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An In-depth Analysis of the Determinants and Consequences of Worker Motivation in Two Hospitals in Tbilisi, Georgia

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Mission

The Partnerships for Health Reform (PHR) Project seeks to improve people's health in low- and middle-income countries by supporting health sector reforms that ensure equitable access to efficient, sustainable, quality health care services. In partnership with local stakeholders, PHR promotes an integrated approach to health reform and builds capacity in the following key areas:

> *better informed and more participatory policy processes in health sector reform;*

> *more equitable and sustainable health financing systems;*

> *improved incentives within health systems to encourage agents to use and deliver efficient and quality health services; and*

> *enhanced organization and management of health care systems and institutions to support specific health sector reforms.*

PHR advances knowledge and methodologies to develop, implement, and monitor health reforms and their impact, and promotes the exchange of information on critical health reform issues.

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Abstract

This report presents findings of an in-depth study into the determinants and outcomes of health worker motivation in two hospitals in Tbilisi, Georgia. The study aimed to compare ratings of different motivational determinants between different types of workers and test associations between motivational determinants and various outcomes of the motivational process. A total of 473 workers at the two hospitals completed a structured survey instrument consisting largely of psychometric tools adapted from similar work in the US.

Many significant differences emerged between cadres of workers, in particular clinical workers reported higher levels of motivational control, pride in the organization, organizational citizenship and intrinsic job interest. Few significant differences were found in motivational outcomes. Multiple regression analysis was used to analyze factors affecting outcomes. The determinants found to be most important were attitudes to change, perception of management supportiveness and job characteristics. While the data suggested that these were the most important motivational determinants, workers themselves rated remuneration (both increasing pay and making distribution fairer) as the single most important intervention which could stimulate motivation. Policy relevant conclusions are drawn and the validity and reliability of the methods used are considered.

Table of Contents

Acronyms ix

Foreword xi

Acknowledgments xiii

Executive Summary xv

1. Introduction 1
   - 1.1 Study Goals and Objectives 2
   - 1.2 Study Context 2
   - 1.3 Outline of Report 3
2. Methods 5
   - 2.1 The Instruments 5
   - 2.2 Sampling Methods 7
   - 2.3 Data Collection Procedures 8
   - 2.4 Composite Scale Reliability 9
3. Profile of Respondents and Motivational Outcomes 11
   - 3.1 Profile of Respondents 11
   - 3.2 Motivational Outcomes in the Study Population 11
4. Comparison of Determinants and Outcomes by Population Sub-groups 13
   - 4.1 Differences in Motivational Determinants 13
   - 4.2 Differences in Outcomes 17
5. Associations between Demographic Variables, Determinants and Outcomes of Motivation 19
   - 5.1 The Effect of Demographic Variables on Outcomes 20
   - 5.2 The Effect of Motivational Determinants upon Outcomes 21
   - 5.3 The Effect of Affective and Cognitive Measures upon Performance 25
6. Differences Between Worker and Supervisor Assessments of Performance 27
7. Interventions 29
8. Discussion 33
   - 8.1 Application of Scales 33
   - 8.2 Differences between Groups 35
   - 8.3 Key Relationships 35
9. Conclusions 37

Annex A: Study Instruments 39

Annex B: Scales Used in Analysis of IWQ 53

Annex C: Bibliography 61

List of Tables

Table 1: Scales Used in IWQ Instrument 5

Table 2: Sample Size by Profession and by Hospital 8

Table 3: Scales Used in Final Analysis: Means and Alphas 9

Table 4: Means of Motivational Determinants, by Position 14

Table 5: Means of Determinant Variable, by Hospital and by Gender 15

Table 6: Means of Determinants, by Supervisor and Non-supervisor 16

Table 7: Means of Outcomes, by Profession (showing only scales with significant differences) 17

Table 8: Means of Outcomes, by Hospital (showing only scales woth significant differences) 17

Table 9: Means of Outcomes, by Whether or Not Respondent is a Supervisor (showing only scales with significant differences 18

Table 10: Percentage Variance in Outcomes Accounted for by Demographic Variables 20

Table 11: Percentage Variance in Affective and Cognitive Outcomes Accounted for by Motivational Determinants 22

Table 12: Percentage Variance in Self-assessed Performance Accounted for by Motivational Determinants 23

Table 13: Percentage Variance in Supervisor-assessed Performance Accounted for by Motivational Determinants 24

Table 14: Percentage Variance in Performance Accounted for by Affective and Cognitive Measures 25

Table 15: Mean Differences between Supervisor-assessed and Self-assessed Performance 27

Table 16: Scores Awarded to Interventions to Improve Worker Motivation, Differences by Professional Category 29

Table 17: Scores Awarded to Interventions to Improve Worker Motivation, Differences by Hospital and Supervisory Position 30

Table 18: Most Common Responses Regarding Implementation Details for Selected Motivational Interventions 31

Table 19: Title 33

List of Figures

Figure 1: Determinants of Health Worker Motivation 1

Figure 2: Mean Ratings on Performance Scales 11

Figure 3: Mean Ratings for Affective and Cognitive Outcomes 12

Figure 4: Conceptual Framework for the Analysis of Determinants and Outcomes of Health Worker Motivation 19

Acronyms

CH5	City Hospital No. 5
CRH	Children's Republican Hospital
IWQ	Individual Worker Questionnaire
PHR	Partnerships for Health Reform
SAP	Supervisory Assessment of Performance
USAID	United States Agency for International Development

Foreword

Part of the mission of the Partnerships in Health Reform Project (PHR) is to advance "knowledge and methodologies to develop, implement, and monitor health reforms and their impact." This goal is addressed not only through PHR's technical assistance work but also through its Applied Research program, designed to complement and support technical assistance activities. The program comprises Major Applied Research studies and Small Applied Research grants.

The Major Applied Research topics that PHR is pursuing are those in which there is substantial interest on the part of policymakers, but only limited hard empirical evidence to guide policymakers and policy implementors. Currently researchers are investigating six main areas:

- Analysis of the process of health financing reform
- The impact of alternative provider payment systems
- Expanded coverage of priority services through the private sector
- Equity of health sector revenue generation and allocation patterns
- Impact of health sector reform on public sector health worker motivation
- Decentralization: local level priority setting and allocation

Each Major Applied Research Area yields working papers and technical papers. Working papers reflect the first phase of the research process. The papers are varied; they include literature reviews, conceptual papers, single country-case studies, and document reviews. None of the papers is a polished final product; rather, they are intended to further the research process—shedding further light on what seemed to be a promising avenue for research or exploring the literature around a particular issue. While they are written primarily to help guide the research team, they are also likely to be of interest to other researchers, or policymakers interested in particular issues or countries.

Ultimately, the working papers will contribute to more final and thorough pieces of research work, such as multi-country studies and reports presenting methodological developments or policy relevant conclusions. These more polished pieces will be published as technical papers.

All reports will be disseminated by the PHR Resource Center and via the PHR website.

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Finally we would like to thank all the staff at the two study hospitals who contributed both their time and their opinions to this study.

Executive Summary

Background

This report represents the third and final component of a program of research on health worker motivation in Georgia. A comparable sister study was undertaken in the Hashemite Kingdom of Jordan. In this report, the findings of an in-depth study into the determinants and outcomes of health worker motivation in two hospitals in Georgia are presented. The specific objectives of the study were to:

- Assess the reliability of well-tested psychometric scales when applied in the Georgian context;
- Compare ratings of various determinants among types of workers (medical staff, nursing staff, allied health professionals, and service/administrative staff) and between hospitals;
- Test associations between various determinants and outcomes of the motivational process.

Methods

The instrument used in the study was based upon psychometric scales widely used in work motivation in the United States of America and adapted for use in Georgia, as well as scales specially designed to reflect features peculiar to the Georgian situation. Performance outcomes were measured using a self-administered questionnaire for workers, and a supervisory assessment form, which asked supervisors to comment on the same dimensions of performance for the workers whom they supervised. The study sought to question all employees at the two hospitals who had not participated in previous phases of work, with the exception of hospital attendants, who were dropped from the sample because they found it very difficult to respond to some of the questions. A total of 473 individual worker questionnaires and 437 supervisor questionnaires were completed.

Confirmatory factor analysis and Cronbach alphas were used to assess the reliability of the scales used.

Differences in Motivational Determinants

Many significant differences emerged between different cadres of worker; in particular, doctors (and to a lesser extent nurses) were distinct from other (non-clinical) groups in their motivational determinants. Clinical groups reported higher levels of motivational control, and greater pride in the organization and degrees of organizational citizenship, work preferences, and intrinsic job interest. These groups rated financial rewards to the job lower than did other categories of worker.

Whether or not the respondent had any responsibility for supervising others also affected motivational determinants. Respondents with supervisory responsibilities tended to rate motivational determinants higher than non-supervisors. Far fewer significant differences were found when considering gender and age.

Differences in Motivational Outcomes

Few significant differences in motivational outcomes were found between sub-groups. Respondents at the teaching hospital reported higher organizational commitment and cognitive motivation than at the other hospital studied, but supervisor-assessed “getting along with others” was lower.

Associations

Multiple regression analysis was used to explore:

- how demographic variables affected outcomes;
- how differences in individual worker motivational determinants and perceived contextual factors affected outcomes;
- how affective motivation and cognitive motivation affected worker performance.

Few demographic variables were found to have a significant impact upon outcomes. The demographic variable found to have the largest impact was the hospital with which the respondent was associated, which had a particularly large impact upon organizational commitment.

With one exception, all motivational determinants contributed to one or other of the affective or cognitive motivational scales. The determinants found to be most important were attitudes to change, management supportiveness, and job characteristics. Far fewer determinants had significant impacts upon the performance scales (either supervisor-assessed or self-assessed performance).

Furthermore very few significant associations were found between affective and cognitive measures, and performance measures.

Worker and Supervisor Assessment of Performance

Very little correspondence was found between how employees themselves assessed their performance and how their supervisors assessed their performance. Correlation coefficients between these scales were very low (all less than 0.083) and insignificant. For all the scales examined, and for virtually all the sub-groups examined, supervisors awarded higher ratings than respondents.

Interventions to Promote Motivation

Building upon the previous component of the study, respondents were asked to score a number of interventions according to how effective they were thought to be in stimulating good performance. Issues concerning remuneration were overwhelmingly cited as being most critical, followed by interventions to improve the work environment. In terms of remuneration, while most respondents were concerned simply to receive a higher income, doctors also set a high priority upon establishing a fairer and more transparent payment system.

Methodological Conclusions

The use of psychometric scales to examine the determinants of worker motivation was largely successful, but the outcomes scales, particularly the performance scales, seemed more problematic.

In particular it is doubtful whether the performance scales used measured those dimensions of performance that health workers in Georgia would themselves think of as being aspects of good performance. Further research and developmental work is required in this area.

Conclusions Regarding Results

Significant differences were found between demographic groups in terms of motivational determinants. The most striking of these was that between different professional groups. Health workers with a clinical background seemed most open to interventions that promote intrinsic motivation in their work (such as clearer job definitions and opportunities for social interaction); however, this group also had the most negative opinion of the financial returns to their work.

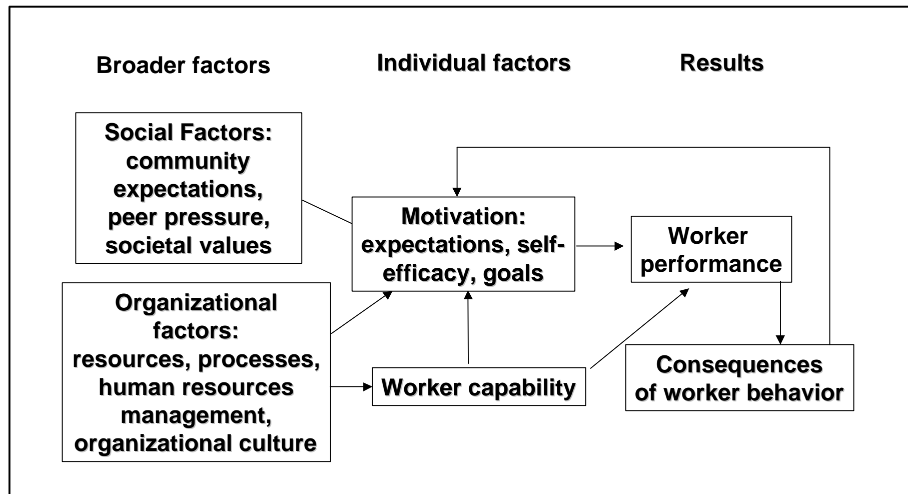
The principle factors affecting motivational outcomes appear to be ability to cope with change, perception of management supportiveness, and job characteristics. Change will negatively affect motivation, particularly if workers feel that they are operating in an environment characterized by uncertainty and lack of clarity. Improved planning of reforms and greater efforts to disseminate reform strategies to minimize uncertainty may help improve worker motivation.

