

**PROPHYLACTIC EXAMINATIONS FOR INSURED PERSONS OVER 18 YEARS.
CONDUCTED BY GPs AND THEIR EFFECT ON HOSPITALIZATIONS IN PLEVEN
REGION**

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Abstract:

Introduction: One of the main activities of the GPs in execution of contracts with the Health Insurance Fund is carrying out prophylactic examination of insured persons over 18 years. The purpose of these reviews is the early detection of disease and identify patients at increased risk of developing some major diseases. Late detection of the disease leads to higher disability, mortality, as well as more costly hospitalization of the patients.

Objective: The purpose of this study was to determine the effects of the preventive examinations of adults by the GPs on hospitalizations in Pleven District.

Materials and Methods: Used official data provided by the NHIF and data from the annual reports of the NHIF. Statistical processing of the raw data was carried out with software packages Microsoft Office Exel 2010 and SPSS for Windows v.13.0.

Results: Both the country and the region of Pleven, was relatively low coverage of the population with annual preventive examination - for the period from 2006 to 2013 annually under 50% for the same period in Pleven region only 6% of insured persons each year went to such examination. Regular check-goers are mostly people over '60 who are chronic diseases and visiting their doctor in relation to health problems. This explains the results that these people are big consumers of both outpatient and hospital care. They are more often hospitalized than others, but mostly on the occasion exacerbated chronic diseases. Persons who have irregular prevention are often hospitalized on the occasion of chemotherapy and those who have carried on prevention in 2013 have a higher frequency of hospitalizations in connection with hemorrhagic strokes, heart attacks and surgeries on the occasion of some malignant malignancies in the same year. From hospitalized in 2013, they have not walked in the same year of prophylactic examination had a higher average cost of hospital care to others.

Conclusion: There is no proactive approach in conducting medical check-ups. They are made mostly of people who visit the GPs in another health problem. Lack of prevention leads to more frequent hospitalizations regarding untreated and later discovered diseases. It is necessary to take measures to improve coverage of the population with preventive examinations.

Keywords: *GPs, insured persons, prophylactic examinations, hospitalization.*

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Results: As for the country (Figure 1) and for the region of Pleven (Figure 2), was relatively low

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coverage of the population with annual preventive examination - for the period from 2006 to 2013 annually less than 50% of eligible sit for such an examination.

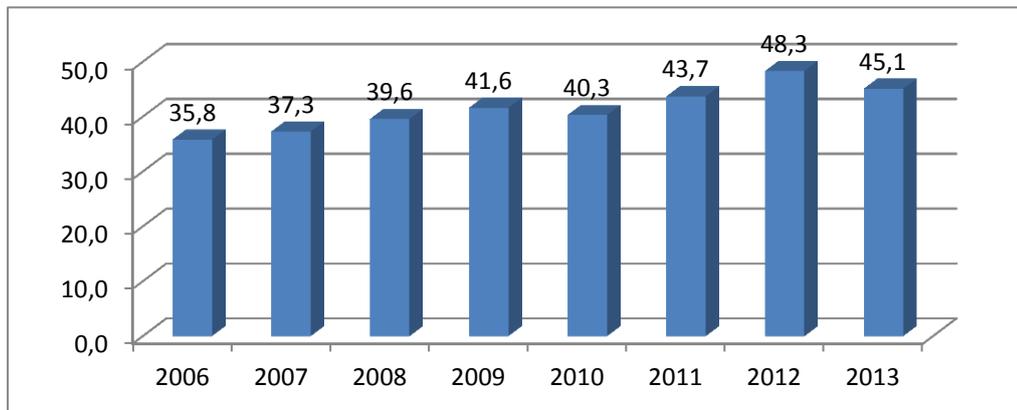


Fig.1 Percentage for insured people over 18 years with preventive examination for the period 2006 - 2013 in the country

