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Personalised Medicine

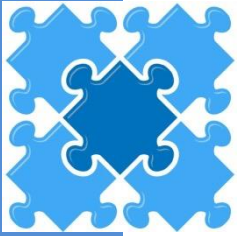
*The right prevention and treatment  
for the right patient at the right time*

# ***EAPM 6<sup>th</sup> Annual Presidency Conference***

***'Personalised Medicine and the Big  
Bata Challenge'***

***28 March, 2018***

***Biblioteque Solvay, Brussels***



# Providing the Evidence Base through Big Data

**Hans-Peter Dauben.**

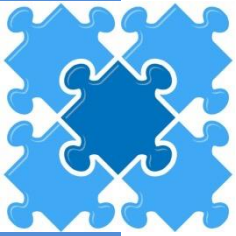
DIMDI. Germany

**Dr. Iñaki Gutiérrez-Ibarluzea.**

Osteba. Basque Office for HTA Basque Country. Spain



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# **New Value Frameworks, could be applicable to Big Data?**

Dr. Iñaki Gutiérrez-Ibarluzea



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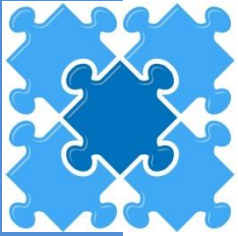


Without data you are just  
another person with an opinion

**W. Edwards Deming**

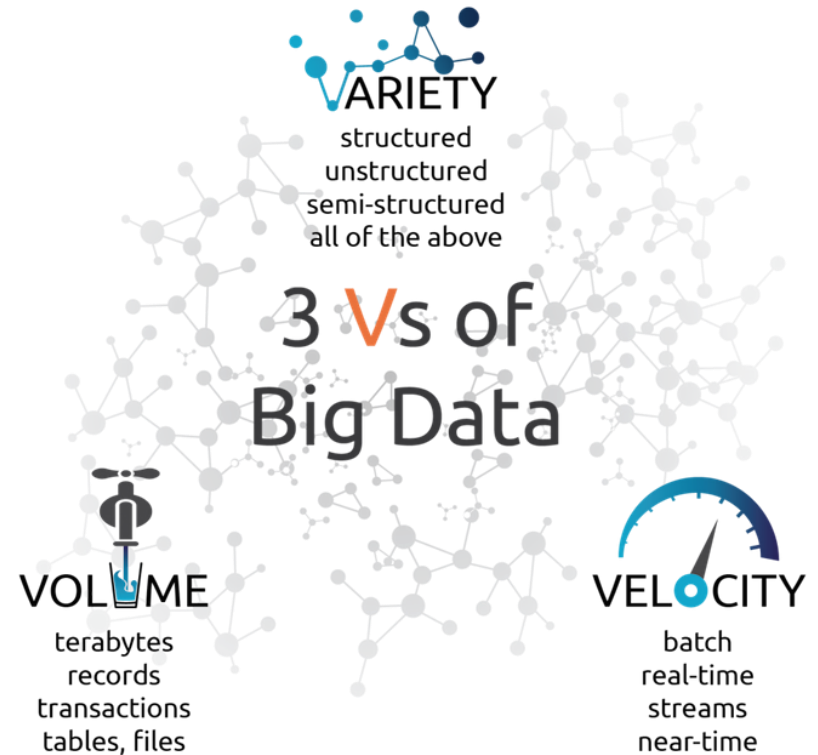


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# What are talking about?

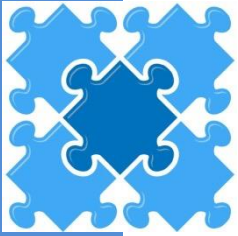
- Value frameworks?  
New...
- Big data...



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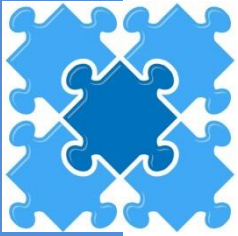
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# Big data

**Big data** is data sets that are so voluminous and complex that **traditional data-processing** application software are **inadequate** to deal with them.