1. Introduction

Work motivation is defined as the individual's degree of willingness to exert and maintain an effort towards organizational goals (Kanfer, 1999) and is often cited as a major constraint to health systems performance in developing and middle-income countries. The Partnerships for Health Reform (PHR)[1] has undertaken this topic for exploratory research, under its major applied research program. Although extensive research has been done on worker motivation in the United States, little has been done in developing countries. Thus, the first phase of PHR's research activities focused on the development of a multi-disciplinary conceptual framework for examining the determinants of health worker motivation and how health sector reforms impact on it (Bennett and Franco, 1999). This framework, presented in Figure 1, lays out motivational determinants at several levels:

- The individual level: expectations for consequences of work behavior, perception of self-efficacy and goals;
- The work context or organizational level: organizational resources and processes, human resource management, and organizational culture;
- Broad socio-cultural factors: community expectations, peer pressure, societal values

Figure 1. Determinants of Heath Worker Motivation



[1] Funded by the United States Agency for International Development, under contract # HRN-C-00-95-00024.

The research methodology (Kanfer, 1999) developed to examine these elements was divided into three components:

1. A contextual analysis to examine historical, social, and organizational facts that characterize the general working environment;

2. A 360 degree assessment to examine perceptions about the specific work environment held by workers themselves, as well as by supervisors, managers and patients;

3. An in-depth analysis to focus on the individual determinants and outcomes of the worker's motivational process.

In Georgia these three study components were conducted sequentially, with the results from each component feeding into the design and analysis of subsequent components. The findings of the two previous study components are found in Bennett and Gzirishvili, (2000) and Bennett, Gzirishvili, and Kanfer (2000).

The study methods are being applied simultaneously at two research locations: in the Hashemite Kingdom of Jordan and in the Republic of Georgia. This report presents the methodology and results from the third component of this research program (the in-depth analysis) as conducted at two public hospitals in Tbilisi, Georgia.

1.1 Study Goals and Objectives

To date, there has been relatively little research investigating the determinants and outcomes of health care worker motivation in Georgia or in most developing and transition countries.

The specific objectives of the present descriptive and analytical study were to:

- Assess the reliability of well-tested psychometric scales when applied in the Georgian context;
- Compare ratings of various determinants among types of workers (medical staff, nursing staff, allied health professionals, and service/administrative staff) and between hospitals;
- Test associations between various determinants and outcomes of the motivational process.

The results of the in-depth analysis will be used, in conjunction with those of the 360 degree assessment and the contextual analysis, to develop recommendations for improving health worker motivation in Georgia, as well as to help advance methodologies for studying health worker motivation in developing and transitional countries.

1.2 Study Context

All three components of the study were conducted at the same two hospitals in Georgia:

The Children's Republican Hospital (CRH), a large teaching and tertiary hospital in Tbilisi is comparatively better resourced than many other Georgian hospitals and is located on a site with

several other specialty hospitals. During the period of study, the hospital board at CRH and the Chairman of the Board were replaced by order of the Minister of Health.

City Hospital No.5 (CH5), a medium-to-large general hospital that provides care to both children and adults, is located on the outskirts of Tbilisi. This hospital was built during the Soviet period to provide care to the workers (and their families) at a nearby military factory. Since the break-up of the Soviet Union, production at the factory has declined dramatically, with deleterious effects on both the resources available to the hospital and the income of the local population.

As described in the contextual analysis, health services in Georgia have undergone radical reforms during the past decade, largely as a consequence of declining funding for the sector and concerns to improve both efficiency and quality of care.

1.3 Outline of Report

The following section of this report describes the methods used. Section 3 then presents a profile of respondents. Section 4 compares ratings between different sub-groups, and Section 5 analyzes the relationships between different motivational constructs. Section 6 explores the relationship between supervisor-assessed performance and self-assessed performance. Although not a core objective of the study, this casts light on the reliability of these performance scales. Section 7 presents findings from the final part of the survey instrument, which focused upon interventions to improve motivation in the study hospitals.

Finally, findings are discussed in Section 8 and conclusions presented in Section 9.

2. Methods

2.1 The Instruments

In contrast to the smaller samples and more qualitative data in the 360 degree assessment, this phase of the research focused on larger samples of strictly quantitative data. Two instruments were used to collect data: the individual worker questionnaire (IWQ) and the supervisors' assessment of worker performance (SAP). Copies of instruments used in the in-depth phase are provided in Annex A.

The IWQ was a self-administered form filled out by hospital workers. It asked about workers' individual perceptions about themselves and their work environment. The SAP was a self-administered questionnaire filled out by supervisors of those workers in the IWQ sample and contained a performance scale parallel to the one included in the IWQ. Both questionnaires included unique identification numbers for each worker, allowing data from the questionnaires to be merged into a single data file.

The IWQ instrument was based primarily upon well-tested psychometric scales widely used in work motivation research in the United States. In addition, scales that had been developed during the 360 degree assessment and that appeared robust were also included.

Table 1 outlines the major types of information collected.

Table 1. Scales Used in IWQ Instrument

Type of information	Scales (corresponding question numbers)	Source of scales
1. Demographic and background information	Including hospital, profession, age, gender, years of work experience, supervisory responsibility.	Specially designed for survey
Determinants of Motivation		
2. Values	Georgian work ethic (Q1-7)	Designed locally by consultant psychologists
	Locus of control (Q8-22)	Spector (1988)
	Consequences of performance (shame) (Q23-28)	Locally developed for Jordan and adapted to Georgia
3. Organizational culture and atmosphere	Supportive management structures (Q29-36)	Developed from 360 degree survey and Lynch et al., 1999
	Pride in work (Q37-40)	Developed from 360 degree

	Work unit atmosphere (Q41-49)	Podsakoff et al., 1997
4. Workplace conditions	Job characteristics: motivational elements (Q51-69) Financial reward (Q70-74) Work preferences (Q75-79)	Edwards et al., 1999 Developed locally for Georgia Warr et al.,1979
5. Personality	Self-efficacy (Q80-84) Motivational skills – self-regulation (Q85-94)) Attitudes to work (Q95-99) Coping with change (Q100-106)	Brett and Yoger, 1998 Hegestaad and Kanfer (unpublished) Helmreich and Spence, 1978 Judge et al., 1999
6. Organizational constraints/obstacles	Resource constraints (Q107-109) Bureaucratic constraints (Q110-112)	Locally developed Locally developed
Consequences of Motivation		
7. Performance consequences	Performance (Q113-129)	Kanfer, 1999
8. Affective consequences	General satisfaction (Q130-135) Intrinsic job satisfaction (Q136-139) Extrinsic job satisfaction (Q140-142) Organizational commitment (Q143-154) Cognitive consequences of motivation (Q156-161)	Taylor and Bowers ,1972 Cammann et al., 1979 Seashore et al., 1982 Allen and Meyer, 1990 Aiken and Hage, 1966)
9. Recommendations to improve motivation - Locally developed		

The first section of the questionnaire sought demographic data, and the final section built upon information gathered in the 360 degree analysis to seek hospital-specific recommendations on how to improve motivation. The other sections of the questionnaire largely contained entire, well-tested scales (or selected items from such scales) for a total of 161 individual items. All scales were rated on a 5-point Likert-scale format ranging from strongly disagree (1) to strongly agree (5), with the exception of four scales that used the 1 to 5 format for other criteria (such as satisfaction, or very true to not at all true of me).

The SAP used the same 17-item performance scale developed by Kanfer that the workers used to assess themselves. Supervisors were asked to use a 5-point Likert format scale—(1) "very true of this worker" to (5) "not very true of this worker"—to rate each worker.

The questionnaire was developed in the following manner: First, a generic questionnaire was developed drawing almost entirely upon scales developed, tested, and used in the U.S. context. For many items the language used had to be modified (mainly eliminating the use of slang) so that the items were easier to translate. Certain scales were then removed or added to the generic instrument based upon what was already known about the Georgian context. For example, scales on pride, resource availability, bureaucratic constraints, financial reward, and attitudes towards change were added to reflect better the Georgian context. Second, all items and scales were reviewed and translated, by a Georgian team that included two consultant psychologists. During this process certain items were omitted or added.[2] Third, minor changes had to be made to the questionnaire after piloting to make questions more easily understandable.

It had initially been planned to collect secondary data from hospitals on individual productivity. Hospital managers stated that considerable data were available for nurses and physicians on procedures conducted and bed days for patients under their care. However, further investigation found some problems with these data; specifically, the data were only available for staff working on regular day shifts (as opposed to night staff, who were remunerated on a different basis). Furthermore, major problems were found with some of the basic data retrieved from hospitals (e.g., staff lists) and this cast doubt upon the accuracy of productivity data. Finally, the rationale for collecting the productivity data was to see how motivational determinants affected productivity. However, in the Georgian health care sector, staff are very under-utilized, and the factors affecting workload are probably linked more to issues of demand than worker motivation.

2.2 Sampling Methods

The study aimed to base analysis upon a large database. Thus it was planned to conduct a census of all workers at the study hospitals. The only staff to be excluded were (i) those who had been questioned during the previous phase, the 360 degree assessment, and (ii) people in management positions, which was taken to include all those at head of department level and higher. To this end, complete staff lists were sought from the human resource departments of both hospitals. According to initial figures given by the human resource departments of the hospitals, a complete census would have led to about 1000 respondents. However it quickly became evident that the hospital staff lists bore little relation to actual workers within the hospital and that actual staff numbers were considerably less than figures originally provided. In order to get accurate lists of staff actually working, the researchers organized meetings at both hospitals at which they explained the purpose of the research to all heads of departments and requested that heads of department provide complete lists of all staff working within the department. These lists were then used as a basis for distributing questionnaires

It was hoped to have at least 500 respondents drawn more or less equally from different professional groupings. During the piloting of the questionnaire, it became evident that less educated respondents (primarily attendants/hospital cleaners) had great difficulty in answering the

[2] For example, the performance scale initially contained two items that addressed attendance: one stated that the worker had "a good record of attendance" the other that the worker was "rarely absent." In translation these two items became virtually identical and therefore one was omitted.

questionnaire. Consequently it was decided to exclude this group from the sample but attempt a census of all other groups.

As Table 2 shows, desired sample size and representativeness was not quite achieved. Total sample size was 473, of which 356 were from the Children's Republican Hospital and 117 from City Hospital Number 5. While part of the problem of low numbers was due to inflated estimations provided by the human resource department, delays in implementing the survey (due to difficulties in establishing who actually worked at the hospital) meant that much fieldwork was done during late July and early August when some workers were on vacation. Repeat visits to the hospitals were made in September to try to catch missed respondents. However, the numbers, particularly from CH5, remained low.

A further problem with survey implementation was that a number of supervisors refused to complete questionnaires appraising the work of the people whom they supervised. This occurred for a total of 36 records. It was mainly for doctors and nurses that supervisors refused to complete appraisal forms.

