determinants and their relationship with public health expenditure**

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<tr>
<th>Determinants with a positive relationship with health expenditure</th>
<th>Determinants with a negative relationship with health expenditure</th>
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<td>• Gross domestic product/Provincial income/Cash transfers per capita</td>
<td>• Fiscal health e.g. budget deficit or government debt interest level</td>
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<td>• Population proportion that is elderly usually &gt;65 years</td>
<td>• Private share of health spending</td>
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<td>• General physician density</td>
<td>• Social health insurance coverage rate</td>
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<td>• Urbanization</td>
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<td>Specialist density</td>
<td>Rural population below poverty line</td>
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<td>Hospital staff density</td>
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<td>Hospital beds density</td>
<td>Population size</td>
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<td>Technological advancements</td>
<td>Specialist density</td>
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<td>Insurance coverage (all types)</td>
<td>Time since decentralisation</td>
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<td>Population density</td>
<td>Proportions in managed care</td>
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<td>Public share of total expenditure</td>
<td>Population proportion that is young usually &lt;5 years</td>
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<td>Health service utilization</td>
<td>Child mortality</td>
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<td>Decentralisation</td>
<td>Proportion of older adults</td>
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<td>Fiscal capacity and responsibility</td>
<td>Hospital bed density</td>
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<td>Unemployment rate</td>
<td>Left wing party</td>
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<td>Population share of foreigners</td>
<td>Socioeconomic status e.g. education levels</td>
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<tr>
<td>Health status e.g. Mortality ratio, proportion who are diabetic or disabled or obese</td>
<td>Health status e.g. exercise</td>
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<td>Socioeconomic status e.g. human poverty index, literacy rate or education levels</td>
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**Decision space e.g. local department board can hire head**

- Jurisdiction type e.g. city or county
- Spatial interdependencies
- Prioritization of health
- Urbanization

**Contribution of determinants**

The contribution of determinants to the variation in health expenditure is assessed by Hayashi and Oyama (2014), Di Matteo (Di Matteo, 2005, Di Matteo, 2004, Di Matteo, 2014) and by Ridao-López et al (Ridao-López et al., 2018). The former uses and inequality decomposition method to identify which variables contribute the most to regional differences in per capita health expenditure in Japan. The number of hospital beds is identified as the main contributor to regional variation while the proportion of the elderly population and physician density are also key contributors (Hayashi and Oyama, 2014). Di Matteo assesses the percentage contribution of the determinants to growth in health expenditure and finds that the proportion of the elderly in the population (Di Matteo, 2004) and time/technological advancement (Di Matteo, 2005) are key contributors while concluding that physician numbers are not (Di Matteo, 2014). Ridao-López et al (Ridao-López et al., 2018) identify unobserved factors of the decentralised units as the main contributor to the variance in the hospital expenditure.
Table 29: Summary of studies included in the review of empirical literature on the determinants of public health expenditure at decentralised level

