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France – Access to Innovation: Stakeholder Reality

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REES
Réseau d'Evaluation en Economie de la Santé

Historical Background

- Until 2004 the fundings of « public hospitals » depended exclusively on global budgets which were mainly fixed on a historical basis.The private for profit sector had its own reinbursement system until 2005.
- The PPS was introduced in the public sector in 2004 covering 10 % of acute public hospital care. Currently, about 35 % of its activity is covered. Private for profit hospital, have been funded entirely by the PPS since 1 st march 2005.

The New Hospital Reimbursement Schemes

T2A – 3 modes of Hospital Reimbursement

Activity based reimbursement

Tariffs per hospital stay : DRG Tariffs and daily supplements added to DRG

Tariffs per medical procedures: outpatient care activities: imaging, lab tests(CCAM),Sessions, Consultations

Real cost payments: Onerous drugs and medical devices

Not Activity based reimbursement (block grant)

Public utility missions and contractual activities (MIGAC)

Mix Funding

Annual Lump sum funding: Emergency treatment, organ retrieval and transplants

T2A – Prospective Payment Systeme DRG + Day-outliers

When the length of stay (LOS) falls outside the limit set per DRG by the Technical Agency for Hospital Information (ATIH) then, a financial adjustment is made :

- **If the LOS > upper bound of the DRG:**

  → activity above the high outlier point is only reimbursed in addition to the DRG at 0,75 of the DRG daily average tariff

  Hospitalisation cost = DRG + 0,75 x n days x (DRG/ALOS)

- **If the LOS < lower bound of the DRG:**

  → activity below the low outlier point is only reimbursed on the top of the DRG at 0,50 of the DRG daily average tariff

T2A - Prospective Payment System
DRG + Daily Supplements [2006]

PTCA and AMI with co morbidities :

DRG 1682

4 533,22 €

+

Transfert into intensive care unit

10 Days in ICU under mecanical ventilation

824,91 €

X 10

Hospitalisation Cost

12 774,22 €

T2A - Prospective Payment System

DRG + DAILY SUPPLEMENTS + EXPENSIVE MEDICAL DEVICES [2006]

PTCA and AMI with co morbidities :