Table 2. Sample Size by Profession and by Hospital

Profession	CRH	CH5	Total	Total with supervisor scores
Doctor	108	30	138	128
Nurse	122	51	173	158
Unskilled worker	39	10	49	48
Administrator	45	13	58	57
Allied health professional	42	13	55	46
Total	356	117	473	437

2.3 Data Collection Procedures

Fieldworkers from a private Georgian data collection company organized the data collection sessions with heads of department. IWQ data were collected during group sessions where the questionnaire was introduced by the fieldworkers, and then the surveys were self-administered. It was initially planned to have group sessions at the department level with 10-12 respondents in each group session. However it was rare that this many respondents could be gathered together; instead, a larger number of smaller group sessions of 2-5 respondents were run. Some of the less educated staff (primarily so-called "technical workers" such as maintenance men) had difficulty answering the questionnaire, and the fieldworkers sometimes had to explain questions to this group. Most participants took 40-45 minutes to complete the questionnaire. At the end of the session, all participants were thanked for their time and assistance.

SAP data were to be collected on an individual basis from supervisors. During the piloting of the questionnaires it became apparent that supervisors were frequently uncomfortable completing this form, particularly when they realized that it would be possible to link (via the record ID) their appraisal to individual workers. Despite reassurances by the fieldworkers (and on the questionnaire

itself) that appraisal results were to be kept entirely anonymous, a few supervisors refused to complete appraisal forms on their staff.

2.4 Composite Scale Reliability

Item responses to all sections of the instruments (IWQ and SAP) were quantitatively coded and entered into a combined data file. Reverse-scored items were re-coded.

Table 3 summarizes the scales used in the analysis and presents means and Cronbach alpha scores. These scales were based upon the original scales included in the questionnaire, but were checked through the use of factor analysis and estimation of alpha scores.

Table 3. Scales Used in Final Analysis: Means and Alphas

Scale	Mean	Cronbach's alpha
Motivational Determinants		
Work as a source of self-respect	4.11	0.713
Work as a source of social respect and interaction	4.08	0.621
Locus of control	2.77	0.607
Shame	4.34	0.862
Supportive management	3.07	0.766
Pride	3.88	0.834
Organizational Citizenship	3.72	0.773
Motivational characteristics – feedback	3.69	0.736
Motivational characteristics - Social interaction	3.75	0.421
Motivational characteristics – Job definition	3.82	0.601
Motivational characteristics – Intrinsic job interest	4.08	0.752
Motivational characteristics of job*	3.77	0.835
Financial reward	2.00	0.805
Work preferences	4.22	0.745
Self-efficacy	3.61	0.577
Motivational control	3.86	0.609
Motivational control - emotional	3.39	0.576
Attitudes to work	4.17	0.671
Attitude to change	3.19	0.639
Resource Availability	2.88	0.601
Bureaucratic obstacles	2.90	0.480

Performance Scales		
Conscientious	2.35 (workers) 2.74 (supervisors)	(workers) 0.904 (supervisors)
Timeliness and attendance	3.16 (workers) 3.51 (supervisors)	0.5982 (workers) 0.734 (supervisors)
Gets along with others	3.49 (workers) 3.78 (supervisors)	0.7546 (workers) 0.835 (supervisors)
General satisfaction	3.47	0.712
Intrinsic job satisfaction	3.23	0.787
Extrinsic job satisfaction	3.00	0.595
Organizational commitment	3.62	0.843
Cognitive motivation	3.28	0.779

* This scale simply aggregates all the items on the previous four scales into one large cell

Cronbach alphas were on the whole high. Only two scales (job characteristics – social interaction, and bureaucratic obstacles) had a very low Cronbach alpha.

Annex B presents the items in each scale and discusses details in terms of retention of items.

3. Profile of Respondents and Motivational Outcomes

3.1 Profile of Respondents

Mean age of the respondents was 43.9 years with respondents from Children's Republican Hospital being significantly older than those at City Hospital No. 5 (mean age 45.1 compared to 40.4 years).

The majority of respondents (84.1 percent) were female reflecting the gender ratio among hospital staff as a whole. Doctors and administrators were rather less likely to be female (68.8 percent and 61.2 percent) than other categories of respondents. Nurses were almost entirely female.

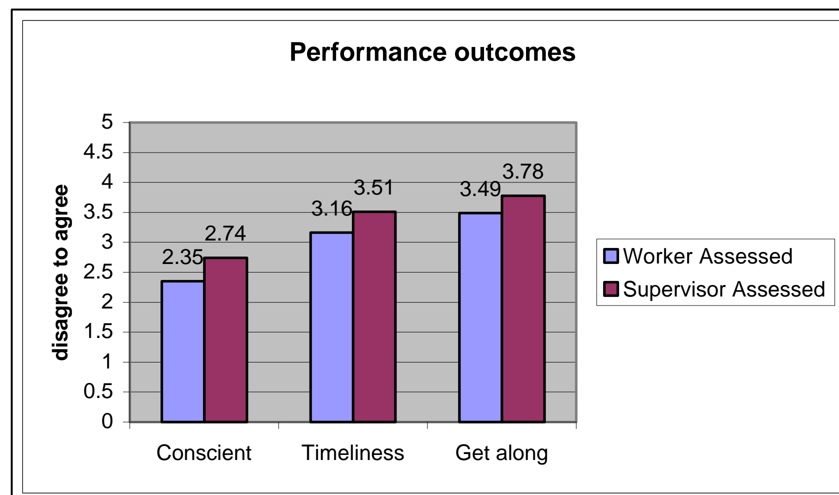
Nearly 60 percent (59.2 percent) of respondents said that they supervised other workers. This high proportion of "supervisors" is probably due to the fact that both doctors and nurses were over-sampled compared to hospital attendants and the fact that stating that one is a supervisor is viewed to give higher status and is therefore desirable in the Georgian context.

3.2 Motivational Outcomes in the Study Population

Three dimensions of performance outcomes were examined: conscientiousness of worker, getting along with others, and timeliness and attendance. Workers' self appraisals and supervisors' appraisals were available for these dimensions. Figure 1 shows means for these scales.

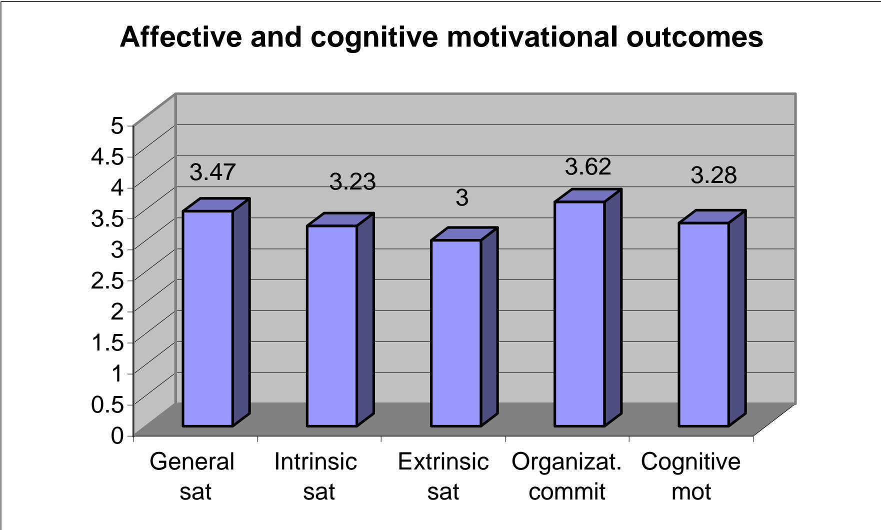
Scores are quite low, particularly for the scale on conscientiousness. Supervisors gave higher mean scores than the workers' assessment.

Figure 2. Mean Ratings on Performance Scales



Affective and cognitive motivational outcomes are shown in Figure 3. It is surprising that scoring of extrinsic aspects was not lower, but it should be noted that this scale did not refer to pay directly, but rather to fringe benefits, educational/training opportunities etc. Organizational commitment appeared high relative to other affective and cognitive outcomes.

Figure 3. Mean Ratings for Affective and Cognitive Outcomes



4. Comparison of Determinants and Outcomes by Population Sub-groups

Differences in motivational determinants and outcomes were analyzed by five different population sub-groups:

1. Profession (doctors, nurses, unskilled, administrative, allied health worker)

2. Hospital

3. Gender

4. Age

5. Supervisory position or not

4.1 Differences in Motivational Determinants

Table 4 shows means scores by professional category. The mean scores for perceived contextual variables (particularly those relating not to job characteristics but to organizational context such income and resource availability) were low. Respondents also perceived that they had a relatively limited locus of control. In contrast, scores on the "work preferences" scale, which attempted to capture "employee's need for satisfaction and achievement through skilled and autonomous work" (Warr et al., 1979), were universally high, as were feelings of shame at not adequately fulfilling job responsibilities, and the intrinsic interest of the work was perceived to be high by all categories of worker, although unskilled workers rated this more poorly than other groups.

Many significant differences emerged between different cadres of worker. Most differences seemed to be between professionals (doctors, nurses) and unskilled workers. Professionals were more likely to emphasize the value of work and also to state that they would be ashamed if their work was not performed well. They also reported higher levels of motivational control, greater pride in the organization and degrees of organizational citizenship, work preferences, and intrinsic job interest. In contrast, professionals rated more poorly than unskilled workers the financial rewards to the job.

Table 4. Means of Motivational Determinants, by Position

Scales	Doctors	Nurses	Unskilled	Admin	Allied	Significance of difference P
Individual Differences						
Self-respect	4.26	4.14	3.84	4.07	3.98	0.000
Social standing	4.15	4.13	3.73	4.07	4.07	0.000
Locus of control	2.87	2.69	2.65	2.81	2.78	0.002
Shame	4.41	4.43	4.10	4.24	4.29	0.001
Work preferences	4.37	4.17	3.99	4.28	4.11	0.000
Self-efficacy	3.58	3.62	3.60	3.66	3.65	---
Motivational control	3.88	3.89	3.67	3.88	3.92	0.035
Emotional control	3.49	3.37	3.15	3.36	3.47	0.041
Work attitudes	4.28	4.19	4.05	4.11	4.04	0.003
Attitudes to change	3.13	3.17	3.33	3.32	3.14	---
Perceived Contextual Variables						
Management support	3.05	3.03	3.02	3.25	3.11	---
Pride	3.91	3.90	3.56	3.87	3.80	0.022
Organizational citizenship	3.73	3.80	3.58	3.69	3.63	0.029
Income	1.84	1.94	2.20	2.24	2.13	0.000
Resource availability	2.95	2.87	2.68	2.93	2.92	---
Bureaucratic efficiency	2.96	2.84	3.14	2.89	2.72	0.015
Feedback	3.62	3.73	3.58	3.63	3.88	---
Social interaction	3.88	3.76	3.64	3.65	3.59	0.023
Job definition	3.89	3.74	3.95	3.81	3.87	---
Intrinsic interest	4.18	4.15	3.70	4.02	4.03	0.000

Far fewer significant differences emerged when considering hospital and gender (see Table 5). Interestingly the perceived locus of control and level of management support was greater at CH5 than CRH, but in general more positive attitudes towards work, change, and pride in the hospital were found at CRH. Only three significant differences were found in terms of gender. Women were more likely than men to emphasize the social value of work, but men perceived that they had greater control over their work than women, and men also viewed the bureaucratic environment more positively.

