Integrated Care: An inconvenient truth to the medical curriculum?

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Besancon
Innsbruck
Biel
LIECHTENSTEIN
Bourges
Luzern
Nevers
Bern
Chur

Outline

① Short introduction to University of Brussels and Belgian health care system

② What is integrated care?

③ Relevance of integrated are to clinical practice

④ Integrated care interventions & enabling factors

⑤ How to move forward with changes in the medical curriculum

① Introduction to University of Brussels & Belgian health care system

University of Brussels in a nutshell

- Belgian mixed public-private university
- 8 faculties -1 university hospital
- 17,700 students – 1,500 PhD-students
- 23% international students- 120 nationalities
- 3,000 staff of which 2,000 academic
- 150 research groups -21 spin-offs

Teaching the skills needed

A unique educational concept

- Highly personalised
- Open-door policy
- Small groups
- Hands-on experience
- Multidisciplinary approach
- Pioneer

Graduates:

- World citizens
- Commitment to sustainable society
- Independent, inquiring attitude
- Employability

Eight faculties

- Arts and Philosophy
- Law and Criminology
- Medicine and Pharmacy
- Physical Education and Physiotherapy
- Psychology and Educational Sciences
- Economic, Political and Social Sciences and Solvay Business School
- Engineering Sciences
- Science and Bio-engineering Sciences

