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Evaluation of hospital safety in Georgia

(112 Hospitals)



Summary Report

Tbilisi 2018

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Preface

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1. 2017 an assessment of 50 hospitals
2. 2018 an assessment of 53 hospitals.

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I. Ensuring hospital safety

Given the risks and threats that society faces today from both natural and man-made disasters, there is a clear need for efforts to prevent and mitigate their negative impacts, while ensuring a timely and efficient response, minimization of adverse consequences, and the ability to get back to business as usual as soon as possible.

The health system in general, and health care facilities in particular, play a critical role in this. By and large, the quality and volume of health care available to the population, and the number of human lives subsequently saved, are contingent on the system's resilience to impact, its capacity to keep up or recover in a short time and under complex conditions, the functionality of its infrastructure, and the working abilities of its staff. At the same time, natural disasters, catastrophes and large-scale breakdowns, which have plagued the world's population in recent decades, have consistently shown that healthcare facilities in general, and hospitals in particular, are extremely vulnerable to disasters.

Damage to health care facilities is not merely a human tragedy, but also results in huge economic loss. Therefore, protecting health care facilities from the impact of disasters is not only imperative in order to save lives, but also an economic requirement and a political, social, moral, and psychological necessity.

Governments of countries, along with a number of international organizations and facilities, have reviewed their approaches to disaster-related issues. The actions advocated in this area include the protection of health care facilities during disasters. This is shown in a number of declarations, including the following:

- The 17 Sustainable Development Goals (SDGs).
- The Sendai Framework for Action 2015–2030: Building the Resilience of Nations and Communities to Disasters was adopted on 18 March 2015 at the World Conference on Disaster Reduction in the town of Sendai, Japan. The framework outlines a measure directly linked to the safety of health care facilities: promoting the goal of “hospitals safe from disasters” by ensuring that all new hospitals are built with a level of resilience that strengthens their capacity to remain functional in disaster situations, and implementing mitigation measures to reinforce existing health facilities, particularly those providing urgent health care.¹

These and many other such frameworks aim to strengthen national, regional and worldwide efforts to protect health care facilities during disasters, and build their capacity to withstand impacts and stay operational under the harshest conditions.

The issue of safety of health care facilities during emergencies is a hot topic for Georgia, which is at risk of several natural, manmade and biosocial hazards that could lead to emergencies or disasters.

Because of its geographic location, Georgia is prone to large-scale natural hazards. Mountainous terrain, climatic conditions and large changes in elevation within the country create numerous high-risk circumstances, and natural hazards in Georgia are characterized by high frequency and high risk. Major natural hazards include floods, flash floods, landslides, mudflows, avalanches, earthquakes, hail, heavy rains, storms and winds, and substantially affect the national economy. Over the last 40 years, 70% of Georgian territory has experienced natural hazards of hydro-meteorological and geological origin, with linked economic losses exceeding 14 billion USD.² A further current threat is posed by potential epidemics and imported pathogenic conditions caused by high migration rates and tourism development. Georgia has no domestic nuclear power plants or large-scale

¹ <https://www.unisdr.org/we/coordinate/sendai-framework>

² <http://www.preventionweb.net/globalplatform/2013/programme/statements>

chemical processing companies, but these exist in neighbouring countries and may pose a threat of radioactive or chemical pollution in the wake of possible breakdowns or accidents.

After the collapse of the Soviet Union and independence, during the transition to a market economy and while building up a democratic society, Georgia faced multiple and varied challenges – including the economic downturn, which has had a major negative impact on the health system as a whole and on the hospital sector in particular. Scarce investment in the upkeep and renovation of buildings and health care infrastructure has led to decay, with potential for disruption to day-to-day services, let alone services in emergencies. Some medical equipment has been operating way beyond its intended lifespan and may no longer meet current requirements. There is much room to improve the knowledge of health workers (including managers) of what to do in emergencies. There are also issues reported in stock-keeping of drugs, consumables and other required material resources³, meaning that throughout the 1990s and the first decade of the 21st century, medical provision in emergencies has been unreliable.

The high vulnerability and low levels of preparedness of health care facilities put these facilities at particular risk from emergencies. There is an urgent need in Georgia to develop and implement an array of measures aimed at mitigating the impact of such events.

³ Trends in health systems in the former Soviet countries; http://www.euro.who.int/data/assets/pdf_file/0019/261271/Trends-in-health-systems-in-the-former-Soviet-countries.pdf

II. Evaluation of hospital safety in Georgia

One component of disaster risk reduction strategies in the health sector is the assessment of the safety of health care facilities, identifying their vulnerabilities, setting priorities in dealing with gaps, and building capacity to respond to emergencies. Given the role that hospitals play in ensuring health care delivery during disasters, assessing hospital safety is of the utmost importance.

For these reasons, the Ministry of Internally Displaced Persons from the Occupied Territories, Labour, Health and Social Affairs of Georgia decided to assess the safety of hospitals in Georgia and requested technical assistance from the WHO Regional Office for Europe (“the Regional Office”) to perform this task. WHO agreed to support a proposal to start up a joint project, “Evaluation of hospital safety in Georgia”. The Emergency Situations Coordination and Urgent Medical Assistance Centre (ESCUMAC) was designated as the organization accountable for running the project.

The few existing tools available for hospital safety assessment tend to be expensive, time-consuming and complex in nature, and often do not meet all the necessary criteria.

Following the review of several tools and in line with the Regional Office’s recommendations, the Hospital Safety Index was selected as an assessment tool. This index was designed by a group of experts from the Pan American Health Organization (PAHO) and has been used in a number of Latin American countries.

Pilot project

In order to ensure better understanding and apprehension of the tool, the Regional Office provided training of ESCUMAC representatives at a workshop organized in Tbilisi in June 2017. Two teams were selected and trained, comprised of experts from various backgrounds including disaster management, civil protection, building construction, emergency health care and medical equipment.

Prior to the overall safety assessment, and given the teams’ lack of experience in using the chosen methodology, it was decided to carry out a pilot assessment in several hospitals before rolling out fully. During this pilot phase, in August 2017, nine hospital facilities were assessed: LTD Alliance Medi Kareli; LTD Alliance Medi Service Khashuri; LTD Dostakari; LTD Gormedi; LTD Imedi and Mariami Medical Centre; LEPL Military Hospital of the Ministry of Defence of Georgia; JSC Iavnana; LTD J. Gogiashvili’s Clinic; and LTD Medalpa Kaspi. The pilot assessment project was funded by the ESCUMAC (Table 1).

Table 1. Safety index scores of hospitals evaluated during the pilot project

No	Hospital Name	Safety Group	Index of Safety	Structural Safety	Non-structural Safety	Functional capacity
1	LTD "Alliance Medi" Kareli	C(ccb)	0.27	0.23	0.10	0.48
2	LTD "Alliance Medi Service" Khashuri	B(abb)	0.59	0.68	0.65	0.45
3	LTD "Dostakari"	B(bbb)	0.57	0.63	0.55	0.53
4	LTD "Gormedi"	A(aaa)	0.93	1.00	0.99	0.79
5	LTD "Imedi and Mariam i Medical Center"	B(ccb)	0.38	0.33	0.31	0.48
6	LEPL "Military Hospital of the Ministry of Defense of Georgia"	A(aaa)	0.79	0.67	0.89	0.82
7	JSC "Iavnana"	A(aba)	0.76	0.95	0.62	0.70
8	LTD "J. Gogiashvili's Clinic "	B(abb)	0.59	0.69	0.56	0.52
9	LTD "Medalpa" Kaspi"	B(abb)	0.64	0.86	0.54	0.51

The key conclusions resulting from the review of assessment findings were as follows:

1. The Hospital Safety Index methodology is a relatively inexpensive, simple and rapid tool to provide a general overview of hospital safety levels.
2. This methodology does not supply in-depth data about the various safety aspects of the health care facility being assessed (such aspects could only be drawn from specific, specialized expertise), but it does make it possible to identify weak links requiring priority interventions.
3. Although this tool was designed for Latin America, it could easily be adjusted for use in Georgian settings.
4. It makes sense to use the Hospital Safety Index to assess a cluster of hospitals (or the entire hospital sector) in order to identify the most vulnerable health care facilities, outline their key safety gaps, and prioritize investment in strengthening the preparedness of the whole hospital sector.
5. The methodology has an inherent bias, as in assessing hospital safety it draws to a great extent on the personal professionalism and experience of evaluators running the assessment process. Therefore, for the reasons stated above, as well as in order to ensure a single common approach to assessing the safety of hospitals under review, preference is given to having such assessments conducted by a single team of evaluators. In the case of Georgia, due to time limitations, the assessment was conducted by two teams.

The findings and experience that came from piloting the tool confirmed the utility of continuing the assessment countrywide.

WHO project

1. First phase: *Hospital Safety Assessment of 50 hospitals in Georgia*. The project started on 15 November 2017 and ran to 28 February 2018. 50 hospitals were assessed in Tbilisi and nine regions.
2. Second phase: *Hospital Safety Assessment of 53 hospitals in Georgia*. The project started on 4 May 2018 and ran until 31 August 2018. 53 hospitals were assessed in eight regions.

The results of the hospital assessments were recorded in the relevant forms and reports, along with the findings and suggestions of the evaluators, and photographs taken on the spot. These files were submitted to the relevant administrative bodies of the hospital facilities being assessed.

The project was completed with an overview report on hospital safety in Georgia, which was filed with the Ministry along with all the reports for all the assessed hospitals. Each hospital report was printed in three copies (one for administration of the evaluated hospital, one for ESCUMAC and one for the WHO Country Office).

III. Hospital Safety Index assessment tool⁴

The Hospital Safety Index tool was developed in 2007-2008 by a group of experts within the Disaster Mitigation Advisory Group (DIMAG) of the Pan American Health Organization (PAHO). The goal was to develop a low-cost, rapid, easy-to-use tool for estimating a hospital's ability to remain functional during and after a potential disaster.

The cornerstone of the tool is the term "safe hospital", which is defined as:

...a facility the services of which remain accessible and operational at maximum capacity and in the same infrastructure, during and immediately following the impact of [an] emergency.

The Hospital Safety Index methodology contains 151 parameters, each reflecting an aspect of hospital safety, and each weighted according to the degree of its influence on the facility's safety. Each parameter is valued with a certain level of safety: "Low", "Average" or "High".

Parameters are grouped in clusters depending on their underlying features. A number of clusters build up to a "sub-component," and a group of sub-components add up to make a "safety component" reflecting one of the three key areas of hospital safety. These three components, around which the Hospital Safety Index is organized, are:

- structural safety;
- non-structural safety; and
- functional capacity.

Parameters in the structural safety component are indicative of the safety of the structural elements of a facility: building quality (frameworks, pillars, load bearing walls, base, roofing, flooring, bars etc.); type and quality of construction materials; wear and tear to the building; and compliance with construction and refurbishment standards.

Non-structural safety component parameters indicate the safety of critical supply systems (power grids, water supply piping, heat supply, servicing of the plumbing system, ventilation system and climate control, supply of medical gases etc.); safety of non-structural elements of construction (partition walls, windows, doors, decorative elements, access etc.); safety of medical equipment and devices and furniture; and conditions for storing assets and fire security.

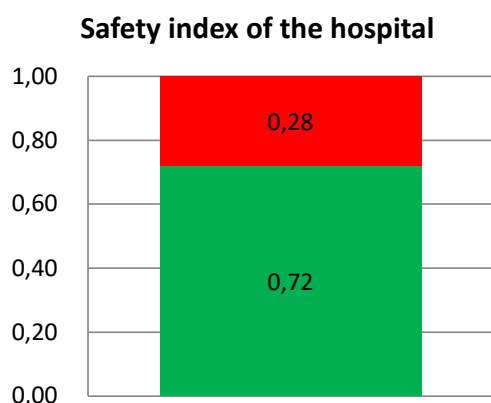
Functional capacity parameters are indicative of the way the hospital management is organized to implement disaster response plans; the resources available for emergency preparedness and response; staff training and education; and the ability to keep hospital services safe and ensure hospital operations.

The assessment scores (high, average, or low) for each individual parameter are processed using the Safety Index Calculator – a software application designed by the authors of the tool that computes a safety index and a vulnerability index for the hospital being assessed.

The Hospital Safety Index gives a value expression of a health care facility's ability to operate during emergencies that can range from 0 to 1.0 (Figure 1). It is worth mentioning that different components have different weights under the methodology used to compute the index: the structural safety component accounts for 50% of the index value; the non-structural safety component accounts for 30% of it; and the functional capacity component accounts for 20%.

⁴ http://www.who.int/hac/techguidance/hospital_safety_index_evaluators.pdf?ua=1

Figure 1. Hospital Safety Index (green) and Hospital Vulnerability Index (red) (example)



The Safety Index Calculator produces a graphical expression of the distribution of scores (high, average, or low) for all hospital safety components (Figure 2), and classifies the evaluated hospital, according to the safety index value, into one of three safety groups: A, B or C (Table 2).

Figure 2. Graphical representations of distribution of safety level scores for each hospital safety component (example)

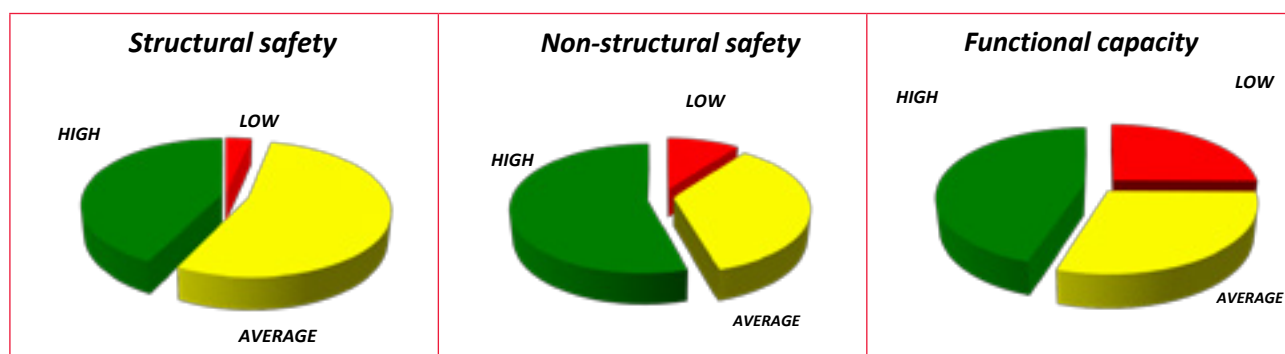


Table 2. Hospital safety groups by safety index scores

Hospital Safety Index score	Safety group	Safety group description
0.66 – 1.0	A	A hospital is able to withstand the impact of a disaster and maintain its capacity to operate during disasters. However, further measures to strengthen prevention and response capacities in the medium to long term are recommended in order to raise the safety level of the hospital during disasters.
0.36 – 0.65	B	Generally, a hospital is able to withstand the impact, while the existing level of safety is such that the lives of patients and staff, and the ability to operate during and after a disaster, are potentially at risk. Intervention measures are needed in the short to medium term.
0 – 0.35	C	A hospital's current safety levels are inadequate to protect the lives of patients and hospital staff and do not guarantee the facility's functionality during and after a disaster. Urgent intervention measures are required to mitigate such situations.

In pragmatic terms, the Hospital Safety Index tool consists of two evaluation forms, a guide for evaluators and a software application (the Safety Index Calculator).

The evaluation forms (1 and 2) come as formalized tables (checklists) into which general data about the hospital is entered along with any necessary information about the area in which the hospital is located. The safety scores are also entered for each individual parameter.

The guide for evaluators is a manual containing an in-depth description of how an assessment process is organized and carried out, criteria for assessment, and instructions on how to fill in the appropriate assessment forms. These guidelines also serve as a reference guide for the assessment of the safety parameters.

The Safety Index Calculator is an Excel-based electronic spreadsheet into which the evaluator enters the data from the assessment forms. The results of final computations (the Hospital Safety Index, the weighted safety levels for various sections and the classification of the hospital into a safety group) are automatically presented either as electronic files or on paper. The software not only allows for displaying the safety levels for each individual component (structural safety, non-structural safety and functional capacity), but also separately for different subgroups of parameters.

The assessment process is done in several stages: preparation; field work; processing; results analysis; drafting a final report; and sharing the report with the management of the hospital being assessed.

Preparation is about collecting, reviewing and analyzing data from all available sources, both data that is relevant for the hospital in question and that which is relevant to its geographical area. Preparation entails coordinating the future steps to be taken with the hospital management, while making the management knowledgeable about how the assessment will be conducted and requesting the necessary support for the process (e.g. drafting information notes, providing access to relevant subdivisions and premises to be inspected, convening meetings with people responsible for the sectors being assessed, etc.).

Field work is planned and carried out as per the recommendations set out in the evaluator guidelines. It consists of direct inspection by evaluators of the structural and non-structural elements of buildings, engineering networks and systems, facility subdivisions, medical equipment and devices, storehouses, etc. The most pressing issues identified during inspection are photographed. In the same vein, evaluators examine the plans and papers outlining the facility's preparedness and response measures for emergencies, fire security, maintenance and proper use of vital networks and systems, etc.

Besides these inspections there are interviews with the stakeholders in charge of areas critical for hospital safety. The final safety scores (high, average, or low) for each parameter draw on the results of inspections, paper reviews, dialogue and interviews. Assessment is made by a member of the evaluation team who is an expert in the relevant area, and is based on the criteria set out in the guide for evaluators.