Table 5. Means of Determinant Variable, by Hospital and by Gender

Scales	CRH	CH5	P	Male	Female	P
Individual Differences						
Self-respect	4.15	4.10	0.023	4.14	4.11	---
Social standing	4.10	4.03	---	3.91	4.11	0.006
Locus of control	2.74	2.84	0.039	2.87	2.75	0.023
Shame	4.35	4.34	---	4.27	4.36	---
Work preferences	4.24	4.16	---	4.25	4.20	---
Self-efficacy	3.61	3.61	---	3.55	3.63	---
Motivational control	3.88	3.80	---	3.80	3.88	---
Emotional control	3.44	3.24	0.005	3.29	3.41	---
Work attitudes	4.21	4.05	0.002	4.17	4.17	---
Attitudes to change	3.24	3.05	0.002	3.15	3.20	---
Perceived Contextual Variables						
Management support	3.03	3.18	0.020	3.10	3.07	---
Pride	3.96	3.52	0.000	3.75	3.87	---
Organizational citizenship	3.71	3.77	---	3.64	3.74	---
Income	1.99	2.03	---	2.05	1.98	---
Resource availability	2.92	2.79	---	2.73	2.93	---
Bureaucratic efficiency	2.91	2.83	--	3.08	2.86	0.009
Feedback	3.69	3.68	---	3.61	3.70	---
Social interaction	3.77	3.70	---	3.80	3.74	---
Job definition	3.82	3.84	---	3.76	3.84	---
Intrinsic interest	4.10	4.01	---	4.03	4.08	---

Several significant differences between those with supervisory responsibilities and those without were apparent (see Table 6). Significant differences arose with respect to work as a means to self-respect, the social value of work, locus of control, work preferences, motivational control, attitudes to work, pride in the organization, social element of job, and intrinsic interest of job. For all of these scales, supervisors rated motivational determinants higher than non-supervisors. However, this finding must be interpreted carefully. Doctors are significantly more likely than other groups to be supervisors: 84 percent of doctors have some supervisory responsibility compared to only 48 percent of other groups. Hence the more positive attitudes among supervisors may be linked to the general more positive ratings (at least of intrinsic determinants) among professional categories of staff.

Table 6. Means of Determinants, by Supervisor and Non-supervisor

Scales	Supervisor	Non-supervisor	P
Individual Differences			
Self-respect	4.18	4.02	0.003
Social standing	4.16	3.97	0.001
Locus of control	2.83	2.67	0.000
Shame	4.38	4.30	--
Work preferences	4.26	4.15	0.017
Self-efficacy	3.64	3.57	--
Motivational control	3.92	3.78	0.001
Emotional control	3.38	3.40	--
Work attitudes	4.23	4.09	0.002
Attitudes to change	3.19	3.18	--
Perceived Contextual Variables			
Management support	3.09	3.04	--
Pride	3.93	3.75	0.005
Organizational citizenship	3.75	3.68	--
Income	1.97	2.02	--
Resource availability	2.88	2.89	--
Bureaucratic efficiency	2.89	2.89	--
Feedback	3.69	3.68	--
Social interaction	3.83	3.64	0.002
Job definition	3.87	3.77	--
Intrinsic interest	4.16	3.97	0.000

Surprisingly few significant differences emerged between age groups. On the basis of age quartiles the only significant difference was on the scale work preferences. Differences were maximized if the sample was split into two age groups (less than 40 years old, compared to more than 40 years old). With these groupings there were significant differences on three scales (i) pride (younger group mean score 3.76, older 3.92 p=0.014) (ii) work preferences (younger mean 4.27, older 4.17, p=0.027) and (iii) resource availability (younger 2.80, older 2.96, p=0.029). These scores suggest that while older respondents had a more positive view of their work context than younger people, younger people tended to have a stronger need to derive satisfaction from work.

4.2 Differences in Outcomes

The demographic variables appeared to have much less impact on outcomes than on determinants. This section highlights only those outcomes where significant differences by demographic category were found.

Table 7 shows that the only significant differences in outcomes by profession were found for the scales on organizational commitment, and the supervisor's assessment of how well employees got along with other staff.

Table 7. Means of Outcomes, by Profession (showing only scales with significant differences)

	Doctors	Nurses	Unskilled	Admin	Allied	Significance of difference P
Organizational commitment	3.73	3.59	3.47	3.64	3.61	0.051
Supervisor-assessed "getting along"	3.86	3.97	3.74	3.36	3.43	0.021

Means of outcomes by hospital suggested that both organizational commitment and cognitive motivation were higher at the CRH whereas supervisor assessed 'getting along' was higher at CH5 (Table 8). In addition there was a considerable difference in general satisfaction between the two hospitals although this was not quite significant at the 5 percent level (mean = 2.49 at CRH and mean = 2.65 at CH5 P=0.052).

Table 8. Means of Outcomes, by Hospital (showing only scales with significant differences)

	CRH	CH5	P
Organizational commitment	3.72	3.32	0.000
Cognitive motivation	3.38	2.99	0.000
Supervisor-assessed "Getting along"	3.67	4.07	0.008

More significant differences were found for supervisors versus non-supervisors (see Table 9), with supervisors on the whole showing more favorable outcomes than non-supervisors. This is particularly the case with respect to affective outcomes (intrinsic satisfaction, and differences in organizational commitment were large though not significant at the 5 percent level) and supervisory assessment of performance.

Table 9. Means of Outcomes, by Whether or Not Respondent is a Supervisor (showing only scales with significant differences)

	Supervisor	Non-supervisor	P
Organizational commitment	3.66	3.57	0.063
Intrinsic satisfaction	3.33	3.10	0.010
Supervisor-assessed conscientiousness	2.86	2.57	0.039
Supervisor-assessed timeliness	3.67	3.29	0.009

There were no significant differences on the basis of gender. In terms of age just one significant difference emerged on the scale organizational commitment: younger staff (specifically, those less than 35 years old) were significantly less committed to the organization than all older groups (p=0.039).

5. Associations between Demographic Variables, Determinants and Outcomes of Motivation

As Figure 2 shows, a number of relationships were anticipated between the different scales measured in the study. Specifically, this section considers three different sets of relationships depicted in the figure:

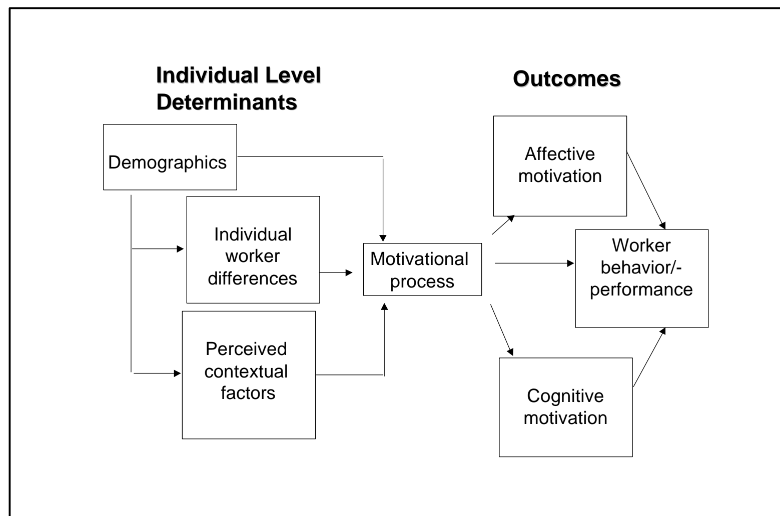
> How demographic variables affect outcomes (in terms of affective motivation, worker performance, and cognitive outcomes);

> How individual worker differences and perceived contextual factors (in addition to demographics) affect the same set of outcomes as in (a) above;

> How affective motivation and cognitive motivation affect worker performance

Unlike the analysis in the previous section, regression analysis is used here, as this allows for the simultaneous impact of multiple explanatory variables.

Figure 4. Conceptual Framework for the Analysis of Determinants and Outcomes of Health Worker Motivation



To address (a), a set of linear regression models were run, based on forced entry of a set of demographic variables: hospital, profession, gender, age, and supervisory responsibility. These models were run for each of the outcome variables available.

For (b), a second-level model containing a series of determinants (individual worker differences and perceived contextual factors) was entered simultaneous to the demographic variables. Entering

the demographic variables first allowed examination of additional variance explained by the motivational determinants, as calculated by the square of the part correlation values.

Finally for (c) a third sort of model was developed using only the worker performance scales as dependent variables and regressing these upon the demographic variables and measures of affective motivation and cognitive motivation.

Any significant contribution to motivational outcomes is worth exploring for possible intervention, as large contributions to variance are rare in this type of research where a very complex set of variables are influencing behavior.

5.1 The Effect of Demographic Variables on Outcomes

In the first, simplest regression models, the various measures of outcomes were regressed upon the key demographic variables: hospital, profession, gender, age, and whether or not the respondent had supervisory responsibilities. Table 10 indicates, for those results which were significant at the 5 percent level, the percentage variance in outcomes accounted for by the demographic variables.

Table 10. Percentage Variance in Outcomes Accounted for by Demographic Variables

Dependent Variable	Hospital	Profession	Gender	Age	Supervise
Self-assessed performance					
Conscientious		--	--	--	--
Get along	--	--	--	--	--
Timeliness & att	--	--	--	--	
	--				
Supervisor-assessed performance					
Conscientious	--	--	--	--	--
Get along	1.8%	1.8%	--	--	--
Timeliness & att	--	--	--	--	0.9%
Satisfaction					
General job sat.	1.0%	--	--	--	--
Intrinsic sat.	--	--	--	--	1.4%
Extrinsic sat.	--	--	--	--	--
Organizational commitment	8.5%	--	--	--	--
Cognitive motivation	3.4%	--	--	--	--

In the regression analyses, demographic variables rarely had significant impacts upon outcomes, and the overall strength of the relationships (as measured by adjusted R squared and F) were low. This is unsurprising given the fact that in the previous section few significant differences were found between demographic groups in terms of outcomes.

Of the demographic variables considered, the hospital was the most likely to have a significant effect, and this effect was of considerable magnitude for the outcome “organizational commitment.” Respondents from the CRH were significantly more likely to state a strong organizational commitment than those from CH5. Whether or not the respondent supervised other staff members also had a significant impact upon outcomes. Neither gender nor age had a significant impact (at the 5 percent level) upon any of the outcome variables.

5.2 The Effect of Motivational Determinants upon Outcomes

In the second set of models a separate set of explanatory variables were entered after the demographic data. Two distinct types of further explanatory variables were identified: (i) those which relate to differences in individuals and (ii) those which relate to differences in individuals’ perception of the context in which they work. The eight new sets of explanatory variables entered were as follows:

- I. Individual differences
  - work values
  - individual differences
  - expectations
  - emotional personality
  - work-related personality
- II. Perceived contextual differences
  - organizational culture
  - organizational characteristics
  - job characteristics

For each of the sets listed above all the variables in the set were simultaneously entered into the model, so for each different outcome variable eight different regression models were estimated. It should be noted that for some of these sets (e.g., job characteristics) there was quite high and significant (at the 1 percent level) correlation between the variables included in the sets. This multi-collinearity is likely to reduce the significance of coefficients. For this reason the job characteristics variables were also entered as one unified scale.

Table 11 shows the additional variance explained (over and above that explained by the demographic variables) in affective motivation and cognitive outcomes by the motivational determinants.

Table 11. Percentage Variance in Affective and Cognitive Outcomes Accounted for by Motivational Determinants

Determinants	General job satisfaction	Intrinsic satisfaction	Extrinsic satisfaction	Organizational commitment	Cognitive motivation
Individual Differences					
Work values					
Self-respect	--	1.8%	--	2.1%	1.8%
Social respect	--	--	--	1.6%	--
Individual differences					
Locus of control	--	--	--	1.2%	--
Job preferences	--	--	1.5%	2.2%	--
Attitudes to change	3.2%	--	--	6.6%	2.2%
Expectations					
Shame	--	--	--	1.8%	--
Emotional personality					
Emotional control	--	--	--	2.9%	--
Work-related personality					
Self-efficacy	1.0%	--	--	4.7%	--
Motivational control	--	1.0%	--	--	--
Work attitudes	--	--	1.8%	3.2%	0.8%
Perceived Contextual Variables					
Organizational culture					
Pride	2.1%	--	--	18.3%	1.4%
Org citizenship	--	--	--	--	--
Org. characteristics					
Management support	1.1%	--	--	5.4%	1.4%
Salary/Income	3.3%	--	1.3%	--	--
Resource available	0.8%	--	1.1%	1.1%	--
Bureaucratic efficiency	--	--			
Job characteristics					
Feedback	1.1%	--	--	2.2%	--
Social interaction	--	--	--	--	--
Job definition	1.2%	--	--	1.3%	--
Intrinsic interest	2.3%	--	--	2.4%	--
Job characteristics (single scale)	1.4%	--	--	18.7%	2.7%

With the sole exception of organizational citizenship all motivational determinants contributed significantly to one or other of the affective and cognitive outcomes. One variable that explained considerable differences in three outcomes was “attitude to change.”

