Challenges in Collecting and Reporting Health Statistics in Kosovo

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ABSTRACT

Background: Statistical data play a crucial role in research, planning and decision making in the health system, especially in the formulation and implementation of health policies. Health policy, adequate health legislation and sustainable financing of the health system remain serious challenges for countries in transition and especially for the Republic of Kosovo. Objective: To analyze the challenges of collection, accuracy and accurate reporting and the impact of the accuracy of these health statistics on the creation of appropriate public health policies in Kosovo. Methods: This research is mainly based on a combination of qualitative, quantitative, deductive, analytical and comparative methods conducted by health workers at all three levels of the health organization and IT experts who were actively involved in some of the important components of our research. Results: It is interesting to note that respondents gave typical scores for the security and confidentiality of medical data and statistics during the cycle of their collection and processing, with one score being 3 and the other 5, and 50% of respondents gave a score of 5 for the successful fulfillment of the mission and tasks established by the Law on the rational use of medical data and statistics to support public health policy. Conclusion: The research and findings provide sufficient evidence that Kosovar health data and statistics system suffers from serious deficiencies ranging from the legal framework, organizational structure, functional organization, segregation of duties and responsibilities, to a pronounced lack of human resources, professional profiles in the health statistics service and the necessary technology to perform the basic tasks in a timely and high quality manner.

Keywords: health statistics, statistical data, accuracy, reporting, regulations.

1. BACKGROUND

Statistical data play a crucial role in research, planning and decision-making in the health system, with particular emphasis on the formulation and implementation of health policies. Health policy, adequate health legislation and sustainable financing of the health system remain serious challenges for countries in transition and especially for the Republic of Kosovo. The Kosovo’s current system has demonstrated that the health care system is not working properly, has poor performance and doesn’t provide safe, timely, effective, efficient and secure patient care. Health statistics are a form of evidence or facts that can support a conclusion. Evidence-based policy-making, “an approach to policy designed to ensure that decision making is well-informed by the best available research evidence”, and evidence-based medicine (1).

In general, during our research work, we have noticed that the relevant instances in Kosovo do not have the necessary experience and access to an adequate management cycle of statistics and medical data. As a result of these factors, the electronic health care (eHealth) sector is below the required level and as we have observed while working on this issue, there is still no clear thought and attitude towards a solution for virtual communication between patient and doctor. Administrative Instruction No. 11/2013 Health Information System and Reporting of Health Statistical Data is one of the
most important bylaws on the functioning, collecting, management, processing and reporting form of health data and statistics and the Kosovo Health Information System (2).

Health statistics provide empirical data to assist in the allocation of public and private funds and help to determine how research efforts should be focused (3).

Accurate, comprehensive and high-quality data and statistics are not only key elements of evidence-based public health policy. By raising health awareness among the general public, they can also help to achieve better social and health outcomes and reduce health inequalities (4).

In improving the health of a nation, the way forward lies in the development of public health management, which can be defined as a mobilization and management of available society’s resources, including specific resources of the health sector, to improve the health of the population, whatever means that are most appropriate (5). The main pillars of Public Health Management and functioning of the health statistics system in Kosovo, under the leadership and monitoring of the National Institute of Public Health and the six Regional Centers of Public Health in Kosovo, are the care and protection of the health of the population in terms of epidemiology, hygiene and environmental protection, social medicine (health promotion and education and analysis of the health needs and demands of the population), as well as the Health Information System and the activities of the Center for Health Statistics. The focus is on the collection of health data from health institutions of all three levels of health care (including the private sector); An integral part of the unique information system are the health institutions in the territory of Kosovo, the public and private sector, at all levels of health care (2, 6), the control, processing and presentation of data, ensuring the quality and quantity of reported data and the preparation of reports for the Ministry of Health of Kosovo (7).

In the development of health policies, health system reforms and sectoral strategies, especially in transition countries such as Kosovo, accurate, transparent and well-analyzed statistics based on scientifically verified methods greatly influence proper decision-making for a sustainable health system. Evidence-informed health policymaking is an approach to policy decisions that aims to ensure that decision-making is well-informed by the best available research evidence. It is characterized by the systematic and transparent access to, and appraisal of, evidence as an input into the policymaking process (8). Contemporary trends in public health policy-making and decision-making generally impose the close cooperation between health professionals, medical statistics experts and similar profiles, as well as decision-makers. The growth of the health care system places increasing strain on available resources. As in other areas of social policy, health statisticians and health data are increasingly expected to provide keys for rational decision making. To accomplish this goal, the statistician and policy-makers need to interact to an increasing degree (9). The analysis of health data and statistics, their elaboration and incorporation into policies, strategies and strategic planning at local, national and wider levels is a very important process for decision makers and the advancement of health services. Analytics is a tool or a set of methodologies that transform raw data into meaningful and useful information that is further used to enable healthcare organizations to have effective, strategic and operational insights for decision-making and set their future vision (10). This complex but important approach to adequate health policies requires expertise, human resources, advanced technology and sustainable funding that in transition countries such as Kosovo are often lacking.