University hospital

- 700 beds
- 277.000 consultations
- 52.000 hospitalisations
- 3.350 staff

Education @

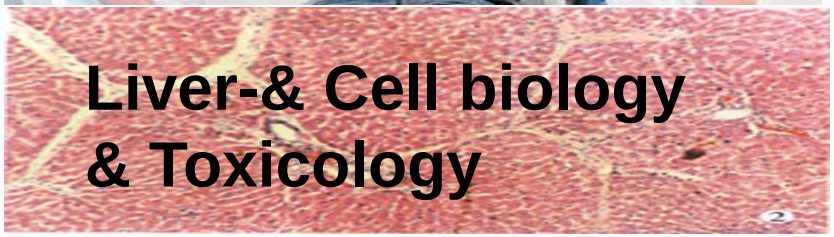
Bachelor and Master programmes

- Medicine
- Pharmacy
- Biomedical Sciences
- Public Health Care
- Gerontology

Research @

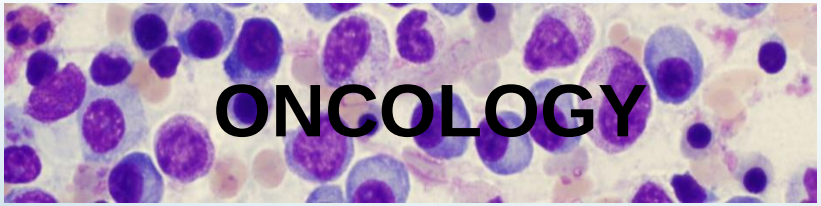
Research Clusters

DIABETES



CARDIOVASCULAR DISORDERS

Pharmaceutical & Biomedical analyses & Statistics



Public Health
Family Medicine

NEUROSCIENCES

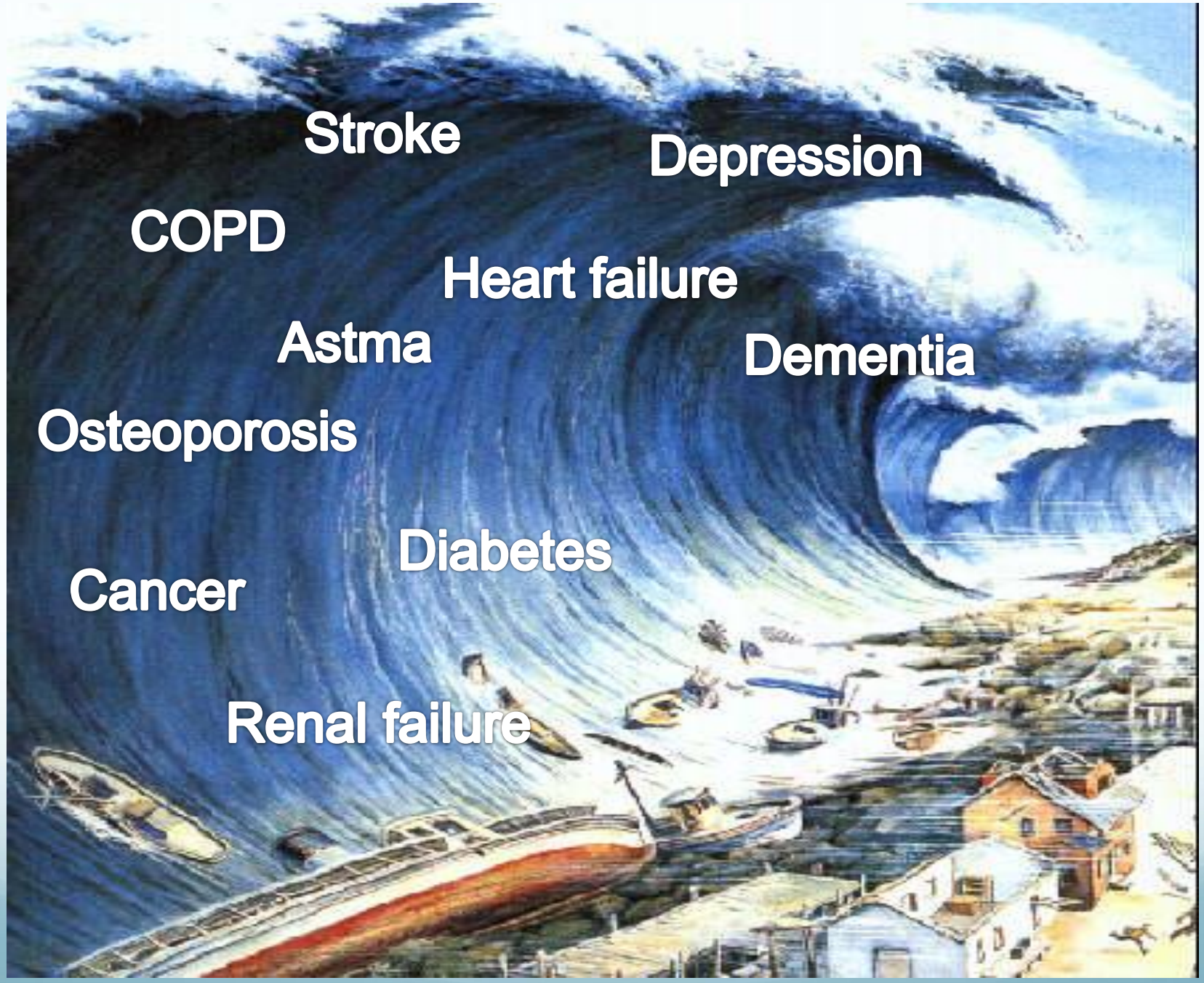
Development & Ageing

Belgian healthcare system

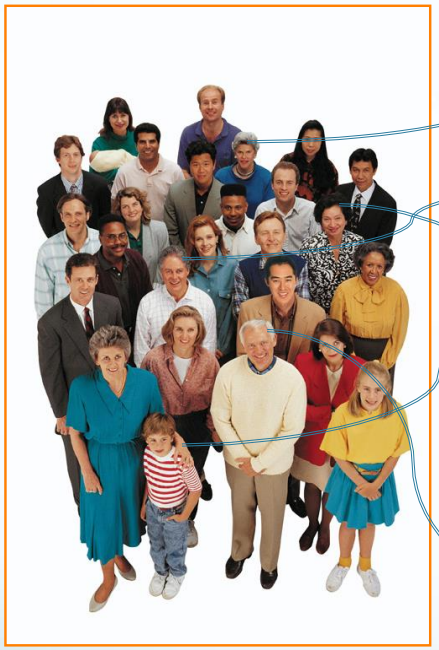
- Compulsory health care system for **11 MIO inhabitants**
- **10,5%** of GDP spent on **healthcare** (38 MIO/year)
- Federal government: **90% funding,** regions: **10%**


time for change

- **Roadmap on Strenghening People-centred Health Systems in the WHO European Region, 2014**
- **Global Strategy on Integrated and People-centred Health Services, 2015**


Stroke
Depression
COPD
Heart failure
Astma
Dementia
Osteoporosis
Diabetes
Cancer
Renal failure

Barnett et al. Epidemiology of multi-morbidity and implications for healthcare, research and medical education. **Lancet, 2012**; 380: 370-43.



Diabetes & depression

Diabetes & heart failure

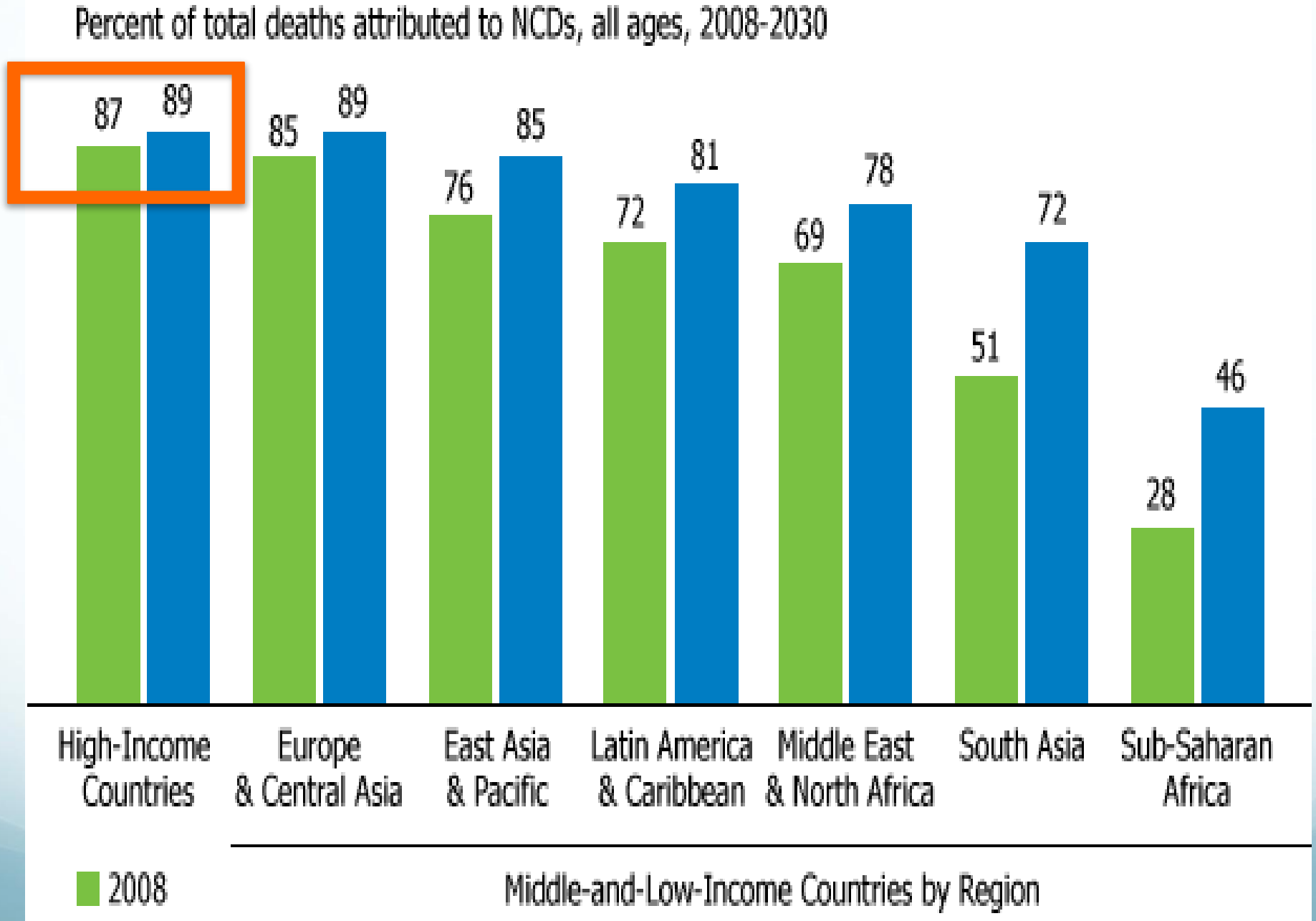
Astma & psoriasis

Diabetes & COPD & Renal failure

Chronic fatigue and Lyme disease

*'We are unable to find data in most OECD countries on the prevalence of people with **multiple chronic diseases'**.*