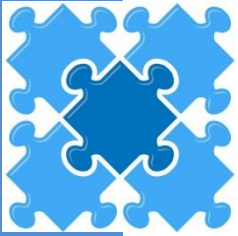




# Big data challenges

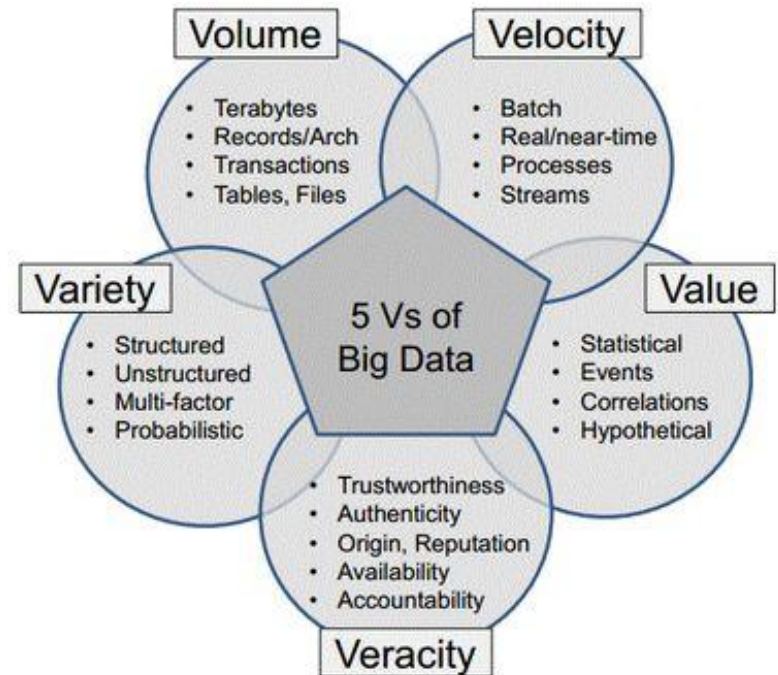
- capturing data,
- data storage,
- data analysis,
- search,
- sharing,
- transfer,
- visualization,
- querying,
- updating,
- information privacy and
- data source.



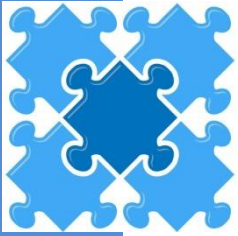


# The five v

- *volume,*
- *variety,*
- *velocity,*
- *veracity,*
- *value*





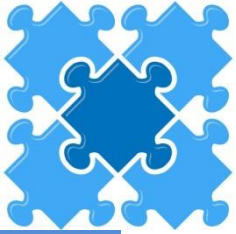


# What are we talking about?



- Supercomputers
- Hipervelocity
- Hipervariety
- Trustworthiness
- .....
- Superhumans

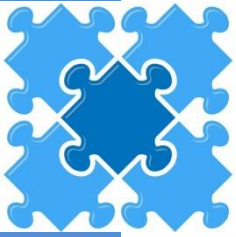




# New value frameworks

- So, what happened to the old ones?
  - Safety and efficacy
  - Balance between benefit and risk
  - Budget impact
  - Cost-effectiveness
  - Others...





Efficacy

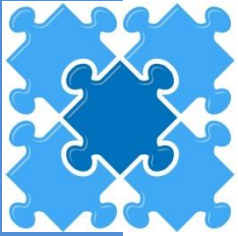


Effectiveness

In real life...?



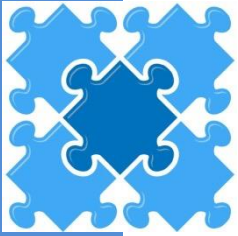




# In real life...?

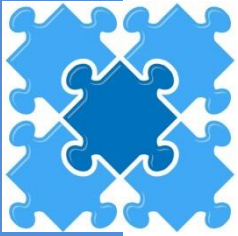
- Who drives the car
- How the roads are
- When we drive the car (timetable)
- How much money we have
- Infrastructure of energy suppliers
- Ethical issues (climate change,...)
- Legal issues





Value depends on the technology and where it will be implemented





# Cost-effectiveness paradigm for diagnostics. Why it fails...

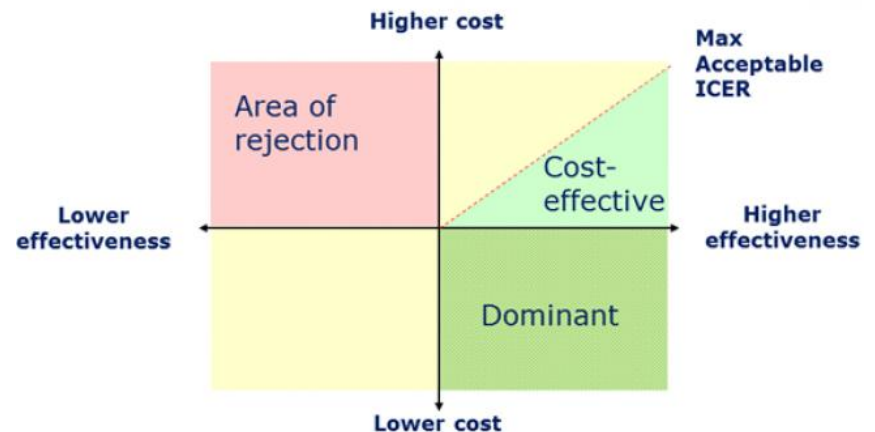
Lack of measures of efficacy in most medical devices / diagnostics

