

ASSESSING FISCAL SPACE FOR HEALTH IN NEPAL

DISCUSSION PAPER

APRIL 2015

Tekabe Belay
Ajay Tandon



WORLD BANK GROUP
Health, Nutrition & Population

ASSESSING FISCAL SPACE FOR HEALTH IN NEPAL

Tekabe Belay and Ajay Tandon

April 2015

Health, Nutrition and Population (HNP) Discussion Paper

This series is produced by the Health, Nutrition, and Population Global Practice. The papers in this series aim to provide a vehicle for publishing preliminary results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character.

For information regarding the HNP Discussion Paper Series, please contact the Editor, Martin Lutalo at mlutalo@worldbank.org or Erika Yanick at eyanick@worldbank.org.

Health, Nutrition and Population (HNP) Discussion Paper

ASSESSING FISCAL SPACE FOR HEALTH IN NEPAL

Tekabe Belay^a Ajay Tandon^b

^a Global Practice, Health, Nutrition & Population,, World Bank Group, Washington DC., USA

^b Global Practice, Health, Nutrition & Population,, World Bank Group, Washington DC., USA

Abstract:

Despite progress made in the past few years, challenges remain in addressing inequality and high out of pocket payments in Nepal. The policy response to these challenges has been to expand the ‘free care’ services program and pilot protection mechanisms against the financial risk of ill health. This study was initiated in response to a request to explore sources of fiscal space. The study assesses all potential sources of fiscal space including economic growth and mobilization from domestic sources, re-prioritizing health within government’s existing expenditure envelope, mobilizing resources earmarked for health such as taxation on tobacco and alcohol, increasing resources from bi-lateral and multi-lateral donors, and obtaining efficiency gains from improving the quality of spending. The study identifies efficiency gains as the main potential source of additional fiscal space.

Keywords: Fiscal Space, Efficiency, Health, Contracting, Reprioritization

Disclaimer: The findings, interpretations and conclusions expressed in this paper are entirely those of the authors, and do not represent the views of the World Bank, its Executive Directors, or the countries they represent.

Correspondence Details: Tekabe Belay, Tel: 202-473-3206, Email: tbelay@worldbank.org; Ajay Tandon, Tel: 202- 473-6338, Email: atandon@worldbank.org, 1818 H St. NW, Washington DC. 20433, USA, website: <http://www.worldbank.org/health>

Table of Contents

ACKNOWLEDGMENTS.....	vii
EXECUTIVE SUMMARY	ix
I. INTRODUCTION	1
II. HEALTH SYSTEM OUTCOMES IN NEPAL.....	2
III. HEALTH SYSTEM CHARACTERISTICS, FINANCING, AND POLICY CONTEXT	6
IV. ASSESSING FISCAL SPACE FOR HEALTH IN NEPAL	8
The Macro-Fiscal Environment	9
Re-Prioritizing Health	14
Generating Health Sector Specific Resources	16
Mobilizing External Resources	18
Efficiency Gains	19
V. SUMMARY AND CONCLUSIONS	28

ACKNOWLEDGMENTS

The authors are grateful to the peer reviewers for their useful feedback and to the participants of the dissemination workshop in Nepal for the fruitful discussion.

EXECUTIVE SUMMARY

1. Nepal has seen impressive improvements in health outcomes and has done well both in its rate of progress and relative to its income level. Infant mortality has been declining over the past five decades from 197 per 1,000 live births in 1960 to 38.6 per 1,000 live births in 2009. Similarly, maternal mortality has decreased to 380 per 100,000 live births in 2008. Life expectancy has been steadily increasing to 67 years in 2009 up from about 38 years in 1960. These rates of progress are better than those witnessed by neighboring countries. For instance, in 1960, Nepal's infant mortality rate (IMR) was the highest amongst its regional comparators. By 2009, Nepal's IMR had become lower than that of India, Pakistan, Bangladesh, and Bhutan.

2. But challenges remain in addressing inequality and high out of pocket payments (OOP). Geographic and income-related inequalities in population health outcomes remain large and are increasing. For example, not only is the decline in infant mortality not uniform, some regions have seen an increase. While the rate has declined nationally over the period 2001-2006, the mid-western region has seen an increase over the same time period. The decline in infant mortality rates for the poorest quintile have lagged behind the decline seen in the richest quintile. Out of pocket payments remain high at about 50 percent of total health spending. Estimates from 2003/2004 household data indicate a 2.5 percent point increase in poverty as a result of high levels of out of pocket health spending.

3. The policy response to these challenges has been to expand free care services and pilot protection mechanism against the financial risk of ill health. There is growing demand to expand the package and coverage of existing free essential health care to all Nepalese, and to introduce new programs such as health insurance, and other similar initiatives. Despite relatively high levels of expenditures, there are emerging pressures to increase government expenditures on health to meet the above objectives.

4. The natural question is availability of fiscal space to finance initiatives outlined as a response. The note assesses all potential sources of fiscal space including economic growth and mobilization from domestic sources, re-prioritizing health within government's existing expenditure envelope, mobilizing resources earmarked for health such as taxation on tobacco and alcohol, increasing resources from bi-lateral and multi-lateral donors, and obtaining efficiency gains from improving the quality of spending so that the most is made out of current expenditure.

5. This note identifies efficiency gains as the main potential source of additional fiscal space. The analysis presented herein indicates that improvement in health system efficiency – that is, getting more value for money – is by far the most plausible option for realizing additional fiscal space for health in Nepal. As the note demonstrates, the prospects for additional resources for health from all other possible sources – from conducive macroeconomic conditions, re-prioritization of health, external resources, and other health-sector specific sources – is limited in Nepal. On the other hand, there are many indications of systemic inefficiencies in the health system of the country and the challenge would be to focus on identifying and implementing appropriate interventions to improve the situation and reduce waste. The note highlights specific areas, such as those related to provider payments, drug procurement mechanisms, and hospital and district grant allocations – where significant improvements in obtaining better value for money can be realized.

6. Nepal has the potential to realize efficiency gains in the health sector in a variety of ways. Linking financing to performance is one of the key areas where these gains could be realized. Efficiency gains could also be made through refining the design of existing grants and incentives so that payments are directly linked to performance. Furthermore, a significant amount of resources could be made available by addressing problems of health worker absenteeism, drug stock-outs, procurement and distribution of drugs, maintenance of equipment, and planning and preparation in procurement of equipment.

7. The highest potential for efficiency gains comes from linking payments to results. Clearly designing such a system requires robust monitoring and verification. The Ministry of Health could start by explicitly linking grants and transfers and other incentive payments to results. These payments are the most immediate candidates to begin with and this experience could then be used in expanding to other areas where verification/monitoring capacity is more challenging. More can also be saved by addressing a number of other governance related issues including staff absenteeism, and equipment procurement and maintenance.

8. The Ministry could explore options of reforming the provider payment system. The benefit of this is immediate for hospitals and districts where the grant system is already in place. Different types of provider payments have different effects on the hospitals with varying level of efficiency. Nepal could start with a per diem system. Per diem systems are ideal for implementation as they are simple to administer and less information intensive. The risk is that providers quickly learn the system and can start changing behavior in order to maximize revenue. The best option would be a mix of per diem and a case based rate. However, the case based payment is complex to administer and requires information that is not readily available today. By starting with a per diem system, data that will be necessary might then also start to be collected for an eventual move towards a case-based approach. At the same time, alternative payment mechanisms to districts and primary care facilities could also be explored.

9. Finally, and most importantly, the Ministry needs to rethink its role as a steward of the sector. As a steward, it continues to finance but not necessarily provide the health services and manage health facilities. In this role, it focuses on the health status of Nepalese, on ensuring that they receive financial protection against the risk of ill health, on equity in care, as opposed to who provides the health services, and how services are provided (quality, efficiency, etc.). Such clarity would assist in developing the sector's financing strategy, which would outline the reform agenda and enhance the government's strategic thinking in terms of efficiency and long-term sustainability of spending.

10. Further analytical work aimed at identifying district level drivers of efficiency is planned. Consultations with stakeholders are planned as part of the communication/dissemination strategy to better understand the district level findings and to seek input to the planned follow-up analyses implied by this study. Why are some districts doing better than others, even after controlling for resource inputs? What can explain difference such as the 20 years of life expectancy gap between districts? What lessons can be learnt from the better-performing districts that could help improve the overall efficiency of the health system?

11. At the same time, the findings of the study will be discussed and used to inform the planned health financing strategy. One of the motivations of the study was to provide

background for the development of the health financing strategy. This current study is intended to help build the evidence base for formulation of a sound financing strategy.

I. INTRODUCTION

1. **Despite political turmoil and relatively weak economic growth, Nepal has made steady and significant progress in its health outcomes over the past several decades.** Life expectancy has been steadily increasing in the country to almost 67 years in 2009, up from about 38 years in 1960. The infant mortality rate also declined steadily from 197 per 1,000 live births in 1960 to 39 per 1,000 live births in 2009. At current trends, and as noted in a recent UN assessment report, Nepal is likely to meet both the Millennium Development Goals (MDGs) for child and maternal health by 2015.¹ This performance is better than its regional neighbors in terms of trend improvements over time with regard to most population health indicators. Moreover, Nepal's population health indicators are much better than what would be expected for a country of its income level.

2. **Although significant progress is evident, several challenges remain in the health sector, especially with regard to inequalities, malnutrition, and out-of-pocket health expenditures.** Equity is a key challenge. Geographic and income-related inequalities in population health outcomes remain large and, in some cases, are rising. Recent survey data indicate that almost 50 percent of Nepalese children under five were malnourished. Out-of-pocket payments remain high, indicating low levels of risk pooling that are placing many households at risk of impoverishment as a result of health shocks. Additionally, concerns remain with regard to quality and responsiveness of the health system.

3. **As a response to these challenges, there are emerging pressures to expand government expenditures on health in the country.** There is growing demand to expand the package and coverage of existing free essential health care to all Nepalese. Free essential health care services (EHCS), initially targeting poor and marginalized groups, have now become free for all at district facilities, except for district hospitals (while 40 essential drugs remain free to all). Such measures were intended to eliminate financial barriers to accessing health services. As fee revenues account for about a quarter of district hospital revenues, any expansion of EHCS will require higher compensatory government expenditures on health.

4. **Furthermore, there is an ongoing national dialogue on the need to introduce social health insurance to address the large amounts of out-of-pocket expenditures.** This is despite increased access to free health care under EHCS. The demand for a social health insurance system is getting the attention of policy makers at various levels of the government including the Ministry of Finance and the National Planning Commission. However, with the presence of free care for primary care services, the likely services to be insured would be those provided beyond the secondary level and those requiring hospitalization. Given the large levels of informal employment and poverty in the country, introduction of a social health insurance system will likely require significant (if not total) subsidization of premiums by the government. Does Nepal have the requisite fiscal resources to expand coverage of free EHCS *and* introduce national health insurance in the near- to medium-term?

¹ Government of Nepal/United Nations. 2010.

5. **Nepal is not an outlier relative to comparator countries when it comes to government spending on health.** At roughly US\$9 per capita in 2009, public spending on health in Nepal was about average for its income level and higher than that of regional neighbors such as Bangladesh and Pakistan. Government health spending was 9 percent of the budget in the same year. In recent years, government expenditures have increased: the government share of total health spending went up from about 16 percent in 2000/01 to almost 24 percent in 2005/06.

6. **This note assesses public expenditures on health in Nepal from a fiscal space perspective and builds on the recently completed public expenditure review.** Fiscal space for health refers to the ability of a country to increase public spending for health without jeopardizing the government's long-term financial sustainability. Assessment of fiscal space for health must be considered within the context of a country's overall macroeconomic environment, and without crowding out necessary and productive expenditure in other sectors. The note builds on the work of the recently completed public expenditure review for Nepal which provided an assessment of the overall fiscal situation and associated risks in the country as well as detailed analyses of the composition and trends of expenditures in the health, education, and social protection sectors.²

7. **The analysis presented herein indicates that improvement in health system efficiency –that is, getting more “value for money” – is by far the best option for realizing additional fiscal space for health in Nepal.** As the note demonstrates, the prospects for additional resources for health from all other possible sources – from conducive macroeconomic conditions, re-prioritization of health, external resources, and other health-sector specific sources – is limited in Nepal. On the other hand, there are many indications of systemic inefficiencies in the health system and the challenge would be to focus on identifying and implementing appropriate interventions to improve the situation. The note highlights specific areas such as those related to provider payments, drug procurement mechanisms, and hospital and district grant allocations – where significant improvements in obtaining better value for money might be realized.