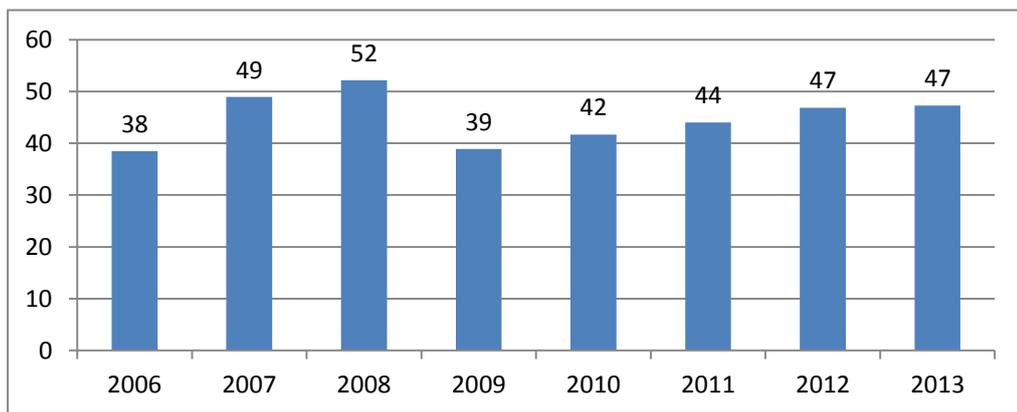


Fig.2 Percentage for insured people for the period 2006-2013 in the region of Pleven

For the same eight-year period in the region of Pleven only 6% of insured persons have regularly visited their GP. 43% of these people are over 65 years of age. People in active age (from 31 - 65 years) are great part ($p < 0,01$) in the groups of not regularly going (58%) and not going (62%) to preventive examination (Figure 3).

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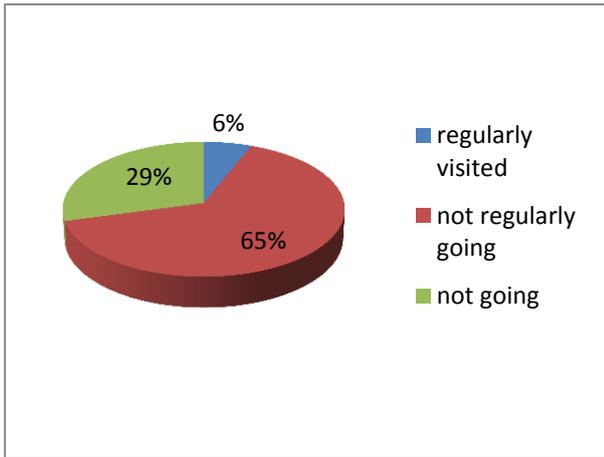


Fig.3 Percentage of insured people over 18 years of age according to frequency of regular examinations for the period of 2006 to 2013

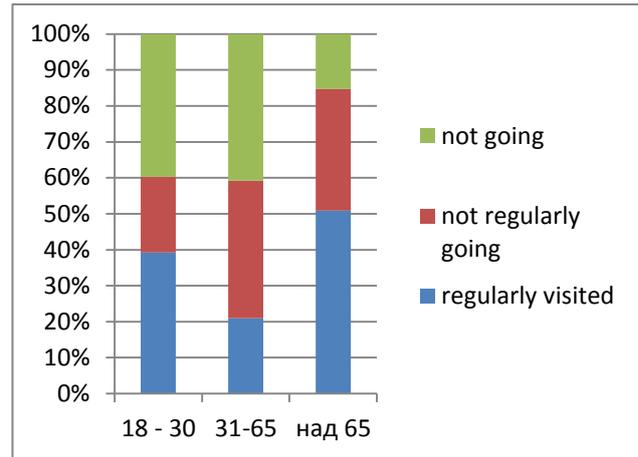


Fig.4 Sharing of insured people over 18 years of age according to frequency of regular examinations for the period of 2006 to 2013 in accordance with their age.