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<tr>
<th>Authors</th>
<th>Country</th>
<th>Number of units</th>
<th>Data type</th>
<th>Years</th>
<th>Dependent variable</th>
<th>Independent variables</th>
<th>Econometric model</th>
<th>Findings</th>
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<tr>
<td>Han et al</td>
<td>Korea</td>
<td>16 cities &amp; provinces</td>
<td>Panel</td>
<td>8</td>
<td>Health insurance medical expenses</td>
<td><strong>Macro-economic environment:</strong> Annual growth rate of: GDP per capita; population &gt;=65; Medicare Economic Index; <strong>Health policy:</strong> health benefit coverage expansion; <strong>Induced demand:</strong> number of physicians; number of tertiary hospitals; number of local clinics; expenditure per hospitalization; expenditure per ambulatory care visit</td>
<td>Multiple linear regression analysis comparing rate of increase (decrease) in medical costs and increase (decrease) in each determinant while controlling for other factors. Hierarchical multiple regression to determine how much each factor contributes to the increase in medical costs - the coefficient of determination signifies the contribution of the changes explained by a</td>
<td>Consistent growth in expenditure over the 8 years. Final list of significant variables for linear regression: • Population proportion &gt;=65 years (+), • Medical inflation (measured using a Medicare economic index) (-) • Expenditure per hospitalization (+) Main contributors to growth of expenditure: • GDP per capita (+) • Population proportion &gt;=65 years (+)</td>
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<td>regression line in explaining the total changes</td>
<td>* Medical inflation (measured using a Medicare economic index) (-)</td>
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<td>Mujasi, P.N. and Puig-Junoy, J (2015)</td>
<td>Uganda</td>
<td>112 districts</td>
<td>Single year</td>
<td>1 (FY 2011/12)</td>
<td>Per capita primary health care pharmaceutical expenditure (budgetary funding for essential medicines and health supplies (EMHS) excluding vertical funding for malaria, TB, HIV, vaccines and reproductive &amp; maternal health supplies)</td>
<td>Need/demand: total projected district population; percentage of females; percentage below poverty line; percentage fully immunised; outpatient attendance per capita; human development index; access to safe drinking water; latrine coverage; urbanization; labour absorption rate; total literacy, female literacy, male literacy; Supply: Availability of regional referral hospital, new or old district; hard to reach or not; total number of government health facilities excluding hospitals; total government hospitals; total NGO facilities; and Health System Organisation: proportion of HC2, proportion of HC3, proportion of HC4; proportion of filled staff posts; presence</td>
<td>Step wise multiple linear regression using OLS and hypothesis tests for the value coefficients</td>
<td>Final two models explain about 55-58% of the variation in per capita pharmaceutical expenditure. Variables are: Outpatient attendance per capita (+) Rural population below poverty line (-) Total population (-) Human Poverty Index (+) Number of government health facilities (+) Negative sign on total population may suggest economies of scale or low drug costs since the population is young. Explanation for negative sign for rural poverty is that the data may...</td>
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<td>of technical assistance for pharmaceutical management; population % within 5km of health facility</td>
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<td>Di Matteo and Di Matteo</td>
<td>Canada</td>
<td>10 provinces</td>
<td>Panel</td>
<td>14</td>
<td>Real per capita provincial government health expenditures</td>
<td>Real provincial per capita income; % population &gt;65; Real provincial per capita federal transfer revenues;</td>
<td>Log-log regression analysis</td>
<td>Provincial per capita income (+); Proportion of the provincial population over age 65 (+); Real provincial per capita federal transfer revenues (+). R-square of 92%</td>
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<td>USA &amp; Canada</td>
<td>50 US states +</td>
<td>Panel</td>
<td>1980-1998 (US) and 1975-2000</td>
<td>Real per capita gross state/provincial product; Real per capita provincial revenue from federal cash transfers; %population 0-24,25-44, 45-64, 65-84, &gt;=85yrs; %population &gt;=65; dummy variables for provinces &amp; regions; dummy variable for year (time)</td>
<td>Linear regression using OLS. Final models estimated using trimmed least squares (alpha=0.1) to assess the impact of outliers. No difference seen</td>
<td>Linear regression using OLS. Final models estimated using trimmed least squares (alpha=0.1) to assess the impact of outliers. No difference seen</td>
<td>Income (+); % population &gt;=65 (+); time (US +); federal cash transfers (Canada +); Age groups 18-64 and &gt;75 (Canada +); Age groups 25-44, 65-85 &amp; &gt;84 (US +); 45-64 (US -); US 29% of increase due to income, 19% due to &gt;65s but more complex regression says time accounts for 62%; Canada 67% due to &gt;65 but with complex model time 64%</td>
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<td>Germany</td>
<td>402 counties</td>
<td>Single year</td>
<td>2011</td>
<td>Social health insurance expenditure per inhabitant</td>
<td><strong>Demography &amp; morbidity:</strong> RSA (equalisation fund index based on age, sex and morbidity); <strong>Social structure:</strong> unemployment rate; GDP per inhabitant; Rurality; % foreign nationals; % SHI membership; Level of SHI competition (Herfindahl-Hirschman Index); Education (formal, social engagement &amp; personal development); Particulate matter (air pollution levels PM10); Risk tolerance; Patience (latter two based on survey self-assessment on a scale from 0-10); <strong>Supply &amp; services:</strong> % private hospital beds; hospital bed density per 1000; specialists per 1000; GP per SHI member; GP, specialist, psychotherapy, hospitalisations, prescriptions per SHI insure; <strong>Prices:</strong></td>
<td>Linear regression model using OLS and a spatial regression model with the spatial characteristics included in the error term</td>
<td>Spatial interactions not significant so OLS estimates used; Determinants (selected): Risk factor score (+ explains 55%); GDP per capita (+); Education (+); Proportion of private hospitals (+); Specialists (-); General practitioners (+); Hospitalization rates (+); Risk tendency (+); Prescriptions (+); Price per prescription (+); Expenditure for deceased insures (+)</td>
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<td>Hospital base rate; Price per prescription; Point value for ambulatory care; <strong>End of life care</strong>: Standardized mortality rate; Expenditure on deceases</td>
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| Pan and Liu     | China   | 31 provinces    | Panel     | 5 (2002-2006) | Per capita provincial government health expenditure                                  | Income: general budget revenue per capita; transfers from the central government per capita; Aging: %<15, % population >64; Public health status: Infectious disease morbidity per 1000, infectious disease mortality per 1000, SARS; Institutional factors: beds per 1000; health personnel per 1000; Other social factors: Insurance coverage rate; % urban population; % female population; % college and higher level; Time (dummy variable); Provincial dummies for FE model | Log-log regression analysis using random-effects model (GLS) and fixed-effects model (LSDV) with Hausman test used to differentiate the two models | Fixed effects model used for analysis. Key determinants are:  
• Provincial per capita income based on provincial general budget revenue (+),  
• Transfers from central governments (+); SARS (+)  
• Proportion of population <15 years (+)  
• SHI coverage rate (-)  
• Proportion of urban population (-)  
• Technological advancements (+)  
The negative sign for urban population is thought to be related to ease/economies of scale. |
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scale of supplying services in more densely populated areas
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<td>Gordon et al 1997</td>
<td>USA</td>
<td>1708 Local health departments</td>
<td>Single year</td>
<td>1992/93</td>
<td>Local health department per capita expenditures</td>
<td>Population (Box-Cox transformed along with expenditures); No. of full time staff members; No. of services out of 52 provided by contract; % of resources derived from 10 different sources (city, county, state, direct federal, Medicaid, Medicare, private foundation, private health insurance, patient fees, regulatory fees); Dummy for each department jurisdiction (5 types); Category as centralized, independent or shared; Presence or absence of local board; Boards authority in five areas (establish policy, recommend budget, approve budget, establish priorities, hire agency head); Presence or absence of long term plans; Use of any of five planning tools</td>
<td>Linear regression with step wise exclusion of variables</td>
<td>Population (+), full time staff (-), Medicare (+), programme provided (+), hiring head (+), city jurisdiction (+), decentralised (+), shared (+), Medicaid (+), county sources (+) city sources (-), regulatory fees (+), recommends budget (-), long term plan (-). R2 82%. Main contributor to variability population (71%), number of full-time staff (4%), Medicare funds (3%) and number of programs (2%)</td>
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<td>47 prefectures</td>
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<td>11 (1990-2010)</td>
<td>Per capita health care expenditure in prefecture</td>
<td>Per capita prefectural income; % population &gt;=65; % population &lt;=15; % population in densely inhabited districts; Share of households on welfare; Number of hospital beds; Number of doctors</td>
<td>Log-log regression fixed effects model; Inequality decomposition using SFMS method. Assess data both in cross-sectional (each year) and pooled so that the latter can explain unobserved heterogeneity brought about by the prefecture and year-specific effects</td>
<td>Cross sectional: The key determinants are population &gt;65, poverty, doctors and number of hospital beds. Effect of the elderly greatest. Panel data: %population &gt;65 (+), % population &lt;15 (+), hospital beds (+), doctors (+). Decomposition performed to assess greatest contributors, which are (in order): number of hospital beds (38%), proportion of elderly (32%) and number of doctors (20%) and poverty (10%) and time (16%). Income low effect on HCE</td>
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<td>Population; Decentralisation; Time from decentralisation; Per capita GDP; Left wing party %; Doctors per 100000; % population 64-75; Fiscal responsibility; Beds per 100000</td>