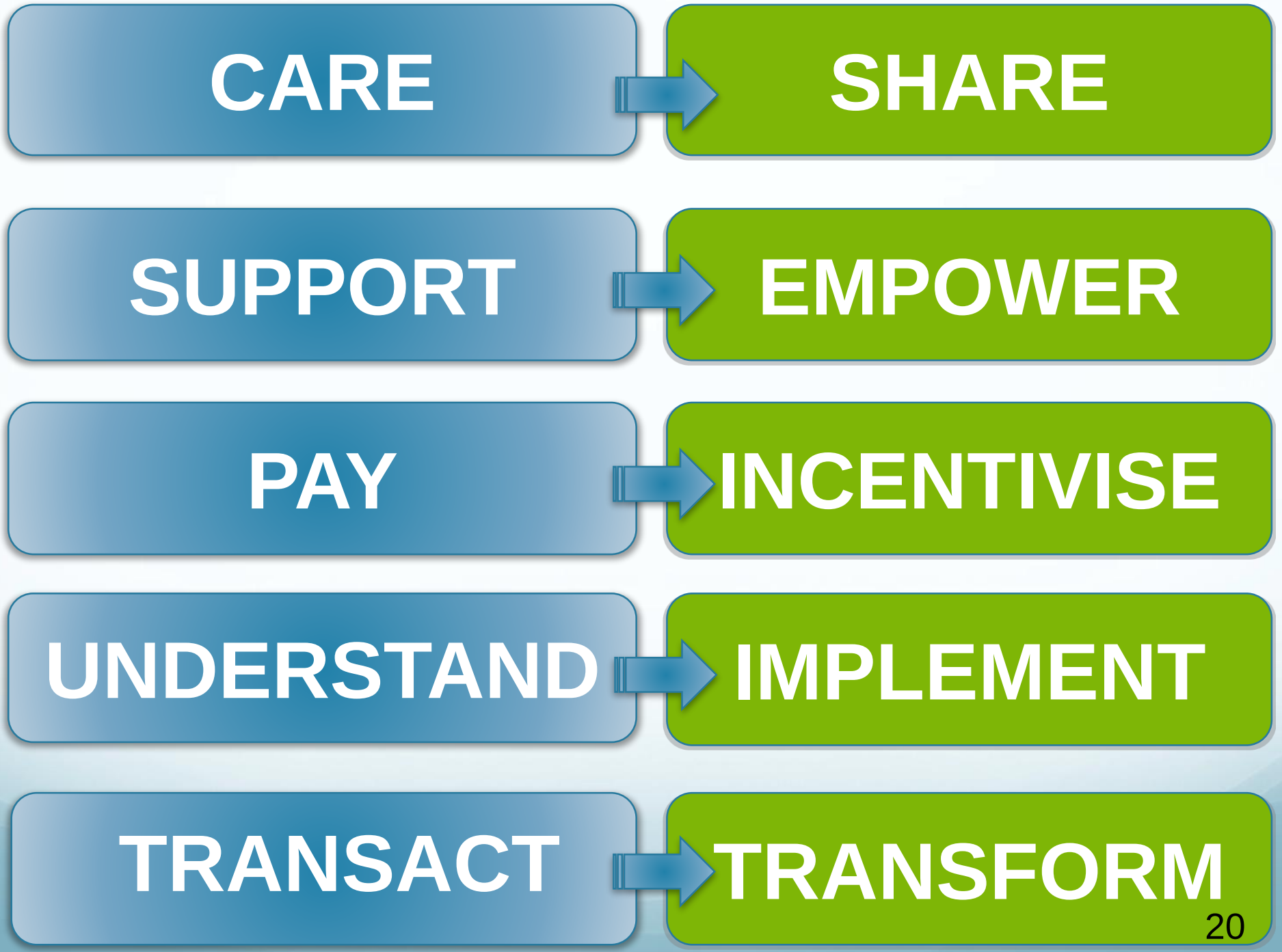
Prof. G. Anderson. John Hopkins School of Public Health, US, June 2011, OECD meeting Paris.



Irina A et al. "Chronic Emergency: Why NCDs Matter," *Health Nutrition and Population Discussion Paper* , Washington, DC: The World Bank, 2011.

Other drivers for change

- Fragmented care
- Lack of coordination
- Dominant focus on acute care
- Limited emphasis on prevention
- Limited bio-psycho-social approaches to care


CARE
SHARE
SUPPORT
EMPOWER
PAY
INCENTIVISE
UNDERSTAND
IMPLEMENT
TRANSACT
TRANSFORM

Integrated care initiatives: Hospitals

YEAR	INITIATIVE
2001	Introduction of **clinical pathways**
2003	Introduction of **care programmes** (child, reproductive medicine, geriatrics, heart failure and cancer)
2007	**National Quality and Safety programme**
2009	Reform of **mental health sector** **National Plan on chronic diseases and cancer**
2011	Introduction of **transmural care programmes**
2012	**Position paper on chronic care + Observatory**
2014	**Federal strategic unit on chronic care**

Integrated care initiatives: Primary care

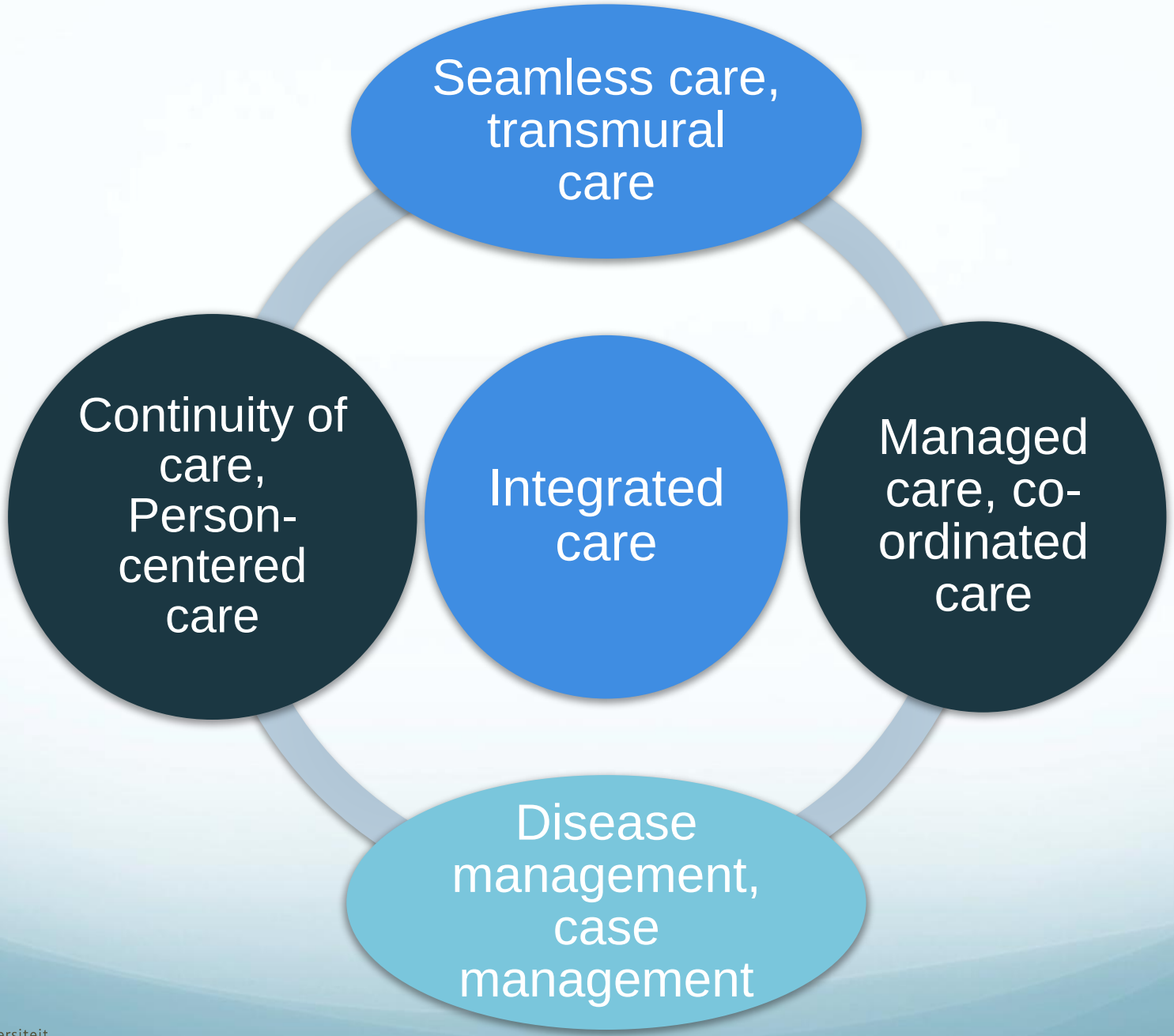
YEAR	INITIATIVE
2002	**Collaborative Networks for complex patients**
2004	Introduction of **Palliative Care Networks**
2005	**Support plan for Primary Care Practices**
2009	Reform of **Mental Health Sector**
2011	Introduction of **Care trajectories diabetes and renal failure**
2013	**Roll-out regional e-health strategy**
2014	**Integration of child health services: ‘Home of the Child’**