2. OBJECTIVE
Analyzing the challenges of the process of collection, accuracy, accurate reporting and the impact of the accuracy of these health statistics on the creation of appropriate public health policies in Kosovo.

3. MATERIAL AND METHODS
This research is mainly based on the combination of qualitative, quantitative, deductive, analytical and comparative methods developed with health care workers of all three levels of health care organization and IT experts who are actively involved in some of the important components of our research.

The qualitative methods were combined with other methods in multi- or mixed method designs, where “two or more different methods are used within the same study or research program rather than confining the research to one single method” (11). By using qualitative in addition to quantitative designs equipped us with better tools to address a greater range of research problems. Hijmans & Kuyper describe qualitative interviews as “an exchange with an informal character, a conversation with a goal” (12) which is completely in line with our research work. The three most common types of mixed method designs are the convergent parallel design, the explanatory sequential design and the exploratory sequential design (13). This is a method which fully fits with the structure, chronology and work plan of our research, with the qualitative method and through the main instruments of our research—the questionnaires, which we analyzed using the quantitative method, we got the final results from our study.

The data were collected using the survey method and the interview. Both questionnaires are divided into two parts. The first part contains questions of a general type (gender, age, level of education, the position in which he/she is currently employed, the institution in which the respondent is employed and the sector (public/private). The second part contains open and closed questions related to attitudes, expectations and needs, related to the current state of the statistical health system in Kosovo, expectations for its upgrading and improvement, connections with other ministries and professional services that would contribute to in better efficiency of the smaller health system.

4. RESULTS
Out of 186 respondents participated in the study, of which 97 (52.2%) were male and 89 (47.8%) were female. The structure of the respondents concerning profession is 145 (79.2%) physicians or specialist doctors, 27 (14.8%) nurses and 11 (6.0%) other employees in charge of health statistics. Regarding the sector in which they are employed: 135 (73.4%) work only in the public sector, 16 (8.7%) work only in the private sector, and 33 (17.9%) work in both the public and private sectors. The average age of respondents was 44.64 years. A total of 19.6% of respondents are between 49 and 54 years old.
old. If we look at the age, concerning the sector in which the respondents are employed, the average age of those who work only in the public sector or only the private sector is similar and amount to 43.57 and 44.75 years, respectively, while the age of the respondents who work in both the public and private sectors is slightly higher and amounts to 49.27 years.

The largest number of respondents, 73.08%, work in the public sector, of which 74.44% are doctors working in the public sector, 8.79% are employed in the private sector, of which 87.5% are doctors working in the Private Sector. 18.13% of respondents work in the Public Sector & private sector, and 96.96% of those who are doctors work in both the public and private sectors. Compliance with the legal obligation to collect and record medical data and records in daily work in health care institutions was rated by respondents with an average score of 3.05, the median is 3 (50% of respondents give a score of 3 or less), the skewness -0.334 (the variable has a mean negative asymmetry), the coefficient of variation 23.67% (the variability is relatively weak), the variable has outlier data and does not have a normal distribution (Sig. value for the Kolmogorov-Smirnov test < 0.05).

On the question of compliance with the legal obligation to collect and record medical data and records in daily work in health institutions, no statistically significant difference was found between the gender of male (Me=3.0, n=97) and female (Me=3.0, n=89), U=3822.00, z=-1.502, p=0.133, where slightly higher mean rank is shown by female respondents. The Kruskal Wallis Test did not reveal a statistically significant difference related to compliance with the legal obligation to collect and record medical data and records in daily work in health institutions for the three positions of respondents (Gp1, n=145: doctor, specialist doctor, Gp2, n=27: nurse, Gp3, n=11: other employees responsible for health statistics), χ²(2, n=183) =4.904, p=0.086.

It is very interesting to note that there are respondents who think that the health system is not important at all for a health institution (outlier data on Graph 2).

Observing the importance of the health information system for the institution in order to treat the patient as well as possible and to increase the efficiency in the work of the institution, the existence of a statistically significant difference was observed in terms of profession Doctor, Specialist doctor (Me=4.0, n=145) or Nurse (Me=4.0, n=27), U=1483.00, z=-2.151, p=0.034, effect size, i.e. the impact can be said to be small (14). In this case, a slightly higher Mean Rank is shown by Doctor, Specialist doctor.

If we look at the recording of data in relation to the Sector in which the respondents are employed, then those who are employed in: 1) Public Sector: 39.1% reported recording almost always, while 41.3% reported never and seldom; 2) Private Sector: 50.0% reported almost always, while 31.3% never and seldom; 3) Public Sector & Private Sector: 27.3% reported almost always, while 51.5% never and seldom.