Data on the safety levels of evaluated parameters are filled in, together with appropriate justification, in the assessment forms. Should there be any difficulties or doubts about assessing one parameter or another, the final decision is taken following consultations between the assessment team members and the responsible people from the hospital. If required, additional information may be requested from hospital representatives and other relevant bodies (the Ministry of Health, civil protection authorities, the constructions inspectorate etc.).

Following the transfer of data from the forms into a computer and the processing of the information, a review of assessment results is carried out and reflected in an assessment report. The report consists of a narrative section drafted by the assessment team members and copies of the assessment forms. It is advisable to share the final report, together with all of the assessment team's findings, conclusions and recommendations, at a meeting convening all parties involved in providing for the hospital's safety.

IV. The hospital sector in Georgia

On gaining independence in 1991, Georgia inherited an extensive hospital system with little funding to support it. The situation worsened in the wake of the economic crisis of the mid 1990s, which damaged the health system as a whole, but had particularly negative effects on the hospital system, which used to be one of the health system's most expensive components. To improve the situation, Georgia committed to drastic reforms to streamline the health system and ensure the delivery of high quality health services. The hospital sector was also heavily reformed.

Georgia had inherited a legacy of resource-rich infrastructure with excessive bed capacity and redundant personnel (in 1992, bed capacity rate was 10 beds per 1 000 people). Hospital sector optimization began in 1999. In 2007, a general plan for hospital sector development was approved, subject to which the country had to have 100 general and multi-profile, privately managed hospitals with a combined 7 800 beds, optimum localization and 30-minute geographic coverage (Resolution #11 of the Government of Georgia). Implementation of this plan in the regions failed due to lack of interest from private investors.

In 2010, the state held competitions to identify insurance companies to partner in the State Health Insurance Programme. The companies were charged with constructing and/or rehabilitating hospitals in medical districts. Investment projects were also implemented through private and foreign investment (Resolution #218 of the Government of Georgia, dated 2009). Within the scope of the hospital sector development programme, 102 multi-profile medical centres with a combined 4 000 bed capacity have been opened in Tbilisi and the regions. These facilities ensure provision of outpatient, hospital and pre-hospital services.

Planning and equipping of every medical centre was done within the terms of national permits/licenses approved and renewed by the Government of Georgia (these came into effect in 2011, following Resolution #385 of the Government of Georgia, dated 2010). Clinics with old licenses were given deadlines for step-by-step introduction of new license terms. With the launch of new permit terms, the government removed extra bureaucracy, replacing separate licensing for 43 different medical activities with a single license for an inpatient facility. Existing requirements for inpatient care underwent substantial changes. In the past, inpatient facilities ensured only general minimum safety measures and were limited in terms of infrastructure and technical equipment. Nowadays, about three hundred hospitals have licenses for inpatient services.

In the few years up until 2013, bed capacity rate was reduced in almost every region. The ratio of inpatient beds to the population had almost halved in Racha-Lechkhumi, Kvemo Svaneti, Mtskheta-Mtianeti, Guria, Shida Kartli and Kakheti. The highest ratios were observed in Tbilisi, Imereti and Adjara⁵.

By 2016, there was a visible trend of increased encounters with inpatients. Compared to 2012, the number of hospitals per 100 000 people had grown, as a result of the implementation of a universal healthcare programme, reaching 7.5 in 2016 (Figure 3, Table 3, Table 4). The number of hospital beds per 100 000 population also increased.

As of 1 January 2018, the hospital system consisted of around 290 facilities.⁶

⁵ Ministry of Labour, Health and Social Affairs of Georgia, Health System Performance Assessment Report, 2013

⁶ <http://nodc.ge/Handlers/GetFile.ashx?ID=e6187208-0a3f-4026-a25e-d72fa93ec51a>

Figure 3. Graphical representation of dynamics of hospital capacity rate by year

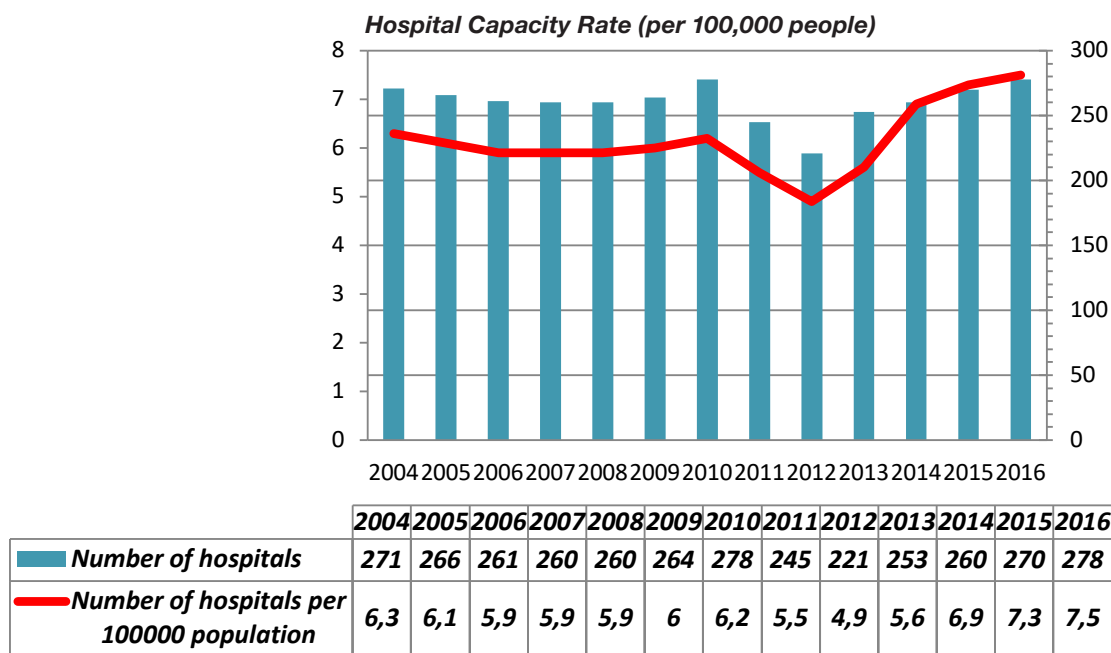


Table 3. Hospitals of Georgia (2004-2016)

Year	Total number of hospitals		Number of general profile hospitals among them	
	Number	Number of hospitals per 100,000 population	Number	% Of the total number
2004	271	6.3	132	48.7
2005	266	6.1	129	48.5
2006	261	5.9	126	48.3
2007	260	5.9	125	48.1
2008	260	5.9	122	46.9
2009	264	6	129	48.9
2010	278	6.2	136	48.9
2011	245	5.5	110	44.9
2012	221	4.9	131	59.3
2013	253	5.6	136	57.4
2014	260	6.9	158	60.8
2015	270	7.3	145	53.5
2016	278*	7.5	155	55.8

* Total number of stationary institutions (including hospitals, medical centres and dispensaries with beds, and hospitals run by scientific research institutions).

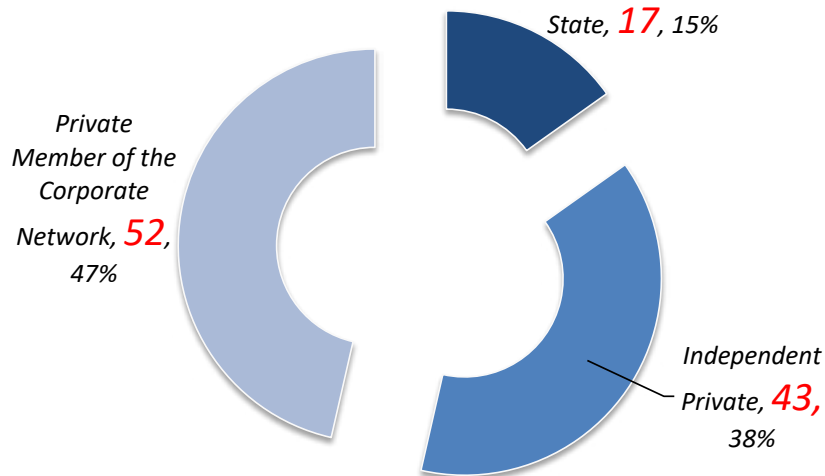
Table 4. Indicators of bed occupancy (2004-2016)

Year	Number of beds	Assurance rate per 100 000	Bed occupancy rate	Average duration of occupancy
2006	16455	374.1	127.8	7.4
2007	14565	331.9	146.3	7.3
2008	14069	320.9	79.2	3
2009	13633	309.1	148.2	6.3
2010	13378	299.3	160	6.4
2011	12599	281	173.6	7
2012	11348	252.7	228.9	7
2013	11600	258.5	181.4	5.4
2014	11675	313.3	188.3	5.2
2015	12830	345.1	193.3	5.3
2016	13840	372.1	189.3	5

V. Evaluation of hospital safety in Georgia: results

The Georgia hospital safety assessment project assessed 112 hospitals: 17 state hospitals, 52 private network hospitals and 43 independent private hospitals (Figure 4).

Figure 4. Ownership type of 112 evaluated hospitals



The assessment produced the following findings:

All the assessed hospitals were classified into safety groups A, B or C (Figure 5, Table 5, Table 6).

Thirty hospitals – 27% of the total – were classified in safety group A, indicative of a relatively high degree of resilience to the impact of disasters, and of their capacity to operate safely under emergency conditions.

Seventy hospitals – 62% of the total – were classified in group B, indicative of an average degree of resilience to the impact of disasters, and of certain drawbacks and gaps in their ability to ensure safe operations during emergencies.

Twelve hospitals – 11% of the total – were classified in safety group C, a category usually assigned to hospitals that are not resilient to the impact of disasters and which do not ensure safe operations during emergencies.

Figure 5. Proportion of hospitals in each safety group

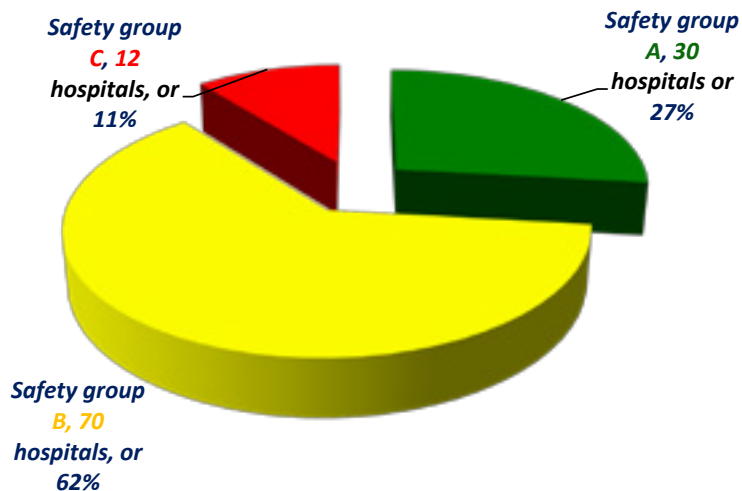


Table 5. Safety evaluations of the hospitals of Georgia

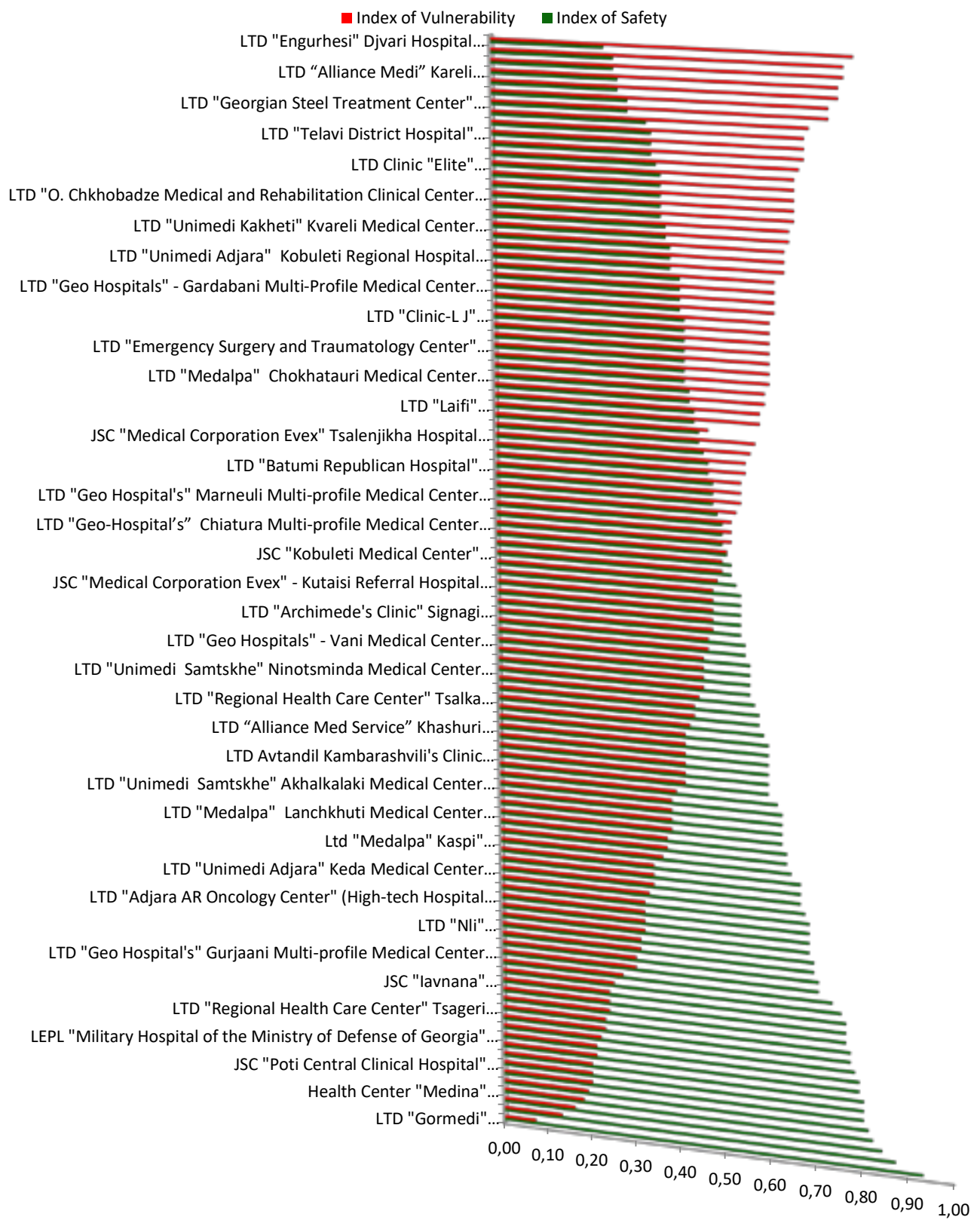
	Hospital name	Index of safety	Index of vulnerability	Safety group
1	LTD Gormedi	0.93	0.07	A
2	LTD Amtel Hospital First Clinic	0.87	0.13	A
3	LTD Unimedi Adjara Batumi Referral Hospital	0.84	0.16	A
4	Health Centre Medina	0.82	0.18	A
5	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	0.81	0.19	A
6	JSC Sachkhere District Hospital - Polyclinic Union	0.80	0.20	A
7	JSC Poti Central Clinical Hospital	0.80	0.20	A
8	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	0.80	0.20	A
9	LTD BROTHERS	0.79	0.21	A
10	LEPL Military Hospital of the Ministry of Defence of Georgia	0.79	0.21	A
11	JSC Medical Corporation Evex Traumatology Hospital	0.78	0.22	A
12	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	0.77	0.23	A
13	LTD Regional Health Care Centre Tsageri	0.77	0.23	A
14	LTD Medalfa Ozurgeti Medical Centre	0.76	0.24	A
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	0.76	0.24	A
16	JSC Iavnana	0.76	0.24	A
17	LTD Aversi Clinic Marneuli #1 Branch	0.75	0.25	A
18	LTD Tbilisi #5 Clinical Hospital	0.73	0.27	A
19	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	0.70	0.30	A
20	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	0.70	0.30	A
21	LTD Unimedi Adjara Shuakhevi Medical Centre	0.69	0.31	A
22	LTD Nli	0.69	0.31	A
23	LTD Akhaltsikhe Clinic Imedi	0.68	0.32	A
24	LTD Aleksandre Aladashvili Clinic	0.68	0.32	A
25	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	0.68	0.32	A
26	JSC Medical Corporation Evex - Zugdidi Referral Hospital	0.68	0.32	A
27	LTD S. Khechinashvili University Clinic	0.67	0.33	A
28	LTD Unimedi Adjara Keda Medical Centre	0.66	0.34	A
29	LTD Regional Health Care Centre Lentekhi	0.66	0.34	A
30	LTD Mtskheta Medical Centre	0.66	0.34	A
31	Ltd Medalpa Kaspi	0.64	0.36	B