② What is integrated care ?

Definition integrated care

*” The management and delivery of **health and social services** such as that people receive a **continuum** of health promotion, disease prevention, diagnosis, treatment, disease-management, rehabilitation and palliative care services**, through the different levels of care**, and according to their **bio-psycho-social needs** throughout **the life course** ”*

Integrated Health Service Delivery Networks: Concepts, Policy Options and a Road Map for Implementation in the Americas. Washington, D.C.: PAHO, 2011.


Seamless care, transmural care
Continuity of care, Person-centered care
Integrated care
Managed care, co-ordinated care
Disease management, case management

Person-centered care

"Care that is focused and organized around the ***health needs and expectations of people and communities*** *rather than on diseases"*

(WHO, 2010).

Aims of integrated care initiatives

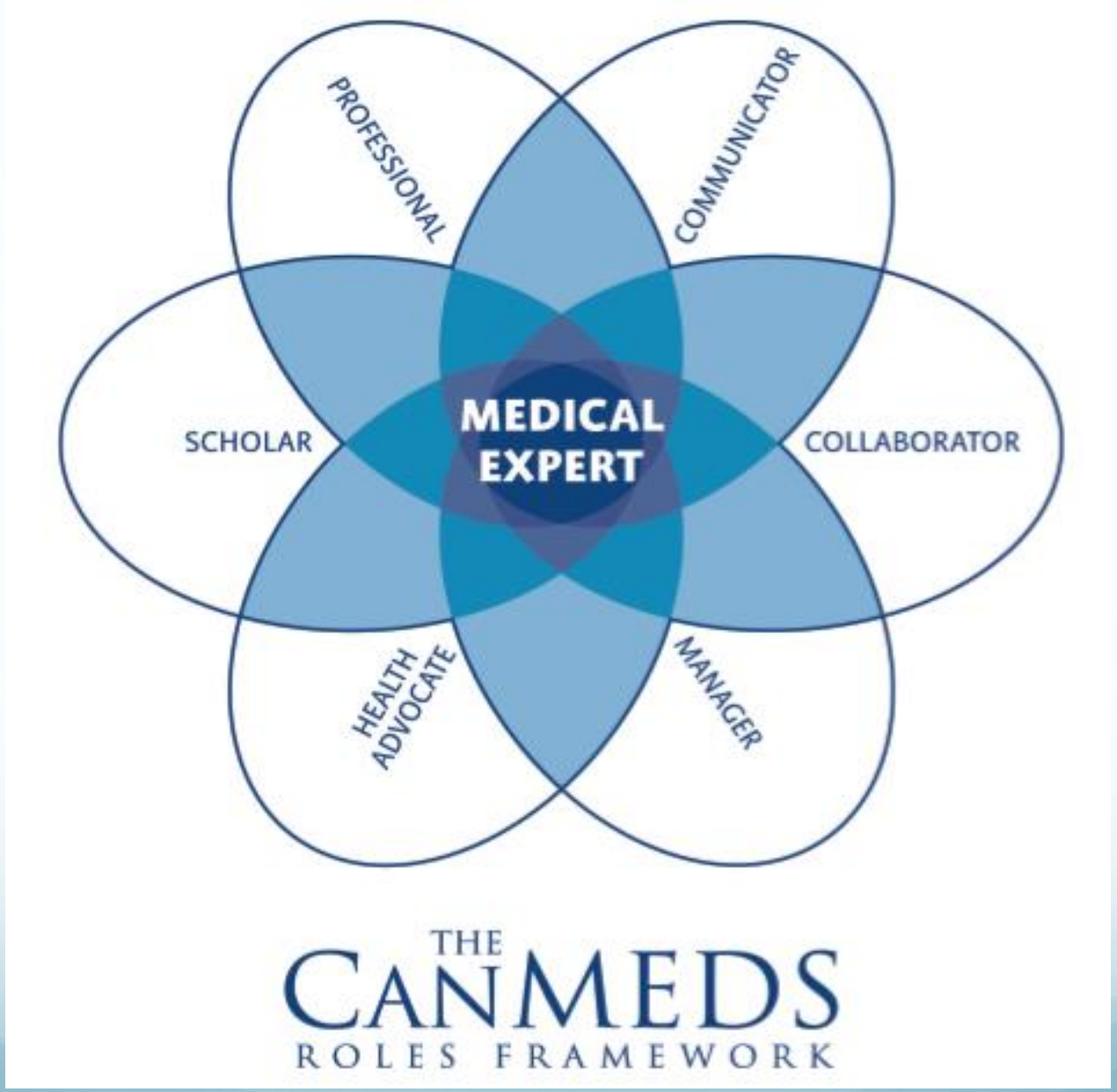
- The hypothesis for integrated care is that it can contribute to meeting the **"Triple Aim"** goal in health systems
  - **Improving the user's care experience** (e.g. satisfaction, confidence, trust)
  - **Improving the health of people and populations** (e.g. morbidity, mortality, quality of life, reduced hospitalisations)
  - **Improving the cost-effectiveness** of care systems (e.g. functional and technical efficiency)

