Health sector decentralization and local decision-making: Decision space, institutional capacities and accountability in Pakistan

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**A B S T R A C T**

Health sector decentralization has been widely adopted to improve delivery of health services. While many argue that institutional capacities and mechanisms of accountability required to transform decentralized decision-making into improvements in local health systems are lacking, few empirical studies exist which measure or relate together these concepts. Based on research instruments administered to a sample of 91 health sector decision-makers in 17 districts of Pakistan, this study analyzes relationships between three dimensions of decentralization: decentralized authority (referred to as "decision space"), institutional capacities, and accountability to local officials. Composite quantitative indicators of these three dimensions were constructed within four broad health functions (strategic and operational planning, budgeting, human resources management, and service organization/delivery) and on an overall/cross-function basis. Three main findings emerged. First, district-level respondents report varying degrees of each dimension despite being under a single decentralization regime and facing similar rules across provinces. Second, within dimensions of decentralization—particularly decision space and capacities—synergies exist between levels reported by respondents in one function and those reported in other functions (statistically significant coefficients of correlation ranging from $r = 0.22$ to $r = 0.43$). Third, synergies exist across dimensions of decentralization, particularly in terms of an overall indicator of institutional capacities (significantly correlated with both overall decision space ($r = 0.39$) and accountability ($r = 0.23$)). This study demonstrates that decentralization is a varied experience—with some district-level officials making greater use of decision space than others and that those who do so also tend to have more capacity to make decisions and are held more accountable to elected local officials for such choices. These findings suggest that Pakistan’s decentralization policy should focus on synergies among dimensions of decentralization to encouraging more use of de jure decision space, work toward more uniform institutional capacity, and encourage greater accountability to local elected officials.

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**Introduction**

A general consensus has emerged that the ability of public sector decentralization to improve health service delivery involves not only questions of authority, but those related to capacities and accountability as well. Decentralization of health systems has been on the policy agenda for many years, with advocates and opponents debating its merits on the basis of theoretical arguments and some empirical studies (such debates have been previously summarized (Peckham, Exworthy, Powell, & Greener, 2005; Saltman, Bankauskaite, & Vrangbæk, 2007)). In recent years, many have made the argument that decentralization will improve delivery of services only when an appropriate degree of discretion (something we call decision space) is combined with adequate institutional capacities to make choices consistent with good health sector performance and accountability of those choices to local health needs and priorities (manifested through accountability to locally representative/elected officials). Decision space involves a complex determination of how much choice over different functions and use of funding local officials are allowed/provided from above (i.e., de jure decision space), as well as powers actually exercise in practice (de facto informal decision space) (Bossert, 1998). Some champions of decentralization favor a high degree of local choice over a wide spectrum of publicly overseen services, including health services (Shah, 2004; Shah & World Bank, 2006; Yilmaz & Serrano-Berthet, 2008). Many in the health sector, however, argue that the sector itself is complicated and encompasses myriad functions, and greater local-level autonomy may conflict with objectives of a health system as a whole (Akin,

Adequate institutional capacities to exercise decision space are particularly important in the health sector. Capacity may be defined as “the ability of individuals, organizations or systems to perform appropriate functions effectively, efficiently and sustainably” (UNDP, 1998). “Institutional capacities” relates to capacities along a number of dimensions—administrative, technical, organizational, financial, human—and across multiple levels of aggregation—system/institutional, organizational, and individual (Boffin, 2002). Prud’homme (1995) suggests that sectors with a high degree “technicity”—or managerial and expertise requirements—are among the most difficult to decentralize (Prud’homme, 1995). Given a higher degree of technicity in the health sector, previous literature suggests that the quality of institutions matter, local-level capacity constraints abound in developing countries and that local officials often make choices in ways that are ill-informed or poorly executed (Jeppsson & Okuonzi, 2000; Newell, Collins, Raral, Omar, & Pande, 2005; Phommasack et al., 2005; Schweitzer, 2008).

Literature on accountability argues that actively involving local democratic structures and civil society in decision-making will make public services delivery more responsive to local health needs and reduce the risk of elite capture (Ribot, 2002; Yilmaz & Serrano-Berthet, 2008). Conversely, as critics point out, just as the exercise of greater local-level autonomy may not be consistent with overall health sector performance, local preferences may also be at odds with improved population health and other sectoral goals at the national level.

Unfortunately, contemporary discussions and empirical analyses of decentralization rarely make use of analytic frameworks that bring to light both the nuanced nature of decentralization itself and existence of accompanying institutional capacities and local accountability. In terms of decision space, well-recognized distinctions in the institutional (de jure) distribution of authorities among levels of the system—deconcentration, delegation, and devolution (Mills & World Health Organization, 1990; Rondinelli, 1981)—are largely limited to understanding who receives more (or less) power but not what those powers actually are or what range of choice is permitted. Analytic frameworks adopting a functional approach have gone further towards understanding the range of choice, including the original decision space approach (which defined the range of choice as granted in laws and regulations, and norms) and the “Arrows framework” (which analyzes granted authorities over health inputs, processes, and outputs) (Bossert, 1998; Peckham, Exworthy, Powell, & Greener, 2008).