32	LTD Unimedi Kakheti Telavi Referral Hospital	0.63	0.37	B
33	LTD Elizabeth Blackwell Hospital	0.63	0.37	B
34	LTD Medalpa Lanchkhuti Medical Centre	0.62	0.38	B
35	LTD Regional Health Care Centre Oni	0.62	0.38	B
36	LTD Mestia Hospital-Ambulatory Union	0.62	0.38	B
49	LTD Unimedi Samtskhe Akhalkalaki Medical Centre	0.62	0.38	B
37	LTD Regional Health Care Centre Dedoplistskaro	0.61	0.39	B
38	LTD Regional Health Care Centre Ambrolauri	0.59	0.41	B
39	LTD Avtandil Kambarashvili's Clinic	0.59	0.41	B
40	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	0.59	0.41	B
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	0.59	0.41	B
44	LTD Alliance Med Service Khashuri	0.59	0.41	B
45	LTD J. Gogiasvili's Clinic	0.59	0.41	B
46	LTD Acad. O. Gudushauri National Medical Centre	0.58	0.42	B
47	LTD Regional Health Care Centre Tsalka	0.57	0.43	B
48	LTD Dostakari	0.57	0.43	B
50	LTD Unimedi Samtskhe Adigeni Medical Centre	0.56	0.44	B
42	LTD Unimedi Samtskhe Ninotsminda Medical Centre	0.55	0.45	B
51	LTD Unimedi Adjara Khulo Medical Centre	0.55	0.45	B
52	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	0.55	0.45	B
53	LTD Geo Hospitals - Vani Medical Centre	0.55	0.45	B
54	LTD Batumi Multi - Profile Maternity Hospital	0.54	0.46	B
55	LTD Sena - Medi	0.54	0.46	B
43	LTD Archimedes Clinic Signagi	0.53	0.47	B
56	LTD Bolnisi Central Clinic	0.53	0.47	B
57	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	0.53	0.47	B
58	JSC Medical Corporation Evex - Kutaisi Referral Hospital	0.53	0.47	B
96	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	0.53	0.47	B
59	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	0.52	0.48	B
60	JSC Kobuleti Medical Centre	0.51	0.49	B
61	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	0.51	0.49	B
62	LTD Regional Healthcare Centre Tetrtskaro	0.50	0.50	B
63	LTD Geo-Hospital's Chiatura Multi-Profile Medical Centre	0.49	0.51	B
64	LTD MedEmergency	0.49	0.51	B
65	LTD Archimedes Clinic Lagodekhi	0.49	0.51	B
66	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	0.48	0.52	B
67	JSC Chkhorotsku District Central Hospital	0.47	0.53	B

68	JSC Rustavi Central Hospital	0.47	0.53	B
69	LTD Batumi Republican Hospital	0.47	0.53	B
70	LTD Archimedes Clinic Senaki	0.46	0.54	B
71	JSC Medical Corporation Evex - Khobi Hospital	0.46	0.54	B
72	JSC Medical Corporation Evex Tsalenjikha Hospital	0.45	0.55	B
73	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	0.44	0.56	B
74	LTD - Sikharuli Telavi Maternity Hospital	0.44	0.46	B
75	LTD Laifi	0.43	0.57	B
76	JSC Medical Corporation Evex Martvili Hospital	0.43	0.57	B
77	LTD Health House in Guria	0.42	0.58	B
78	LTD Medalpa Chokhatauri Medical Centre	0.42	0.58	B
79	LTD Unimedi Kakheti Akhmeta Hospital	0.41	0.59	B
80	LTD Unimedi Samtskhe Aspindza Medical Centre	0.41	0.59	B
81	LTD Emergency Surgery and Traumatology Centre	0.41	0.59	B
82	LTD Sagittarius - The Seafarers Medical Centre	0.41	0.59	B
83	LTD Children's Health Centre Telavi	0.41	0.59	B
84	LTD Clinic - LJ	0.41	0.59	B
85	JSC Medical Corporation Evex - Tkibuli Hospital	0.41	0.59	B
86	JSC Seafarers Medical Centre - 2010	0.40	0.60	B
87	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	0.40	0.60	B
88	JSC Medical Corporation Evex - Khoni hospital	0.40	0.60	B
90	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	0.40	0.60	B
91	LTD Unimedi Adjara Kobuleti Regional Hospital	0.38	0.62	B
92	JSC Medical Corporation Evex - Abasha Hospital	0.38	0.62	B
93	LTD Imedi and Mariami Medical Centre	0.38	0.62	B
94	LTD Unimedi Kakheti Kvareli Medical Centre	0.37	0.63	B
95	LTD Kutaisi №3 Maternity Hospital	0.37	0.63	B
89	JSC Medical Corporation Evex - Terjola Hospital	0.36	0.64	B
97	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	0.36	0.64	B
98	LTD Regional Healthcare Centre Tianeti	0.36	0.64	B
99	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	0.36	0.64	B
100	LTD Clinic Elite	0.36	0.64	B
101	LTD Regional Health Care Centre Kazbegi	0.35	0.65	C
102	LTD Feromedi	0.34	0.66	C
103	LTD Telavi District Hospital	0.34	0.66	C
104	LTD Kelaptari	0.34	0.66	C

105	LTD New Medical Centre Dmanisi	0.33	0.67	C
106	LTD Georgian Steel Treatment Centre	0.29	0.71	C
107	LTD Tskaltubo District Hospital	0.29	0.71	C
108	LTD Regional Health Care Centre Lanchkhuti	0.27	0.73	C
109	LTD Alliance Medi Kareli	0.27	0.73	C
110	LTD Clinic LIFE	0.26	0.74	C
111	LTD Abastumani Tuberculosis Hospital	0.26	0.74	C
112	LTD Engurhesi Djvari Hospital	0.24	0.76	C

Table 6. Safety indices (green) and vulnerability indices (red) for the hospitals of Georgia



The following findings emerged from the classification process:

Out of 17 **state hospitals** (Table. 7, Figure 6), five hospitals – 29.4 – were classified in safety group A. Nine (52.9%) were in safety group B, and three (17.6%) were in safety group C. The highest safety index score was reported for the JSC Sachkhere District Hospital - Polyclinic Union (0.8) and the lowest score was for the LTD Abastumani Tuberculosis Hospital (0.26).

Out of 52 **private network hospitals** (Table. 8, Figure 6), 12 (23.1%) were classified in safety group A; 38 (73.1%) in safety group B; and two (3.8%) in safety group C. The highest safety index score was reported for the LTD Unimedi Adjara Batumi Referral Hospital (0.87), and the lowest scores were for the LTD Alliance Medi Kareli and the LTD Tskaltubo District Hospital (0.24 and 0.26 respectively).

Out of 43 **independent private hospitals** (Table. 9, Figure 6), 13 (30.2%) were in safety group A; 23 (53.5%) were in safety group B; and seven (16.3%) were in safety group C. The highest safety index score was reported for the Health Centre Medina (0.82) and the lowest score was for the LTD Feromedi (0.34).

Table. 7 Safety evaluation scores for state hospitals

	Hospital name	Index of safety	Index of vulnerability	Safety group
1	JSC Sachkhere District Hospital - Polyclinic Union	0.80	0.20	A
2	LEPL Military Hospital of the Ministry of Defence of Georgia	0.79	0.21	A
3	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	0.77	0.23	A
4	LTD Regional Health Care Centre Tsageri	0.77	0.23	A
5	LTD Regional Health Care Centre Lentekhi	0.66	0.34	A
6	LTD Regional Health Care Centre Oni	0.62	0.38	B
7	LTD Mestia Hospital-Ambulatory Union	0.62	0.38	B
8	LTD Regional Health Care Centre Dedoplistskaro	0.61	0.39	B
9	LTD Regional Health Care Centre Ambrolauri	0.59	0.41	B
10	LTD Regional Health Care Centre Tsalka	0.57	0.43	B
11	LTD Regional Healthcare Centre Tetrtskaro	0.50	0.50	B
12	LTD Batumi Republican Hospital	0.47	0.53	B
13	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	0.36	0.64	B
14	LTD Regional Healthcare Centre Tianeti	0.36	0.64	B
15	LTD Regional Health Care Centre Kazbegi	0.35	0.65	C
16	LTD Regional Health Care Centre Lanchkhuti	0.27	0.73	C
17	LTD Abastumani Tuberculosis Hospital	0.26	0.74	C

Table 8. Safety evaluation scores for private network hospitals

	Hospital name	Index of safety	Index of vulnerability	Safety group
1	LTD Unimedi Adjara Batumi Referral Hospital	0.87	0.13	A
2	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	0.82	0.18	A
3	JSC Poti Central Clinical Hospital	0.80	0.20	A
4	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	0.80	0.20	A
5	JSC Medical Corporation Evex Traumatology Hospital	0.80	0.20	A
6	LTD Medalfa Ozurgeti Medical Centre	0.78	0.22	A
7	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	0.77	0.23	A
8	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	0.76	0.24	A
9	LTD Unimedi Adjara Shuakhevi Medical Centre	0.76	0.24	A
10	LTD Unimedi Adjara Keda Medical Centre	0.70	0.30	A
11	LTD Aversi Clinic Marneuli #1 Branch	0.68	0.32	A
12	JSC Medical Corporation Evex - Zugdidi Referral Hospital	0.66	0.34	A
13	LTD Unimedi Kakheti Telavi Referral Hospital	0.64	0.36	B
14	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	0.63	0.37	B
15	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	0.62	0.38	B
16	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	0.62	0.38	B
17	LTD Unimedi Adjara Khulo Medical Centre	0.59	0.41	B
18	LTD Unimedi Samtskhe Ninotsminda Medical Centre	0.59	0.41	B
19	LTD Archimedes Clinic Signagi	0.59	0.41	B
20	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	0.59	0.41	B
21	LTD Geo-Hospital's Chiatura Multi-Profile Medical Centre	0.57	0.43	B
22	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	0.57	0.43	B
23	LTD Unimedi Samtskhe Akhalkalaki Medical Centre	0.56	0.44	B
24	LTD Unimedi Kakheti Akhmeta Hospital	0.55	0.45	B
25	LTD Unimedi Samtskhe Aspindza Medical Centre	0.55	0.45	B
26	LTD Unimedi Adjara Kobuleti Regional Hospital	0.53	0.47	B
27	LTD Medalpa Lanchkhuti Medical Centre	0.53	0.47	B
28	LTD Medalpa Chokhatauri Medical Centre	0.52	0.48	B
29	LTD Unimedi Kakheti Kvareli Medical Centre	0.50	0.50	B
30	LTD Archimedes Clinic Lagodekhi	0.49	0.51	B
31	LTD Geo Hospitals- Sagarejo Multi-Profile Medical Centre	0.49	0.51	B
32	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	0.47	0.53	B

33	JSC Medical Corporation Evex - Abasha Hospital	0.47	0.53	B
34	LTD Archimedes Clinic Senaki	0.46	0.54	B
35	JSC Medical Corporation Evex - Khobi Hospital	0.46	0.54	B
36	JSC Chkhorotsku District Central Hospital	0.44	0.56	B
37	JSC Medical Corporation Evex Tsalenjikha Hospital	0.44	0.56	B
38	JSC Medical Corporation Evex Martvili Hospital	0.43	0.57	B
39	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	0.42	0.58	B
40	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	0.41	0.59	B
41	LTD Geo Hospitals - Vani Medical Centre	0.41	0.59	B
42	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	0.41	0.59	B
43	JSC Medical Corporation Evex - Khoni hospital	0.41	0.59	B
44	JSC Medical Corporation Evex - Kutaisi Referral Hospital	0.40	0.60	B
45	JSC Medical Corporation Evex - Terjola Hospital	0.40	0.60	B
46	JSC Medical Corporation Evex - Tkibuli Hospital	0.40	0.60	B
47	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	0.40	0.60	B
48	LTD Unimedi Samtskhe Adigeni Medical Centre	0.38	0.62	B
49	LTD Alliance Med Service Khashuri	0.38	0.62	B
50	LTD Medalpa Kaspi	0.36	0.64	B
51	LTD Tskaltubo District Hospital	0.26	0.74	C
52	LTD Alliance Medi Kareli	0.24	0.76	C

Table 9. Safety evaluation scores for independent private hospitals

	Hospital name	Index of safety	Index of vulnerability	Safety group
1	LTD Gormedi	0.93	0.07	A
2	LTD Amtel Hospital First Clinic	0.87	0.13	A
3	Health Centre Medina	0.82	0.18	A
4	LTD BROTHERS	0.79	0.21	A
5	JSC Lavnana	0.76	0.24	A
6	LTD Tbilisi #5 Clinical Hospital	0.73	0.27	A
7	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	0.70	0.30	A
8	LTD Nli	0.69	0.31	A
9	LTD Akhaltsikhe Clinic Imedi	0.68	0.32	A
10	LTD Aleksandre Aladashvili Clinic	0.68	0.32	A
11	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	0.68	0.32	A

12	LTD S. Khechinashvili University Clinic	0.67	0.33	A
13	LTD Mtskheta Medical Centre	0.66	0.34	A
14	LTD Elizabeth Blackwell Hospital	0.63	0.37	B
15	LTD Avtandil Kambarashvili's Clinic	0.59	0.41	B
16	LTD J. Gogiasvili's Clinic	0.59	0.41	B
17	LTD Acad. O. Gudushauri National Medical Centre	0.58	0.42	B
18	LTD Dostakari	0.57	0.43	B
19	LTD Batumi Multi-Profile Maternity Hospital	0.54	0.46	B
20	LTD Sena-Medi	0.54	0.46	B
21	LTD Bolnisi Central Clinic	0.53	0.47	B
22	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	0.53	0.47	B
23	JSC Kobuleti Medical Centre	0.51	0.49	B
24	LTD MedEmergency	0.49	0.51	B
25	JSC Rustavi Central Hospital	0.47	0.53	B
26	LTD - Sikharuli Telavi Maternity Hospital	0.44	0.46	B
27	LTD Laifi	0.43	0.57	B
28	LTD Health House in Guria	0.42	0.58	B
29	LTD Emergency Surgery and Traumatology Centre	0.41	0.59	B
30	LTD Sagittarius - The Seafarers Medical Centre	0.41	0.59	B
31	LTD Children's Health Centre Telavi	0.41	0.59	B
32	LTD Clinic - LJ	0.41	0.59	B
33	JSC Seafarers Medical Centre - 2010	0.40	0.60	B
34	LTD Imedi and Mariami Medical Centre	0.38	0.62	B
35	LTD Kutaisi №3 Maternity Hospital	0.37	0.63	B
36	LTD Clinic Elite	0.36	0.64	B
37	LTD Feromedi	0.34	0.66	C
38	LTD Telavi District Hospital	0.34	0.66	C
39	LTD Kelaptari	0.34	0.66	C
40	LTD New Medical Centre Dmanisi	0.33	0.67	C
41	LTD Georgian Steel Treatment Centre	0.29	0.71	C
42	LTD Clinic LIFE	0.26	0.74	C
43	LTD Engurhesi Djvari Hospital	0.24	0.76	C

Table 10. Distribution of safety levels (low, average, high) for each parameter (structural safety, non-structural safety, functional capacity)

No	Safety component / hospital name	Distribution of safety level scores (%)		
		LOW	AVERAGE	HIGH
Structural safety				
1	LTD Unimedi Adjara Khulo Medical Centre	13	18	69
2	LTD Unimedi Adjara Shuakhevi Medical Centre	0	18	82
3	LTD Unimedi Adjara Keda Medical Centre	0	18	82
4	Health Centre Medina	0	30	70
5	LTD Unimedi Adjara Batumi Referral Hospital	0	0	100
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	0	13	88
7	LTD Batumi Republican Hospital	0	85	15
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	0	21	79
9	JSC Kobuleti Medical Centre	0	76	24
10	LTD Medalfa Ozurgeti Medical Centre	0	18	82
11	LTD Regional Health Care Centre Lentekhi	14	39	47
12	LTD Regional Health Care Centre Tsageri	5	14	82
13	LTD Regional Health Care Centre Oni	0	44	56
14	LTD Regional Health Care Centre Ambrolauri	0	53	47
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	6	35	59
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	33	62	5
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	0	80	20
18	LTD Feromedi	0	100	0
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	0	85	15
20	JSC Sachkhere District Hospital-Polyclinic Union	0	42	58
21	LTD Mestia Hospital-Ambulatory Union	0	46	54
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	5	45	50
23	JSC Poti Central Clinical Hospital	0	24	76
24	LTD Unimedi Kakheti Akhmeta Hospital	0	85	15
25	LTD Unimedi Kakheti Telavi Referral Hospital	0	80	20
26	LTD Telavi District Hospital	16	76	8
27	LTD Avtandil Kambarashvili's Clinic	0	57	43

28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	0	71	29
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	0	91	9
30	LTD Archimedes Clinic Signagi	0	80	20
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	0	85	15
32	LTD Regional Health Care Centre Tsalka	0	55	45
33	LTD Unimed Samtskhe Ninotsminda Medical Centre	0	81	19
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	0	85	15
35	LTD Unimed Samtskhe Aspindza Medical Centre	0	80	20
36	LTD Akhaltsikhe Clinic Imedi	0	52	48
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	0	91	9
38	LTD Abastumani Tuberculosis Hospital	71	20	9
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	0	86	14
40	LTD Regional Health Care Centre Kazbegi	0	100	0
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	0	67	33
42	LTD Amtel Hospital First Clinic	0	0	100
43	LTD Tbilisi #5 Clinical Hospital	0	6	94
44	JSC Medical Corporation Evex Traumatology Hospital	0	31	69
45	LTD Aleksandre Aladashvili Clinic	0	64	36
46	LTD Elizabeth Blackwell Hospital	9	69	22
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	0	16	84
48	LTD S. Khechinashvili University Clinic	0	22	78
49	LTD Acad. O. Gudushauri National Medical Centre	0	91	9
50	LTD Emergency Surgery and Traumatology Centre	3	92	5
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	0	36	64
52	LTD Sagittarius - The Seafarers Medical Centre	4	87	9
53	JSC Seafarers Medical Centre - 2010	0	85	15
54	LTD BROTHERS	0	28	72
55	LTD MedEmergency	0	81	19
56	LTD Batumi Multi-Profile Maternity Hospital	0	89	11
57	LTD Unimedi Adjara Kobuleti Regional Hospital	8	76	16
58	LTD Regional Health Care Centre Lanchkhuti	21	69	10
59	LTD Medalpa Lanchkhuti Medical Centre	0	42	58
60	LTD Health House in Guria	0	77	23
61	LTD Medalpa Chokhatauri Medical Centre	0	92	8
62	LTD - Sikharuli Telavi Maternity Hospital	0	86	14
63	LTD Children's Health Centre Telavi	0	88	12
64	LTD Unimedi Kakheti Kvareli Medical Centre	0	80	20

