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Abstract

**Background:** The national immunization program in Georgia is currently not functioning at optimum levels in part because of insufficient human resource management, which can be a barrier to immunization. Georgia’s health care system underwent dramatic reform after gaining independence in 1991; since then, reform efforts have been met with variable success. The decentralization of the health care system was one of the core elements of health care reform but human resource management issues were significantly overlooked. This paper describes the current state of human resource management practices within the Georgian national immunization program and potential constraints to its performance. This study is part of a larger project aimed to evaluate a human resource management intervention aimed towards improving the performance of the national immunization program.

**Methods:** Thirty districts were selected for the study: 15 intervention districts matched with 15 control districts. Within these districts, 600 providers and 31 immunization managers participated in the study. Survey questionnaires were administered through face-to-face interviews to immunization managers and a mail survey was administered to immunization providers. Qualitative data collection involved four focus groups. ANOVA and Chi-square tests were used to test for differences between groups for continuous and categorical variables. Content analysis identified main themes within the focus groups.

**Results:** Weak administrative links exist between the CPH and PHC health facilities. There is a lack of clear management guidelines and only 49.6% of all health providers had written job descriptions. A common concern among all respondents was the extremely inadequate salary.
Managers cited lack of authority and poor knowledge and skills in human resource management. Lack of resources and infrastructure were identified as major barriers to improving immunization.

**Conclusions:** Weak human resource management is a common problem throughout the national immunization program. Developing the skills and processes for a well-managed workforce may help improve immunization coverage rates, facilitate successful health care reforms and is an overall, good investment. Until appropriate delegation of authority and adequate levels of financing are addressed, however, the gains made by improving HRM will be less than optimal.
INTRODUCTION

Good human resource management is critical for optimal health system performance. How well providers offer their services depends on the processes that define, deploy and organize the workforce.[1] Obviously, a workforce, no matter what sector, must be motivated, well-staffed and appropriately skilled.[2] Despite these needs, much health sector reform in the 1990s failed to address human resource issues.[1-3] In many countries, human resource management is an afterthought, at which time ministries of health no longer have the capacity or the authority to ensure proper implementation.[3]

Georgia initiated efforts to implement health care reform in 1995. The reform’s key components included decentralization, privatization of health care services, the development of social insurance and contracting out health care providers.[4] Reports suggest, however, that the reforms were not well-implemented [5] with decentralization of power to local municipalities marked by fragmentation and unclear lines of responsibility.[6] HRM has been identified as one of the key barriers to successful health care reform in Georgia.[4]

Among the areas affected by the reform was the national immunization program, which continues to under-perform. The 1999 UNICEF multi-indicator cluster survey suggests that approximately 67.4% of children between the ages of 15 and 26.9 months were immunized with BCG, DPT-3, polio and measles vaccines, with regional variations ranging from 50.7 to 81.8%.[7] This is in comparison with overall developing country estimates of approximately 76%.[8] Estimates in 2003 obtained from Georgia’s new Immunization Management Information System (MIS) report coverage rates of 75% for DPT-3 and Polio-3, 48% for Hepatitis B-3 and 82% for
Measles-1, suggesting that improvements can still be made. While many variables can contribute
to poor rates of immunization [9], the most common general barrier to improving immunization
rates is human resources and management.[10]

This paper focuses on human resource management issues related to the National Immunization
Program (NIP) in Georgia. This research is the first phase in a larger research project funded
through Canada’s International Development Research Council (IDRC), which is examining the
implementation and effectiveness of a model of supportive supervision in improving
performance of the immunization program at the district level in Georgia. Our findings
contribute to an emerging literature in health system human resource management that is related
to vaccines and we hope they will inform policy in transitional and developing countries facing
significant health care system restructuring.

The paper is organized as follows. First, we outline the Georgian health policy context by giving
a summary of its reform and subsequent organization. Second, we report the baseline results of
our study, which describe the state of HRM within the immunization program. We conclude with
a discussion of the findings, their generalizability and the limitations of our study.

