Introduction:
Routine health data in the Czech Republic are collected in the most detail on the level of 77 districts and unable itself for analysis of socioeconomic differences between districts. The socioeconomic factors might be one of the determinants of the differences in health indicators between the districts. The goal of the presented analysis was to identify the associations between available socioeconomic data and health indicators.

Methods:
The total SMR, SMR for all cancers, breast cancer in women, lung cancer in men; cardiovascular, respiratory and gastrointestinal tract diseases; and incidence of all cancers and diabetes mellitus were analyzed by weighted average educational level of each district; the composition of households (proportion of complete and incomplete families or individuals living alone) and density of housing, average income, total unemployment rate and number of physicians per 1,000 inhabitants.

The health indicators were based on routinely collected data (CVD), the socioeconomic characteristics of districts were based on 2001 Census data. The weighted educational level by sex was used separately for health indicators of men and women. The index of education was based on 5-degrees scale – basic [1], apprenticeship, secondary, higher and postgraduate education [3]. The educational level of 3 of the districts (Prague, Brno and Pizen) was outster (higher proportion of university degree education due to the concentration of universities), these 3 districts were dropped from the final analysis. The linear regression was used for the analysis. The GIS (Geographical Information System) was used for visualization of the presented results (Fig. 1 and 2).

Results:
Out of the investigated health indicators (mortality, morbidity, incidence) SMR was the most susceptible indicator of social health inequalities between districts – see Table 1 and 2. The results showed the differences in the relationships of the level of SMR for breast cancer all causes mortality, all cancers and lung cancer were adversely correlated with educational level, mostly with the total SMR (r=-0.38 in women and r=-0.56 in men). While specific mortality in women showed weaker relationships with education, in men the specific mortality was more strongly correlated with education, especially for lung cancer (r=-0.65) and all cancers (r=-0.55). The total and also specific SMR was also in association with the composition of households – the proportion of complete families in population was in adverse correlation with SMR especially for cancers (r=-0.45 in men and r=-0.62 in women), lung cancer in men (r=-0.57), breast cancer in women (r=-0.41), and total SMR (r=-0.43 in men and r=-0.37 in women). These findings were confirmed by the positive correlations between SMR and proportion of incomplete families and individuals living alone. The total and specific SMR was also associated with unemployment rate (more in men – total SMR r=-0.94). Weaker adverse correlations were found for relationship between SMR for CVD in both sexes (r=-0.25 in men and r=-0.31 in women) and number of physicians. The incidence of cancers was adversely correlated with education (r=-0.24 in men and r=-0.33 in women) and positively correlated with unemployment rate and density of housing, especially in men (r=0.44; resp. r=0.31). No significant relationship was found between health indicators and average income. The detail overview of results is shown in Tables 1 and 2, and Figures 3 and 4.

Discussion:
The results of our study confirmed the social health inequalities between the districts in our country. As visible from the Fig. 1 and 2 education level is higher in men than women especially in the districts with the different unemployment rate. The results of our study confirmed the social health inequalities between the districts in our country. As visible from the Fig. 1 and 2 education level is higher in men than women especially in the districts with the different unemployment rate. The results of our study confirmed the social health inequalities between the districts in our country. As visible from the Fig. 1 and 2 education level is higher in men than women especially in the districts with the different unemployment rate.

Conclusions:
In the Czech Republic there exist social health inequalities between
• men and women
• groups by attained education level
• groups by marital status (singles versus complete families)
• districts with the different unemployment rate

Density of housing, average income and access to health care (Nrn. of physicians per 1,000 inhabitants) do not show any consistent association with the health outcomes. The socioeconomic health inequalities need to be investigated in further research that will bring explanation of the presented differences.

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Table 1: Correlations between SMR/incidence and SES factors in men

Table 2: Correlations between SMR/incidence and SES factors in women

Fig. 1: Education in men by districts*

Fig. 2: Education in women by districts*

Fig. 3: Correlations between health indicators and SES factors in men

Fig. 4: Correlations between health indicators and SES factors in women

Acknowledgement:
Health - Construction of Socio-economic
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