

*DAVID RAMINASHVILI, IRINE ZARNADZE, SHALVA ZARNADZE, LILI LOMTADZE,  
DALI KITOVANI, MARINA KAJRISHVILI, LEVAN BARAMIDZE, DEVI TABIDZE*  
**EVALUATION OF HEALTH SERVICES FOR THE POPULATION OF BORDER REGIONS**  
TSMU Department of Public Health, Management, Policy and Economics; Department of  
Nutrition, Aging Medicine, Environment and Occupational Health, Tbilisi Georgia

*დავით რამინაშვილი, ირინე ზარნაძე, შალვა ზარნაძე, ლილი ლომთაძე,  
დალი კიტოვანი, მარინა ყაჯრიშვილი, ლევან ბარამიძე, დევი ტაბიძე*  
**სასაზღვრო რეგიონების მოსახლეობის ჯანმრთელობის სერვისების შესწავლა/შეფასება**  
თსსუ-ს საზოგადოებრივი ჯანდაცვის, მენეჯმენტის, პოლიტიკისა და ეკონომიკის  
დეპარტამენტი; კვების, ასაკობრივი მედიცინის, გარემოსა და პროფესიული  
ჯანმრთელობის დეპარტამენტი, თბილისი საქართველო

### **რეზიუმე**

კვლევის შედეგად დადგენილი იქნა, რომ სასაზღვრო რეგიონების მოსახლეობის საჭიროებები სამედიცინო სერვისებზე მნიშვნელოვნად გაზრდილია კონფლიქტის შემდეგ. გაზრდილია, როგორც ახალი შემთხვევების, ასევე საერთო ავადობის რიცხვი. გაზრდილია ფსიქიკური ჯანმრთელობის პრობლემები, რაც აიხსნება ხელმშემწყობი რისკ ფაქტორებით. დემოგრაფიული პარამეტრების შეფასებით მნიშვნელოვნად გაზრდილია მიგრაციული პროცესები, როგორც ქვეყნის შიგნით, ასევე მის ფარგლებს გარეთ, განსაკუთრებით რეპროდუქციული მოსახლეობის. მიმდინარეობს მოსახლეობის დაბერება და ქრონიკული დაავადებების მნიშვნელოვანი ზრდა. არსებული სამედიცინო სერვისები სრულად ვერ ფარავს მოსახლეობის საჭიროებებს და მოითხოვს ინფრასტრუქტურულ ცვლილებას.

**Introduction:** Based on evidence from the literature review, factors - border and conflict influences health status, health services, prevention, monitoring and management of health intervention. Officials and decision-makers often neglect border communities. Inadequate prioritization of the result of this area results in insufficient access to resources, health statistics and information. Border villages have challenges receiving appropriate health services, including emergency and preventive care. Usually, borders are vulnerable to infectious and communicable disease and require specific control strategies. The communities along both sides of the border are economically and socially interdependent; also, they have similar resources and problems. Evidently, the huge impact of conflict on population health indicators is indirect and long-term. Conflict negatively affects total health system, worsens health indicators and the weakens health systems, the post-conflict goal is to restore the health system to its full capacity completely.

**Aim of Research:** Evaluation of health services of border regions, based on needs and possibilities of population.

**Methods of Research:** To acquire the necessary knowledge, respective tools and techniques linked to ontological and epistemological questions are required. In the positivist tradition, the research aims at singling out causal explanations, on the assumption of a cause-effect relationship between variables. During the formulation of the main study question, deductively derived from theory and previous knowledge, simultaneously was selected general study approach. As discussed before, the qualitative method rejected due to complexity and unfeasibility of population gathering for focus group discussions, or any other long-time requiring activities in a fragile and hostile environment. Quantitative, cross-sectional survey perfectly match to general question formula and sub-question 2, to Describe communities and Assess population needs. (Bonita, Chapter 3, p44) (Jacobsen P22) (Della p26) (Bowling p220). Key

questions derived from the literature about population needs assessment regarding health status, major health concerns, health-related needs are not being addressed. With the support of the village doctors, volunteers were selected/nominated in each village. Face to face training/instructions was given to volunteer about data collection instruments. Volunteers field-tested the questionnaires' and clarifications requested on questions and response options. There was no need to change the tools.

Face to face Interviews with the village general population was carried out using structured / standardized questionnaires during August of 2019, each interview took about 45-50 minutes. Key informant interviews with village doctor and nurse were conducted during August 2019 as well, each interview took approximately 55-60 minutes. To prevent the bias, to ensure honest responses, anonymity was guaranteed. Prior to the starting interviews, consent from participants was obtained. They were informed that no personal identification was collected and the information they are given will remain confidential. Paper-based interview data were entered directly to SPSS 24 dataset. Statistical information obtained from NCDC in Ms. Excel files was entered in separate SPSS dataset as well. Both datasets were cleaned and revised. After consultation by statistician revised and adjusted and prepared for data analysis.

**Results and Discussion:** Table 1 shows that difference in Number of doctors between Conflict-Border, Not Border and Border areas is statistically significant as a result of Kruskal-Wallis H test for nonparametric data; and assumptions for sample normal distribution Shapiro-Wilk test and homogeneity of variance Levene's test has failed.