<td>Log-log regression random effects spatial model. Lagrange multiplier tests used to choose between model with spatially autoregressive errors and spatial lag. Endogeneity dealt with using IV for left wing &amp; spatial effect: republican border during civil war</td>
<td>Population size (-); Time since decentralisation (-); Per capita GDP (-); % left wing part (-); Doctors (+); Beds (+); Decentralisation (+); Fiscal responsibility (+); Spatial (+)</td>
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<td>Lopez-Casasnovas and Saez-Lopez, 2007</td>
<td>OECD (Australia, Germany, Canada, France, Italy, Sweden, Spain, UK)</td>
<td>110 regions in 8 countries</td>
<td>Single year</td>
<td>1997</td>
<td>Per capita health care expenditure in region</td>
<td>Per capita income in PPP, &amp;population &gt;=65 years; public health expenditure as % of THE in the health system</td>
<td>Multilevel hierarchical model with LR test for significance of variables</td>
<td>Key determinants (+): Increased pop&gt;65 and public health expenditure increases total health expenditure. Fiscal decentralization increased health expenditure.</td>
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<td>Reich et al</td>
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<td>26 cantons</td>
<td>Panel</td>
<td>11</td>
<td>Per capita health care expenditures (includes contributions from public authorities, gross premiums - including subsidies, and cost shared by insured persons)</td>
<td>Physician (GP + specialist) density), Pharmacist density; Acute beds; % population under managed care; Dispensing doctor density; % of regular smokers; Income per capita; % of unemployed; Urbanisation; Share of foreigners; % population &gt;75 and &lt;5; Latin vs German speaking; Time trend variable</td>
<td>Log-log regression analysis using RE &amp; FE models with Hausman test used to reject RE model</td>
<td>Positive correlation (+) with physician density, dispensing doctors, unemployment rate and foreigners and negative (-) for higher proportions in managed care, population &lt;5 (as expected); Negative relationship (-) with per capita income (unexpected), Negative relationship may be because Swiss payment for healthcare are based on a non-income linked per capita premium, with low cost-sharing rates, and the data excluded OOP and supplementary health insurance at canton level</td>
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<td>Nguyen et al 2009</td>
<td>Finland</td>
<td>415 municipalities</td>
<td>Panel</td>
<td>12 (1993-2004)</td>
<td>Per capita total municipal expenditure on health care services including primary, specialized and elderly care</td>
<td>Demographic: % males/females in strata 0-6, x,75-84,&gt;84; Socioeconomic: disposable income per capita; employment rate; % educated; % disabled; municipal tax unit rate (measure of financial capacity); Structural/Organizational: NHI reimbursement for physicians; NHI reimbursement rate for dental; NHI reimbursement rate for prescriptions; Size of state subsidy to municipality; Merger of health centre to hospital; % specialized care of THE; cumulative year variables</td>
<td>Linear regression analysis using FE (OLS) and RE (GLS) with Hausman test used to reject the RE model</td>
<td>R2=90%. Key determinants: Population &gt;85 (+) for both genders; &lt;6 (-) for both genders; % disabled (+); Employment rate (+); Population density (-); Municipal tax unit rate (-); Reimbursements for physicians (+) and dentists (-); Dental care is procured privately</td>
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<td>Braendle and Colombier, 2015</td>
<td>Switzerland</td>
<td>26</td>
<td>Panel</td>
<td>(1970-2012)</td>
<td>Choice of variables using bias-corrected least-squares-dummy-variable estimator proposed by Bruno (2005). Log-log regression with three models: demand + supply then political/institutional then health care reforms. Real cantonal GDP per capita; Unemployment rate; % population &gt;64 and &lt;6; Share of foreigners; Mortality rate; Parliament size; Share of women in parliament; Fiscal rule; Mandatory fiscal referendum; Mandatory health insurance; Long-term care finance reform; Hospital finance reform</td>
<td>Dynamic panel estimation methods and control for time-invariant and canton-invariant unobserved heterogeneity</td>
<td>Key determinants: Per capita income (+); Unemployment rate (+); Share of foreigners (+); Number of women in parliament (+)</td>
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| Prieto and Lago-Penas, 2012 | Spain | 17 regions | Panel  | 14 (1992-2005) | Health care expenditure per capita; Physicians per 1000; % population <4,>75, 65-75; Time trend; Regional autonomy clusters | Real per capita income; Beds per 1000; Physicians per 1000; % population <4,>75, 65-75; Time trend; Regional autonomy clusters | Log-log regression                                        | Key determinants:  
• Income (+) without regional clusters inclusion  
• Acute care beds (-)  
• Population >75 (+)  
• Technological advancement (+)  
The density of acute care beds has been falling; spending is higher in those regions with more acute care beds |
<p>| Hooda, 2015          | India   | 16 states     | Panel  | 25 (1987/88 to 2011/12) | State government real per capita health expenditure | Real per capita gross state domestic product; Per capita own state revenue (fiscal capacity); Urbanization; State’s priority for health (sustained growth of health spending even in constraint); Index of political participation (more women in politics); | Log-log panel regression with random effects | Income (+) and greater elasticity in poorer states; Fiscal capacity (+); Participation index (+); Priority (+); Poorer vs richer (-) |
| Authors            | Country     | Number of units | Data type | Years         | Dependent variable                                      | Independent variables                                                                                     | Econometric model                                                                                      | Findings                                                                                                                                 |
|--------------------|-------------|-----------------|-----------|---------------|--------------------------------------------------------|-------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|
| Cantarero, 2005    | Spain       | 15 regions      | Panel     | 7 (1993-1999) | Per capita health care expenditure                    | per capita Gross Domestic Product; Ageing Population; total number of Beds Per Hospital; Number of staff per hospital | Log-log regression model; fixed effects model selected                                                | Per capita GDP (+); Ageing Population (+); total number of Beds Per Hospital (+); Number of staff per hospital |
| Giannoni and Hitiris, 2002 | Italy       | 20 regional health authorities | Panel 16 (1980-1995) | Real per capita public health expenditure | Per capita real GDP; the ageing population; beds per hospital; medical and non-medical personnel per hospital | Linear model after Box-Cox transformation to assess acceptability of the latter                          | Key determinant is ageing (+); Income (+); Bed density (-); Personnel (+)                                |
| Bilgel, 2004       | Canada      | 10 provinces    | Panel 28 (1975-2002) | Real per capita total, public and private health expenditure | Income; Price of health care; Share of publicly funded health care; Share of senior &gt;65; Life expectancy at birth; Federal transfers for provincial governments; | Log-log regression model with use of IV to check for correlation &quot;Instrumental Variables, one-way fixed effects error component model&quot; | For total &amp; public health expenditure over long term: GDP (+); Federal transfers (+); share of seniors (+); life expectancy at birth (+ total only) |</p>
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<td>Costa-Font and Pons-Novell, 2007</td>
<td>Spain</td>
<td>17 regions</td>
<td>Panel</td>
<td>7 (1992-1998)</td>
<td>Per capita healthcare expenditure</td>
<td>Per capita GDP; Political link between regional &amp; national; Left wing regional; Healthcare responsibilities; Fiscal accountability responsibility; Physicians per 1000; % population &gt;65; Hospital stays</td>
<td>Linear regression with OLS and checked for spatial autocorrelation using Moran and Lagrange tests</td>
<td>Per capita GDP (+); Population (-); Physician density (+); Regional-national link (+); Left wing (-); Health responsibility (+); Fiscal responsibility (+)</td>
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<td>Di Matteo</td>
<td>Canada</td>
<td>Provinces</td>
<td>Panel</td>
<td>25 (1975-2000)</td>
<td>Real per capita provincial GDP; Real per capita federal transfers; % population &gt;65; % population in age strata; Physician density (per million); Provincial health expenditure as % of THE; Private health expenditure as % of THE; Dummy variables for province; Time trend variable</td>
<td>Real per capita provincial GDP; Real per capita federal transfers; % population &gt;65; % population in age strata; Physician density (per million); Provincial health expenditure as % of THE; Private health expenditure as % of THE; Dummy variables for province; Time trend variable</td>
<td>Pooled time series cross-section linear regression</td>
<td>Income (+); Transfers (+); % &gt;75 (+ 27% of growth); Physicians (+); Private (-); Time (+ 43% of growth)</td>
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<td>Crivelli et al</td>
<td>Switzerland</td>
<td>26 cantons</td>
<td>Panel</td>
<td>(1996-2002)</td>
<td>Socialised health insurance per capita (public health + mandatory health insurance)</td>
<td>Per capita income; Unemployment rate; % population &gt;75 &amp; &lt;5; Mortality rate amenable to healthcare; Population density; Direct democracy index; Dummy variable for Latin vs Other; Bed density; Physician density; Time</td>
<td>Log-log regression model with fixed effects (LSDV) and random effects (GLS).</td>
<td>Income not significant; % &gt;75 (+); Population density (+); Physician density (+); Latin (+); Time (+); % &lt;5 (-); mortality rate (-)</td>
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<td>Landon et al</td>
<td>Canada</td>
<td>Provinces</td>
<td>Panel</td>
<td>(1989/90-2003/04)</td>
<td>Health care expenditure &amp; other public expenditure</td>
<td>Considers whether health crowds out other public spending with other factors held constant: income, transfers, age strata and debt charges</td>
<td>Log-log regression</td>
<td>Transfers (+); Children (-); Debt charges (-)</td>
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<td>Ariste R and Carr J 2003</td>
<td>Canada</td>
<td>Provinces</td>
<td>Panel</td>
<td>(1966-1998)</td>
<td>Health expenditures of the provincial governments</td>
<td>Total Real per capita income (disposable personal income and government income); %population &gt;=65years; Ratio of deficit or surplus to GDP</td>