8. **The remainder of the note is organized as follows.** Section II provides some background on the performance of key health system outcomes in Nepal, providing a regional and cross-country context. Section III briefly reviews the Nepalese health system and policy context. Section IV assesses the potential of additional fiscal space for health from different sources. Section V concludes with a brief discussion of the findings and outlines next steps.

II. HEALTH SYSTEM OUTCOMES IN NEPAL

9. **This section summarizes the levels and trends of key health system outcomes in Nepal.** We follow the WHO framework for assessing health system performance in terms of focusing on attainment of population health, responsiveness, equity, and financial protection.³

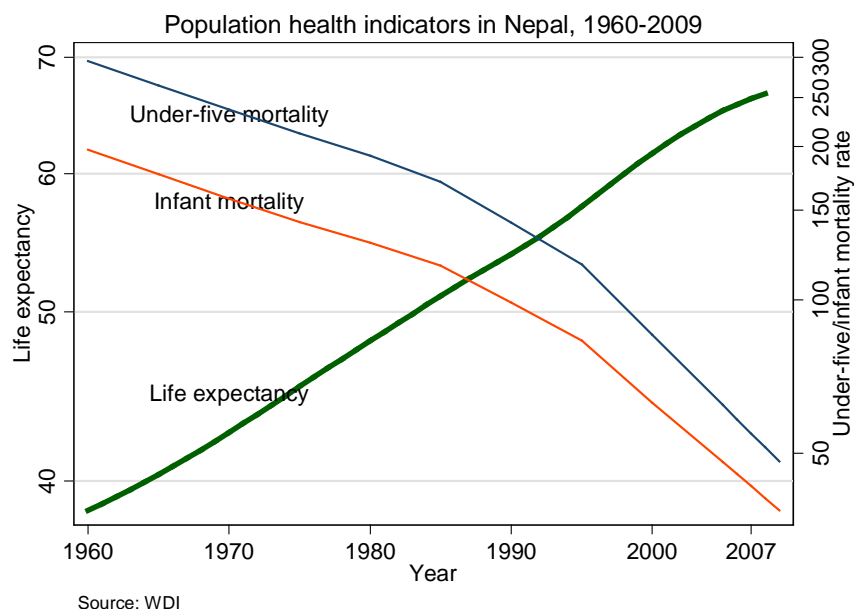
10. **Despite political turmoil and relatively weak economic growth, Nepal has made steady and significant progress in health outcomes over the past several decades.** Life expectancy has been steadily increasing in the country to almost 67 years in 2009, up from about

² World Bank. 2010. *Nepal Public Expenditure Review*, Poverty Reduction and Economic Management, South Asia Region, World Bank.

³ WHO. 2000. *Health Systems: Improving Performance*, World Health Report, Geneva: World Health Organization.

38 years in 1960 (Figure 1). The infant mortality rate also declined steadily from 197 per 1,000 live births in 1960 to 39 per 1,000 live births in 2009 (Figure 1). At current trends, and as noted in a recent UN assessment report, Nepal is likely to meet both the Millennium Development Goals (MDGs) for child and maternal health by 2015.⁴

Figure 1. Population health indicators in Nepal, 1960-2009



11. Nepal has done better than its regional neighbors and relative to its income in trends in improvements in health indicators. For instance, in 1960, Nepal's infant mortality rate was the highest amongst its regional comparators. By 2009, Nepal had overtaken India, Pakistan, and Bhutan in terms of its infant mortality rate (Figure 2). Nepal's improvements in infant mortality mirror those of Bangladesh, another star performer in health in the region. In addition, it is notable that Nepal's population health indicators such as under-five and adult mortality are much better than expected for a country of its income level (Figure 3).

⁴ Government of Nepal/United Nations. 2010. *Nepal Millennium Development Goals: Progress Report 2010*, Kathmandu: Government of Nepal and United Nations.

Figure 2. Infant mortality rate trends, 1960-2009

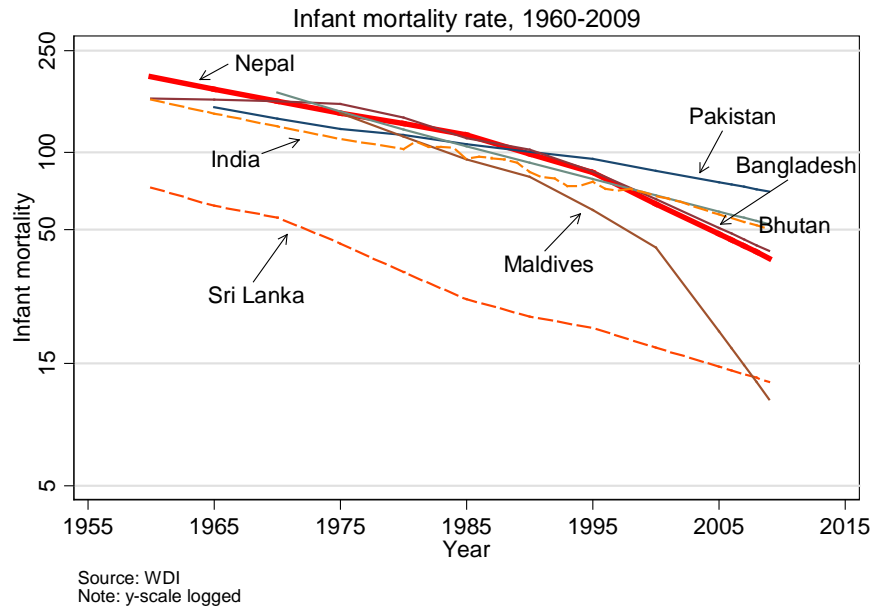
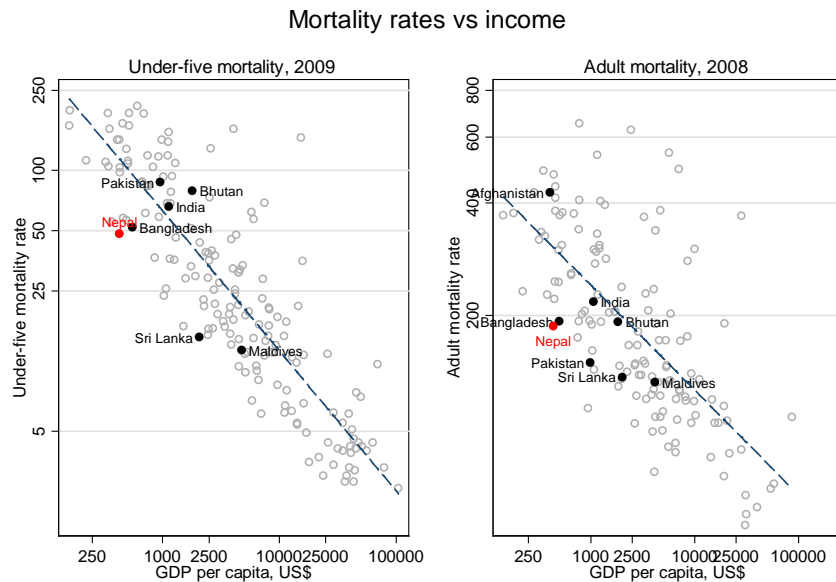


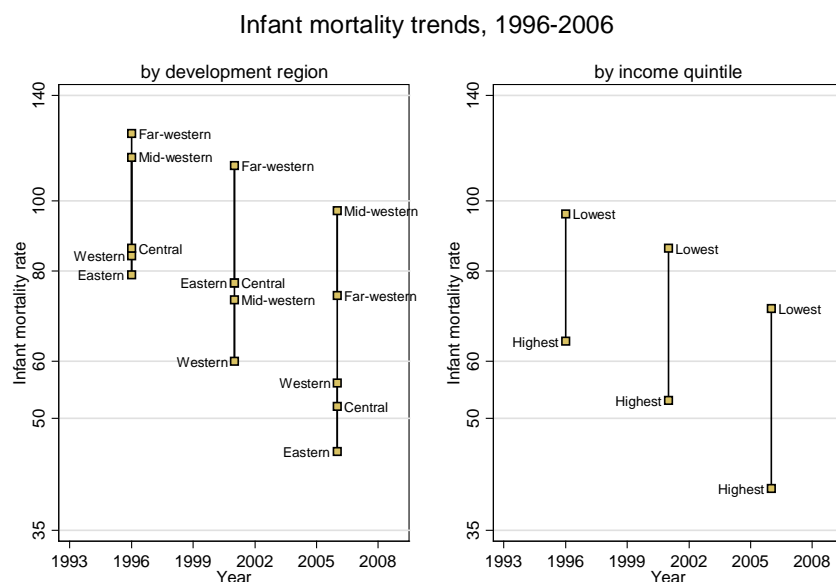
Figure 3. Mortality rates versus income



12. Although significant progress is evident, several challenges remain. Nepal continues to face significant challenges in ensuring that health care improvements are distributed equitably to all segments of society. Geographic and income-related inequalities in population health outcomes remain large and are increasing (Figure 4). For example, not only is the decline not uniform, some regions have actually seen an increase in infant mortality over time: while infant mortality has declined nationally over the period 2001-2006, the mid-western development region actually saw an increase over the same time period. The decline in infant mortality rates for the

poorest quintile lagged behind the decline seen in the richest quintile (Figure 4). In addition, a recent survey shows that almost 50 percent of children under five were malnourished in Nepal.⁵

Figure 4. Infant mortality rate inequality trends, 1996-2006



Source: DHS

13. Out-of-pocket spending on health – a proxy indicator for financial protection -- remains high in Nepal. Recent national health accounts estimates from WHO indicate that the OOP spending share in total health expenditure was over 50 percent in 2009. High levels of OOP spending evidence low levels of risk pooling and a high potential for impoverishment resulting from adverse health shocks. Estimates from analysis of 2003/2004 household data from Nepal indicate a 2.5 percent point increase in poverty as a result of high levels of OOP health spending.⁶ According to WHO's 2010 *World Health Report*, levels of impoverishment related to health shocks are low in countries where the OOP share of total health expenditures are in the 15-20 percent range or lower.⁷

14. To summarize, Nepal has made significant progress in attaining key health system outcomes but challenges remain in addressing growing inequality and out of pocket payments. Trend improvements in key population health indicators have been laudable, especially in comparison with its regional neighbors and income comparators. Key challenges remain however with regard to equity, financial protection, and malnutrition. The next section provides some background information on Nepal's health system characteristics, financing, and policy context.

⁵ Ministry of Health and Population, New Era, and Macro International Inc. 2007.

⁶ RTI International. 2010.

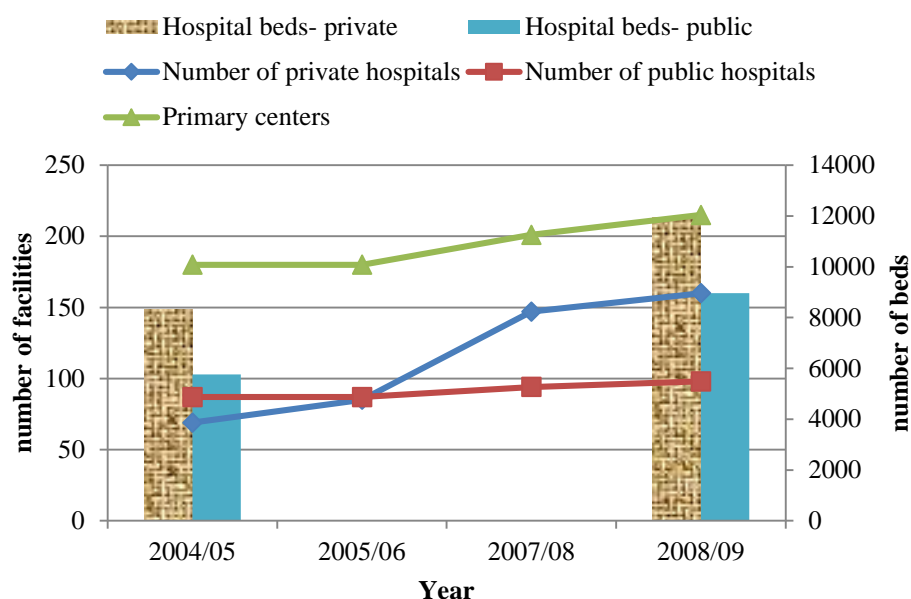
⁷ WHO. 2010.

