Three different outlier calculation methods

their impact on DRG homogeneity and hospital funding

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Outliers are values in a data set
which differ significantly
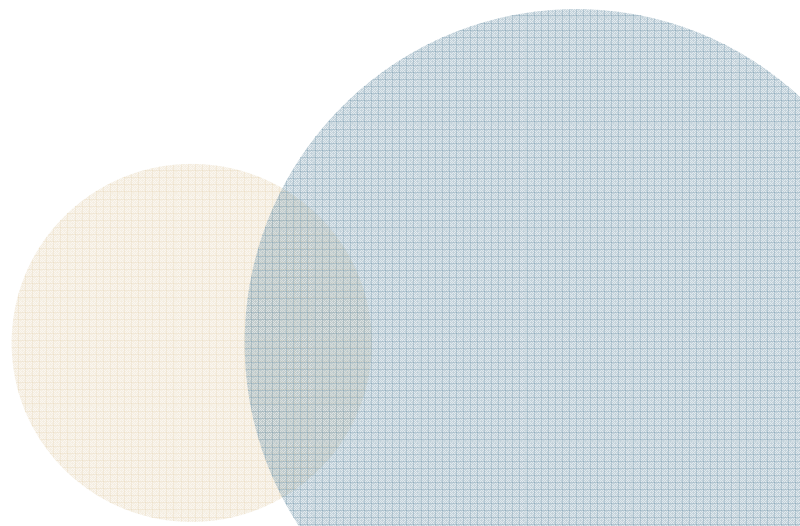*from the general trend*

> fairness

> homogeneity

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simplicity and accuracy in calculations