Relying on National Health Insurance Fund and Regional Health Insurance Fund -Pleven information data, we compared insured people in 2013 from the region of Pleven according to their preventive examinations in the period from 2006 to 2013. Analyzing the hospitalizations in these groups we concluded (fig.5) that those who have regular preventive examinations are with higher hospitalizations ($p < 0,005$) than those with irregular prophylaxis. This is valid for men (37,57% to 22,02%) as well as for women (36,63% to 26,26%). People without any preventive examination (9,93% from men and 13,63% from women) have the least hospitalizations.

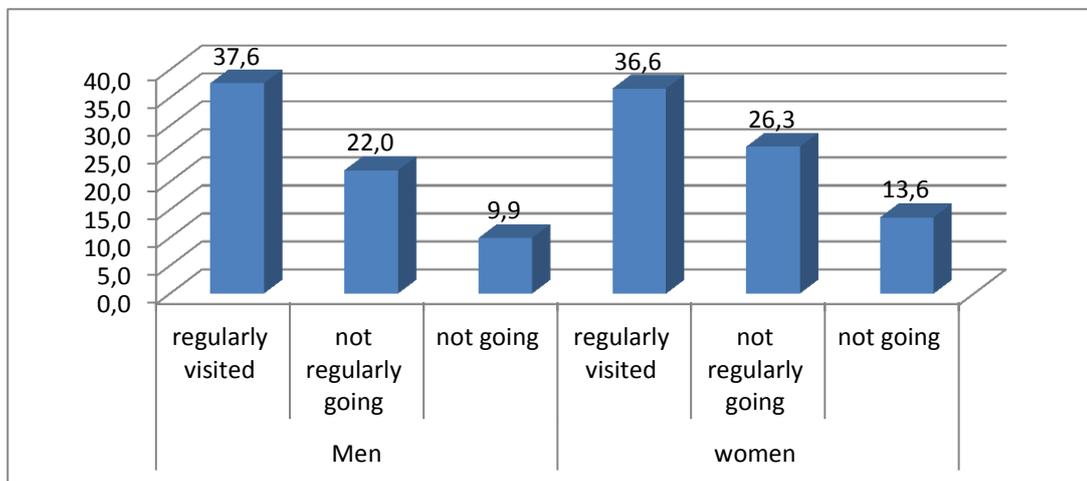


Fig.5 Comparative part for insured people hospitalization in the region of Pleven in 2013 according to frequency of preventive examinations in the period 2006-2013.

The conclusion is that men who have regular preventive examinations in this eight-year period have more hospitalizations for chronic diseases in 2013. For example: Clinical Path 52 - acute cardiovascular insufficiency 3 and 4 without mechanical ventilation (45,11% with regular preventive examinations and 26,16% without regular examinations and 5,65% among insured people without preventive examinations); Clinical Path 104 - diabetes for people over 18 years

(27,25%o with regular preventive examinations, 12,34%o without preventive examinations and 5,06 for people without prophylaxis) (fig.6).

Men without regular preventive examinations have more hospitalizations in Clinical Path 298 - Systematic medical treatment connected with tumours with infusion regimen with different duration in days (7,51%o) compared with those with regular preventive examinations (6,36%o) and those without such examinations (2,85%o).