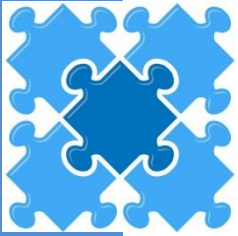
No trials

Lack of measurement of the complexity of medical diagnostics and their value framework

Costs (not all costs measured)

Benefits (surrogated outcomes)

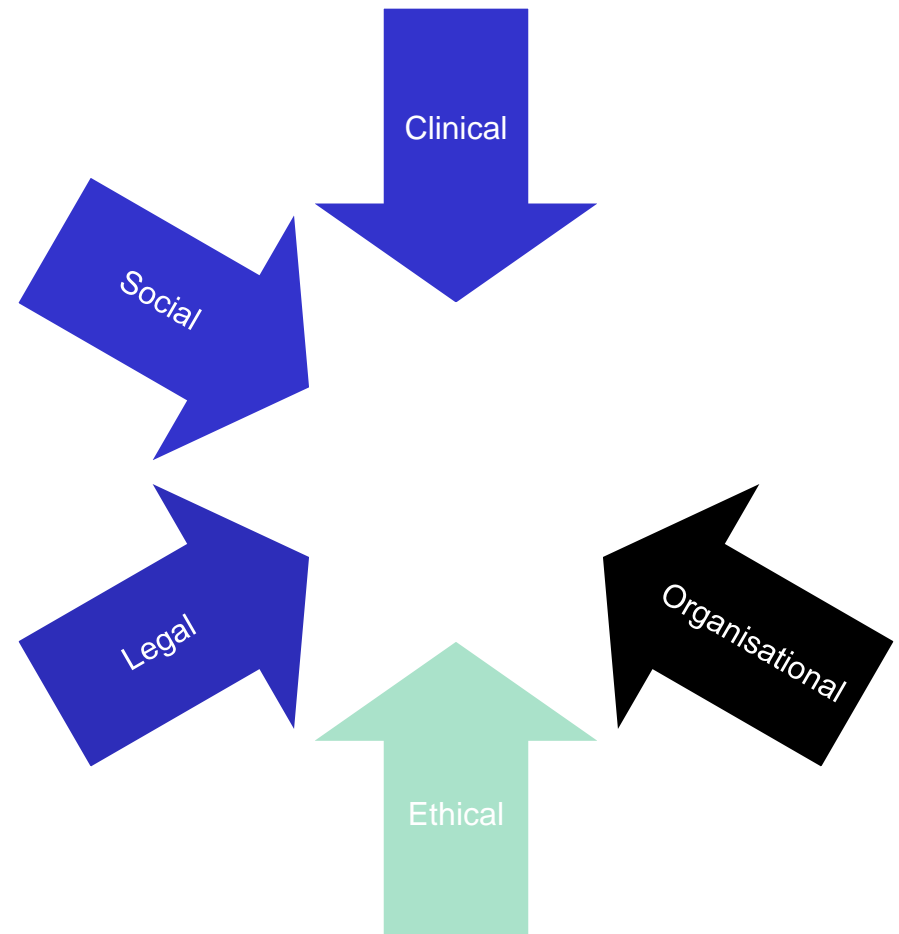




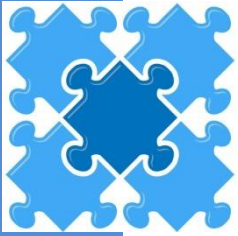
# MCDA

(Multi Criteria Decision Analysis)

- Multicriteria decision analysis (MCDA) and stochastic multicriteria acceptability analysis (SMAA) are useful tools to assess the benefit-risk ratio
- Preferences of the decision makers regarding the relative importance of these criteria
- MCDA requires the weights of the criteria by the decision makers







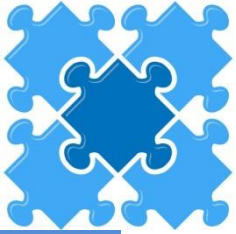
# INTEGRATE-HTA framework

INTEGRATE-HTA is an innovative, three-year FP7 project that ended in December 2015.

