G. Public hospital governance in Sri Lanka
A case study on processes and performance
Shanti Dalpatadu, Prasadini Perera, Ruwani Wickramasinghe, Ravindra P. Rannan-Eliya
Abstract
Public sector health services have been, and continue to be, the backbone of the health sector in Sri Lanka. This case study describes the governance processes and performance of secondary- and tertiary-level public hospitals in Sri Lanka.

Identifying governance processes involved a literature review of official Government publications and other published and unpublished literature, as well as focus group discussions and in-depth interviews with directors of secondary and tertiary hospitals. Assessing the performance of public hospitals was also achieved using data from official Government publications and the Medical Statistics Unit.

The central Ministry of Health (MOH) has a predominant role in the governance of public hospitals; although, administratively, the majority of these institutions were decentralized to the Provinces (in 1987). These relationships arise from the central disbursement of financing based on historical budgets and the MOH keeping control over functions such as national policy formulation and health legislation; the procurement of essential drugs and medical supplies; and the recruitment, assignment and promotion of medical officers and medical administrators.

There have not been any major changes to hospital governance since the decentralization of power to the provinces in 1987. Nevertheless, there have been recent adaptive policy responses such as the upgrading and re-categorization of hospitals, the introduction of quality improvement programmes and the establishment of a post-graduate qualification in medical administration. These however, are all centrally driven initiatives with little change in the governance structure at the individual hospital level. Hospital directors have limited autonomy in terms of the strategic and financial direction of the hospital, although they have sole authority to carry out day-to-day operational management within the resources provided. The performance of public hospitals has shown improvement over the years through a number of efficiency indicators. In Sri Lanka, stewardship and centre-dominated governance processes appear to have made a substantial contribution to the observed level of improved hospital performance, while the operational level contributors are harder to identify.
Acronyms and abbreviations

ALOS  average length of stay
BOR  bed occupancy rate
BTOR  bed turnover rate
NHDC  National Health Development Committee
PMOH  Provincial Ministry of Health
RDHS  Regional Director of Health Services
1. Introduction

This case study focuses on secondary- and tertiary-level public hospitals in Sri Lanka that provide curative care services. These include the categories of teaching hospitals, provincial general hospitals, district general hospitals and base hospitals (type A and type B). Secondary hospitals provide four basic specialities (medicine, surgery, paediatric, obstetrics and gynaecology) and manage patients needing specialist care that are not available in primary care hospitals, while tertiary hospitals provide added specialties. Divisional hospitals and primary medical care units (i.e. maternity homes and central dispensaries), which are primary-level facilities, are excluded from the study. In addition, some specialized teaching hospitals or apex referral hospitals for specific diseases/organ systems (e.g. cancer, eye, paediatric etc.) are also excluded from the case study because they lack generalizability with the patient mix in the other secondary- and tertiary-level hospitals. Additionally, there are two semi-autonomous board-managed public hospitals in Sri Lanka (Sri Jayawardenapura General Hospital and Vijaya Kumaratunga Memorial Hospital). These are similarly excluded from the case study because semi-autonomy for these hospitals was granted due to donor request, and not due to a specific intervention or policy change. Thus, the focus of this case study is a total of 98 secondary- and tertiary-level hospitals, which constitutes more than 9% of all public sector healthcare facilities in Sri Lanka (MOH 2010, 2013).

The focus on these secondary-and tertiary-level hospitals is due to several reasons. First, as a group, this 9% of hospitals accounts for the majority of total bed capacity and treats two thirds of total inpatients and a third of total outpatients that seek services from the public sector (Figure 1). Second, these hospitals are managed by medical administrators in administrative grades, have more complex governance structures considering their larger budgets, more advanced facilities, and a larger range and level of staff involved in service delivery. The expectation, therefore, was to glean more focused information on hospital governance pertaining to these higher-tier hospitals.
Figure 1: Bed capacity, inpatients treated and outpatient attendance at secondary- and tertiary-level hospitals (% of total), 2010

Note: Percentages obtained from the total number of beds, total inpatients and total outpatient attendance in public-sector health facilities

Source: Medical Statistics Unit (data obtained in 2014)

The objectives of the case study were met with both secondary and primary data collection. Secondary data collection included a literature review of: a series of Government commissioned reports on the organization of medical and public health services and health administration; official policy documents, laws, regulations, health plans and supporting documents; and relevant published work on public hospitals and the health system in Sri Lanka and hospital governance literature in general. Additionally, the performance of public hospitals was assessed using a number of sources of information from the Medical Statistics Unit, MOH; MOH publications and Government-published statistics, including data from the Institute for Health Policy, Sri Lanka along with the Sri Lanka National Health Accounts database (Institute for Health Policy 2012a) and private hospitals and nursing homes database (Institute for Health Policy 2012b); and, for international benchmarking, the Organisation for Economic Co-operation and Development (OECD) health database (OECD Health Data 2014).
Importantly, the case study findings are expected to represent all secondary- and tertiary-level public hospitals in Sri Lanka, excluding the specialized hospitals and two semi-autonomous hospitals as explained earlier. This is due to the homogeneous bureaucratic way that public hospitals are administered, as well as the limited major reforms that have been implemented with a transforming impact on governance.

Primary-data collection is also an important component of this case study. Information on practical experiences, implications and manifestations of existing governance structures on processes and performance is partly tacit knowledge within public hospitals. This knowledge is available to those directly involved in running public hospitals at the supervisory and administrative levels. Focus group discussions and in-depth face-to-face interviews were carried out among administrators to gain an insight into the degree of authority over important inputs and resources as well as the possible reasons for observed levels of hospital performance. Focus group discussions were carried out with medical administrators from secondary- and tertiary-level central MOH hospitals. A total of 12 hospital directors, from among those who attended the bi-monthly central MOH medical administrators’ meetings, were able to stay on to participate in two further focus group discussions. The first group consisted of five administrators: four teaching hospital administrators and one provincial general hospital administrator. The second focus group consisted of six district general hospital administrators and one base hospital administrator. Discussions focused on: the level of decision-making authority available to the hospital administrator with regard to different staff categories, the hospital budget and the procurement of medicines; hospital performance target-setting, monitoring and evaluation as well as incentives; external pressures; training and the capacity of hospital administrators to function in their current role; constraints in implementing process changes to improve hospital performance; and the role of the Japanese 5S tool in improving hospital performance. 5S is an approach to implementing total quality management (TQM) originally developed by Japanese manufacturers, drawing on work by both Japanese and American researchers, but adopted in a range of other industries around the world.
In addition to focus group discussions, in-depth face-to-face interviews were carried out with the following present and former medical administrators:

- three hospital directors: one each from a teaching hospital, district general hospital and a base hospital;
- one regional director of health services;
- one senior medical administrator from the MOH; and
- five retired senior medical administrators.

The administrators were selected as key informants based on their availability and agreement to participate in the case study. The interviews were designed to obtain in-depth information on strategic direction, decision-making authority, supervision and support, management and leadership, capacity, motivations, and challenges to performance.