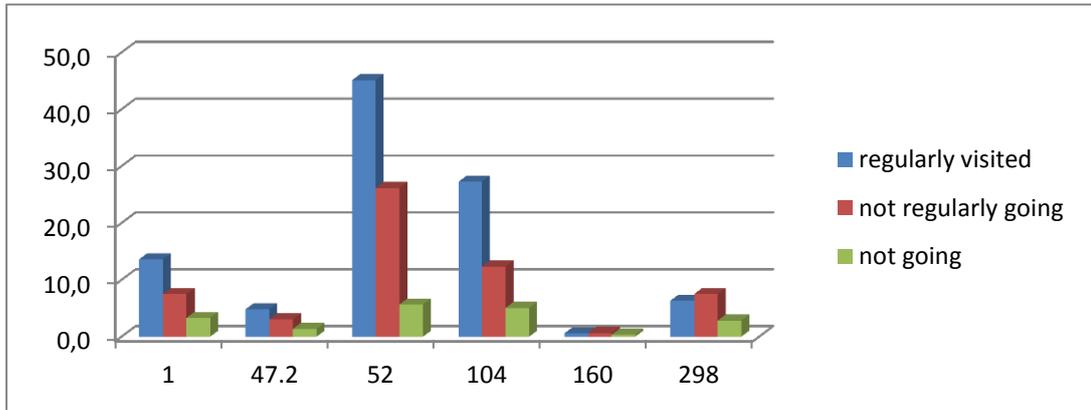


Fig.6 Sharing hospitalizations for given Clinical Paths for 1000 men in 2013, according to frequency of preventive examinations for the period 2006 - 2013.

Men as well as women with regular preventive examinations for this period in 2013 have had most hospitalizations connected with acute chonical diseases with social importance (51,91%o with regular preventive examinations and 27,72%o without regular examinations and 12,03%o for insured people without prophylaxis and with diabetes (24,24%o with regular preventive examinations and 12,35%o without regular examinations and 5,65%o for insured people without prophylaxis). For oncological diseases we found that men as well as women with more hospitalizations connected with chemotherapy (Clinical Path 298) for 1000 women among this group are women without regular examinations (8,41%o compared with 7,05%o with regular examinations and 4,5%o for women without prophylaxis). Most cases for hospitalizations are for women without any annual preventive examination (17,77). They were hospitalized with Clinical Path 141 - delivery of child regardless of pregnancy period, position of the baby and the way of enlargement compared with the rest (2,35%o with regular prothylaxis and 1,99%o without regular one). (Fig.7)

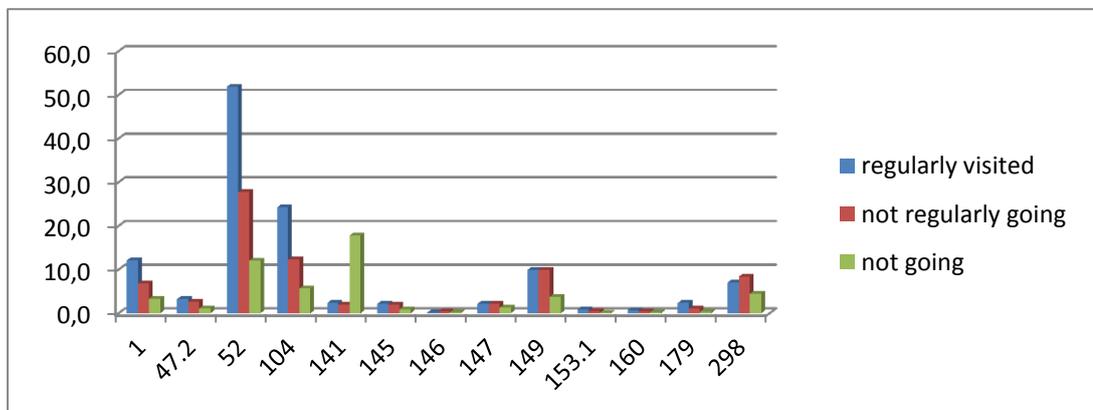


Fig.7 Sharing hospitalizations in 2013 for 1000 women according to preventive

examinations frequency for the period 2006-2013.

Analyzing GP's patient lists during 2013, hospitalizations in medical institutions for hospital attendance, insured people were divided in two groups - insured people who have passed preventive examination and insured people without such examination. We found different hospitalization frequency among 1000 insured people connected with socially important diseases such as oncological diseases connected with insultus and infarcts and oncological diseases operation treatment.