low amount of outliers

data homogeneity

economical balance

177 690

Calculations and modelling based on medical records from 2020

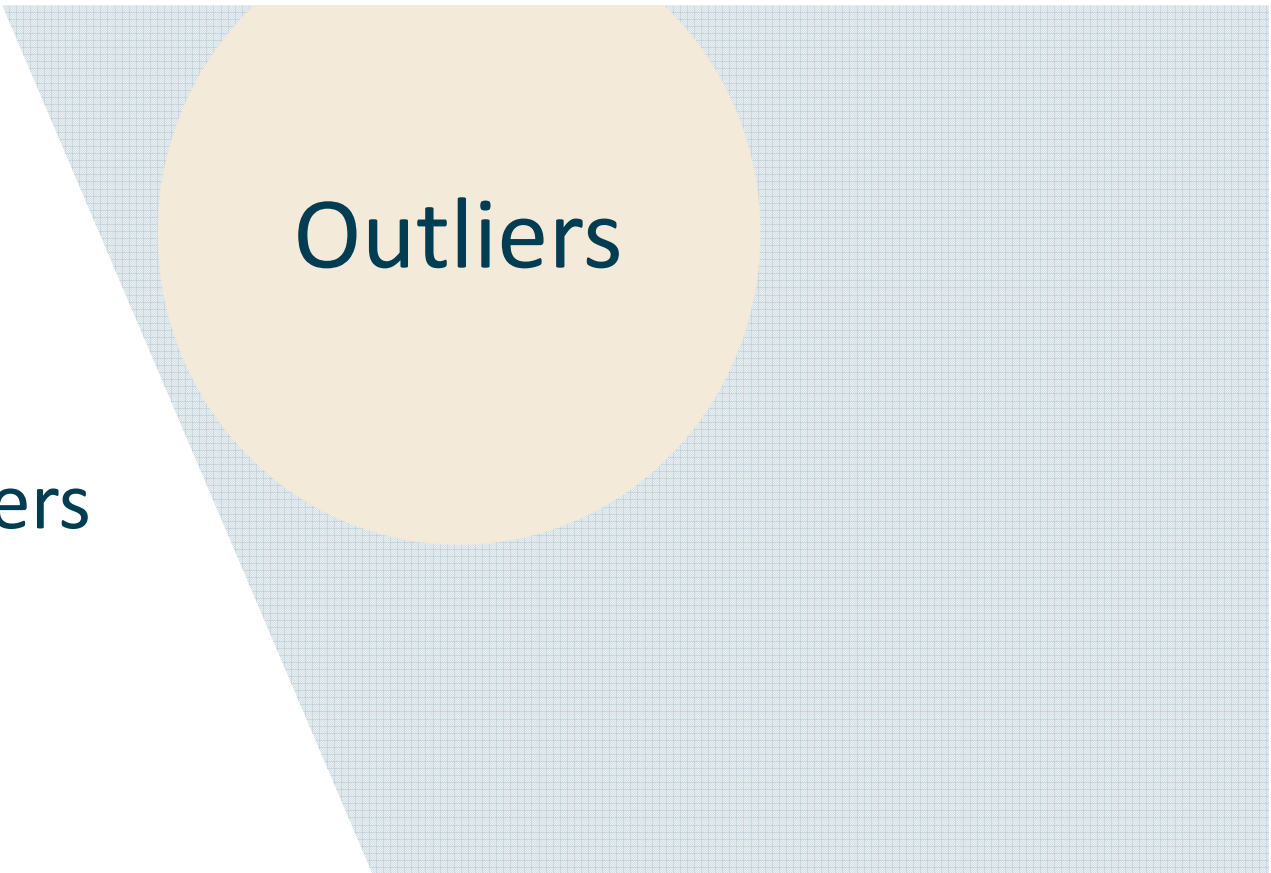**1.** **Interquartile range (1.5 IQR)**

2. Parametric confidence interval for a population mean, with the known