Empirical literature on decentralization nonetheless continues to be limited on two fronts. First, local-level variations in the range of choice local officials make in the face of a common set of official rules may be important drivers in differences in the activities, implementation and impact on health systems and outcomes that can arise under decentralization (Bossert & Beauvais, 2002; Bossert, Bowser, & Amenjah, 2007; Bossert, Chitah, & Bowser, 2003). Second, if institutional capacities and accountability are also important drivers, a more comprehensive analytic framework is required to understand the roles that local institutional capacities and accountability play in decentralization’s implementation. Empirical literature to date has done little to explore these important concepts.

In an attempt to study empirically the relationship among functional decision space, institutional capacities and accountability, the authors developed a framework of analysis presented in Fig. 1. This framework emphasizes that the objective of decentralization is to achieve better health sector outcomes—and not as some analysts of local governance propose, the increase of local choice. It suggests that the interaction of decision space, capacities and accountability are what produces improved outcomes. The elements of this framework can then be used to develop indicators of those dimensions that can then be studied to assess their relationship to each other and ultimately to the outcomes.

Based on such an analytic framework, this article reports on research on the decision space, institutional capacities and accountability of officials in four provinces in Pakistan in the period prior to the re-establishment of democracy in 2009. It assesses the degree of variation in actual decision-making exercised by local officials within the legally defined range of choice granted to officials, and relates these choices to concomitant institutional capacities and mechanisms of accountability. As such, our study focuses on relationships among the dimensions of decentralization (the three anchor points in Fig. 1); however, due to data limitations in a point in time study, it leaves to future studies relationships between those dimensions and performance-related outcomes (the center point of Fig. 1).

The article is organized as follows. First, we highlight salient legal and regulatory characteristics of decentralization at the district level in Pakistan. Second, we describe methodologies used to assess the decision space, institutional capacities and accountability of district officials. Third, we present findings from our survey focused on these study themes. Finally, we conclude with recommendations for Pakistan and other countries undergoing processes of decentralization.

Legal and regulatory decentralization in Pakistan

Pakistan is a constitutional federation with authorities shared between the national government and its four provinces (Balochistan, the Northwest Frontier Province (NWFP), Punjab and Sindh). It has a long history of authoritarianism, with politics dominated by the military and public administration characterized a highly centralized, rigid civil service structure accountable to provincial governments (Cheema, Khwaja, & Qadir, 2006). At the time of the study, provinces were made up of districts (Zils) whose governments were headed by indirectly elected district Councilors (Nazims) and assemblies. Under a governmental reorganization in 2001, some decision-making authorities were devolved to elected officials at provincial and district levels. In the health sector, devolution has meant that the provincial department of health was responsible for policymaking and regulation while service provision, including delivery of services and reporting of staff at the district and sub-district levels, was almost entirely devolved to district governments. Important exceptions to this process of decentralization involved large teaching hospitals and several human resources functions of higher-level staff (e.g., posting/ transfers), both of which remained under the control of provincial governments (for greater detail on organizational structures and
arrangements of health sector decentralization in Pakistan, see Collins, Omar, & Tarin, 2002; Nayyar-Stone, Ebel, Ignatova, & Rashid, 2006; Asian Development Bank, Department for International Development, & World Bank, 2004; ADB, D., 2004; Collins et al., 2002; Nayyar-Stone et al., 2006). While previous peer-reviewed literature has explored various aspects to health sector decentralization in Pakistan (Khan & Van den Heuvel, 2007; Qazi & Ali, 2009; Shaikh & Rabbani, 2004), none has attempted to characterize the overall state of decentralization at a local level.

District-level civil service cadres who played significant roles health sector decision-making during study period included both general and health-specific administrators. District Coordination Officers (DCOs)—the primary civil service development officers—provide technical assistance to district Nazisms and coordinate, in turn, with sector-specific Executive District Officers (EDOs); both DCOs and EDOs are appointed by provincial governments. District health departments, headed by the EDO for Health (EDOH), are organized similarly across provinces. The EDOH is assisted by a number of officials to effectively manage the district health department, including District Officers for Health (DOHs) (responsible mainly for primary health care) and Medical Superintendents of secondary district and municipal (Tehsil) hospitals (MS—DHQs and MS—THQs, respectively).