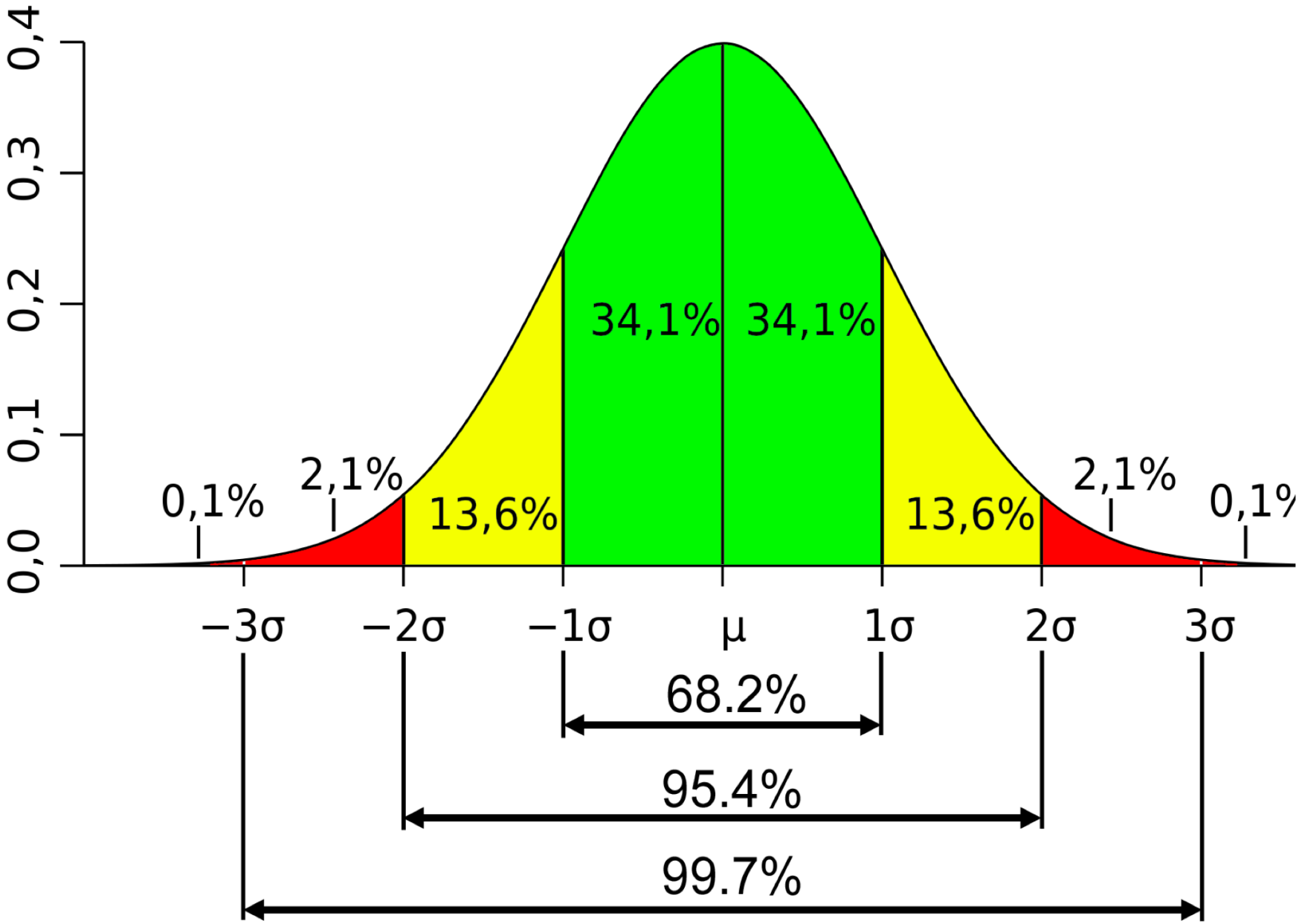
③ What does integrated care mean to clinical practice?

A. Partnership with patients

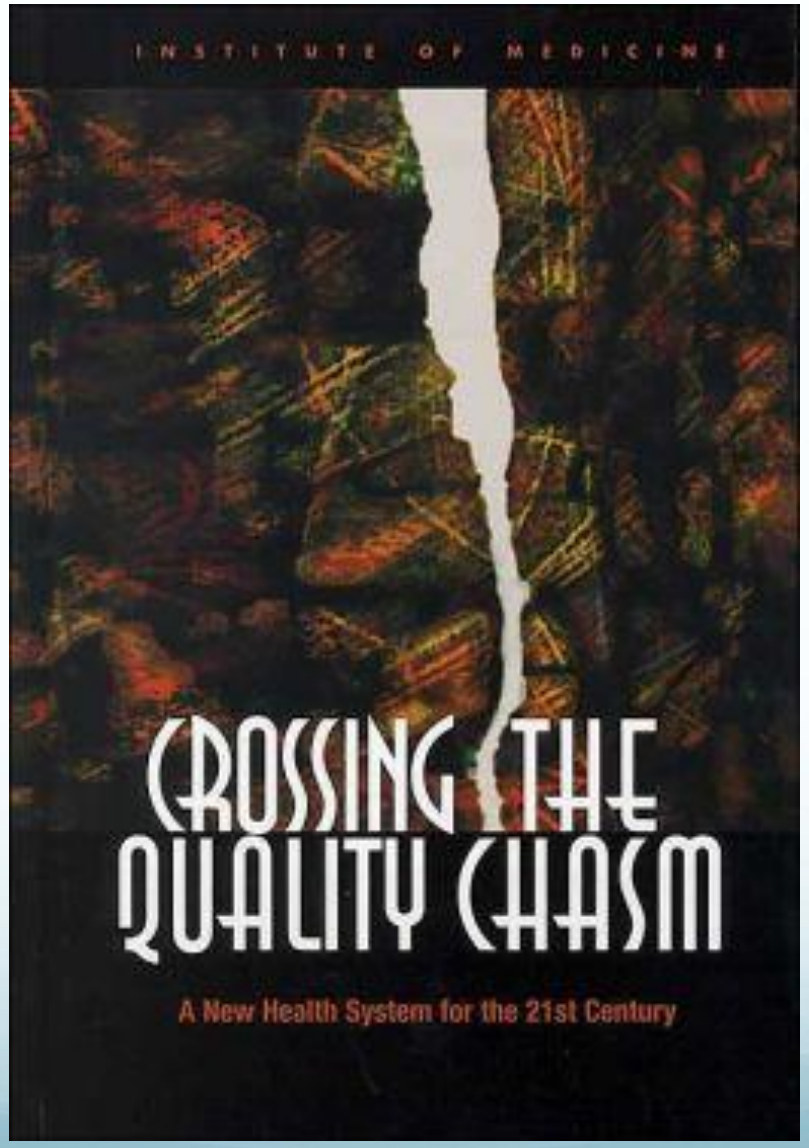
B. Collaboration with other professionals