65	LTD Kelaptari	0	91	9
66	LTD Archimedes Clinic Lagodekhi	0	86	14
67	LTD Regional Health Care Centre Dedoplistskaro	0	34	66
68	LTD Clinic LIFE	25	75	0
69	LTD Geo Hospitals- Sagarejo Multi-Profile Medical Centre	18	68	14
70	LTD Regional Healthcare Centre Tianeti	0	93	7
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	0	91	9
72	LTD Mtskheta Medical Centre	0	93	7
73	JSC Medical Corporation Evex - Abasha Hospital	3	88	9
74	LTD Sena-Medi	26	49	25
75	LTD Archimedes Clinic Senaki	0	89	11
76	JSC Medical Corporation Evex - Khobi Hospital	0	83	17
77	LTD Laifi	0	89	11
78	LTD Nli	0	29	71
79	JSC Chkhorotsku District Central Hospital	0	79	21
80	LTD Engurhesi Djvari Hospital	22	69	9
81	JSC Medical Corporation Evex Tsalenjikha Hospital	0	85	15
82	JSC Medical Corporation Evex Martvili Hospital	0	85	15
83	JSC Rustavi Central Hospital	0	86	14
84	LTD Georgian Steel Treatment Centre	51	40	9
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	0	86	14
86	LTD Aversi Clinic Marneuli #1 Branch	0	36	64
87	LTD Regional Healthcare Centre Tetrtskaro	0	86	14
88	LTD Bolnisi Central Clinic	0	64	36
89	LTD New Medical Centre Dmanisi	13	79	8
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	0	70	30
91	LTD Geo Hospitals - Vani Medical Centre	0	79	21
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	7	73	20
93	LTD Tskaltubo District Hospital	0	86	14
94	JSC Medical Corporation Evex - Khoni hospital	3	88	9
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	0	50	50
96	LTD Kutaisi №3 Maternity Hospital	7	81	12
97	LTD Clinic-LJ	0	95	5
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	0	82	18
99	JSC Medical Corporation Evex - Terjola Hospital	0	91	9
100	JSC Medical Corporation Evex - Tkibuli Hospital	0	85	15

101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	0	80	20
102	LTD Clinic Elite	0	95	5
103	LTD Unimedi Samtskhe Adigeni Medical Centre	0	65	35
104	LTD Alliance Medi Kareli	32	68	0
105	LTD Alliance Med Service Khashuri	0	48	52
106	LTD Dostakari	0	56	44
107	LTD Gormedi	0	0	100
108	LTD Imedi and Mariami Medical Centre	0	100	0
109	LEPL Military Hospital of the Ministry of Defence of Georgia	0	49	51
110	JSC Iavnana	0	7	93
111	LTD J. Gogiasvili's Clinic	0	46	54
112	Ltd Medalpa Kaspi	0	21	79
The average for all hospitals		3.7	63.2	33.1

No	Safety component / hospital name	Distribution of safety level scores (%)		
		LOW	AVERAGE	HIGH
Non-structural safety				
1	LTD Unimedi Adjara Khulo Medical Centre	32	39	29
2	LTD Unimedi Adjara Shuakhevi Medical Centre	11	35	54
3	LTD Unimedi Adjara Keda Medical Centre	10	38	52
4	Health Centre Medina	2	4	94
5	LTD Unimedi Adjara Batumi Referral Hospital	2	16	82
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	7	18	75
7	LTD Batumi Republican Hospital	30	56	14
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	1	8	91
9	JSC Kobuleti Medical Centre	11	44	45
10	LTD Medalfa Ozurgeti Medical Centre	4	13	83
11	LTD Regional Health Care Centre Lentekhi	3	29	68
12	LTD Regional Health Care Centre Tsageri	6	25	68
13	LTD Regional Health Care Centre Oni	21	35	44
14	LTD Regional Health Care Centre Ambrolauri	24	42	34
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	4	11	85

16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	16	67	17
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	1	49	50
18	LTD Feromedi	43	47	10
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	8	49	43
20	JSC Sachkhere District Hospital-Polyclinic Union	1	6	93
21	LTD Mestia Hospital-Ambulatory Union	5	42	54
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	3	26	71
23	JSC Poti Central Clinical Hospital	8	28	64
24	LTD Unimedi Kakheti Akhmeta Hospital	15	53	32
25	LTD Unimedi Kakheti Telavi Referral Hospital	4	22	74
26	LTD Telavi District Hospital	21	76	3
27	LTD Avtandil Kambarashvili's Clinic	15	45	40
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	4	15	81
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	6	13	81
30	LTD Archimedes Clinic Signagi	4	60	36
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	10	53	37
32	LTD Regional Health Care Centre Tsalka	15	37	48
33	LTD Unimed Samtskhe Ninotsminda Medical Centre	2	53	45
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	11	76	13
35	LTD Unimed Samtskhe Aspindza Medical Centre	12	69	19
36	LTD Akhaltsikhe Clinic Imedi	0	17	83
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	0	16	84
38	LTD Abastumani Tuberculosis Hospital	20	78	2
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	0	53	47
40	LTD Regional Health Care Centre Kazbegi	33	55	12
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	11	36	53
42	LTD Amtel Hospital First Clinic	6	7	87
43	LTD Tbilisi #5 Clinical Hospital	5	16	79
44	JSC Medical Corporation Evex Traumatology Hospital	8	7	85
45	LTD Aleksandre Aladashvili Clinic	9	18	73
46	LTD Elizabeth Blackwell Hospital	9	26	65
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	4	12	84
48	LTD S. Khechinashvili University Clinic	21	25	54
49	LTD Acad. O. Gudushauri National Medical Centre	5	34	61
50	LTD Emergency Surgery and Traumatology Centre	8	69	23
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	7	33	60

52	LTD Sagittarius - The Seafarers Medical Centre	2	77	21
53	JSC Seafarers Medical Centre - 2010	30	54	16
54	LTD BROTHERS	0	2	98
55	LTD MedEmergency	18	45	37
56	LTD Batumi Multi-Profile Maternity Hospital	10	43	47
57	LTD Unimedi Adjara Kobuleti Regional Hospital	0	98	2
58	LTD Regional Health Care Centre Lanchkhuti	66	23	11
59	LTD Medalpa Lanchkhuti Medical Centre	8	47	45
60	LTD Health House in Guria	11	80	9
61	LTD Medalpa Chokhatauri Medical Centre	3	76	21
62	LTD Sikharuli Telavi Maternity Hospital	6	70	24
63	LTD Children's Health Centre Telavi	16	78	6
64	LTD Unimedi Kakheti Kvareli Medical Centre	20	71	9
65	LTD Kelaptari	31	66	3
66	LTD Archimedes Clinic Lagodekhi	2	56	42
67	LTD Regional Health Care Centre Dedoplistskaro	3	53	44
68	LTD Clinic LIFE	32	66	2
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	14	40	46
70	LTD Regional Healthcare Centre Tianeti	16	75	9
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	4	89	7
72	LTD Mtskheta Medical Centre	3	33	64
73	JSC Medical Corporation Evex - Abasha Hospital	32	53	15
74	LTD Sena-Medi	11	18	71
75	LTD Archimedes Clinic Senaki	5	61	34
76	JSC Medical Corporation Evex - Khobi Hospital	16	39	45
77	LTD Laifi	14	52	34
78	LTD Nli	6	41	53
79	JSC Chkhorotsku District Central Hospital	19	44	37
80	LTD Engurhesi Djvari Hospital	65	29	6
81	JSC Medical Corporation Evex Tsalenjikha Hospital	20	34	46
82	JSC Medical Corporation Evex Martvili Hospital	15	60	25
83	JSC Rustavi Central Hospital	10	67	23
84	LTD Georgian Steel Treatment Centre	23	74	3
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	8	83	9
86	LTD Aversi Clinic Marneuli #1 Branch	0	38	62
87	LTD Regional Healthcare Centre Tetrtskaro	11	48	41
88	LTD Bolnisi Central Clinic	15	37	48

89	LTD New Medical Centre Dmanisi	37	45	18
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	17	41	42
91	LTD Geo Hospitals - Vani Medical Centre	11	16	73
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	8	50	42
93	LTD Tskaltubo District Hospital	36	59	5
94	JSC Medical Corporation Evex - Khoni hospital	27	46	27
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	1	33	66
96	LTD Kutaisi №3 Maternity Hospital	7	93	0
97	Clinic-LJ	6	85	9
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	2	65	33
99	JSC Medical Corporation Evex - Terjola Hospital	14	75	11
100	JSC Medical Corporation Evex - Tkibuli Hospital	15	53	32
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	2	98	0
102	LTD Clinic Elite	13	82	5
103	LTD Unimedi Samtskhe Adigeni Medical Centre	14	37	49
104	LTD Alliance Medi Kareli	70	30	0
105	LTD Alliance Med Service Khashuri	16	29	55
106	LTD Dostakari	20	38	42
107	LTD Gormedi	1	0	99
108	LTD Imedi and Mariami Medical Centre	16	79	5
109	LEPL Military Hospital of the Ministry of Defence of Georgia	4	10	86
110	JSC Iavna	6	48	46
111	LTD J. Gogiashvili's Clinic	15	43	42
112	Ltd Medalpa Kaspi	6	60	34
The average for all hospitals		12.9	45.0	42.1

No	Safety component / hospital name	Distribution of safety level scores (%)		
		LOW	AVERAGE	HIGH
Functional safety				
1	LTD Unimedi Adjara Khulo Medical Centre	32	32	36
2	LTD Unimedi Adjara Shuakhevi Medical Centre	30	27	43
3	LTD Unimedi Adjara Keda Medical Centre	18	53	29
4	Health Centre Medina	4	40	56

5	LTD Unimedi Adjara Batumi Referral Hospital	17	28	55
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	23	26	51
7	LTD Batumi Republican Hospital	10	36	54
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	18	29	53
9	JSC Kobuleti Medical Centre	35	29	36
10	LTD Medalfa Ozurgeti Medical Centre	37	17	46
11	LTD Regional Health Care Centre Lentekhi	31	12	57
12	LTD Regional Health Care Centre Tsageri	22	17	61
13	LTD Regional Health Care Centre Oni	29	18	53
14	LTD Regional Health Care Centre Ambrolauri	16	30	53
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	15	25	60
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	32	37	31
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	29	34	37
18	LTD Feromedi	34	32	34
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	30	38	32
20	JSC Sachkhere District Hospital - Polyclinic Union	6	30	64
21	LTD Mestia Hospital - Ambulatory Union	29	32	39
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	18	33	49
23	JSC Poti Central Clinical Hospital	7	15	78
24	LTD Unimedi Kakheti Akhmeta Hospital	45	35	19
25	LTD Unimedi Kakheti Telavi Referral Hospital	17	35	48
26	LTD Telavi District Hospital	41	26	33
27	LTD Avtandil Kambarashvili's Clinic	23	25	53
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	9	32	59
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	29	29	42
30	LTD Archimedes Clinic Signagi	29	23	48
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	30	38	32
32	LTD Regional Health Care Centre Tsalka	39	29	32
33	LTD Unimed Samtskhe Ninotsminda Medical Centre	21	36	43
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	26	38	36
35	LTD Unimed Samtskhe Aspindza Medical Centre	39	38	23
36	LTD Akhaltsikhe Clinic Imedi	33	25	42
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	27	23	50
38	LTD Abastumani Tuberculosis Hospital	44	34	22
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	28	34	38
40	LTD Regional Health Care Centre Kazbegi	41	26	33
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	21	33	46
42	LTD Amtel Hospital First Clinic	19	15	66
43	LTD Tbilisi #5 Clinical Hospital	33	43	24
44	JSC Medical Corporation Evex Traumatology Hospital	16	28	56
45	LTD Aleksandre Aladashvili Clinic	17	22	61
46	LTD Elizabeth Blackwell Hospital	20	15	65
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	13	36	51

48	LTD S. Khechinashvili University Clinic	22	35	43
49	LTD Acad. O. Gudushauri National Medical Centre	23	23	54
50	LTD Emergency Surgery and Traumatology Centre	30	40	30
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	26	25	49
52	LTD Sagittarius - The Seafarers Medical Centre	43	30	27
53	JSC Seafarers Medical Centre - 2010	34	33	33
54	LTD BROTHERS	26	25	49
55	LTD MedEmergency	27	34	39
56	LTD Batumi Multi-Profile Maternity Hospital	10	47	43
57	LTD Unimedi Adjara Kobuleti Regional Hospital	35	38	27
58	LTD Regional Health Care Centre Lanchkhuti	32	58	10
59	LTD Medalpa Lanchkhuti Medical Centre	23	34	43
60	LTD Health House in Guria	40	28	32
61	LTD Medalpa Chokhatauri Medical Centre	35	36	29
62	LTD - Sikharuli Telavi Maternity Hospital	38	28	34
63	LTD Children's Health Centre Telavi	30	28	42
64	LTD Unimedi Kakheti Kvareli Medical Centre	47	32	21
65	LTD Kelaptari	48	21	31
66	LTD Archimedes Clinic Lagodekhi	36	32	32
67	LTD Regional Health Care Centre Dedoplistskaro	37	29	35
68	LTD Clinic LIFE	53	29	18
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	19	37	44
70	LTD Regional Healthcare Centre Tianeti	40	36	24
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	37	44	19
72	LTD Mtskheta Medical Centre	21	35	44
73	JSC Medical Corporation Evex - Abasha Hospital	43	35	22
74	LTD Sena-Medi	34	32	34
75	LTD Archimedes Clinic Senaki	20	55	25
76	JSC Medical Corporation Evex - Khobi Hospital	42	36	22
77	LTD Laifi	47	24	29
78	LTD Nli	18	34	48
79	JSC Chkhorotsku District Central Hospital	36	32	32
80	LTD Engurhesi Djvari Hospital	56	28	16
81	JSC Medical Corporation Evex Tsalenjikha Hospital	33	50	17
82	JSC Medical Corporation Evex Martvili Hospital	34	36	30
83	JSC Rustavi Central Hospital	21	39	40
84	LTD Georgian Steel Treatment Centre	34	44	22
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	33	40	27
86	LTD Aversi Clinic Marneuli #1 Branch	14	19	67
87	LTD Regional Healthcare Centre Tetrtskaro	34	24	42
88	LTD Bolnisi Central Clinic	34	36	30
89	LTD New Medical Centre Dmanisi	41	39	20
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	18	38	44
91	LTD Geo Hospitals - Vani Medical Centre	32	45	23
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	6	55	39

93	LTD Tskaltubo District Hospital	64	22	14
94	JSC Medical Corporation Evex - Khoni hospital	31	46	23
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	14	28	58
96	LTD Kutaisi №3 Maternity Hospital	37	32	31
97	LTD Clinic-LJ	30	31	39
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	22	31	47
99	JSC Medical Corporation Evex - Terjola Hospital	42	38	20
100	JSC Medical Corporation Evex - Tkibuli Hospital	45	35	20
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	32	37	31
102	LTD Clinic Elite	39	34	27
103	LTD Unimedi Samtskhe Adigeni Medical Centre	32	27	41
104	LTD Alliance Medi Kareli	29	35	36
105	LTD Alliance Med Service Khashuri	26	44	30
106	LTD Dostakari	15	49	36
107	LTD Gormedi	10	16	74
108	LTD Imedi and Mariami Medical Centre	38	20	42
109	LEPL Military Hospital of the Ministry of Defence of Georgia	16	4	80
110	JSC Iavnana	16	20	64
111	LTD J. Gogiasvili's Clinic	29	29	42
112	LTD Medalpa Kaspi	23	39	38
The average for all hospitals		28.7	32.0	39.3

In the **structural safety** component, the average portion of parameters per hospital assigned a “low” safety score was 4%; the average portion of parameters per hospital assigned an “average” safety score was 63%; and the average portion of parameters per hospital assigned “high” scores was 33%.

For the **non-structural** safety component the distribution was: “low” – 13%; “average” – 45%; and “high” – 42%.

For the **functional capacity** component the distribution was: “low” – 29%; “average” – 32%; and “high” – 39%.

The highest proportions of “low” scores in the **structural safety** component were reported for LTD Abastumani Tuberculosis Hospital (71%); LTD Georgian Steel Treatment Centre (51%); and LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly (33%).

For the **non-structural** safety component, it was LTD Regional Health Care Centre Lanchkhuti (66%); LTD Engurhesi Djvari Hospital (65%); and LTD Feromedi (43%).

For the **functional capacity** component, it was LTD Tskaltubo District Hospital (64%); LTD Engurhesi Djvari Hospital (56%); LTD Clinic LIFE (53%); LTD Kelaptari (48%); LTD Unimedi Kakheti Kvareli Medical Centre (47%); and LTD Laifi (47%).