III. HEALTH SYSTEM CHARACTERISTICS, FINANCING, AND POLICY CONTEXT

15. **Nepal has mixed public-private provision of health services.** Survey data indicate about 44 percent of health consultations for acute illness occurred at public facilities versus 56 percent at private facilities. As in other countries in the region, the poor tend to be more likely to utilize public facilities (56 percent public versus 44 percent private) as opposed to the rich (40 percent public versus 60 percent private)⁸

16. **The supply of health service by private hospitals has been increasing at a higher rate than that of public hospitals.** In the four years between 2004 and 2008, the number of private hospitals increased from 69 to 147, representing an increase of more than 131 percent. During the same period, the number of public hospitals and primary care centers increased only by 8 percent and 19 percent respectively (Figure 5). In terms of hospital beds, this translates to an increase of 3,636 beds in the private sector compared to 3,194 in the public sector. On average, public hospitals also tend to be larger with 92 beds per hospital than private hospitals with 72 beds per hospital.

Figure 5. Number of health care providers and hospital beds, 2004-2008



Source: MOF, 2009; MOHP 2009 and Annual reports

17. **Total expenditure on health has increased over the past several years in Nepal.** Total expenditure as well as per capita expenditure has been increasing in real terms since 2000/01. Per capita expenditure has increased in real terms by more than by 33 percent between 2000/01 and 2005/06: from Rs 932 in 2000/01 to Rs 1242 per capita in 2005/06. Government expenditure on health has increased from 5 percent of total government expenditure in 2000/01 to close to 7 percent in 2006/07.

⁸ Central Bureau of Statistics (2004), *Nepal Living Standards Survey 2003/2004*, Kathmandu, Nepal.

18. Public spending accounts for around 36 percent of total health expenditure, with some evidence of a decline over the last decade. The share ranges from 35-44 percent since 2000/01, with some variation across the years (Table 1).⁹ About 14 percent of public spending on health comes from external development partners, making the government contribution only a little more than a fifth of total health expenditure.

Table 1. Key health financing indicators for Nepal, 2001-2009

Year	Health as share of GDP (%)	Public share of total health spending (%)	Private share of total health spending (%)	Out-of-pocket share of private spending (%)	External share of total health spending (%)
2000/01*	5.6 %	40.3 %	59.7 %	59.7 %	24.3 %
2001/02*	5.9 %	39.1 %	60.9 %	60.8 %	19.6 %
2002/03*	5.7 %	37.5 %	62.5 %	62.5 %	20.7 %
2003/04*	5.7 %	38.4 %	61.6 %	61.5 %	21.1 %
2004/05*	5.6 %	39.5 %	60.5 %	60.5 %	19.7 %
2005/06*	5.3 %	44.5 %	55.5 %	55.6 %	20.8 %
2007**	6.0 %	36.0 %	64.0 %	72.8 %	13.1 %
2008**	6.0 %	37.7 %	62.3 %	72.4 %	11.0 %
2009**	5.8 %	35.3 %	64.7 %	72.4 %	13.7 %

Source:

*NHA, 2009.

**WHO

19. The contribution of external sources to health spending has steadily declined since 2000. External sources contributed between 20-21 percent of the total health expenditure in the period 2000/01 to 2005/06 but declined to 11 percent in 2008, only to rise to 14 percent in 2009. These figures taken together demonstrate two points: (i) government expenditure has increased at a much faster rate during this period; and (ii) financing from external sources remains stable or has increased only slightly.

20. Private financing dominates health spending in Nepal and is largely out of pocket. Total health spending was about 5.7 percent of Nepal's GDP in 2009. Of this, 64 percent came from private sources compared to 36 percent from public sources. In the same year, almost three-fourths of private financing was OOP (Table 1). Most of the consumption of services from the private sector is financed by private spending. With the exception of a few services such as institutional delivery, the public mainly finances publicly provided services. Given the utilization rate of privately provided health services, it is not surprising that private spending constitutes the major part of total health expenditure.

21. As mentioned in the previous section, the share of OOP in total health spending remains high. In 2009, almost 50 percent of total health spending was OOP. High levels of OOP spending imply low levels of risk pooling and a high potential for impoverishment resulting from adverse health shocks.

⁹ Some of the recent year data reported in Table 1 are based on WHO's NHA estimates. It is important to note that NHA estimates for government health spending normally differ somewhat from budgetary estimates of health spending because the former include health expenditures of other ministries and departments (for example, health spending for the military), exclude expenditures on medical education and environmental health, and include other extra-budgetary spending (for example, from donors).

22. There are new emerging pressures to expand government expenditures on health in the country. There is growing demand to expand the package and coverage of existing free essential health care to all Nepalese. Free essential health care services (EHCS), initially targeting the poor and marginalized groups of society, have now become free for all at district facilities, except for district hospitals (while 40 essential drugs remain free to all). Such measures were intended to eliminate financial barriers to access health services. Fee revenues account for about a quarter of district hospital revenues. Any expansion of EHCS will require higher compensatory government expenditures on health.

23. There is also an ongoing national dialogue to introduce social health insurance to address the large amounts of out-of-pocket expenditures. With the presence of free care for primary care services, services likely to be insured are those provided beyond secondary level and those requiring hospitalization. Given the large level of informality and poverty in the country, introducing a social health insurance system will likely require significant subsidization of premiums by the government.

24. Further discussion is required and consensus needs to be reached on the means to finance these policies to attain the national goals. Is there capacity to provide additional resources for health to accommodate the above-mentioned objectives currently under consideration? What is the capacity of the government to provide additional budgetary resources for health? How could fiscal space be created? Clearly, any additional budgetary expansion for health should not be at the expense of the sustainability of the government's financial position. This is precisely the question that the next section attempts to answer.

IV. ASSESSING FISCAL SPACE FOR HEALTH IN NEPAL

25. Fiscal space for health refers to the ability of a country to increase public spending for health without jeopardizing the government's long-term financial sustainability.¹⁰ Any assessment of fiscal space for health must be considered within the context of the country's overall macroeconomic environment, and without crowding out necessary and productive expenditure in other sectors (that is, non-health). The concept of fiscal space can be easily understood using the algebra of a government's intertemporal budget constraint (see Box 1).

¹⁰ Heller, P. 2006. "The Prospect of Creating 'Fiscal Space' for the Health Sector," *Health Policy and Planning*, 21(2): 75-79.

Box 1. Understanding Fiscal Space using the Algebra of a Government's Intertemporal Budget Constraint

The left-hand side of the following represents the uses of budgetary resources whereas the right-hand side reflects sources of budgetary resources:

$$G_t + r_t B_{t-1} = T_t + B_t + A_t + O_t,$$

where G_t is government non-interest expenditure in time t ; $r_t B_t$ is non-discretionary debt interest payments; T_t is taxes, fees, and other government revenues, including those arising from seigniorage (inflationary finance); B_t is total government borrowing (domestic and foreign net of use of deposits); A_t is grants; and O_t is other sources of funds, such as sale of assets. In other terms, the right-hand side represents the aggregate sources of government revenue, and the left-hand side represents total spending. Fiscal space for health depends not only on the overall government budget constraint, but also on the priority assigned to health. Government health spending, H_t , is a proportion k_t of the overall government budget, or:

$$H_t = k_t G_t.$$

Whether the priority for health (k_t) is a constant or variable parameter is a key policy question. For example, if G increases as a result of increases in overall fiscal space, health spending would increase by a fixed proportion k if spending priorities remain unchanged. The focus from this perspective would be on analyzing increases in G and deriving the implications for H . A focus on re-prioritization, on the other hand, would imply finding ways to increase k . Fiscal space can also be realized through efficiency gains. Assuming Y represents some measure of government health system outputs – for example, effective coverage of key interventions – then getting the most Y out of given H is creating effective fiscal space. Interventions aimed at improving the technical and allocative efficiency of health spending by, for example, using cost-effectiveness criteria to inform resource allocations, reducing leakages in inter-fiscal transfers, or addressing absenteeism of health workers are examples of policies that could lead to increases in effective fiscal space through efficiency gains.

26. Assessing fiscal space for health implies looking at different sources of sustainable financing for increasing public spending on health. Conceptually, building on Tandon and Cashin's (2010) and Heller's (2006) framework, fiscal space for health can potentially come from different sources which can be broadly grouped into the following five categories:¹¹ (i) a conducive macro-fiscal environment such as high levels of economic growth and increases in government revenues that, in turn, could facilitate increases in public spending for health; (ii) a re-prioritization of health within the government budget; (iii) an increase in health sector-specific resources, for example, through earmarked taxation; (iv) health sector-specific grants and foreign aid; and (v) an increase in the efficiency of existing government health outlays.¹² The different pillars of fiscal space are explored below within the specific context of Nepal.

The Macro-Fiscal Environment

27. Conducive macro-fiscal conditions are important for fiscal space considerations for any sector. These conditions include sustained economic growth, improvements in revenue generation, and sustainable levels of deficits and debt. There are several reasons why economic

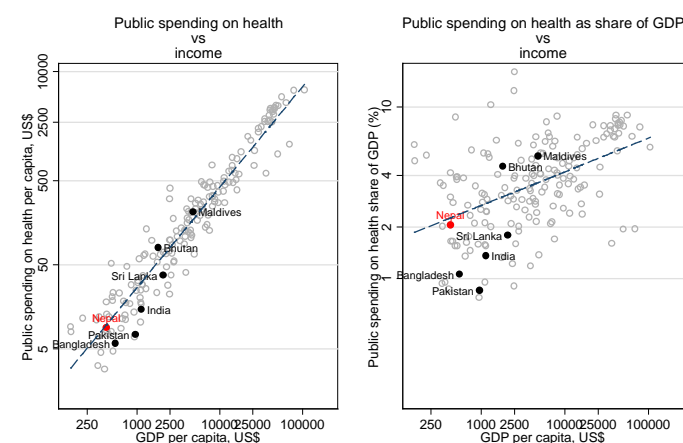
¹¹ Ibid.

¹² Tandon, A and C Cashin. 2010.

growth is an important factor driving fiscal space. Firstly, even with the public spending on health as a share of GDP remaining unchanged, if GDP in a country grows by a certain percent per year in real terms then this implies that public spending on health would also increase by the same percent per year in real terms (assuming changes in prices of health are not significantly different from changes in overall prices over time). Second, as noted first by Newhouse (1977), national income is the biggest determinant of public (and private) health spending across countries.¹³ Hence, it is critical to assess public spending on health within a broader macroeconomic context.

28. Sustained periods of economic growth and political stability usually result in increases in public spending on health. Periods of robust economic growth and macro-fiscal stability often result in increases not only in the level but also in the share of the public sector in the economy, including for health.¹⁴ This is evident in cross-sectional data as shown in Figure 6. With increasing national income, public expenditure in health increases both in level and as share of GDP. There are several reasons why the government share of health spending tends to increase with income. Rising incomes are often associated with a greater demand for, and supply of, health care. Richer countries tend to have older populations with more non-communicable diseases and a greater need for chronic care, the relative price of health care rises with income driving up spending, and the revenue-collection capacities of governments increase with income, as do societal preferences for more public financing for health.¹⁵ Nepal is not an outlier relative to comparator countries when it comes to government spending on health. At roughly US\$9 per capita in 2009, public spending on health in Nepal was about average for its income level and higher than that of regional neighbors such as Bangladesh and Pakistan.