2. Country context

Sri Lanka is a small tropical-island nation (65,610 km²) in South Asia with a population of 20.5 million in 2013 (Department of Census and Statistics 2014). The population consists of multiple ethnicities and religions, and is predominantly rural. Sri Lanka has one of the fastest-growing ageing populations in Asia, with the share of the population aged 65 years or more expected to increase from 8% in 2011 to 13% by 2025 (United Nations Population Division 2013). Fertility has declined to near replacement level, and Sri Lanka is close to completing its demographic transition. (United Nations Population Division 2013). However, Sri Lanka is still dealing with a double burden of disease, with communicable disease in addition to poverty (e.g. malnutrition, low birth weight, etc.) still taking their toll, along with an unprecedented rise in the incidence of noncommunicable disease (NCD) (Medical Statistics Unit 2010). Some key demographic statistics are presented in Table 1.
Table 1: Key demographic indicators for latest available year

<table>
<thead>
<tr>
<th>Indicator</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Population 0–14 years (%), 2011</td>
<td>24.9</td>
</tr>
<tr>
<td>Population 65 years and above (%), 2011</td>
<td>8.4</td>
</tr>
<tr>
<td>Human Development Index, 2012</td>
<td>0.715</td>
</tr>
<tr>
<td>Female literacy rate (%), 2010</td>
<td>90.8</td>
</tr>
<tr>
<td>Male literacy rate (%), 2010</td>
<td>93.2</td>
</tr>
<tr>
<td>Average life expectancy at birth (years), 2011</td>
<td>74.9</td>
</tr>
</tbody>
</table>

Source: Central Bank of Sri Lanka 2013

2.1 Historical

Initial contact with western (allopathic) medicine in Sri Lanka was during Portuguese occupation in the sixteenth century. However, it was during British colonial rule (1796–1948) that western medicine proliferated and became established alongside the local systems of medicine (Uragoda, 1987). The creation of a separate Civil Medical Department in 1858 is considered a major milestone in the establishment of a robust health service in the country (Uragoda, 1987). The development of a health infrastructure was to ensure a healthy population of immigrant plantation workers, and to create a relatively healthy place for expatriates. In response, health institutions were initially established in major cities, on immigrant worker routes and plantation districts. The network of institutions, ranging from hospitals (including specialized hospitals) to dispensaries and other administrative institutions, created a sound health infrastructure upon which the present healthcare system has been established and expanded (Uragoda, 1987).

2.2 Economy

Sri Lanka first liberalized its economy in 1978, and at present is a recent entrant (in 2010) to the World Bank’s lower-middle income country status. The economy has reached lower-middle income country (LMIC) status (Table 2), with a GDP per capita of US$ 3280 in 2013 (Central Bank of Sri Lanka, 2014). The service sector had the highest proportion of labour force participation (42.9% in 2012) and is the main contributor to the economy (57.5% of GDP in 2012) (Central Bank of Sri Lanka, 2014). Table 2 provides some key economic indicators for Sri Lanka in 2000 and 2013.
The economy has shown steady improvement over the last decade, with an average annual GDP growth rate for the past 10 years of 6.5% (Central Bank of Sri Lanka, 2014). Notably, Sri Lanka has been able to lift a substantial proportion of people out of poverty. The poverty headcount ratio decreased from 22.7 in 2002 to 6.5 in 2012 (Department of Census and Statistics Sri Lanka, 2013a). Nevertheless, income inequality in the country is high with a Gini index of 0.48 in 2012 (Department of Census and Statistics Sri Lanka, 2013a).

Table 2: Key economic indicators for Sri Lanka, 2000 and 2013

<table>
<thead>
<tr>
<th>Indicator</th>
<th>2000</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP at current market prices (US$ billion)</td>
<td>16.6</td>
<td>67.2</td>
</tr>
<tr>
<td>GDP per capita at current market prices (US$)</td>
<td>899</td>
<td>3280</td>
</tr>
<tr>
<td>GDP per capita, PPP (current international $)</td>
<td>2675</td>
<td>9736</td>
</tr>
<tr>
<td>GDP average annual growth rate for last 10 years (%)</td>
<td>5.2</td>
<td>6.5</td>
</tr>
<tr>
<td>Public expenditure as percentage of GDP</td>
<td>26.7</td>
<td>19.2</td>
</tr>
<tr>
<td>Unemployment rate (% of labour force)</td>
<td>7.6</td>
<td>4.4</td>
</tr>
</tbody>
</table>

Notes:
(i) PPP – purchasing-power-parity.
(ii) GDP at current market prices (US$ billion) was calculated using GDP (Sri Lankan Rupees billion) and the annual average exchange rate reported in the Annual Report 2013, Central Bank of Sri Lanka.
(iii) GDP average annual growth rate for last 10 years (%) was calculated using annual growth rates reported in the Annual Report 2013, Central Bank of Sri Lanka.
Source: Central Bank of Sri Lanka 2014

2.3 Political

Sri Lanka is a democracy, with the sovereignty of her people and legislative powers vested in a 225-member Parliament. The Executive is the Cabinet of Ministers (selected from elected Members of Parliament), which is presided over by an Executive President. Prior to independence in 1948, Sri Lanka was a British colony for over a century and gained universal suffrage in 1931, whereby peoples’ representatives were elected to a State council that had control over domestic affairs. This had a positive and long-lasting impact on social infrastructure such as health facilities and schools, and consequently on health and education (Rannan-Eliya and Sikurajapathy, 2009).
Since Independence, two major political parties have continued to swap power and political orientation. One party has been centre-left, while the other has been comparatively centre-right. Sensitivity of elected representatives to voter concerns has continued to garner bipartisan support for a strong public sector healthcare delivery system without user fees and driven by the principal of universal access.

In recent decades, Sri Lanka has fought an armed internal conflict that lasted for over 25 years (1983–2009), with the North and East of the island predominantly bearing the brunt of the debilitating struggle. In spite of this, elections at the local, provincial, parliamentary and presidential levels have been held continuously in many parts of the island; and, for the most part, public hospitals have operated continuously in the conflict areas throughout this period.

### 2.4 Institutional

At present, for general administration the country is divided into nine Provinces, 25 Districts and 331 Divisional Secretary areas, with further divisions at the local level. Although Provinces have been in existence since the 19th century, they gained importance administratively in 1987 with the 13th Amendment to the Sri Lankan Constitution. The amendment was in response to external pressure to decentralize the Government. The nine provincial councils subsequently established were autonomous entities and not under any Ministry, and were granted the authority to write their own legislature in a number of areas including health (Sri Lanka Constitution 13th Amendment 1987, Provincial Councils Act No. 42, 1987).

However, in practice, power has remained largely centralized and continues to be a source of political and administrative dissatisfaction. Although the main authorities of the public health system are the MOH along with the Provincial Ministries of Health (PMOHs), the issues that arise due to the (insufficient) devolution of power are also relevant to the public health system and, consequently, to public sector facilities.
3. Public sector health services

3.1 Current health care system

Sri Lanka’s healthcare system today is mixed. Public services are funded by taxation, and private services mostly financed by household out-of-pocket payments. In 2010, total health spending was equivalent to 3.5% of GDP (Institute for Health Policy, 2012a), just under half (44%) of which was financed by public sources, and the rest by private financing. Funding by external donors is small, averaging 2.2% of total spending in the past decade (Institute for Health Policy, 2012a). Hospital spending accounts for 70% of the government’s recurrent health budget, a proportion which has changed little since the 1950s and which is one of the highest in the region (Rannan-Eliya 2008).