Figure 7. Average distribution of safety levels per component

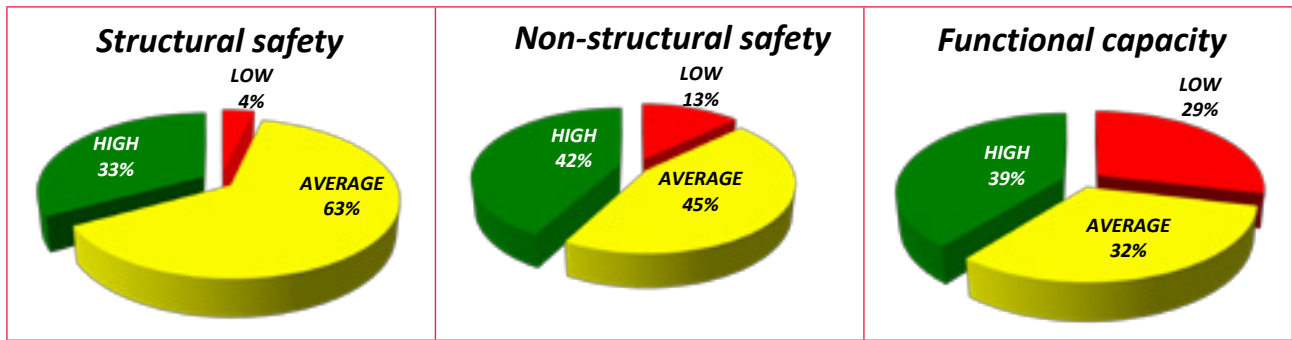


Table 11. Average distribution of safety levels per component

No	Hospital safety components	Average distribution of hospital safety levels (per cent)		
		Low	Average	High
1	Structural safety	3.7	63.2	33.1
2	Non-structural safety	12.9	44.9	42.1
3	Functional capacity	28.7	32.0	39.3

VI. Review of hospital safety components and underlying parameters

Structural safety

Georgia is located in an area of seismic activity, and earthquakes pose the biggest challenge to the resilience of hospital buildings. Over the last hundred years, the country has experienced a number of earthquakes, the most powerful of which were on 7 December 1988 (the Spitak earthquake); 29 April 1991 (the Racha earthquake), March 1998; and 25 April 2002. Quake-proof construction regulations were only implemented in Georgia at the end of the 1960s, though they have been updated since 1988. The older the hospital building, the less likely it is that it was built in line with quake-proof norms, and the more likely it was exposed to previous earthquakes. 40 hospitals (36%) were built between 1970 – 2000, before Georgia become independent. No hospitals were built during the 2000-2011 timeframe.

Climate factors also play a significant role in reducing the integrity of hospital structures, as does the improper use of buildings. These factors together contribute to a growing vulnerability of hospital buildings over time.

The buildings of 25 of the 112 evaluated hospitals, or 22% of the total (Table 12) were constructed before 1970. In six of these hospitals the main buildings were constructed at the end of 19th and/or the beginning of the 20th century. These six are the LTD Batumi Multi-Profile Maternity Hospital; the LTD Batumi Republican Hospital; the LTD Abastumani Tuberculosis Hospital; the LTD Aleksandre Aladashvili Clinic; the LTD Emergency Surgery and Traumatology Centre; and the LTD Mestia Hospital-Ambulatory Union.

The basements of all hospitals built after 1970 were made from precast reinforced concrete blocks; frameworks were made of cast or precast reinforced concrete elements; loadbearing walls were constructed of reinforced concrete or red brick; and reinforced concrete flooring was used between building floors. As per the standards in place during that time, these buildings provide for improved resilience to seismic events with a magnitude of up to 7-8 degrees on the MMI scale (Mercalli intensity scale). By and large, due to these standards and measures, the earthquakes occurring over the last four decades in Georgia (1988, 1991, 1998 and 2002) resulted in no damage to the structural layout of most buildings belonging to hospital complexes. The assessment mission found no technical papers referring to, or overt signs of, structural damage to buildings caused by earthquakes.

During this timeframe, there have been renovation works to the buildings of most hospitals, as well as reconstruction and upgrading works in some. These works have been completed as per the relevant blueprints and have had no negative impact on the structural safety of buildings; on the contrary, in some cases they have improved safety.

The assessment findings (Tables 10 & 12) show that in most cases the structural safety of hospitals in Georgia is rated as average or high. However, problems were revealed in 13 out of the 112 evaluated hospitals (11.6%). All of these 13 hospitals displaying problems were built in the previous century, except two clinics: 1) LTD Regional Health Care Centre Lentekhi, built in 2017 and 2) LTD New Medical Centre Dmanisi, which was constructed in 2011.

Table 12. Timeframe for the construction and commissioning of hospital buildings in Georgia

	Hospital name	Pre-1969	1970-1999	2000-2010	2010-2017	Recon- struction
1	LTD Unimedi Adjara Khulo Medical Centre			2000		2012
2	LTD Unimedi Adjara Shuakhevi Medical Centre				2011	
3	LTD Unimedi Adjara Keda Medical Centre				2011	
4	Health Centre Medina		1989			2010
5	LTD Unimedi Adjara Batumi Referral Hospital				2013	
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	1959				1999; 2017
7	LTD Batumi Republican Hospital	1912	1936 recon- struction			2016 partial repairs
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	1965				2013
9	JSC Kobuleti Medical Centre	1961				2006
10	LTD Medalfa Ozurgeti Medical Centre				2011	
11	LTD Regional Health Care Centre Lentekhi				2017	
12	LTD Regional Health Care Centre Tsageri		1975			2011
13	LTD Regional Health Care Centre Oni		1975			2011
14	LTD Regional Health Care Centre Ambrolauri				2011	
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre		1978			2006
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly		1970			2015 permanently
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)		1988			2017
18	LTD Feromedi		1972			2000 permanently
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre				2011	

	Hospital name	Pre-1969	1970-1999	2000-2010	2010-2017	Recon- struction
20	JSC Sachkhere District Hospital - Polyclinic Union	1967				2012; permanently
21	LTD Mestia Hospital - Ambulatory Union	1930				2010
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	1968				2006
23	JSC Poti Central Clinical Hospital		1977			2013
24	LTD Unimedi Kakheti Akhmeta Hospital				2011	
25	LTD Unimedi Kakheti Telavi Referral Hospital				2012	2016
26	LTD Telavi District Hospital		1970			2000-2012
27	LTD Avtandil Kambarashvili's Clinic		1980			2004-2012
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre				2011	
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)		1985			2016
30	LTD Archimedes Clinic Signagi				2011	
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre				2011	2017
32	LTD Regional Health Care Centre Tsalka	1948				2011
33	LTD Unimed Samtskhe Ninotsminda Medical Centre		1974			2015
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre				2011	
35	LTD Regional Health Care Centre Aspindza				2016	
36	LTD Akhaltsikhe Clinic Imedi				2013	2015-2017
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre		1982			2014-2015
38	LTD Abastumani Tuberculosis Hospital	1924				
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre				2011	
40	LTD Regional Health Care Centre Kazbegi			2001		2011
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre				2011	
42	LTD Amtel Hospital First Clinic		1980			2012-2017

	Hospital name	Pre-1969	1970-1999	2000-2010	2010-2017	Recon- struction
43	LTD Tbilisi #5 Clinical Hospital		1987			2013-2015
44	JSC Medical Corporation Evex Traumatology Hospital		1980			2012
45	LTD Aleksandre Aladashvili Clinic	1912				2015
46	LTD Elizabeth Blackwell Hospital			2004		2014
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery		1978			2012
48	LTD S. Khechinashvili University Clinic		1974			2010
49	LTD Acad. O. Gudushauri National Medical Centre		1991			permanently
50	LTD Emergency Surgery and Traumatology Centre	1930				2011
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	1961				2012, 2014; 2017
52	LTD Sagittarius - The Seafarers Medical Centre	1970				2004
53	JSC Seafarers Medical Centre - 2010		1977			2010
54	LTD BROTHERS				2012-2016	
55	LTD MedEmergency				2010	
56	LTD Batumi Multi-Profile Maternity Hospital	1890				1952; 1965; 1992
57	LTD Unimedi Adjara Kobuleti Regional Hospital				2012	
58	LTD Regional Health Care Centre Lanchkhuti	1964				1998
59	LTD Medalpa Lanchkhuti Medical Centre			2008		2012
60	LTD Health House in Guria		1980			2013
61	LTD Medalpa Chokhatauri Medical Centre		1980			2013; 2017
62	LTD Sikharuli Telavi Maternity Hospital	1964				2012-2013
63	LTD Children's Health Centre Telavi		1980			2011-2013
64	LTD Unimedi Kakheti Kvareli Medical Centre				2012	
65	LTD Kelaptari		1985			1997

	Hospital name	Pre-1969	1970-1999	2000-2010	2010-2017	Recon- struction
66	LTD Archimedes Clinic Lagodekhi				2011	
67	LTD Regional Health Care Centre Dedoplistskaro				2016	
68	LTD Clinic LIFE				2011	
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre		1975			2011-2017
70	LTD Regional Healthcare Centre Tianeti				2011	2012
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre		1991			2011
72	LTD Mtskheta Medical Centre		1980			2017
73	JSC Medical Corporation Evex - Abasha Hospital				2011	
74	LTD Sena-Medi			2004		permanently
75	LTD Archimedes Clinic Senaki				2012	
76	JSC Medical Corporation Evex - Khobi Hospital		1987			2012
77	LTD Laifi				2009	
78	LTD Nli				2013	
79	JSC Chkhorotsku District Central Hospital	1968				2012
80	LTD Engurhesi Djvari Hospital	1966	1980			
81	JSC Medical Corporation Evex Tsalenjikha Hospital		1987			2012
82	JSC Medical Corporation Evex Martvili Hospital	1961				2011
83	JSC Rustavi Central Hospital	1955				2013
84	LTD Georgian Steel Treatment Centre	1958				2014;2018
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre				2011	
86	LTD Aversi Clinic Marneuli #1 Branch			2007		2017
87	LTD Regional Healthcare Centre Tetrtskaro				2011	
88	LTD Bolnisi Central Clinic		1970		2011	2017
89	LTD New Medical Centre Dmanisi				2011	
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre				2012	

	Hospital name	Pre-1969	1970-1999	2000-2010	2010-2017	Recon- struction
91	LTD Geo Hospitals - Vani Medical Centre		1990			2015
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre				2011	
93	LTD Tskaltubo District Hospital	1964				2011
94	JSC Medical Corporation Evex - Khoni hospital		1980			2011
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre		1986			2012
96	LTD Kutaisi №3 Maternity Hospital	1953				2017
97	LTD Clinic - LJ		1988			2003
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital				2012	
99	JSC Medical Corporation Evex - Terjola Hospital				2011	
100	JSC Medical Corporation Evex - Tkibuli Hospital				2011	
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre				2011	
102	LTD Clinic Elite		1970			2014
103	LTD Unimedi Samtskhe Adigeni Medical Centre				2011	
104	LTD Alliance Medi Kareli	1966				
105	LTD Alliance Med Service Khashuri	1960				2010-2011
106	LTD Dostakari		1980			
107	LTD Gormedi				2013	
108	LTD Imedi and Mariami Medical Centre		1980			2007
109	LEPL Military Hospital of the Ministry of Defence of Georgia			2006		
110	JSC Iavnana		1970			2008-1012
111	LTD J. Gogiasvili's Clinic		1980			
112	Ltd Medalpa Kaspi				2011	
	Total	25	40	7	40	
		22%	36%	6%	36%	

Among the factors adversely affecting the structural safety of hospitals are multiple cracks in the bearing walls, lintels and flooring, as well as occasional damage to basements. A problem common to most of the hospitals in the country is the degradation of pitching on the outer perimeter of the building (tamping and holes), which, following the movement of water, may cause damage to basements. In particular, there are severe problems of degraded pitching reported at the JSC Kobuleti Medical Centre; the LTD Abastumani Tuberculosis Hospital; the LTD Feromedi; the LTD Regional Health Care Centre Lentekhi; the LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly; the LTD Telavi District Hospital; the LTD Regional Health Care Centre Lanchkhuti; the LTD Clinic LIFE; the LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre; the LTD Sena-Medi; the LTD Engurhesi Djvari Hospital; the LTD Georgian Steel Treatment Centre; and the LTD New Medical Centre Dmanisi.

Unsealed joints have been identified between panels in several buildings made of precast elements, allowing moisture to penetrate and thus potentially cause damage to the outer walls.

It is worth mentioning that the structural safety assessment was considerably more difficult to perform than the others because some or all of the technical papers related to the buildings were missing in most hospitals. As for the relatively new hospitals, most were built in or after 2011, in the context of (a) 2010 health reforms that charged Health Insurance State Programme partner insurance companies with constructing/rehabilitating hospitals in medical districts, and (b) a number of investment projects implemented by private and foreign investors.

Of the 112 evaluated hospitals, 40 (36%) were built after 2011. Hospital construction was carried out in accordance with regulations governing construction norms and standards. The structural security of these buildings is almost 100%. The buildings are modern designs and meet the up-to-date requirements of medical institutions.

It should be noted, however, that construction regulations in Georgia have been weakened over the past 30 years, and so it is hard to say whether these new hospitals will withstand threats from earthquakes or any other disasters causing structural damage.

Non-structural safety

Power supply (Table 13)

Of the 112 hospitals evaluated, 27 (24%) are connected to two or more standalone sources of power (network electric cables). JSC Medical Corporation Evex Traumatology Hospital, LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly and LTD S. Khechinashvili University Clinic have three standalone network electric cables; JSC K. Eristavi Experimental and Clinical National Centre of Surgery have four.

85 hospitals, or 76% of the total, are connected to only one power source.

In case of power shutdown, automatic switching to another source or generator is available in most hospitals, with the exceptions of LTD Batumi Republican Hospital; LTD Regional Health Care Centre Ambrolauri; LTD Regional Health Care Centre Oni; LTD Regional Health Care Centre Tsageri; LTD Imedi and Mariami Medical Centre; LTD Dostakari; LTD Regional Health Care Centre Lanchkhuti; LTD Unimedi Kakheti Kvareli Medical Centre; and LTD Laifi. In most hospitals, the time taken for automatic switching is 5-15 seconds.

Only one hospital (LTD Engurhesi Djvari Hospital) has no generator. Two medical facilities (LTD Regional Healthcare Centre Tianeti and LTD Sena-Medi) have solar power supply systems.

Regarding the availability of alternate power sources in hospitals, all of the hospitals (with the single noted exception) have a power generator, and all of these generators are operational and connected to the facility's power grid. A few are connected only to the resuscitation and intensive therapy departments, or separately to specific pieces of medical equipment.

In 25 hospitals (22.5 per cent) a generator is able to cover only 30% of all needs; in 36 hospitals (32.4%) the generator can cover up to 70% of needs; and in the remaining 46 hospitals (41.4%) the generator can cover 100% of all needs.

Uninterruptable Power Supply (UPS) is available in 52 hospitals (44.4% of the total).

Wear of internal power grids is mostly low. In only a few clinics, it was found that power cables require replacement or should be covered with insulation material.