DRG 1682

4 533,22 €

+

Transfert into reanimation

10 Days in ICU with mecanical ventilation

824,91 €

X 10

Hospitalisation Cost

12 774,22 €

+

Medical device

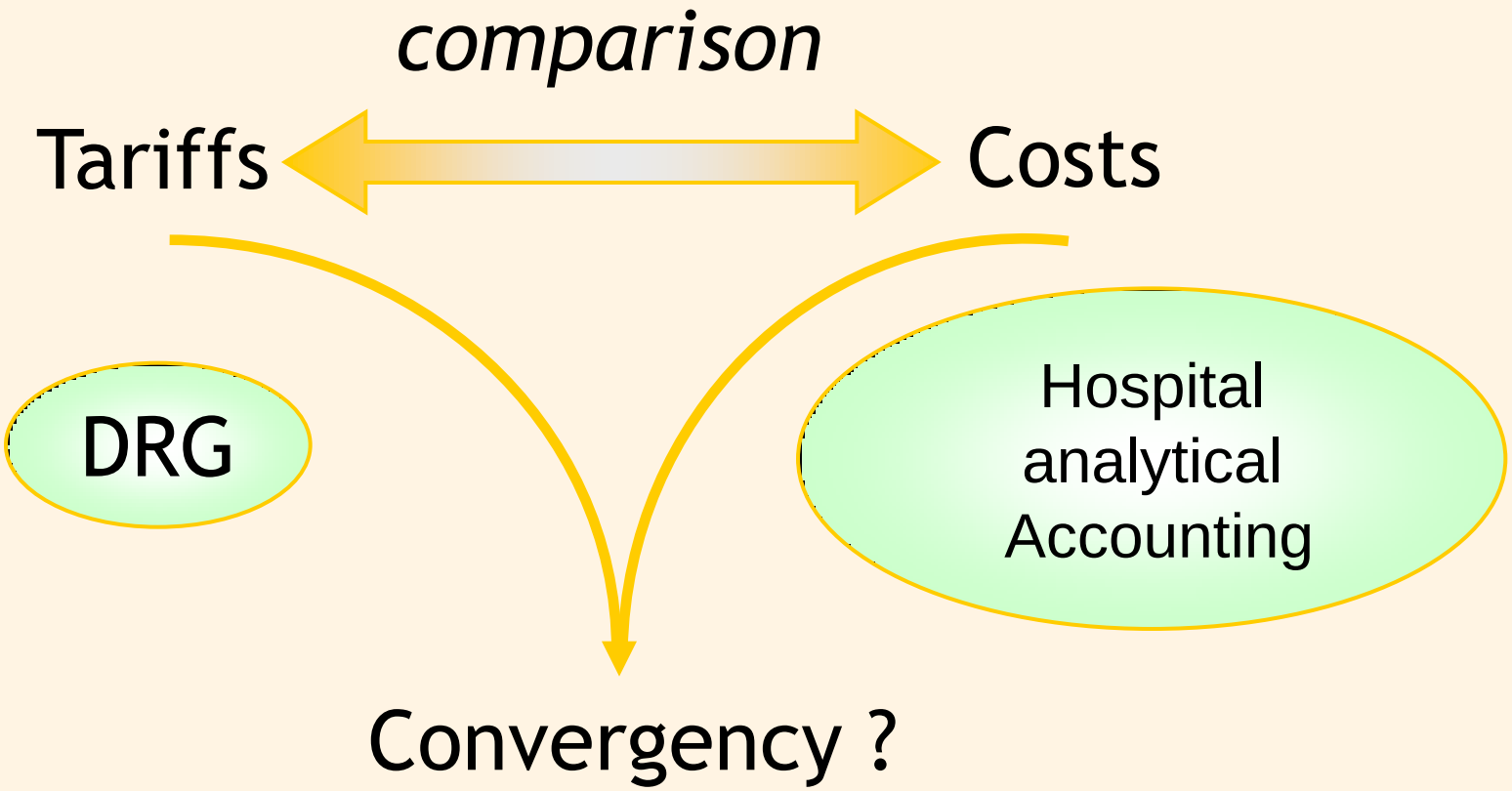
Drug Eluting Stent

DES : 1632 €

Overall Cost

14 407,18 €

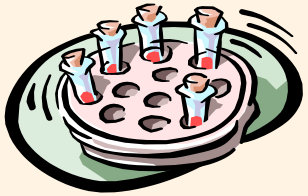
T2A – Internal Audit



Hospital Stakeholder : Financial Manager , Pharmacist, Medical Information Chief

HFD

The orchestra chief is the head of the financial department . He can't do anything without its two faithful lieutenants: the hospital pharmacist and the Medical Information manager (DIM).



Pharmacist

The phamacist manages the medical devices purchasing policy : he negociates prices and discounts, he references the products, signs contract with the ARH for the proper use of expensive drugs and medical devices…

DIM

The DIM Manages the interactions between purchasers and payers. He is at the origin of the income flows for the hospital and figures out the costs of the treatments. He has essential links with the medical team…

Get More Bang For The Buck

The Economic Question

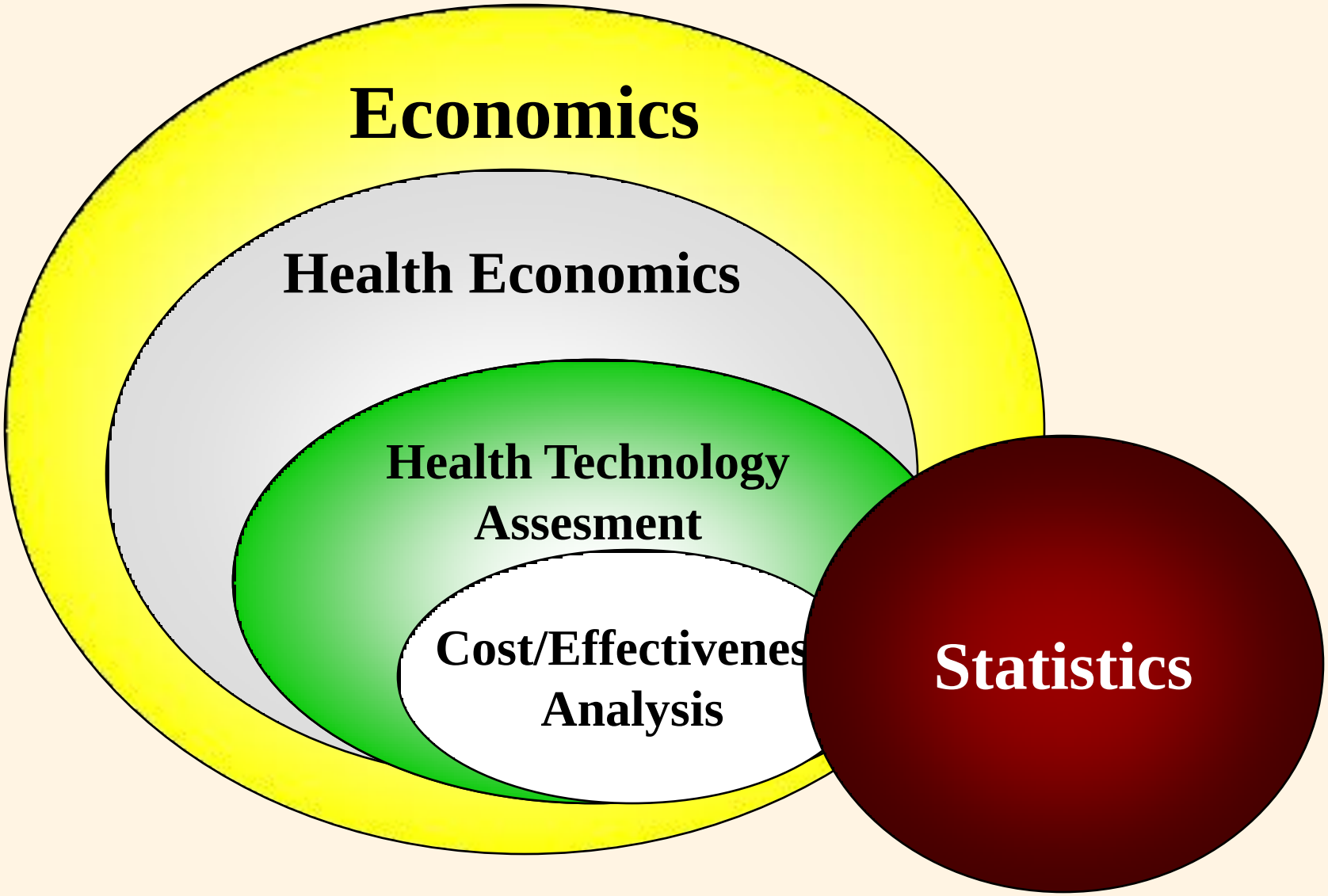
Where should we put our money to lighten the burden of illness?