At the time of the study, the degree of formal (i.e., de jure) local-level authority in delivering health services varied somewhat by province. Planning processes were generally categorized across provinces; under the backdrop of an overall vision for development set by the district Nazim, the EDOH was expected to consult with other district-level officials to prepare annual development plans for health to feed into the DCO’s strategic (multi-year) and operational (annual) plans for districts. DCO plans, in turn, inform strategic plans presented by district Nazisms for approval by district assemblies. By contrast, authority over health sector budgeting and expenditures varied between provinces, in part because of different budgetary authorities that provinces grant their EDOHs (for example, Punjab EDOHs were of a higher civil service level (Category I) compared to EDOHs in other provinces (who may be Category II)). Similarly, provincial variations existed in the exercise of human resource management functions. For higher-level officers, practices were relatively standardized across provinces, such as similar protocols for taking action on unsatisfactory performance of DCO- or EDO-level personnel. At lower levels, although all district health department staff reported to the EDOH, authorities for many human resources management functions were more varied across provinces. For example, transfer powers for some personnel had been delegated to DOHs in Punjab while no authorities over human resources had been delegated below the level of EDOH in other provinces. Finally, in terms of service organization and delivery, various authorities were governed by expenditure powers granted to health sector officials by their respective province. For instance, contracts for procurement of medicine and supplies in the NWFP were settled at the provincial level whereas DCOs in Punjab were able to make such purchases through district procurement committees.

Methodology

This study was based on a series of questionnaires administered in 2007 and directed at district-level administrative and elected officials within all four provinces of Pakistan. Research instruments were designed to assess variations in decision space, institutional capacities and accountability over four types of health functions: strategic and operational planning, budgeting, human resources, and service organization/delivery. The instruments were submitted for ethics review by the Harvard School of Public Health’s Office of Human Research Committee and approved/determined to be exempt from the International Review Board approval process. The three dimensions of decentralization were operationalized, as follows.

Building on Bossert (1998), decision space (DS) captures the degree to which local officials make use of decision-making powers (Bossert, 1998). Decision space is affected from both above and below, often in inter-related ways. From above, the width of local decision space depends primarily on the degree to which local health sector decision-makers are permitted to make a variety of decisions, as opposed to decisions being handed down. Decision space may be widened or narrowed from below, such as local decision-makers who make decisions regardless of what official rules say or make choices which capitalize to a greater degree on available options. As an example of the latter, choosing to undertake contracting procedures to fill vacancies would be considered a wider expression of decision space than relying on higher state authorities to fill personnel gaps.

Our assessment of institutional capacities (CAP) was focused primarily on individual and organizational/micro-system level attributes of local health systems. The research instruments attempted to measure both resources (e.g., availability of funds and adequacy of infrastructure or staff) and processes (e.g., whether districts conducted monitoring and evaluation activities to inform state-level reporting requirements). In a related concept, respondents’ own experience was assessed through questions on individuals’ training, education and experience.

Measures of accountability (ACC) relate to “downward” accountability of decisions made by non-elected health system decision-makers (and within local health system more generally) towards locally elected officials (see Yilmaz & Serrano-Berthet, 2008) for extensive treatment of issues of accountability (Yilmaz & Serrano-Berthet, 2008)). Such accountability was assessed by asking elected officials (Nazims) how much initiative they took in health sector decision-making processes (e.g., whether they complained about bad performance of doctors) as well as the degree to which they felt their views were sought by non-elected health sector decision-makers. Health sector/civil service respondents were also asked questions related to their perceptions of the degree of downward accountability exercised by elected officials, such as whether respondents involved consulted or interacted with local representatives.

The health functions analyzed—strategic and operational planning, budgeting, human resources, and service organization/delivery—are broad and contain several sub-themes. A country team, together with the first author, reviewed and significantly modified previously administered questionnaires to adapt questions to the Pakistani context. All survey questions analyzed were originally scored on a three-point ordinal scale with “one” representing narrow decision space (low capacity/accountability), “two” representing medium decision space (or capacity/accountability), and “three” representing wide decision space (or high capacity/accountability). The local research team and the first author developed the choice sets and ordered answers along the scale through a collaborative process. In all cases, questions were selected to reflect ranges realistic to Pakistan. Survey instruments were pilot-tested in two districts that were not included in analysis. Table 1 describes each function’s content and provides examples of questions asked in each dimension and coding criteria used.

The sampling frame called for survey instruments to be administered in 17 districts across seven types of health sector

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3 Since the time of the survey, the role of district Nazisms has been curtailed and “divisions” re-introduced as an administrative level between districts and their provinces.
Table 1
Description of health functions and their operationalization in the study.