Figure 6. Public spending on health versus income, 2009



Source: WDI; WHO
Note: Data are for 2009

29. Nepal is poor and lags behind its neighbors at a GDP per capita of about US\$427 in 2009. The country is one the poorest in the South Asia region with more than half the country's population living on less than \$1 a day, and more than two-thirds living on less than \$2 a day.¹⁶ In addition, Nepal has been a relative laggard in terms of economic growth, averaging a growth

¹³ Newhouse, J.P. 1977.

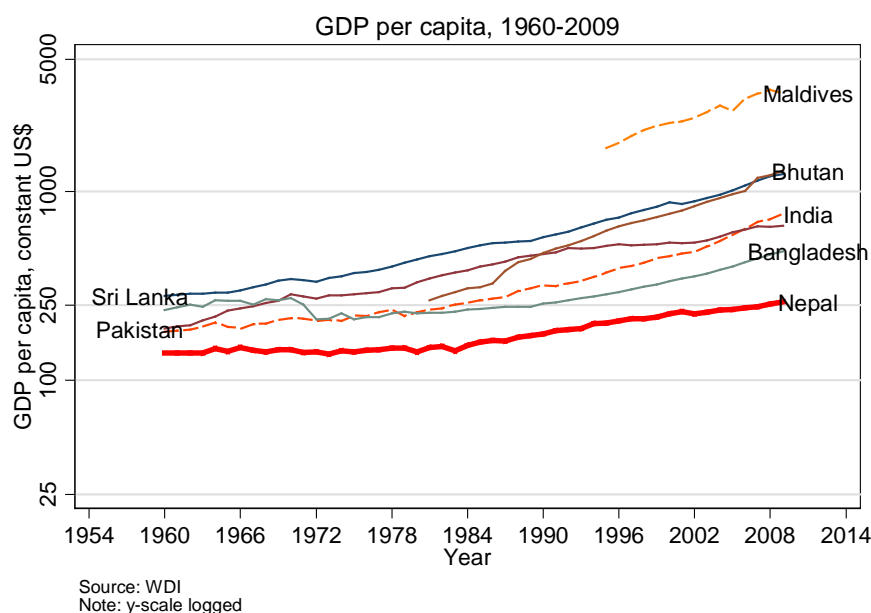
¹⁴ Asia Development Bank. 2006.

¹⁵ Ibid; Empirical evidence suggests the importance of other factors such as the prevalence of corruption, ethno-linguistic fractionalization, and average education levels in the population as determinants of the extent to which health is or is not prioritized by governments.

¹⁶ These are based on the World Bank's analysis of 2004 data from Nepal.

rate of only about 3.6 percent per year (1.3 percent per year in per capita terms) over the time period 1960-2008. As a consequence, Nepal has slowly become increasingly left behind in GDP per capita terms relative to several of its faster-growing regional neighboring countries such as India and Bangladesh (Figure 7).

Figure 7. GDP per capita in real terms, 1960-2008



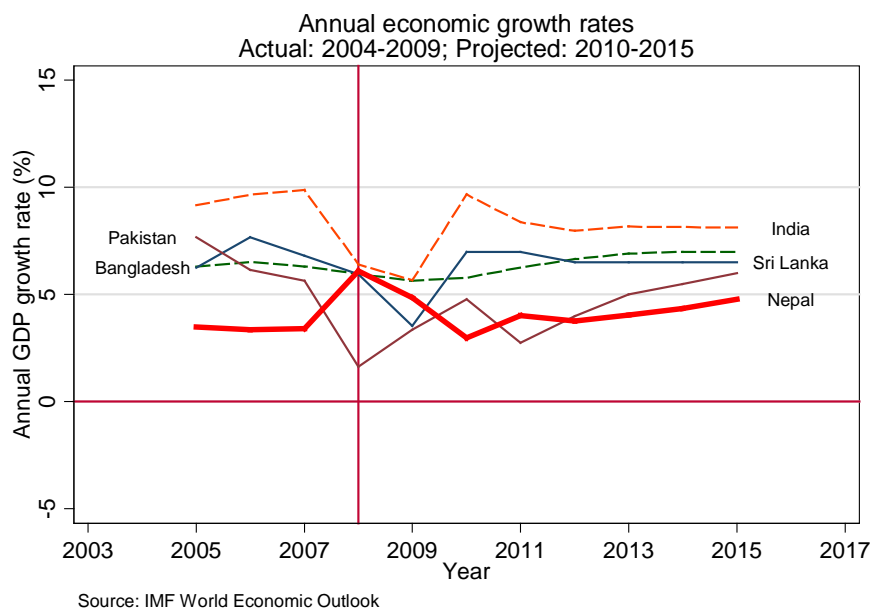
30. The global financial crisis has adversely impacted Nepal's economy. The IMF estimates GDP growth in the country was about 6.1 percent in 2008. Following the crisis, the growth rate declined to 4.9 percent in 2009 and to only about 3.0 percent in 2010.¹⁷ Part of the slowdown in growth has been a result of a slowing remittance growth, declining exports, growing concerns about political instability, and capital flight, all of which have also contributed to lower reserves in the country.¹⁸ Growth rates are expected to recover this year, projected to rise to 4.0 percent in 2011, 3.8 percent in 2012, and 4.0 percent by 2013.¹⁹ The impact and subsequent recovery from the global financial crisis has been delayed for Nepal, especially in contrast to some of its regional peers such as India and Sri Lanka which were well on their way to recovery in 2010 (Figure 8).

¹⁷ Nepal's economic growth rate in 2009 was 1 percent point lower and in 2010 was 2.5% points lower than expected when compared with pre-crisis IMF forecasts.

¹⁸ IMF. 2010.

¹⁹ IMF *World Economic Outlook* projections (IMF numbers are based on calendar year); World Bank estimates that the FY2010 growth rate is likely to be 3% followed by 4% in FY2011, 4.2% in FY2012, and 4.4% in FY2013 [see World Bank. 2010].

**Figure 8. Economic growth rates in Nepal and comparator countries:
Actual: 1995-2009; Projected: 2010-2015**

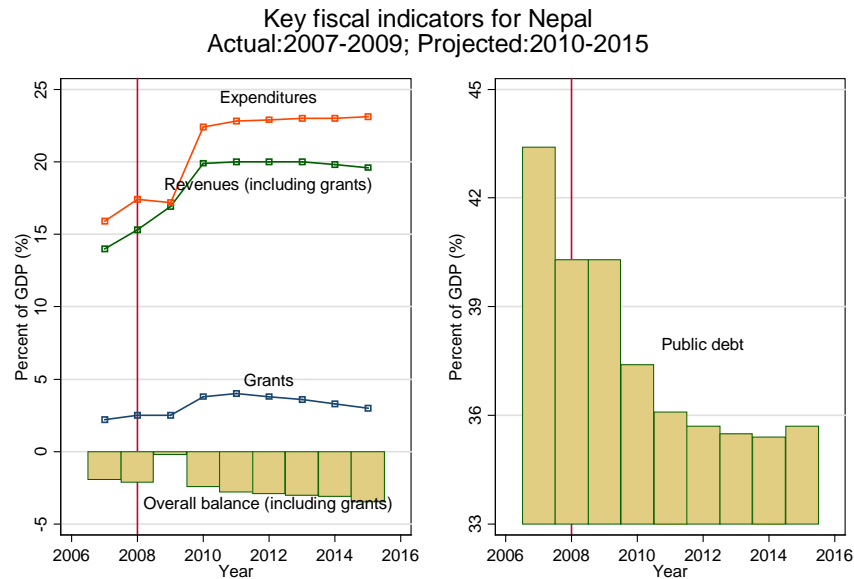


31. Overall government expenditures have increased following the crisis. Government expenditures as a share of GDP are projected to increase to 22.4 percent of GDP, up from about 17.2 percent of GDP in 2009. Recent revenue administration reforms and strong customs and VAT collection efforts have led to an increase in the revenue share of GDP, although some of the increase has been the result of higher levels of grants (Figure 9). World Bank estimates indicate, however, that if the growth of remittances dips below 10 percent then this would adversely impact the government's ability to use revenues for current expenses and principal repayments.²⁰ Public debt levels are projected to decline in the near- to medium-term, with the overall government deficit projected to remain in the 3 percent of GDP range. Overall, Nepal has had a medium-level of exposure to the inimical effects of the financial crisis, with a fairly limited amount of fiscal room available in the near- to medium-term for increasing spending on sectors such as health.²¹

²⁰ World Bank. 2010.

²¹ This is consistent with the assessment made by PREM in their analysis of vulnerability of countries to the financial crisis: Nepal was classified as a country with a "medium" level of fiscal room based its debt-to-GDP ratio, fiscal deficit, current account balance, international reserves, and reversible capital flows; see Cord, L, M Verhoeven, C Blomquist, and B Rijkers. 2009.

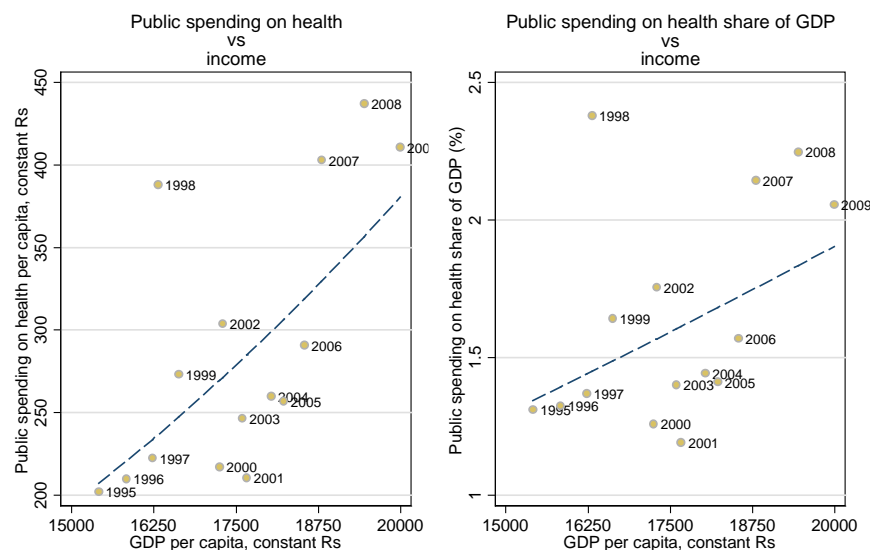
Figure 9. Key fiscal indicators for Nepal
Actual: 2007-2009; Projected: 2010-2015



Source: IMF Article IV (various years)

32. **At current growth projections, Nepal could expect additional resources for health of about 5.5 billion in 2000 constant Rs – corresponding to about 0.3 percent of GDP – by 2015 from 2009 levels.** Figure 10 shows the relationship between public expenditure on health (both in levels and as share of GDP) versus income in Nepal over the period 1995-2009. Although there is substantial variation around the trend, increases in national income have been associated with rising public expenditure on health both in per capita terms as well as share of GDP. At current growth projections – and assuming that public expenditure on health follows the same rising trend it has over the period 1995-2009 – Nepal could expect public spending on health to be about 2.4 percent of GDP by 2015, an increase of about 0.3 percent of GDP from 2009 numbers (Table 2).

Figure 10. Public spending on health versus income in Nepal, 1995-2009



Source: WHO
Note: Data are for 1995-2009

Table 2. Projections of government health spending based on economic growth

Year	2009	2010	2011	2012	2013	2014	2015
GDP growth (%)	4.9	3.0	4.0	3.8	4.0	4.3	4.8
	%	%	%	%	%	%	%
GDP per capita growth (%)	3.8	2.0	3.0	2.8	3.0	3.3	3.8
	%	%	%	%	%	%	%
GDP (billions of constant 2000 Rs)	591.9	609.6	634.0	657.9	684.6	714.2	748.3
Government health spending (billions constant 2000 Rs)	12.2	12.7	13.6	14.4	15.3	16.4	17.6
Government health spending share of GDP (%)	2.1	2.1	2.1	2.2	2.2	2.3	2.4
	%	%	%	%	%	%	%

Sources: IMF and Authors' calculations

33. To summarize, from a macro-fiscal perspective, the prospects of availability of additional public resources for health are relatively low. A combination of factors including a delayed impact on growth of the financial crisis and a low elasticity of public expenditures on health to GDP suggests that – at least in the short- to medium-term and from a macro-fiscal perspective – the availability of additional public resources for health is likely to be limited.