C. Bio-psycho-social approach to care

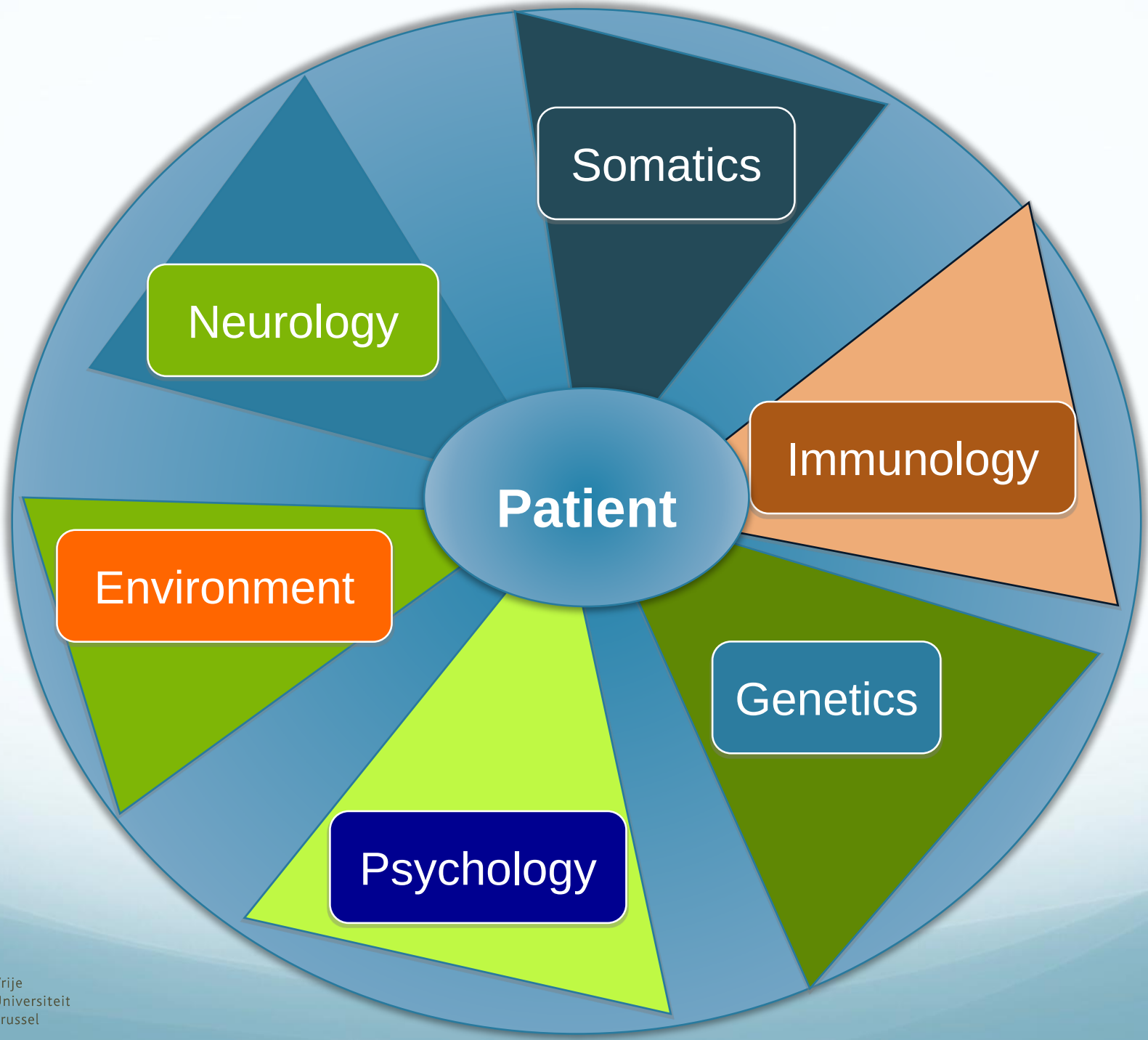

PROFESSIONAL
COMMUNICATOR
SCHOLAR
MEDICAL EXPERT
COLLABORATOR
HEALTH ADVOCATE
MANAGER
THE CANMEDS ROLES FRAMEWORK


0,4
0,3
0,2
0,1
0,0
34,1%
34,1%
13,6%
13,6%
2,1%
2,1%
0,1%
0,1%
−3σ
−2σ
−1σ
μ
1σ
2σ
3σ
68.2%
95.4%
99.7%

Research on quality in health care delivery



Clinical reasoning processes important to integrated care


Somatics
Neurology
Immunology
Patient
Environment
Genetics
Psychology

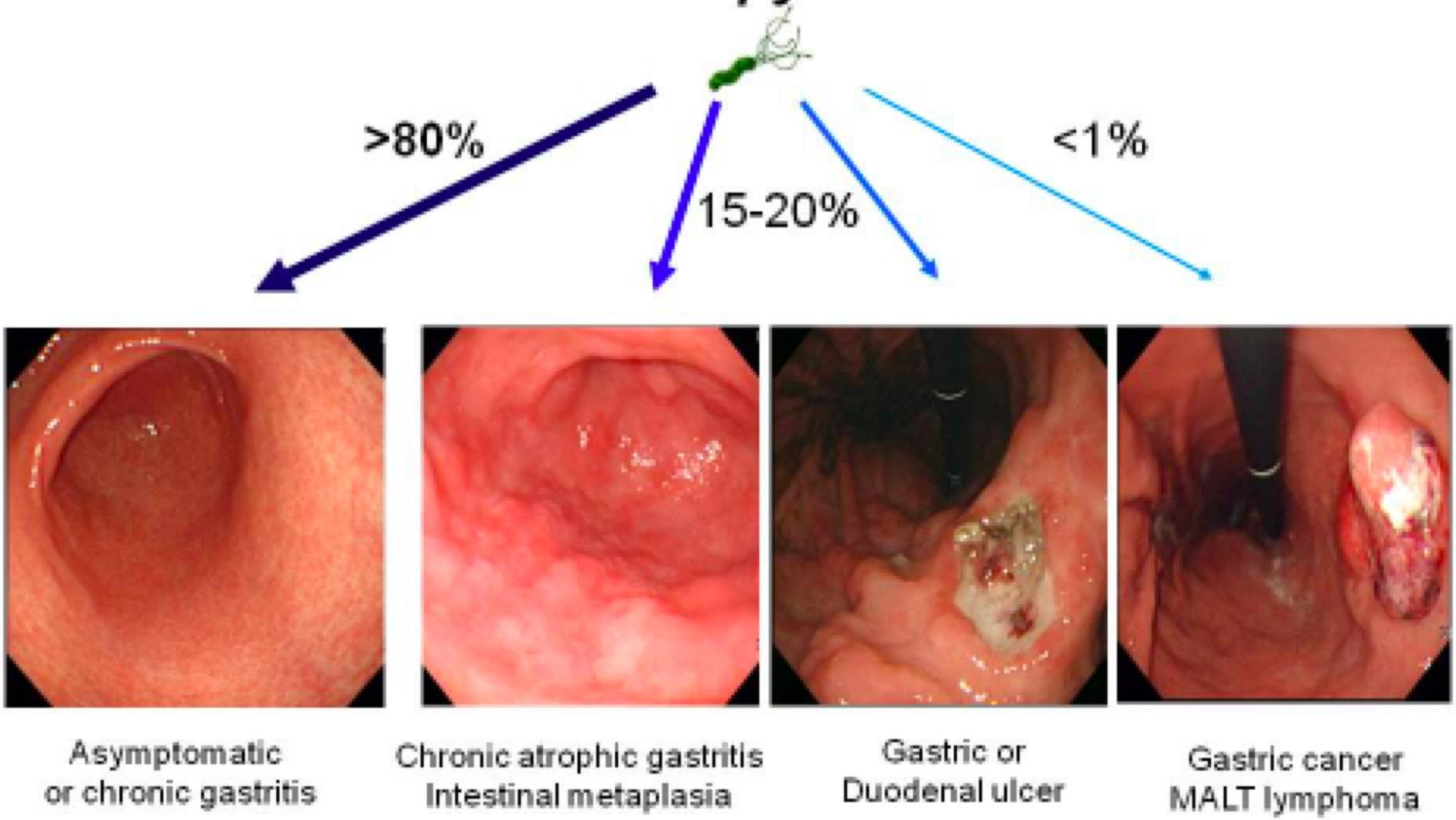
The case of Thomas K.