**BACKGROUND**

Prior to 1991, the Georgian health care system operated as part of the Soviet system, which was
based on the “Semashko model”. [11] This was a centrally-run system where Moscow officials
had almost complete control over resource allocation, planning and organization, which was not
uncommon in the former Soviet Union. Local Georgian authorities had few responsibilities aside
from performance evaluation and reporting. The system was almost 100% publicly owned and financed with budgets and health care professional salaries set by central authorities. Primary care included preventative activities, surveillance and ambulatory care services. Responsibility for immunization fell under the Sanitary-Epidemiological “San-Epid” network.

After independence in 1991, the socioeconomic collapse contributed to a dramatic decline in public expenditure on health care between 1990 to 1994 from USD $13 per capita to less than $1.[12] In 1995, efforts were made by the government to implement health care reform, which was facilitated by a health care loan by the World Bank [12]. The new Ministry of Labor, Health and Social Affairs (MOLHSA) is limited in terms of its “hands-on” role but retains responsibility steering the health sector. Many health facilities are now privately-owned and operated.

The San-Epid system was divided into the Department of Public Health (DPH) and the Department of Sanitary Surveillance and Hygienic Standards under the MOHLSA. The current role of the DPH is epidemiological surveillance, health promotion and management of preventive health services. The DPH has a regional branch in each of the 12 newly designated health regions, responsible for implementing public health activities in each region, collecting health statistics, and health planning. Additionally, 55 smaller administrative districts each have a Center for Public Health (CPH) which reports to the DPH. CPHs are responsible for implementing public health activities and the immunization program, collecting and analyzing health statistics, and planning response measures and activities. Preventative services are funded through the MoLHSA.[12]
Despite some improvements, concerns exist that the health care reforms have failed to improve the overall quality of the health care system and have even contributed to further health inequalities.[12] Bennett and Gzirishvili report that the reforms were not implemented well, likely because of under-financing.[5] Some primary health care facilities are short of basic equipment and high utility expenses make it difficult for facilities to be maintained; municipal financing only covers current and not capital expenses.[12, 14] Professional incomes have fallen dramatically since the reforms.[14] Physician incomes often are below official poverty levels; therefore many supplement their salaries by charging patients informally, a common practice in many transition countries. This increasing out-of-pocket expenditure limits the population’s access to health care services, as many individuals avoid seeking health care until their condition has become severe.[15]

Human resource management (HRM) is an area that has been identified as one of the key barriers to successful reform in Georgia; a problem that is common across the entire CEE and the NIS of the former Soviet Union.[6] New delegated responsibilities are now in the hands of administrators and health providers without the requisite skills and institutional know-how.[4] Given these observations, implementing HRM improvements is a critical step in seeing through successful health system reforms, to ultimately improve population health. All of this is applicable to the case of Georgia.
**RESEARCH OBJECTIVE**

The objective of this research was to assess the current state of human resource management practices within the National Immunization Program (NIP) in Georgia and to identify constraints that may impede its performance. This research is one component of the baseline assessment of a larger project, aimed to assess the implementation and effectiveness of a model of supportive supervision in improving performance of the immunization program at the district level in Georgia.

**METHODOLOGY**

*Research Design*

We employed a mixed methodology: a quantitative survey and qualitative focus groups. We defined human resource management as the overall organization of work activities at district CPH facilities and primary health care (PHC) facilities involved in implementation of the immunization program. We operationalized this concept through survey indicators and focus group topics, which pertained to the general organization of work activities and work environment as well as specifically identified organizational barriers. Additionally, focus groups aimed to obtain further insight into the context and factors that might contribute to poor HRM at the CPH and PHC facilities.

It is important to note that survey questionnaires and focus groups covered a broader range of topics than is reported here. Topics relating to barriers to immunization, local governance and the provision and perceived need for supportive supervision will be included in the follow-up publication of this research.
Prior to conducting the research, ethical approval was obtained from the Ethical Committee of the State Medical Academy, Tbilisi, Georgia and from the Ethics Review Office, University of Toronto. Informed consent was obtained from all participants before study implementation. We assumed that non-respondents of the baseline survey indicated a refusal to participate. No follow-up on reasons for refusal to participate was made.