Conventional treatment or innovative treatment**?**

The Answer

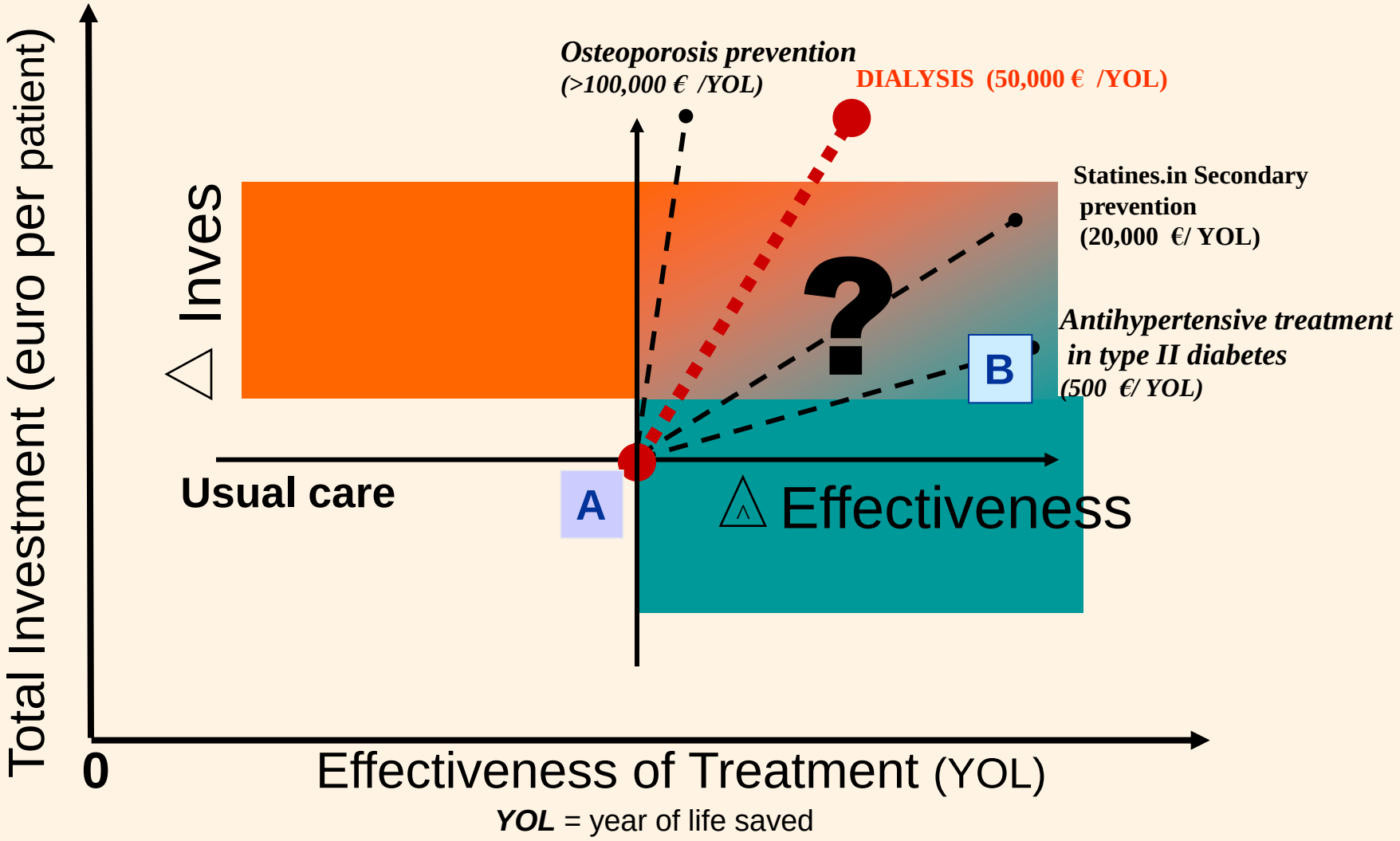
Choose the treatment which has the highest rate of return on the therapeutic, human and financial aspects per invested monetary unit.