<td>Log-linear regression with fixed effects</td>
<td>Income (+); ratio of deficit to GDP (+); Time (+)</td>
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<td>Moscone and Knapp, 2005</td>
<td>England</td>
<td>148 Local authorities</td>
<td>Single year</td>
<td>2001-02</td>
<td>Net per capita personal social service expenditure on mental health-specific services for people aged 18-65 years.</td>
<td>% population 0-15years; % population &gt;=65years; % males; % singles; % Asian ethnicity; % black Caribbean; % black other; % no educational qualification; % with a resident with long-term illness; Median gross weekly wage; Population density</td>
<td>Spatial regression model incorporating both spatial lag and spatial error models with an exploratory data-driven analysis to assess for spatial correlation followed by econometric specification and a model-driven approach. Final log-log regression model by OLS and spatial lag model; and then a maximum likelihood &amp;</td>
<td>OLS estimates: % population male; % population 0-15years; % Asian ethnicity; % population with no educational qualification; % population with long-term illness; Mean weekly wage; Population density/*/IV estimates: % population single; % population Asian; % long term illness; Population density</td>
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<td>148 Local authorities</td>
<td>Panel</td>
<td>6 (1998-2003)</td>
<td>Net personal social services expenditure for adults aged under 65 years with mental health problems.</td>
<td>Density of population; %population male; %population &lt;14 years; Standardised mortality ratio; Number of jobs; %lone parent households; % unemployment claimants; Labour vs LibDem</td>
<td>Spatial regression random effects model with estimates using OLS and Maximum Likelihood Estimation with classic random effects, random effects with spatially lagged dependant</td>
<td>Random effects model spatial lag: Population density (+); % &lt;14 years (+); Mortality ratio (+); Unemployment claimants (+); Lone parents (+); Median weekly wages (+)</td>
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<td>Rettenmaier and Wang, 2012</td>
<td>USA</td>
<td>Longitudinal 5% sample of Medicare; excluding &lt;65 years, HMO enrollees and non-residents (38,354,621 observations)</td>
<td>Single year</td>
<td>30 (1974-2003)</td>
<td>State level per capita Medicare expenditure</td>
<td>Age; % male; % black; % deaths in each year; % urban; Education level; Per capita family income; Income inequality; Physician density per 100,000; Bed density</td>
<td>Unclear</td>
<td>No pooled estimate results. Annual results presented with significance in most years for urbanization (+) income inequality (+); bed density (+), age (-), male (-)</td>
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| 2012)Rette
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Wang, 2012)Rett
rnanier and
Wang, 2012 | USA | 6725 | Panel | 3 (2000-
2002) | Annual Medicare spending per beneficiary | Quintile group (based on hospital-referral regions grouped based on Medicare spending); demographic: Age group; Sex; Race; baseline health: Self-reported health status; Conditions diagnosed before baseline survey; other health measures: New diagnosis; Smoking status; other individual-level | OLS linear multivariate regression models | Unadjusted model: spending differs by quintile; Adjusted model: demographic variables and health status |
<p>| Zuckerman et al, 2010 | | | | | | | | |</p>
<table>
<thead>
<tr>
<th>Authors</th>
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<tbody>
<tr>
<td>Rahman 2008</td>
<td>India</td>
<td>14 states</td>
<td>Panel</td>
<td>21 (1971-1991)</td>
<td>Public Healthcare Expenditure Per Capita</td>
<td>Per capita state domestic product; %population &gt;60 years; Literacy rate; Population per Primary Health Centre; Population per Doctor</td>
<td>Log-linear panel regression with random effects (after running a Hausman test to choose between FE and RE). Per capita SDP in log form</td>
<td>Per capita state domestic product (+); Literacy rate (+)</td>
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<td>Authors</td>
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<td>Di Matteo, 2014</td>
<td>Canada</td>
<td>10 provinces</td>
<td>Panel</td>
<td>35 (1975-2009)</td>
<td>Real per capita provincial government health expenditures (total health, hospital, physician, drug, capital, public health, health administration, other)</td>
<td>Family physicians per 10,000; Specialist physicians per 10,000; Per capita provincial GDP; Population time trend; %population 65-69, 70-74, 75-79, &gt;=80; Real per capita federal cash transfer; Real per capita provincial debt interest; Canada health act in effect; Canada health transfer present; Canada health and social transfer present; medical school enrolment restrictions present; Year (1-35)</td>
<td>Pooled time-series cross sectional linear regression model using GLS</td>
<td>For Total public health expenditure: real per capita GDP (+); time (+); %population 65-69 and &gt;=80 (+); Real per capita provincial debt interest (-); %population 75-79; Canada health &amp; social transfer present (-); Privat share of health spending (-); Specialist and Family physicians (+ in model without year-province interaction)</td>
</tr>
<tr>
<td>Chou, 2007</td>
<td>China</td>
<td>28 provinces</td>
<td>Panel</td>
<td>(1978-2004)</td>
<td>Per capita health care expenditure</td>
<td>Provincial GDP per capita (log); Dependency ratio of old aged population; % population &gt;=65; Ratio of public to total health expenditure; Government budget deficits; Final model contains dependency ratio and</td>
<td>OLS linear regression plus dynamic and fully modified OLS.</td>
<td>DOLS &amp; FMOLS results: Age dependency (+); Budget deficit (-)</td>
</tr>
<tr>
<td>Authors</td>
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<td>Number of units</td>
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<td>Sheiner, 2014</td>
<td>USA</td>
<td>48 States</td>
<td>Single year</td>
<td>2008</td>
<td>Per capita acute health care expenditure (excludes long term care and dental care)</td>
<td>Log per capita income; Log Medicare price (average geographic adjustment used by Medicare to compensate providers in different areas); % diabetic; % black; % uninsured; % 65-74 years</td>
<td>Log-log regression</td>
<td>Per capita income (+); Medicare price (+); % diabetic (+); % black (+); % uninsured (+); %65-74 years (-)</td>
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<td>Authors</td>
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<td>Thornton and Rice 2008</td>
<td>USA</td>
<td>50 States</td>
<td>Single year</td>
<td>1998</td>
<td>Aggregate state healthcare expenditures per capita (annual real healthcare spending by state residents)</td>
<td>Health status: Crude death rate; Variables with direct effect on healthcare spending: % insurance coverage; % recipients of Medicaid; physicians per 100000; beds per 100000; % HMO coverage; medical malpractice insurance premiums; Variables with indirect effect: %BMI, alcohol consumption (gallons per capita), cigarette consumption (packs sold per capita); exercise (adult exercise at least 5 times a week for 30 minutes); % population &gt;=65; Variables with direct and indirect effects: % population with high school education; income distribution measured by Gini; personal income per capita; % urban income</td>
<td>Log-log regression using OLS estimates; Observations weighted by the square root of populations to account for heteroscedasticity</td>
<td>Income (+), Education (-), Insurance coverage (+), Obesity (+), physician density (+), Elderly (+), Urbanization (-), bed density (+), alcohol (+), exercise (-), cigarettes (+)</td>
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<td>Authors</td>
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<td>population; % black; % specialist physicians</td>
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<tr>
<td>Cantarero and Lago-Penas, 2010</td>
<td>Spain</td>
<td>17 regions</td>
<td>Panel</td>
<td>12(1992-2003)</td>
<td>Health care expenditure</td>
<td>Real per capita income; Acute care beds per 1000 population; General practitioners per 1000; %population &lt;4y; %population&gt;75; % population 65-75; Time trend; Dummy variable for autonomous communities; Dummy variable for regions with public health care responsibilities</td>
<td>Log-log regression (for income and expenditure only; the rest are in % form)</td>
<td>Can't tell</td>
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<tr>
<td>Joshi, 2015</td>
<td>USA</td>
<td>50 states</td>
<td>Panel</td>
<td>19 (1991-2009)</td>
<td>Health care expenditure</td>
<td>Political variable with democratic governor as dummy with Republican vs Democrat only; Control variables: Democratic/Republican control of both houses; Per capital real disposable incomes; Voter ideology; Demographic characteristics (% black and %&gt;=65)</td>
<td>Parametric regression discontinuity approach</td>
<td>No difference between Republican and Democrat governors for total HCE; Democrat's associated with drug expenditure growth</td>
</tr>
<tr>
<td>Authors</td>
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<td>Vatter and Ruefl, 2003</td>
<td>Switzerland</td>
<td>26 cantons</td>
<td>Panel</td>
<td>6</td>
<td>Per capita net health expenditure per canton (excluding federal transfers &amp; cross-cantonal flows) &amp; Gross costs per insurance month</td>
<td><strong>Demand:</strong> Net cantonal income per capita; % urban residents; %&gt;65 years; % unemployed; Hospitalisations per 1000; Social networks index; % German speakers; <strong>Supply:</strong> Practitioner density; % of specialists; Bed density; Mental beds density; Nursing home bed density; % specialised hospitals; Average number of beds; Acute beds to nursing home beds ratio; Home care provision; Pharmacy density; % dispensing doctors; <strong>Policy:</strong> Left-wing seats; Right-wing seats; Centre-party seats; % of unionised in population; Index of direct democracy; Total number of popular votes; Index of local autonomy; Ratio of public financing of inpatient care</td>
<td>Bivariate correlation with PHCE then multivariate regression using OLS</td>
<td>Log of per capita income (+); Practitioner density (+); Share of elderly (+); unemployment rate (+); practitioner density (+); specialists (+); Public share of total expenditure (+); Public financing of inpatient care (+)</td>
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<td>expenditure to cantonal income; Public share of inpatient financing</td>
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| Ridao-Lopez et al, 2018 | Spain        | 198 health care areas | Panel     | 13    | Public hospital expenditure                             | Need: human sex ratio (ratio of males to females), ageing index (ratio of person >65 to persons <=15, over-ageing index (ratio of >75yr to >=64yr), burden of disease