Table 13. Power supply for hospitals

No	Name of hospital	Number of power supply sources (network electric cable)	Availability of generator(s)	Generator power (KW)	Availability of Uninterruptable Power Supply (UPS)	Level of secured alternate power supply		
						LOW	AVERAGE	HIGH
1	LTD Unimedi Adjara Khulo Medical Centre	1	1	200	–			X
2	LTD Unimedi Adjara Shuakhevi Medical Centre	1	1	200	–			X
3	LTD Unimedi Adjara Keda Medical Centre	1	1	200	–			X
4	Health Centre Medina	2	2	140; 500	X			X
5	LTD Unimedi Adjara Batumi Referral Hospital	1	2	120; 150	X		X	
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	1	1	500	–			X
7	LTD Batumi Republican Hospital	1	2	80; 150	X	X		
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	1	2	150; 400	–			X
9	JSC Kobuleti Medical Centre	1	1	50	–	X		
10	LTD Medalfa Ozurgeti Medical Centre	1	1	275	X			X
11	LTD Regional Health Care Centre Lentekhi	1	1	150	X		X	
12	LTD Regional Health Care Centre Tsageri	1	1	50	–	X		
13	LTD Regional Health Care Centre Oni	1	1	205	–		X	
14	LTD Regional Health Care Centre Ambrolauri	1	1	11	–	X		
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	2	2	2X350	X			X
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	3	1	35	X			X
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	1	1	250	X			X
18	LTD Feromedi	2	1	35	X			X
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	1	1	90	–		X	
20	JSC Sachkhere District Hospital-Polyclinic Union	1	11	2X400; 500; 550; 2X600; 5X1800	X			X
21	LTD Mestia Hospital - Ambulatory Union	1	1	184	–		X	

22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	1	1	370	X	X
23	JSC Poti Central Clinical Hospital	1	1	121	X	X
24	LTD Unimedi Kakheti Akhmeta Hospital	1	1	130	–	X
25	LTD Unimedi Kakheti Telavi Referral Hospital	1	1	390	X	X
26	LTD Telavi District Hospital	2	2	4.5; 7	X	X
27	LTD Avtandil Kambarashvili's Clinic	1	1	70	–	X
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	1	1	180	X	X
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	1	1	400	–	X
30	LTD Archimedes Clinic Signagi	1	1	180	–	X
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	2	1	90	–	X
32	LTD Regional Health Care Centre Tsalka	1	1	80	–	X
33	LTD Unimed Samtskhe Ninotsminda Medical Centre	1	1	55	–	X
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	1	1	300	X	X
35	LTD Unimed Samtskhe Aspindza Medical Centre	1	1	450	–	X
36	LTD Akhaltsikhe Clinic Imedi	2	2	4; 160	–	X
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	2	1	1500	X	X
38	LTD Abastumani Tuberculosis Hospital	1	1	75	–	X
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	1	1	88	–	X
40	LTD Regional Health Care Centre Kazbegi	1	1	80	–	X
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	1	1	70	–	X
42	LTD Amtel Hospital First Clinic	2	1	120	–	X
43	LTD Tbilisi #5 Clinical Hospital	1	2	100; 150	X	X
44	JSC Medical Corporation Evex Traumatology Hospital	3	1	150	–	X
45	LTD Aleksandre Aladashvili Clinic	2	1	200	–	X
46	LTD Elizabeth Blackwell Hospital	1	1	150	X	X
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	4	3	214; 385; 640;	X	X
48	LTD S. Khechinashvili University Clinic	3	1	60	X	X

49	LTD Acad. O. Gudushauri National Medical Centre	1	3	200; 315; 600	X	X
50	LTD Emergency Surgery and Traumatology Centre	1	2	5; 11	_	X
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	2	4	100; 300; 75; 30	X	X
52	LTD Sagittarius - The Seafarers Medical Centre	1	1	200	X	X
53	JSC Seafarers Medical Centre - 2010	1	1	136	_	X
54	LTD BROTHERS	2	3	3X630	X	X
55	LTD MedEmergency	2	1	135	_	X
56	LTD Batumi Multi-Profile Maternity Hospital	1	1	105	_	X
57	LTD Unimedi Adjara Kobuleti Regional Hospital	1	1	385	X	X
58	LTD Regional Health Care Centre Lanchkhuti	2	1	7	_	X
59	LTD Medalpa Lanchkhuti Medical Centre	1	2	24; 75	_	X
60	LTD Health House in Guria	1	1	36	_	X
61	LTD Medalpa Chokhatauri Medical Centre	1	1	55	X	X
62	LTD Sikharuli Telavi Maternity Hospital	1	1	36	_	X
63	LTD Children's Health Centre Telavi	2	2	5; 4	_	X
64	LTD Unimedi Kakheti Kvareli Medical Centre	1	1	64	X	X
65	LTD Kelaptari	1	1	25	_	X
66	LTD Archimedes Clinic Lagodekhi	1	1	400	_	X
67	LTD Regional Health Care Centre Dedoplistskaro	1	1	330	_	X
68	LTD Clinic LIFE	1	1	5	_	
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	1	2	75; 85	_	X
70	LTD Regional Healthcare Centre Tianeti	1	1	70	_	X
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	1	1	80	_	X
72	LTD Mtskheta Medical Centre	2	5	150; 90; 60; 40; 20	X	X
73	JSC Medical Corporation Evex - Abasha Hospital	1	1	60	X	X
74	LTD Sena-Medi	1	2	175; 40	X	X
75	LTD Archimedes Clinic Senaki	1	1	250	X	X
76	JSC Medical Corporation Evex - Khobi Hospital	1	1	60	X	X
77	LTD Laifi	1	1	5	_	X
78	LTD Nli	1	1	6	X	X
79	JSC Chkhorotsku District Central Hospital	1	1	160	_	X

80	LTD Engurhesi Djvari Hospital	1	-	-	-	-	-	-
81	JSC Medical Corporation Evex Tsalenjikha Hospital	1	1	60	X			X
82	JSC Medical Corporation Evex Martvili Hospital	1	1	60	-	X		
83	JSC Rustavi Central Hospital	1	2	200; 125	X		X	
84	LTD Georgian Steel Treatment Centre	2	1	20	X	X		
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	1	1	75	-	X		
86	LTD Aversi Clinic Marneuli #1 Branch	2	5	335X2; 300; 80X2	X			X
87	LTD Regional Healthcare Centre Tetrtskaro	1	1	88	X	X		
88	LTD Bolnisi Central Clinic	2	2	205	-			X
89	LTD New Medical Centre Dmanisi	1	1	150	-		X	
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	1	1	95	X		X	
91	LTD Geo Hospitals - Vani Medical Centre	1	1	38	X			X
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	1	1	75	X			X
93	LTD Tskaltubo District Hospital	1	1	60	X			
94	JSC Medical Corporation Evex - Khoni hospital	1	1	131	X			X
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	2	1	132	X			
96	LTD Kutaisi №3 Maternity Hospital	2	1	7	-	X		
97	LTD Clinic-LJ	2	1	480	X		X	
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	1	1	500	X		X	
99	JSC Medical Corporation Evex - Terjola Hospital	1	1	55	X	X		
100	JSC Medical Corporation Evex - Tkibuli Hospital	1	1	145	-		X	
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	2	1	85	-		X	
102	LTD Clinic Elite	1	1	7	-	X		
103	LTD Unimedi Samtskhe Adigeni Medical Centre	1	2	6	X			
104	LTD Alliance Medi Kareli	1	1	10	-	X	-	-
105	LTD Alliance Med Service Khashuri	2	1	1000	-	-	-	X
106	LTD Dostakari	1	1	5	-	X	-	-
107	LTD Gormedi	1	1	1000	X		X	
108	LTD Imedi and Mariami Medical Centre	1	1	4	-	X	-	-

109	LEPL Military Hospital of the Ministry of Defence of Georgia	1	3	350; 350; 440	X	X
110	JSC Iavna	1	1	350	X	X
111	LTD J. Gogiashvili's Clinic	1	1	150	–	X
112	Ltd Medalpa Kaspi	1	1	150	–	X

Water supply (Table 14)

Hospital water supply sources vary by location. Almost all hospitals located in municipalities are tapping into the municipal water supply system, and only 10 (9%) of these are supplied with water by their own artesian well. These ten are LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health; JSC Medical Corporation Evex - Zugdidi Referral Hospital; JSC Poti Central Clinical Hospital; LTD Unimedi Kakheti Akhmeta Hospital; LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter); LTD Unimedi Kakheti Kvareli Medical Centre; JSC Medical Corporation Evex - Khobi Hospital; LTD Laifi; LTD Nli; and LTD Alliance Medi Kareli.

Overall, 29 hospitals (26%) have their own water supply sources (artesian wells), and therefore benefit from mixed modalities of water supply (by both tapping into a local water supply network and using their own water source).

The availability of alternate water supply sources and/or stocks of potable water is a key factor in ensuring a hospital's functionality during emergencies. Most assessed hospitals have a tank to hold drinking water, with only seven exceptions (6%): LTD Regional Health Care Centre Ambrolauri; LTD Archimedes Clinic Signagi; LTD Regional Health Care Centre Kazbegi; LTD Aleksandre Aladashvili Clinic; LTD S. Khechinashvili University Clinic; JSC Seafarers Medical Centre - 2010; and LTD Kelaptari. Should these institutions be cut off from the municipal water supply, the only recourse would be to have suppliers carry water to the hospitals in vehicles with water tanks, and to count on the help of local public authorities. This greatly increases the vulnerability of these facilities to emergencies.

The assessment results show that the water supply in emergencies drops to 30% or less of normal supply in 33 hospitals (29% of the total). In 26 hospitals (23%) it remains at 80-100% of normal.

The assessment did not note high wear and tear to water supply networks (internal and/or external) in the country.

Table 14. Drinking water supply for hospitals

No	Name of hospital	Water source			Water stocks		Rate of water supply in emergencies		
		Local network	Artesian well	Mixt (network + art. well)	Tank (litre)	Missing	Up to 30%	Up to 70%	Up to 100%
1	LTD Unimedi Adjara Khulo Medical Centre	X	-	-	40 000	-			X
2	LTD Unimedi Adjara Shuakhevi Medical Centre	X	-	-	20 000	-			X
3	LTD Unimedi Adjara Keda Medical Centre	X	-	-	15 000	-			X
4	Health Centre Medina	X	X	X	20 000	-			X
5	LTD Unimedi Adjara Batumi Referral Hospital	X	-	-	60 000	-			X
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	X	X	X	60 000	-			X
7	LTD Batumi Republican Hospital	X	X	X	6 000	-			X
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	-	X	-	60 000	-			X
9	JSC Kobuleti Medical Centre	X	-	-	15 000	-			X
10	LTD Medalfa Ozurgeti Medical Centre	X	-	-	10 000	-			X
11	LTD Regional Health Care Centre Lentekhi	X	-	-	9 000	-			X
12	LTD Regional Health Care Centre Tsageri	X	-	-	12 000	-			X
13	LTD Regional Health Care Centre Oni	X	-	-	12 000	-			X
14	LTD Regional Health Care Centre Ambrolauri	X	-	-	-	X	X		
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	X	X	X	400 000	-			X
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	X	-	-	14 000	-			x
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	X	X	X	3 000	-			X
18	LTD Feromedi	X	2X	X	60 000	-			X
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	X	-	-	18 000	-			X
20	JSC Sachkhere District Hospital - Polyclinic Union	X	2X	X	100 000	-			X
21	LTD Mestia Hospital - Ambulatory Union	X	-	-	10 000	-			X
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	-	X	-	12 000	-			X

23	JSC Poti Central Clinical Hospital	-	X	-	20 000	-	X
24	LTD Unimedi Kakheti Akhmeta Hospital	-	X	-	3 000	-	X
25	LTD Unimedi Kakheti Telavi Referral Hospital	X	X	X	60 000	-	X
26	LTD Telavi District Hospital	X	-	-	25 000	-	X
27	LTD Avtandil Kambarashvili's Clinic	X	-	-	40 000	-	X
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	X	-	-	42 300	-	X
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	X	X	X	25 000	-	X
30	LTD Archimedes Clinic Signagi	X	X	X	-	X	X
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	X	-	-	16 000	-	X
32	LTD Regional Health Care Centre Tsalka	X	-	-	5 000	-	X
33	LTD Unimed Samtskhe Ninotsminda Medical Centre	X	-	-	20 000	-	X
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	X	-	-	1 000	-	X
35	LTD Unimed Samtskhe Aspindza Medical Centre	X	-	-	4 500	-	X
36	LTD Akhaltsikhe Clinic Imedi	X	-	-	2 500	-	X
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	X	X	X	10 000	-	X
38	LTD Abastumani Tuberculosis Hospital	X	-	-	10 000	-	X
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	X	-	-	12 000	-	X
40	LTD Regional Health Care Centre Kazbegi	X	-	-	-	X	X
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	X	-	-	150 000	-	X
42	LTD Amtel Hospital First Clinic	X	-	-	50 000	-	X
43	LTD Tbilisi #5 Clinical Hospital	X	-	-	5 000	-	X
44	JSC Medical Corporation Evex Traumatology Hospital	X	-	-	10 000	-	X
45	LTD Aleksandre Aladashvili Clinic	X	-	-	-	X	X
46	LTD Elizabeth Blackwell Hospital	X	-	-	4 000	-	X
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	X	-	-	10 000	-	X
48	LTD S. Khechinashvili University Clinic	X	-	-	-	X	X
49	LTD Acad. O. Gudushauri National Medical Centre	X	X	X	5 000	-	X
50	LTD Emergency Surgery and Traumatology Centre	X	-	-	2 000	-	X
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	-	X	-	15 000	-	X
52	LTD Sagittarius - The Seafarers Medical Centre	X	-	-	1 500	-	X
53	JSC Seafarers Medical Centre - 2010	X	X	X	-	X	X
54	LTD BROTHERS	X	X	X	200 000	-	X
55	LTD MedEmergency	X	-	-	5 000	-	X

56	LTD Batumi Multi-Profile Maternity Hospital	X	X	X	5 000		X
57	LTD Unimedi Adjara Kobuleti Regional Hospital	X	_	_	50 000	_	X
58	LTD Regional Health Care Centre Lanchkhuti	X	_	_	26 000	_	X
59	LTD Medalpa Lanchkhuti Medical Centre	X	_	_	10 000	_	X
60	LTD Health House in Guria	X	X	X	4 000	_	X
61	LTD Medalpa Chokhatauri Medical Centre	X	X	X	8 000	_	X
62	LTD Sikharuli Telavi Maternity Hospital	X	_	_	16 000	_	X
63	LTD Children's Health Centre Telavi	X	_	_	6 000	_	X
64	LTD Unimedi Kakheti Kvareli Medical Centre	_	X	_	2 000	_	X
65	LTD Kelaptari	X	X	X	_	X	X
66	LTD Archimedes Clinic Lagodekhi	X	X	X	20 000	_	X
67	LTD Regional Health Care Centre Dedoplistskaro	X	_	_	18 000	_	X
68	LTD Clinic LIFE	X	_	_	2 000	_	X
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	X	X	X	65 000	_	X
70	LTD Regional Healthcare Centre Tianeti	X	_	_	5 000		X
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	X	_	_	30 000	_	X
72	LTD Mtskheta Medical Centre	X	_	_	4 000	_	X
73	JSC Medical Corporation Evex - Abasha Hospital	X	_	_	60 000	_	X
74	LTD Sena-Medi	X	_	_	43 000	_	X
75	LTD Archimedes Clinic Senaki	X	_	_	20 000	_	X
76	JSC Medical Corporation Evex - Khobi Hospital	_	X	_	12 000	_	X
77	LTD Laifi	_	X	_	2 000	_	X
78	LTD Nli	_	X	_	2 000	_	X
79	JSC Chkhorotsku District Central Hospital	X	_	_	1 000	_	X
80	LTD Engurhesi Djvari Hospital	X	X	X	15 000	_	X
81	JSC Medical Corporation Evex Tsalenjikha Hospital	X	X	X	2 000	_	X
82	JSC Medical Corporation Evex Martvili Hospital	X	_	_	6 000	_	X
83	JSC Rustavi Central Hospital	X	_	_	10 000	_	X
84	LTD Georgian Steel Treatment Centre	X	_	_	5 000	_	X
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	X	_	_	10 000	_	X
86	LTD Aversi Clinic Marneuli #1 Branch	X	X	X	23 000		X
87	LTD Regional Healthcare Centre Tetrtskaro	X	_	_	8 000	_	X
88	LTD Bolnisi Central Clinic	X	_	_	15 000	_	X
89	LTD New Medical Centre Dmanisi	X	_	_	4 000	_	X

90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	X	-	-	10 000	-	X
91	LTD Geo Hospitals - Vani Medical Centre	X	X	X	1.500	-	X
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	X	-	-	12 000	-	X
93	LTD Tskaltubo District Hospital	X	-	-	4 000	-	X
94	JSC Medical Corporation Evex - Khoni hospital	X	-	-	35 000	-	X
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	X	-	-	60 000	-	X
96	LTD Kutaisi N°3 Maternity Hospital	X	-	-	22 000	-	X
97	LTD Clinic - LJ	X	-	-	26 000	-	X
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	X	-	-	120 000	-	X
99	JSC Medical Corporation Evex - Terjola Hospital	X	-	-	30 000	-	X
100	JSC Medical Corporation Evex - Tkibuli Hospital	X	-	-	15 000	-	X
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	X	X	X	22 000	-	X
102	LTD Clinic Elite	X	2 X	X	16 000	-	X
103	LTD Unimedi Samtskhe Adigeni Medical Centre	X	-	-	5 000	-	X
104	LTD Alliance Medi Kareli	-	X	-	2 500	-	X
105	LTD Alliance Med Service Khashuri	2X	-	-	36 000	-	X
106	LTD Dostakari	X	-	-	4 000	-	X
107	LTD Gormedi	X	-	-	25 000	-	X
108	LTD Imedi and Mariami Medical Centre	X	X	X	5 000	-	X
109	LEPL Military Hospital of the Ministry of Defence of Georgia	X	-	-	100 000	-	X
110	JSC Iavnana	X	X	X	80 000	-	X
111	LTD J. Gogiasvili's Clinic	X	X	X	5 000	-	X
112	Ltd Medalpa Kaspi	X	-	-	10 000	-	X

Sewer system (Table 15)

According to the assessment data, wear and tear to the sewer system, and specifically to internal networks (joints and vertical and horizontal pipes), is reaching 70% in in 63 hospitals, and is close to 90% in another 23 hospitals. Sewer system wear in the remaining 27 hospitals is close to 30%.