**Sampling and Sample Sizes**

Fifteen districts were randomly selected out of Georgia’s 67 districts for the intervention group through simple random sampling. Another fifteen control districts were selected, matched by immunization performance indicators, geographical region and population density to the intervention districts. In all 30 districts, we selected one immunization manager from the local CPH (as proposed by the CPH) and randomly selected 20 health care providers working at immunization points at district polyclinics and village ambulatories (PHC facilities) who are directly responsible for rendering immunization services to the population. We used simple random sampling based upon a list of primary health care providers. Thus, the total proposed sample size was 600 primary care doctors/nurses and 30 immunization managers in the selected 30 districts.

**DATA COLLECTION**

**Surveys**

Survey questionnaires were administered to CPH immunization managers and immunization providers in the intervention and control districts. The questionnaires were administered through face-to-face interviews to all 30 CPH immunization managers. For the 600 providers, a mail
survey was administered. Short questionnaires and informed consent forms were put in the envelope with post stamps and return address, which were distributed among selected participants. A five point Likert-scale was used to assess the degree of agreement with statements regarding HRM (see Tables 2 and 3). Survey data were entered into Microsoft Access using customized entry screens. Double entry procedures were followed in order to minimize the errors during data computerization. Confidentiality of all respondents was maintained through the replacement of personal identifiers with ID codes.

**Focus Groups**

Four focus groups were conducted with participants in the intervention group. To ensure a range of opinions, researchers selected participants based upon their role in CPH management or PHC facility, size of district or facility and performance of district as informed by immunization indicators. In total, four focus groups were held with 4 CPH office directors, 5 CPH immunization managers, 5 polyclinic heads and 7 health care providers. Focus groups with CPH staff ranged from 2 to 2.5 hours and from 1 to 1.5 hours with PHC facility staff.

**DATA ANALYSIS**

**Survey Data**

Descriptive statistics and between-groups comparison were done using SPSS software. The chi-square test was used to compare the categorical variables, and ANOVA to compare continuous variables. All indicators were measured and analyzed at the individual level.

**Focus Groups**
Preliminary codes were prepared prior to the focus groups based upon the research topics. Upon transcription, two separate researchers reviewed the text and revised the codes. The transcripts were then coded and themes were deduced from the data.
RESULTS

Table 1 presents a basic description of the sample. The response rate among providers was 65% (intervention: 197 of 300, control: 195 of 300.). There were no refusals to participate in the study among immunization managers.

Table 2 presents results of the descriptive analysis pertaining to the organization of work activities, work environment and barriers to the organization of work activities as viewed by immunization managers. When comparing indicators between rural and urban CPH managers, statistically significant differences were only found for one indicator; CPH managers in urban areas were more prone to agree that managers do not have the time to organize work well (mean=3.20) compared with CPH managers in rural areas (mean=1.96) (p = 0.001). No difference was found when comparing between gender and age groups.

Tables 3 and 4 present the results of the descriptive analysis pertaining to organization of work activities, supervision and job expectations as viewed by immunization providers. Response rates varied for individual questions from 62% to 65%. There were no significant differences between respondents and non respondents in age, sex or duration of working in the current specialty. Immunization providers did not see organization of work to be a problem within their immediate health facility. Most providers felt that they understand their roles despite only half claiming to have a written job description. There were no statistically significant difference in any indicators when analysis was done by rural vs. urban facilities. However, a significantly higher proportion of providers declared having written job descriptions in Family Medicine Centers (90%) compared with village ambulatories (46.2%) and polyclinics (49.7%). It should be noted that
Family Medicine Centers are new institutions that have been created within the framework of ongoing health care reform.
Focus Group Discussion Results

The focus groups collected more detailed information on HRM-related barriers at the CPH-PHC facility interface within the national immunization program and identified wider health system barriers as well. The following presents this data with representative quotations for each general theme.

Job Incentives and Motivation

One of the main concerns cited by all respondents was their low salary levels. CPH Managers and immunization providers emphasized that their salaries did not reflect the scope of their work.

“The only reason for staff dissatisfaction is their low salaries.”

- Immunization Provider and Head of Polyclinic

CPH Managers also identified non-financial sources of motivation to include a sense of responsibility, professional improvement, learning, seeing positive results and attention from upper management. Providers identified the immunization program as their main duty however; managers identified low provider motivation as a problem.