**Table 1 - Parametric and Nonparametric test result difference in Number of doctors between Conflict-Border, Not Border and Border areas**

		Not Border	Conflict Border	Border
Kruskal-Wallis H	$X^2(2) = 20.8,$ $p < .05$	Mean Rank 12.8	Mean Rank 25.5	Mean Rank 8.5
Shapiro-Wilk test		SW= .79, n=10, p=.011	SW= .98, n= 10, p=.98	SW= .77, n= 10, p=.006
Tukey HSD test		M=110.4, SD=58.7	M=445.7, SD= 80.1	M=165.9, SD= 75.1
Levene's test	$F(2,27) = 2,$ $p = .94$			
One-way ANOVA	$F(2,27) = 91.19,$ $p < .05$			

Table 2 shows that difference in Number of nurses between Conflict-Border, Not Border and Border areas is statistically significant as a result of Kruskal-Wallis H test for nonparametric data; and assumptions for sample normal distribution Shapiro-Wilk test and homogeneity of variance Levene's test has failed.

**Table 2 - Parametric and Nonparametric test result difference in Number of nurses between Conflict-Border, Not Border and Border areas**

		Not Border	Conflict Border	Border
Kruskal-Wallis H	$X^2(2) = 20.9,$ $p < .05$	Mean Rank 13	Mean Rank 25.5	Mean Rank 8
Shapiro-Wilk test		SW= .81, n=10, p=.021	SW= .89, n= 10, p=.21	SW= .85, n= 10, p=.058
Tukey HSD test		M=87.6, SD=51.4	M= 345, SD= 68.1	M=52.5, SD= 36.9
Levene's test	$F(2,27) = 2.04,$ $p = .15$			
One-way ANOVA	$F(2, 27) = 88.4,$ $p < .05$			

**Table 3 - Parametric test result difference in Number of hospital beds in total between Conflict-Border, Not Border and Border areas**

	Not Border	Conflict Border	Border
Shapiro-Wilk test	SW= .68, n=10, p=.001	SW= .69, n=10, p=.001	SW= .78, n=10, p=.001
Tukey HSD test	M=69.4, SD=71	M= 241, SD= 22	M=56.9, SD= 18.0
Levene's test	F (2, 27) = 44, p<.05		
One-way ANOVA	F (2, 27) = 95.4, p<.05		

General characteristics analyzed as descriptive statistics and presented with numbers and percentages. Independent variables to characterize the surveyed populations are Age, Sex, Marital status, Education Level, Income, Employment, Family size, time of living at the same place, source of funding for health care.

560 respondents in total. 318 (56.8%) respondents in Zugdidi region, 242 (43.2%) respondents in Gori region. Table 4 shows the ways of funding for health care with numbers and percentages by regions and total; Big majority of health services is funded by Universal health care program, few by private insurance and out of pocket.

**Table 4 - ways of funding health care by region and total:**

	Zugdidi		Gori		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Funded						
Universal Health Care Program	299	94%	204	89.8%	503	(89.8%)
private insurance	10	3.1%	23	5.9%	33	(5.9%)
out of pocket	9	2.8%	13	3.9%	22	(3.9%)
does not know	0	0	2	0.4%	2	(0.4%)

Association of Needs of health services was measured with 3 most important health need, area and attending regular medical check-ups, type of services they use. Assumptions that there is an association between the region and each variable for accessibility was tested with the Chi-square test. There was a statistically significant association between area and – 3 most important health need, area and attending regular medical check-ups. Association was not significant between area and - type of services they use.

**Conclusion:** The study found that the needs of the population of border regions for medical services increased significantly after the conflict. The number of both new cases and general morbidity has increased. Mental health problems have increased, which can be explained by contributing risk factors. According to demographic parameters, migration processes have significantly increased, both inside and outside the country, especially the reproductive population, the population is aging and there is a significant increase in chronic diseases. Existing medical services do not fully meet the needs of the population and require infrastructural change.

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*ДАВИД РАМИНАШВИЛИ, ИРИНА ЗАРНАДЗЕ, ШАЛВА ЗАРНАДЗЕ,  
ЛИЛИ ЛОМТАДЗЕ, ДАЛИ КИТОВАНИ, МАРИНА КАДЖРИШВИЛИ,  
ЛЕВАН БАРАМИДЗЕ, ДЕВИ ТАБИДЗЕ*

## **ОЦЕНКА МЕДИЦИНСКИХ УСЛУГ ДЛЯ НАСЕЛЕНИЯ ПРИГРАНИЧНЫХ РЕГИОНОВ**

Департамент общественного здравоохранения, менеджмента, политики и экономики,  
Департамент питания, возрастной медицины, окружающей среды и профессионального  
здоровья ТГМУ, Тбилиси, Грузия

### **РЕЗЮМЕ**

Исследование показало, что потребности населения приграничных регионов в медицинских услугах после конфликта значительно возросли. Увеличилось количество как новых случаев заболевания, так и общая заболеваемость. Увеличились проблемы с психическим здоровьем, что можно объяснить факторами риска. Согласно демографическим параметрам, миграционные процессы значительно усилились как внутри страны, так и за ее пределами, особенно репродуктивное население, население стареет, и наблюдается значительный рост хронических заболеваний. Существующие медицинские услуги не полностью удовлетворяют потребности населения и требуют изменения инфраструктуры.

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### **SUMMARY**

The study found that the needs of the population of border regions for medical services increased significantly after the conflict. The number of both new cases and general morbidity has increased. Mental health problems have increased, which can be explained by contributing risk factors. According to demographic parameters, migration processes have significantly increased, both inside and outside the country, especially the reproductive population, the population is aging and there is a significant increase in chronic diseases. Existing medical services do not fully meet the needs of the population and require infrastructural change.

**Key Words:** Health services, Border regions, Mental health.