Utilisation: medical hospitalisation, surgical admissions and outpatient day-case surgeries

Price factors: Relative price of stay, length of stay, structural features (e.g. tertiary level, workforce, teaching hospital capacity)

Autonomous Community-level effect | Log-log multilevel models of random effects with autonomous community level as a cluster | Need-adjusted estimates: medical admissions (+), surgical hospitalisation (+), day-case surgeries (+), length of stay (+), tertiary hospital (+), nursing staff (+), teaching capacity (+), human sex ratio (-), ageing index (-) |
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<tr>
<td>Huicho et al, 2018</td>
<td>Peru</td>
<td>24</td>
<td>Panel</td>
<td>8 years</td>
<td>Expenditures on (1) reproductive health, (2) maternal-neonatal health and (3) child health</td>
<td>Groupings: social determinants and out of health sector changes, health sector changes, coverage with specific RMNCAH interventions and health and nutrition outcomes of interest e.g.</td>
<td>Stepwise multilevel mixed-effects regression model with the department-year being the unit of analysis (time and department as fixed effects)</td>
<td>Expenditure on RH, maternal-neonatal activities per target population in previous year (+), Expenditure on child health activities per target population in previous year (-), Time (+), Density of doctors, nurses and midwives (+ for child health expenditure only)</td>
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<tr>
<td>Authors</td>
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<tr>
<td>Araujo et al</td>
<td>Brazil</td>
<td>5,487 municipalities</td>
<td>Cross sectional</td>
<td>1 (2010)</td>
<td>Per capita expenditure on healthcare from own source revenues</td>
<td>Population size (number of inhabitants), child mortality, proportion of aged, region, out contracting to private service providers</td>
<td>Multiple regression using OLS</td>
<td>Number of inhabitants (-), Child mortality (+), contracting of private services (+)</td>
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</table>
## Appendix 2: Document Review Extraction Form

<table>
<thead>
<tr>
<th>Objectives/Categories</th>
<th>Code</th>
<th>Information</th>
<th>Notes</th>
<th>Document</th>
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<td><strong>Contextual Factors (Code: C for 'Context')</strong></td>
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<td>C1</td>
<td>Does the document provide any information about the political context for fiscal decentralisation or fiscal space for health? If it does, what is the political context?</td>
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<td>C2</td>
<td>Does the document provide any information about the economic context e.g. government revenue levels, income levels, formality of the labour market, etc.? If it does, what is the economic context?</td>
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<td>C3</td>
<td>Does the document provide any information about the influence of the international policy context (e.g. SDGs, promotion of P4P, etc.)? If it does, what is the international policy context?</td>
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<td>C4</td>
<td>Does the document describe the supply of health care services (e.g. the number and type of health care providers; medical inflation; standards and norms) in the country, etc.? If it does, please describe the supply of health care services.</td>
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<td>C5</td>
<td>Does the document describe the demand for health care services (e.g. ability to pay, socioeconomic characteristics of citizens, ethnic structure, population growth rate, etc.) in the country? If it does, please describe the supply of health care services.</td>
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<td>C6</td>
<td>Does the document describe any assessment of health sector performance (e.g. utilization, coverage, outputs, outcomes, efficiency, access &amp; availability, etc)? If it does, please describe the performance of the health sector.</td>
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<td>C7</td>
<td>Does the document provide any information on overall health care financing in the country? Specifically: 1. total health expenditure as % of GDP; 2. general government expenditure on health as % of total government expenditure; 3. general government expenditure on health as % of total health expenditure on health; 4. government debt levels; 5. government expenditure as % GDP; 6. government revenue as % of GDP; 7. per capita public health expenditure; 8. out of pocket expenditure &amp; catastrophic health expenditure; If it does, please describe that information.</td>
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**Decentralization arrangements**

**Fiscal Arrangements**

**Expenditure assignment:** What functions were assigned to county governments? What criteria were
<table>
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<tr>
<th>Social Accountability</th>
<th>used for the assignment? Changes over time? Influence on fiscal space for health?</th>
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<tbody>
<tr>
<td>FA2</td>
<td>Revenue assignment: What revenue sources are available to county governments: tax types, base, rate determination and administration arrangements? What criteria were used for the assignment? Changes over time? Influence on fiscal space for health?</td>
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<tr>
<td>FA3</td>
<td>Intergovernmental transfers: origin, method of allocation, flow of funds, institutional frameworks, goals? Influence on fiscal space for health?</td>
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<tr>
<td>FA4</td>
<td>Subnational borrowing: controls, PFM requirements, capacity - political, institutional, administrative &amp; technical? Influence on fiscal space for health?</td>
</tr>
</tbody>
</table>
### Organisations & Institutional Arrangements

| SA2 | Electoral accountability: Political and electoral frameworks at county level? Criteria for formation of county governments? Influence on fiscal space for health? |
| SA3 | Internal accountability: Auditing mechanisms? Accounting standards? Reporting requirements? |
| SA5 | Citizen mobility: Movement of citizens/firms among counties? Influence on fiscal space for health? |
| SA6 | Intergovernmental competition: Tax or service competition? Collaboration? Influence on fiscal space for health? |

| OA1 | Does the document describe the organizations and institutional arrangements that support fiscal decentralisation arrangements in Kenya? |
## OA2
Does the document mention the vision, direction and/or objectives (with explicit targets) for the organisations/institutional arrangements (health financing policy / mechanisms)? If so, summarise those visions, directions and objectives.