We found that among those without preventive examinations in 2013 there is higher hospitalization frequency connected with haemorrhagic insultus (7.84 per thousand compared with 1.23 per thousand in clinical path 3 - haemorrhagic insultus). For ischaemic insultus, hospitalization frequency among insured people with preventive examination is higher - 16.44 to 5.03 per thousand insured people (fig.8).

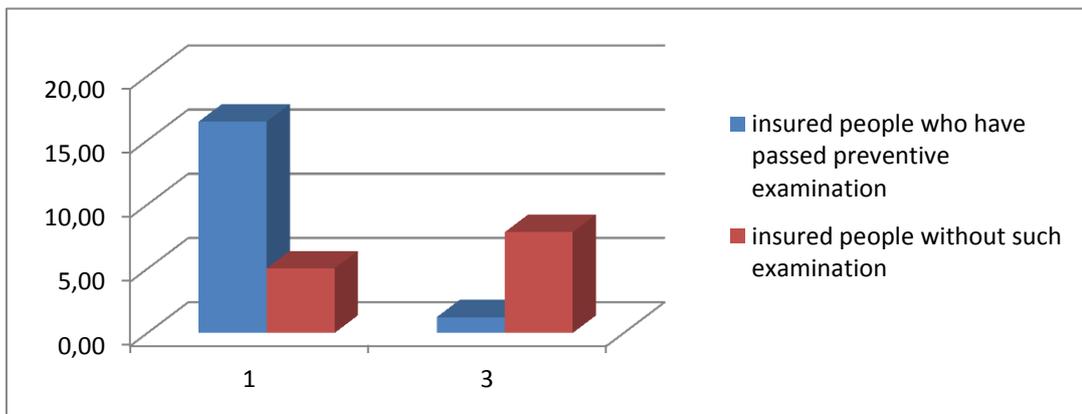


Fig.8 Hospitalizations of 1000 insured people from Pleven region in 2013 with ischaemic /Clinical Path 1/and haemorrhagic /Clinical Path 3/ insultus

Higher hospitalization frequency in 2013 among insured people without preventive examination during the same year is also found for acute coronary insufficiency (9.95 to 0.40 hospitalizations among 1000 insured people), invasive diagnostics (13.70 to 4.44 hospitalizations among 1000 insured people) and setting permanent cardiostimulator (1.54 to 0.49 hospitalizations among 1000 insured people) (fig.9).

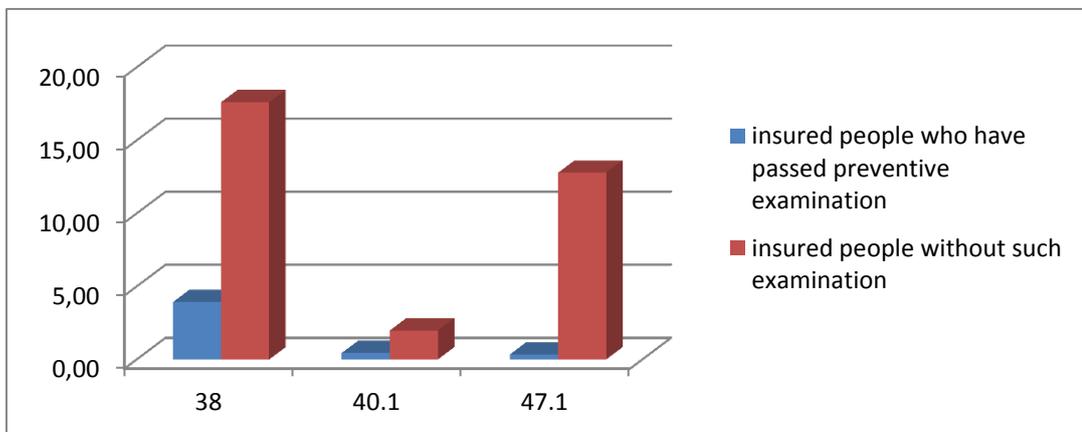


Fig.9 Hospitalizations of 1000 insured people from Pleven region in 2013 with acute coronary insufficiency /Clinical Path 47.1/, invasive diagnostics /Clinical Path 38/ and setting permanent cardiostimulator /Clinical Path 40.1/

Unlike hospitalizations connected with insultus and infarcts, those that have passed Clinical Path 52 - acute and intense cardiovascular insufficiency without mechanical ventilation, patients with preventive examinations have higher frequency compared with those without prophylaxis (53.02 to 5.45 hospitalizations per thousand insured people) (fig.10).