HTA: The Bridge Between Science and Decision



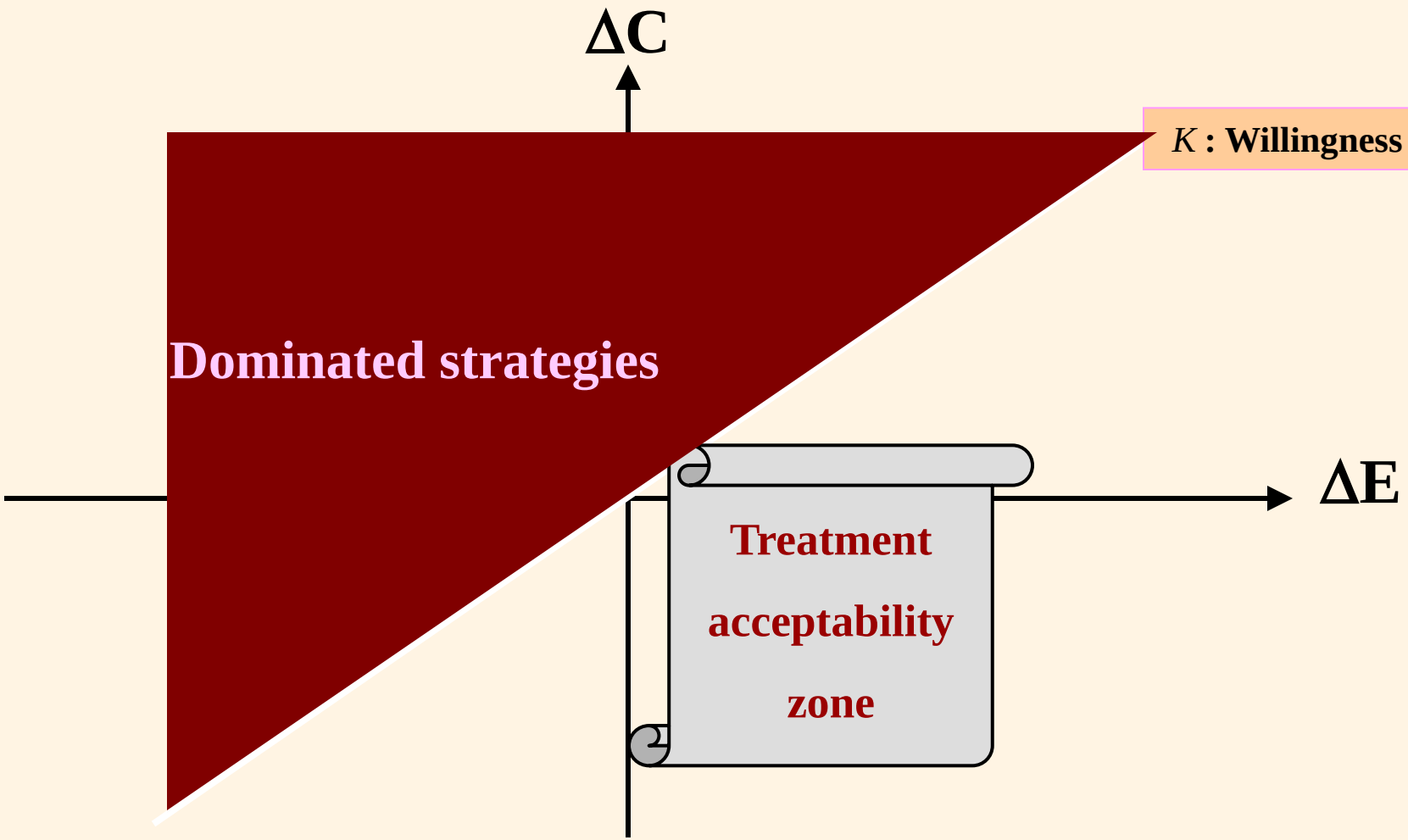
What Amount of Money Has to Be Invested to Get The Expected Benefits?