Table 15. Wear to hospital sewer systems

No	Name of hospital	Wear of sewer networks		
		Up to 100%	Up to 70%	Up to 30%
1	LTD Unimedi Adjara Khulo Medical Centre			X
2	LTD Unimedi Adjara Shuakhevi Medical Centre			X
3	LTD Unimedi Adjara Keda Medical Centre		X	
4	Health Centre Medina			X
5	LTD Unimedi Adjara Batumi Referral Hospital		X	
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	X		
7	LTD Batumi Republican Hospital			X
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	X		
9	JSC Kobuleti Medical Centre		X	
10	LTD Medalfa Ozurgeti Medical Centre		X	
11	LTD Regional Health Care Centre Lentekhi		X	
12	LTD Regional Health Care Centre Tsageri		X	
13	LTD Regional Health Care Centre Oni		X	
14	LTD Regional Health Care Centre Ambrolauri			X
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre		X	
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly			X
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)			X
18	LTD Feromedi			X
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre		X	
20	JSC Sachkhere District Hospital - Polyclinic Union			X
21	LTD Mestia Hospital - Ambulatory Union			X
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital		X	
23	JSC Poti Central Clinical Hospital		X	
24	LTD Unimedi Kakheti Akhmeta Hospital		X	
25	LTD Unimedi Kakheti Telavi Referral Hospital		X	

26	LTD Telavi District Hospital		X
27	LTD Avtandil Kambarashvili's Clinic		X
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre		X
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)		X
30	LTD Archimedes Clinic Signagi	X	
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre		X
32	LTD Regional Health Care Centre Tsalka		X
33	LTD Unimed Samtskhe Ninotsminda Medical Centre		X
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	X	
35	LTD Unimed Samtskhe Aspindza Medical Centre		X
36	LTD Akhaltsikhe Clinic Imedi		X
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	X	
38	LTD Abastumani Tuberculosis Hospital		X
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	X	
40	LTD Regional Health Care Centre Kazbegi		X
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre		X
42	LTD Amtel Hospital First Clinic		X
43	LTD Tbilisi #5 Clinical Hospital	X	
44	JSC Medical Corporation Evex Traumatology Hospital		X
45	LTD Aleksandre Aladashvili Clinic		X
46	LTD Elizabeth Blackwell Hospital		X
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery		X
48	LTD S. Khechinashvili University Clinic		X
49	LTD Acad. O. Gudushauri National Medical Centre		X
50	LTD Emergency Surgery and Traumatology Centre		X
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)		X
52	LTD Sagittarius - The Seafarers Medical Centre		X
53	JSC Seafarers Medical Centre - 2010		X
54	LTD BROTHERS		X
55	LTD MedEmergency		X
56	LTD Batumi Multi-Profile Maternity Hospital		X
57	LTD Unimedi Adjara Kobuleti Regional Hospital		X
58	LTD Regional Health Care Centre Lanchkhuti		X
59	LTD Medalpa Lanchkhuti Medical Centre	X	
60	LTD Health House in Guria		X
61	LTD Medalpa Chokhatauri Medical Centre	X	
62	LTD Sikharuli Telavi Maternity Hospital		X

63	LTD Children's Health Centre Telavi	X
64	LTD Unimedi Kakheti Kvareli Medical Centre	X
65	LTD Kelaptari	X
66	LTD Archimedes Clinic Lagodekhi	X
67	LTD Regional Health Care Centre Dedoplistskaro	X
68	LTD Clinic LIFE	X
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	X
70	LTD Regional Healthcare Centre Tianeti	X
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	X
72	LTD Mtskheta Medical Centre	X
73	JSC Medical Corporation Evex - Abasha Hospital	X
74	LTD Sena-Medi	X
75	LTD Archimedes Clinic Senaki	X
76	JSC Medical Corporation Evex - Khobi Hospital	X
77	LTD Laifi	X
78	LTD Nli	X
79	JSC Chkhorotsku District Central Hospital	X
80	LTD Engurhesi Djvari Hospital	X
81	JSC Medical Corporation Evex Tsalenjikha Hospital	X
82	JSC Medical Corporation Evex Martvili Hospital	X
83	JSC Rustavi Central Hospital	X
84	LTD Georgian Steel Treatment Centre	X
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	X
86	LTD Aversi Clinic Marneuli #1 Branch	X
87	LTD Regional Healthcare Centre Tetrtskaro	X
88	LTD Bolnisi Central Clinic	X
89	LTD New Medical Centre Dmanisi	X
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	X
91	LTD Geo Hospitals - Vani Medical Centre	X
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	X
93	LTD Tskaltubo District Hospital	X
94	JSC Medical Corporation Evex - Khoni hospital	X
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	X
96	LTD Kutaisi №3 Maternity Hospital	X
97	LTD Clinic-LJ	X
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	X
99	JSC Medical Corporation Evex - Terjola Hospital	X

100	JSC Medical Corporation Evex - Tkibuli Hospital	X
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	X
102	LTD Clinic Elite	X
103	LTD Unimedi Samtskhe Adigeni Medical Centre	X
104	LTD Alliance Medi Kareli	X
105	LTD Alliance Med Service Khashuri	X
106	LTD Dostakari	X
107	LTD Gormedi	X
108	LTD Imedi and Mariami Medical Centre	X
109	LEPL Military Hospital of the Ministry of Defence of Georgia	X
110	JSC Iavnana	X
111	LTD J. Gogiashvili's Clinic	X
112	Ltd Medalpa Kaspi	X

Heating (Table 16)

Considering the fact that there are no central municipal heating systems in Georgia, all hospitals have their own heating system, whether centralized or fragmented. Almost all evaluated hospitals have their own boilers, with five exceptions (4.5% of the total): LTD Batumi Republican Hospital; LTD Feromedi; LTD S. Khechinashvili University Clinic; LTD Engurhesi Djvari Hospital; LTD Alliance Medi Kareli. These hospitals manage to heat buildings using separate heating equipment in each department.

In 102 hospitals boilers are fuelled by natural gas, and 88 of these facilities have no technical means of shifting to another type of fuel (oil, coal or diesel). Supply of heat is therefore to a great extent contingent on natural gas supply. Should the natural gas supply cease or decline, only 14 hospitals would be able to meet their heating needs by switching to a different type of fuel. The remaining hospitals could only use portable heaters as alternate heating options.

Coal is used to generate heat in three hospitals (LTD Regional Health Care Centre Lentekhi; LTD Regional Health Care Centre Tsageri; and LTD Regional Healthcare Centre Tianeti). Only one facility (LTD Sena-Medi) has a solar powered heating system.

Table 16. Hospital heating supply

No	Name of hospital	Source of heat supply			Fuel used to generate heat			Wear of heat delivery networks			
		Centralized heating system (own boilers)	Separate heating equipment in each department	Gas	Coal	Diesel fuel	Electricity	Wood	Up to 30%	up to 70%	up to 100%
1	LTD Unimedi Adjara Khulo Medical Centre	X		X	X	X			X		
2	LTD Unimedi Adjara Shuakhevi Medical Centre	X		X	X	X			X		
3	LTD Unimedi Adjara Keda Medical Centre	X	X	X	X	X				X	
4	Health Centre Medina	X		X					X		
5	LTD Unimedi Adjara Batumi Referral Hospital	X		X					X		
6	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre	X		X					X		
7	LTD Batumi Republican Hospital	-	X				X				X
8	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health	X	X	X			X				X
9	JSC Kobuleti Medical Centre	X	X	X			X				X
10	LTD Medalfa Ozurgeti Medical Centre	X		X					X		
11	LTD Regional Health Care Centre Lentekhi	X			X				X		
12	LTD Regional Health Care Centre Tsageri	X			X						X
13	LTD Regional Health Care Centre Oni	X		X							X
14	LTD Regional Health Care Centre Ambrolauri	X		X							X
15	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	X		X					X		
16	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	X		X							X
17	LTD Imermedi - Imereti Regional Medical Centre (Terjolamedi)	X		X							X
18	LTD Feromedi	-	X				X		X		
19	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	X		X							X
20	JSC Sachkhere District Hospital - Polyclinic Union	X		X	X						X
21	LTD Mestia Hospital - Ambulatory Union	X						X			X
22	JSC Medical Corporation Evex - Zugdidi Referral Hospital	X		X					X		

23	JSC Poti Central Clinical Hospital	X	X		X
24	LTD Unimedi Kakheti Akhmeta Hospital	X	X		X
25	LTD Unimedi Kakheti Telavi Referral Hospital	X	X		X
26	LTD Telavi District Hospital	X	X		X
27	LTD Avtandil Kambarashvili's Clinic	X	X		X
28	LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre	X	X		X
29	LTD Archimedes Clinic (located in Lagodekhi, Janelidze str.)	X	X		X
30	LTD Archimedes Clinic Signagi	X	X		X
31	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	X	X		X
32	LTD Regional Health Care Centre Tsalka	X	X		X
33	LTD Unimed Samtskhe Ninotsminda Medical Centre	X	X		X
34	LTD Unimed Samtskhe Akhalkalaki Medical Centre	X	X		X
35	LTD Unimed Samtskhe Aspindza Medical Centre	X	X		X
36	LTD Akhaltsikhe Clinic Imedi	X	X		X
37	LTD Unimed Samtskhe Akhaltsikhe Medical Centre	X	X		X
38	LTD Abastumani Tuberculosis Hospital	X		X	X
39	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre	X	X		X
40	LTD Regional Health Care Centre Kazbegi	X	X		X
41	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	X	X		X
42	LTD Amtel Hospital First Clinic	X	X		X
43	LTD Tbilisi #5 Clinical Hospital	X	X		X
44	JSC Medical Corporation Evex Traumatology Hospital	X	X		X
45	LTD Aleksandre Aladashvili Clinic	X	X		X
46	LTD Elizabeth Blackwell Hospital	X	X		X
47	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	X	X		X
48	LTD S. Khechinashvili University Clinic	-	X	X	X
49	LTD Acad. O. Gudushauri National Medical Centre	X	X		X
50	LTD Emergency Surgery and Traumatology Centre	X	X		X
51	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)	X	X		X
52	LTD Sagittarius - The Seafarers Medical Centre	X	X		X
53	JSC Seafarers Medical Centre - 2010	X	X		X

54	LTD BROTHERS	X	X		X
55	LTD MedEmergency	X	X	X	X
56	LTD Batumi Multi-Profile Maternity Hospital	X	X		X
57	LTD Unimedi Adjara Kobuleti Regional Hospital	X	X		X
58	LTD Regional Health Care Centre Lanchkhuti	X	X		X
59	LTD Medalpa Lanchkhuti Medical Centre	X	X		X
60	LTD Health House in Guria	X	X		X
61	LTD Medalpa Chokhatauri Medical Centre	X	X	X	X
62	LTD Sikharuli Telavi Maternity Hospital	X	X		X
63	LTD Children's Health Centre Telavi	X	X		X
64	LTD Unimedi Kakheti Kvareli Medical Centre	X	X		X
65	LTD Kelaptari	X	X	X	X
66	LTD Archimedes Clinic Lagodekhi	X	X		X
67	LTD Regional Health Care Centre Dedoplistskaro	X	X		X
68	LTD Clinic LIFE	X	X		X
69	LTD Geo Hospitals - Sagarejo Multi-Profile Medical Centre	X	X		X
70	LTD Regional Healthcare Centre Tianeti	X	X	X	X
71	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	X	X		X
72	LTD Mtskheta Medical Centre	X	X		X
73	JSC Medical Corporation Evex - Abasha Hospital	X	X		X
74	LTD Sena-Medi	X	X		X
75	LTD Archimedes Clinic Senaki	X	X		X
76	JSC Medical Corporation Evex - Khobi Hospital	X	X		X
77	LTD Laifi	X	X		X
78	LTD Nli	X	X		X
79	JSC Chkhorotsku District Central Hospital	X		X	X
80	LTD Engurhesi Djvari Hospital	-	X	X	X
81	JSC Medical Corporation Evex Tsalenjikha Hospital	X		X	X
82	JSC Medical Corporation Evex Martvili Hospital	X	X		X
83	JSC Rustavi Central Hospital	X	X		X
84	LTD Georgian Steel Treatment Centre	X	X		X
85	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	X	X		X
86	LTD Aversi Clinic Marneuli #1 Branch	X	X		X
87	LTD Regional Healthcare Centre Tetrtskaro	X	X		X
88	LTD Bolnisi Central Clinic	X	X		X

89	LTD New Medical Centre Dmanisi	X	X				X	
90	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	X	X				X	
91	LTD Geo Hospitals - Vani Medical Centre	X	X				X	
92	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	X	X				X	
93	LTD Tskaltubo District Hospital	X	X				X	
94	JSC Medical Corporation Evex - Khoni hospital	X	X				X	
95	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	X	X			X		
96	LTD Kutaisi №3 Maternity Hospital	X	X				X	
97	LTD Clinic-LJ	X	X			X		
98	JSC Medical Corporation Evex - Kutaisi Referral Hospital	X	X			X		
99	JSC Medical Corporation Evex - Terjola Hospital	X	X			X		
100	JSC Medical Corporation Evex - Tkibuli Hospital	X	X	X		X		
101	LTD Geo Hospitals - Zestafoni Multi-Profile Medical Centre	X	X			X		
102	LTD Clinic Elite	X	X			X		
103	LTD Unimedi Samtskhe Adigeni Medical Centre	X	X				X	
104	LTD Alliance Medi Kareli	-	X			X	X	
105	LTD Alliance Med Service Khashuri	X	X			X	X	
106	LTD Dostakari	X	X			X	X	
107	LTD Gormedi	X	X			X		
108	LTD Imedi and Mariami Medical Centre	X	X				X	
109	LEPL Military Hospital of the Ministry of Defence of Georgia	X	X			X		
110	JSC Iavnana	X	X			X		
111	LTD J. Gogiasvili's Clinic	X	X			X		
112	Ltd Medalpa Kaspi	X	X			X		
Total for all hospitals		107	8	102	3	7	16	2

Fire safety

Fire safety systems exist in most hospitals. Some hospitals have fully-operational automated systems for fire alarms and fire control; systems for prompt notification and alert of patients, staff and visitors in any potential hazard or emergency; fire extinguishers; and special water reservoirs for fire extinguishing that are connected to hydrants. Even LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre has a “fire sprinkler system.”

Some hospitals – LTD S. Khechinashvili University Clinic, LTD “Engurhesi” Djvari Hospital, and LTD Clinic LIFE – have no fire safety equipment.

In some hospitals the number of fire extinguishers does not meet regulatory requirements; some fire hydrants are not connected to water sources, not equipped with hoses, or not operational; there are insufficient building exit signs and evacuation plans or none at all; or there are insufficient spare stretchers and wheelchairs to evacuate patients who cannot move (or none at all). For most hospitals fire teams exist on paper only. Fire drills were organized for staff in some hospitals.

Roofing

The assessment results show that hospital buildings have ridged roofing in most cases (with one slope or two slopes), and a small number have flat roofing. The condition of the roofing is good in most hospitals.

Five hospitals need some roof renovation works: LTD Batumi Republican Hospital; LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre; LTD Regional Health Care Centre Kazbegi; LTD Engurhesi Djvari Hospital; and LTD Regional Health Care Centre Lanchkhuti.

There is widespread room for improvement in the guttering used to drain rainwater from the rooftops in 15 hospitals, which in many cases is allowing water to seep down walls and pitching, causing water damage.

Hospital access pathways

Some hospitals have a perimeter fence with a large number of gateways, allowing relatively unhindered access to the hospital.

At the same time, access to most hospitals – and in particular to the admissions areas – is difficult due to crowding caused by private or staff vehicles at the gateways, or due to heavy road traffic on neighbouring streets. This results in major challenges for health vehicles and special services (fire fighters, rescuers, utilities and services, etc.).

This is a particular problem at LTD Unimedi Adjara Batumi Referral Hospital; LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre; LTD Feromedi; LTD Geo Hospitals Gurjaani Multi-Profile Medical Centre; LTD Unimed Samtskhe Akhalkalaki Medical Centre; LTD Amtel Hospital First Clinic; LTD Elizabeth Blackwell Hospital; JSC K. Eristavi Experimental and Clinical National Centre of Surgery; LTD Emergency Surgery and Traumatology Centre; LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre; and LTD High-Tech Hospital MedCenter.

Relevant markings are displayed in most hospitals, yet these marks are often insufficiently visible, clear and/or self-explanatory.

In many communities there are no marks in place that provide directions to the hospital and/or give its accurate location.

Elevator and stair landing status

In most hospitals, especially the newly-built facilities, elevators are functioning relatively well. During the evaluation, two hospitals (4%) were found to have elevators that were out of order. These were LTD Regional Health Care Centre Kazbegi and JSC Poti Central Clinical Hospital. The administrations of these hospitals have been advised to ensure the repair and continued operation of the elevators.

No drawbacks were reported during the assessment of stair landings.

Ventilation and climate control

Ventilation and air conditioning in most hospitals, especially the newly-built facilities, are centralized and work properly. In 32 hospitals (28.5% of the total) air conditioning is provided by local climate control units, and ventilation is carried out only in particular departments, such as the surgical and resuscitation departments. The administrations of these hospitals have been advised to arrange centralized ventilation and climate control systems.

Inside and outside lighting systems

In most hospitals the inner lighting is relatively good, and the main hospital premises are lit at night. Outside lights are also sufficient for conducting emergency activities during night hours. A lack of outside lighting was reported in only a few hospitals. The administrations of these hospitals have been advised to arrange outside lighting for their buildings and outside areas.

Functional capacity

A number of issues are taken into account when assessing this component, including but not limited to the way in which hospital management is organized; actions taken by the facility's Committee for Emergencies; implementation of disaster response plans and programmes; disaster preparedness and response resources; the educational attainment and training of the staff; availability of necessary stocks; and the safe running of vital services.

The biggest share of low-scoring parameters in all of the assessed hospitals belongs to the "functional capacity" component, indicative of widespread gaps and drawbacks in this area.

It should also be mentioned, though, that a number of parameters scored "low" because their requirements were not set forth in the guiding and regulating papers pertaining to the hospitals and, as such, were not mandatory requirements for the facilities when they were assessed.

Each hospital has a Hospital Committee for Emergencies (HCE) to prevent, mitigate and ensure an efficient response to any emergency. HCE members are usually the representatives of the hospital's relevant subdivisions and services. HCE regulations have been designed in all hospitals, and the functional responsibilities of its members set out; but most such regulations need to be updated, and the assessment found that not all HCE members know their responsibilities in emergency situations.

To steer disaster response and consequence mitigation measures in emergencies, an Incident Command Group (ICG) should be established in each hospital, but no assessed hospital has any regulations or methodological guidance on how an ICG should function. All hospitals have to designate the premises that would host the ICG in an emergency. Such premises are usually the offices of directors or deputy directors of any given facility, yet no hospital has designated any backup ICG premises, and most intend to carry out ICG activities in the hospitals' conference rooms. Premises designated to host the ICG operations should be adequately equipped with communications equipment, computers and peripherals, furniture, office supplies etc. ICGs should also have telephone lists of necessary external numbers (the contact numbers of key decision makers within the Ministry of Health and other relevant stakeholders from local and central public authorities), but these lists have to be updated in several hospitals.