Standard eviation (STD)

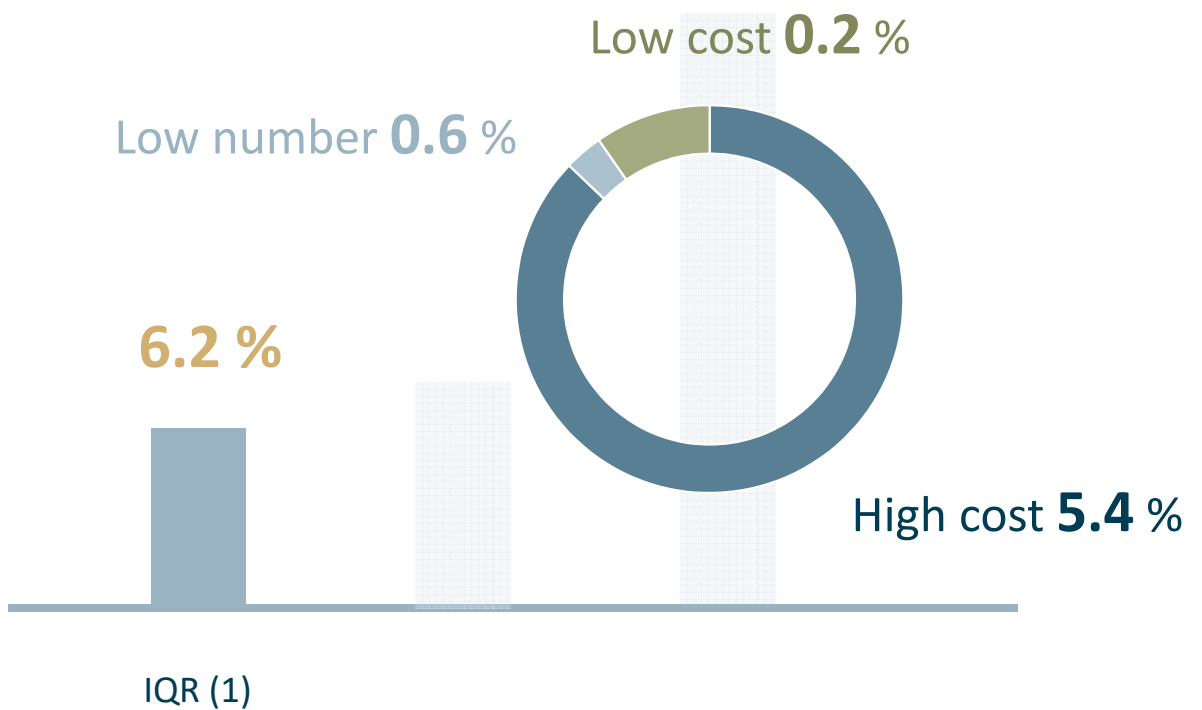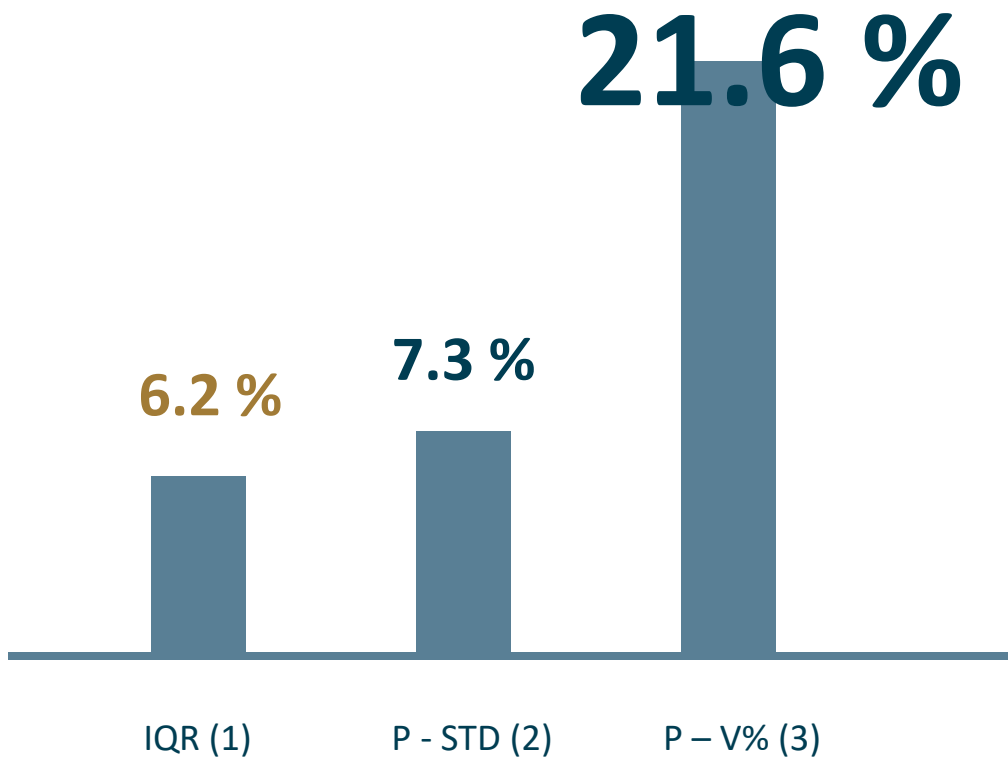**3.** Parametric confidence interval for