The ratio additional Investment / induced health outcomes :



YOL = year of life saved

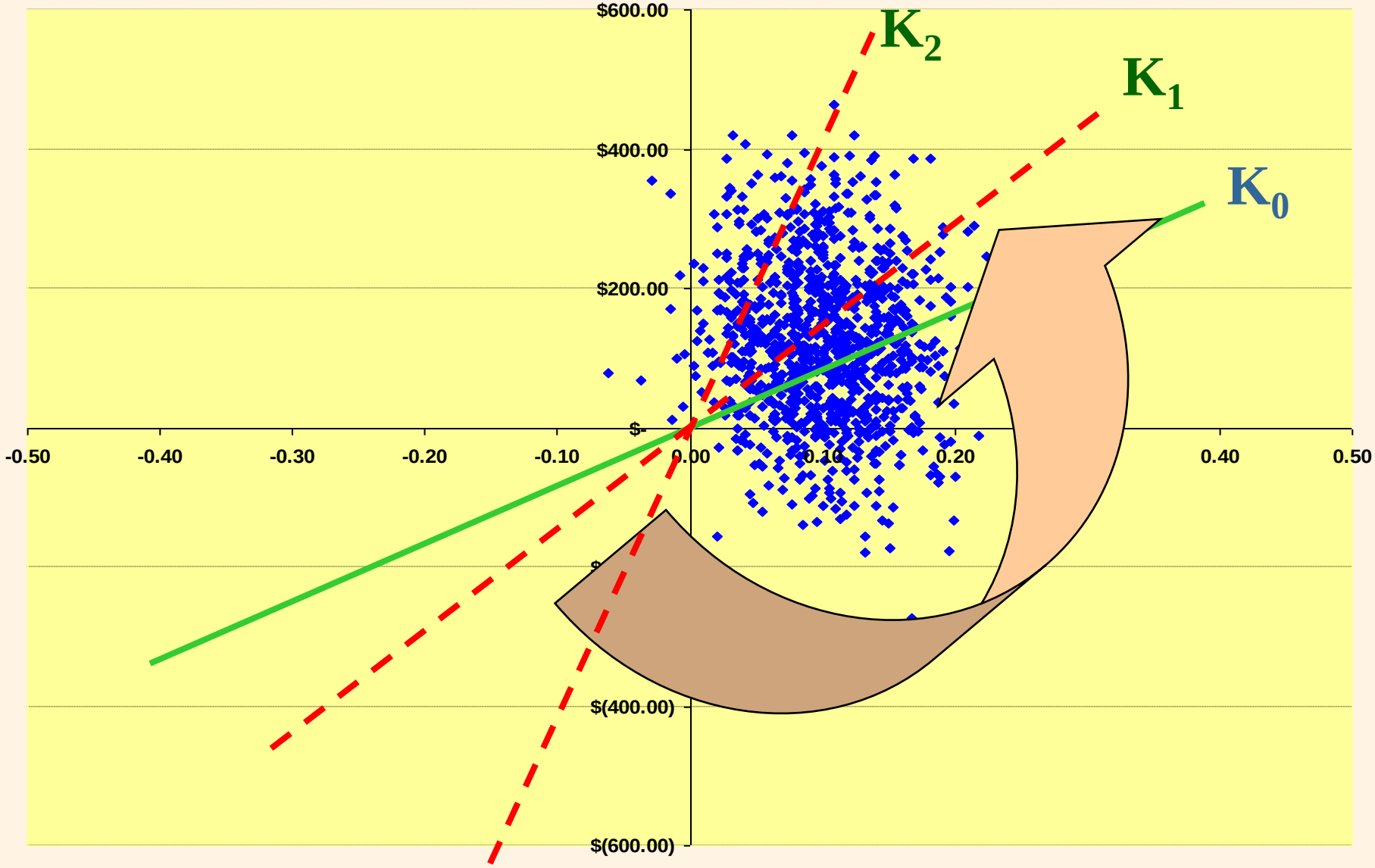
How Much are the Fit Willing to Pay?