Re-Prioritizing Health

34. A second source of fiscal space could arise from re-prioritizing health so as to increase its share in the government's budget. There may be scope for raising health's share of overall government spending in some countries, particularly if the share of health in the government budget is lower than comparator countries in the same region or those with similar income levels and if certain expenditure categories can be identified that are deemed unproductive or unnecessary and could be replaced by additional health spending.

35. **Re-prioritizing health, however, is unlikely as Nepal is already spending a relatively large share of its budget on health.** Nepal's public expenditures on health were about 10.5 percent of the budget in 2007-2009 (amounting to about 2.1 percent of GDP). This is high relative to the regional average of 7.7 percent.²² Compared to other low income countries, expenditures on health as a share of the budget in Nepal are about average (Table 3). This would suggest that, for Nepal's public spending on health as share of expenditure to increase, the share of overall expenditure in GDP would need to increase as well, the latter being difficult to realize without a concomitant rise in revenues.²³

Table 3. Health's share of the government budget and of GDP, 2007-2009

Country/ Region/ Classification	Public expenditure on health share of overall government expenditure (%)	Public expenditure on health share of GDP (%)
Afghanistan	3.7 %	1.6 %
Bangladesh	7.8 %	1.1 %
Bhutan	13.5 %	4.4 %
India	4.2 %	1.3 %
Maldives	10.3 %	6.5 %
Nepal	10.5 %	2.1 %
Pakistan	3.3 %	0.8 %
Sri Lanka	8.0 %	1.9 %
South Asia region	7.7 %	2.5 %
Low income countries	10.1 %	2.5 %

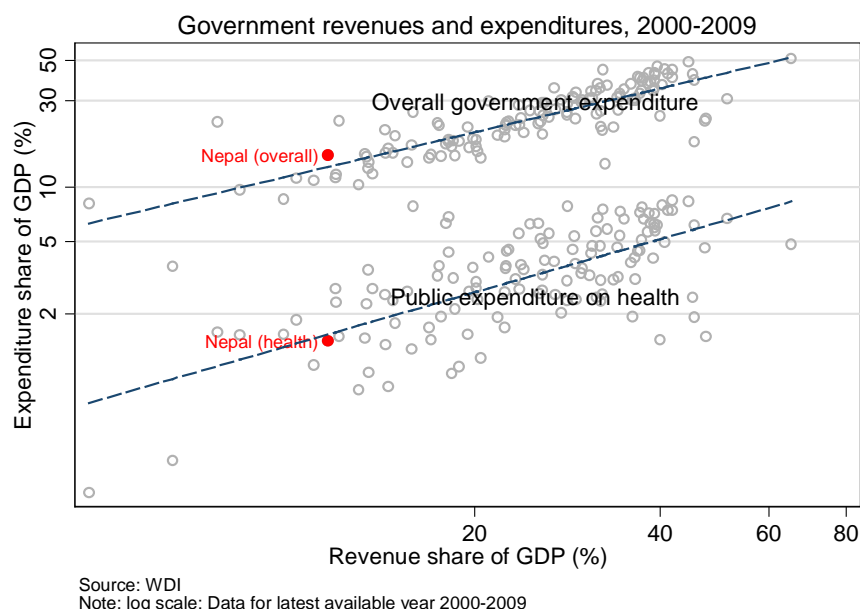
Source: WHO

36. **In summary, health appears not to be such a low priority in Nepal as to warrant arguing for a significant re-prioritization within the budget.** Another indication that health is not necessarily accorded a low priority in Nepal can be gleaned from looking at how public expenditures on health fare relative to revenue-generating capacity relative to other countries. As can be seen in Figure 11, for its revenue-generating capacity, shares of overall government expenditure allocated to health in Nepal are about average for the region as are public expenditures on health as a share of GDP.

²² Although this is low in terms of share of GDP, where the regional average stands at 2.5%.

²³ It is important, however, to note that this does not imply that increase in resource would be used efficiently and as a result a rise in health resources necessarily implies better outcomes: Sri Lanka, for instance, devotes a lower share of its government's budget (and GDP) to health, but attains far superior health outcomes.

Figure 11. Government revenues and expenditures (overall and health)



Generating Health Sector Specific Resources

37. New health-specific resources can be an additional source of fiscal space for the sector. These policy options might entail the introduction of earmarked taxes and/or some form of health insurance premiums in order to increase the resource base for public spending on health. Earmarking can involve dedicating an entire tax to fund a particular program (for example, a dedicated payroll tax earmarked for social health insurance) or setting aside a fixed portion of a particular tax to fund a program (for example, a fixed proportion of general tax revenues allocated to the health budget). Earmarked taxes for health sector funding are generally supported by political rather than economic arguments, except in the case of “sin taxes” which are designed to offset the negative externalities resulting from consumption of goods and/or services (for example, cigarette taxes). If health spending is low or unstable, an earmarked tax may be seen as a way to insulate health spending from other competing publicly funded activities. From an economic perspective, earmarking is often viewed as an imposition of an unnecessary constraint on fiscal policy-making, one that reduces flexibility and allocative efficiency.²⁴ In addition, there are numerous examples of situations where earmarked funds have been diverted to other activities, especially in poor governance settings.²⁵

38. Taxes on consumption of goods that adversely affect health are often earmarked for the health sector. As mentioned above, taxes on the consumption of tobacco and alcohol, for instance is often considered to be beneficial not only from a public health perspective but also from an economic perspective. Thailand, Australia, the US, and Korea, are examples of countries that have successfully implemented earmarked taxes on tobacco and used the revenues for public health purposes. Even if not earmarked for health, higher taxes can discourage

²⁴ Savedoff, W. 2004.

²⁵ Prakongsai, P., W Patcharanarumol, and V Tangcharoensathien. 2008.

consumption and reduce illness and accidents (in the case of alcohol), and possibly reduce demand for health services, which can reduce the pressure for more resources.

39. Nepal introduced earmarked sin taxes on cigarettes and alcohol in the early 1990s, with revenues going to the establishment of the Health Tax Fund. These funds – which financed spending to the tune of Rs 214 million in 2005/2006 – are managed by the BP Koirala Cancer Hospital and finance cancer treatment as well as community-mobilization activities oriented towards promoting health lifestyles.²⁶ In addition, Nepal levies an excise tax and a 10 percent value-added tax (VAT) on cigarettes.

40. There may be some room to mobilize additional resources through earmarked taxes in Nepal, but the challenge will be ensuring these revenues are allocated to health. Prices for tobacco, alcohol, and other narcotics are lower in Nepal than in India. The World Bank's International Comparison Program estimates that the average price index on tobacco, alcohol, and narcotics in Nepal was 72 compared to the global average of 100, and lower than comparators such as India and Sri Lanka, but higher than Bhutan and Bangladesh (Table 4). The challenge in mobilizing additional resources to health through these taxes is not only introducing the taxes, but also ensuring that such resources are in fact channeled to health.

Table 4. Price index for tobacco, alcohol, and narcotics

Country	Price level index tobacco, alcohol, narcotics
Bangladesh	44
Bhutan	60
India	85
Maldives	76
Nepal	72
Pakistan	62
Sri Lanka	97
Global	100

Source: International Comparison Program

41. Such mobilization efforts often require balancing equity consideration with public health concerns. Nepal's tax structure makes tobacco taxation in Nepal less regressive. The total tax incidence is estimated to be about 50 percent of the price of tobacco, lower than the World Bank's recommendation that this be between two-thirds and four-fifths of the retail price.²⁷ One policy option might be to increase taxes only for high-priced and premium brands and use the additional resources generated to finance health. This could increase state revenues while maintaining the pro-poor nature of the current tax structure on tobacco. From a public health perspective however, this could cause some concern for those who would argue that the poorer wealth quintiles would be incentivized through lower prices to keep consuming cheap, perhaps more damaging tobacco.

²⁶ Prakongsai, P., K Bundhamcharoen, K Tisayatikom, V Tangcharoensathien. 2007.

²⁷ Karki, YB, KD Pant, and BR Pande. 2003.

42. The potential of mobilizing additional resources through social insurance appears to be very limited in Nepal. Many countries expand social health insurance schemes financed through legally-mandated premium contributions by employers and workers, sometimes with additional government contributions. Expanding social health insurance contributions and coverage could play a role in terms of raising public resources for health to the extent that the premium-paying proportion of the population is large enough to partially subsidize coverage for those that cannot afford to pay. However, given the large extent of the self-employed and casual laborer employment – available estimates for 2004 indicate that 73 percent of urban and 95 percent of rural Nepali's work in the informal sector – this option remains challenging. Furthermore, there is an ongoing discussion among economists on the impact of providing premium subsidies to those in the informal sector, who are not necessarily poor, and thereby encouraging continued informality in the economy.

Mobilizing External Resources

43. Nepal's health sector is already quite dependent on external resources. Another way to generate fiscal space for health is for governments to utilize external resources in the form of foreign aid and grants from international donors. The health sector coordinates external resources via a sector-wide approach (SWAP), and Nepal is a member of the International Health Partnerships (IHP+) initiative (whereby donors commit to strengthening national health systems and to achieve better health results around a single country-led national health strategy). OECD official development assistance (ODA) disbursements for health in Nepal over the period 2007-2009 totaled US\$82.8 million from bilateral sources and US\$82.3 million from multilateral sources. The UK and USA were the largest bilateral donors over this time period, and the World Bank, the Global Fund for AIDS, Tuberculosis, and Malaria (GFATM), and the Global Alliance for Vaccines Initiative (GAVI) were the largest among the multilaterals. In total, over the period 2007-2009, about 41.2 percent of all donor health disbursements were classified under "health policy and administrative management", 27.1 percent were for "basic health care", 12.2 percent was for "infectious disease control", with the remainder of resources falling in other categories.²⁸

44. The share of external sources in total health expenditure in Nepal is higher than the South Asian regional average, but lower than that of other low income countries. At less than 13 percent over the period 2007-2009, this proportion – which has been decreasing from the peak of more than 24 percent in 2000 – has remained low since 2007 (Table 1). The average proportion of external resources as a share of health spending over 2007-2009 for Nepal was lower than the average for low income countries (30.2 percent), although it was higher than the South Asia regional average (7.7 percent). Nepal had the third highest external share of total health spending in the region, following Afghanistan and Bhutan (Table 5).

²⁸ OECD Credit Reporting System; it is important to note that these data do not include resources from non-OECD donors such as India and China.

Table 5. External resources as proportion of total health spending, 2007-2009

Country	External resources	
	Share of total health spending (%)	Per capita (USD at average exchange rate)
Afghanistan	18.3 %	8.925
Bangladesh	7.1 %	1.44
Bhutan	15.4 %	7.448
India	1.3 %	0.495
Maldives	1.3 %	3.972
Nepal	12.6 %	3.425
Pakistan	4.0 %	0.851
Sri Lanka	1.8 %	1.68
South Asia region	7.7 %	
Low income countries	30.2 %	

Source: WHO

45. Given the current level and trend, additional external resources are an unlikely source of generating fiscal space for health. While the share of external resources in Nepal is higher than the rest of South Asian countries, the trend shows that this share is decreasing. It decreased from 24 percent in 2001 to 14 percent in 2010. In per capita terms, development assistance for health in Nepal is about US\$ 3.4/capita (which is higher than Bangladesh, India, Pakistan and Sri Lanka and on par with that of Maldives). Nepal has done well in terms of leveraging the large global funds earmarked for health (GAVI, Global Fund to Fight AIDS, Malaria & TB) and in mobilizing bilateral and multilateral DAH through the SWAp. Given the global financial crisis, a further increase in DAH may be unlikely. Also, expanding fiscal space through external support is not always an attractive option. Donor dependence can come with its own negative externalities such as those related to unpredictability and volatility of funds and excessive fragmentation, some of which have been mitigated in the Nepalese context via the use of pooled funding arrangement under the current SWAP. Other problematic issues with external aid include sustainability problems and exposure to contingent liabilities, making any additional dependence on external resources a relatively unattractive option for Nepal. Even when there is tolerance for these negative consequences, it will be challenging to mobilize additional resources from donors beyond the current level without demonstrating efficient use of existing resources.