The dependent variable which was most successfully explained by the determinants was organizational commitment. It is unclear why this was the case but independent variables were consistently significant and high R square were observed. The most important determinants of organizational commitment were (i) pride (ii) job characteristics (when entered as a single scale), (iii) attitude to change, and (iv) perception of management supportiveness.

General job satisfaction appeared to be influenced primarily by contextual variables, particularly organizational and job characteristics. The regressions on intrinsic and extrinsic satisfaction were the weakest of those estimated.

Table 12 shows similar analyses conducted with measures of self-assessed performance as the independent variable. The motivational determinants explained less of the variation in performance than in the affective and cognitive outcomes.

Again attitudes towards change appeared to be an important factor, at least with respect to workers' ability to get along with their staff. Management supportiveness and job characteristics (entered as a single scale) were other key factors affecting how workers get along together. In general however the explanatory power for regressions on conscientiousness and timeliness were low.

Table 12. Percentage Variance in Self-assessed Performance Accounted for by Motivational Determinants

Determinants	Conscientiousness	Timeliness	Get along
Individual Differences			
Work values			
Self-respect	--	--	--
Social respect	--	--	--
Individual differences			
Locus of control	--	--	0.9%
Job preferences	--	--	--
Attitudes to Change	--	--	6.5%
Expectations			
Shame	--	--	--
Emotional personality			
Emotional control	--	1.0%	--
Work-related personality			
Self-efficacy			
Motivational control	--	--	1.0%
Work attitudes	--	--	--
	--	2.5%	--
Perceived Contextual Variables			
Organizational culture			
Pride	--	1.0%	--
Org citizenship	--	--	1.3%

Org. characteristics			
Management support	--	--	5.3%
Salary/Income	--	--	--
Resource avail	--	--	--
Bureaucratic efficiency	--	--	0.8%
Job characteristics			
Feedback	--	--	1.3%
Social interaction	--	--	--
Job definition	--	1.3%	0.8%
Intrinsic interest	--	--	--
Job characteristics (entered as a single scale)	1.9%	2.7%	4.9%

In Table 13 the results for regressions with supervisor-assessed performance as the dependent variable are shown. Supervisor assessments of performance were even more poorly explained than self-assessed measures of performance. The most significant findings relate to the impact of expectations (shame/peer pressure) and work attitudes upon supervisor assessed timeliness.

For both self-assessed and supervisor-assessed measures of performance, the clarity of job definition seems to be the most important job characteristic affecting performance.

Table 13. Percentage Variance in Supervisor-assessed Performance Accounted for by Motivational Determinants

Determinants	Conscientiousness	Timeliness	Get along
Individual Differences			
Work values			
Self-respect	--	--	--
Social respect	--	--	--
Individual differences			
Locus of control	--	--	0.9%
Work preferences	--	--	--
Attitudes to change	--	--	--
Expectations			
Shame	--	2.3%	--
Emotional Personality			--
Emotional control	--	--	
Work-related personality			
Self-efficacy	--	--	--
Motivational control	1.3%*	--	--
Work attitudes	--	2.2%	--

Perceived Contextual Variables			
Organizational culture			
Pride	--	--	--
Org citizenship	--	--	1.0%
Org. characteristics			
Management support	--	0.8%	--
Salary/Income	--	--	--
Resource avail	--	--	--
Bureaucratic efficiency	--	--	--
Job characteristics			
Feedback	--	--	--
Social interaction	--	--	--
Job definition	2.0%	--	--
Intrinsic interest	--	--	--
Job characteristics (entered as single scale)	--	2.5%	--

*Note a negative sign on this coefficient

5.3 The Effect of Affective and Cognitive Measures upon Performance

Finally, regression analysis was used to explore how affective and cognitive outcomes were linked to self-appraised and supervisor-appraised measures of performance. The affective and cognitive measures were entered into the regression simultaneously as independent variables, on top of the demographic variables. As Table 14 shows, these measures only accounted for a small percentage of the variation in performance measures, and for several measures of performance none of the explanatory variables were significant.

Table 14. Percentage Variance in Performance Accounted for by Affective and Cognitive Measures

	Worker assessment of performance			Supervisor assessment of performance		
	Timeliness	**Conscientious**	**Get along**	**Timeliness**	**Conscientious**	**Get along**
General satisfaction	--	--	1.1%	--	--	--
Intrinsic satisfaction	--	--	--	--	1.7%	--
Extrinsic satisfaction	--	--	--	--	0.9%	--
Organizational commitment	--	--	1.4%	1.4%	--	--
Cognitive motivation	--	--	--	--	--	--

6. Differences Between Worker and Supervisor Assessments of Performance

Although not central to the research objectives, a further question addressed with the data was the correspondence between supervisor - and self-assessed performance measures. Analysis showed significance differences between how workers assessed performance and how their supervisors did so. Interestingly supervisors tended to appraise worker's performance more highly than workers themselves (see Table 15).

Table 15. Mean Differences between Supervisor-assessed and Self-assessed Performance

	Time	Conscientiousness	Getting Along
Average difference	0.34**	0.39**	0.32**
Hospital			
CRH	0.33**	0.45**	0.25*
CH5	0.38	0.24	0.51**
Profession			
Doctor	0.46**	0.65**	0.57**
Nurse	0.53**	0.33*	0.50**
Unskilled	-0.33	0.57*	0.10
Administrator	0.08	0.10	0.32
Allied health worker	0.41	0.18	0.02
Supervisory position			
Supervisor	0.44**	0.45**	0.38**
Non-supervisor	0.19	0.30*	0.24
Gender			
Male	0.49*	0.38	0.39
Female	0.31**	0.40**	0.31*

Note: A positive sign means that supervisors rated performance more highly than workers.
** indicates significant difference at the 1 percent level between supervisor-assessed mean score and self-assessed mean score.
** indicates significant difference at the 5 percent level between supervisor-assessed mean scores and self-assessed mean scores.

The pattern of supervisors offering higher appraisals than workers was fairly consistent across all categories of workers. While some of the differences, namely for hospital, and gender and certain professional categories, were not significant, the size of the difference was often still substantial and the lack of significance was probably due mainly to small sample size. The only sub-groups for which differences between supervisors' appraisals and workers' appraisals really appear to be very small are for administrators.

Correlation coefficients between supervisors and workers were 0.083 for conscientiousness, and 0.031 for both measures of timeliness and getting along with others. None of these correlation coefficients were significant at the 5 percent level.

7. Interventions

In the previous phase of the study, the 360 degree assessment, respondents were asked to score on a 5-point scale a number of interventions according to how effective they would be in stimulating good performance. A large number of interventions were highly ranked. In order to reach stronger conclusions on which interventions might be effective, the last section of this instrument asked respondents to select and rank the three interventions that they thought would contribute most to motivation. Interventions which were thought by respondents to be most important were awarded a score of 3, the second most important intervention was awarded a score of 2 and the third most important a score of 1. Table 16 shows mean total scores for the 10 listed interventions, ranked by priority as well as mean scores by profession.

Table 16. Scores Awarded to Interventions to Improve Worker Motivation, Differences by Professional Category

Intervention	Doctor	Nurse	Unskilled	Admin	Allied	Significance of differences between professions P	Mean
Increase income	1.725	2.156	2.490	1.948	2.180	0.001	2.042
Establish more transparent payment system	1.399	0.925	0.714	1.052	1.251	0.000	1.095
Improve equipment	0.659	0.636	0.816	0.759	0.854	--	0.701
Improve work conditions	0.449	0.624	0.775	0.534	0.345	--	0.545
Increase opportunities to develop skills	0.804	0.393	0.082	0.517	0.527	0.000	0.512
More emphasis on doing things correctly	0.572	0.416	0.204	0.535	0.291	0.037	0.440
Establish system to recognize good work	0.167	0.301	0.245	0.190	0.255	--	0.237
Increase verbal recognition from supervisor	0.130	0.220	0.367	0.121	0.036	0.001	0.175
Assist workers with transport	0.072	0.121	0.082	0.224	0.109	--	0.114

Assist workers with child care	0.022	0.173	0.225	0.034	0.145	0.005	0.114

As was found in the previous phase of the study, issues concerning remuneration were overwhelmingly cited as the most critical ones to improve worker motivation. Considerably less important to the group of respondents as a whole were interventions to improve the working conditions and equipment available, and opportunities to develop skills. Interventions aimed at assisting workers with child care or transport problems or increasing the amount of verbal recognition from supervisors were rarely selected as priority interventions.

A considerable number of significant differences emerged between different professional groups. Among the most interesting were those related to income. Two different income interventions were included: one simply stated an increase in income, the other emphasized more transparent remuneration systems. Doctors tended to rate income increases as less important than did the other professional groups but rated the importance of transparent payment mechanisms considerably higher than did other groups. Opportunities to develop professional skills were also more likely to be perceived by doctors to be an important intervention than by other groups. Unskilled workers were more likely to select interventions relating to increased verbal recognition by supervisors and assistance with child care than did other professional groups.

Table 17 shows similar scores by hospital and by whether or not the respondent had a supervisory position.

Table 17. Scores Awarded to Interventions to Improve Worker Motivation, Differences by Hospital and Supervisory Position

Intervention	CRH	CH5	P	Supervisor	Non-supervisor	P
Increase income	2.098	1.872	--	1.900	2.249	0.002
Establish more transparent payment system	1.177	0.846	0.006	1.193	0.953	0.024
Improve equipment	0.612	0.974	0.002	0.757	0.622	--
Improve work conditions	0.500	0.684	--	0.586	0.487	--
Increase opportunities to develop skills	0.539	0.427	--	0.614	0.363	0.002
More emphasis on doing things correctly	0.458	0.385	--	0.400	0.497	--
Establish system to recognize good work	0.205	0.333	--	0.229	0.249	--
Increase verbal recognition from supervisor	0.197	0.111	--	0.114	0.264	0.000

Assist workers with transport	0.087	0.196	0.024	0.107	0.124	--
Assist workers with child care	0.095	0.171	--	0.089	0.150	--

In terms of differences between hospitals, the most surprising difference is that respondents at CRH were significantly more likely to give a high priority to establishing a transparent payment mechanism than were respondents at CH5. Given the fact that CH5 is located much farther from town and is poorly served by transport, it was predictable that assisting workers with transport would be a more popular intervention at this hospital. Similarly, equipment is considerably worse at CH5 and this probably explains the high priority awarded to improving equipment at this hospital.

Supervisors were more likely than non-supervisors to place a high priority on increasing opportunities to develop skills and establishing a more transparent payment system, whereas non-supervisors thought increasing verbal recognition and putting more emphasis on doing things correctly to be more important than supervisors did.

There were minimal differences on the basis of age and gender: younger respondents were significantly more likely to prioritize increasing opportunities to develop skills than older ones, and men placed higher priority on improving equipment than women did.

Respondents were also asked to provide further details for how their chosen intervention might be implemented. Many of the responses to this question did not clearly link to the interventions previously selected. The three most common responses to this question are shown in Table 18. None of the "other" responses were cited more than five times, and they reflect a diffuse set of concerns and ideas.

Table 18. Most Common Responses Regarding Implementation Details for Selected Motivational Interventions

	N	% of valid responses
Re-institute free-of-charge health care services	36	25.5%
Pay appropriate salaries	31	22.0%
Pay salaries on a timely basis	21	14.9%
Other	53	37.6%

The reintroduction of free health care was most likely to be suggested among clinical staff. It was probably seen as a means to pursue several goals including increasing the number of patients (through improving financial accessibility), and lifting the financial burden upon patients so that they may be better able to pay informal payments as well as reducing tension between patient and provider. This suggestions was made significantly more frequently by staff at CH5 (52.4 percent of respondents) than by staff at CRH (14.0 percent of respondents, possibly reflecting the poorer catchment area served by CH5.