<table>
<thead>
<tr>
<th>Function</th>
<th>Description</th>
<th>Example survey questions</th>
<th>Narrow/low</th>
<th>Medium</th>
<th>Wide/high</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic and Operational</td>
<td>Relates to planning for future activities (e.g., development of annual plans)</td>
<td>DS [EDOH/DOH/MS]: In the process of developing PC1, are you able to establish local priorities different from provincial and national priorities?</td>
<td>No/never tried</td>
<td>Sometimes</td>
<td>Yes</td>
</tr>
<tr>
<td>Planning (SOP)</td>
<td></td>
<td>CAP [EDOH/DOH]: Do you do a mid- or end-of-year assessment of achievement of District Health Plan activities and objectives?</td>
<td>No</td>
<td>Only monitor programs and activities</td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACC [DCO]: Did the Nazim present a vision for priorities for last year?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Budgeting (BUD)</td>
<td>Relates to allocation decisions for current activities, including funds disbursed centrally and local sources of revenue.</td>
<td>DS [DOH/MS]: Did you propose a change in user charges for different services?</td>
<td>No; Yes but proposal not accepted</td>
<td>Yes but proposal modified</td>
<td>Yes and proposal accepted</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAP [EDOH/DOH/MS]: Do you have sufficient postings for managing accounts?</td>
<td>Insufficient postings</td>
<td>Sufficient postings</td>
<td>Sufficient postings and no vacancies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACC [DCO]: After you presented your budget last year to the District Assembly, what happened?</td>
<td>No changes made</td>
<td></td>
<td>Changes made</td>
</tr>
<tr>
<td>Human Resources (HR)</td>
<td>Relates to personnel functions (e.g., hiring, posting, discipline)</td>
<td>DS [DOH/MS]: Have you proposed hiring, promoting, substituting, transferring or disciplinary action for staff above your authority to a higher authority?</td>
<td>No; yes but never approved</td>
<td>Yes and approved in a few cases</td>
<td>Yes and approved in most cases</td>
</tr>
<tr>
<td></td>
<td></td>
<td>CAP [EDOH/DOH/MS]: Are you aware of a provincial policy/guidance on contracting?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACC [EDOH/DOH/MS]: During the last year, how often have you met with representatives of professional associations about human resources management issues?</td>
<td>Never</td>
<td>Seldom</td>
<td>Regularly</td>
</tr>
<tr>
<td>Service Organization/</td>
<td>Relates to implementation of current programs and activities</td>
<td>DS [DOH/MS]: During the previous year, did you or your staff initiate any new programs/ways of providing services that were not already in existence or ordered by Provincial Health Department or MOH program managers?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Delivery (SOD)</td>
<td></td>
<td>CAP [EDOH/DOH/MS]: Do you have a District Procurement Committee to procure/purchase your drug and supply needs?</td>
<td>No</td>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ACC [EDOH/DOH/MS]: How often do you have meetings (or other contacts) with the Nazim?</td>
<td>Less frequently than weekly</td>
<td>Weekly or more frequently</td>
<td></td>
</tr>
</tbody>
</table>

* Respondents' own experience was measured through indicators on level of education, participation in management trainings and length of time at current post.
decision-makers. Districts were purposively selected: 12 districts were those for which various donor-project health sector capacity-building initiatives were being planned (see “Future intervention” districts in Table 2) and the remaining five districts were selected as comparison districts for subsequent analysis of the capacity-building initiatives (see “Comparison” districts in Table 2).

Respondents included four civil service health sector cadres (EDOHs, DOHs, MS—DHQs and MS—THQs), two civil service non-health sector cadres (DCOs and EDO—FPs) and one set of elected officials (district Nazims). Sampling was purposive wherein attempts were made to administer surveys to one representative of each cadre of official in each district (for most cadres, such as DCOs or EDOHs, only one administrator exists per district). While the sampling frame a sample size of 119 respondents (i.e., seven cadres across 17 districts), it was not possible to administer the survey in 14 cases, with reasons ranging from vacancies at the time of interviewing to temporary unavailability of respondents. Civil service respondents with fewer than six months experience at their current post—who could not be expected to provide knowledgeable answers to many survey questions —were excluded from analysis, resulting in an additional 14 exclusions. The final survey sample therefore included 91 respondents.

For data analysis, two sets of composite indicators of decision space, capacities and accountability, respectively, were generated from individual questionnaire items. The first set of composite measures comprised summary scores of decision space, capacity and accountability calculated for each respondent within a given function. The second set of composite measures comprised summary scores of decision space, capacity and accountability calculated for each respondent across all functions (i.e., overall indicators of each of these three dimensions of decentralization). For both sets of measures, composite scores were calculated as the unweighted mean (average) of all relevant individual questions provided by a given respondent with scores ranging continuously from one to three.

To give examples of both, capacities in strategic and operational planning among EDOHs were assessed through four questions, including whether: the respondent had district strategic/annual health plans; representatives of other sectors participated in formulating those plans; mid- or end-of-year assessments were made on achievement of operational plan activities; and planning decisions were made using information on diseases and utilization of facilities. The composite indicator in capacities in strategic and operational planning for EDOH respondents was then calculated as the unweighted mean (average) of these four questions. The overall composite indicator in capacities among EDOH respondents was calculated as the unweighted average of 21 questions, covering strategic and operational planning (four questions), budgeting (five questions), human resources (six questions) and service organization/delivery (six questions).

To account for differences in questionnaires administered to different cadres of respondents, the composite scores described above were standardized within each respondent cadre. While scores for decision space, capacities and accountability within a given respondent cadre are comparable because questionnaires are identical, scores across cadres—where questionnaires may differ—are not. To address the lack of cross-cadre comparability, scores for composite indicators were standardized within respondent cadres receiving identical questionnaires. Scores were standardized by differencing individuals’ scores from their respective group mean and dividing by group-specific standard deviations (resulting in a mean of zero and standard deviation of one).