3.2 Organization

Government health services are separated into two functional arms – curative and preventive. Two parallel hierarchies of managers administer each, although sitting within the same organizational structure. The preventive services operate an extensive, countrywide network of around 300 physician-led, standalone health units, which deliver preventive and routine MCH services to their catchment areas. The curative services comprise all the hospitals and other outpatient-only facilities, ranging from primary care units to tertiary and specialized hospitals. These are owned and operated by MOH and the nine PMOHs. They are organized into a hierarchical, pyramidal network, in which higher-level facilities act as referral centres for lower level ones in their catchment areas.

The infrastructure for the curative health care system consists of an extensive network of health care facilities. On average, a public health care facility is located less than five kilometres from a person’s residence (Medical Statistics Unit, 2010), and range from primary medical care units that provide only outpatient services to tertiary-level and specialized hospitals. Further details on the hospitals are provided in section 3.
3.3 Utilization

Health care utilization in Sri Lanka is high, even reaching levels and exceeding some developed nations, particularly for inpatient care (OECD Health Data 2014; OECD-World Health Organization 2012). In 2011, total inpatient use was 275 discharges per 1000 population, with the public sector accounting for over 95% of total inpatient care (Institute for Health Policy, 2012b). In terms of equity, public sector inpatient use was generally equal across socioeconomic groups in 2003/04, with no evidence of a change in more recent years (Figure 2). Public sector hospitals, therefore, play a crucial role in reaching and providing inpatient hospital services to the large majority of Sri Lankans.

Figure 2: Utilization of inpatient care (total, public and private) by socioeconomic group, 2004 and 2009

Notes:
(i) CI: * p<0.05, ** p<0.01, ***p<0.001
(ii) Public/private breakdown was not possible to obtain from the HIES 2009

Source: Central Bank of Sri Lanka’s Consumer Finances and Socioeconomic Survey (CFS) 2003/04 and Department of Census and Statistics’ Household Income and Expenditure Survey (HIES 2009/10).
In 2011, outpatient utilization was 5.1 doctor consultations per capita (OECD–World Health Organization, 2012). Although this utilization rate is lower than the OECD average, it is higher than most countries in the Asia-Pacific region (OECD–World Health Organization 2012). Furthermore, the public sector provided 45% of total outpatient care. In terms of equity, although total utilization has tended to be pro-rich, total public sector outpatient utilization as well as hospital outpatient utilization has been pro-poor (Figure 3).

**Figure 3: Utilization of outpatient care (total, total public, public hospital and private) by socioeconomic group, 2004 and 2009**

![Figure 3: Utilization of outpatient care (total, total public, public hospital and private) by socioeconomic group, 2004 and 2009](image)

Notes:
(i) CI: * p<0.05, ** p<0.01, ***p<0.001
(ii) Public/private breakdown was not possible to obtain from the HIES 2009

Source: Central Bank of Sri Lanka’s Consumer Finances and Socioeconomic Survey (CFS) 2003/04 and Department of Census and Statistics’ Household Income and Expenditure Survey (HIES 2009/10).

4. **Hospital system**

The public sector institutions that provide curative care services are presented in Table 3. The secondary and tertiary hospitals that are the focus of this case study are highlighted (Note: Under the teaching hospital category Table 3 includes the 10 specialized hospitals and the semi-autonomous hospital, although they are not part of this case study).
Public hospital governance in Sri Lanka

The catchment areas of the secondary and tertiary hospitals are demarcated by provincial and district boundaries, not on population basis.

Table 3: Number and bed strength of curative care institutions, 2011

<table>
<thead>
<tr>
<th>Classification</th>
<th>Description</th>
<th>Number</th>
<th>Beds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching hospital (including specialized teaching</td>
<td>Apex referral hospitals</td>
<td>21</td>
<td>21 350</td>
</tr>
<tr>
<td>hospitals)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Provincial general hospital</td>
<td>Similar facilities as teaching hospitals located in provincial capitals</td>
<td>3</td>
<td>4203</td>
</tr>
<tr>
<td></td>
<td>that lack teaching hospitals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>District general hospital</td>
<td>One or two hospitals in each district where there are no provincial</td>
<td>18</td>
<td>10 423</td>
</tr>
<tr>
<td></td>
<td>general hospitals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base hospital – Type A</td>
<td>Has four basic specialties and some other finer specialties (e.g., ear,</td>
<td>26</td>
<td>8306</td>
</tr>
<tr>
<td></td>
<td>nose and throat, eye</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base hospital – Type B</td>
<td>Has few basic specialties and is earmarked to be upgraded to type A once</td>
<td>41</td>
<td>6458</td>
</tr>
<tr>
<td></td>
<td>basic specialties are available</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Divisional hospital – Type A</td>
<td></td>
<td>46</td>
<td>4763</td>
</tr>
<tr>
<td>Divisional hospital – Type B</td>
<td></td>
<td>134</td>
<td>8732</td>
</tr>
<tr>
<td>Divisional hospital – Type C</td>
<td></td>
<td>311</td>
<td>7168</td>
</tr>
<tr>
<td>Primary medical care unit</td>
<td></td>
<td>476</td>
<td>271</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td>1076</td>
<td>71 674</td>
</tr>
<tr>
<td>Beds per 1000 population</td>
<td></td>
<td></td>
<td>354</td>
</tr>
</tbody>
</table>

Note:
The 10 specialized teaching hospitals and one semi-autonomous hospital under the teaching hospital category account for approximately 31% of total teaching hospital bed-capacity

Source: MOH, Health Facility Survey (2013)

For each level and type of institution, MOH defines the expected level of staffing and equipment, and mix of services that must be delivered (Ministry of Health 1995, 2002), although services may often fall short
owing to gaps in available staffing or equipment (Nagayama, 2004). In terms of service configuration, all facilities – irrespective of type and level (with the exception of some specialized hospitals) – are expected to provide outpatient care, maternal and child health services and family planning. In addition to these primary care services, the secondary care facilities must provide radiology and comprehensive pathology services; have surgical theatres and intensive care units; and have the four basic specialties of medicine, paediatrics, surgery, and obstetrics and gynaecology. Base Hospitals are categorized as Type A or Type B, according to the availability of other specialist services, such as ENT, eye, dermatology, and psychiatry. Higher-level facilities provide more extensive specialist services, with teaching hospitals providing the most comprehensive range. Human resources in secondary and tertiary hospitals are given in Table 4.

Table 4: Human resources in secondary and tertiary public hospitals, 2011

<table>
<thead>
<tr>
<th>Medical speciality</th>
<th>Number</th>
<th>Population per provider</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of medical specialists</td>
<td>1486</td>
<td>13 636</td>
</tr>
<tr>
<td>Physicians</td>
<td>192</td>
<td>105 540</td>
</tr>
<tr>
<td>Paediatricians</td>
<td>140</td>
<td>144 741</td>
</tr>
<tr>
<td>Obstetricians</td>
<td>135</td>
<td>150 102</td>
</tr>
<tr>
<td>General surgeons</td>
<td>112</td>
<td>180 926</td>
</tr>
<tr>
<td>ENT surgeons</td>
<td>41</td>
<td>494 237</td>
</tr>
<tr>
<td>Eye surgeons</td>
<td>54</td>
<td>375 254</td>
</tr>
<tr>
<td>Pathologists</td>
<td>113</td>
<td>179 325</td>
</tr>
<tr>
<td>Radiologists</td>
<td>71</td>
<td>285 405</td>
</tr>
<tr>
<td>Cardiologists</td>
<td>36</td>
<td>562 881</td>
</tr>
<tr>
<td>Maxillo-Facial surgeons</td>
<td>33</td>
<td>614 052</td>
</tr>
<tr>
<td>Psychiatrists</td>
<td>46</td>
<td>440 516</td>
</tr>
<tr>
<td>Consultant judicial medical officers</td>
<td>28</td>
<td>723 704</td>
</tr>
</tbody>
</table>