a population mean, with a Coefficient of Variation (V%)
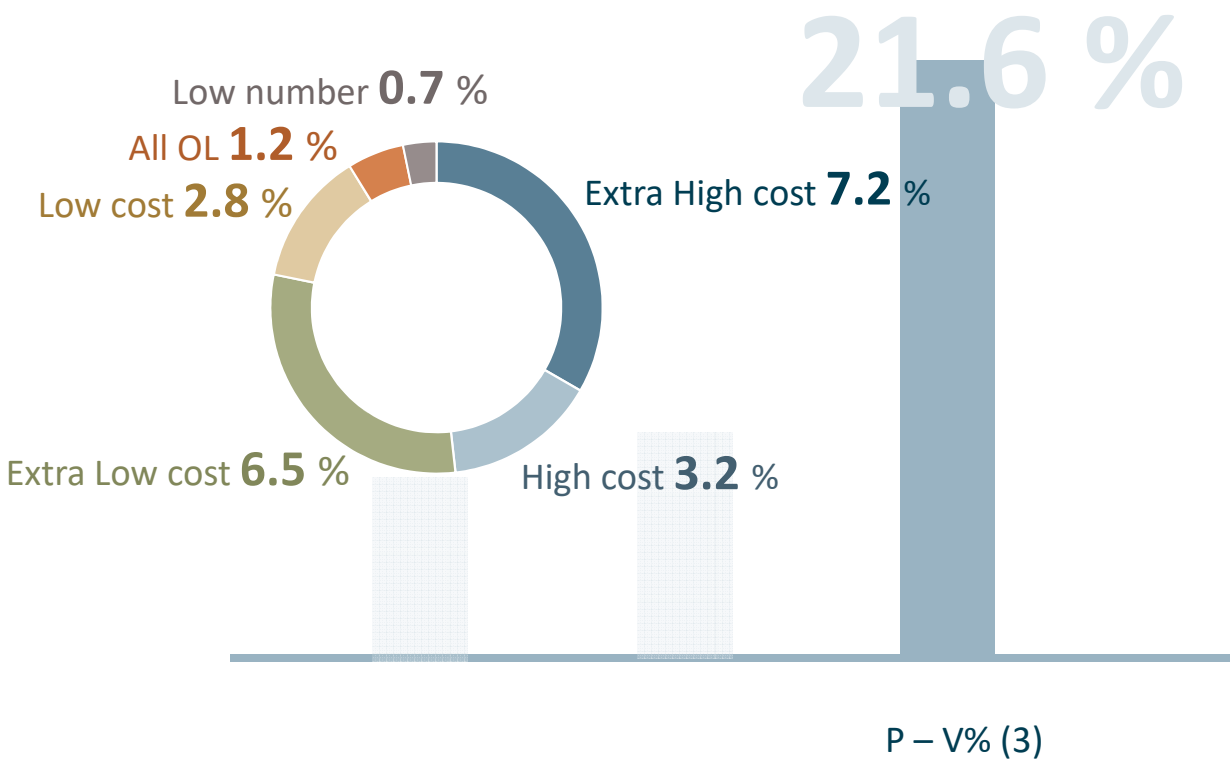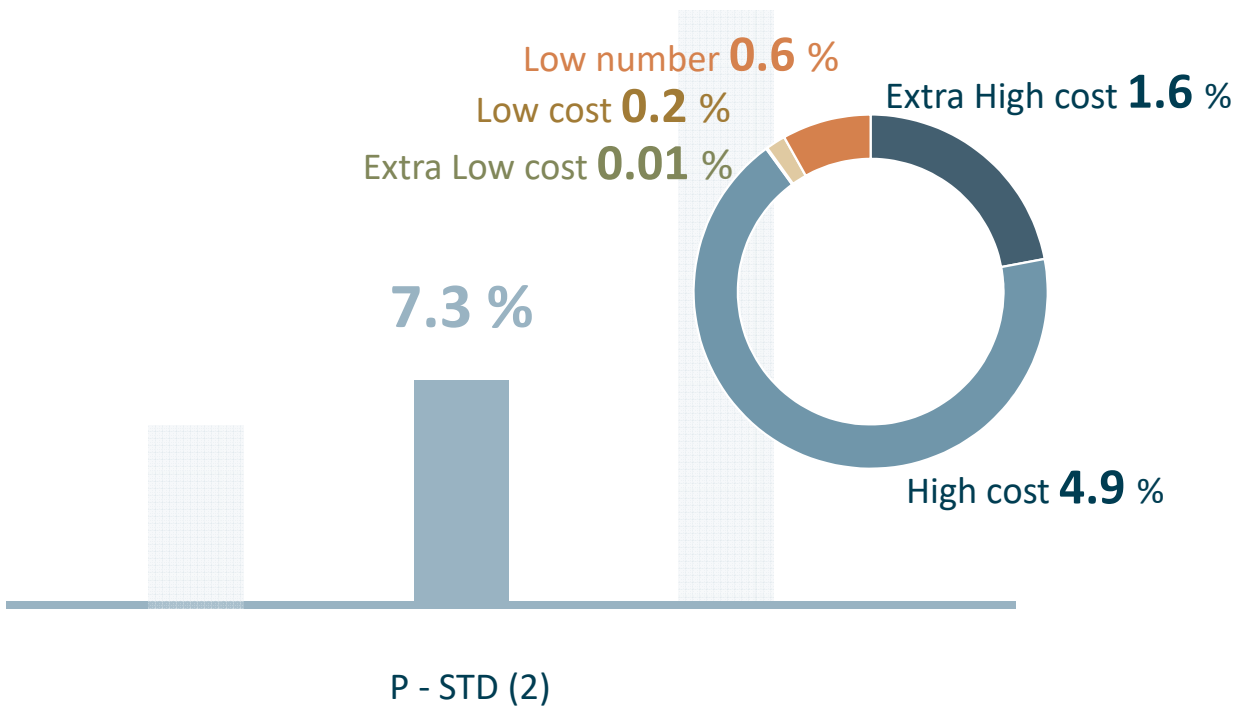
Numbers