Measures to be taken in response to threats, hazards and emergencies should be entered into the hospital emergency response plans. These plans have been designed in most assessed facilities. The quality of drafted plans is approximately comparable across all units, in most cases emphasizing similar gaps in the planning process.

First among these gaps is the fact that all plans are generic and are, by and large, declarative in nature. Most actions and procedures need further specification. For instance, many of the plans lack provisions for the following: plan enforcement modalities; subdivision or whole facility evacuation modalities (procedures, evacuation pathways, aggregation areas etc.); confidentiality and evacuation of medical files; medical triage in case of significant casualties; actions to be taken by guards should an emergency occur during weekends or holidays and/or outside office hours; provision of logistic and financial support to the staff dealing with the consequences of emergencies outside office hours; and provision of moral and psychological support to patients, family members and staff. There is no clear-cut policy on the media and public relations, or how to communicate with the relatives of patients in emergencies, or when the number of data inquiries increases to over ten times the norm. A planning issue common to all hospitals is poor outlining of the measures for cooperation with local public authorities and relevant local services that must provide the hospitals with necessary support in terms of services, transport, specialized technical units, human resources, assets, etc. in order to counter the consequences of possible emergencies.

Drills and simulation exercises for emergency response measures are held only occasionally (mostly on fire safety) and are mostly demonstrative rather than geared towards capacity building.

Descriptions of technical support systems for service delivery and technical functioning of the hospitals are available only in the technical documentation (passports) of equipment and medical devices, and in rare cases their data is specified in emergency response plans.

Most hospitals hold stocks of drugs, medical supplies and some other equipment in various quantities and variety to ensure continuation of their work during the first days following the onset of disaster. At the same time, there is room for improvement in the planning of stock replenishment and upkeep. No hospitals hold stocks of food, and none have a pre-agreed contract with food suppliers for delivering products during emergencies.

Epidemiological supervision in all hospitals is carried out by the hospital epidemiologist and the hospital Infection Control Committee.

There are no morgues in hospitals, but temporary storage rooms for corpses.

VII. Conclusions

1. Following the completion of the evaluation of hospital safety in Georgia project, 112 facilities have been assessed. This represents 40% of the 280 hospitals currently operational in the country. An appropriate safety index score has been assigned to each assessed facility, providing a value representation of their ability to withstand and continue operations in the wake of possible disasters.

2. Safety index scores for the assessed hospitals vary quite significantly, from 0.24 to 0.93.

3. **30** hospitals, or 27% of evaluated hospitals, were listed in safety group **A**, indicative of their high resilience to the impact of possible disasters, and their ability to continue safe operations under adverse conditions caused by emergencies.

70 hospitals, or 62%, were listed in safety group **B**, indicative of average resilience to the impact of possible disasters and of some shortcomings in their ability to secure operations during emergencies.

12 hospitals, or 11%, were listed in safety group **C**. These hospitals cannot ensure resilience to the impact of disasters and cannot ensure safe running of operations during emergencies.

4. Most of the gaps and deficiencies reported in the safety of evaluated hospitals are related to the “functional capacity” component of the evaluation, in which on average 28.7% of parameters scored a “low” level of safety.

The “non-structural safety” component of the evaluation ranked second, in which on average 12.9% of parameters scored a “low” level of safety.

In the “structural safety” component, on average only 3.7% of parameters scored a “low” level of safety.

VIII. Strengthening hospital safety in Georgia: recommendations

Based on these evaluation results, the evaluation team came up with a number of measures aiming at strengthening hospital safety in Georgia. These were as follows:

- A national programme should be designed and implemented to strengthen the safety of Georgia's health care facilities, particularly hospitals, in emergencies. Health authorities and policymakers should address the issue first, giving a directive to all major medical corporations to ensure the provision of emergency hospital services to all regional centres, ensuring that at least one multi-profile hospital can provide all types of emergency services in each district throughout the country.
- The management authorities of each assessed hospital should review the assessment results, identifying weak links in ensuring hospital safety, and developing and implementing measures to eliminate existing shortcomings and increase hospital safety in emergencies.
- The budgets of the state, donors and private health care facilities should allocate specific funds to building emergency response capacity in order to minimize the consequences of possible emergencies.
- Hospital emergency preparedness and response plans should be revised and amended as appropriate, based on modern approaches. Unique methodologies should be devised where necessary.
- Emergency preparedness and response plans of health care facilities should be coordinated and updated on a regular basis, in collaboration with the entities responsible for ensuring responses and mitigating the consequences of emergencies (e.g. local public authorities, civil protection authorities, utilities providers, etc.).
- Georgia should plan for and provide the necessary technical means and assets to strengthen hospital capacities, in order to render health care services and treatment to growing numbers of patients.
- A specific chapter on hospital safety in emergencies should be developed and added to the national hospital accreditation/certification and evaluation standards.
- Renovation works, rebuilding, retrofitting, alterations, and scaling up of health care buildings should be carried out where necessary to ensure compliance with the legal frameworks in place, and with the normative requirements set forth for construction.
- The hospitals will be entrusted to acquire and maintain technical cards where all features of the building will be entered and regularly updated to include information on construction depreciation data.
- Measures should be planned and taken to provide all health care facilities with alternate sources of power, water supply, heating etc., or to increase the capacity of these sources where required.
- The engineering networks of health care facilities should be maintained and used properly, and renovated where necessary in a timely fashion .
- All hospitals should create and maintain stocks of drugs, consumables, general maintenance supplies, drinking water, food, fuel, etc.

- Unhindered access to hospitals and neighbouring territories should be ensured for ambulances, motorized units of fire fighters and rescuers, utilities providers and all necessary specialist vehicles. Appropriate signage should be installed in all necessary locations.
- All health care facilities should strictly observe fire control measures.
- Training programmes on actions during emergencies should be developed and implemented for all relevant staff (managers, health workers, logistics experts, etc.).
- Simulation exercises should be planned and run on a regular basis in health care facilities.
- Continuous monitoring of the implementation of recommendations in each hospital should be ensured.

Distribution of 112 evaluated hospitals by ownership type and category

No	Identification code	Hospital name	Region	District	Capacity (number of beds)	Ownership type				By disease profile			
						State (public)	Independent private	Private member of the corporate network	General Multi-Profile	Specialized Mono-Profile	Departmental		
1	404865972	LTD Unimedi Adjara Khulo Medical Centre	Adjara	Khulo	23	-	-	+	+	-	-	-	
2	404865972	LTD Unimedi Adjara Shuakhevi Medical Centre		Shuakhevi	15	-	-	+	+	+	-	-	-
3	404865972	LTD Unimedi Adjara Keda Medical Centre		Keda	20	-	-	+	+	+	-	-	-
4	245599758	Health Centre Medina		Batumi	180	-	+	-	-	+	-	-	-
5	404865972	LTD Unimedi Adjara Batumi Referral Hospital		Batumi	135	-	-	+	+	+	-	-	-
6	245418392	LTD Batumi Infectious Disease, AIDS and Tuberculosis Regional Centre		Batumi	80	+	-	-	-	-	+	-	-
7	245428880	LTD Batumi Republican Hospital		Batumi	85	+	-	-	-	+	-	-	-
8	404865981	LTD Unimedi Kakheti - Batumi Centre for Mother and Child Health		Batumi	176	-	-	+	+	+	-	-	-
9	446955484	JSC Kobuleti Medical Centre		Kobuleti	43	-	+	-	-	+	-	-	-
10	245428372	LTD Adjara AR Oncology Centre (High-Tech Hospital MedCenter)		Batumi	130	-	+	-	-	+	-	-	-
11	245441552	LTD Sagittarius - The Seafarers Medical Centre		Batumi	10	-	+	-	-	+	-	-	-

12	245629734	JSC Seafarers Medical Centre - 2010	Batumi	17	-	+	-	+	-	-
13	445412152	LTD BROTHERS	Batumi	150	-	+	-	+	-	-
14	445506630	LTD MedEmergency	Batumi	56	-	+	-	+	-	-
15	445508264	LTD Batumi Multi-Profile Maternity Hospital	Batumi	46	-	+	-	+	-	-
16	404865972	LTD Unimedi Adjara Kobuleti Regional Hospital	Kobuleti	74	-	-	+	+	-	-
17	404908043	LTD Medalfa Ozurgeti Medical Centre	Ozurgeti	58	-	-	+	+	-	-
18	236035517	LTD Regional Health Care Centre Lanchkhuti	Lanchkhuti	18	+	-	-	+	-	-
19	404908043	LTD Medalpa Lanchkhuti Medical Centre	Lanchkhuti	20	-	-	+	+	-	-
20	242005977	LTD Health House in Guria	Chokhatauri	19	-	+	-	+	-	-
21	404908043	LTD Medalpa Chokhatauri Medical Centre	Chokhatauri	23	-	-	+	+	-	-
22	212841424	LTD Academician Z. Tskhakaia West Georgia Interventional Medical National Centre	Kutaisi	266	-	-	+	+	-	-
23	212672080	LTD O. Chkhobadze Medical and Rehabilitation Clinical Centre for Invalids and the Elderly	Kutaisi	124	+	-	-	+	-	-
24	431948066	LTD Imeredi - Imereti Regional Medical Centre (Terjolamedi)	Terjola	61	-	+	-	+	-	-
25	230070099	LTD Feromedi	Zestafoni	77	-	+	-	+	-	-
26	404907730	LTD Geo-Hospital - Chiatura Multi-Profile Medical Centre	Chiatura	36	-	-	+	+	-	-
27	239403463	JSC Sachkhere District Hospital - Polyclinic Union	Sachkhere	163	+	-	-	+	-	-
28	404907730	LTD Geo Hospitals - Samtredia Multi-Profile Medical Centre	Samtredia	52	-	-	+	+	-	-
29	404907730	LTD Geo Hospitals - Vani Medical Centre	Vani	12	-	-	+	+	-	-
30	404907730	LTD Geo Hospitals - Bagdati Multi-Profile Medical Centre	Bagdati	15	-	-	+	+	-	-
31	221269963	LTD Tskaltubo District Hospital	Tskaltubo	15	-	-	+	+	-	-
32	404476205	JSC Medical Corporation Evex - Khoni hospital	Khoni	20	-	-	+	+	-	-
33	412682501	LTD Multi-Profile Hospital Medical City and Infectious Disease Management Centre	Kutaisi	95	-	+	-	+	-	-
34	412682066	LTD Kutaisi №3 Maternity Hospital	Kutaisi	51	-	+	-	-	+	-

56	404907730	LTD Geo Hospitals Marneuli Multi-Profile Medical Centre	Marneuli	67	-	-	+	+	-	-
57	263221555	LTD Regional Health Care Centre Tsalka	Tsalka	23	+	-	-	+	-	-
58	216296639	JSC Rustavi Central Hospital	Rustavi	139	-	+	-	+	-	-
59	216452265	LTD Georgian Steel Treatment Centre	Rustavi	25	-	+	-	+	-	-
60	404907730	LTD Geo Hospitals - Gardabani Multi-Profile Medical Centre	Gardabani	36	-	-	+	+	-	-
61	212002580	LTD Aversi Clinic Marneuli #1 Branch	Marneuli	100	-	-	+	+	-	-
62	236035517	LTD Regional Healthcare Centre Tetrtskaro	Tetrtskaro	15	+	-	-	+	-	-
63	225368330	LTD Bolnisi Central Clinic	Bolnisi	75	-	+	-	+	-	-
64	405076420	LTD New Medical Centre Dmanisi	Dmanisi	19	-	+	-	+	-	-
65	236035517	LTD Regional Health Care Centre Kazbegi	Kazbegi	15	+	-	-	+	-	-
66	404907730	LTD Geo Hospitals Mtskheta Multi-Profile Medical Centre	Mtskheta	74	-	-	+	+	-	-
67	236035517	LTD Regional Healthcare Centre Tianeti	Tianeti	15	+	-	-	+	-	-
68	404907730	LTD Geo Hospitals - Dusheti Multi-Profile Medical Centre	Dusheti	23	-	-	+	+	-	-
69	401993508	LTD Mtskheta Medical Centre	Mtskheta	89	-	+	-	+	-	-
70	236035517	LTD Regional Health Care Centre Lentekhi	Lentekhi	20	+	-	-	+	-	-
71	236035517	LTD Regional Health Care Centre Tsageri	Tsageri	21	+	-	-	+	-	-
72	236035517	LTD Regional Health Care Centre Oni	Oni	15	+	-	-	+	-	-
73	236035517	LTD Regional Health Care Centre Ambrolauri	Ambrolauri	20	+	-	-	+	-	-
74	435892483	LTD Mestia Hospital - Ambulatory Union	Mestia	18	+	-	-	+	-	-
75	404476205	JSC Medical Corporation Evex - Zugdidi Referral Hospital	Zugdidi	168	-	-	+	+	-	-
76	215119182	JSC Poti Central Clinical Hospital	Poti	40	-	-	+	+	-	-
77	404476205	JSC Medical Corporation Evex - Abasha Hospital	Abasha	15	-	-	+	+	-	-
78	202948819	LTD Sena-Medi	Senaki	46	-	+	-	+	-	-
79	404869567	LTD Archimedes Clinic Senaki	Senaki	30	-	-	+	+	-	-
80	404476205	JSC Medical Corporation Evex - Khobi Hospital	Khobi	18	-	-	+	+	-	-

Kvemo Kartli

Mtskheta-Mtianeti

Racha

Samegrelo - Zemo Svaneti

81	419986938	LTD Laifi		Zugdidi	14	-	+	-	-	+	-	-	+
82	419994741	LTD Nli		Zugdidi	17	-	+	-	-	+	-	-	-
83	242261431	JSC Chkhorotsku District Central Hospital		Chorotsku	15	-	-	+	+	+	-	-	-
84	242728839	LTD Engurhesi Djvari Hospital		Tsalenjikha	29	-	+	-	-	+	-	-	-
85	404476205	JSC Medical Corporation Evex Tsalenjikha Hospital		Tsalenjikha	15	-	-	+	+	+	-	-	-
86	404476205	JSC Medical Corporation Evex Martvili Hospital		Martvili	15	-	-	+	+	+	-	-	-
87	404865963	LTD Unimed Samtskhe Ninotsminda Medical Centre		Ninotsminda	16	-	-	+	+	+	-	-	-
88	404865963	LTD Unimed Samtskhe Akhalkalaki Medical Centre		Akhalkalaki	54	-	-	+	+	+	-	-	-
89	404865963	LTD Unimed Samtskhe Aspindza Medical Centre		Aspindza	5	-	-	+	+	+	-	-	-
90	424067306	LTD Akhaltsikhe Clinic Imedi		Akhaltsikhe	42	-	+	-	-	+	-	-	-
91	404865963	LTD Unimed Samtskhe Akhaltsikhe Medical Centre		Akhaltsikhe	76	-	-	+	+	+	-	-	-
92	222717246	LTD Abastumani Tuberculosis Hospital		Adigeni	120	+	-	-	-	-	-	+	-
93	404907730	LTD Geo Hospitals Borjomi Multi-Profile Medical Centre		Borjomi	38	-	-	+	+	+	-	-	-
94	404865963	LTD Unimed Samtskhe Adigeni Medical Centre		Adigeni	18	-	-	+	+	+	-	-	-
95	405108477	LTD Alliance Medi Kareli		Kareli	25	-	-	+	+	+	-	-	-
96	405060437	LTD Alliance Med Service Khashuri		Khashuri	66	-	-	+	+	+	-	-	-
97	240904900	LTD Dostakari		Kareli	8	-	+	-	-	-	-	+	-
98	417876711	LTD Gormedi		Gori	120	-	+	-	-	+	-	-	-
99	217885251	LTD Imedi and Mariami Medical Centre		Gori	20	-	+	-	-	+	-	-	-
100	218064699	LEPL Military Hospital of the Ministry of Defence of Georgia		Gori	176	+	-	-	-	+	-	-	+
101	217879259	JSC Iavnana		Gori	80	-	+	-	-	-	-	+	-
102	218071681	LTD J. Gogiasvili's Clinic		Gori	40	-	+	-	-	-	-	+	-
103	404908043	LTD Medalpa Kaspi		Kaspi	28	-	-	+	+	+	-	-	-

104	406055879	LTD Amtel Hospital First Clinic	Isani	210	-	+	-	+	-	-	-
105	200010674	LTD Tbilisi #5 Clinical Hospital	Gidani	229	-	+	-	+	-	-	-
106	404476205	JSC Medical Corporation Evex Traumatology Hospital	Didube	91	-	-	+	+	-	-	-
107	404413087	LTD Aleksandre Aladashvili Clinic	Didube	132	-	+	-	+	-	-	-
108	405032806	LTD Elizabeth Blackwell Hospital	Saburtalo	36	-	+	-	+	-	-	-
109	202051689	JSC K. Eristavi Experimental and Clinical National Centre of Surgery	Didube	172	-	-	+	+	-	-	-
110	404866123	LTD S. Khechinashvili University Clinic	Vake	155	-	+	-	+	-	-	-
111	202193544	LTD Acad. O. Gudushauri National Medical Centre	Didube	279	-	+	-	+	-	-	-
112	206047464	LTD Emergency Surgery and Traumatology Centre	Isani	49	-	+	-	+	-	-	-

Tbilisi

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