## OA3
Organization profile:
- [ ] Legal and ownership status: public, quasi-government or private; national or sub-national
- [ ] Nature of organisation: vision, mission, mandate, decision-making power
- [ ] Establishment details: year of establishment; background to the establishment; history of organisational changes (where applicable)
- [ ] Organisational structure: organogram; number of staff (including gender breakdown and qualification distribution)
- [ ] Management / leadership: term served by senior management (both contracted and actual); selection process for senior management; senior management turnover
| OA4 | Does the document provide any information on the regulatory framework to ensure that organisations comply with the stated objectives? Are there any enforcement tools / strategies? If so, what are the tools and strategies |
| OA5 | Does the document provide any information on how the Government monitors purchasers' performance? If so, summarise the process / mechanisms for monitoring performance. |

**County demographic and socioeconomic characteristics**

- Population
- Land size
- Number of households
- Poverty levels
- Nutrition levels
- Average distance from health facility
- %Urbanisation

**Number of health facilities:**
<table>
<thead>
<tr>
<th>County revenue</th>
<th>Level 5 hospitals</th>
<th>District</th>
<th>Sub district</th>
<th>Health centre</th>
<th>Dispensary</th>
<th>Medical clinics</th>
<th>Nursing homes</th>
<th>Private (if not included in above)</th>
</tr>
</thead>
<tbody>
<tr>
<td>County budget</td>
<td>Equitable share</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td>Equalisation fund</td>
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<tr>
<td></td>
<td>Conditional grants</td>
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<td></td>
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<td></td>
<td>Local revenue</td>
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<tr>
<td></td>
<td>Others: e.g. Transfers from accounts of former Local Authorities</td>
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<td></td>
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<tr>
<td></td>
<td><strong>Approved county estimates of expenditure</strong></td>
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<td>Total recurrent</td>
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<td>Total development</td>
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<tr>
<td></td>
<td>Emergency fund</td>
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<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Level 5 hospital(s)</td>
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<tr>
<td></td>
<td><em><em>County expenditure by departments</em> (vary from county to county)</em>*</td>
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<tr>
<td></td>
<td>County assembly</td>
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<td></td>
</tr>
</tbody>
</table>
### County expenditure by economic classification

<table>
<thead>
<tr>
<th>Economic Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personnel expenses</td>
</tr>
<tr>
<td>Operations and maintenance</td>
</tr>
<tr>
<td>Development expenditure</td>
</tr>
<tr>
<td>Debt repayment</td>
</tr>
<tr>
<td>Level 5 hospital</td>
</tr>
<tr>
<td>Emergency Fund</td>
</tr>
</tbody>
</table>

### Revenue sources

<table>
<thead>
<tr>
<th>Revenue sources</th>
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<tbody>
<tr>
<td></td>
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<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>Funding from County government</td>
</tr>
<tr>
<td>--------------------------------</td>
</tr>
<tr>
<td>Facility improvement funds</td>
</tr>
<tr>
<td>HSSF</td>
</tr>
<tr>
<td>Public health department revenue</td>
</tr>
<tr>
<td>Others</td>
</tr>
</tbody>
</table>

**Expenditure by economic classification:**

- Personnel expenses
- Operations and maintenance
- Development expenditure
- Others

**Expenditure by health facility type:**

- Level 5 hospitals
- District
- Sub district
- Health centre
- Dispensary
- Medical clinics
- Nursing homes
- Private (if not included in above)
Appendix 3: Participant Information Sheets and Consent Forms for Key Informant Interviews for National Government Officials and National level stakeholders; County Government Officials and County-level stakeholders; and for Focus Group Discussions

Participant Information Sheet and Consent Form for Key Informant Interviews: National Government Officials and National level stakeholders
Study Title: A critical assessment of the implications of devolution on fiscal space for health at county level in Kenya
Lay title: Assessing the effects of devolution on expenditure on health by county governments in Kenya

<table>
<thead>
<tr>
<th>Principal investigator</th>
<th>Kenneth Munge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-investigators</td>
<td>Edwine Barasa</td>
</tr>
<tr>
<td></td>
<td>Kara Hanson</td>
</tr>
<tr>
<td></td>
<td>Jane Chuma</td>
</tr>
</tbody>
</table>

Who is carrying out this study and what is this study about?
This study is being carried out by KEMRI, which is a government organisation that carries out health research to find better ways of preventing and treating illness in the future for everybody’s benefit. Sometimes research involves only asking questions of patients, their parents, community members or health providers about what they know, feel or do.

In this research we want to learn more about your views about the potential for increasing the level of expenditure on health by county governments in Kenya. We will learn this through listening to your ideas and opinions on:

- Functions assigned to county governments
- Sources of revenue available to county governments
- Transfers and grants
- Borrowing arrangements
- Citizen engagement for needs assessment and preference elicitation
- Access to information

In order to accomplish our aim, we are carrying out in-depth interviews at the national and county levels during which we are interviewing national and county government officials, members of constitutional commissions and institutions, and other stakeholders including civil society, representatives of business groups and the media.
We are also conducting focus group discussions with citizens in 4 case study counties. At national level, we wish to speak to about 10-15 national government officials and stakeholders.

**Why do you want to talk to me about and what does it involve?**

You have been selected to participate in this study due to your role and experience in this area. We believe you are in a good position to help us attain the objectives of our study.

I would like to ask you a number of questions about the issues that I have just explained above. If you do not want to answer any of the questions you may say so and I will move on to the next question. The discussion will take place at your place of work or any other place of your choice and at a time convenient to you. No one else but the interviewer will be present unless you would like someone else there.

We wish to record the discussions. The voice recordings will be used to write up the information that you give but we will remove any information from these written records that could identify you in person. This includes removing your name and any other personal or professional information that might identify you. All data will be stored in accordance with KEMRI policy. We may also use your quotations in illustrating certain points in our publications- your name or any other aspect that may identify you will not be used.

**Are there any disadvantages or benefits to me of taking part?**

- The discussions should take approximately 1-2 hours.
- There are no individual benefits to taking part. In talking to us, you will contribute information on factors that influence the implementation of health policy in Kenya. This may help other people in Kenya and elsewhere in the future, for example through developing better policies and the attainment of universal health coverage.
- We acknowledge that answers about some aspects of your work can be confidential or sensitive.

**Who will have access to the information I give?**

- We will not share individual information about you or other participants with anyone except with the research team members. All of our documents/recordings are stored securely in locked cabinets and on password-protected computers. All audio files will be kept securely and confidentially.
- Information from this study will only be shared with other researchers or health policy makers in a form where no individual can be identified and without
identifying any individual roles for participants. This information may include summaries, full reports, publications in scientific journals, presentations at meetings and detailed records of findings.

- In future, information collected or generated during this study may be used to support new research by other researchers in Kenya and other countries on health systems research. In this case, we will only share information in ways that do not reveal individual participants’ identities. For example, we will remove information that could identify people, such as their names and where they live, where necessary roles and positions, and replace this information with number codes. Any future research using information from this study must first be approved by a local or national expert committee to make sure that the interests of participants and their communities are protected.

**What will happen if I refuse to participate?**

All participation in research is voluntary. You are free to decide if you want to take part or not. If you do agree you can change your mind at any time without any consequences.

**Who has allowed this research to take place?**

All research at KEMRI has to be approved before it begins by several national and international committees who look carefully at planned work. They must agree that the research is important, relevant to Kenya and follows nationally and internationally agreed research guidelines. This includes ensuring that all participants’ safety and rights are respected.

