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## ERASMUS+ PROGRAMME

Erasmus+ - Key Action 3

Capacity Building in the Field of Higher Education

**Project No: 585980-EPP-1-2017-1-DE-CBHE-JP**

Training for Medical education via innovative [eTechnology / MediTec](#)

**MUNI  
MED**

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662 43 Brno, Czech Republic

CENTER for HEALTHCARE QUALITY  
Faculty of Medicine, Masaryk University  
Kamenice 3, 625 00 Brno, Czech Republic



# Health Care Service Quality Management Concepts

January 8-9, 2020 University of DUHOK Dissemination Seminar

Aleš Bourek, MD, PhD.

For referencing please use: Bourek A., HC Quality & Safety Seminar, Duhok, 2020, [www.bourek.eu](http://www.bourek.eu)



# Seminar setup

- **The healthcare environment**
- **Logic and semantics**
- **Why things don't work**
- **What to do and mainly HOW to make it work**



# WHAT MAY BE YOUR EXPECTATIONS ?

- **Such a lovely day**
- **Well, we'll have to make the best of it (hopefully the coffee brakes will be long enough)**
- **Another boring theoretical talk on quality**
- **Success stories will be presented**
- **Someone will try to tell us what to do (and of course we know this already)**



TO UNDERSTAND THAT BY  
APPROPRIATE CHOICE WE  
BALANCE OPORTUNITIES-  
CHANCES-CONSTRAINTS-RISKS TO  
BRING ORDER TO CHAOS OR TO  
DISCOVER ORDER IN THE CHAOS.



**ODBORNÉ FÓRUM**  
 pro tvorbu standardů péče a koncentraci vybrané vysoce specializované péče  
 IGA, No. 10650-3



**SIMPATIE**



**CEEQNET**



Programy kvality a standardy léčebných postupů

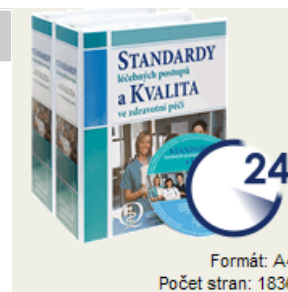
3/2.3.4

díl 2, Teoretické minimum

str. 1

**3/8**  
**Týmová spolupráce**

**3/2.3.4**  
**Health Technology Assessment (HTA) – kritické**  
**vyhodnocování zdravotnických technologií**



IGA MZ NO/6236-3 "Aplikace standardů efektivní léčebné péče v praxi a jejich využití k zavedení systému měření výkonnosti a ekonomické efektivity do vybraných oblastí zdravotní péče"

IMPLEMENTING RECOMMENDATIONS  
 FOR SAFER HOSPITALS IN EUROPE:  
**SANITAS PROJECT**



**ENQual questionnaire National Quality Policy**



# **OUTLINE - CATEGORIES THAT ARE A PART OF THE "GAME"**

- **FORCES**
- **TOOLS**
- **SYSTEM – ENVIRONMENT - FRAMEWORK**
- **HIERARCHIES**
- **ACTIONS**



# **OUTLINE - PRINCIPLES THAT ARE A PART OF THE "GAME"**

- **EVOLUTION**
- **VIRTUALITY**
- **THE MEANING AND NECESSITY OF THE „JOURNEY“**
- **REFLECTIONS ON THE „CHOICE“**
- **BALANCE - EQUILIBRIUM - HARMONY - RESONANCE – HAPPINESS**
- **CONTINUITY**



- **JUNGLE vs. CITY**
  - understand - utilize - exploit
  - do not carry unnecessary things
  - no silly activities







# Problem ?

*Information Anxiety is produced by the ever-widening gap between what we understand and what we think we should understand. It is the **black hole between data and knowledge**, and it happens when information doesn't tell us what we want or need to know.*

*Richard Saul Wurman, 1989*



# EVOLUTION PRINCIPLES

- **COMPLEXITY GROWTH**

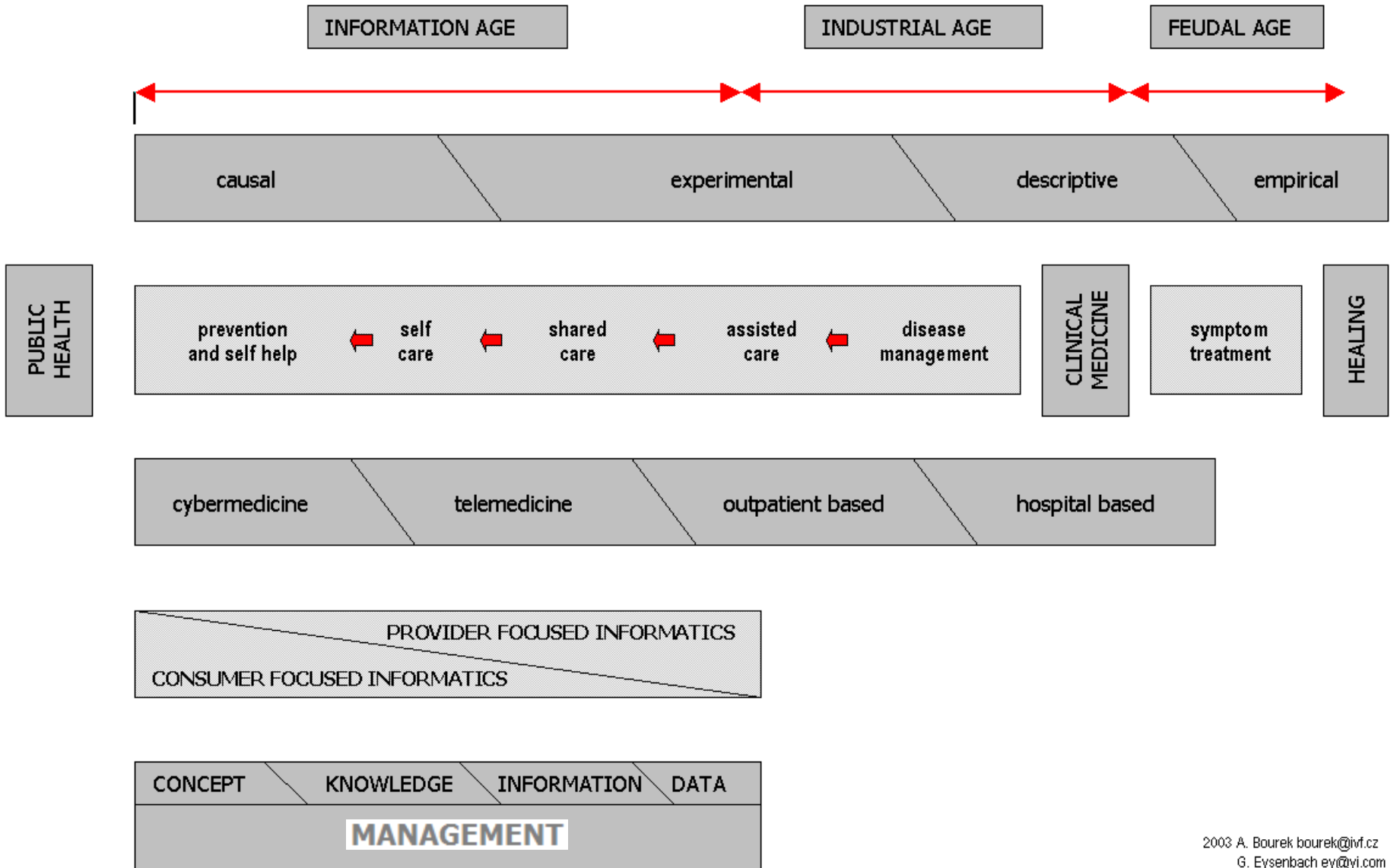
CONVERGENT => „specific solutions“

and

DIVERGENT => „generic solutions“

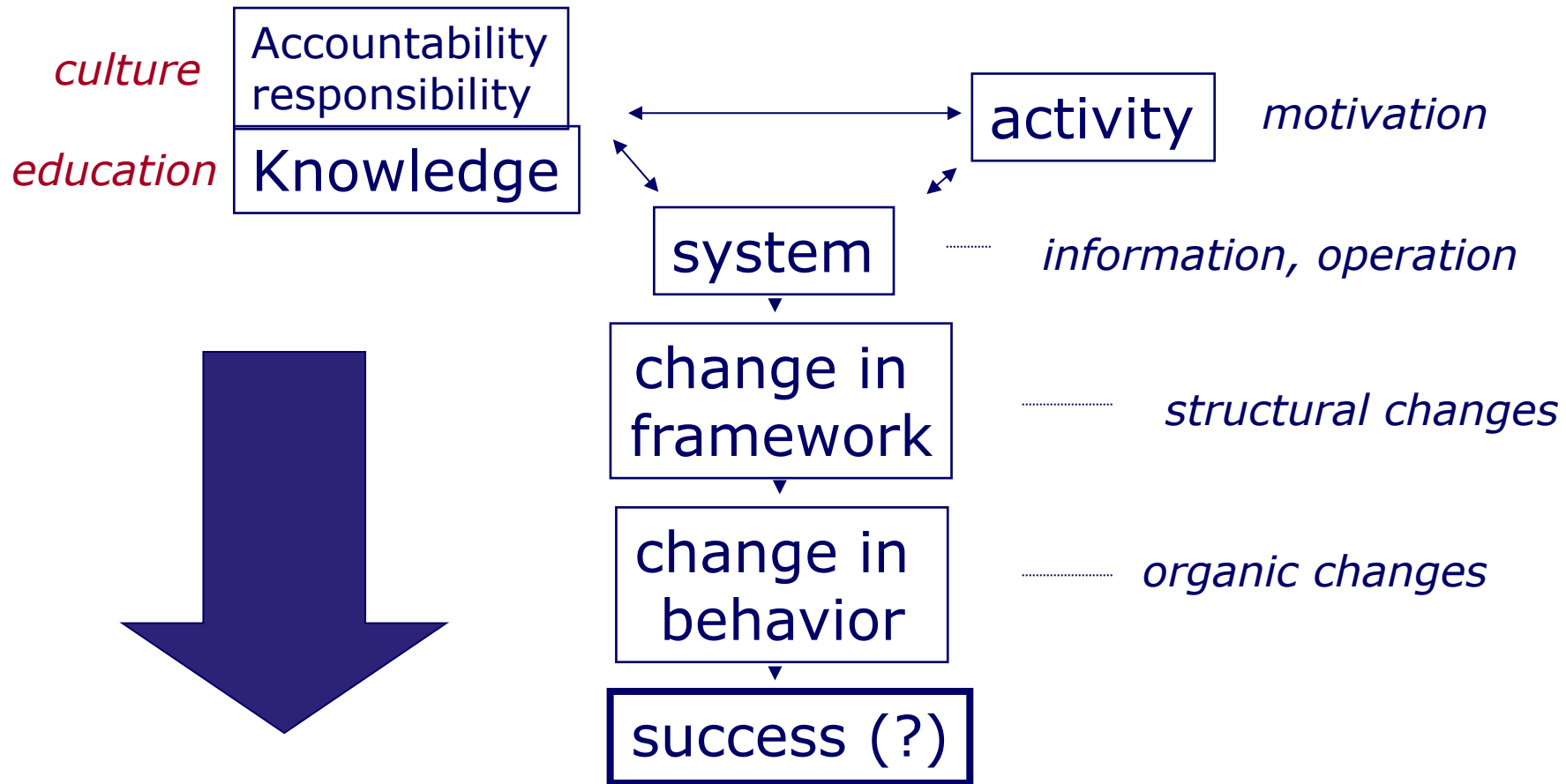


# HEALTH CARE EVOLUTION





# Principles of change





# From data to concepts

**Data** - any sequence of characters

**Information** - data that have a meaning [you specify what kind of the data and what are their limits ]

**Knowledge** - based on finding a relation between at least two information sets

**Concepts** - expert fusion of knowledge (also from several unrelated fields)

**REASONING**



# THE RESEARCH/ASSESSMENT PROCESS

„PROCESS“

COLLECT → COLLATE → INTERPRET → DISSEMINATE

„RESULTS“

DATA → INFORMATION → KNOWLEDGE → CONCEPT

**Information alone is not enough !**

**Learning >> Modeling => Decision making**



# ACTIONS

- **search - retrieve - collate - process - disseminate – use**
  - **combine "human" – e.g. instincts, subconscious - when you go uphill, you lean forward**
  - and**
  - **"machine" based approaches (machine learning / artificial intelligence)**