- Boy, age 5
- Adoption from Russian orphanage at age 4
- Complaining of repeated vomiting and pain in his stomach since 4 weeks
- Fatigue and concentration problems at school
- Since 4 weeks often reluctant going to school

Diagnostic approach

- General practitioner said ‘it was much ado about nothing’
- Suggested to have a daily glass of coca-cola to disinfect the stomach and all problems would resolve
- Problems persisted
- Boy referred to internal medicine paediatric specialist at a University Hospital one month later
- Gastroscopy and biopsy performed
- Diagnosis of H.pylori infection and gastritis

The Clinical Outcomes of *Helicobacter pylori* Infections



Therapeutic approach

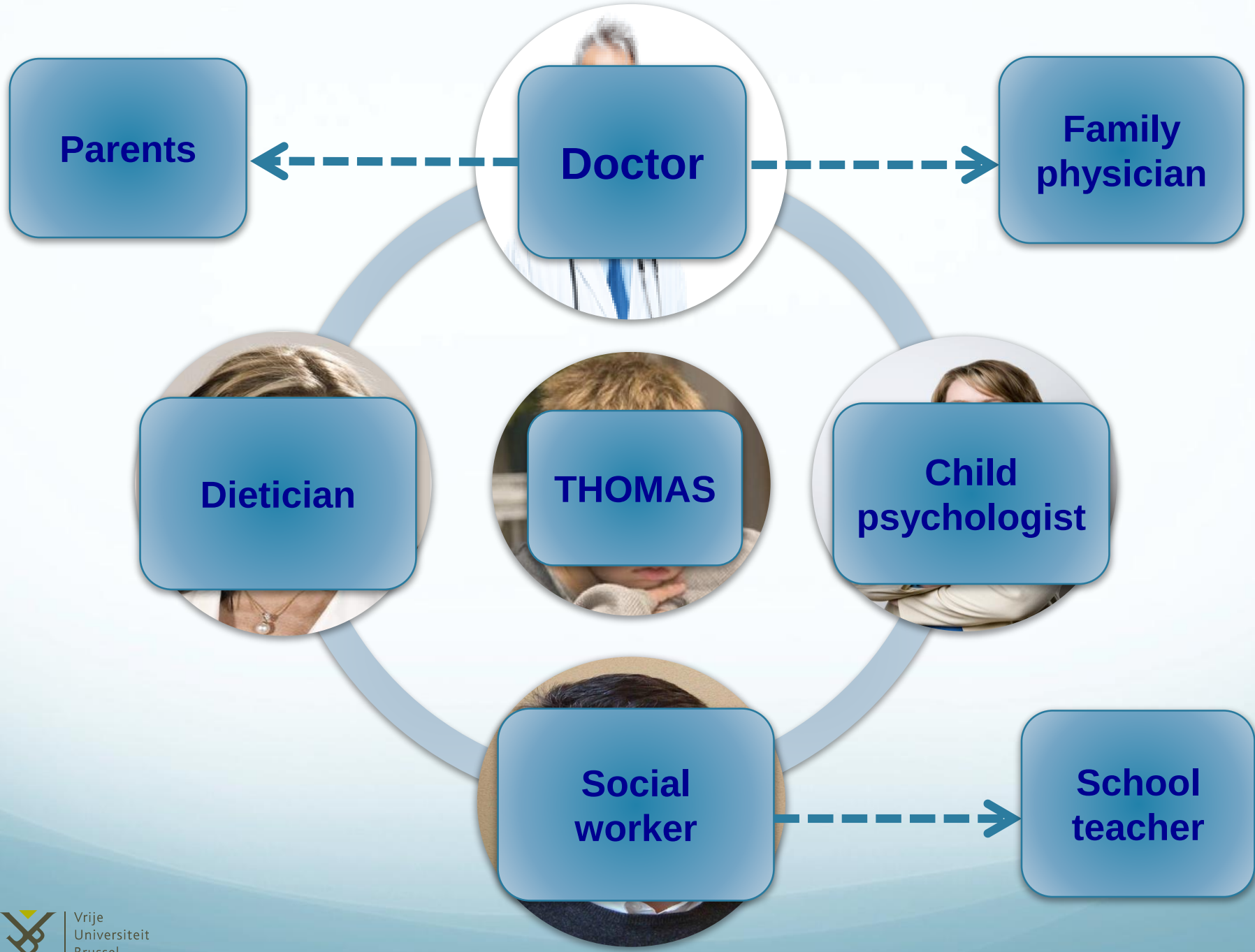
- *Month 1:* First round of oral antibiotics, but persistence of problems (+ positive urea breath test)
- ***Month 3:*** Second round of oral antibiotics, persistence of problems (+ positive urea breath test)
- ***Month 5:*** Third round of oral antibiotics, persistence of problems (+ positive urea breath test)
- Serious weight loss, and deterioration of health status + admission to hospital after vomiting blood
- Fourth round of IV antibiotics suggested, but risk for implications on growth

What happened next?

- Parents looked for causes of treatment failure on the Internet: potential resistant strains of h.pylori?
- H.pylori resistance to antibiotics: considered ‘impossible’ by specialist
- Parents feared for implications on growth when a particular type of IV antibiotics would be administered
- Parents felt uncomfortable over poor communication with specialist and looked for second opinion, leaving specialist frustrated over their decision

Therapeutic approach at other hospital

- Gastroscopy repeated with biopsy
- Resistance of h.pylori to all previous antibiotics confirmed
- Important iron deficiency and food allergy detected
- Discussion with parents on stress related factors
- Multidisciplinary approach to care initiated


Parents
Doctor
Family physician
Dietician
THOMAS
Child psychologist
Social worker
School teacher

Key questions from the multidisciplinary team:

- What can the parents tell us on their son, and what do they think is at play?
- What is the influence of the adverse events the boy has faced during early childhood on his development and reaction to stress?
- How to address resistant h.pylori?
- Is a comprehensive knockout policy the preferred way forward?
- What type of treatment to gastritis is recommended?
- How to deal with his food intolerances?