Notes:
(i) Includes human resources in specialized teaching hospitals
(ii) Medical officers, nursing officers and professions supplementary to medicine have not been included due to difficulty in disaggregating to secondary and tertiary hospitals only

Source: MOH, Health Facility Survey (2013)
Taken together, the public sector facilities are organized in a hierarchical manner that implies a referral system, although referral as implicitly intended is not realized in practice. As indicated in Table 3, divisional hospitals and primary medical care units only provide primary-level care, and these consist of nearly 90% of total public sector health care facilities. However, as noted earlier, all other hospitals (e.g., teaching, provincial general, district general and base hospitals) are also expected to, and do, provide primary care through the hospitals’ outpatient departments (OPD). The provision of facility-based primary care in the public sector is through this network of public sector institutions only. Patients are free to, and do, access care from any public sector institution of their choice, irrespective of district and provincial boundaries; and public sector facilities cannot deny services to anyone who turns up on their doorsteps.

Because a referral system was not explicitly implemented and because facilities at all levels provide primary care (including tertiary care hospitals), the bypassing of the lower-tier health care facilities by patients is a problem. This results in underutilization of the primary care institutions and overcrowding in higher-level institutions. The enforcement of a referral system is politically unpopular and has taken a back step in response to patients’ perceptions of the quality of care and their expectations of care and provider choice. This is in addition to the lack of an organized system of General Practitioners to act as gatekeepers to secondary and tertiary hospital services (Rannan-Eliya and Sikurajapathy, 2009). Furthermore, better access to roads and transportation has facilitated the bypassing of lower-tier institutions closer to patients’ homes. Patients that opt to receive first contact health care from secondary- and tertiary-level hospitals do so from general OPDs, which can facilitate referral to specialized clinics. In response to the bypassing issue, over time, the Sri Lankan health care system has shifted resources to hospitals with larger capacities (Ministry of Health, 2002). Additionally, a policy decision was made to upgrade a hospital in each district to a tertiary care district general hospital, particularly in districts without a teaching hospital or a provincial general hospital.

The private sector in Sri Lanka plays an important role in the delivery of health services, particularly in terms of outpatient care. Private hospitals
along with a large number of private General Practitioner clinics and specialist channelling centres provide outpatient care. In comparison to the public sector, the private sector accounted for 17% of total hospitals, 6% of total bed capacity, and 4% of total inpatients in 2010 (Table 5). The private hospitals are located predominantly in urban and suburban centres. The Western Province (with the most urbanized areas in the country) accounts for 51% of all hospitals in Sri Lanka, of which more than half are located in Colombo district alone (Institute for Health Policy, 2012b). The several thousands of private General Practitioner clinics and channelling centres have wider coverage throughout the island. Sri Lanka, like many other countries, allows its public sector medical officers to conduct dual practice – i.e. many private sector doctors are predominantly public sector medical officers who practice in the private sector in their off-duty hours. A referral system has also not been implemented in the private sector, so patients are able to select the specialists of their choice.

Table 5: Hospital ownership, beds and discharges, Sri Lanka 2010

<table>
<thead>
<tr>
<th>Type</th>
<th>Hospitals</th>
<th>Beds</th>
<th>Inpatient discharges</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>% of total</td>
<td>Number</td>
</tr>
<tr>
<td>Public</td>
<td>32</td>
<td>4.3</td>
<td>28 459</td>
</tr>
<tr>
<td>Tertiary</td>
<td>66</td>
<td>8.0</td>
<td>13 919</td>
</tr>
<tr>
<td>Secondary</td>
<td>11</td>
<td>1.5</td>
<td>6523</td>
</tr>
<tr>
<td>Special</td>
<td>507</td>
<td>68.5</td>
<td>23 609</td>
</tr>
<tr>
<td>Other</td>
<td>616</td>
<td>83.1</td>
<td>72 510</td>
</tr>
<tr>
<td>Subtotal</td>
<td>124</td>
<td>16.8</td>
<td>4 188</td>
</tr>
<tr>
<td>Private</td>
<td>740</td>
<td>100.0</td>
<td>76 698</td>
</tr>
</tbody>
</table>

Note: Public hospitals include all facilities with inpatient beds.

Source: Ministry of Health 2010, Institute for Health Policy 2012b, Medical Statistics Unit (data obtained in 2014).

Since 1990, the private hospital sector has shown a considerable expansion, particularly in the mainly urbanized Western Province of the country, and
these trends are expected to continue (Table 6). Even within the Western Province, the Colombo District predominates in the delivery of private sector hospital services (Rannan-Eliya et al. 2012). The majority of hospitals (73%) have less than 50 beds, with 7% of hospitals having over 100 beds. The latter accounts for 40% of total bed capacity, 56% of total inpatient admissions, and 42% of total outpatient visits in the private sector (Institute for Health Policy 2012b). These large hospitals are multi-specialized, sophisticated and rival the tertiary-level public hospitals. Anecdotally, the establishment of these hospitals alongside better hotel services has attracted the non-poor to seek health care from these institutions. These market forces have contributed to the implementation of total quality management programmes and improvements in cleanliness and other amenities in the public sector.

Table 6: Key statistics from private sector hospitals in Sri Lanka, 1990 and 2011

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sri Lanka</td>
<td>Western Province</td>
</tr>
<tr>
<td></td>
<td>(total)</td>
<td>(as % of total)</td>
</tr>
<tr>
<td>Number of hospitals</td>
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</tr>
<tr>
<td>Number of beds</td>
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<td>54%</td>
</tr>
<tr>
<td>Number of admissions</td>
<td>100 211</td>
<td>59%</td>
</tr>
<tr>
<td>Number of outpatient visits</td>
<td>1 126 953</td>
<td>62%</td>
</tr>
<tr>
<td>Revenue (₹ million)</td>
<td>426</td>
<td>80%</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>77</td>
<td>77%</td>
</tr>
</tbody>
</table>

Source: IHP 2012b

5. Public hospital governance

The network of public sector facilities fulfils two important policy objectives in the Sri Lankan public health system. First, it acts as the backbone for delivering primary to tertiary care hospital services to improve the health of all citizens, irrespective of socioeconomic status, urban/rural location, ethnicity and other factors. Second, it removes barriers to access, both physical and financial, by ensuring a substantive network of facilities is
spread throughout the nation and by providing adequate risk protection with no user charges for the services delivered.

The structure for describing public hospital governance in Sri Lanka draws extensively from several publications on public hospital governance (European Observatory on Health Systems and Policies, 2011) and health system governance (Barbazza and Tello, 2013; Steel et al., 2008). These illustrate that public hospital governance is multi-dimensional, with complex interrelationships between the different dimensions, each of which must be given due consideration to understand their effect on the behaviour, management and performance of public hospitals.

At the macro level, governance of public hospitals is shaped by a nation’s politics, economy and history, as well as its population structure, disease patterns, and changing patient expectations. Each of these macro-level components was described earlier under ‘Country context’. The public hospital system is one component of the overall (public) health system. At an intermediate level, policies, rules and regulations, health personnel and training, professional organizations, trade unions, monitoring and evaluation, and the organizational and administrative power structures influence both the overall health system and hospital system within it. All these players exert influence on the management and performance of public hospitals.