As for the assessment that in certain cases incorrect and erroneous medical data are collected, 52.43% of respondents give the answered Sometimes, while Often and Yes are thought by 30.27% of respondents, and No and Never by 17.30% of respondents.

Chi-Square Tests of Independence did not show a significant relationship between sector and the assessment that inaccurate and erroneous medical data are collected in certain cases, χ²(8, n=183) = 4.107, p=0.847. Also Chi-Square Tests of independence did not show a significant relationship between Profession and the assessment that inaccurate and erroneous medical data are collected in certain cases, χ²(8, n=182) =14.043, p=0.081.

Chi-Square Tests of Independence did not show a significant relationship between Age categories and the assessment that incorrect and erroneous medical data are collected in certain cases, χ²(8, n=183) =35.240, p=0.317.

In the event of a possible error, the respondents take care of checking and correcting the resulting errors: you personally and the supervisor 32.8%, the supervisor 21.3%, you personally 20.2%, nobody 13.7% and the institution 12.0%.

Chi-Square Tests of Independence did not show a significant relationship between profession and control and verification of the accuracy and quality of certain medical data in accordance with laws by the Health Inspectorate, χ²(8, n=179) =11.970, p=0.153.

Table 3 is 3×5 in size, so the significant values are from the Adjusted Residual row, i.e. values greater than 2 indicate that the number of cases in the cell is significantly higher than expected, while values less than -2 suggest that the number of cases is lower than expected. The highest value is 2.6 for Profession Doctor, Specialist doctor and the agreement No, and the lowest for Nurse -2.9 also for the answer No.

5. DISCUSSION

The assessments of health professionals are indicative of how well they respect the legal obligation to collect and record medical data and records in daily work in health institutions. About 60% state that they respect this legal obligation on average, about 25% said that they respect this legal obligation a lot, while about 17% said that they respect this legal obligation a little. From these findings we can conclude regarding the quality, the accuracy but also the credibility of these data and health statistics, which testifies to a fragile and disorganized system of health statistics. Regarding the question "Do you consider the Health Information System important for your institution in order to better treat the patient and to increase the efficiency in the performance of the institution?", 43.3% of health professionals from all three levels from the public and private sector consider it very important, 37.8% as extremely important, while 13% as moderately important. These findings indicate the immediate need for competent legislative and decision-making institutions to take concrete measures to implement HIS as soon as possible. In conversations with these health professionals regarding their readiness to record every professional action in HIS, they estimate that in the pilot project started by the Ministry of Health and supported by LuxDev, which covered 30% of the health system of Kosovo, some health professionals had been reluctant and not sufficiently cooperative in the implementation of this project. Regarding the question "Do you report medical data and statistics during or at the end of your work hours?", 38% answered regularly, 31.5% never expressed, sometimes 13% and rarely about 11% of the health professionals surveyed. These statistics show the real state of the health data and statistics system in Kosovo.
and the challenges in designing quality public health policies that meet the needs of the people of Kosovo. The challenges of collecting, reporting health statistics and their impact on improving health services are challenges even for more developed countries than Kosovo. The concrete case is Croatia, which, against a consolidated health system, faces challenges of this nature. Rich individual level electronic health data routinely collected in the system has not been effectively utilized to monitor and improve quality. Mechanisms and processes for systematic evaluation of the quality and completeness of the data collected as well as the remedial actions, are not clearly described and implemented. Some of the existing data has a limited utility despite all the resources invested in infrastructure and data collection (15). Similar challenges face Slovenia, as the first Western Balkan country to join the EU. The difficulties in the development of the Slovenian HIS are evident in various areas, while the ongoing financial and economic crisis has simply highlighted the magnitude of the accompanying problems, further undermining public trust and stakeholder engagement (16).

6. CONCLUSION

The data entered into a health information system must be organized for multiple uses, as different users have different needs. Currently, this is not happening in the health system of Kosovo, there are discrepancies and gaps in both legislation and inter-institutional functioning. All these shortcomings from the legislative and institutional aspect, the lack of sustainable funding, the lack of coordination and the lack of political will to address and solve this important component of the health system has directly affected the non-functioning of the Health Information System despite several years of commitment in this direction.

The whole system of health data and statistics at all three levels of the health organization needs profound organizational and structural changes and reforms, changes in the way of functioning, an increase in the number of professionals in this field, an increase of technical and technological capacities and digitalization of the network of this system and a significant increase in funding which would create a stable, accurate and credible system that would improve public health policies and make accurate decisions for the advancement of health statistics sector and improve the efficiency and quality of services of overall health system of Kosovo.

### REFERENCES