**What if I have any questions?**

You are free to ask me any question about this research. If you have any further questions about the study, you are free to contact the research team using the contacts below:

Dr Kenneth Munge, KEMRI Wellcome Trust Research Programme, P.O. Box 43640-00100, Nairobi. Telephone: 0730 162000

If you want to ask someone independent anything about this research please contact:

**The Community Liaison Manager**, KEMRI – Wellcome Trust Research Programme P.O. Box 230, Kilifi. Telephone: 0723342780 or 041 7522063

And

**The Secretary - Scientific and Ethics Review Unit (SERU)**, P. O. BOX 54840-00200, Nairobi, Tel number: 020 272 2541 Mobile: 0722 205 901 or 0733 400 003, Email address: ERCadmin@kemri.org
KEMRI Wellcome Trust Research Programme: Participant Consent Form: National Government Officials and National-level Stakeholders

Study Title: A critical assessment of the implications of devolution on fiscal space for health at county level in Kenya

Lay title: Assessing the effects of devolution on expenditure on health by county governments in Kenya

To be filled in by the interviewee

I have had the study explained to me. I have understood all that has been read/explained and had my questions answered satisfactorily

☐ Yes, please tick I agree to be interviewed

☐ Yes, please tick I agree for the interview to be recorded

☐ I agree for my quotes to be used in publications or reports released on the study

I understand that I can change my mind at any stage and it will not affect me in any way.

Signature: ___________________________ Date ____________

Participant’s name: ___________________________ Time: ____________

(please print name)

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To be filled in by interviewer

I certify that I have followed the study SOP to obtain consent from the participant. S/he apparently understood the nature and the purpose of the study and consents to participation in the study. S/he has been given opportunity to ask questions which have been answered satisfactorily.

Signature: ___________________________ Date ____________

Researcher’s name: ___________________________ Time: ____________

(please print name)

THE PARTICIPANT SHOULD NOW BE GIVEN A SIGNED COPY TO KEEP
Who is carrying out this study and what is this study about?
This study is being carried out by KEMRI, which is a government organisation that carries out health research to find better ways of preventing and treating illness in the future for everybody’s benefit. Sometimes research involves only asking questions of patients, their parents, community members or health providers about what they know, feel or do.

In this research we want to learn more about your views about the potential for increasing the level of expenditure on health by county governments in Kenya. We will learn this through listening to your ideas and opinions on:
- Functions assigned to county governments
- Sources of revenue available to county governments
- Transfers and grants
- Borrowing arrangements
- Citizen engagement for needs assessment and preference elicitation
- Access to information

In order to accomplish our aim, we are carrying out in-depth interviews at the national and county levels during which we are interviewing national and county government officials, members of constitutional commissions and institutions, and other stakeholders including civil society, representatives of business groups and the media. We are also conducting focus group discussions with citizens in 4 case study counties.
At county level, we wish to speak to about 10 county government officials and stakeholders.

Why do you want to talk to me about and what does it involve?
You have been selected to participate in this study due to your role and experience in this area. We believe you are in a good position to help us attain the objectives of our study.

I would like to ask you a number of questions about the issues that I have just explained above. If you do not want to answer any of the questions you may say so and I will move on to the next question. The discussion will take place at your place of work or any other place of your choice and at a time convenient to you. No one else but the interviewer will be present unless you would like someone else there.

We wish to record the discussions. The voice recordings will be used to write up the information that you give but we will remove any information from these written records that could identify you in person. This includes removing your name and any other personal or professional information that might identify you. All data will be stored in accordance with KEMRI policy. We may also use your quotations in illustrating certain points in our publications—your name or any other aspect that may identify you will not be used.

**Are there any disadvantages or benefits to me of taking part?**

- The discussions should take approximately 1-2 hours.
- There are no individual benefits to taking part. In talking to us, you will contribute information on factors that influence the implementation of health policy in Kenya. This may help other people in Kenya and elsewhere in the future, for example through developing better policies and the attainment of universal health coverage.
- We acknowledge that answers about some aspects of your work can be confidential or sensitive.

**Who will have access to the information I give?**

- We will not share individual information about you or other participants with anyone except with the research team members. All of our documents/recordings are stored securely in locked cabinets and on password-protected computers. All audio files will be kept securely and confidentially.
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- In future, information collected or generated during this study may be used to support new research by other researchers in Kenya and other countries on health...
systems research. In this case, we will only share information in ways that do not reveal individual participants’ identities. For example, we will remove information that could identify people, such as their names and where they live, where necessary roles and positions, and replace this information with number codes. Any future research using information from this study must first be approved by a local or national expert committee to make sure that the interests of participants and their communities are protected.

**What will happen if I refuse to participate?**
All participation in research is voluntary. You are free to decide if you want to take part or not. If you do agree you can change your mind at any time without any consequences.

**Who has allowed this research to take place?**
All research at KEMRI has to be approved before it begins by several national and international committees who look carefully at planned work. They must agree that the research is important, relevant to Kenya and follows nationally and internationally agreed research guidelines. This includes ensuring that all participants’ safety and rights are respected.

**What if I have any questions?**
You are free to ask me any question about this research. If you have any further questions about the study, you are free to contact the research team using the contacts below:
Dr Kenneth Munge, KEMRI Wellcome Trust Research Programme, P.O. Box 43640-00100, Nairobi. Telephone: 0730 162000

If you want to ask someone independent anything about this research please contact:
The Community Liaison Manager, KEMRI – Wellcome Trust Research Programme P.O. Box 230, Kilifi. Telephone: 0723342780 or 041 7522063
And
The Secretary - Scientific and Ethics Review Unit (SERU), P. O. BOX 54840-00200, Nairobi, Tel number: 020 272 2541 Mobile: 0722 205 901 or 0733 400 003, Email address: ERCadmin@kemri.org
KEMRI Wellcome Trust Research Programme: Participant Consent Form: County Government Officials and County-level Stakeholders

Study Title: A critical assessment of the implications of devolution on fiscal space for health at county level in Kenya

Lay title: Assessing the effects of devolution on expenditure on health by county governments in Kenya

To be filled in by the interviewee

I have had the study explained to me. I have understood all that has been read/explained and had my questions answered satisfactorily

☐ Yes, please tick I agree to be interviewed
☐ Yes, please tick I agree for the interview to be recorded
☐ I agree for my quotes to be used in publications or reports released on the study

I understand that I can change my mind at any stage and it will not affect me in any way.

Signature: __________________________ Date ________________
Participant’s name: ______________________ Time: ________________
(please print name)

To be filled in by interviewer

I certify that I have followed the study SOP to obtain consent from the participant. S/he apparently understood the nature and the purpose of the study and consents to participation in the study. S/he has been given opportunity to ask questions which have been answered satisfactorily.

Signature: __________________________ Date ________________
Researcher’s name: ______________________ Time: ________________
(please print name)

THE PARTICIPANT SHOULD NOW BE GIVEN A SIGNED COPY TO KEEP
KEMRI Wellcome Trust Research Programme: Participant Information Sheet and Consent Form for Focus Group Discussions

Study Title: A critical assessment of the implications of devolution on fiscal space for health at county level in Kenya

Lay title: Assessing the effects of devolution on expenditure on health by county governments in Kenya

<table>
<thead>
<tr>
<th>Principal investigator</th>
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</tr>
<tr>
<td></td>
<td>Kara Hanson</td>
</tr>
<tr>
<td></td>
<td>Jane Chuma</td>
</tr>
</tbody>
</table>

Who is carrying out this study and what is this study about?
This study is being carried out by KEMRI. KEMRI is a government organization that carries out medical research to find better ways of preventing and treating illness in the future for everybody’s benefit. Sometimes research involves only asking questions of patients, their parents, community members or health providers about what they know, feel or do. In this research, we want to learn more about your views about the potential for increasing the level of expenditure on health by county governments in Kenya. We would like to hold discussions with groups of about 6 to 8 citizens. We will be doing this in four counties across the country where we will also be discussing the same issues with other citizens. We will also perform interviews with county government and national government officials.