Efficiency Gains

46. Fiscal space can also be realized by improving the efficiency of existing expenditures. Efficiency, broadly defined for any generic production system, implies utilizing and allocating inputs so as to attain the maximum possible output(s) for a given level of inputs or attaining a given level of output with the minimum inputs (or the least cost). Two components of efficiency are generally differentiated: technical efficiency implies attaining the most output from a given set of inputs; allocative efficiency implies choosing the optimal set of inputs, given their

prices, in order to attain the maximum output at least cost.²⁹ Increases in efficiency increase fiscal space indirectly via savings, creating space within the existing envelope, rather than expanding the resource envelope through expansion of revenues, external grants, etc. as was discussed previously.

47. Measuring efficiency requires defining the appropriate decision-making unit (DMU) so as to specify appropriate outputs and inputs. Broader macro-level analyses of efficiency of health systems often use country or sub-national administrative units as DMUs. In such cases, outputs are often specified in terms population health indicators such as infant mortality rates and life expectancy, and at times as a set of intermediate outputs such as immunization rates and other health service coverage rates.³⁰ Micro-level analyses of efficiency usually look at case mix-adjusted unit costs in hospitals and health centers as DMUs, with outputs and input indicators reflecting the functions of the specified DMU.

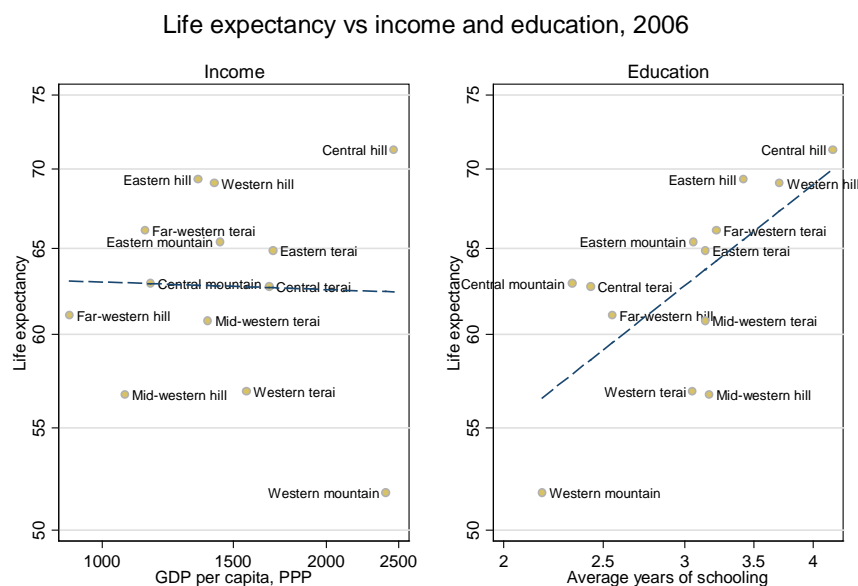
48. Nepal has the potential to realize efficiency gains at regional, district and health facility levels. These include through improving governance, reducing corruption and waste, re-allocating resources to priority areas, improving quality, choosing cost-effective interventions, and the like. In what follows, regional and district level efficiency analysis is presented to demonstrate the varying level of performance across districts thereby the potential of improving efficiency within the existing system. Such a benchmarking exercise is useful in providing evidence of what can be achieved. Following this exercise, the various areas where efficiency gains might be realized at micro level are examined.

49. There are significant sub-national variations in the attainment of health outcomes and outputs in Nepal. For instance, there was a 20 year difference in life expectancy between the Western Mountain sub-region (life expectancy around 51) and the Central Hill sub-region (life expectancy around 71) in 2006. Interestingly, at least at the sub-regional level, these differences in life expectancy are largely unrelated to differences in income (Figure 12). Also, at service coverage levels, there are large sub-regional differences in the attainment of key health outputs such as skilled birth attendance and DPT3 immunization rates. The differences between regions within Nepal are sometimes as large as the differences across countries globally (Figure 13).

²⁹ Hollingsworth, B and S.J. Peacock. 2008. *Efficiency Measurement in Health and Health Care*, New York: Routledge; Subsumed under technical and allocative efficiencies, there may be efficiencies related to scale and scope in the health system.

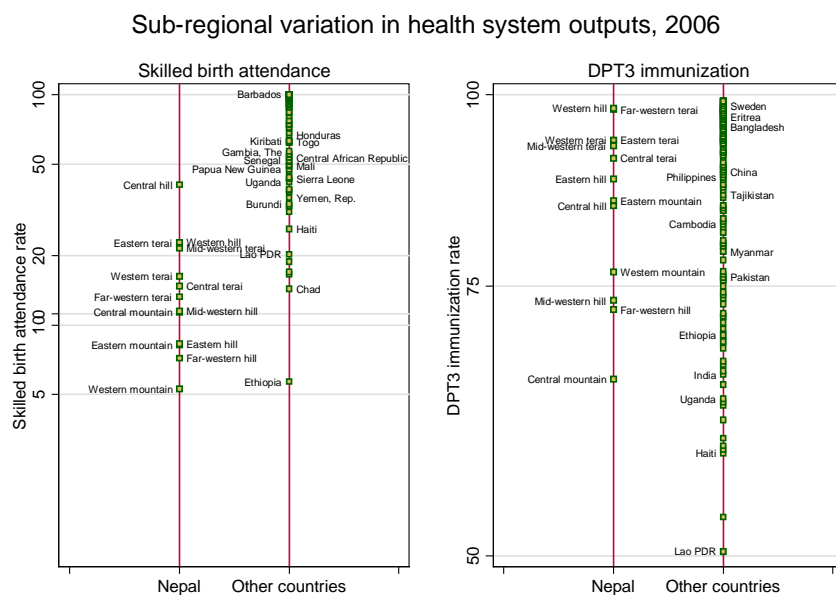
³⁰ The latter set is, arguably, a more direct measure of the output of a health system. Broader population health indicators such as infant mortality rates and life expectancy are often a function of additional factors (for example, female education, water and sanitation, nutrition, etc.) which are unrelated to the health system *per se*.

Figure 12. Life expectancy versus income at the sub-regional level, 2006



Source: UNDP

Figure 13. Sub-regional variation in health system outputs in Nepal versus global comparators, 2006



50. Similarly, large variations in health outcomes and outputs are evident across Nepal's 75 districts. Pending release of more recent data, exploratory district level analysis was done using UNDP's 2001 district-level estimates on life expectancies, income, and education

attainment in Nepal.³¹ Mugu District in the Mid-Western Mountain sub-region had an estimated life expectancy in the country of about 44 years. On the other hand, Bhaktapur District in the Central Hill Region had the highest life expectancy of over 71 years. Table 6 lists the top 10 and bottom 10 districts based on the estimated life expectancies in 2001.

Table 6. Best and worst performing districts based on life expectancy attainment, 2001

<i>Best Performing</i>			<i>Worst Performing</i>		
District	Sub-Region	Life expectancy	District	Sub-Region	Life expectancy
Bhaktapur	Central hill	71.3	Mugu	Mid-western mountain	44.1
Kaski	Western hill	70.8	Bajura	Far-western mountain	45.7
Kathmandu	Central hill	69.5	Kalikot	Mid-western mountain	46.7
Okhaldhunga	Eastern hill	69.4	Bajhang	Far-western mountain	49.7
Kavre	Central hill	69.3	Dang	Mid-western terai	50.6
Tanahu	Western hill	68.8	Jumla	Mid-western mountain	50.8
Rupandehi	Western terai	68.3	Jajarkot	Mid-western hill	51.9
Udaypur	Eastern hill	68.0	Baitadi	Far-western hill	52.3
Teharhum	Eastern hill	67.8	Dolpa	Mid-western mountain	52.5
Syangja	Western hill	67.7	Rasuwa	Central mountain	54.8

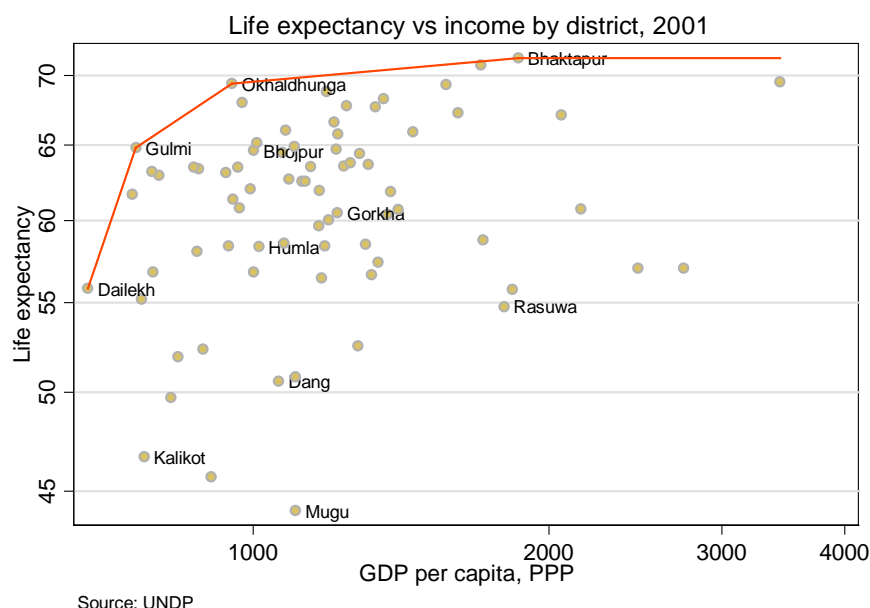
Source: UNDP

51. Some districts perform better than others, though this may not be a reflection of the efficiency of the health system alone. Are sub-national differences in outcomes related to differences in the efficiency of health systems across districts and sub-regions? Attainment of an outcome such as life expectancy is a function of many factors such as income, education, urbanization, socio-demographics, as well as health system characteristics. As an illustration, Figure 13 plots life expectancy versus income across districts and shows the “frontier” of best

³¹ UNDP. 2001. *Nepal Human Development Report 2001: Poverty Reduction and Governance*, Kathmandu: United Nations Development Program.

performing districts using income as the sole determinant of life expectancy.³² As can be seen, after controlling for income, some districts such as Dailekh, Gulmi, Okhaldhunga, and Bhaktapur are benchmarks for good performance in attainment of health outcomes whereas Rasuwa, Kalikot, Dang, and Mugu are relatively poor performers. Data deficiencies preclude a detailed analysis that allows for assessing the extent to which this good performance relative to income is a result of health system efficiencies versus a result of other factors. This is a subject for subsequent research to better understand the drivers of efficiency.

Figure 14. Data envelopment analysis of life expectancy versus income, 2001



52. There are also large differences in efficiency across hospitals. Figure 14 shows the Pabon Lasso diagram for all hospitals in the country, excluding tertiary and teaching hospitals.³³ The Lasso diagram plots the bed turnover rate (i.e., the number of cases per bed per year) against the bed occupancy rate. A line from the origin passing through any point measures the average length of stay at that hospital, with flatter lines representing longer stays. The graph can be categorized into four quadrants based on the average turnover and average occupancy rates (which were 60.7 and 48.0 percent, respectively in Nepal).³⁴ Hospitals in quadrant I of the graph (such as Gorkha) have relatively high turnover and occupancy rates and are deemed more efficient. Hospitals in quadrant III such as Dolpa, on the other hand, have low turnover and low occupancy rates and appear to be relatively inefficient. The overall occupancy rate is also relatively low in Nepal, although this may be reflective of poor data quality. Against this indicator, the ten best and worst performing hospitals are reported in Table 7.

³² The estimation of the "frontier" involves using the Data Envelopment Analysis (DEA) method; See Coelli, T, DS Prasada Rao, CJ O'Donnell, and GE Battese. 1998. *An Introduction to Efficiency and Productivity Analysis*, New York: Springer.

³³ Lasso, P. 1986. "Evaluating Hospital Performance through Simultaneous Application of Several Indicators," *Bulletin of the Pan American Health Organization*, 20(4): 341-357.

³⁴ By way of contrast, the hospital occupancy rate in OECD countries averages around 80 percent.