Support and Overall Organization of Work

Immunization providers perceive the independence brought by health care reforms as negative. They feel alone in solving complex problems relating to immunization and poor working conditions such as lack of equipment, finances and reparation of equipment and infrastructure.

“We are self governors; we take care of our own. We are alone in doing repairs, purchasing equipment…nobody helps us in persuading the parents or dealing with false contraindications.”
- Rural Immunization Provider

CPH managers perceive the organization of work at the CPH and PHC facility interface as extremely poor. Human resource management is unstructured and lines of responsibility and accountability are unclear.

Managerial Authority

Managers also recognized their lack of authority as a problem and closely relate this to decentralization. Previously, they could impose penalties in cases of poor performance and had more control over tasks such as creating job vacancies, and hiring or dismissing employees.

“Nobody knows who is responsible for HRM in the facilities. The doctor is appointed by the head of the polyclinic and the head of polyclinic is appointed by the Ministry of Property Management. We have minimal say in this process.”

- CPH Manager

CPH Managers perceive the current administrative links between the CPH and health care facilities (i.e. polyclinics and ambulatory clinics) as weak, making management of facilities and supervision of providers very difficult. Furthermore, they feel that the loss of authority has negatively impacted providers’ sense of responsibility since providers know that they will not suffer penalties.

Human resource management regulation and capacity

No mandates or regulations exist for human resource management of health providers or health facilities.
“There is no clear format for managing or supervising providers. I am unaware of any document regarding this issue.”

- Immunization Provider and Head of Polyclinic

Decrees exist that outline quantitative indicators but they are outdated and do not address the process of management or supervision. Providers do not have individual job descriptions and cited the lack of clear job expectations as a problem. Providers have job contracts but they are vague and are not explicitly aware of their rights and responsibilities. CPH Managers did not receive any training in HRM practice and respondents reported poor knowledge and skills in this area.

System-wide issues

While the focus groups focused on assessing HRM issues, respondents emphasized larger health system problems as being major barriers to the effectiveness of the immunization program. One of the core issues raised by all respondents was the lack of financial resources, which results in problems ranging from low salaries to infrastructure and equipment in disrepair. Issues include unreliable electricity and lack of heating in some villages. Some facilities lack refrigeration devices.

“There are villages with electricity for only 3-4 hours a day. Some ambulatories do not have fridges for vaccines.”

- CPH Manager

These unreliable conditions cause reluctance by some physicians to administer or prescribe vaccines. Financial problems limit managers’ ability to visit and communicate with remote areas.
In addition to the barriers listed above, respondents identified problems that relate exclusively to immunization. Specifically, respondents cited recent negative media on the potential adverse effects of vaccination, low awareness in the population about the benefits of vaccination and false contraindications by neurologists as the major problems. Other issues include managers’ perceptions of poor provider knowledge on immunization practice and occasional interruptions in vaccine supply.

“There is a lack of information about vaccination benefits among the population.”

- Immunization Provider
DISCUSSION

Our study describes the state of human resource management within the immunization program in Georgia in early 2005. Our results are specific to the primary care level but can be generalized across the country. Our results are limited to the extent that respondents were open, however other studies and reports cite similar issues raised here.[4-6]

Our results suggest that, after ten years of health sector reform efforts in Georgia, the restructured health care system still operates on an outdated human resource management model. Although respondents felt that the organization of work in their individual facilities was acceptable, both immunization managers and providers reported weak administrative links between the CPH and PHC facilities, with providers feeling unsupported and managers in need of clear organizational processes. The scenario, where human resource management is not effectively integrated as part of the reforms, is widespread,[1-3] and similar to that experienced in countries in the CEE/NIS.[14] Ideally, appropriate consideration of human resource management should occur during, or immediately after, the decentralization process.[16] Implementing these HRM reforms after the fact, is necessary, but will be more difficult, especially if the Ministry of Health no longer has the authority or capacity to make the necessary changes occur.