The above-described methodology makes two major assumptions. First, it assumes that the three dimensions of decentralization analyzed (decision space, capacities and accountability) can be meaningfully summarized quantitatively into singly composite scores, whether function-specific or across all health functions. Second, because summary scores are calculated as unweighted averages of individual survey questions, it assumes that the content of each question is equally important within a given decentralization dimension and that the latter assumption was felt to be reasonable for lack of a priori reasons to weight one sub-function more or less heavily than another and given that the survey questions cover a broad range of sub-functions.

We estimated a variety of Pearson coefficients of correlation to analyze relationships between indicators of each dimension of decentralization. A first set of analyses examines relationships across health functions and within a given dimension of decentralization, such as between institutional capacities in human resources and capacities in services organization/delivery. A second set examines relationships between dimensions of decentralization both within a given health function (e.g., between decision space and capacities in budgeting) and among our overall indicators of decision space, capacities and accountability. A last set examines relationships between our health functions/dimensions of decentralization and respondent personal experience.

**Results**

Table 3 presents selected descriptive statistics of the final sample. All but one civil service cadre (MS—THQs) averaged over 20

<table>
<thead>
<tr>
<th>Cadre</th>
<th>Average # years:</th>
<th>&gt;1 Year experience</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>DCO</td>
<td>23</td>
<td>1.9</td>
<td>0%</td>
</tr>
<tr>
<td>DOH</td>
<td>21</td>
<td>12.8</td>
<td>0%</td>
</tr>
<tr>
<td>EDO-FP</td>
<td>23</td>
<td>4.0</td>
<td>0%</td>
</tr>
<tr>
<td>EDOH</td>
<td>25</td>
<td>7.4</td>
<td>0%</td>
</tr>
<tr>
<td>Nazim</td>
<td>0</td>
<td>0.0</td>
<td>63%</td>
</tr>
<tr>
<td>MS DHQ</td>
<td>24</td>
<td>9.4</td>
<td>0%</td>
</tr>
<tr>
<td>MS THQ</td>
<td>18</td>
<td>11.3</td>
<td>0%</td>
</tr>
<tr>
<td>Total</td>
<td>23</td>
<td>7.1</td>
<td>63%</td>
</tr>
</tbody>
</table>

Table 2: Districts sampled.

<table>
<thead>
<tr>
<th>District classification</th>
<th>Province</th>
<th>NWFP</th>
<th>Punjab</th>
<th>Sindh</th>
</tr>
</thead>
<tbody>
<tr>
<td>Future intervention</td>
<td>Balochistan</td>
<td>● Lasbela</td>
<td>● Jaffarabad</td>
<td>● Buner</td>
</tr>
<tr>
<td>Comparison</td>
<td>● Naseraabad</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

years of total service experience, and these cadres averaged over seven years of experience within their districts. These respondents also averaged just over 2 years at their post, ranging from 1.5 years for DOHs to almost 4 years for MS–THQs. Over 60% of Nazims had held elected seats for more than one year.

Figs. 2–4 present district-level variation in the three dimensions of decentralization assessed by our study (district-level averages are calculated as the unweighted mean of cadre-specific standardized scores). We make the following three observations. First, the study instruments elicited variations in levels of all three dimensions. In terms of decision space, this implies that although specific laws and regulations allow a generally limited range of choice in all provinces, different district officials in each context were exercising different degrees of choice over each kind of health function. These same respondents also reported varying strength of institutional capacities and mechanisms of accountability. Second, some districts appear to be particularly weak (e.g., Naseerabad) or strong (e.g., Gujranwala and Shikarpur) on all three dimensions, whereas respondents in others may be above-average in some dimensions and below-average in others. Third, there are suggestions of provincial-level differences in levels of decentralization: levels of district-aggregated decision space and institutional capacities in Balochistan and NWFP tended to be lowest/below-average, while those from Sindh and Punjab were generally above-average. However, provincial-level patterns were not as apparent with accountability.

Results from our bivariate statistical analyses are presented in Tables 4 and 5. Table 4 relates to correlations between health functions but within one dimension of decentralization (e.g., between decision space in budgeting and decision space in human resources). All correlations are positive, and several related to decision space and capacities are significant at the 5% level of confidence. These results suggest that respondents reporting a particular level of decentralization in one function—such as relatively narrow (or wide) decision space in strategic and operational planning—report similarly in another—such as relatively narrow (or wide) decision space in service organization and delivery. Synergies are particularly pronounced in terms of institutional capacities, with correlations relating to service organization/delivery significant with all other health functions. While there is comparatively less evidence of synergistic relations in terms of accountability, the correlation between human resources and service organization/delivery is significant ($p = 0.37; p = 0.01$). This latter correlation is the one accountability-related correlation for which health sector stakeholders have data (other accountability questions relate only to Nazim and/or non-health sector civil service respondents).

