Applying non-parametric methods on estimation of medical bills pricing limits

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The aim of this talk is to generalize confidence interval calculations. In classical cases we apply on these calculations central limit theorem, Student t-distribution or χ^2-distribution. Often, however, we meet data where assumptions of classical methods are not met. Such kind of problems exist on data of health care services, for example. In this situation alternative methods of confidence interval calculation have to be found. Basic ideas of these methods are described in the book [2] and in the paper [1], for example.

Firstly we will present Estonian health care pricing calculation methodology. This methodology is based on assumptions of classical statistics. Then new ideas of maximum and minimum prices of health care services calculations will be given. Our idea concerns application of parametric and non-parametric bootstrap methods on confidence interval calculations. Also bias corrected and accelerated method will be demonstrated.

References

[1] Efron, B. (1979). Bootstrap methods: another look at the jackknife. *The Annals of Statistics* **7**, 1–26.

[2] Efron, B. and Tibshirani, R.J. (1993). *An Introduction to the Bootstrap*. Chapman & Hall, New York.