# JOURNEY

- THE MEANING AND NECESSITY OF THE "JOURNEY" TO BECOME AWARE (pain and hardships during the journey - painful lessons, understanding "mediated information" available in the virtuality of today's "digital World,,).)
- The shorter the trip (time and distance wise) the less knowledge -understanding of the logics- obtained (we seem to be reaching the goals without the journey)





# FORCES

- **GENERAL**
  - love-hate
  - passion-compassion
  
- **CHALLENGE / TASK RELATED**
  - societal preferences
  - economical
  - political
  - personal



# TOOLS

- **HUMAN „brain networks“**

- Brainstorming
- Discussions
- Scenarios
- Delphi

(formed by people "friends-colleagues" we call by their first names)

- **MACHINE „ICT networks“**

- Resource "mining,,
- Extrapolation
- Projections
- Modeling

(formed by machines „servers and clients“ we call by their IP addresses)



# HIERARCHIES

- **Ranking**
- **Prioritizing**
- **Preferences**
- **Balancing**
  - using "human" tools
  - using "machine learning" tools



# STRIKING A BALANCE

**(balance-equilibrium-resonance-harmony-“isorropia”)**



**TIMELY / SAFE / EFFECTIVE / EQUITABLE /  
APPROPRIATE / EFFICIENT / PERSON CENTERED**



# "GAINING WISDOM TURNS US CRAZY"

- THE MORE WE KNOW, THE MORE UNCERTAIN WE FEEL:
  - DO NOT TRY TO UNDERSTAND ALL THE ELEMENTS OF A SYSTEM
  - AIM AT GRASPING THE LOGICS OF A SYSTEM



# KNOWLEDGE vs. UNDERSTANDING

**Knowledge is power**

**(rediscovered in Renaissance)**

**NO**

**Knowledge is almost nothing,  
UNDERSTANDING is POWER**



# Logic and Semantics

## Characteristics of difficult problems

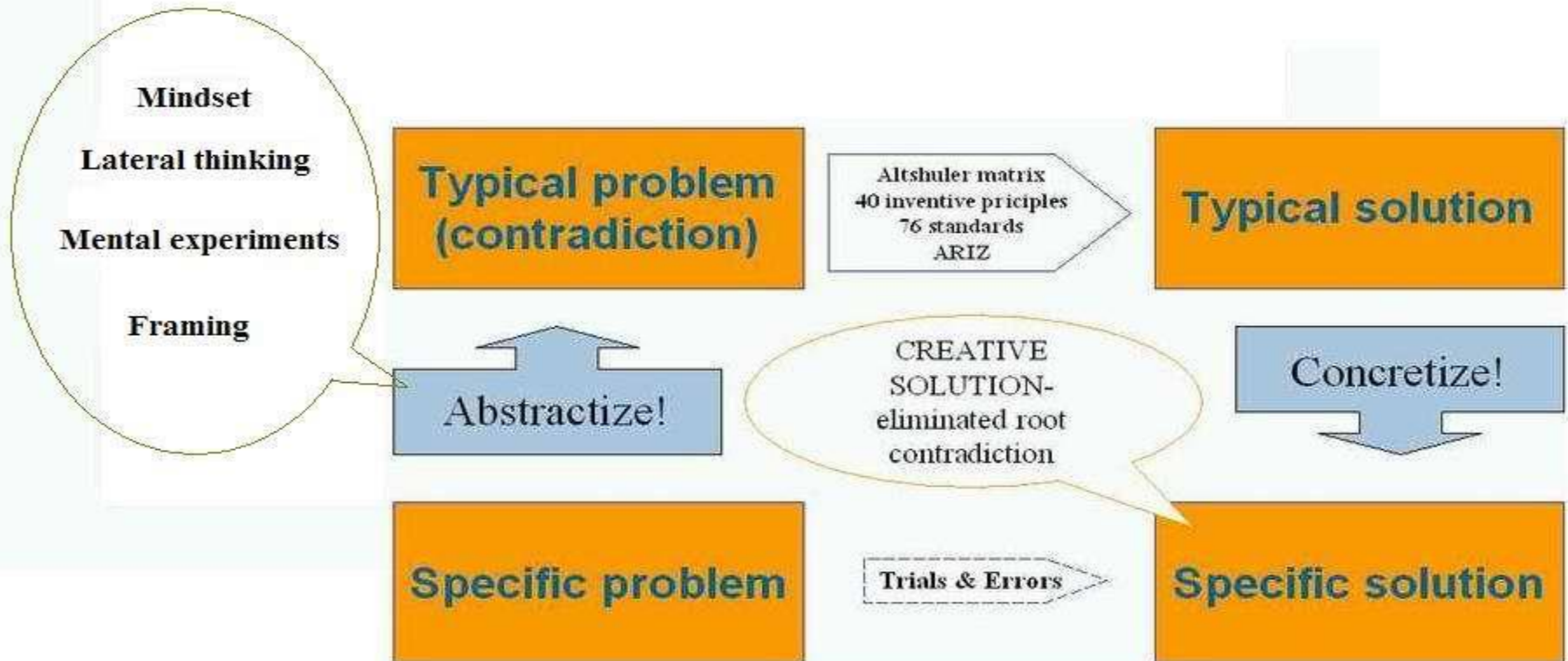
Difficult problems have some typical characteristics that can be summarized as follows:

- **Intransparency** (lack of clarity of the situation)
  - commencement opacity
  - continuation opacity
- **Polytely** (multiple goals)
  - inexpressiveness
  - opposition
  - transience
- **Complexity** (large numbers of items, interrelations, and decisions)
  - enumerability
  - connectivity (hierarchy relation, communication relation, allocation relation)
  - heterogeneity
- **Dynamics** (time considerations)
  - temporal constraints
  - temporal sensitivity
  - phase effects
  - dynamic unpredictability



# Logic and Semantics / COMMON SOLUTIONS

## TRIZ



TRIZ (pronounced [triz]) is a Russian acronym for "Teoriya Resheniya Izobretatelskikh Zadatch" (Теория решения изобретательских задач), a Theory of solving inventive problems or Theory of inventive problems solving (TIPS)(less known as Theory of Solving Inventors' Problems), developed by Genrich Altshuller and his colleagues since 1946.

TRIZ is a methodology, tool set, knowledge base, and model-based technology for generating innovative ideas and solutions for problem solving. TRIZ provides tools and methods for use in problem formulation, system analysis, failure analysis, and patterns of system evolution (both 'as-is' and 'could be'). TRIZ, in contrast to techniques such as brainstorming (which is based on random idea generation), aims to create an algorithmic approach to the invention of new systems, and the refinement of old systems.

