

Mapping of the informatization of the Basic Health Units of Rio Grande do Sul

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INTRODUCTION: In Brazil, since 1920, with the Health Unit Schools, various models of organization for the Primary Health Care (PHC) were created. This process was deepened with the Sanitary Reform and the formation of the Brazilian Unified Health System (SUS – Sistema Único de Saúde). The present National Policy of Primary Health Care reinforces the PHC's role to coordinate care and ordinate. Collaborating with this process, integrated policies for the health information and information technology area have been growing worldwide. The Electronic Patient Record (PEP) starts to earn extreme relevance for the qualification of PHC, reinforcing its role in the coordination of patient care and information in health. In 2012, through the Primary Care Department, the Ministry of Health introduced the “e-SUS” Primary Care (e-SUS AB), a strategy which aims a restructure of the PHC's information. The information gained in the Basic Health Units (UBS) can be registered and sent to the Health Information System for Primary Care (SISAB). The current study aims to describe and analyze the conditions of informatization of UBS in the state of Rio Grande do Sul, as well as correlate them to development indicators and the GNP of these towns and cities.

METHODS: This is a cross-sectional study, with exploratory goals of mapping the informatization of Basic Health Units (UBS) of the state of Rio Grande do Sul. Were analyzed total of municipalities belonging to the state who replied to the TelessaúdeRS (“TelehealthRS”) survey. To begin with, the municipalities' managers were contacted by the coordinators and field monitors of TelessaúdeRS (“TelehealthRS”) to raise awareness to the transition from the Information System for Primary Care (SIAB) to the new Health Information System for Primary Care (SISAB). To identify and analyze the possible strategies of implementation of e-SUS, data referent to the level of informatization of the UBS of the municipalities were collected, applying surveys which could be replied to by managers or UBS representatives, from January 2014 to January 2015. The guide for the questionnaire was defined based on the basic requirements for the use of Proposal of Amendment to the Constitution (PEC): numbers of computers and their locations. The data of GNP per capita were obtained from the DATASUS website according to the year of 2010, the Human Development Index of the municipalities were obtained through the ATLASIDH, according to the year of 2010. An analysis was carried out with the help of the Statistical Package for the Social Sciences (SPSS version 18.0). The categorical variables were described in the form of N (%), while the continuous variables were described as mean \pm standard deviation (DP). To evaluate correlations the Spearman Correlation was used. For multiple comparisons the Kruskal-Wallis Test was used. In all comparisons, it was considered a 5% significance level. The description of the data was performed according to the standards established by TelessaúdeRS (“TelehealthRS”), prioritizing a minimum setting for UBS with networked computers in the following rooms: medical, nursing, reception and

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triage, as a minimum setting for UBS with networked computers in the following rooms: medical, nursing, reception and triage, as well as internet connection. This logic is function of the systematization that the electronic medical records use, maintaining a flow of assistance that corresponds to the idealized by the Ministry of Health.

RESULTS: The state of Rio Grande do Sul consists of 497 municipalities and 2752 Units of Health Care, distributed in 281,730.223 square miles of geographical area, with a population estimated for 2014 of 11,207,274 inhabitants according to the Brazilian Institute of Geography and Statistics (IBGE). All municipalities were contacted to answer the questionnaires relating to all UBS. The scenario of at least one UBS of 447 municipalities was identified (89.74%) and 4345 UBS (7.61%) of the state of Rio Grande do Sul.

The average of computers for one UBS in the state is of 1.50 ± 0.64 , at the reception the average is of 1.25 ± 1.08 , in triage is 0.83 ± 0.55 and in the medical room 1.25 ± 1.08 , in nursing is of 1.25 ± 0.59 , 0.66 ± 0.74 at the dentist, other UBS rooms have an average of 3.25 ± 4.30 computers. When we analyze correlation between HDI and number of computers that municipalities had, we found a positive association between the variables in all cases ($p < 0.001$). Therefore when we analyze correlation between the quantity of computers and GDP per capita of municipalities this association was not maintained. Comparison was made between tertiles of GDP per capita of municipalities in the state and the average number of computers they had in UBS, and was statistically significant difference between the first tertile of GDP per capita and the last tertile were found. In the multiple comparison test, it was noted that significant difference is in the first tertile compared with the third tertile. Thus, municipalities with GDP of less than 14,490 have fewer computers in relation to municipalities with GDP of 20.418 ($p = 0.025$). In the analyzed period, 1650 UBS' computerization scenarios were taken into account. 502 (30,42%) of the units had adequate setting for use of electronic medical records of e-, 368 (73.30%) of these have already been trained on site for the PEC e-SUS AB.

CONCLUSIONS: We found that the higher GDP per capita is correlated with greater quantity of computers for each UBS, although there was no significant correlation in the univariate analysis. However, the HDI appears to influence mostly the UBS computerization, the human development when associated with income in the region, this is possibly a more important factor than the income factor alone for this analysis.

We still point out a challenge for the advancement of PHC in the state: the high percentage (69.58%) of units which do not have conditions to implement PEP due to not having minimum conditions of infrastructure. ■