Outliers

Numbers

21.6 %

6.2 % **7.3 %**

IQR (1)   P - STD (2)   P – V% (3)

Low cost **0.2** %

Low number **0.6** %

6.2 %

High cost **5.4** %

IQR (1)

Low number **0.6** %
Low cost **0.2** %
Extra Low cost **0.01** %

Extra High cost **1.6** %

7.3 %

High cost **4.9** %

P - STD (2)

Low number **0.7** %
All OL **1.2** %
Low cost **2.8** %

21.6 %

Extra High cost **7.2** %

Extra Low cost **6.5** %

High cost **3.2** %

P – V% (3)

Homogeneity

Numbers

Homogeneity

$V \% = STD / \text{arithmetic mean} *100$

👍

0 % – 50%

V % =

Untrimmed data base **24%**

V % =

IQR method 24 **+ 3%**

V % =

P − STD method 24 **+ 6%**

V % =

P − V% method 24 **+ 33%**
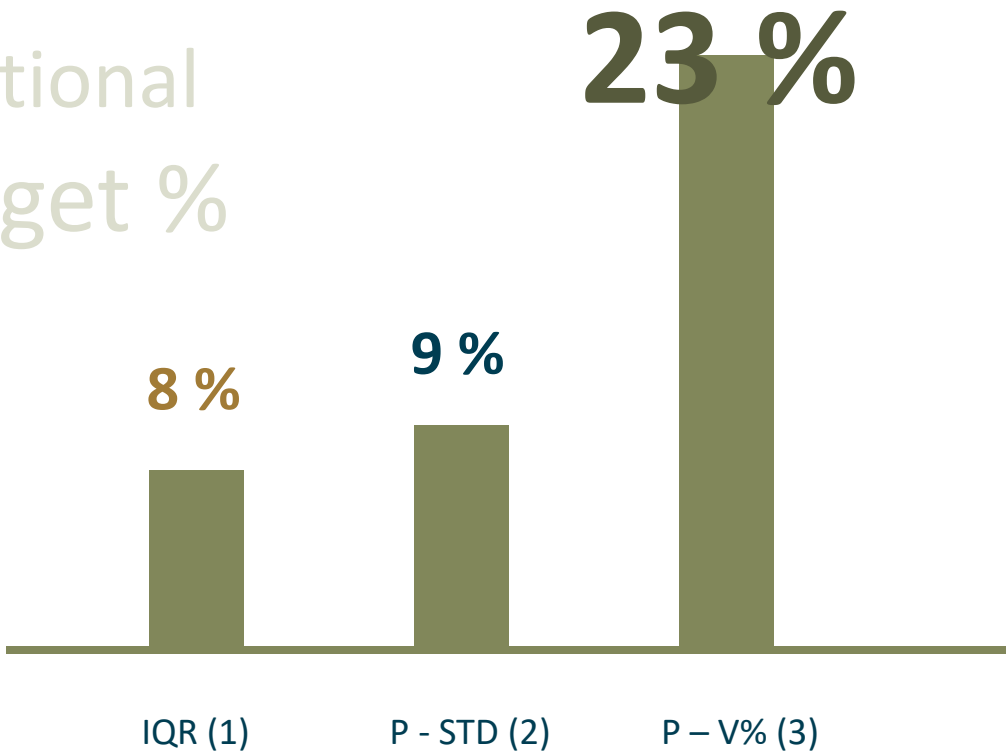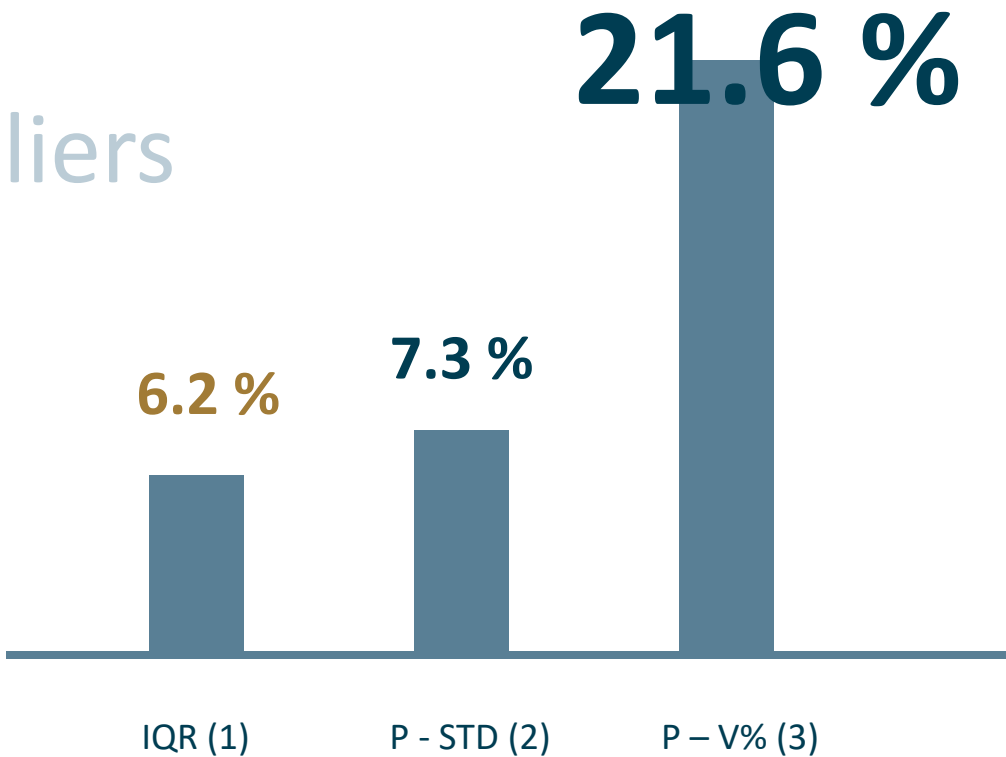
Numbers