Public hospitals must constantly attempt to improve their technical efficiency; provide clinical care that fulfils quality, safety and effectiveness criteria; and be responsive to changing disease patterns and patient expectations – all within the constraints mentioned previously. At the individual hospital level this can be challenging, depending on the extent to which a hospital has the managerial, technical and financial capacities and autonomy to make necessary adjustments. Thus, the strategic direction of a hospital, including its goal setting, establishment of performance criteria, supervision of hospital management and monitoring performance, as well as financial sustainability and accountability, become important. The structures in place that guide these strategic directions are an integral part of hospital governance.
5.1 Organizational structure

An overview of the organizational set up and two main external influences of the public hospital system in Sri Lanka are provided in Figure 4. The central MOH is headed by the cabinet minister for health in the central Government and the PMOHs are headed by the ministers of health in the provincial governments.

Figure 4: Set up of public hospital system and influencing agencies

The above diagram illustrates the link between the health ministries and other agencies such as the Ministry of Higher Education, which trains all physicians and hospital administrators, and the Ministry of Finance, which provides financing. These are two examples of other Government agencies that can influence the public hospital system. The Public Services Commission, the Sri Lanka Medical Council, and the Ministry of Public Administration and Home Affairs are some of the other agencies that could influence the system.

The Director General of Health Services in the MOH, along with the various departments (Figure 4), is directly responsible for central MOH hospitals. They are also responsible for providing technical assistance to the provincial institutions when required. Similarly, the Provincial Director of
Health Services, along with the Provincial Department of Health Services, is directly responsible for provincial institutions.

Of the secondary and tertiary hospitals of interest to this case study, in 2010, nearly 30% came directly under the central MOH (all teaching and provincial and some district and base) while the rest were under the provincial ministries.

The transfer of hospital ownership to the nine provinces took place with the decentralization of the Government under the 13th Amendment to the Constitution in 1987. However, in practice, some of the important administrative functions remain under the direct control of the MOH. The procurement and allocation of essential drugs and medical supplies, as well as the recruitment, assignment and promotion of physicians and medical administrators also remained under the MOH. The provincial ministries can assign all other health staff and allocate drugs to individual hospitals. The provincial ministries also have the power to procure and maintain medical equipment.

5.1.1 Financing

The provinces fund their own hospitals, but all public sector health institutions are essentially funded by the central government from general taxation. Although the provincial councils have the authority to raise their own tax revenue, they raise less than 26% (2007-2010) of their budgets from their own revenues (The Finance Commission, 2012), and they remain dependent on central government transfers, which are made via the Finance Commission, a constitutional body established to determine fiscal transfers to provinces.

This reality and other features in practice limit the space for PMOHs to independently modify the funding and resources provided to individual hospitals. Hospital capital budgets are held and allocated centrally by MOH, although provincial ministries have some powers to procure hospital equipment. Although provinces are free to set the levels and composition of their own hospital recurrent budgets, in practice this is tightly constrained for four reasons. First, wage schedules and terms and conditions for almost all hospital staff are set centrally. Second, the doctors assigned to each
hospital are determined centrally, with the provincial budget required to fund the associated wage costs. Third, the centre makes the bulk of its fiscal transfers to provinces in the form of block grants, which are computed on the basis of the number and salary grades of all provincial workers currently in post, which reduces the flexibility of each council to substantially change staffing numbers in the province. Fourth, the bulk of the public sector budget for medicines and supplies is held centrally, with all items being centrally purchased and distributed, and only secondary and tertiary hospitals have some limited self-purchasing authority.

5.2 Strategic direction

The goal of the central MOH is the “provision of curative, preventive, rehabilitative and promotive services of optimum quality accessible to the entire nation”. Producing health legislation, formulating national and provincial health policy and strategy, providing operational guidelines for policy implementation, and monitoring and supervising policy execution is carried out by the central and provincial MOHs. While the provincial ministries can produce their own legislation and policies, in practice, the central MOH produces national-level health policies and legislation, which are also implemented in provincial ministry hospitals. The centrally driven policy interventions described in the following section are some examples of the direction provided by the central MOH to the overall hospital system.

5.3 Hospital reforms

There have not been any major changes to hospital governance since the decentralization of power to the provinces in 1987. Some policy interventions that were introduced to the hospital system in the last two decades are described below.

A notable public hospital reform has been the implementation of quality assurance programmes in all hospitals. The Japanese 5S programme to improve productivity and efficiency was first implemented at a maternity hospital in 2000 under the central MOH’s productivity improvement initiative. Since its successful implementation (Kaluarachchi, 2009), the programme has been implemented in all public hospitals island-wide. With the aim of expanding and institutionalizing this initiative, Quality
Management Units have been set up in every secondary and tertiary care hospital over the past two years (2012/2013). These units, which are accountable to the Quality Secretariat in the central MOH, are expected to perform the following functions (Ministry of Health, 2009):

- implement and monitor quality improvement programmes;
- develop tools for productivity and quality improvement;
- conduct employee satisfaction and patient satisfaction surveys to identify problems and take corrective action;
- prepare patient care guidelines and protocols in consultation with relevant stakeholders;
- maintain information systems with data on staff training on quality assurance and performance reviews, patient care and medical devices and equipment, including repair and maintenance;
- develop annual procurement plans;
- publish annual reports providing feedback to patients, employees and other stakeholders; and
- promote studies, research and medical audits in the hospital.

The upgrading of hospitals, especially in areas that did not have tertiary care facilities, was another policy reform that was implemented in the early 2000s. One secondary care hospital in each district was selected and earmarked or upgraded to a tertiary care district general hospital. This was based on the National Health Policy developed in 1996 and recommendations in the 1998 Presidential Task Force report on Health Policy Implementation (Ministry of Health, 2002). At present, each district in Sri Lanka has at least one tertiary-level hospital either as a district general, provincial general or teaching hospital.

The introduction of Master of Science (MSc) and Doctor of Medicine (MD) qualifications in Medical Administration in 1993 through the Postgraduate Institute of Medicine, and the stipulation in the 2007 Medical Services Minute (Ministry of Health 2007) that new medical administrators must hold a postgraduate qualification in medical administration or community medicine in addition to a clinical degree is another notable initiative. In 2013, 55% of hospital directors already had an MSc or MD specifically in medical administration (Wickramasinghe, Kugadas, and Dalpatadu 2013)
5.4 Management authority

The degree of autonomy that hospital directors have to make decisions over inputs is limited. The budget and staff are assigned to each hospital from the centre. The former is based on a historical budget and the latter is based on hospital type and the facilities available. However, within the structure of the given inputs, hospital directors have the authority to:

- initiate disciplinary proceedings against hospital staff – however, they do not have the power to terminate employment, which lies in the hands of the ministries;
- assign staff who have not been assigned a job description by the ministry – typically these are mid-level to low-level employees;
- approve staff increments;
- conduct in-service training for staff;
- manage the hospital budget and allocate resources within the hospital – directors also have the use of a daily petty cash fund for emergency expenses;
- purchase of essential drugs locally, within the budget provided;
- lobby donors in the local community for contributions to the hospital; and
- develop medium-term hospital development plans and make requests to the MOH for capital investment or to seek the approval of locally donated capital improvement investments.