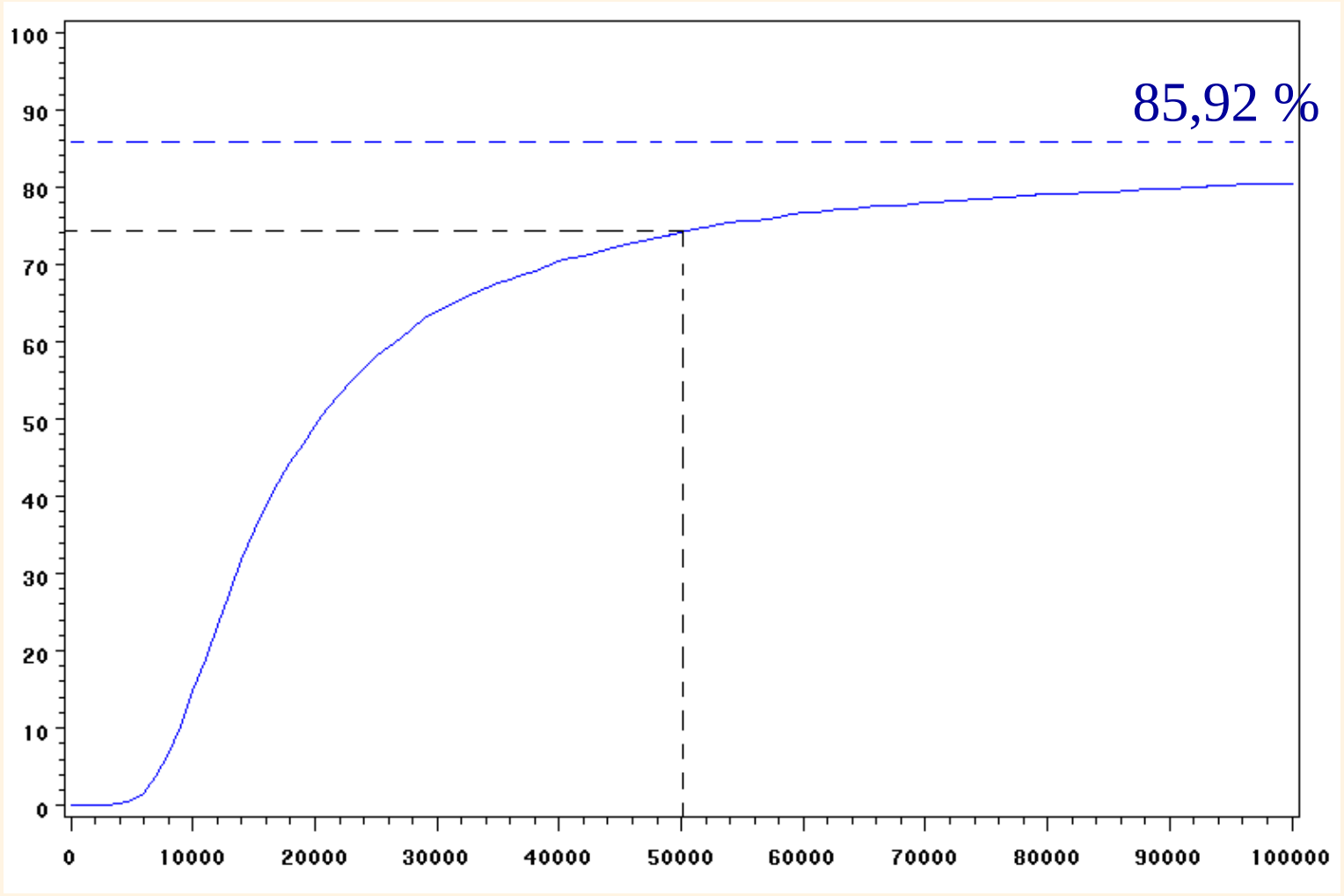
A Need: To Take Hold of the Uncertainty Which Presides Over the Rules of the Game

- The value (K) allocated by the Society to an amount of additional effect is a **socio-political value** which the evaluator cannot judge.
- The results must be analysed in light of the results of the different **possible willingness to pay** from the purchaser by constructing an acceptability curve for the treatment by the statutory authorities.
- This curve shows the probability that this treatment will considered to be **efficient** by the authorities for all possible values of K.
- **Estimation procedure**: generation of ΔE, ΔC couples by bootstrap – Selection of the points beneath the line for all values of K.