Economical balance

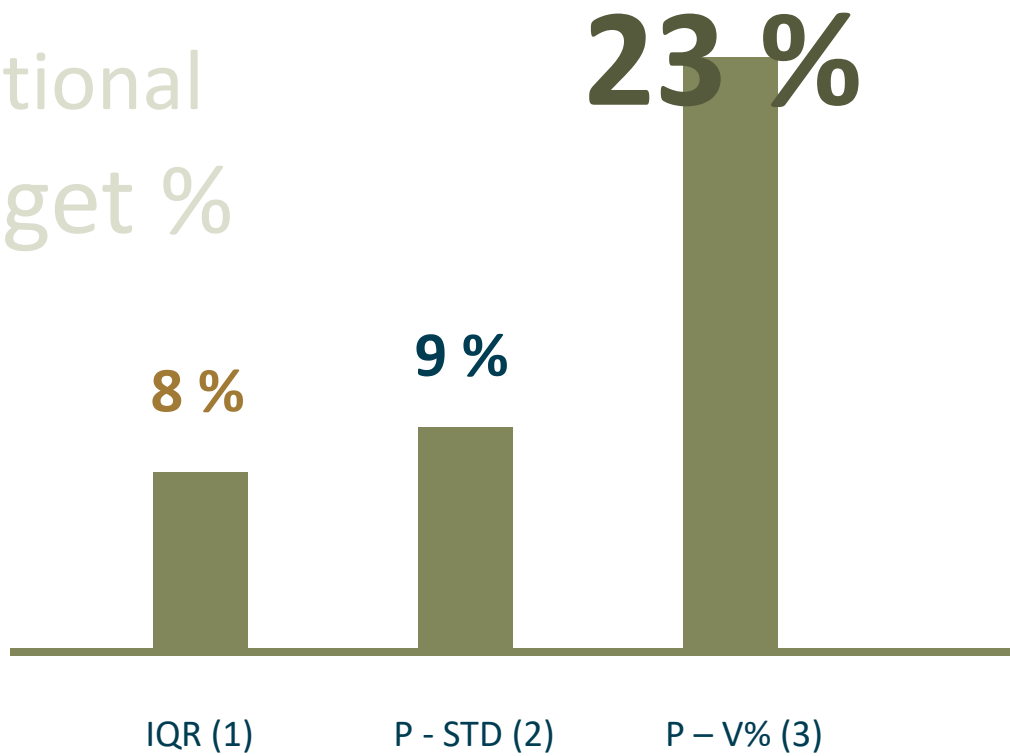Economical balance

Financial impact

Additional budget %

8 %	9 %	23 %
IQR (1)	P - STD (2)	P – V% (3)

Outliers

6.2 %	7.3 %	21.6 %
IQR (1)	P - STD (2)	P – V% (3)

Additional budget %

8 %	9 %	23 %
IQR (1)	P - STD (2)	P – V% (3)

Interquartile Range method

3 : 1

University hospitals

University hospitals

People

Developing of DRG logic

Data coding quality

Benchmarking

DRG

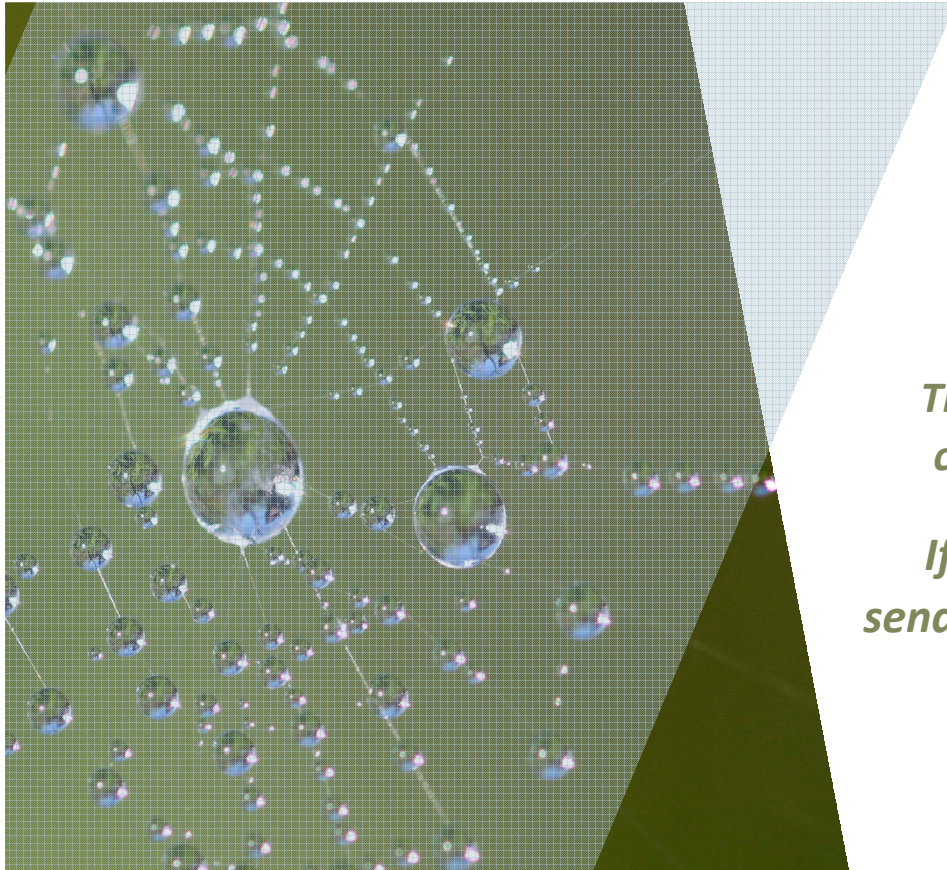Payment method

Data analysing

Actual costs

Statistics

Outliers

Developing of IT system

DRG service list

The world is as delicate and as complicated as a spider's web

If you touch one thread, you send shudders running through all the other threads

Gerald Durrel

National Health Service
Republic of Latvia

Paldies