In focus group discussions with hospital directors, their limited power to take disciplinary action and terminate employment is frequently mentioned, and some directors express frustration and imply that this restricted authority is a limiting factor for their performance. However, directors in practice can and do use other approaches to manage staff. These include persuasion-based methods to reduce negative behaviour in staff, and conducting in-service training programmes with the aim of promoting positive staff attitudes. Hospital directors also report that having specialist training in medical administration contributes to empowering them with such strategies.
5.4.1 Management of inputs and outputs

The public hospital system not only focuses on inputs, which are controlled and provided to all hospitals by central and provincial authorities; hospital directors have limited or no decision-making authority to determine the patients they serve, core services and prices charged. The formal hospital budget allocated to each hospital is developed on a historical basis largely, taking into account the hospital type, available facilities and staffing levels. However, directors do have considerable authority over use and allocation of provided inputs to deliver services. The limited control of inputs and the outputs demanded and expected from public hospitals, have led to directors looking for more efficient ways of managing patient flows. For example, one hospital set up a preliminary care unit with less than 20 beds (a system which did not exist in other hospitals at the time) in the OPD, which reduced overcrowding in the wards by more than 50%. This led to an ongoing drive by MOH to set up preliminary care units in all secondary and tertiary care hospitals throughout the country (Ministry of Health, 2012).

However, because centralized policies govern health care delivery, individual hospital directors do not have the authority to make capital investments to expand health care services, if those services have not been prioritized under national health plans, and are subject to the availability of funds.

5.5 Accountability and supervision

Accountability is ensured by direct administrative control exercised by the central and provincial ministries (Figure 5). Financial accountability is maintained through the submission of monthly expenditure reports, and performance accountability through the submission of the quarterly Indoor Morbidity and Mortality Schedule (IMMS) which provides detailed information on patient turnover, mortality and operations. All secondary and tertiary care hospitals also have Quality Management Units that are accountable to the Quality Secretariat in the central MOH for maintaining quality standards.
To ensure action on the routine reports, line managers hold regular meetings with their subordinate hospital directors to review performance and discuss issues. In the case of MOH hospitals, directors are required to attend both the bimonthly meeting of MOH medical administrators, as well as the bimonthly National Health Development Committee (NHDC) meeting. The provincial and regional directors of health also attend the bimonthly NHDC meetings. Both meetings provide a platform to share experiences as well as discuss performance and operational problems. At the provincial level, some individual regional directors of health services (RDHS) hold monthly team meetings of their hospital directors to review performance and discuss operational issues, although this is not mandated. These meetings and the ultimate accountability to a single RDHS promotes hospital cooperation and networking at the district level, in effect transforming each area’s hospitals into a single network that can share resources, information and experience.

Our study’s in-depth interviews revealed that central MOH hospital directors are able to bypass the chain of command illustrated in Figure 5 and directly contact the Director General of Health Services for advice and support if needed.

Hospital directors of provincial ministry institutions are directly accountable to the RDHS. However, all hospital directors, whether they are appointed to central ministry or provincial ministry institutions, are recruited centrally and are finally accountable to the Director General of Health Services in the central MOH.

There is limited accountability to patients at the hospital level, as there is no clear mechanism for complaints.
5.5.1 Supervision

The in-depth interviews revealed that there is very little scrutiny of how hospital directors manage the day-to-day operations of the hospital. Regular hospital inspection visits by the central MOH, about which retired administrators spoke at length, also appear to have declined in the recent past. Hospital directors revealed that they feel a sense of teamwork and encouragement from the ministries rather than a sense of strict supervision.

5.6 Leadership and management

Hospital directors can make a key contribution to better public hospital governance and performance through good clinical and administrative leadership and management practices. Provided below is a brief review of the influences that were revealed through the in-depth interviews as factors that enhance, as well as undermine, the director’s leadership and management capacity.
Clearly communicated roles and responsibilities provide clarity and direction and can help to improve a director’s performance. The central MOH has published a manual defining the roles and responsibilities of hospital directors (Ministry of Health 1995). Although this manual is not widely distributed among hospitals, and only a limited number of physical copies are available at MOH, hospital directors interviewed stated that they had a clear understanding of their roles and responsibilities and knew what they were expected to achieve.

Management training can help to improve internal processes and enhance managerial professionalism. In its 2007 Medical Services Minute, MOH (2007) gave formal recognition to these qualifications by mandating that new medical administrators must hold a postgraduate qualification in either medical administration or community medicine. It is likely that eventually the requirement for postgraduate qualifications in administration will be made mandatory for most hospital and senior level management positions in MOH. Hospital directors stated that their clinical knowledge was important for informed and effective decision-making when taking certain budgetary decisions. As qualified physicians, there is also a sense of belonging to a profession, which facilitates better cooperation and understanding between hospital directors and physicians. The interviewees also emphasized that the training in medical administration was invaluable for improving their leadership skills and management practices. They particularly noted that it enhanced their ability to better manage hospital staff and operations. The postgraduate qualification in medical administration, in addition to the clinical training, has also given them higher status within the hospital than previously. This is important for engaging effectively with medical officers and specialist physicians.

A clear career pathway was found to be a motivating factor, as it laid down procedures for promotions, providing a sense of security. Furthermore, as all medical administrators are recruited centrally, there is no distinction between central ministry administrators and provincial ministry administrators. Directors serve for a term of four years in a hospital until they are assigned by the central MOH to another administrative position, either in the provincial ministry or central ministry, on the basis of seniority and performance record. Therefore, all directors and other medical...
administrators have the opportunity to work their way up the ladder to the very top of the administrative chain at the central MOH. Directors identified this pathway as a motivating factor.

In terms of their political influence, political interference is a pervasive feature of the public sector in Sri Lanka, having grown incrementally since the 1960s. Interference particularly targets resource allocation, and the recruitment, promotion and placement of public servants. Most independent observers cite this interference as being the key factor behind the perceived deterioration in public sector performance in Sri Lanka since the 1960s.

Although political interference is least in the public health sector, because of strong trade unions, which resist political interference in decision-making, it is still a reality for hospital managers. The central recruitment and placement of hospital directors by the MOH appears to provide some protection for individual directors, but interviews indicate that local politicians are still able to wield their influence over hospital management through the highly politicised hospital development committees, which are mandated to work together with directors to ensure community needs are met. The committees made up of local community representatives, are often not knowledgeable about the healthcare system and work to serve particular political interests. Nevertheless, directors also indicate that they have some capacity to resist interference of these committees, taking advantage of social respect for their status. Having greater impact is the efforts of local politicians to exert patronage over appointments of minor staff at hospitals. Interviews revealed that these employees could be challenging to manage, and sometimes undermine the authority of hospital directors.

Trade unions present a different challenge. At the hospital level, they can limit the authority of directors, and industrial disputes can become a significant source of friction, even in rare cases threatening the functioning of the institution. However, interviewed directors indicate that these issues can be handled much of the time with appropriate management, for which prior management training often helps, although several mentioned the need for a separate human resource management unit at the Ministry level,
which could deal with pressures from different trade unions. At the same time, the main doctors union (Government Medical Officers Association (GMOA)) does play a positive role at the national level in exerting constant pressure on MOH to follow personnel regulations and to ignore political pressures.