Proportion of Cost /Effective Samples for The Willingness to Pay K_0, K_1, K_2



Probability of Making the Right Choice when Xigris is Preferred to Conventional Treatments [STIC 2002-2005]

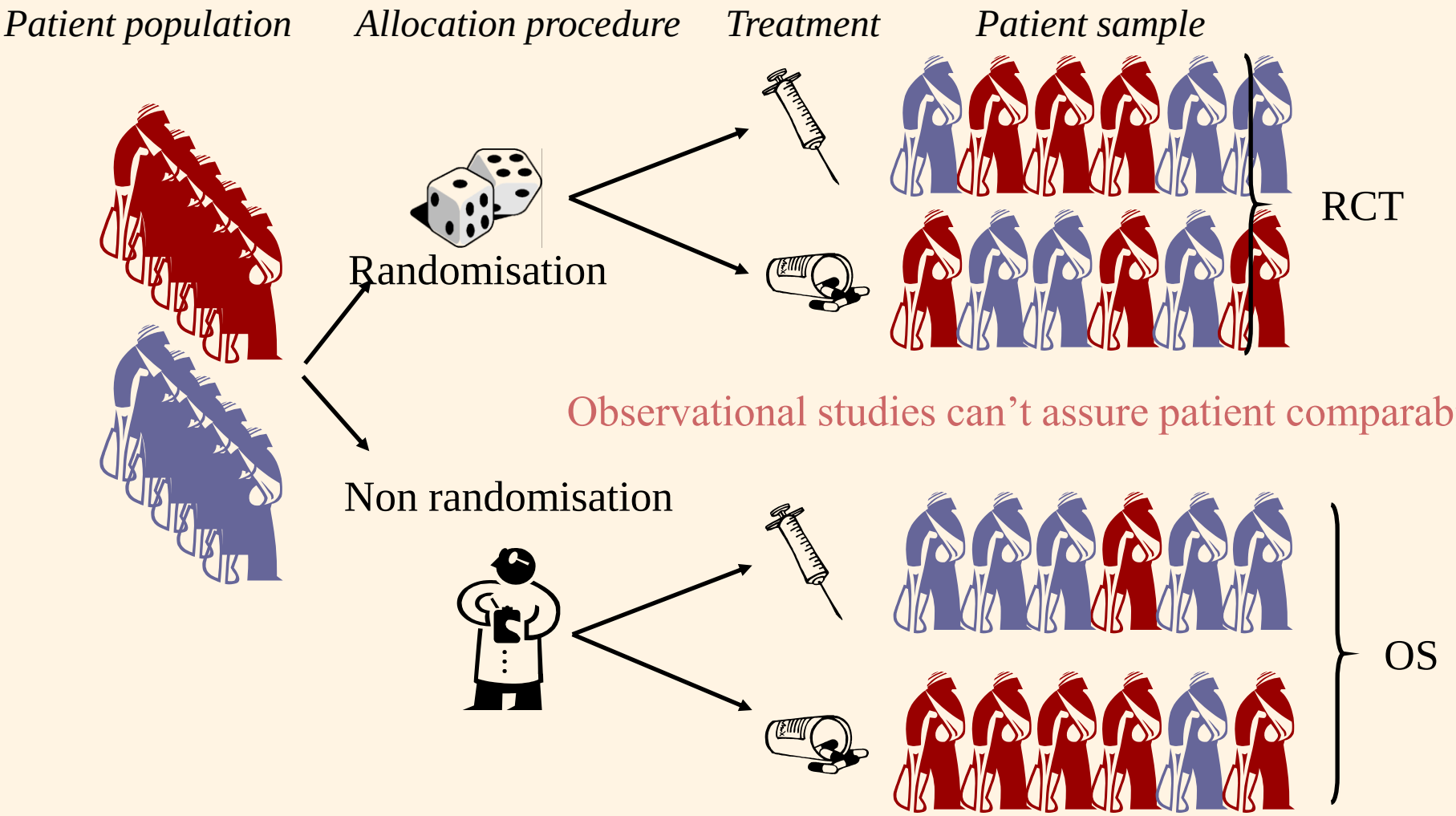


Statistical Analysis

Observational Studies : Pros & Cons

- Randomised Trials (RCTs)
  - "Gold standard"
  - Populations comparable (except for the treatment given)
  - Simple analyses
  - Good internal validity → relevant for adoption decisions
- Observational Studies (OSs)
  - Sometimes, randomisation infeasible, unethical or too costly
  - Pre-existent non-randomised data available (e.g. registries)
  - Real life practice ≠ Strict protocol-driven conditions
  - Good external validity → relevant for policy decisions

Recruitment Bias



Selection bias : patients selected according to some characteristics correlated with outcome

Identification of Recruitment Bias

- Question: Are the baseline characteristics balanced between the two phases ?
- Standardised difference d: $$\frac{\left(\bar{x}_{After} - \bar{x}_{Before}\right)}{\sqrt{\frac{s^2_{After} + s^2_{Before}}{2}}} * 100$$
- d > 10% => Indicate serious unbalance