8. Discussion

Discussion of the findings is divided into three parts corresponding to the objectives of this component of the study, namely the application of industrialized country psychometric scales to developing and transition country contexts, differences between sub-groups, and relationships between key motivational constructs.

8.1 Application of Scales

The psychometric scales used in this study were drawn from three sources: (i) the bulk of scales were adapted from existing scales used in industrialized countries, (ii) a handful of scales were constructed building upon analysis of the previous phase of research (i.e., the 360 degree assessment), and (iii) a few scales were constructed especially for this phase of research.

The applicability of industrialized country scales can be addressed from a number of perspectives:

> How easy was it to translate or adapt the scales so that they could be comprehended by respondents in the very different contexts studied?

> How reliable were the scales in terms of different items on the scales moving together? This was measured using Cronbach's alpha presented in Table 3.

> How valid are the scales? A key measure of this is the extent to which the causal relationships depicted in Figure 2 can be established using the scales.

It is useful to distinguish between scales measuring four different constructs identified in Figure 2: determinants stemming from individual worker differences, determinants stemming from perceptions of the contextual environment, affective and cognitive motivational outcomes, and performance outcomes.

Table 19 attempts to summarize the performance of the different types of scales on the three different perspectives identified above

Table 19. Title

	Determinants		**Outcomes**	
	Individual worker differences	**Perception of context**	**Affective and cognitive motivational outcomes**	**Performance**
Ease of translation/ Comprehension	Good for most. Difficulties with scales on emotional personality and	Good	Good	Good

	work-related personality			
Statistical reliability*	Good except for scales on self-efficacy and motivational control	Good on all except "job characteristics – social interaction"	Good	Good
Validity in terms of establishing causal relationships	Good, although perhaps less so for scales which were poorly comprehended e.g., self-efficacy	Good	Reasonable	Poor

* An acceptable or 'good' alpha score is taken to be 0.60 or over.

The scales that were most difficult to adapt for use in the Georgian context were those that relied heavily on abstract and unfamiliar concepts (such as ability to regulate one's emotions in the work place). In order to cover the full range of motivational constructs, one category of less educated worker (hospital attendants) was dropped from the sample; even so, fieldworkers reported some problems in responding to these sorts of questions, particularly among less educated workers.

These problems in comprehending some of the more sophisticated items in the survey are perhaps reflected in low statistical reliability of certain scales (such as self-efficacy and motivational control). On the whole, however, statistical reliability of scales was good.

For the scales measuring determinants, there were many significant differences in mean scores by demographic group. In general these differences made sense and were possible to explain by reference to the characteristics of different groups. In general the validity of the determinant scales seems good.

In contrast, the outcome scales showed far fewer differences between demographic groups. Furthermore, on the whole, determinants explained only a very small fraction of the variation in outcomes. The one clear exception to this is the scale "organizational commitment," which seemed to perform well. In general, the scales covering affective and cognitive motivational outcomes appeared to perform considerably better than the scales addressing performance. The performance scales, despite appearing reliable (in terms of Cronbach alpha scores), do not appear to be measuring what workers themselves really thought of as being good performance. Their validity is also brought into question by the wide divergence between self-appraised and supervisor-appraised scores.

A number of factors may contribute to the problems associated with the performance measures. First, it is important to take the context into account. Neither supervisors nor employees in Georgia are accustomed to conducting performance appraisals, and this may affect the reliability of their responses. Furthermore, even though it is planned that the two study hospitals will stay open (unlike many in Tbilisi) many staff probably fear for their job security in the current reform context[3] . Such concerns may have biased responses, and, if supervisors were particularly aware of and concerned about this issue, it may explain why they tended to award higher scores than workers themselves.

[3] The realization that jobs were no longer secure was one of the key changes that respondents in the contextual analysis mentioned.

While these explanations cast light on why responses may have been biased or inconsistent, they do not explain the high reliability, combined with the low observed validity.

An alternative explanation is that performance, in the minds of the respondents, does not conform closely to the dimensions of performance picked out in the questionnaire. The performance part of the questionnaire used very generic performance measures (such as attendance, timeliness, hard working). More specific health care-related performance measures (such as responsiveness to patient needs) may have led to more interesting results. Furthermore, some of these questions may not be at all relevant, particularly given the very low occupancy rate of hospitals in Georgia. For example being a "fast worker" may not be a desirable quality in a context where there is very little work to go round.

8.2 Differences between Groups

Across several dimensions significant differences emerged between groups in the sample. On the whole, these differences confirmed findings from the 360 degree assessment. For example, many of the differences between hospitals relate to the fact that CRH is a relatively prestigious teaching hospital, which explains, for example, the greater pride in the facility and possibly certain individual characteristics among its staff (such as attitudes toward work that place greater emphasis upon autonomy, and the need to have clearly defined tasks). However, there were also a few surprises such as the perception of greater management support at CH5 and a greater locus of control.

The differences between different professions were also largely predictable. Both doctors and nurses expressed stronger belief in positive values associated with work (such as work being a source of self-respect), higher shame associated with not performing well at work, greater intrinsic interest in the work, and greater opportunities for positive social interaction through their work. However the perception of the adequacy of income was particularly low among these groups of clinical workers, confirming previous impressions that the primary motivating factors for these groups were intrinsic motivators which, to a certain extent, overcame their strong concerns about basic conditions.

Several differences were also observed between supervisor and non-supervisor groups, with those in the supervisor group tending to express more positive opinions than the non-supervisor group. The reasons for this are unclear: although the more positive opinions of this group may stem from their current experiences in their supervisory role, it is equally possible that people are more likely to rise to supervisory positions because of their positive opinions.

8.3 Key Relationships

Unfortunately, the study was not entirely successful in establishing relationships between different motivational constructs due mainly to the problems with the performance scales described in 8.1 above. The most reliable evidence comes from examining the determinants significantly linked to affective and cognitive motivational outcomes.

Financial reward or income seems particularly important with respect to general satisfaction among workers, but it does not appear to affect other measures such as organizational commitment. Workers no doubt appreciate that the very inadequate salaries they currently receive are not determined by the hospital for which they work but are linked to the broader macroeconomic environment. Indeed, an understanding of this was clear from the comments made by respondents at the end of the questionnaire. The analysis here did not identify any clear impact of income upon

performance; however, the problems associated with the performance measures make this finding somewhat inconclusive. Certainly responses to the final part of the questionnaire were almost unanimous in citing increased income as being the most important intervention to improve worker motivation.

Three other determinants also appeared to significantly affect several outcomes. The first is attitudes toward change, which significantly affected organizational commitment, general satisfaction, cognitive motivation, and how workers themselves thought that they got along with other workers. Of all the determinants studied, it seems the most broadly important. This is perhaps not surprising given the very radical changes that have taken place in the Georgian health sector during the past decade. Reforms will continue into the future, and means to help health workers adjust to change better seem worth examining. For example, improving communication of reform strategies, and providing support groups for health workers to examine the implications of changes for themselves may be effective strategies.

Management supportiveness was another important determinant, significantly affecting general satisfaction, organizational commitment, cognitive motivation, supervisor-assessed timeliness, and how workers assessed how they got along with each other. Particularly at CRH, improvements in relationships between management and staff so as to enhance staff's perception of "management supportiveness" may help improve motivation. However it is quite possible that the lower rating on this dimension is partly linked to recent management changes to which staff had not, at the time of the survey, become accustomed.

Surprisingly, job definition was significant not only in terms of affecting general satisfaction and organizational commitment, but also supervisor-assessed conscientiousness and staff-assessed "getting along." Health worker contracts in the study hospitals give very loose job descriptions, and, given the apparent importance of this issue it would seem worthwhile both to tighten job descriptions in contracts as well as to ensure clearer job definition in day-to-day functioning of staff.

9. Conclusions

The study reported here was in many respects an exploratory one. To date, very little research has been conducted on health worker motivation in developing and transition country contexts (Bennett and Franco, 1999). The use of psychometric scales in this study to examine the determinants of worker motivation seemed largely successful. More problematic was the outcome scales used, particularly the performance scales. Clearly further research and developmental work is required in this area. In particular, performance scales need to be adapted to reflect better the types of tasks undertaken by health workers and the type of context within which they work. Also, additional qualitative research is required to understand the dimensions of performance from the worker's own perspective.

The discussion above has already noted the lack of any form of performance appraisal in Georgia, and during fieldwork it became evident how concerned many people were about such appraisals, even if they were to be anonymous. However, the results of the study show how little agreement there was between workers and their supervisors about performance. While at this stage in the reform process it may be counter-productive to institute formal performance appraisals, personnel and management policies need to be adapted so that there are clear communication channels between workers and their supervisors about what is expected of them and how they are performing. Some kind of annual staff review process that encompassed this might also address concerns about lack of job definition.

The previous component of the study in Georgia, the 360 degree analysis, revealed substantial diversity in the motivational determinants between groups of workers. This larger scale study has confirmed these findings. In particular in the Georgian context, there are considerable differences between motivational determinants among clinical and non-clinical workers. Such differences need to be borne in mind when interventions to promote worker motivation are developed.

Interestingly there was not a close alignment between the factors that workers themselves argued would promote worker motivation, and those factors found by the analysis to positively impact affective and cognitive motivational outcomes. Workers unanimously agreed that financial reward was the most important intervention in terms of promoting motivation. While the regression analysis found that financial reward did significantly affect general satisfaction and extrinsic satisfaction, it failed to significantly influence any other outcomes. This evidence is consistent with Hertzberg's argument that hygiene factors (such as financial reward) can cause dissatisfaction, but are unlikely to be positive motivators (Hertzberg et al., 1959).

The principle factors affecting motivational outcomes and performance appear to be: ability to cope with change, perception of management supportiveness, and to a lesser extent job definition. While ability to cope with change is partly a dispositional factor (and therefore not something that policymakers can easily address), policymakers may be able to address some of the factors that can cause change to be so disturbing. Literature on coping with change stresses the importance of individuals being able to cope with uncertainty and lack of clarity. In Georgia the reform process has been characterized by an extremely high degree of uncertainty and lack of clarity. Improved planning of reforms and far greater efforts to disseminate reform strategies so as to minimize uncertainty and confusion may help improve the motivation of health staff. Improved job definition and even greater communication between management and staff also appear to be key interventions.

Annex A: Study Instruments

Individual Worker Questionnaire
Worker Attitude Survey

This survey is part of a larger project aimed at better understanding the beliefs, attitudes and work conditions that contribute to employee motivation and job satisfaction in two hospitals in Tbilisi. By gathering information from many employees, we hope to learn what factors are most important in affecting worker motivation, satisfaction, and job performance.

This booklet contains a series of brief questionnaires that take about 40 minutes to complete. Please answer EVERY question in the booklet. Instructions for how to respond to the different questionnaires in the booklet are provided at the top of each page. Please note that there are no right or wrong answers, just what YOU think and how YOU perceive your work situation.

All the information that you provide in this session will be held in confidentiality. Your responses will be kept by the researchers, and we will aggregate responses from all interviews so that no one individual will be identifiable. The aggregated information we collect from these interviews will be used to: (1) identify strengths and weaknesses in the current administrative system with respect to enhancing worker motivation, (2) assist us in developing recommendations to enhance motivation, satisfaction, and job performance among workers in this hospital

Results of this study will be made available for those interested in seeing them.

Subject Number __ __ __

Hospital ________

I. Background Information

For each question below, either write in your answer or put an "X" beside the best response option.