ref.: WIKIPEDIA 2007





# SYSTEMS THINKING

## DECISSION SUPPORT

**Extrapolation**

**"HARD TECHNIQUES"  
(focused on certainty)**

**Models**

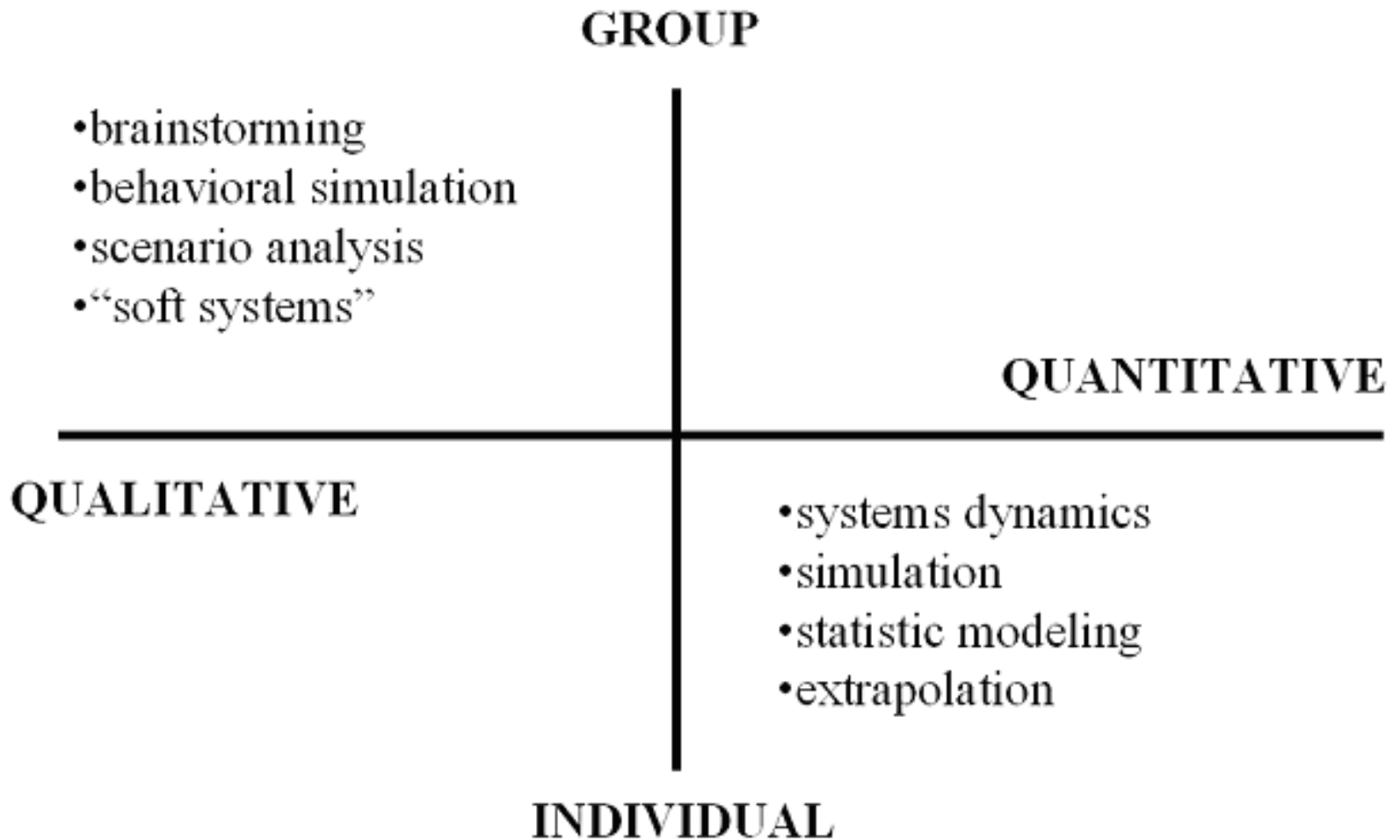


**Scenarios**

**"SOFT TECHNIQUES"  
(all-embracing,  
uncertainty - options)**

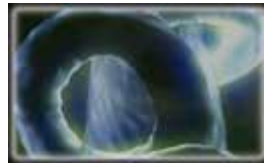
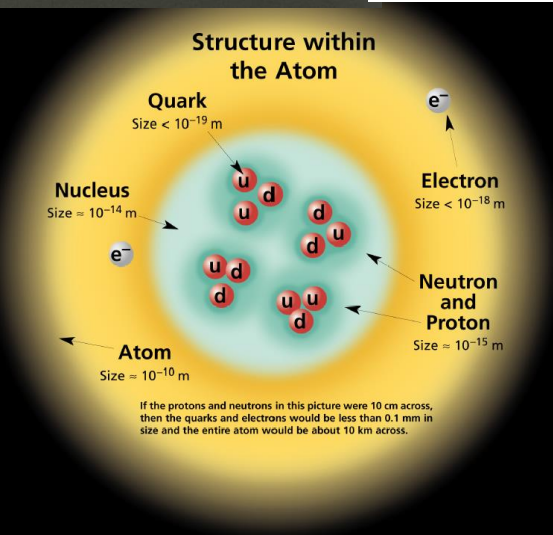
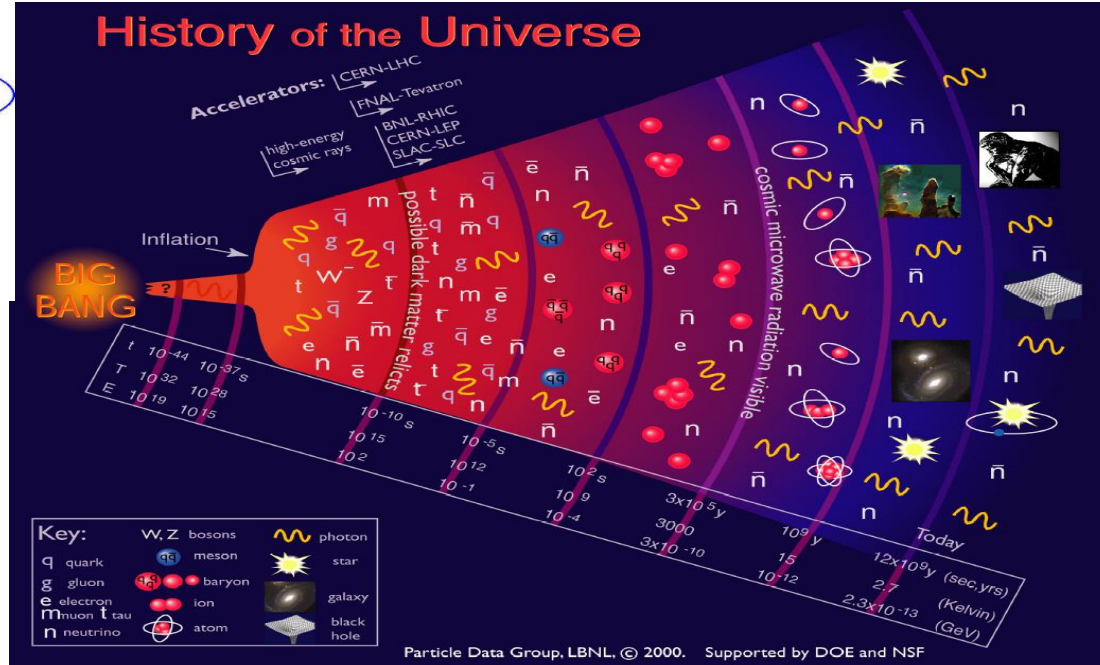
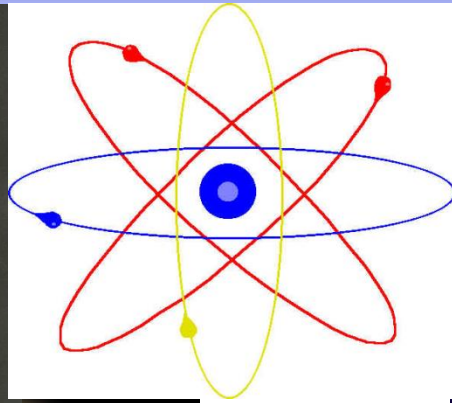


# SYSTEMS THINKING - METHODOLOGY

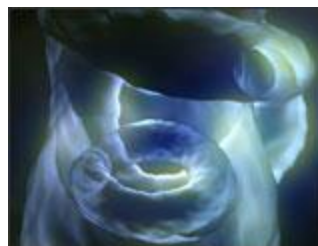
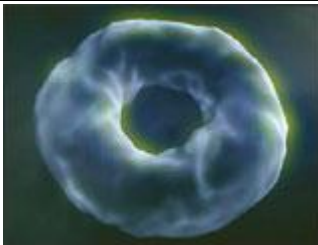




# COMPLEXITY



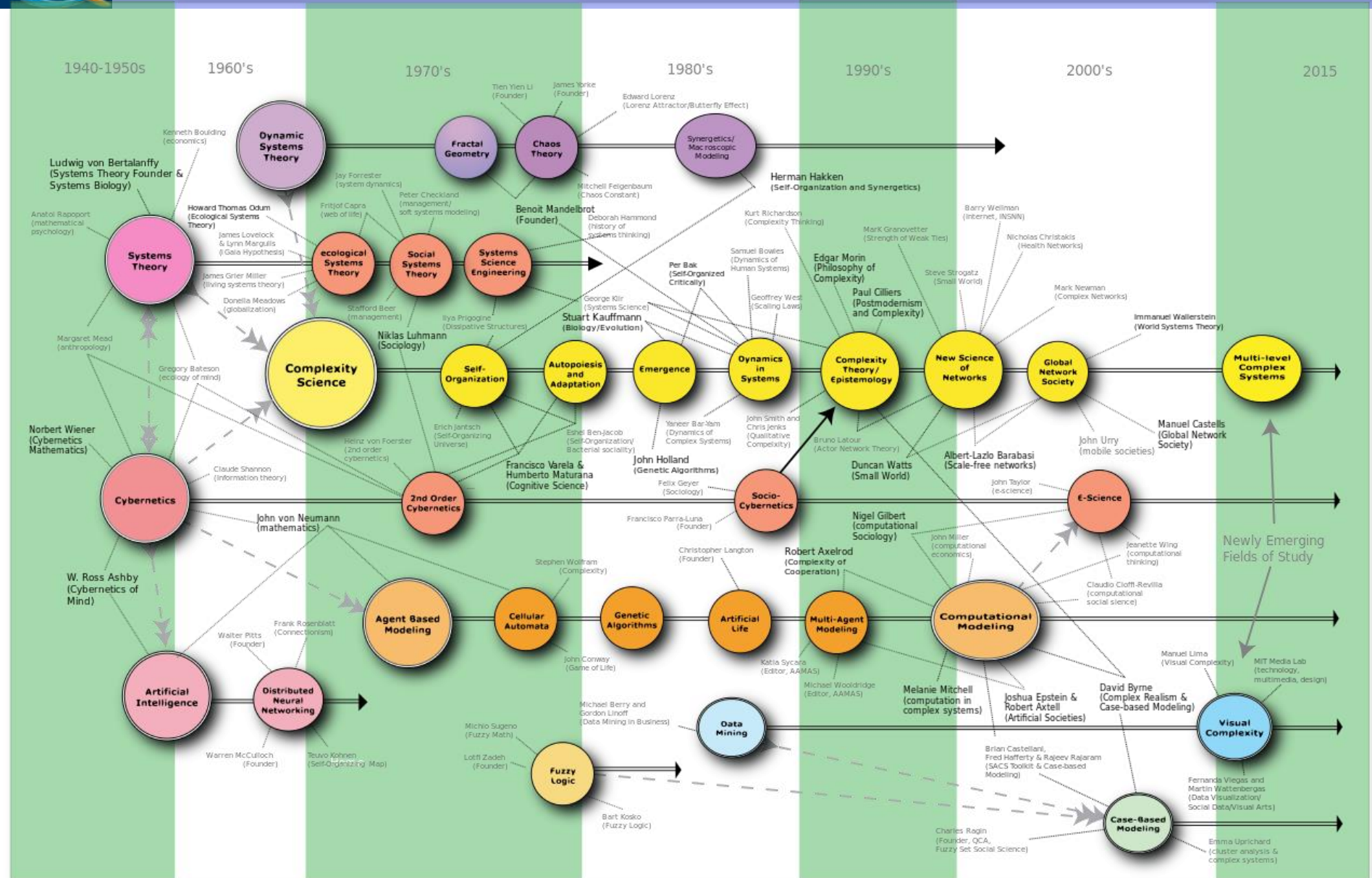
**Greater dimensions** It all started when superstring theory, hyperspace and dark matter made physicists realize that the three dimensions we thought described the Universe weren't enough. There are actually 11 dimensions. By the time they had finished they'd come to the conclusion that our Universe is just one bubble among an infinite number of membranous bubbles which ripple as they wobble through the eleventh dimension.