5.7 Policies for better outcomes

Sweeping reform of the centrally controlled health care system described above is not under discussion at present. A World Bank study (World Bank 2011), which has analyzed the international experience with hospital reform and hospital autonomy from 1980–2009, finds that reforms should be accompanied by the following policies for a successful outcome:

- a credible budget constraint for the hospital;
- hiring and promotion of managers based on qualifications and track record;
- hospital management training;
- good information systems for clinical and financial management and reporting;
- complementary reform to strengthen the accountability of managers for the performance of the hospital through the creation of a board of external directors or trustees, or a hospital authority to supervise the manager; and
- increased managerial authority with freedom to recruit, promote, set tasks and work hours, and decide on performance rewards and sanctions.

The first three policies exist in the current system to a satisfactory extent, while the last three policies do not. Therefore, without pursuing further major reforms, it may be beneficial to consider incorporating the fourth, fifth and sixth policies within the existing system, in order to improve outcomes.
5.7.1 Good information systems for clinical and financial management and reporting

While the policy of good information systems exists to some extent, it is an area that could be further developed and strengthened by building information technology (IT) capacity (software and human resources) within the public hospital system. Strong institutional IT systems in secondary and tertiary hospitals are needed to generate timely and reliable data for measuring the performance of each hospital, which can be readily and easily accessible to the management.

5.7.2 Complementary reform to strengthen accountability of managers for the performance of the hospital through creation of a board of external directors or trustees, or a hospital authority to supervise the manager.

Lack of accountability to the community at the hospital level is an area of weakness in the current system. At present, the hospital development committees (mentioned in section 4.6) do not appear to be fulfilling their mandate. The committees’ ability to achieve this is limited by their basic knowledge of the health care system, as well as the pressure to serve the interests of local politicians. It is important for the MOH to recognize the importance of these committees and their potential contribution to improving the performance of public hospitals. It should be ensured that external committees constitute a mix of community representatives and health care professionals who meet the stipulated criteria, and that the appointment process, as well as committee functioning, are not undermined by political interference.

5.7.3 Increased managerial authority with freedom to recruit, promote, set tasks and work hours, and decide on performance rewards and sanctions.

Within the centrally controlled system, hospital directors do not have the freedom to recruit, promote, set tasks and work hours, and decide on performance rewards and sanctions. Given that the management has been empowered with greater knowledge and skills through postgraduate training in administration, finding areas where management authority can be increased could lead to better performance outcomes.
6. Performance

As described previously (section 3), the public sector plays a major role in the delivery of health care to Sri Lankans. Inpatient utilization in Sri Lanka is very high compared to many developed nations, but generally equitable overall – particularly in terms of public-sector inpatient utilization. Total outpatient utilization is also reasonable compared to some developed nations and is high compared to most Asian countries of similar or better socioeconomic status to that of Sri Lanka. Although total outpatient utilization increases with greater income, public-sector outpatient utilization is higher among the lower income groups. Together, these indicators suggest that the public-sector facilities have been successful in reaching the population of Sri Lanka, particularly the financially disadvantaged.

The following section provides information on the performance of hospitals for a limited set of indicators that assess hospital efficiency. Due to limitations in the data, performance indicators are not always presented for the hospitals that are the focus of this case study. These instances are clearly stated.

6.1 Efficiency in utilization of hospital resources

Utilization efficiency is assessed in terms of average length of stay (ALOS), bed turnover rate (BTOR) and bed occupancy rate (BOR). This information is presented for two time points (1997 and 2009) for the sample of hospitals included in this case study. The sample is based on hospital statistics that were available for both years. Additionally, for 2009, ALOS is also presented for all case study hospitals overall as well as by type of hospital.

ALOS decreased from 1997 to 2009 for the 14 hospitals (relevant to the case study) for which data were available for both years (Figure 6). This is consistent with the worldwide trends in decreasing ALOS as observed in other developed nations (OECD Health Data, 2014). In 2009, the ALOS for the case study hospitals was 2.4 days (89 of 98 hospitals). But the case-mix unadjusted ALOS differs by type of hospital (Figure 6). Not unexpectedly, a longer ALOS is observed for the highest-level referral hospitals (teaching and provincial general), while the lowest ALOS is observed for secondary-
level base hospitals (type B). However, it is notable that ALOS in public hospitals in Sri Lanka is one of the lowest in Asia as well as other OECD nations, along with a very high rate of inpatient admissions (OECD–World Health Organization, 2012)

**Figure 6: Average length of stay (days) for 1997 and 2009 and by hospital type in 2009**

<table>
<thead>
<tr>
<th>Year</th>
<th>Type of hospital, 2009 (N=89)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>All hospitals</td>
</tr>
<tr>
<td></td>
<td>3.7</td>
</tr>
<tr>
<td>2009</td>
<td>All hospitals</td>
</tr>
<tr>
<td></td>
<td>2.7</td>
</tr>
<tr>
<td></td>
<td>Teaching</td>
</tr>
<tr>
<td></td>
<td>3.5</td>
</tr>
<tr>
<td></td>
<td>Provincial general</td>
</tr>
<tr>
<td></td>
<td>3.3</td>
</tr>
<tr>
<td></td>
<td>District General</td>
</tr>
<tr>
<td></td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>Base (A)</td>
</tr>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Base (B)</td>
</tr>
<tr>
<td></td>
<td>2.0</td>
</tr>
</tbody>
</table>

**Note:** 14 total hospitals that includes 3 teaching, 2 provincial general, 2 district general, and 7 base hospitals had information in both 1997 and 2009 to calculate average length of stay

**Source:** Medical Statistics Unit (data obtained in 2014), Public Hospital Inpatient Discharge Survey 1997

When ALOS is too short it can raise quality of care concerns. A comparison of ALOS for a number of selected diseases (acute myocardial infarction, asthma, diabetes, infectious diarrhoea and gastroenteritis, and single spontaneous delivery) with selected OECD countries (Australia, France, Japan, United Kingdom and the United States of America) indicates comparable ALOS for most of the conditions evaluated (Perera et al., 2009). A lower ALOS is likely due to admissions of non-trivial conditions that are best treated on an outpatient basis. In 2005, more than 19% of total discharges were same day discharges while another 22% were discharged the day after admission (Perera et al., 2009).
An indicator of utilization of available hospital beds is BTOR– a measure of the productivity of hospital beds. BTOR provides information on how often, on average, a hospital bed changes occupants during a defined period of time (e.g. number of patients per bed per year). BTOR has increased from 1997 to 2009 for all 14 hospitals (relevant to the case study) for which data were available in both years (Figure 7), suggesting that more patients are being treated per available bed. BTOR is lowest for teaching hospitals and base hospitals type B (Figure 7), but for different reasons. Low BTOR in teaching hospitals is likely due to longer ALOS resulting from treating patients with greater disease severity and complexity, while in type B base hospitals, low BTOR is likely due lower occupancy levels and shorter lengths of stay (Figure 6, Figure 8).

![Figure 7: Bed turnover rate for 1997 and 2009 and by hospital type in 2009](image)

Note: 14 total hospitals that include 3 teaching, 2 provincial general, 2 district general, and 7 base hospitals had information in both 1997 and 2009 to calculate average length of stay.