Table 5 presents correlations across dimensions of decentralization but within one health function (e.g., between decision space and capacity in budgeting). Similar to results from Table 5, almost all correlations are positive. Two inter-function correlations between decision space and capacity are statistically significant in strategic and operational planning ($p = 0.41$) and budgeting ($p = 0.33$) while one each is significant in terms of capacity and accountability (strategic and operational planning: $p = 0.47$) and decision space and accountability (strategic and operational planning: $p = 0.34$). As important, the summary indicator in institutional capacities is positively and significantly correlated with both decision space ($p = 0.39$) and accountability ($p = 0.21$) at the 5% and 10% levels of confidence, respectively. This suggests that synergies exist among the three dimensions of decentralization both within specific health functions and looking across all health functions. A negative (non-significant) correlation between decision space and accountability in human resources is an exception to the above-described results. This appears to be driven primarily by DCO respondents, as removal of those respondents from analysis results in a highly non-significant correlation ($p = -0.04$; $p = 0.79$; $N = 46$; results not shown).

To explore connections between dimensions of decentralization and respondent personal characteristics, we examined relationships between our overall measures of decision space, capacities and accountability and three measures of respondent experience. The first measure was a composite measure of respondent management training related to various health functions, including whether respondents received training in strategic/operational

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2 It would appear that DCO respondents who generally make human resources decisions on their own authority and not in conjunction with district Nazims (our study’s barometer of accountability in human resources for DCOs) also report greater use of decision-making power in human resources, such as proposing hiring or transferring staff above their authority to higher officials (one of four questions related to our indicator of decision space).
planning, preparing contracts for staff, and procurement. These questionnaire items were used to form a standardized scale (with a Cronbach’s alpha coefficient of 0.54). The second relates to respondents’ total years of work experience, which ranged from 4.5 to 45 years (with a mean of 22.6). The third relates to respondent’s year of service at their current post and ranged from 6 months to 12 years (with a mean of 2.3 years). The standardized training scale applied only to health officials while indicators of years of service applied to both health and non-health civil service officials. As seen in Table 6, there is evidence that the first two measures are positively correlated with summary measures of decision space and/or capacities. The training scale is significantly related to institutional capacities at the 5% level of confidence ($r = 0.30$) while years of service are correlated with both decision space and capacities at the 5% level of confidence ($r = 0.26$ and 0.24, respectively). Subset analyses of health officials suggest even stronger correlations with years of service, with significant correlations of $r = 0.41$ and $r = 0.40$, respectively (results not shown). Conversely, there appears to be next to no relationship between decision space/capacities and the number of years respondents were at post. There is also no evidence of relationships between any of these measures of respondent experience/capacities and the summary measure of accountability.

**Discussion**

Decentralization has long been a popular health policy reform. Proponents often argue for increasing local-level decision-making authorities as a means of improving resource distribution, reducing inefficiencies, and improving quality of services delivered. Health sector critics have countered that increased responsiveness to local preferences may be at odds with overall health system performance, including concerns for equity. As a matter of implementation, both sides generally agree that, in addition to increased...
local-level authorities, institutional capacities and mechanisms of accountability mediate relationships between decentralization and health sector performance. Our study represents an initial step into understanding the interplay between these dimensions of decentralization in 17 districts of Pakistan.

At a conceptual and methodological level, the “decision space” approach adopted by this study not only permits assessment of the degree to which new de jure powers are exercised on a de facto basis, but the degree to which institutional capacities—such as the stock of skilled human resources and service delivery practices—and mechanisms of accountability towards locally elected officials may be associated with exercise of the de facto degree of decision space. This framework for analysis marks an improvement not only on the widely adopted public administration approach, but on previously developed functional frameworks—namely Bossert’s original application of the “decision space methodology” or the alternative “Arrows” framework—which have focused primarily on de jure authorities and little or not at all on the other dimensions of decentralization analyzed here. While the precise indicators of decision space, institutional capacities and downward accountability used here are Pakistan-specific, the underlying methodology is generalizable to other countries and offers a promising means of analyzing health sector decentralization.

On an empirical level, study findings convey three main messages. First, they confirm that districts in Pakistan are indeed at different stages of the decentralization process. It is not necessarily surprising that district officials exercised varying degrees of decision space within a formal civil service structure that is highly bureaucratic and traditionally rule-oriented organizational culture: Since the rules for decentralization are relatively recent, it may take time for more widespread knowledge of the new range of decision-making authority to spread and translate knowledge into greater decision-making initiative. It is nonetheless important to highlight for other countries undertaking or considering decentralization reforms that simply changing rules about authorities cannot be expected to result in widespread or uniform implementation uptake throughout a country. It is also important to know that, as in the Pakistan districts sampled, there are likely to be variations in institutional capacities to do so and on the accountability demanded for those choices.