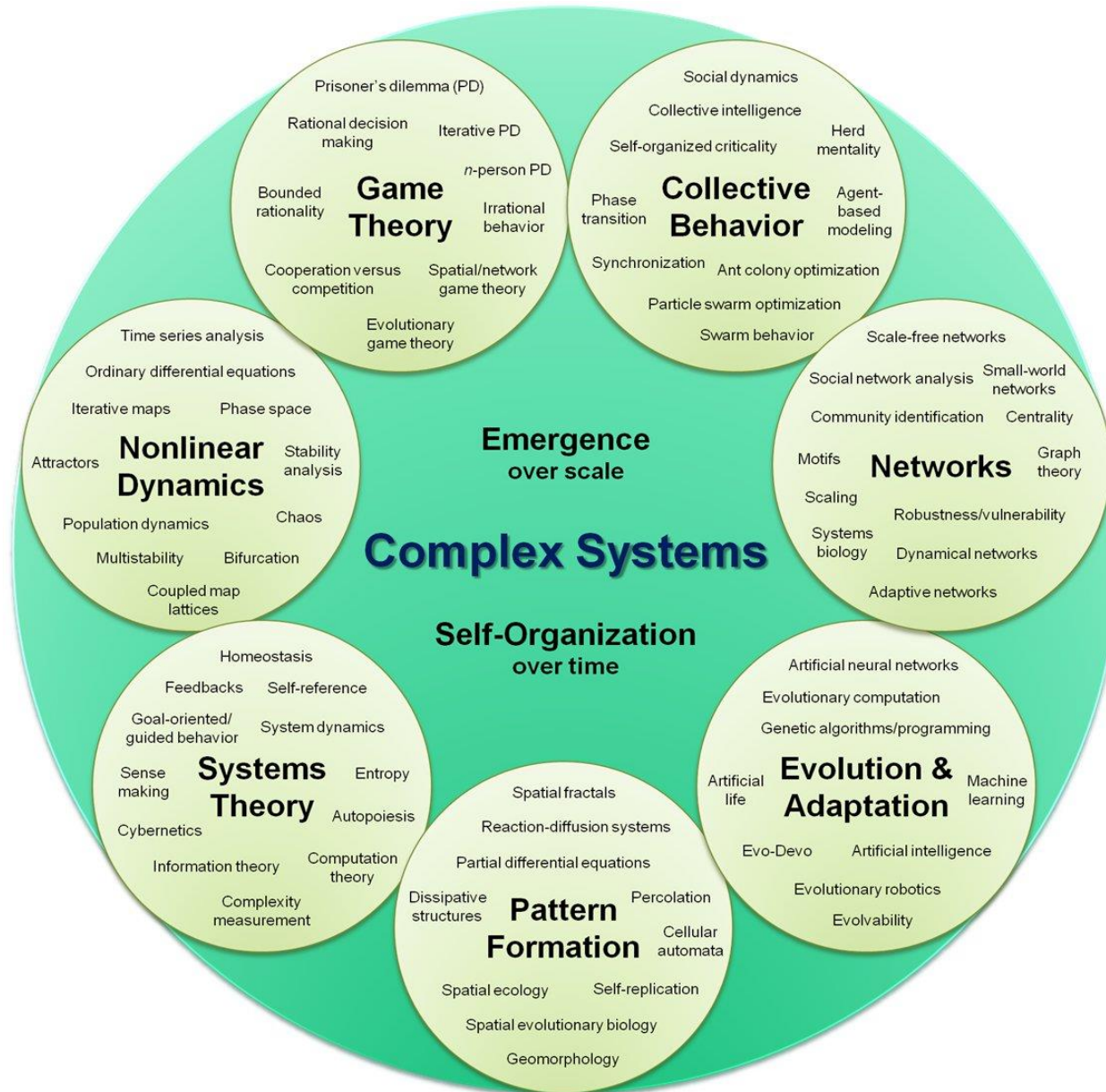
# COMPLEXITY

ref. Wikipedia 2017



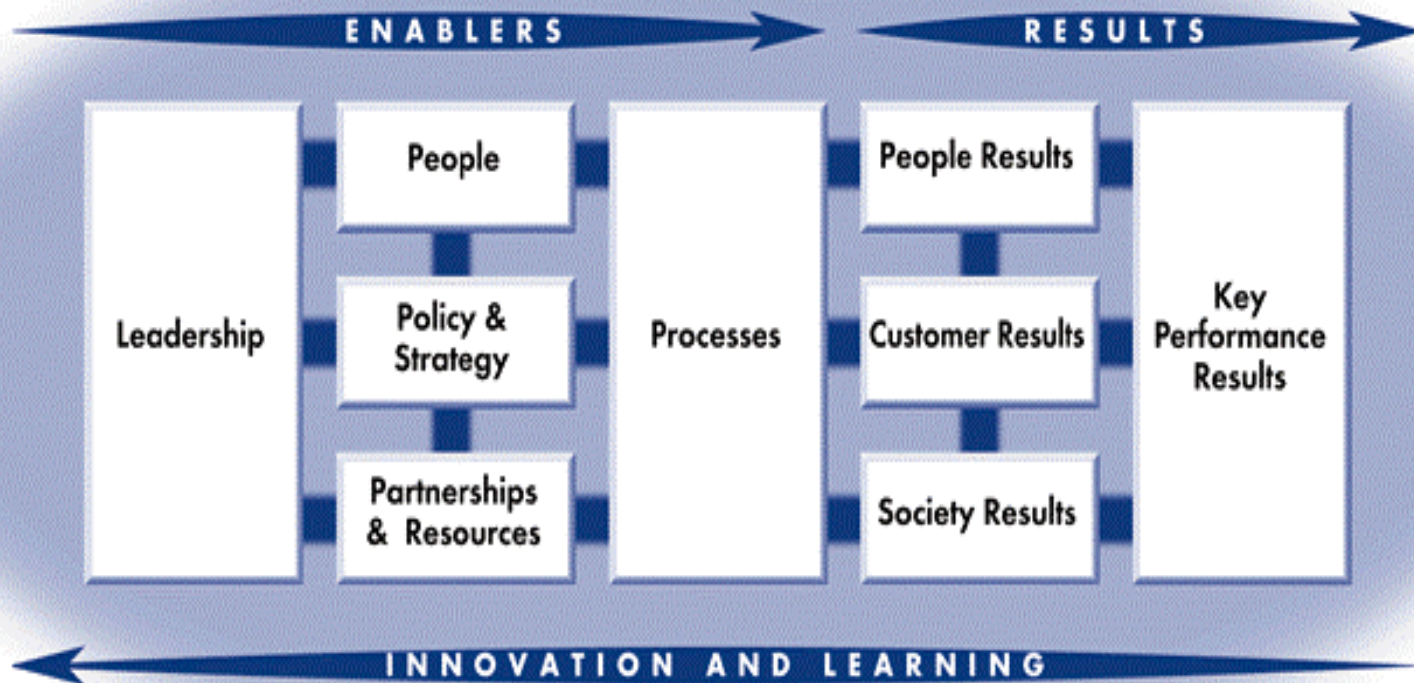


# COMPLEXITY ref. Wikipedia 2017





# ORGANIZATIONAL COMPLEXITY

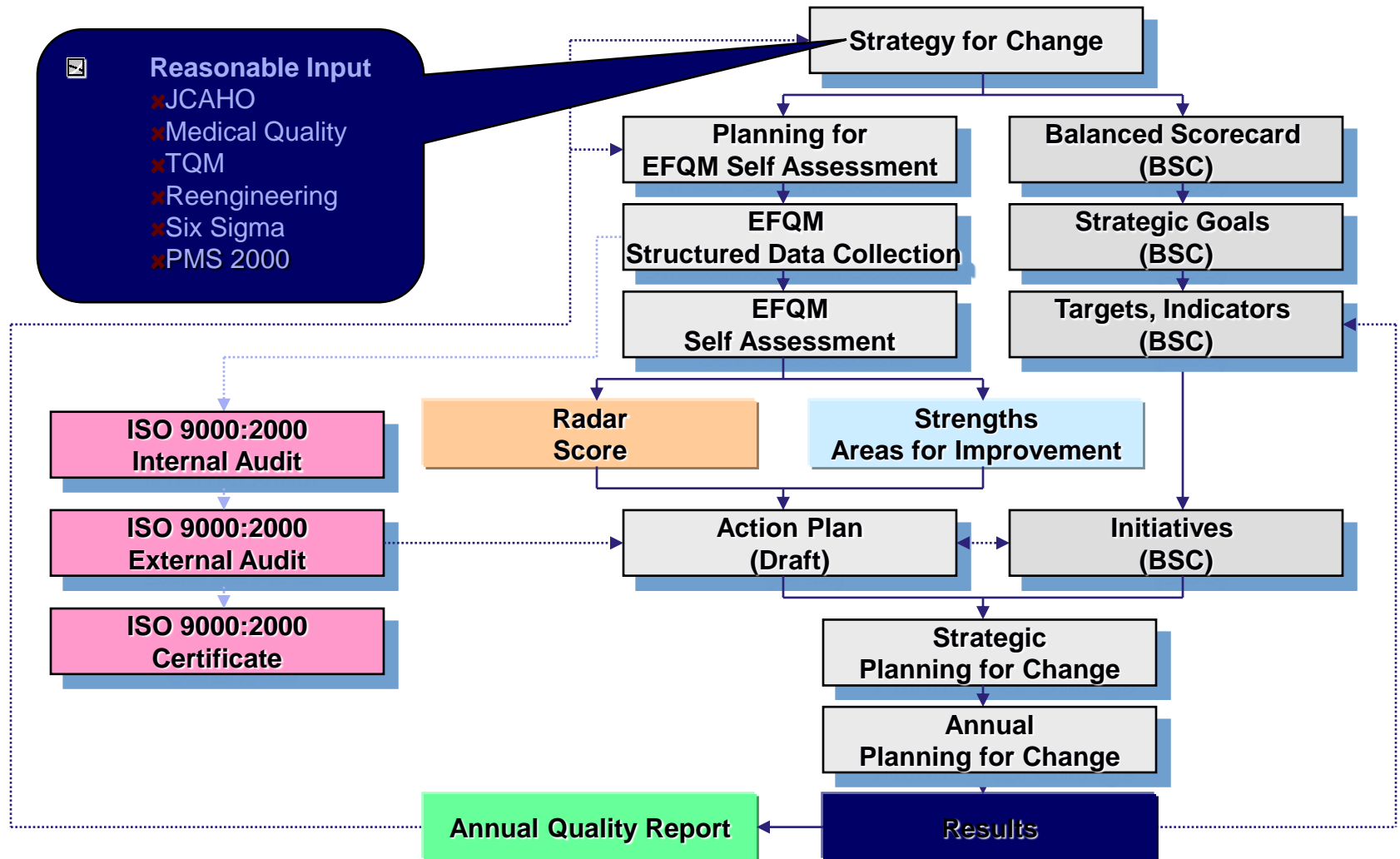


© EFQM [www.efqm.org](http://www.efqm.org)



# Integrated Approach (no magic bullets)

EFQM – Health Sector Group, (Prof.Dr. Hildebrand), [www.efqm.org](http://www.efqm.org)





# IMPROVING HEALTHCARE

- prevention, diagnosis, treatment  
**(medical problems) focused**
- **line of thinking** (dynamics) based service on input, process, output, outcomes (as perceived by the epidemiologists, practitioners, clinicians)
- **tools used:** (all based on best available evidence synthesis and explicit information transfer - medical reviews, recommendations, guidelines, standards, protocols, clinical pathways) - critical thinking and knowledge management left in the responsibility of the user of the tools.





# IMPROVING HEALTHCARE SYSTEMS

- resources (financial, human, technology) centered **(management problems) focused**
- **line of thinking** (dynamics) based on input, process, output, outcomes (as perceived by the policy makers, managers, economists, payers).
- **tools used:** all based on knowledge management (health technology assessment, performance measurement, evaluation, benchmarking, financing mechanisms - per capita, fee for service, DRG, budgeting, activity based costing, process analysis, balanced scorecard, quality management systems (TQM, EFQM, quality awards - Malcom Baldrige), audits, licensing, authorization, accreditation).