Figure 15. Variations in hospital efficiency across districts in Nepal, 2008

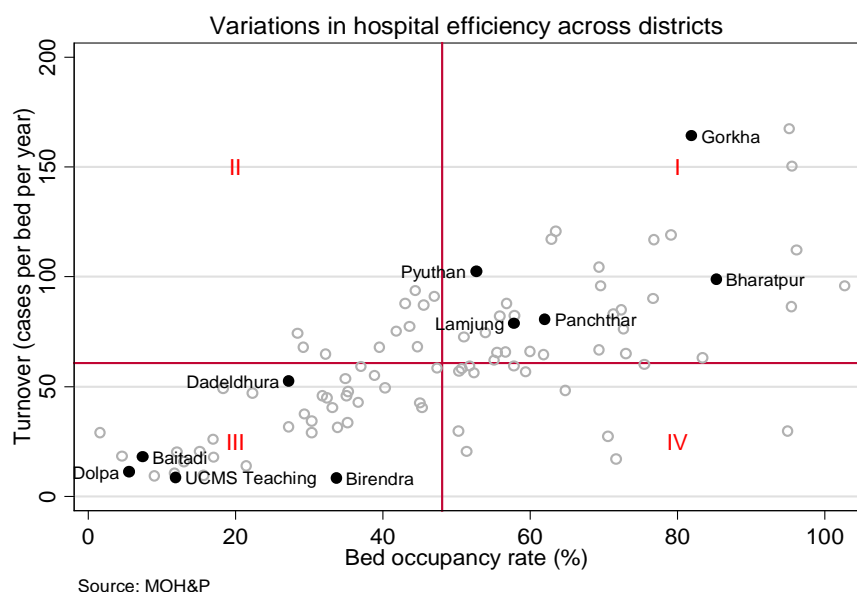


Table 7. Best and worst performing hospitals, 2008

<i>Best Performing</i>			<i>Worst Performing</i>		
Hospital	District	Sub-Region	Hospital	District	Sub-Region
Argakhanchi	Argakhanchi	Western hill	Dolpa	Dolpa	Mid-western mountain
Gorkha	Gorkha	Western hill	Manang	Manang	Western mountain
Sunsari	Sunsari	Eastern terai	Baitadi	Baitadi	Far-western hill
Rukum	Rukum	Mid-western hill	Rasua	Rasua	Central mountain
Sindhupalchowk	Sindhupalchowk	Central mountain	Solukhumbu	Solukhumbu	Eastern mountain
Sankhuwasabha	Sankhuwasabha	Eastern mountain	Mugu	Mugu	Mid-western mountain
Bhojpur	Bhojpur	Eastern hill	Mustang	Mustang	Mid-western mountain
Udaypur	Udaypur	Eastern hill	Humla	Humla	Mid-western mountain
Trishuli	Nuwakot	Central hill	Rangeli	Morang	Eastern terai
Pyuthan	Pyuthan	Mid-western hill	Rolpa	Rolpa	Mid-western hill

Source: Authors' estimates

53. The variation in district performance needs further analysis to identify the determinants of efficiency. Clearly districts vary in performance. These variations are observed in the coverage of immunization and skilled birth attendance, in life expectancy), and in hospital performance. Some are doing quite well while other are performing poorly. Ideally one would like to see the poor performing districts catch up to the best performing. This requires understanding the driving force behind the performance of the high performers. A carefully designed case study of a couple of best and poor performing districts could help to understand the dynamics better. Such understanding is essential for any effort to improve performance at district level.

54. Such work will involve a more detailed study of well- performing and poorly performing districts and be informed by extensive consultations with stakeholders. The above analysis provides a general sense that there are differences in the performance of districts across Nepal. But with the available data, it is hard to pin point the drivers of efficiency in these districts. A more detail analysis would combine a quantitative study complemented with a qualitative analysis to provide a deeper understanding of the epidemiological, demographic, cultural, motivational and other district level idiosyncratic factors driving performance. The dissemination of the results of the current study can start off the consultation process for a potential case study of districts.

55. There are additional indications of systemic micro-level inefficiencies in the health sector. For instance, anecdotal evidence from limited facility surveys suggests that inefficiency is a major issue at facility level. Absenteeism is a concern, with 13 percent of facilities reporting being understaffed due to staff absenteeism; unfilled positions range between 39 percent among doctors to 24 percent among nurses. The problem is more severe in hospitals than in health posts (HP) and sub health posts (SHP). About 13-21 percent of the positions in hospitals remain unfilled while 8-12 percent of the positions in HP and SHPs remain unfilled. There is also some evidence of sub-optimal spending.³⁵ For instance, drug stock-outs lasting more than a week are common in HPs and SHPs; and it takes more than a month for drugs to reach these facilities from district headquarters. Finally, efficiency of spending and the system of accountability might be improved significantly by strengthening the link between performance and financing. Linking financing to performance can be done both at facility as well as district levels.

56. In what follows, the above-mentioned sources of inefficiencies in Nepal's health system are explored separately and in more detail, and corrective policy interventions are suggested. Whenever the data allows, crude indicators of the magnitude of gains from efficiency are also presented.

57. *Linking Payments to Performance:* There are a number of justifications as to why linking financing to performance can help to improve efficiency thereby effectively creating fiscal space. The most obvious is the fact that by demonstrating results one could crowd in finances. The Ministry would have a stronger bargaining position vis-a-vis the Ministry of finance in budget negotiations if it could show the results achieved. By its nature, linking payments to results promotes transparency and accountability in the system thereby reducing leakages. Finally, by conditioning payment to results, one can directly address the concerns about inequality

³⁵The idea is related to fixed costs. That costs such as infrastructure and salaries are (semi) fixed costs that vary marginally with the workload of the facility. And hence when the corresponding budget for inputs such as drugs is not provided, infrastructure and health workers are underutilized. The effect would be compounded when the quality elasticity of demand is high.

in access to and utilization of health services. For example, payments could be directly linked to the number of proportion of poor/ marginalized/excluded groups serviced in the facility.

58. *Provider Payments: A gradual change in the provider payment system could be utilized to incentivize hospitals to improve efficiency.* Different types of provider payments have different effects on the hospitals with varying level of efficiency. Changing the payment from the current to a per diem system, for instance, would incentivize increases in bed occupancy rate. This is desirable as the bed occupancy rate is rather low in most of these hospitals. It is important to understand that the change to a per diem system will incentivize increases in average length of stay (ALOS) because the cost of inputs per day is higher in early days of hospital stay and decreases with stay. The drive to reduce cost by the hospital means that hospitals tend to increase ALOS more than they increase admission. However, the fact that most of these hospitals have low bed occupancy as well as low ALOS may make per diem an appropriate initial option. The per diem system has an added advantage of administratively requiring less information to implement.

59. *Given the current performance of hospitals, Nepal could start with a per diem system with an eventual move to a case-based approach.* A per diem system is ideal for implementation as it is simple to administer and is less information intensive. The risk is that providers quickly learn the system and can start changing behavior in order to maximize revenues. The best option may be a mix of per diem and case based rate which will take advantage of the per diem system while at the same time addresses its downside, by correcting for expected length of stay based upon the type of illness being treated. However, a case-based payment system is complex to administer and requires information that is not readily available today. By starting with per diem system, data that are necessary to design a case-based rate can be collected for eventual move towards case-based approach.³⁶

60. *Grants to Hospitals and Districts: Refining the current practice of providing grants to hospitals would enable the government make the most out of existing expenditures.* Instead of unconditional grants, hospitals could be provided payments that encourage better performance. Such payment could be in the form of lump sum so that the hospital retains the flexibility of spending without the need to report on budget lines. However, the payment can be based on performance so that the hospital is incentivized to do better. There are extensive international experiences in reforming provider payments systems that Nepal can learn from.³⁷ Moreover, such practices can improve the transparency of the budget process and allocation which otherwise remains highly compromised with further expansion of the use of making grants to facilities/providers within the budget.

61. *Consolidating Incentive Programs: Consolidating and improving the implementation of existing incentive programs would also improve the efficiency of spending.* Designing appropriate payment mechanism is critical to get the best value for money. For instance, the safe motherhood delivery/maternity incentive pays (or reimburses) for each cesarean related services. Such fee for service payment mechanisms are known to encourage over supply of the cesarean related services, not to mention compromise in quality of services. There are other programs that face similar challenges. The Ministry has, on a number of occasions, raised this concern and others related to absence of effective monitoring. What is missing is strategic thinking to begin treating such programs as services that the Ministry of Health and Population is purchasing.

³⁶ See Langenbrunner J.C., C. Cashin, and S O'Dougherty. 2009.

³⁷ Cashin, C., J. Koettl, and P. Schnieder. 2010.

Strategic purchasing would involve medical audits where such over provision and quality issues could come to light.

62. Provide users the choice among health facilities by letting the money follow the user. *Putting Free Care in the Hands of the Users:* There is some evidence that a number of facilities implementing free care are unable to provide the full range of services and drugs they are supposed to provide. The free care program entitles users the right to receive services with no payment. The Ministry allocates budget to participating facilities to enable them provide services free of charge. In effect, this means that it is up to providers to provide the services for free with little consequences for failing to do so. The alternative to allocating budgets to facilities to provide services is to put the budgetary decision on the hands of users by allowing them to choose among health facilities. That is – instead of providing money to facilities – money be given to potential users (in the form of explicit entitlements) so that they can make payment to facilities when using services. This way, users will have the right to choose which facility to go to and pay only for services provided and facilities will have incentives to attract users. For instance, when facilities are out of drugs, they could lose revenues if users choose to go elsewhere.

63. Such practices can create healthy competition among health facilities. When money follows the user, health facilities will compete to attract users. For this process to work, health facilities should be given a certain level autonomy such as the ability to retain resources mobilized through provision of services. It is not clear how well the current system of free care program is serving the population. However, it is clear that facilities have little to gain or lose by serving more or less users as a result of the free care policy. But providing users the power to express their satisfaction/dissatisfaction with the way they use these facilities would improve efficiency and accountability in service delivery.

64. Absenteeism of Health Workers: Gains from addressing health worker absenteeism alone would cover more than the cost of one year's worth of family planning commodities in Nepal. Health worker absenteeism costs the sector significantly: on average, less than 75 percent of all doctors' positions in health facilities throughout the country are filled. This is a conservative estimate and varies across the regions: from 61 percent in the Mid-Western Region to 86 percent in the Central Region.³⁸ What is alarming is the trend appears to be increasing. A recent survey by the Research Triangle Institute (RTI) shows that the percentage of actually filled sanctioned positions at district hospitals has actually decreased.³⁹

65. Salaries and benefits constitute about 25 percent of government expenditure. If doctors' salaries and benefit account for a quarter of total salaries and benefits, the gain that could be obtained through addressing absenteeism of doctors alone would be equivalent to increasing the government budget for health by at least 1.6 percent.

66. Drug Stock-Outs and Expiry: Another area where the Ministry could gain efficiency is in drugs procurement, storage, and distribution. There is anecdotal evidence showing that drugs expire at district medical stores while a number of health facilities in the district run out of drugs.⁴⁰ More recently, a report by the auditor general identified drug stock-out and drug expiry as major performance issues. There are at least two reasons for this: (i) the drug distribution system below the district level is performing poorly; and (ii) the remaining shelf life of procured drugs is short.

³⁸ Surveys show that between 30-40% of doctors/health workers are absent in their post (the Nick Simons Institute estimates 30% of doctors in district hospitals were absent; MOPH accounts estimate that 40% of the 'filled' posts are unmanned).

³⁹ RTI. 2010.

⁴⁰ Ibid.

67. A significant amount of resources can be saved by addressing the above two constraints related to drugs. The current trend of procuring drugs for multiple years with different delivery schedules would help exploit the economies of scale in purchasing and reduces the administrative cost of procuring (tendering, evaluating, etc.) drugs every year. While this is a laudable practice, it would not address the lack of effective distribution from district medical stores to health facilities. The Ministry needs to start looking at alternative ways of distribution including partnering with the private sector through performance based contracts for effective distribution. Drugs and medical supplies constitute about 20 percent of government expenditures. Making the investment is worth the cost in order to ensure such a significant amount of the budget is used effectively.