Second, the findings suggest that, in the context of Pakistan, decision space or institutional capacities in one health function tend to go hand-in-hand with decision space or institutional capacities, respectively, in other functions. That is, within a given dimension of decentralization, synergies exist between levels reported by respondents in one function and those reported in other functions. In terms of decision space, this finding may be the result of learning from taking more authority and responsibility in one function that leads to the understanding of the range of choice allowed for other functions. Officials who use a wider range of decision space may also be more “entrepreneurial” and willing to take risks by using more decision space in other areas. These speculations could be an area for further research. In any case, this finding suggests that there may be “spillover” effects on decision space and that those who take more advantage in one functional area may also take more advantage in others. Our findings that these synergies are particularly pronounced in terms of institutional capacities are consistent with previous studies attributing problems with implementation of decentralization to dearth of capacities (e.g., Jeppsson & Okuonzi, 2000; Schweitzer, 2008). Further, the most consistent synergies in terms of either decision space or institutional capacities are found between service organization/delivery and the other functions assessed (strategic and operational planning, budgeting and human resources). This is an interesting finding given that the latter three functions are designed precisely to improve the ways in which services are organized and delivered to beneficiaries. Although there was comparatively less evidence of inter-function synergies in terms of accountability, that finding may have to do with study design limitations as much with a lack of relationships: the preponderance of accountability questions were posed only to Nazims (not civil service/health sector officials) who numbered only 16 observations, making statistical associations very difficult to detect. Indeed, the one accountability-related correlation between functions that is significant—that between service organization/delivery and human resources—is also the one accountability measure that to which all respondent cadres responded (n = 44).

Finally, study findings suggest that capacities—whether at an institutional or personal (respondent) level—are particularly important in the implementation of decentralization. A relatively strong positive correlation exists between our overall measure of institutional capacities and that of decision space, while there is also a positive correlation between institutional capacities and our overall measure of accountability. We find additional synergies between some elements of respondent personal capacity/experience—including years of work service and degree of exposure to health-specific training—and both decision space and institutional capacities. Such findings are consistent with a learning-by-doing approach adopted by this study not only permits assessment of the.

Table 4

<table>
<thead>
<tr>
<th>Function 1</th>
<th>Function 2</th>
<th>DS</th>
<th>CAP</th>
<th>ACC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP &amp; BUD</td>
<td>0.21</td>
<td>0.25</td>
<td>44</td>
<td>0.26**</td>
</tr>
<tr>
<td>HR</td>
<td>0.21</td>
<td>0.30**</td>
<td>44</td>
<td>0.24**</td>
</tr>
<tr>
<td>SOP</td>
<td>0.43**</td>
<td>0.15</td>
<td>44</td>
<td>0.18</td>
</tr>
</tbody>
</table>

**p < 0.05.

Table 5

<table>
<thead>
<tr>
<th>Function</th>
<th>DS/CAP</th>
<th>CAP/ACC</th>
<th>DS/ACC</th>
</tr>
</thead>
<tbody>
<tr>
<td>SOP</td>
<td>0.41**</td>
<td>0.47</td>
<td>0.10</td>
</tr>
<tr>
<td>BUD</td>
<td>0.32**</td>
<td>0.14</td>
<td>0.31**</td>
</tr>
<tr>
<td>HR</td>
<td>0.11</td>
<td>0.02</td>
<td>–0.20</td>
</tr>
<tr>
<td>SOP</td>
<td>0.07</td>
<td>0.04</td>
<td>0.32**</td>
</tr>
<tr>
<td>ALL</td>
<td>0.39**</td>
<td>0.23*</td>
<td>0.02</td>
</tr>
</tbody>
</table>

**p < 0.10; **p < 0.05.

Table 6

<table>
<thead>
<tr>
<th>Dimension</th>
<th>Training scale</th>
<th>Years of service</th>
<th>Years at post</th>
</tr>
</thead>
<tbody>
<tr>
<td>DS</td>
<td>0.25</td>
<td>44</td>
<td>0.26**</td>
</tr>
<tr>
<td>CAP</td>
<td>0.30**</td>
<td>44</td>
<td>0.24**</td>
</tr>
<tr>
<td>ACC</td>
<td>0.15</td>
<td>44</td>
<td>0.18</td>
</tr>
</tbody>
</table>

**p < 0.05.
process at both the individual and institutional levels, by which greater scope to make autonomous decisions may beget greater capability to do so (and/or vice-versa) and greater capacity to make decisions consistent with good performance exists where mechanisms of accountability are stronger. As pointed earlier, “technicity” in the health sector is high, which may discourage those with less experience from exercising authorities to the fullest for fear of making the inappropriate decisions. Further, taking advantage of decentralized authority can be seen as costly in terms of time and effort. Assessing future human resource requirements, equipment and service provision needs with locally relevant criteria in order to develop a budget the next year’s operational plan, for example, requires a substantial degree of technical capacity and time commitment. In districts with lower capacity and/or accountability, relying on historical budgets for future budgets or declining to explore innovative service delivery programming may simply be the more logical choice. Our findings of generally positive correlations among dimensions of decentralization across several health functions are consistent with this line of thinking.

While we do not find evidence of relationships between decision space and accountability, there may be no a priori reason to expect them: decision space, which is driven in large part by interactions between local decision-makers and higher (governmental) authorities may yet be independent of the strength of local accountability, which relates to interactions between local decision-makers and elected officials. Indeed, in the context of Pakistan in which government-employed administrators have historically not had to share powers with elected officials, one might even expect inverse relationships between these two dimensions.