1. What is your profession? (title)
2. How many years of experience do you have working in this profession? _____ yrs
3. Are you ____ Male or ____ Female?
4. How long have you been working for this hospital? ____ years.
5. What is your current position? ___________________________________
6. How long have you been in your current job? ______ years.
7. What is your age? _________ years old
8. Do you supervise any other workers? ______ Yes _____ No

If yes:

Approximately how many workers do you supervise? ______

What type of workers do you supervise? (check all those that apply)

________________ Nurses

________________ Doctors

________________ Clerical workers

________________ Hospital attendants

________________ Technical workers (porters, gatekeepers)

________________ Ancillary workers (e.g., lab, radiology, pharmacy, etc.)

________________ Other (please describe)

II. Values

Directions: use the scale below to indicate how much you agree or disagree with each statement by placing the number that best corresponds to your answer in the space next to the question number. Remember there are no right or wrong answers, only what is TRUE of you.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

1. Work is important as it is a source of self-realisation.

2. Cooperation is a stimulus to achieve better results.

3. Work is important as it enables one to be socially valuable.

4. Work is important as it provides opportunity for social interaction.

5. Work is a source of self-respect.

6. Work is a means to foster personal growth.

7. Dedication to quality work makes a person feel worthwhile.

8. A job is what you make of it.

9. On most jobs, if people do the best they can, then they achieve the goals they set themselves.

10. If employees are unhappy with a decision make by their boss, they should do something about it.

11. Getting a job you want is mostly a matter of luck.

12. Making money is primarily a matter of good fortune.

13. Most people are capable of doing their jobs well if they make the effort.

14. In order to get a really good job you need to have family members or friends in high places.

15. Promotions are usually a matter of good fortune.

16. When it comes to getting a really good job, who you know is more important than what you know.

17. Promotions are given to employees who perform well on the job.

18. To make a lot of money you have to know the right people.

19. It takes a lot of luck to be an outstanding employee on most jobs.

20. People who perform their jobs well generally get rewarded for it.

21. Most employees have more influence on their supervisors than they think they do.

22. The main difference between people who make a lot of money and people who make a little money is luck.

23. If I were known as a bad professional, I would be ashamed.

24. If my supervisor told me I did a poor job, I would feel ashamed.

25. If co-workers had to re-do my work, I would feel ashamed.

26. If everyone were to know that I was not reliable at work, it would bring me shame.

27. If I do not do well, I feel badly, even if no one else notices.

28. If there were a goal I did not achieve at work, I would feel ashamed.

III. Organizational Culture

Directions: use the scale below to indicate how much you agree or disagree with each statement by placing the number that best corresponds to your answer in the space next to the question number. Remember there are no right or wrong answers, only what is TRUE of you.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

29. Should a problem arise during work, it is usual for my supervisor to assist me.

30. Rules at this hospital are fair.

31. This hospital gives me the possibility of decision making and acting independently.

32. Suggestions made by workers on how to improve the work are usually ignored.

33. This hospital really cares about my well-being.

34. This hospital is willing to help me when I need a special favour.

35. This hospital shows very little concern for me.

36. This hospital cares about my opinions.

37. This hospital has a good reputation in the community.

38. It is a source of pride to get a job at this hospital.

39. The majority of workers in this hospital are proud to work here.

40. Workers at this hospital pride themselves in providing good services to patients.

41. My co-workers help others if they fall behind in their work

42. My co-workers willingly [without complaint] share expertise and skills with other members of the unit.

43. My co-workers try to act like peacemakers when co-workers have disagreements.

44. My co-workers take steps to prevent problems with other co-workers.

45. My co-workers willingly give time to co-workers who have work-related problems.

46. My co-workers talk to co-workers before taking action that might affect them.

47. My co-workers provide constructive suggestions about how the unit can improve its effectiveness.

48. My co-workers attend and actively participate in (team) meetings [related to their work].

49. My co-workers find fault [criticize] with what other co-workers are doing.

50. My co-workers focus on what is wrong with the situation, rather than the positive side.

IV. Workplace Conditions

Directions: use the scale below to indicate how much you agree or disagree with each statement by placing the number that best corresponds to your answer in the space next to the question number. Remember there are no right or wrong answers, only what is TRUE of you.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

51. The work I do provides me with direct feedback about the effectiveness of my performance.

52. My managers and co-workers provide me with feedback about the quality of my performance.

53. My managers and co-workers provide me with feedback about the quantity of services I produce.

54. My job allows me freedom in how I organize my work and the methods and procedures I use.

55. My job provides the opportunity for social interaction such as team work or co-worker assistance.

56. My job duties, requirements, and goals are clear and specific.

57. I have a variety of duties, tasks, and activities in my job.

58. My job requires the completion of a whole piece of work. It gives me a chance to do an entire piece of work from beginning to end.

59. My job requires a high level of knowledge and skills.

60. My job requires a variety of knowledge and skills.

61. My job is significant and important compared to other jobs.

62. My job provides the opportunity for learning and growth in competence and proficiency.

63. My job permits me to share experience about my work.

64. My job provides opportunities for advancement to higher level jobs.

65. My job gives me a feeling of achievement and accomplishment.

66. My job gives me the opportunity to participate in decisions that affect my job.

67. As part of my job I have access to relevant communication channels and information flows.

68. My job provides acknowledgement and recognition from clients and the community.

69. My job offers job security as long as I do a good job.

70. High achievement on the job is reflected in our payment.

71. My job offers adequate pay compared with similar jobs.

72. The income I receive is a fair reflection of my skills, knowledge and training.

73. The income I receive more than covers my basic needs such as food, transport and accommodation.

74. With this job I have no worries about how to support myself and my family.

V. Work Preferences

Directions: use the scale below to indicate how much the following items are important or not important for you in your work. Place the number that best corresponds to your response in the space next to the question number.

Scale:

1	2	3	4	**5**
Very unimportant to me	Unimportant	Neither important nor unimportant	Important	Very important to me

75. Being able to do a complete piece of work. [Opportunity to do the job from beginning to end].

76. Have considerable freedom to adopt my own approach to the job.

77. Being able to judge my work performance, right away, when actually doing the job.

78. Have a job that gives me a feeling of doing something really worthwhile.

79. Being able to achieve something that I really value.

VI. Personality

Directions: use the scale below to indicate how much you agree or disagree with each statement by placing the number that best corresponds to your answer in the space next to the question number. Remember there are no right or wrong answers, only what is TRUE of you.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

80. I am confident about my ability to handle work problems.

81. I effectively cope with any important changes that occur in my work life

82. I feel that at work things are going the way I would like them to.

83. I feel that I have control of things concerning my work.

84. Even when my work is boring, I can keep focused on my tasks.

85. I consider myself to have self-control.

86. I am easily distracted in my job.

87. I like to set specific work goals for myself.

88. When I am worried about something, I can not do my work.

89. I do not let my emotions interfere with my work.

90. It is easy for me to keep myself from being distracted.

91. I prefer to put off more difficult tasks to the end.

92. I have a difficult time concentrating when I am upset (bothered by something).

93. Even when I have a boring task to do, I can find something interesting in it.

94. I do not like to quit a task until it’s done.

95. It is important for me to do my work as well as I can even if doing it well isn’t popular with my co-workers.

96. I find satisfaction in working to the best of my abilities.

97. There is satisfaction in a job well done.

98. I like to work hard.

99. Part of my enjoyment in doing things [my work] is improving my past performance.

100. The changes which are occurring within the health sector cause me stress.

101. Deep changes ultimately improve the operations of this hospital.

102. When changes occur in this hospital, I react by trying to adjust to the change rather than protest against it.

103. I think I cope with change better than most of those with whom I work.

104. Turbulence in the environment presents opportunities to make overdue changes in this hospital.

105. The rapid changes occurring in the health sector are sometimes too difficult for the management of this hospital to cope with.

106. I see the rapid changes occurring in the health sector as opening up new career opportunities for me.

VII. Organizational constraints/obstacles

Directions: use the scale below to indicate how much you agree or disagree with each statement by placing the number that best corresponds to your answer in the space next to the question number. Remember there are no right or wrong answers, only what is TRUE of you.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

107. This hospital provides everything I need to do my job effectively.

108. A fundamental reason I do not do my job properly is that I do not have the equipment, supplies and/or materials I need.

109. Lack of resources at this hospital hinders the delivery of quality care.

110. My work is rarely disrupted due to bureaucratic processes.

111. There are few instructions that obstruct and delay work.

112. I am often prevented from getting my work done effectively and efficiently by bureaucracy and un-needed processes.

IV. Performance Consequences of Motivation

Think about your job activities over the past six months. For each statement below, indicate how YOU have performed your job. Place the number that best corresponds to your answer to the left of the statement.

Scale:

1	2	3	4	5
Very unimportant to me	Unimportant	Neither important nor unimportant	Important	Very important to me

113. I am punctual about coming to work.

114. I am reliable and dependable at work.

115. I always finish my work on time.

116. My work is of high quality.

117. I am a hard worker.

118. I do things that need doing without being asked or told.

119. I am very knowledgeable about my job.

120. I do not get defensive or upset when criticized.

121. I get upset at work.

122. I am careful not to make errors.

123. I keep updated on new equipment and procedures.

124. I get along well with my co-workers.

125. I get along well with my supervisor.

126. I maintain a positive attitude toward my work.

127. I am rarely absent from work.

128. I am a fast worker.

129. I spend my time at work on work-related activities.

VIII. Affective Consequences of Motivation

Directions: Use the scale below to indicate how satisfied you are with the following aspects of your job, by placing the number which best indicates your response in the space beside the question number.

Scale:

1	2	3	4	5
Very unimportant to me	Unimportant	Neither important nor unimportant	Important	Very important to me

130. All in all, how satisfied are you with your co-workers in your work unit?

131. All in all, how satisfied are you with your supervisor?

132. All in all, how satisfied are you with your job?

133. Considering your skills and the effort you put into your work, how satisfied are you with your pay?

134. How satisfied are you with the management in your department?

135. How satisfied are you with hospital management?

136. How satisfied are you with your opportunity to use your abilities in your job?

137. How satisfied are you with the chances you have to learn new things?

138. How satisfied are you with the chances you have to accomplish something worthwhile?

139. How satisfied are you with the chances you have to do something that makes you feel good about yourself as a person?

140. How satisfied are you with the fringe benefits you receive?

141. How satisfied are you with the educational/training opportunities you get?

142. How satisfied are you with the physical working conditions (space, lighting, and ventilation)?

Directions: use the scale below to indicate how much you agree or disagree with each statement by placing the number that best corresponds to your answer in the space next to the question number. Remember there are no right or wrong answers, only what is TRUE of you.

1	2	3	4	5
Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree

143. I am willing to put in a great deal of effort beyond that normally expected in order to ensure that our work at this hospital is successful.

144. I often tell my friends that this hospital is a great organization to work for.

145. I feel very little commitment to this hospital.

146. I find that my values and this hospital's values are very similar.

147. I am proud to tell others that I am part of this hospital.

148. This hospital really inspires me to do my very best on the job.

149. I am extremely glad I work for this hospital, as opposed to other hospitals I might have worked for.

150. I would take the first opportunity to quit working at this hospital.

151. There is not too much to be gained professionally by working for this hospital permanently.

152. Often, I find it difficult to agree with this hospital's policies on important matters relating to its employees.

153. For me, this is the best of all possible hospitals to work for.

154. Accepting to work for this hospital was a definite mistake on my part.

IX. Cognition Consequences of Motivation

Directions: use the scale below to indicate how satisfied you are with the following aspects of your job, by placing the number which best indicates your response in the space beside the question number.

Scale:

1	2	3	4	5
Very unimportant to me	Unimportant	Neither important nor unimportant	Important	Very important to me

156. How satisfied are you that you have been given enough authority by your superiors to do your job well?

157. How satisfied are you with your present job when you compare it to similar positions in Georgia?

158. How satisfied are you with the progress you are making toward the goals which you set for yourself in your present situation?

159. One the whole, how satisfied are you by the way that you are accepted by your superior?

160. On the whole, how satisfied are you with your present job when you consider the expectations you had when you started working here?

161. How satisfied are you with your present job in light of (career) [future professional] expectations?

X. Recommendations to Improve Motivation

Directions: Listed below are ten potential interventions which might improve your motivation to work at this hospital.