# WHY BOTHER?

- **Hippocratic Oath – non-mandatory, but binding for the HC professionals**
- **Uniformity of services throughout a country /cross country (basic rights of citizens)**
- **Health care is a service**
- **It should be provided the best possible way (because you are serving your brother and sister in need) !!!**
- **How do you achieve a similar product in different settings?**

**SOLUTION – you assure the quality of the process**



# PERFORMANCE MEASUREMENT

- **Detailed or aggregate data**
- **Very effective analyses of volume and financial parameters**
- **Limitations in quality measurement and clinical classification done by “administrative” data**



# Data Sources Audit

- **Questionnaire - (structured collection form) - proposition**
- **Questionnaire - modification + completion**
- **Lexicon construction**
- **Questionnaire – deployment**
- **Questionnaire - evaluation**
- **Lexicon - modification + completion**
- **Structured interview – deployment**
- **Structured interview – evaluation**
- **Lexicon - final modification + completion**

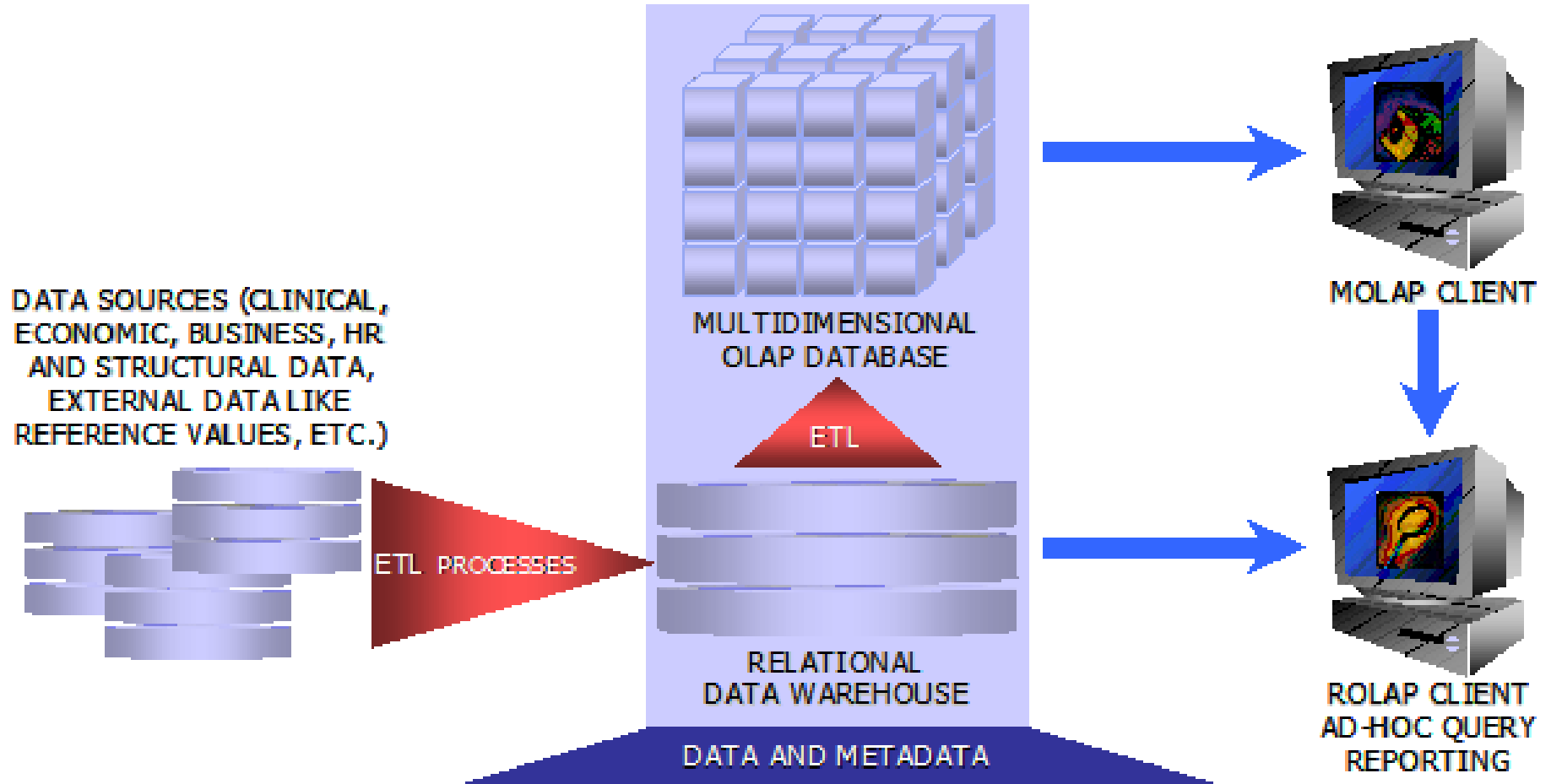


# Multidimensional view of the healthcare system

- **Healthcare system is a multidimensional environment and we implement performance measurement methods and the IR DRG system with this fact in mind**
- **We described this environment using indicators and dimensions.**
  - **Indicators (facts) are quantitative (measurable) values in the database, which are to be analyzed.**
  - **Dimension is a hierarchically grouped list of items of similar character, from the user's point of view (having a COMMON DENOMINATOR)**
- **Dimensions are distinguished according to their origin and purpose:**
  - **Generally used dimensions (classification) (demography, ICD 10)**
  - **Dimensions adopted from other systems (classification) (methodology of VZP General Insurance Company, qualifications of providers)**
  - **Adopted dimensions with amended hierarchy (classification) (ICD10 + diagnostic subgroups)**
- **Dimensions specific for the application (classification) (age scales)**
- **Dimensions specific for a hospital (objective) (organizational structure)**



# Data ETL / ROLAP MOLAP





# Primary quality indicators

- **Frequency of procedures / operations (erudition, skills)**
- **Mortality**
- **Ratio of cases with complications**
- **Frequency of transfers for more sophistic. Care**
- **Re-operation rates**
- **Re-admission rates**
- **Average time from admission to main treatment procedure**



# Inferred complex indicators

- **After risk adjustment stratification a „cluster“ of providers achieving „standard performance“ (e.g. >200 operations/procedures, mortality <1‰, complication rate <5%) is identified and in this cluster the provider with lowest production costs is found =>**
- **Realistic costs of procedures**
- **Possibilities for benchmarking**





# Indirect measurement of quality

- **In ICU (intensive care units) we use TISS (severity score) data sets**
- **We are able to identify the ratio of primary and secondary ICU admissions**
- **We identify mortality rates of ICU treated patients (early and late deceased) => >6% deaths after transfer from ICU indicates bad discharge criteria**
- **CORIS / Child Oncology Register Information System / protocol based treatment, same methods for quality measurement**



# Indirect measurement of quality

- **E.g. time frame (indicating either complications or ineffective care algorithm)**
- **Higher than average costs (indicating also potential complications, overuse of technologies, process too complicated)**



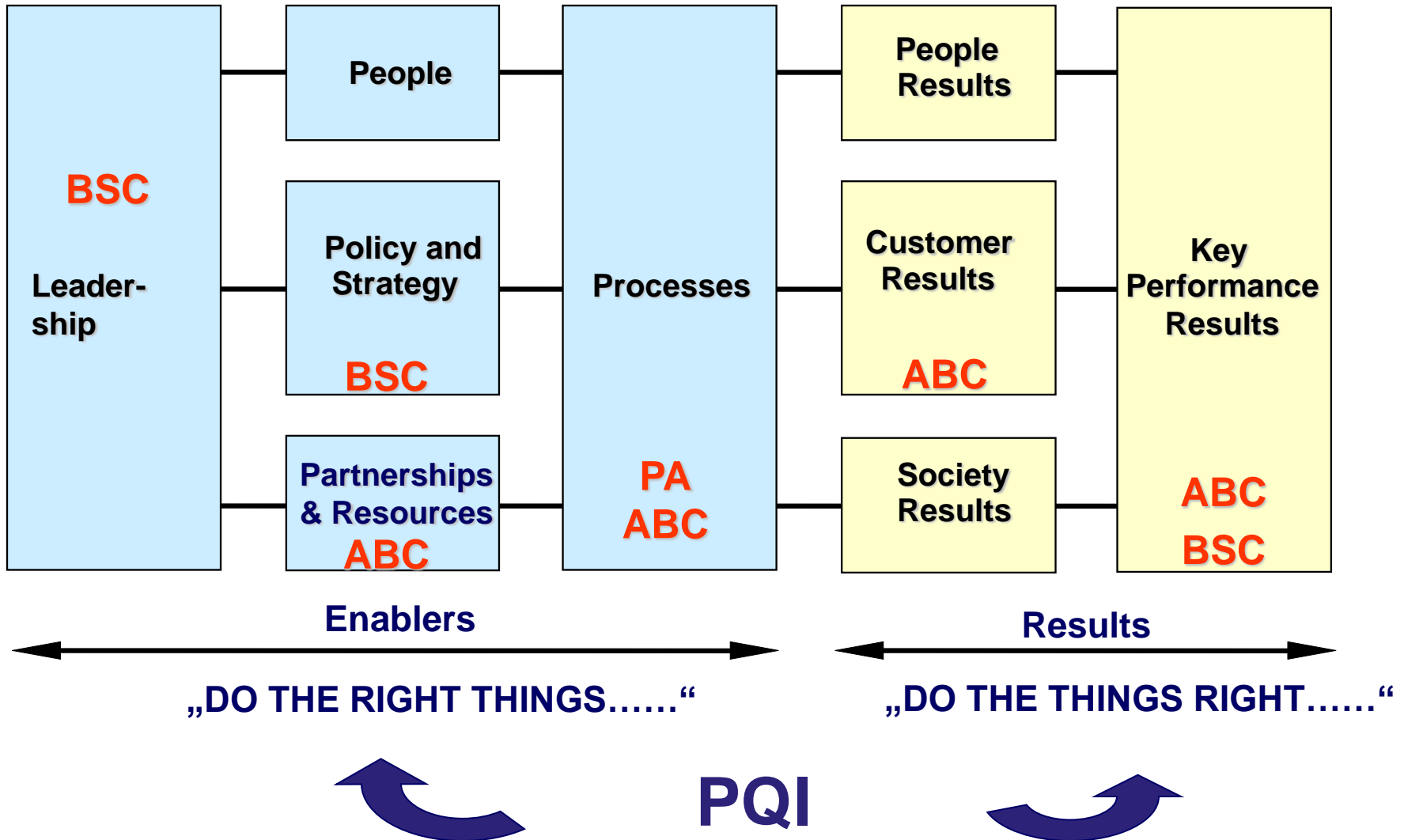
# EFQM Excellence Model & CEEQNET

- **The model is based on eight fundamental concepts and around nine criteria (see [www.efqm.org](http://www.efqm.org)). To ensure implementation of all of them, we have identified four essential key methodologies, to be managed by the Reference Center experts. These are:**
    - **Process analysis** – methodology for process description and evaluation
    - **ABC (activity based costing)** – methodology for determination of process costs
    - **PMS (performance measurement system)** – main tool for analyses and evaluation of healthcare efficiency and quality
    - **BSC (balanced scorecard)** – methodology of choosing and presenting key indicators and their application in strategic healthcare management
- (other „quality“ tools such as clinical process compass etc. may eventually also be used)**