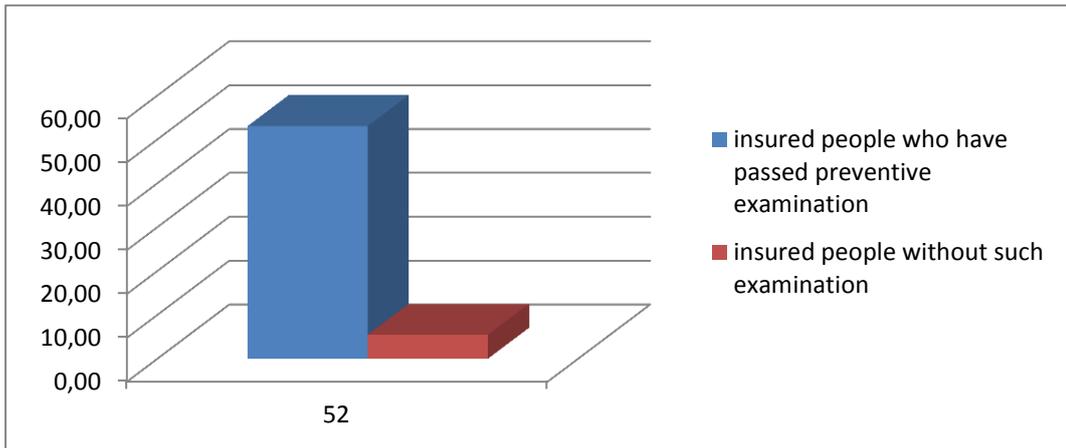


Fig.10 Hospitalization for 1000 insured people from the region of Pleven in 2013 connected with acute and intense cardiovascular insufficiency without mechanical ventilation /Clinical Path 52/ compared with those who have had preventive examinations for the period 2006-2013

We found difference in hospitalization frequency for 1000 women without preventive examination in 2013 connected with the rest in connection with Clinical Path 153 - radical lymph node excision (pelvic and/or paraaortic and/or inguinal) as independent intervention or combined with female genetals elimination. Women without preventive examination in 2013 have 2.45%o hospitalizations to 0.02%o with preventive examination (fig.11). This can be explained on one hand by the fact that women who go to check-dominate the elderly, while the incidence of cervical cancer increases with age after 25 years and reached its peak at 45-49 year (or mainly affects women aged 25 to '50). Also, due to the lack of specialized gynecological examination with a Pap test can not seek direct effect of ongoing prophylactic examination on hospitalized incidence of cancers of the female reproductive system - especially carcinoma of the cervix.