1. Supply the hospital with better, more up-to-date equipment.

2. Improve physical working conditions (better heating, hot & cold water, etc.)

3. Assist staff with transport problems (e.g. operate a bus service for hospital staff)

4. Increase the income of staff working at the hospital

5. Put more emphasis on getting things done correctly e.g. define operational guidelines

6. Assist workers with childcare problems (e.g.more flexible schedule for mothers)

7. Establish a system to recognize good work (e.g. awards for good workers)

8. Establish a remuneration system which more transparent and leads to a more

stable income (though not necessarily a higher income)

9. Increase opportunities to develop professional skills

10. Increase the verbal recognition which supervisors give to good work

Which of one of these interventions do you think is the most important one ___ (please write number)

Which is the second most important intervention ___

Which is the third most important intervention ____

If you wish, please use the space below to provide further ideas about how these interventions might be implemented.

____
____
____

Supervisory Assessment of Worker Performance

Think about the performance of workers in your unit over the past six months. For each statement below, indicate how each one has performed his/her job. Place the number that best corresponds to your answer to the left of the statement.

1	2	3	4	5
Always true of this person	Usually true of this person	Sometimes true of this person	Rarely true of this person	Not at all true of this person

	Performance component	Name	Name	Name
	ID Number			
170	punctual about coming to work			
171	reliable and dependable at work			
172	always finish his/her work on time			
173	work is of high quality			
174	a hard worker			
175	does things that need doing without being asked or told			
176	very knowledgeable about his/her job			
177	does not get defensive or upset when criticized			
178	gets upset at work			
179	is careful not to make errors			
180	keeps updated on new equipment and procedures			
181	gets along well with co-workers			
182	gets along well with supervisor			
183	maintains a positive attitude toward his/her work			
184	rarely absent from work			
185	a fast worker			
186	spends his/her time at work on work-related activities			

Annex B: Scales Used in Analysis of IWQ

Scale	Variables	Mean	Cronbach's alpha
Work as a source of self-respect	Q1,5,6,7 - Work is important as it is a source of self-realisation. - Work is a source of self-respect. - Work is a means to foster personal growth. - Dedication to quality work makes a person feel worthwhile.	4.11	0.7129
Work as a source of social respect and interaction	Q2,3,4 - Cooperation is a stimulus to achieve better results. - Work is important as it enables one to be socially valuable. - Work is important as it provides opportunity for social interaction.	4.08	0.6206
Locus of control	Q8-22 omitting Q10,13,17,20 - A job is what you make of it. - On most jobs, if people do the best they can, then they achieve the goals they set themselves. - Getting a job you want is mostly a matter of luck. - Making money is primarily a matter of good fortune. - In order to get a really good job you need to have family members or friends in high places. - Promotions are usually a matter of good fortune. - When it comes to getting a really good job, who you know is more important than what you know. - To make a lot of money you have to know the right people. - It takes a lot of luck to be an outstanding employee on most jobs. - Most employees have more influence on their supervisors than they think they do - The main difference between people who	2.77	0.6069

	make a lot of money and people who make a little money is luck.		
Shame	Q23-28 omitting Q28 - If I were known as a bad professional, I would be ashamed. - If my supervisor told me I did a poor job, I would feel ashamed. - If co-workers had to re-do my work, I would feel ashamed. - If everyone were to know that I was not reliable at work, it would bring me shame . - If I do not do well, I feel badly, even if no one else notices.	4.34	0.8619
Supportive management	Q29-36 - Should a problem arise during work, it is usual for my supervisor to assist me. - Rules at this hospital are fair. - This hospital gives me the possibility of decision making and acting independently. - Suggestions made by workers on how to improve the work are usually ignored. - This hospital really cares about my well-being. - This hospital is willing to help me when I need a special favour. - This hospital shows very little concern for me. - This hospital cares about my opinions.	3.07	0.7663
Pride	Q37-40 - This hospital has a good reputation in the community. - It is a source of pride to get a job at this hospital. - The majority of workers in this hospital are proud to work here. - Workers at this hospital pride themselves in providing good services to patients.	3.88	0.8345
Organizational Citizenship	Q41-49 - My co-workers help others if they fall behind in their work - My co-workers willingly [*without complaint*] share expertise and skills with other members of the unit. - My co-workers try to act like peacemakers when co-workers have disagreements. - My co-workers take steps to prevent problems with other co-workers.	3.72	0.7734

	- My co-workers willingly give time to co-workers who have work-related problems. - My co-workers talk to co-workers before taking action that might affect them. - My co-workers provide constructive suggestions about how the unit can improve its effectiveness. - My co-workers attend and actively participate in (team) meetings [*related to their work*]. - My co-workers find fault [*criticize*] with what other co-workers are doing.		
Motivational characteristics - feedback	Q51-53 &Q68 - The work I do provides me with direct feedback about the effectiveness of my performance. - My managers and co-workers provide me with feedback about the quality of my performance. - My managers and co-workers provide me with feedback about the quantity of services I produce. - My job provides acknowledgement and recognition from clients and the community.	3.69	0.736
Motivational characteristics - social interaction	Q55,63 - My job provides the opportunity for social interaction such as team work or co-worker assistance. - My job permits me to share experience about my work.	3.75	0.4208
Motivational characteristics – job definition	Q54,56,58 - My job allows me freedom in how I organize my work and the methods and procedures I use. - My job duties, requirements, and goals are clear and specific. - My job requires the completion of a whole piece of work. It gives me a chance to do an entire piece of work from beginning to end.	3.82	0.6009
Motivational characteristics – intrinsic job interest	Q57, 59-62 - I have a variety of duties, tasks, and activities in my job. - My job requires a high level of knowledge and skills. - My job requires a variety of knowledge and skills. - My job is significant and important	4.08	0.7524

	compared to other jobs. - My job provides the opportunity for learning and growth in competence and proficiency.		
Financial reward	Q70-74 - High achievement on the job is reflected in our payment. - My job offers adequate pay compared with similar jobs. - The income I receive is a fair reflection of my skills, knowledge and training. - The income I receive more than covers my basic needs such as food, transport and accommodation. - With this job I have no worries about how to support myself and my family.	2.00	0.8049
Work preferences	Q75-79 - Being able to do a complete piece of work. [*Opportunity to do the job from beginning to end*]. - Have considerable freedom to adopt my own approach to the job. - Being able to judge my work performance, right away, when actually doing the job. - Have a job that gives me a feeling of doing something really worthwhile. - Being able to achieve something that I really value.	4.22	0.7449
Self-efficacy	Q80-84 - I am confident about my ability to handle work problems. - I effectively cope with any important changes that occur in my work life - I feel that at work things are going the way I would like them to. - I feel that I have control of things concerning my work. Even when my work is boring, I can keep focused on my tasks.	3.61	0.5766
Motivational control	Q85-87,Q90, Q93-94 omitting Q91 - I consider myself to have self control. - I am easily distracted in my job. - I like to set specific work goals for myself. - It is easy for me to keep myself from being distracted. - Even when I have a boring task to do, I can find something interesting in it.	3.86	0.6089

	- I do not like to quit a task until it's done.		
Motivational control - emotional	Q89&92 omitting Q88 - I do not let my emotions interfere with my work. - I have a difficult time concentrating when I am upset (bothered by something).	3.39	0.5762
Attitudes to work	Q95-99 - It is important for me to do my work as well as I can even if doing it well isn't popular with my co-workers. - I find satisfaction in working to the best of my abilities. - There is satisfaction in a job well done. - I like to work hard. - Part of my enjoyment in doing things [*my work*] is improving my past performance.	4.17	0.6708
Attitude to change	Q100-106 omitting Q100 and Q105 - Deep changes ultimately improve the operations of this hospital. - When changes occur in this hospital, I react by trying to adjust to the change rather than protest against it. - I think I cope with change better than most of those with whom I work. - Turbulence in the environment presents opportunities to make overdue changes in this hospital. - I see the rapid changes occurring in the health sector as opening up new career opportunities for me.	3.19	0.639
Resource availability	Q107-109 - This hospital provides everything I need to do my job effectively. - A fundamental reason I do not do my job properly is that I do not have the equipment, supplies and/or materials I need. - Lack of resources at this hospital hinders the delivery of quality care.	2.88	0.6012
Bureaucratic obstacles	Q110-Q112 - My work is rarely disrupted due to bureaucratic processes. - There are few instructions that obstruct and delay work. - I am often prevented from getting my work done effectively and efficiently by bureaucracy and unneeded processes.	2,90	0.480

PERFORMANCE SCALES			
Conscientious	Q114-119, Q122-23, Q128 - I am reliable and dependable at work. - I always finish my work on time. - My work is of high quality. - I am a hard worker. - I do things that need doing without being asked or told. - I am very knowledgeable about my job. - I am careful not to make errors. - I keep updated on new equipment and procedures. I am a fast worker. - I am a fast worker.	2.35 (workers) 2.74 (supervisors)	(workers) 0.904 (supervisors)
Timeliness and attendance	Q113,127.129 - I am punctual about coming to work. - I am rarely absent from work. - I spend my time at work on work-related activities.	3.16 (workers) 3.51 (supervisors)	0.5982 (workers) 0.734 (supervisors)
Gets along with others	Q124-126 - I get along well with my co-workers. - I get along well with my supervisor. - I maintain a positive attitude towards my work.	3.49 (workers) 3.78 (supervisors)	0.7546 (workers) 0.835 (supervisors)
General satisfaction	Q130-135 - All in all, how satisfied are you with your co-workers in your work unit? - All in all, how satisfied are you with your supervisor? - All in all, how satisfied are you with your job? - Considering your skills and the effort you put into your work, how satisfied are you with your pay? - How satisfied are you with the management in your department? - How satisfied are you with hospital management?	2.53	0.7115
Intrinsic job satisfaction	Q136-139 - How satisfied are you with your opportunity to use your abilities in your job? - How satisfied are you with the chances you have to learn new things? - How satisfied are you with the chances you have to accomplish something	2.77	0.7865

	worthwhile? - How satisfied are you with the chances you have to do something that makes you feel good about yourself as a person?		
Extrinsic job satisfaction	Q140-142 - How satisfied are you with the fringe benefits you receive? - How satisfied are you with the educational/training opportunities you get? - How satisfied are you with the physical working conditions (space, lighting, and ventilation)?	3.00	0.595
Organizational commitment	Q143-154 - I am willing to put in a great deal of effort beyond that normally expected in order to ensure that our work at this hospital is successful. - I often tell my friends that this hospital is a great organization to work for. - I feel very little commitment to this hospital. - I find that my values and this hospital's values are very similar. - I am proud to tell others that I am part of this hospital. - This hospital really inspires me to do my very best on the job. - I am extremely glad I work for this hospital, as opposed to other hospitals I might have worked for. - I would take the first opportunity to quit working at this hospital. - There is not too much to be gained professionally by working for this hospital permanently. - Often, I find it difficult to agree with this hospital's policies on important matters relating to its employees. - For me, this is the best of all possible hospitals to work for. - Accepting to work for this hospital was a definite mistake on my part.	3.62	0.8432
Cognitive motivation	Q156-161 - How satisfied are you that you have been given enough authority by your superiors to do your job well? - How satisfied are you with your present job when you compare it to similar positions	2.71	0.7793

	in Georgia? - How satisfied are you with the progress you are making toward the goals which you set for yourself in your present situation? - One the whole, how satisfied are you by the way that you are accepted by your superior? - On the whole, how satisfied are you with your present job when you consider the expectations you had when you started working here? - How satisfied are you with your present job in light of (career) [*future professional*] expectations?		

Notes:

Locus of control scale – it is likely that questions 17 and 20 did not work well in the Georgian context as there is no system of promotion or pay increase for good performance.

Shame scale – question 28 may not have worked well as the concept of individual workers having a 'goal' may not have been well understood.

Motivational control scale – question 91, the majority of respondents were doctors or nurses, it is probably difficult in patient care to delay certain tasks which are perceived to be difficult.

Motivational control scale-emotional, question 88, did not fit at all with questions 89 and 92 – it is unclear why this is the case.

Attitudes to change scale – questions 100 and 105 were omitted. It is possible that question 100 did not work well due to lack of understanding amongst respondents about what was meant by the term 'stress'. Question 105 is conceptually somewhat different to the others included in the scale as it refers to how hospital management were able to cope with change.

Annex C: Bibliography

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