# CEEQNET and EFQM

**Six criteria can be objectively measured!**





# UN-SAFE ENVIRONMENT ?





# EFQM DEVELOPMENT

## Constitution

- religious/philosophic
  - basics
- Identity
- Mission
- Vision

## Chemistry

- Energy, flow
- Communication
- Influencing
- Learning

## Correspondance

- Guidelines
- Perform. criteria
- Monitoring
- Reporting

## Construct

- Leadership style
- Planning
- Procedures
- primary process

principles





# Visualisation - Interpretation

**HTA**   
in oncology

## ASSESSED LEVEL

Single patient  
– episodes / technology

Single patient  
– overall results

Group of patients  
– episodes / technology

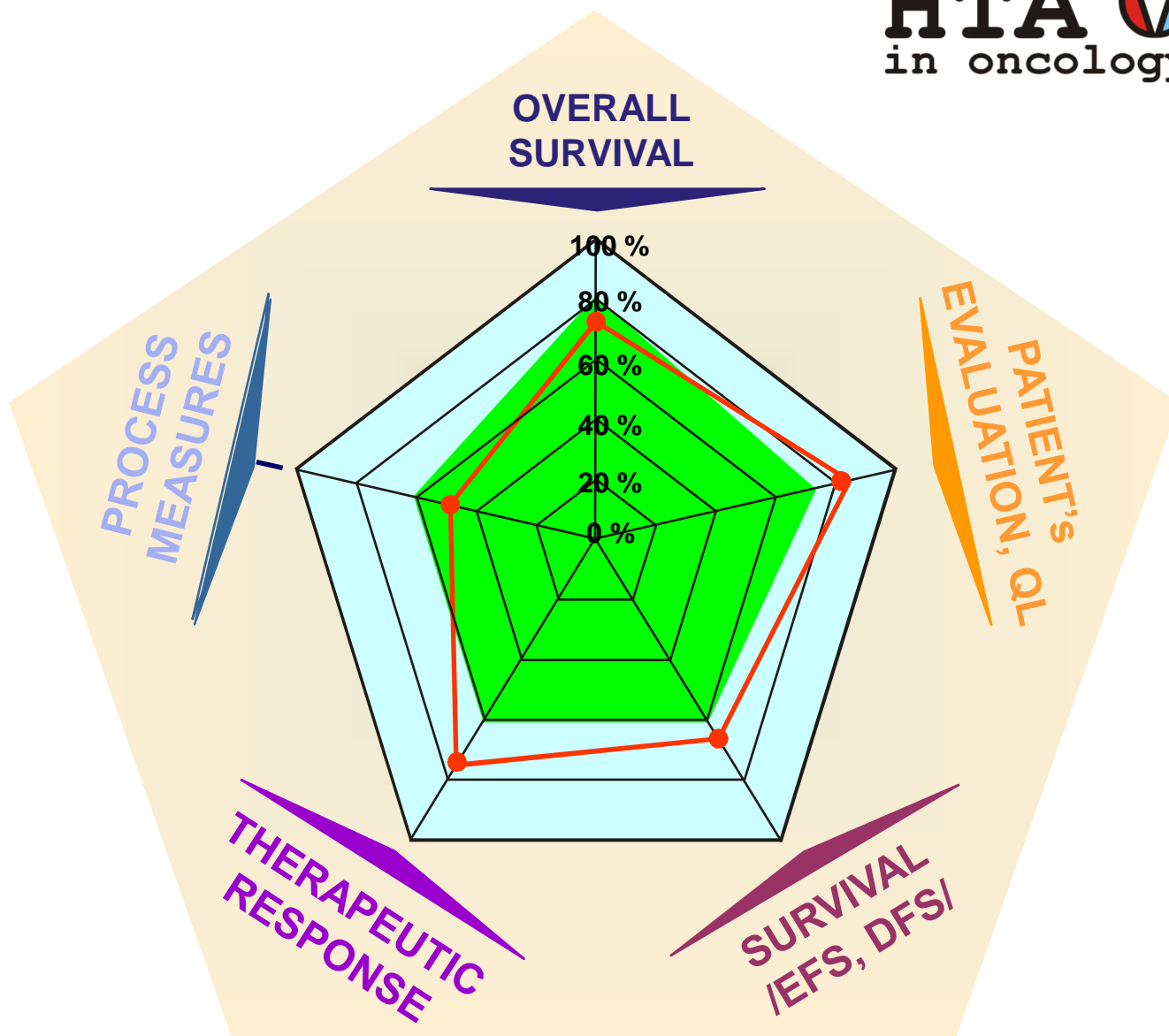
Group of patients  
– overall results



Evaluated  
subject



Reference  
standard





## HTA defined

- **Health Technology Assessment is a multi-disciplinary field of policy analysis which studies the *medical, social, ethical and economic implications* of development, diffusion and use of health technology.**





## HTA of what ?

- **A health technology is an *intervention used to promote health*; prevent, diagnose of treat disease; or provide rehabilitation or long-term care. This includes medicines, devices, clinical procedures and healthcare settings.**



# QUESTIONS SUMMED

- **WHAT IS THE LEVEL OF DANGER OF THE USE OF DATASETS THAT CAN NOT BE ABSOLUTELY „REMAPPED“ FOR THE CONSTRUCTION OF PERFORMANCE INDICATORS?**
- **IS THERE A HIGH RISK THAT THERE WILL BE A CULTURALLY DEPENDENT INTERPRETATION OF KEY PERFORMANCE INDICATORS?**
- **HOW MUCH CAN PERFORMANCE MEASUREMENT CONTRIBUTE TO THE PROCESS OF HARMONIZATION?**
- **WHAT MUST BE TAKEN INTO ACCOUNT IN ORDER TO PRODUCE OUTPUTS THAT WILL BE TAKEN INTO CONSIDERATION BY POLICY MAKERS?**



## Areas to be addressed in further work

- 1. Re-mapping poorly defined datasets between various health care systems**
- 2. Benchmarking different “health care cultures”**
- 3. Harmonizing health care in wide geographical areas**
- 4. Producing “mediated information” for high level policy making**



# Mission of VQC

The Virtual Quality Centre is provided to empower healthcare managers, caregivers, and researchers with understanding, and capabilities necessary to achieve the quality, efficiency and economic effectiveness of healthcare organizations WITHOUT THE NEED OF LEAVING THEIR WORK IN ORDER TO GET TRAINED AND WITH THE BENEFIT OF DIGITAL STORAGE AND ACCESS

Follow-up project IMPROHEALTH COLLABORATIVE is focused on HC services consumers



# Changing behavior – habits / EDUCATION

www.improhealth.org - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites

Address http://www.improhealth.org/ Go Links

**Implementation**

**Learning**

**Improvement**

**Glossary**

**About Project**

## Virtual Quality Center



Welcome to the **Virtual Quality Healthcare Centre**, supported by the European Community pilot project programme Leonardo da Vinci SK/03/B/F/PP - 177014 Improvement of the Quality, Effectiveness and Efficiency of Healthcare services through Vocational Education and Training "**IMPROHEALTH**".

*We hope that with the help of our glossary, courses, manuals, consultations and other tools you are able to satisfy and gain the loyalty of your patients/clients and, as a result, ensure the successful functioning of your healthcare organization.*

The mission of the Virtual Quality Centre is to allow managers, doctors, researchers and other healthcare personnel obtain the knowledge, skills and capabilities necessary to develop the quality, efficiency and economic effectiveness of their healthcare organizations.

**Objectives** of Virtual Quality Centre is to offer the following services:

- An eGlossary for managers in healthcare services
- An eLearning course: Management of a healthcare organization
- An eManual and eConsultation related to the application of obtained knowledge when designing and applying systems of quality management
- eTools for improving quality, efficiency and effectiveness in healthcare organizations



Leonardo da Vinci

Done Internet



# Objectives of VQC

**Virtual Quality Centre offers following services:**

- **eGlossary** for managers in healthcare services
- **eLearning Course:** Management of a healthcare organization.

**eManual** and **eConsultation** related to the application of obtained knowledge when designing and applying systems of quality management

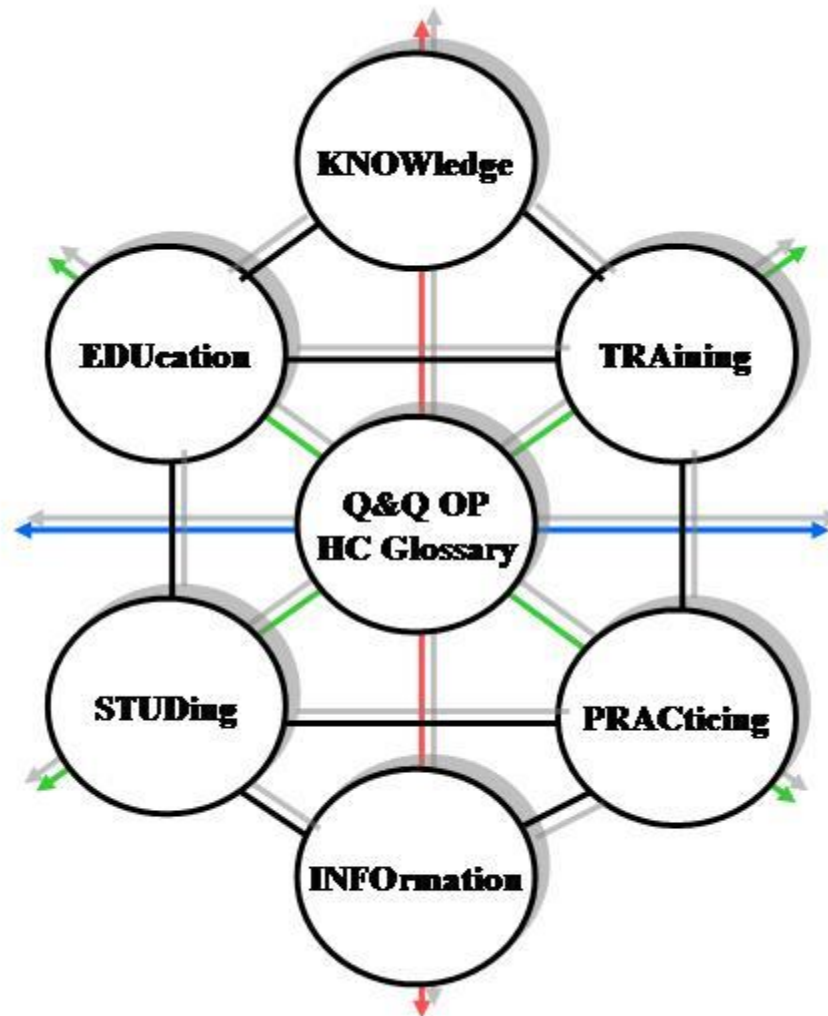
- **eTools** for improving quality, efficiency and effectiveness in healthcare organizations