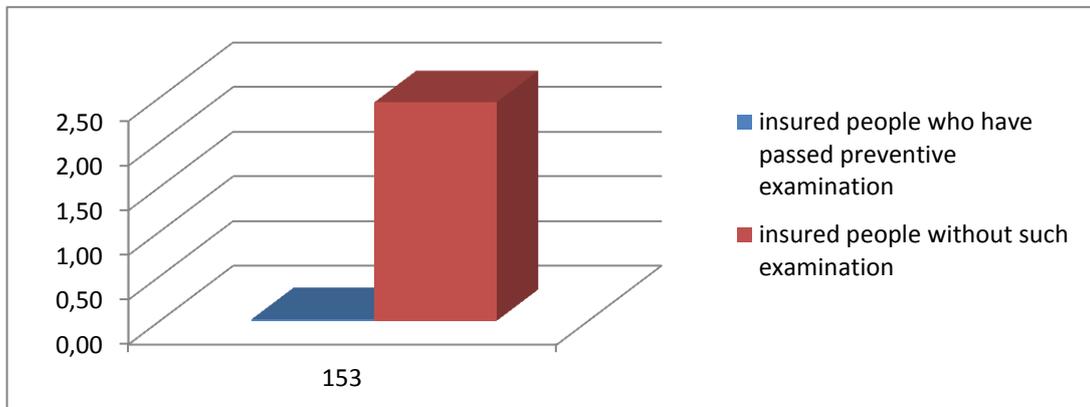


Fig.11 Sharing insured women hospitalizations in the region of Pleven in 2013 in connection with Clinical Paths 153 and 153.1 / radical lymph node excision(peltic and/or paraaortic and/or inguinal/ as independent

intervention or combined with female genitals elimination.

We found higher hospitalization frequency in 2013 among women with preventive examinations in 2013 in connection with Clinical Path 179 Surgical treatment of oncological breast: phase T1-4, NO-2, MO (2.01 to 1.23 hospitalizations for 1000 women) (fig.12). The incidence of breast cancer increases with age after 35 years and reached its peak at 60-64 year olds. From 2011 to prophylactic examination was included mammography, breast cancer in women over '50. Better coverage with prevention of elderly women and the inclusion of mammography in the prevention of women over '50 may explain the higher frequency hospitalizations among women who have performed check-up.

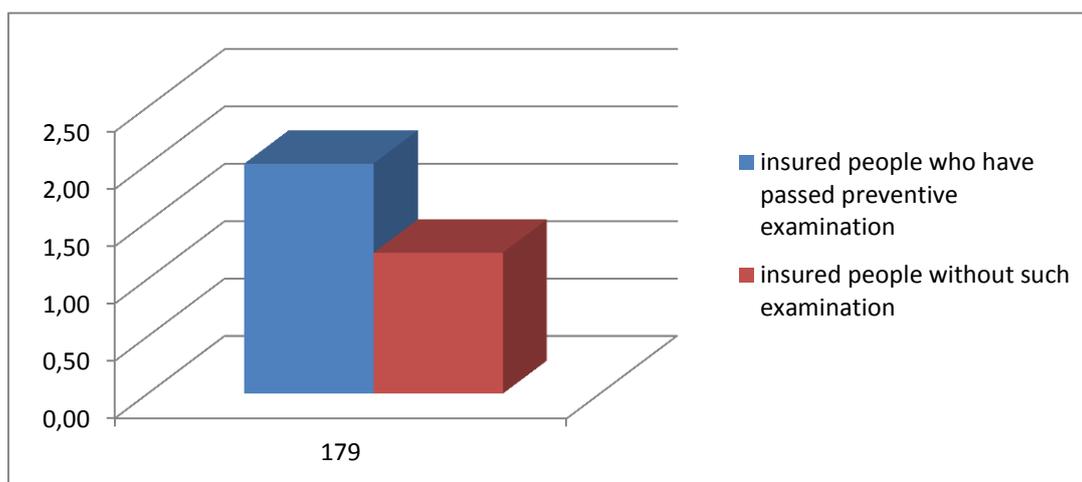


Fig.12 Sharing insured people hospitalization in the region of Pleven in connection with Clinical Path 179 - Surgical treatment of oncological breast: phase T1-4, NO-2, MO in connection with passed preventive examination in 2013

Conclusion: There is no proactive approach for passing medical examinations. Mostly old people with chronic diseases visit their GPs. Lack of prevention leads to more frequent hospitalizations regarding untreated and later discovered diseases as arterial hypertension and oncological diseases. It is necessary to take measures to improve coverage of the population with preventive examinations and inclusion of additional research and activities such as Pap in women.

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