Aimed to develop concepts and methods that enable a patient-centred, comprehensive assessment of complex health technologies

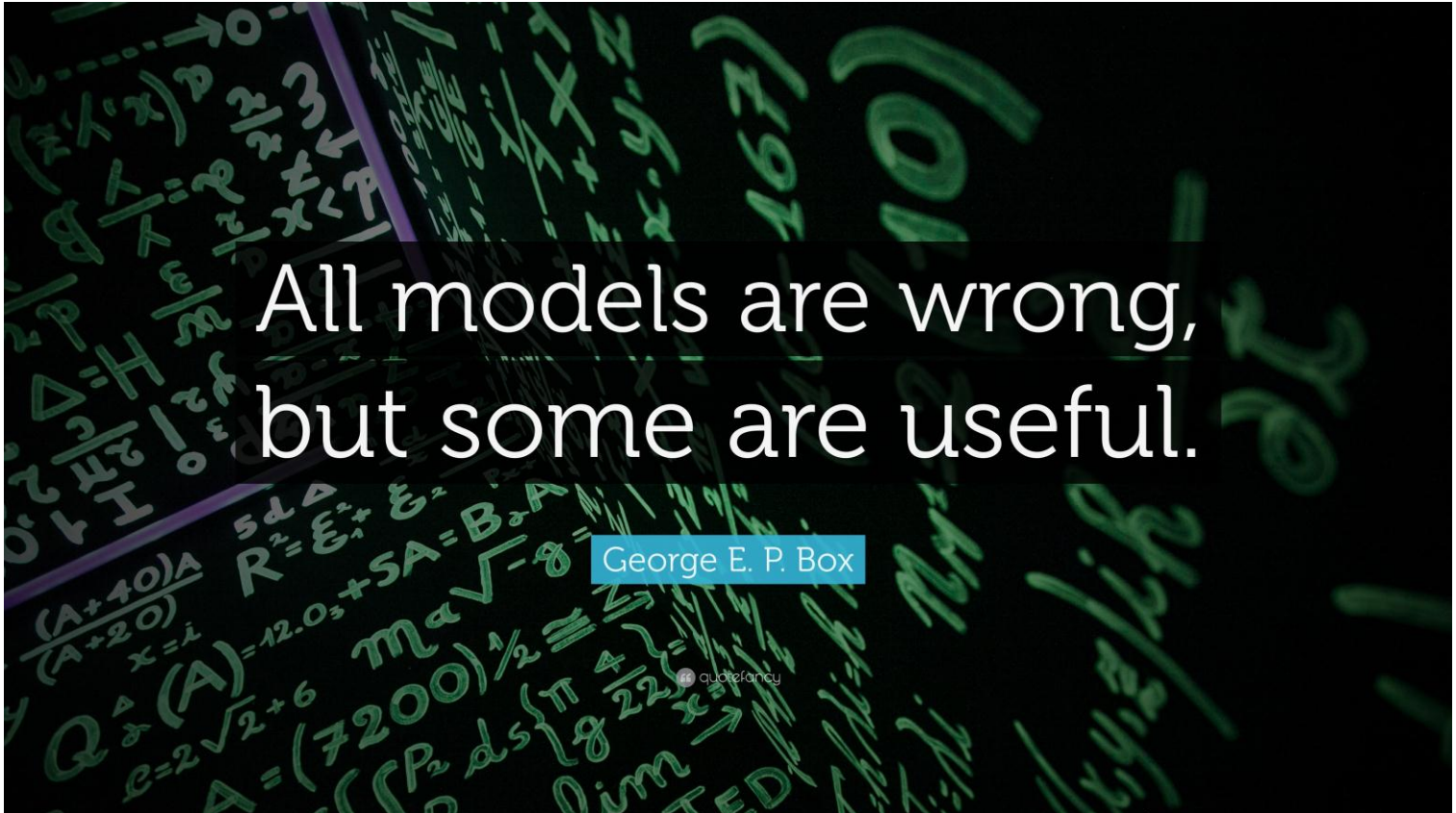
The INTEGRATE-HTA Model helps to assess complex technologies which take context, implementation issues, and patient characteristics into account

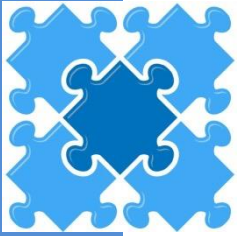




# How could big data be integrated?

...

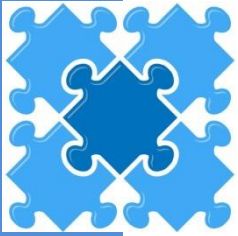




Data is better than flipping a  
coin,...to make a decision

Or not?





# Which is the future of professionals?