Immunization managers emphasized a lack of clear guidelines to implement HRM and many providers lack written job descriptions. The delegation of HRM must accompany revision of organizational structures, reporting relationships, and job descriptions.[16] Added to this, is that planning and human resource management skills generally do not exist at local, peripheral levels
in developing countries.[17] This is likely the case across much of the CEE/NIS region, given the pre-reform system, which was highly centralized system with little responsibility at local levels.[14] Training towards these new skills requires capacity and resources,[16] which is often lacking and was the situation during implementation in much of the CEE/NIS.[14] Processes for HR management such as setting salaries, recruitment, performance assessment, staff discipline must be defined clearly and explicitly, in conjunction with a system to train staff in the use of these processes.[16]

Low salary levels are a widespread problem in Georgia. Martinez and Collins report that competitive salaries and the “means to do work” are essential pre-requisites to improving staff performance and that evidence suggests that interventions without these components in place are ineffective.[18] The severe context of unemployment in Georgia may complicate these findings since health care workers may be afraid of losing their jobs. However, anecdotal reports suggest that providers in Georgia attempt to find alternative jobs, either in the private sector, or other employment opportunities, which is commonly reported elsewhere.[19] As mentioned earlier, many supplement their low salaries with informal payments from their patients, however, to the best of our knowledge, this practice does not extend itself to the immunization program.

Managers mentioned low motivation among providers. Underpayment can contribute to poor staff motivation but a poor working environment and minimal opportunities for advancement or learning can exacerbate the problem.[18] Dieleman’s study in Vietnam showed that appreciation by managers, colleagues and the community were encouraging factors.[20] In the context of Georgia, Bennett and Gzirishvili consistently found hospital workers emphasizing the
“importance of social relationships between workers”. It is plausible that these social relationships would gain importance in the context of the socioeconomic transition currently present in Georgia, however they are unlikely to be enough to compensate for an adequate salary.

CPH managers mentioned the loss of authority over health care facilities, which are independent legal entities (some of them privatized) and do not report to CPH. The state still requires these privatized facilities to provide a service package for a minimum of ten years. However the CPH immunization managers lack the authority to ensure health targets are met. What is concerning is that the CPH has been unable to ensure that providers report priority diseases and to impose sanctions on those who fail to do so. This is an urgent problem, particularly for public health programs such as immunization, disease surveillance, and health and needs to be immediately addressed.

Equally significant is the lack of authority of CPH managers to address more systemic concerns. Poor infrastructure, lack of supplies, intermittent electricity and heating and interruption of the cold chain are all factors that can impede an effective immunization program. Improved human resource management may open the lines of communication and facilitate raising these concerns at the appropriate authority level. Currently, the Government of Georgia is implementing a health care reform initiative, with a focus on improving infrastructure, provision of equipment and training family doctors and family practice managers. Hopefully, these efforts will ameliorate health system issues and facilitate more significant improvements in immunization rates.
Underlying these system-wide issues is the problem of inadequate financing. As mentioned earlier, municipalities have inadequate budgets and cannot cover capital expenses. Furthermore, the delegation of authority for revenue collection to the municipalities is slow and they still heavily rely on transfer payments from central government, which is also sluggish in its approach.[4] The lack of delegation of financing is a critical problem, and until it is addressed, immunization and overall health system performance will likely continue to under-perform and under-deliver even in the case of improved human resource management.

CONCLUSION

Vaccination is one of the few health services that remains free for the entire population in Georgia and is a cost-effective method to reduce morbidity and mortality. While scarce resources are a significant limitation, improving HRM might increase the efficient use of these limited resources. Furthermore, developing the skills for a well-managed health workforce will build the foundations necessary to implement remaining health care system reforms, and is an overall good investment. Hopefully, this will result in a more successful implementation of health care reform within the immunization program and serve as a model for wider country health care reforms. Until appropriate delegation of financing authority and adequate levels of financing are addressed, however, the gains made by improving HRM will be less than optimal.
COMPETING INTERESTS:

The authors declare that they have no competing interests.

AUTHOR’S CONTRIBUTIONS

All authors contributed to the conception, design, and interpretation of the study. LE drafted the manuscript. JCC contributed to comments on the manuscript. MD contributed to the implementation of study in Georgia and comments on the manuscript.

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