Source: Medical Statistics Unit (data obtained in 2014), Public Hospital Inpatient Discharge Survey 1997

Another often-used indicator of hospital efficiency is BOR – a measure of the utilization of available bed capacity (i.e. percentage of total bed-days in which beds are used in a year). From 1997 to 2009 bed occupancy was remarkably stable among the 14 secondary and tertiary hospitals relevant to the case study, for which information was available for both years.
(Figure 8). Assessing average bed occupancy by hospital type indicates that all tertiary-level hospitals and type A base hospitals have bed occupancies of 70% or more (Figure 8). Close to half of the individual hospitals within these categories also reach the optimal level of bed occupancy of 80–85%. Close to 80% of individual hospitals also have bed occupancies of more than 70%, the OECD average (OECD Health Data, 2014). However, type B base hospitals have low bed occupancies, indicating underutilization of hospital resources in these hospitals. Because these hospitals do not have all the facilities of higher-level hospitals, patients prefer to bypass them.

Figure 8: Bed occupancy rate (%) for 1997 and 2009 and by hospital type in 2009

![Bed occupancy rate chart](chart.png)

Note: 14 total hospitals that includes 3 teaching, 2 provincial general, 2 district general, and 7 base hospitals had information in both 1997 and 2009 to calculate average length of stay.

Source: Medical Statistics Unit (data obtained in 2014), Public Hospital Inpatient Discharge Survey 1997

Each of these measures of hospital efficiency can sometimes be misleading when considered in isolation. The Pabon Lasso technique assesses the relative performance of hospitals using all three of the above ratio indicators (Pabon Lasso, 1986). Figure 9 illustrates a general trend toward higher BTOR and BOR from 1997 to 2009, suggesting increased efficiency and fewer vacant beds for the 14 hospitals common to both years. However, there are some reasons for concern, with some hospitals having
a high BTOR but low BOR, indicative of unnecessary admissions and the oversupply of beds. Analysis by hospital type for 2009 (Figure 10) indicates that the majority of hospitals with low BTOR and BOR are type B base hospitals, the lowest level secondary hospitals among those of interest in this case study. These hospitals have more beds than existing demand, due in part to bypassing, which results in the underutilization of available capacity of these hospitals.

Figure 9: Pabon Lasso diagram for 14 hospitals in 1997 and 2009

TH = Teaching Hospital; PGH = Provincial General Hospital; DGH = District General Hospital; BHA = Base Hospital Type A; BHB = Base Hospital Type B
HNote: 14 total hospitals that includes 3 teaching, 2 provincial general, 2 district general, and 7 base hospitals had information in both 1997 and 2009 to calculate average length of stay
Source: Medical Statistics unit (data obtained in 2014), Public Hospital Inpatient Discharge Survey, 1997
Figure 10: Pabon Lasso diagram by hospital type, 2009

Notes: 87 hospitals include 9 teaching hospitals, 3 provincial general hospitals, 15 district general hospitals, 19 base hospitals (type A), and 41 base hospitals (type B). The lines indicating mean and standard deviations of bed occupancy and turnover rate are for all 87 hospitals.

Source: Medical Statistics Unit (data obtained in 2014)

6.2 Effectiveness of care

One indicator of the effectiveness of care is in-hospital mortality. From 1997 to 2009, hospital mortality was similar for the 18 hospitals for which mortality data were available (Figure 11). Hospital mortality was higher among the tertiary hospitals compared to secondary hospitals. This is likely due to the case-mix, with patients with greater illness severity being treated in the tertiary-level hospitals.
Figure 11: Hospital deaths (per 1000 cases) for 1997 and 2009 and by hospital type in 2009

Note: 18 total hospitals that include 3 teaching, 3 provincial general, 2 district general, and 10 base hospitals had information in both 1997 and 2009 to calculate average length of stay. Source: Medical Statistics Unit (data obtained in 2014), Public Hospital Inpatient Discharge Survey, 1997.

6.3 Costs

It is notable that the relatively good performance of public hospitals has been achieved with productivity improvements. This has been observed through the estimation of unit costs for both a patient discharge and outpatient visit (whole public-sector) in relation to per capita GDP, which has shown a declining trend from 2003 (Rannan-Eliya 2008), but has largely plateaued in more recent years (Figure 12). These estimates, however, are not quality adjusted; and, for inpatient care, should take into consideration the very high inpatient admissions rate, which is in part likely due to unnecessary admissions.
Figure 12: Estimated average unit costs of public sector inpatient admissions and outpatient visits (1936-2011)

Source: Rannan-Eliya (2008) extended to include years 2004-2011

7. Conclusions

Even though, administratively, the public health sector in Sri Lanka is decentralized, the control of public hospitals remains highly centralized. The centre, in particular, holds control of key functions, which include policy formulation, health legislation, direct control of approximately 30% of all secondary and tertiary hospitals (including all of the highest tier referral hospitals), training and the assignment of medical officers and administrators, and the bulk purchase and distribution of medical supplies and drugs. Financing is almost entirely through general tax revenue, with allocation based on historical hospital-level budgets and predominantly disbursed from the centre, with limited financing from provincial and local governments. Irrespective of this command and control governance structure, public hospitals have shown improvements in performance over the years in terms of utilization efficiency, productivity improvements, albeit with constraints on resource availability. Furthermore, the public hospitals have been the bulwark for the delivery of curative care services to the population, with good coverage and service reach. Additionally,
with no user fee charges, the public-sector hospitals provide financial risk protection to the entire population, particularly the poor.

In a system that has seen no sweeping reforms in the public health system since the 1950s and the devolution of power to provinces in 1987; several adaptive policy interventions can be identified in the past two decades. Through voter pressure, political commitment to the public health system has been consistent over the years, irrespective of party lines. This is particularly evident in terms of the commitment to improving the health of the population through financial risk protection and ensuring access to health care services through the continued functioning of a network of smaller hospitals, most of which are often bypassed and therefore underutilized. Although not stated explicitly, the enforcement of a referral system has consciously taken a back step, giving into patient demands and expectations of hospital choice and perceived quality of care. An adaptive policy intervention to bypassing has been to upgrade a hospital in each district to a tertiary level general hospital in those districts not already served by a tertiary level facility.

Other policy interventions driven by the centre, such as the quality improvement drive, have been important in improving the orderliness and cleanliness of hospitals in response to market demands within resource constraints.

Another policy decision was to ensure that higher-level medical administrators (including hospital directors in secondary- and tertiary-level hospitals) who are already qualified medical officers should also have an MSc or MD in medical administration or community medicine. Given their limited autonomy, the main function of hospital directors is the operational day-to-day management within the resources allocated to them (e.g. budget, staff, medical supplies and drugs, the local purchasing of drugs). Supervision of hospital directors is conducted by their respective central or provincial MOHs. Additionally, the bimonthly hospital development committee meeting among all hospital directors of secondary and tertiary hospitals under the central MOH, and the provincial and regional directors of health services of the provincial system provide a forum to share experiences.
Within the predominantly centrally controlled system, pinpointing reasons for why public hospitals have managed to achieve considerable productivity gains are harder to identify, particularly in light of the limited monetary incentives granted to hospital directors and health workers. Identifying these reasons will need more extensive research and is beyond the scope this case study.

While Sri Lanka performs well within given resources, changing demographics, disease and treatment patterns, and patient and provider expectations continue to challenge the system. The response to NCDs and related morbidity as well as to the increasing rates of injury and road traffic accidents through the existing structure of the public health system has been a challenge. The current double burden of disease, along with the complexity of treating NCDs that involve lifelong monitoring and treatment from the time of detection, has the potential to place the system under increased pressure due to the associated costs.

References