**eConsultations** a one-on-one experience permanently stored fo reference user



# Glossary centred learning

## Multi-lingual Europe – ambiguity prevention





# eEducation - Conclusion

**Multi-Lingual-Multi-National Q&Q OmniPresent HC Glossary is interlinked with eCourses, eManuals and eConsultations, focused on using local and global information and vast knowledge accumulated on-the-run and easily customized for other countries**

**e-tools facilitate the tracking of study progress and self-evaluation of achieved knowledge by students**

**Experience is being collected by the producers of this technology based on the feedback from people enrolled in pilot courses in order to improve the effectiveness of the system and stays permanently digitally stored for further use by course designers as well as students**

**The concept of shared education is enabled through appropriate use of the eLearning environment**





# Why things don't work

**HTA**   
in oncology

Why so many attempts for implementation fail  
/1996 – 2007: our experience with > 50 projects/



- We expected active data collection (on the side of physicians and medical staff)
- We combined healthcare evaluation with scientific grants and goals
- We undervalued common clinical parameters and analyses of potential benefits of computerization
- We did not respect organizational rules of the system



# Why things don't work

- Healthcare today is a complex process and the service is delivered by „many“ caregivers
- 
- We do not teach and practise teamwork
  - The patient and his family is not an organic part of the team
  - The „product“ has no ownership and no „common“ value



# IOM HC Quality defined

- Safe
- Effective
- Patient-centered
- Timely
- Efficient
- Equitable



# Logic and semantics

## Lexical FreeNet

### Shortest paths between *quality* and *teamwork*

- Synonymous ↔
- Triggers →
- Generalizes →
- Specializes ←
- Rhymes ↔
- Anagram of ↔

Word 1:

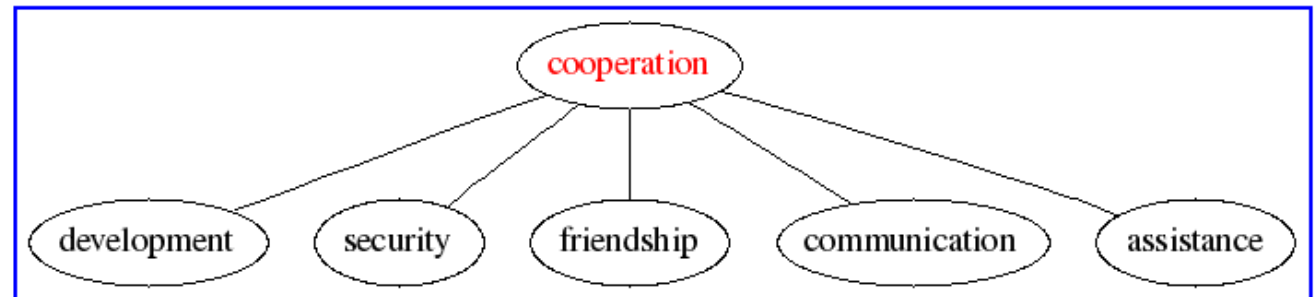
Word 2:

Connection

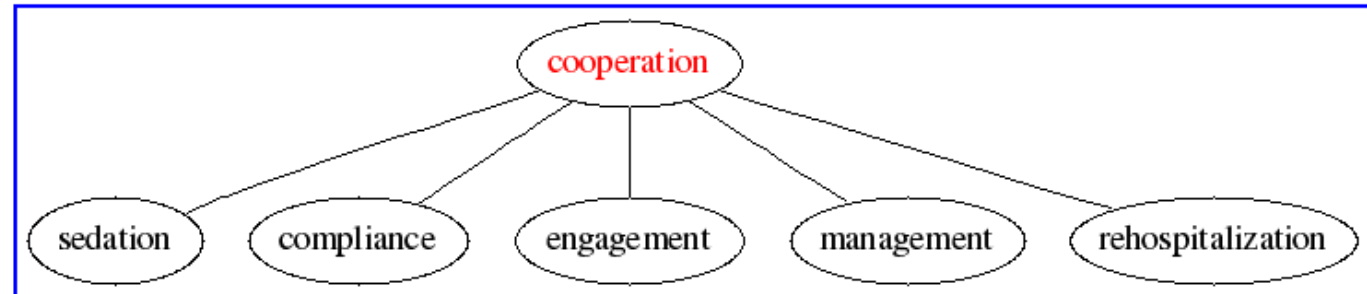
quality → sophistication ↔ cooperation →  
teamwork

quality ↔ character → actor ↔  
worker → workmate ↔ teamwork

quality → sophistication ↔ cooperation →  
teamwork



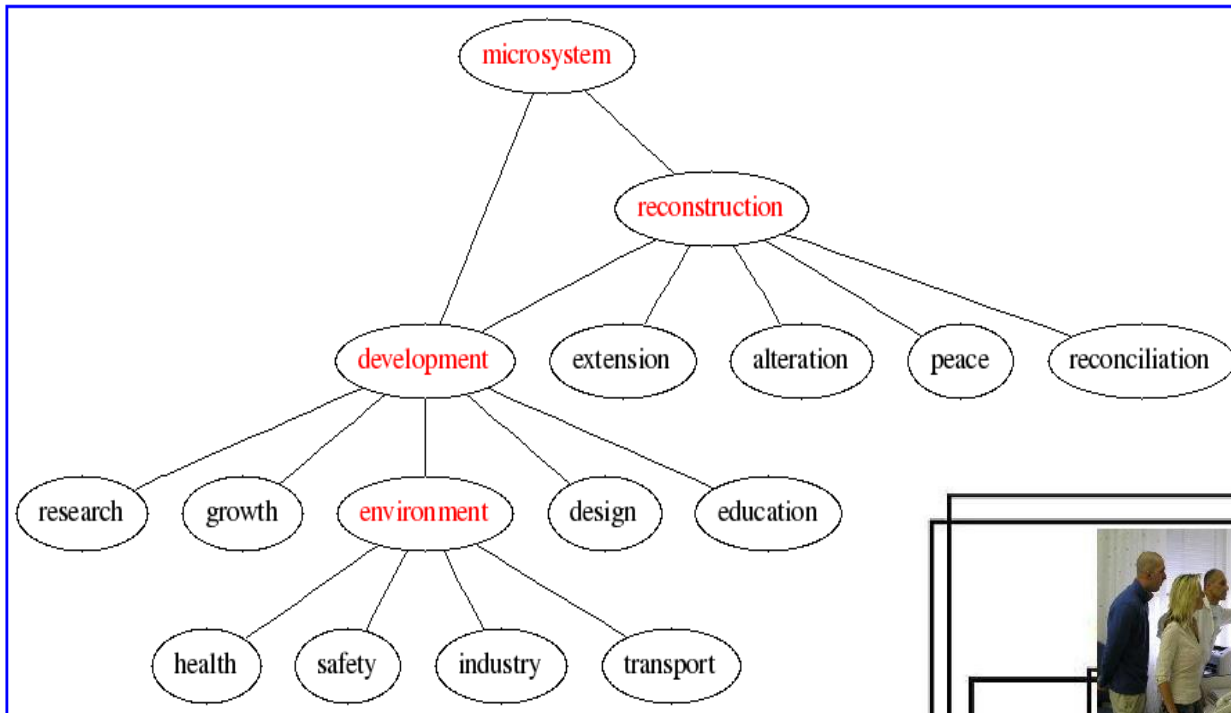
Cooperation - BNC



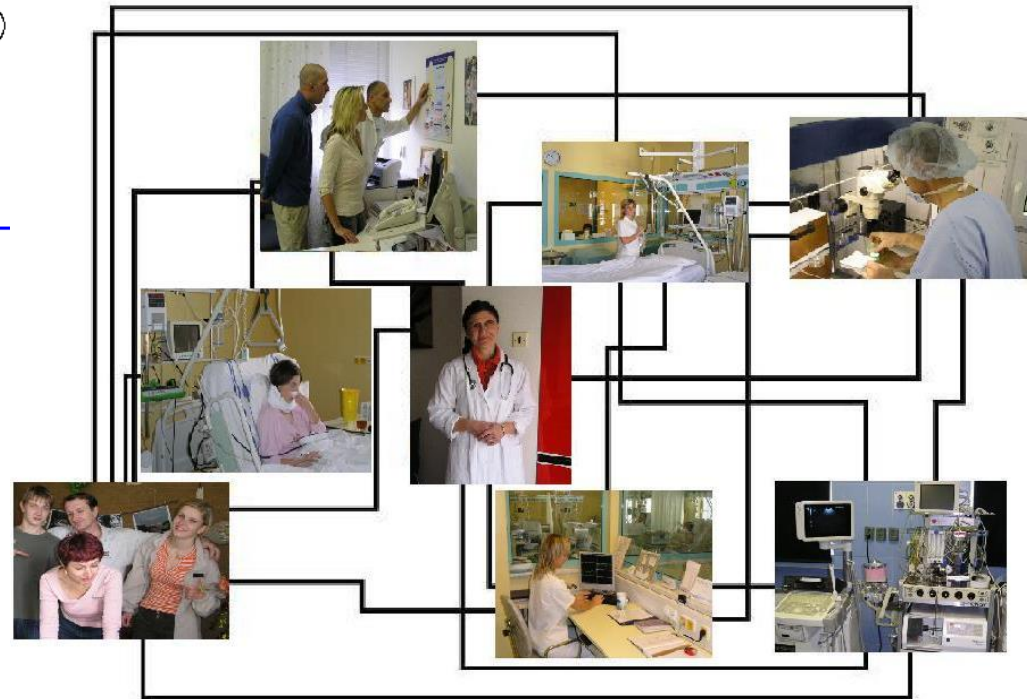
Cooperation - MEDLINE



# Logic and semantics



Microsystem - BNC



**DECOMPOSITION =>**  
**CLINICAL MICROSYSTEM –**  
smallest functional HC system  
unit (PEOPLE + INFORMATION  
INFRASTRUCTURE)



## START with clinical pathways:

1. Devised bottom-up (by users for users)
2. Respecting the HC logics and language
3. Get all stakeholders „**together**“
4. Provide a meaning of „**team**“ for the first time
5. Feel the „**ownership**“ of the HC **process and it's results**



# Clinical pathways

- 1. Den - Příjem		Datum:	Ano	Ile	N/A	os. č. a podpis	Ano	Ile	N/A	os. č. a podpis
<b>Lékařský postup</b>		<b>MEDICAL INTERVENTIONS</b>	<b>Denní lékař</b>				<b>Noční lékař</b>			
Vys. výkony	Kontrola:									
	1 RTG LS páteře, CT, MRI		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	2 Předoperační interní vyšetření		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	3 Klin. vyšetření přijímajícím lékařem		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
4 Příjmový protokol		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>						
Medikace	1 Přepis zavedené medikace		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	2 Kontrola interakcí léčiv		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	3 Předpis analgetizace		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
Plán propuštění	1 Kontrola zajištění podmínek doma po propuštění		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
<b>Ošetrovatelský postup</b>		<b>NURSING INTERVENTIONS</b>	<b>Denní sestra</b>				<b>Noční sestra</b>			
Edukace	1 Příjem - seznámení s oš. jednotkou a provoz. řádem, práva pacientů		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	2 Edukace pacienta o: následujícím postupu, pohybový režim, dieta, bolest, vyprazdňování		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Ošet. péče	1 Příjem – ošetrovatelské dokumentace		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	2 Aktivní monitorace biopsych. soc. potřeb pacienta dle jeho akt. stavu		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	3 Zpracování lékařské a ošetrovatelské dokumentace - dieta, doplnění laboratorních vyšetření		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>					
	4 Monitorace bolesti		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Cíle</b>		<b>GOALS</b>					<b>Lékař</b>			
1	Splnění podmínek přijetí k OP výkonu		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
2	Podepsán informovaný souhlas s operací		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
3	Předoperační vyšetření jsou kompletní		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
4	Pacient/ rodina rozumějí plánu péče		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	



# WHY DO IT ?

What you are is what you have been.  
What you will be is what you do now.