Reduction of Recruitment Bias

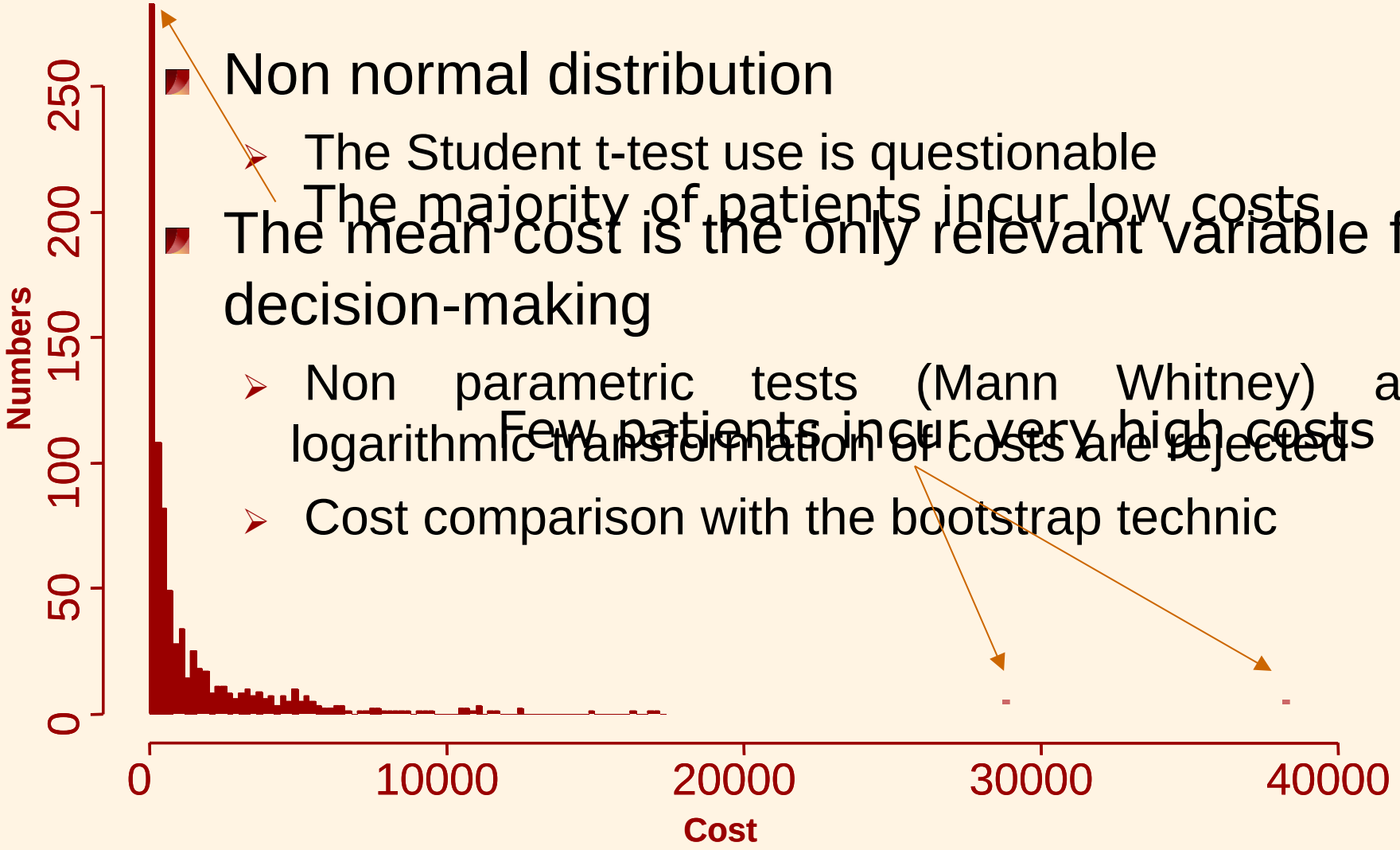
The Use of PS Matching

- Propensity Score (PS): Probability that a person of given characteristics is exposed to the treatment
- Total comparibility between the two phases if $PS_{After} = PS_{Before}$

- Simulation of a RCT with PS matching:
  - Match a treated subject to the unexposed subject with the nearest PS
  - Comparability of patients is guaranted on the observed covariates

Deviation of Treatment Costs from Normality

The Non Parametric Bootstrap Method



- Non normal distribution
  - The Student t-test use is questionable
  - The majority of patients incur low costs
- The mean cost is the only relevant variable for decision-making
  - Non parametric tests (Mann Whitney) and logarithmic transformation of costs are rejected
  - Cost comparison with the bootstrap technic

Few patients incur very high costs

Conclusion

The implementation of databases fed by professionals based on individual data, changes deeply the assessment methods.

- New endpoints are introduced
  - Uncertainty
  - QoL assessment
  - Estimates of the additional investments required to obtain the expected or actual clinical benefits
- A new ethic of our duties arises:

« prodigate the best » per euro invested