68. Drug Price: Moving away from local procurement could result in significant savings as prices of local procurement on average are a staggering 300 percent higher than central procurement.⁴¹ The prices of drugs procured locally vary significantly. Part of this difference is due to cost of transportation, which differs significantly among districts. But the major part of the price difference is due to inaccurate cost estimates and the fact that such estimates are announced in bid documents.⁴² In about 90 percent of the cases reviewed, the winning bid prices were equal to the estimated price, which would not be the case if competition drove down the price. Savings could have been obtained by both changing this approach, and by splitting items in strategic slices rather than putting everything into a single package. It was estimated that, in one of the districts, splitting tenders could have saved an equivalent of at least 18 percent of value.⁴³

69. Equipment Out of Use: A recently completed survey of equipment found that there are a number of new medical equipment lying unused in hospitals stores. In some cases, this equipment are not in use because of absence of qualified staff to operate them; in other instances, they are not in use because they are not installed, yet in another instance the building meant to house them is not appropriate, or that the necessarily consumables or related supplements are missing. In almost all cases, a significant improvement could be made through a more proper needs assessment, preparation, and planning in procurement and use. For instance, requests from a district for particular equipment could be assessed in relation to the preparation of the facility to house and install the equipment, the availability/need of trained staff, etc. Similarly, procurement could ensure that all supplementary parts, consumables, and the necessary installation and training are all taken care of through the procurement process.

70. Equipment Maintenance: Most of the equipment that lies unused because it need repair is of high value and large sums of money could potentially be saved through proper planning in procurement and use. The current effort supported by KFW that partners with the private sector to bring in maintenance capacity to the Ministry is an encouraging development. Such a partnership not only ensures such a specialized activity as maintenance will be done by qualified firm, but also strengthens the Ministry's capacity.

V. SUMMARY AND CONCLUSIONS

71. Despite relatively high levels of expenditures, there are emerging pressures to increase government expenditures on health in Nepal. For instance, there is growing demand

⁴¹ Swiss Center for International Health (2009).

⁴² Ibid.

⁴³ Stoermer, M., S.S. Sharma, C Napierala, and P.R. Silwal. 2008.

to expand the package of services under the free care program and expand the coverage of the free essential health care program to all Nepalese; to introduce new programs such as health insurance, and for other similar initiatives which will all add pressure on the already-stretched government financing envelope.

72. The challenge is finding ways to expand the fiscal space to accommodate emerging pressures for increase in expenditures. This note has assessed public expenditures on health in Nepal from a fiscal space perspective. Table 8 summarizes the prospects of fiscal space for health from five major pillars: conducive macroeconomic conditions, re-prioritization of health in the budget, health-sector specific sources, grants and foreign aid, and efficiency gains. The best options for fiscal space for health for Nepal are likely to be from an improvement in the efficiency of existing resources in the health sector

73. The analysis presented herein indicates that improvement in health system efficiency – that is, getting more value for money – is by far the best option for realizing additional fiscal space for health in Nepal. As the note demonstrates, the prospects for additional resources for health from all other possible sources – from conducive macroeconomic conditions, re-prioritization of health, external resources, and other health-sector specific sources – is limited in Nepal (Table 8 summarizes the findings). On the other hand, as the note discusses, there are many indications of systemic inefficiencies in the health system of the country and the challenge would be to focus on identifying and implementing appropriate interventions to improve the situation. The note highlights some specific areas – such as those related to provider payments, drug procurement mechanisms, and hospital and district grant allocations – where significant improvements in obtaining better value for money might be realized.

74. Nepal has the potential to realize efficiency gains in the health sector in a variety of ways. Linking financing to performance is one of the key areas where these gains could be realized. Efficiency gains could also be made through refining the design of existing grants and incentives so that payments are directly linked to performance. Furthermore, significant resources could be made available by addressing the problems of health worker absenteeism, drug stock-outs, procurement and distribution of drugs, maintenance of equipment, and planning and preparation in procurement of equipment.

75. The highest potential for efficiency gains may come from linking payments to results. Clearly designing such a system requires a robust monitoring and verification. The Ministry could start by explicitly linking grants and transfers and other incentive payments to results. These payments are the most immediate candidates to begin with and experience from this can be used in scaling up to other areas where verification/monitoring capacity is more challenging. More can also be saved by addressing a number of other governance related issues including staff absenteeism, equipment procurement and maintenance.

76. The Ministry could explore reforming the provider payment system. The benefit of this is immediate for hospitals and districts where the grant system is already in place. Different types of provider payments have different effects on the hospitals with varying level of efficiency. Nepal could start with a per diem system, and move gradually towards a combined system as described in this note. At the same time, alternative payment mechanisms to districts and primary care facilities could also be explored. One possibility is capitation payments with adjustment for differences in costs of production. Such a system, however, requires a reliable mechanism of verifying enrollment upon which the capitation payment is based. There are examples within the region where enrollment IDs were produced using a technology that can also be applied for other purposes.

77. Finally, and most importantly, the Ministry needs to rethink its role as a steward of the sector. As a steward, it continues to finance but not necessarily provide the health services and manage health facilities. It focuses on the health status of Nepalese; ensuring that they receive financial protection against the risk of impoverishment due to ill health; on equity in care, as opposed to who provided the health services; and on how services are provided (considering quality, efficiency, etc.). Such clarity would assist in developing the sector's financing strategy. Such a financing strategy would outline the reform agenda and enhance the government's strategic thinking in terms of efficiency and the long-term sustainability of spending.

Table 8. Fiscal space for health at a glance for Nepal

Fiscal Source	Space	Key Information	Prospects for Fiscal Space
Macroeconomic conditions		Growth slowdown as a result of declining remittances, declining exports, and capital flight; Overall deficit expected to increase.	Poor
Re-prioritization of health in the government budget		Health spending as share of budget is relatively high; No strong evidence that health is accorded a low priority.	Poor
Health sector-specific resources		Additional "sin" taxes may be utilized to generate fiscal space earmarked for health.	Medium/Poor
Health sector-specific grants and foreign aid		External dependence already high in health sector.	Poor
Efficiency gains		Evidence of significant efficiency differentials within country suggests the importance of this option.	Good

78. Next Steps and follow on work: Consultations with stakeholders will be held as part of the communication and dissemination strategy to better understand the findings of the study, and to seek inputs for the follow-up analyses required. Such work, to be supported the Bank and other partners, will further explore the potential efficiency gains with a focus on identifying the drivers of inequalities in performance across districts. Such work will involve a case study of well-performing and poorly performing districts and will be informed by extensive consultations with stakeholders. A more detail analysis would combine a quantitative study complemented with a qualitative analysis to provide a deeper understanding of the cultural, motivational and other district level idiosyncratic factors driving performance. The dissemination of the results of the current study can start off the consultation process for a potential case study of districts.

79. At the same time, the findings of the study will be discussed during the workshop as an input to the planned health financing strategy. One of the motivations of this study was to provide background for the development of the health financing strategy. Broad consultations were conducted before and after the Maldives High-Level Forum on Health Care Financing of

June 2010 to identify key areas where analytical work were required to build the evidence base for formulation of a sound financing strategy. This current study is one of the key analytical pieces identified through this process and we hope it will support Nepal in its efforts to improve health, nutrition and population outcomes.

REFERENCES

- Asia Development Bank. 2006. *Measuring Policy Effectiveness in Health and Education*, Manila: Asian Development Bank.
- Cashin, C., J. Koettl, and P. Schnieder. 2010. "Setting Incentives for Health Care Providers in Serbia," World Bank, Washington, D.C; Moreno-Serra, R. and A. Wagstaff. 2010. "System-Wide Impacts of Hospital Payment Reform: Evidence from Central and Eastern Europe and Central Asia," *Journal of Health Economics* 29:585-602.
- Cord, L, M Verhoeven, C. Blomquist, and B. Rijkers. 2009. *The Global Economic Crisis: Assessing Vulnerability with a Poverty Lens*. Mimeo, Poverty Reduction and Economic Management, World Bank, Washington, DC.
- Government of Nepal/United Nations. 2010. *Nepal Millennium Development Goals: Progress Report 2010*, Kathmandu: Government of Nepal and United Nations.
- IMF (International Monetary Fund). 2010. *Nepal: Staff Report for the 2010 Article IV Consultation and Request for Disbursement under the Rapid Credit Facility*, Washington, DC: International Monetary Fund.
- Karki, Y. B, K. D. Pant, and B. R Pande. 2003. "A Study on the Economics of Tobacco in Nepal," *Health, Nutrition, and Population Discussion Paper*, World Bank, Washington, DC.
- Langenbrunner J. C., C. Cashin, and S. O'Dougherty. 2009. *Designing and Implementing Health Care Provider Payment Systems: How To Manuals*, Washington DC: World Bank.
- Ministry of Health and Population, New Era, and Macro International Inc. 2007. *Nepal Demographic and Health Survey 2006*, Kathmandu, Nepal: Ministry of Health and Population, New Era, and Macro International Inc.
- RTI (Research Triangle Institute) International. 2010. *Health Care Financing in Nepal*, Research Triangle Park, NC: Research Triangle Institute. Newhouse, J.P. 1977. "Medical Care Expenditure: A Cross-National Survey," *Journal of Human Resources*, 12(1): 115-125.
- Prakongsai, P., K. Bundhamcharoen, K. Tisayatikom, V. Tangcharoensathien. 2007. *Financing Health Promotion in South-East Asia: Does It Match with Current and Future Challenges?* Thai Ministry of Public Health, Nonthaburi.
- Prakongsai, P., W. Patcharanarumol, and V. Tangcharoensathien. 2008., "Can Earmarking Mobilize and Sustain Resources to the Health Sector?" *Bulletin of the World Health Organization*, 86(11): 898-901.
- RTI (Research Triangle Institute). 2010. *Assessing Implementation of Nepal's Free Health Care Policy*. Raleigh: Research Triangle Institute.
- Savedoff, W. 2004. "Tax-Based Financing for Health Systems: Options and Experiences," *Evidence and Information for Policy Discussion Paper No. 4*, Geneva: World Health Organization.

Stoermer, M., S.S. Sharma, C. Napierala, and P.R. Silwal. 2008. *Essential Drug Procurement and Supply Management System in Nepal: Options for Improvement*, Kathmandu: GTZ. Swiss Center for International Health (2009), *Quality and Availability of Drugs in the Public Sector in Nepal*, Basel.

Tandon, A and C. Cashin. 2010. "Assessing Public Expenditure on Health from a Fiscal Space Perspective," *Health, Nutrition, and Population Discussion Paper*, Washington, DC: World Bank.

WHO (World Health Organization). 2010. *Health Systems Financing: The Path to Universal Coverage*, World Health Report, Geneva: World Health Organization.

World Bank. 2010. Nepal Economic Update. South Asia Region Economic Policy and Poverty Team, Kathmandu, Nepal.

Despite progress made in the past few years, challenges remain in addressing inequality and high out of pocket payments in Nepal. The policy response to these challenges has been to expand the 'free care' services program and pilot protection mechanisms against the financial risk of ill health. This study was initiated in response to a request to explore sources of fiscal space. The study assesses all potential sources of fiscal space including economic growth and mobilization from domestic sources, re-prioritizing health within government's existing expenditure envelope, mobilizing resources earmarked for health such as taxation on tobacco and alcohol, increasing resources from bi-lateral and multi-lateral donors, and obtaining efficiency gains from improving the quality of spending. The study identifies efficiency gains as the main potential source of additional fiscal space.

ABOUT THIS SERIES:

This series is produced by the Health, Nutrition, and Population Global Practice of the World Bank. The papers in this series aim to provide a vehicle for publishing preliminary results on HNP topics to encourage discussion and debate. The findings, interpretations, and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. For free copies of papers in this series please contact the individual author/s whose name appears on the paper. Enquiries about the series and submissions should be made directly to the Editor Martin Lutalo (mlutalo@worldbank.org) or HNP Advisory Service (healthpop@worldbank.org, tel 202 473-2256).

For more information, see also www.worldbank.org/hnppublications.



1818 H Street, NW
Washington, DC USA 20433

Telephone: 202 473 1000
Facsimile: 202 477 6391
Internet: www.worldbank.org
E-mail: feedback@worldbank.org