These findings raise important policy questions about relationships between decentralization and system-wide performance. Respondents from the economically and developmentally less well-off provinces of Balochistan and NWFP tended to be less likely to use the full extent of their decision space on the dimensions of decentralization analyzed, while those in better-off Sindh and Punjab reported relatively high levels.\(^3\) While the study could not assess the reasons for these differences, it does suggest that policymakers in Pakistan should be concerned about whether decentralization may be perpetuating inequities in the sector—as decentralization critics fear—or simply manifests pre-existing differences. The results also provide an empirical starting point to gauge differences in decentralization at the district level and inform future efforts to strengthen the process (such as promoting information exchange between low- and high-performing districts).

While evidence of synergies between decision space, institutional capacities and accountability lends empirical support to those who favor “strong” forms of decentralization (e.g., devolution of services to locally elected governments), there are reasons to cautiously interpret these findings. As summarized earlier, advocates of decentralization often believe that wider decision space, when accompanied by adequate institutional capacities and appropriate mechanisms of accountability, sets the stage for improved service delivery (see Fig. 1). Though our results are consistent with this hypothesis, the range of choice permitted did not differ greatly between districts and remained, relatively to other health systems, limited. Further, Pakistan’s low level of income, coupled with a long history of authoritarianism and reliance on the center for fiscal resources, likely imposes even greater de facto restrictions on the ability or inclination to exercise decision space. As we were only able to examine variations exhibited by officials within a limited range of choice, existence of synergistic relationships in the Pakistan context does not imply that the same would be found in other health systems that permit wider use of decision space, have greater overall and locally-controlled fiscal resources, and which are likely to require well-developed institutional capacities for choices to be consistent with improving health system performance.

Further, we cannot conclude from these results alone that the degree of district-level decision space that does exist is appropriate. As decentralization’s detractors highlight, increasing local-level autonomy and/or accountability to local preferences can be in conflict with objectives of a health system as a whole. As an example from neighboring India, increased local-level civil participation in oversight of hospital services was found to have a negative effect on provision of immunizations (hospital-delivered vaccinations being mandated by the State) (Yoong, 2007). Even if our findings suggest that conditions of decentralization are conducive to better local service delivery (i.e., synergies exist between dimensions), our study was not able to address whether services have actually improved.

**Limitations**

There are three main limitations to our study. First, our analyses are associative in nature and do not account for many factors which may affect relationships between dimensions of decentralization. Our cross-sectional design precludes causal inference for the relationships we find between decision space, capacity and accountability in decentralization. Our bivariate correlations also do not hold other factors constant which may affect relationships between elements of decentralization, such as indicators of district development and other conditions. Nevertheless, our study represents an important first step in understanding the interplay between elements of decentralization in the health sector and provides a framework for future analyses which address the study’s current limitations.

Second, there exist no gold standard measurement tools against which to validate our measures of decision space, institutional capacities and accountability. However, the research instruments were designed in collaboration with local organizations knowledgeable of decision-making processes at the district level, giving us reason to believe that our measures validly reflect the concepts that they are intended to capture. Also, civil service cadre respondents with higher de jure financial authorities reported wider de facto decision space both in budgeting and the overall indicator of decision space.\(^4\) The instrument design process and empirical findings lend support to the instrument’s validity.

Third, data limitations precluded analysis of our indicators of decentralization against outcomes. While relating variations in health system performance and outcomes to those of decentralization is of ultimate interest, the data at the district and local levels on such indicators are not currently reliable and/or available to permit such analyses. We hope to extend our analyses to include outcome indicators in future research.

**Conclusion**

For health sector decentralization to bring about improvements in service delivery and achieve health system objectives,
decentralization policies are needed that address not just the distribution of powers, but the strength of institutional capacities and the role that local accountability plays in choices made. In contrast to assumptions made by commonly adopted analytic approaches to decentralization that focus only on elements of de jure decentralization, this study illustrates the utility of empirically assessing the actual levels of decision space that officials report exercising (rather than assuming that de jure formal decision space is uniform across a national bureaucratic system). Using such a methodology revealed variations in the exercise of authorities, strength of local institutional capacities, and responsiveness to local elected officials. As importantly, it demonstrated relatively strong synergies between decision space and institutional capacities and, to a lesser extent, accountability to local elected officials.

Although this study is limited by the specific context of Pakistan with its authoritarian political system and bureaucratic civil service system, the findings do offer lessons for other countries. It is likely that in all systems implementing decentralization, there should be an effort to encourage greater knowledge of the de jure decision space and encourage all local officials to take responsibility for making decisions oriented towards better performance. There should also be efforts to build on synergistic effects by building institutional capacities at the same time as widening the de jure decision space and to do so in ways that focus first on those local administrative units with the least institutional capacity. Interventions in local capacity building are often a component in government programs and are likely to have spillover effects in encouraging local officials to take more advantage of the decision space that they have. Finally, as accountability to local elected officials will probably lag in highly bureaucratic systems, and if local accountability is seen as a policy objective (as it is by many international organizations), more effort in decentralized contexts will be needed to encourage local health officials to be more responsive to local elected officials.

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References