Why do you want to talk to me and what does it involve?
You have been selected to participate in a group discussion due to your role in the community. We believe you are in a good position to help us best understand how citizens interact with county governments. If you do not want to answer any of the questions you may say so and I will move on to the next question. The discussion will take place at a location and time that is convenient for you. Besides other participants, no one else but the interviewer and a note-taker will be present. Since this will be a group discussion, we encourage you to express your views freely and also listen to other participants’ opinions.

We wish to record the discussions to assist us later in fully writing up the information. No one will be identified by name in the recording.

We may also use your quotations in illustrating certain points in our publications- your name or any other aspect that may identify you will not be used.

Are there any risks or disadvantages to me?
The discussions should take approximately 1.5 to 2 hours. You will be provided refreshments for your time and refunded the fare that you spend. We acknowledge that answers about some aspects of your work can be confidential or sensitive.

**Are there any advantages to me for taking part?**
There are no individual benefits to taking part. However, by talking to us, you will contribute to knowledge of financing the health system. This may help other people in Kenya and elsewhere in the future, for example through developing better policies for financing the health care system.

**Who will have access to the information I give?**
- We will not share individual information about you or other participants with anyone beyond a few people who are closely concerned with the research. All of our documents/recordings are stored securely in locked cabinets and on password-protected computers. All data will be stored in accordance with KEMRI policy.
- The knowledge gained from this research will be shared in summary form, without revealing individuals’ identities, with relevant government agencies as well as other stakeholders in health care financing.
- We ask everybody in the discussion to keep what is said in the group confidential, but it is important to recognize that we cannot stop participants sharing what they have heard.

**Who has allowed this research to take place?**
All research at KEMRI has to be approved before it begins by several national and international ethics committees who look carefully at planned work. They must agree that the research is important, relevant to Kenya and follows nationally and internationally agreed research guidelines. This includes ensuring that all participants’ safety and rights are respected.

**What will happen if I refuse to participate?**
All participation in research is voluntary. You are free to decide if you want to take part or not. If you do agree you can change your mind at any time without any consequences.

**What if I have any questions?**
You are free to ask me any question about this research. If you have any further questions about the study, you are free to contact the research team using the contacts below:
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The Secretary - Scientific and Ethics Review Unit (SERU), P. O. BOX 54840-00200, Nairobi, Tel number: 020 272 2541 Mobile: 0722 205 901 or 0733 400 003, Email address: ERCadmin@kemri.org
KEMRI-Wellcome Trust Research Programme Consent Form for A Critical Analysis of Purchasing arrangements in Kenya: Focus Group Discussion for Community representatives

We have had the study explained to us. We have understood all that has been read/explained and had our questions answered satisfactorily

☐ Yes, please tick we agree to be interviewed

☐ Yes, please tick we agree for the interview to be recorded

☐ We agree for our quotes to be used in publications or reports released on the study

We understand that we can change our mind at any stage and it will not affect us in any way.

Participant’s signature: __________________________ Date __________
Participant’s name: ___________________________ Time __________

------------------------------------------------------------------------------------------------

[Following section is recommended, and where verbal consent is obtained, must be signed by person undertaking informed consent.]

I have followed the study SOP to obtain consent from the participants. They apparently understood the nature and the purpose of the study and consent to participate in the study. They have been given opportunity to ask questions which have been answered satisfactorily.

Desigee/investigator’s signature: __________________________ Date __________
Desigee/investigator’s name: ___________________________ Time __________

EACH PARTICIPANT SHOULD NOW BE GIVEN A SIGNED COPY TO KEEP
Appendix 4: KEMRI Scientific and Ethics Review Unit Approval Letter and Annual Renewals

KENYA MEDICAL RESEARCH INSTITUTE

January 05, 2017

TO: KENNETH MUGO,
PRINCIPAL INVESTIGATOR

THROUGH: DR. BENJAMIN TSANGA,
THE DIRECTOR, CGMR-C,
KILIFI

Dear Sir,


Reference: is in reply to your letter dated 27th December, 2016. The KEMRI Scientific and Ethics Review Unit (SERU) acknowledges receipt of the revised study documents on 28th December, 2016.

This is to inform you that the Committee notes that the issues raised during the 353rd Committee E Meeting of the KEMRI/SERU held on 26th November, 2016, have been adequately addressed.

Consequently, the study is granted approval for implementation effective this day, 5th January, 2017, for a period of one year. Please note that authorization to conduct the study will automatically expire on January 4, 2018. If you plan to continue data collection or extend beyond this date, please submit an application for renewal approved by SERU by 24th November, 2017.

You are required to submit any proposed changes to the study to SERU for review and the changes should not be initiated until written approval from SERU is received. Please note that any unanticipated outcomes arising from the implementation of the study should be brought to the attention of SERU and you should advise SERU when the study is completed or discontinued.

You may embark on the study.

Yours sincerely,

DR. EVANS AMUKOYE,
ACTING HEAD,
KEMRI/SCIENTIFIC AND ETHICS REVIEW UNIT

In Search of Better Health

RECEIVED
12 JAN 2017
DIRECTORS OFFICE
KENYA MEDICAL RESEARCH INSTITUTE

KEMRI/RES/7/3/1

To: DR. KENNETH MUNGE, PRINCIPAL INVESTIGATOR

Through: THE DIRECTOR, CGMRC-C, KEMRI

Dear Sir,

Re: PROTOCOL NO. KEMRI/KEMRI/CGMRC-C/0009/2019 (REQUEST FOR ANNUAL SEMINAL ASSESSMENT OF THE IMPLICATIONS OF DEVOLUTION ON FISCAL SPACE FOR HEALTH AT COUNTY LEVEL IN KENYA)

Thank you for the continuing research report for the period January 30, 2018 to December 14, 2019.

It is to inform you, that the ethical review team at the KEMRI-CHERGEC, and the Research Ethics and Development Committee (REDCo) conducted the annual review of the above-mentioned application, and due to the limited time and resources, the ethics committee decided to temporarily extend the approval from January 31, 2019 to January 31, 2020.

The approval is valid from January 30, 2020, through to January 30, 2021. Please note that the implementation of the study will not be possible until January 29, 2021. If you plan to continue with data collection or any related activities, please submit an application for continuing approval to be decided by December 10, 2019.

You are required to submit any amendments to this protocol and any other information relevant to human participation in this study to the REDCo for review prior to initiation.

You may continue with the study.

Yours Sincerely,

ENOCK KIBEKEI,
ACTING HEAD,
KENYA SCIENTIFIC AND ETHICS REVIEW UNIT

In Search of Better Health

January 18, 2019

355
Appendix 5: National Commission for Science, Technology and Innovation
Research Clearance Permit

THIS IS TO CERTIFY THAT:
Dr. [Name of Researcher] of the [Institution] in [Country] has been permitted to conduct research in [Location], on the topic: [Title of Research].

For the period ending: [Date]

CONDITIONS:
1. The research will be conducted in accordance with... [conditions listed]
2. All data and results will be maintained... [conditions listed]
3. Any publication or dissemination of the research will be subject to... [conditions listed]
4. The Research will comply with... [conditions listed]
5. The Research will be supervised by... [conditions listed]
6. The Research will be submitted to... [conditions listed]
7. The Research will be subject to... [conditions listed]
8. The Research will be subject to... [conditions listed]

RESEARCH CLEARANCE PERMIT

[Signature]

[Institution Name]
[Institution Address]
[Institution Contact Information]