THE BUDDHA, Tibetan Book of Living and Dying

If you don't go, you don't get there

If you don't measure you don't know  
how far you have gone

If you have a TEAM, you get further





# EFFECTIVE INTERVENTIONS

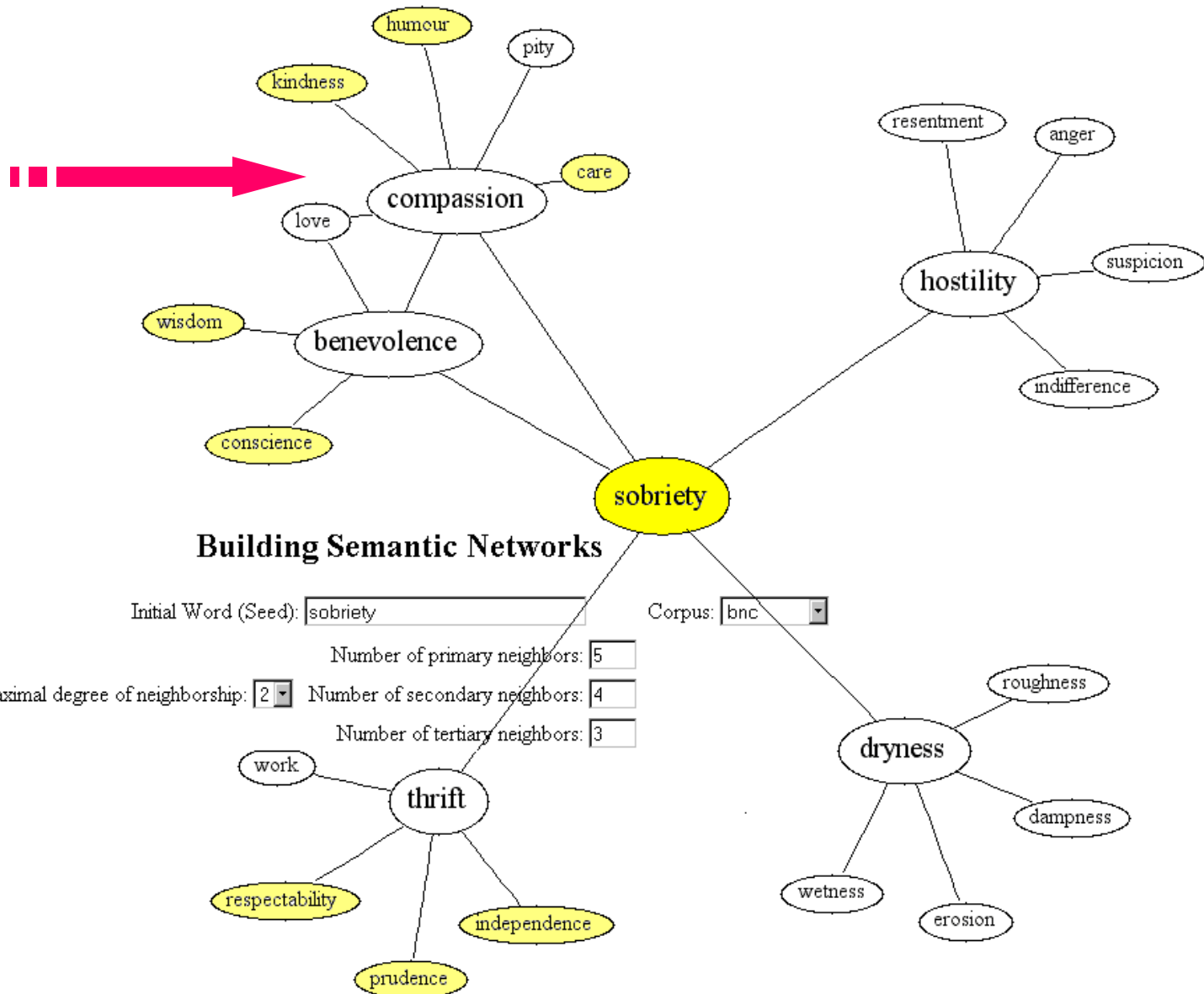
- **HEALTH CARE SERVICES REFLECT THE LOGICS OF OTHER TYPE OF „SERVICES“**



- **USE SAME TOOLS AND PROCESSES THAT ARE USED IN OTHER DOMAINS OF THE SOCIETY**
- **PROFIT ON THE USE OF THE INFORMATION SOCIETY ENVIRONMENT**
- **ESTABLISH **DIALOGUE** WITH OTHER CULTURES**
- **PROMOTE TEAMWORK (patient as a part of team)**



# TEAMWORK EFFECT

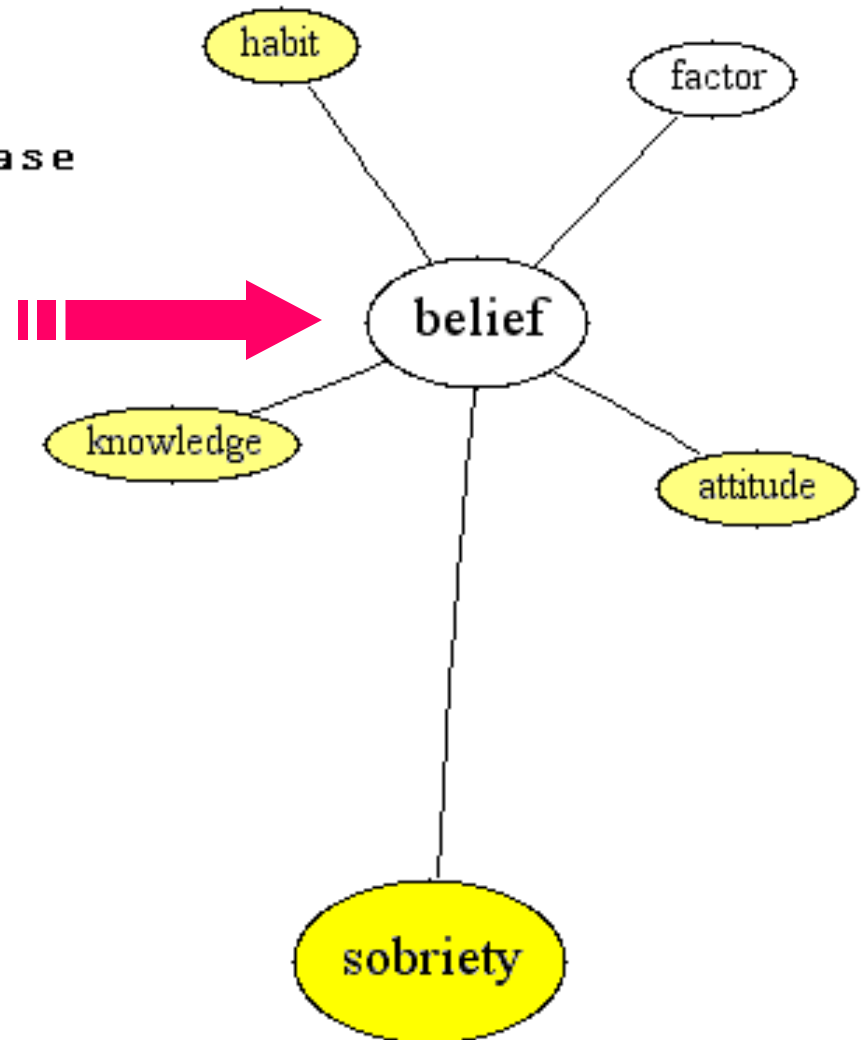




# TEAMWORK EFFECT

STANFORD semantic laboratory

"temperance" not in database  
OHSUMED



OHSUMED  
sobriety



# TEAMWORK EFFECT

## Shortest paths between *healthcare* and *chastity*

healthcare  universal  care  please  honor  chastity

## Shortest paths between *accountability* and *chastity*

accountability  responsibility  need  morality  chastity

accountability  responsibility  obligation  discovery  honor   
chastity

accountability  responsibility  need  have  honour  chastity

Words related to both accountability and chastity within

2 links:



moral  
values  
need



# Chastity - (lean process)

## Chasteness

## Synonyms

## Restraint [n]

discipline in personal and social activities.

"he was a model of polite restraint"; "she never lost control of herself".

Example: inhibition self-restraint temperance continence

**Austerity**  
**Temperance**  
**Sobriety**



**IS DEVELOPED ONLY  
BY TEAM-WORK**

(rational responsible behavior culture)



# EFFECTIVE INTERVENTIONS

- ***ADVANCES IN MANAGEMENT***
  - ***ADVANCES IN INFORMATION SHARING***
  - ***ADVANCES IN EDUCATION***
  - ***ADVANCES IN ACCOUNTABILITY***
- 
- ***Σ ADVANCES IN TEAM-WORK***



# ART of TIMING

*To every thing there is a season and a  
time to every purpose under the heaven*  
**Ecclesiastes 3:1**



## **BE WISE IN MANAGING (coping, surviving)**

- Understand situations where use of information and communication technology is beneficial and where it is useless
- Identify situations profiting more from Systems Thinking and information handling in a technology-free / people-full environment
- Discern between the real and virtual Worlds and thoughtfully choose the appropriate behavior in each of the existing environments for the benefit of the work-to-be-done
- Highlight the specifics of healthcare as a „special“ service





# RIGHT INSTINCTS badly NEEDED !

## ANATOMISCHE LES

De centaur Cheiron onderwijst de kleine Asklepios in de beginselen van de geneeskunst

ontwerp en uitvoering: Theo van de Vathorst





# Personal benefit ?

## OF COURSE

Anything that one learns about the management of an organization (organism – „team“) can be used on the level of an individual (organism)

(BOUREK 2007)



**A SINCERE THANKS TO YOU  
FOR COMING and FOR YOUR  
ATTENTION**

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**<http://www.med.muni.cz/cekz>**

**IT IS A PRIVILEGE TO BE HERE  
WITH YOU**