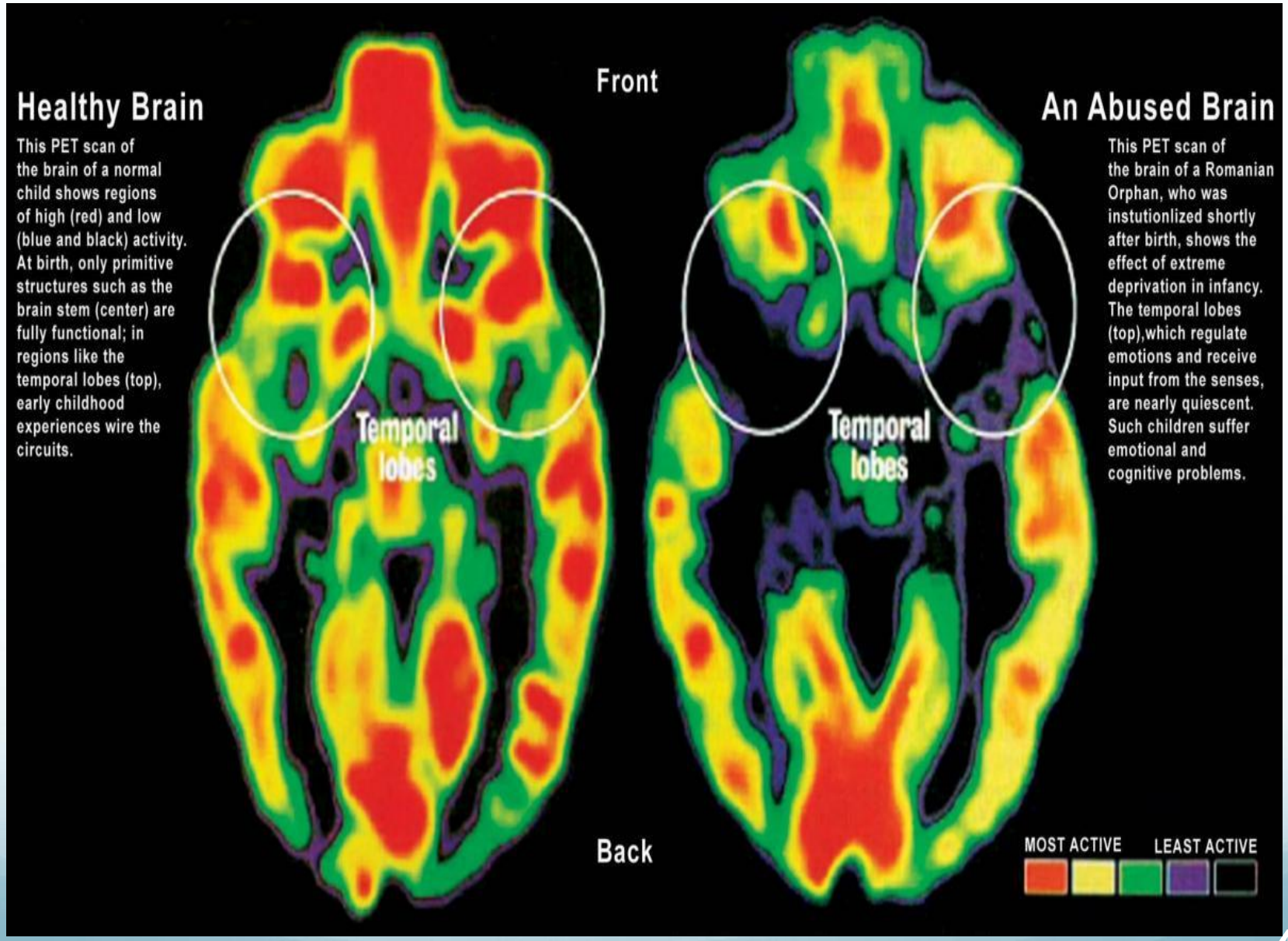
Step 1:
Let’s listen to the parents..

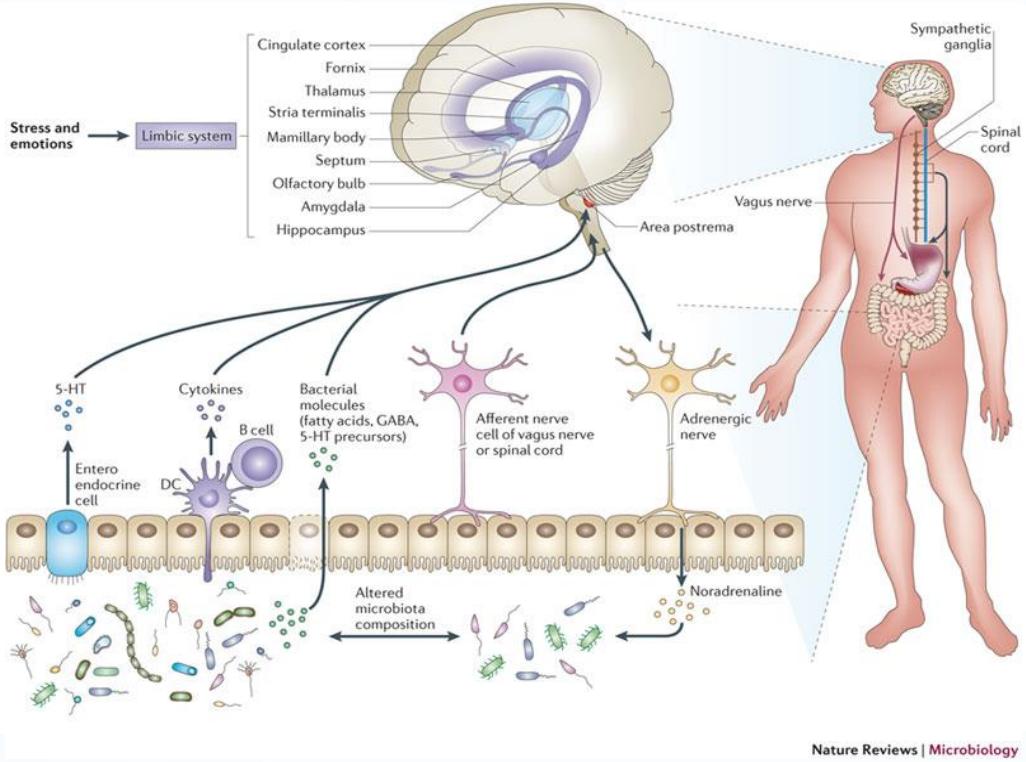
What the parents told the doctor

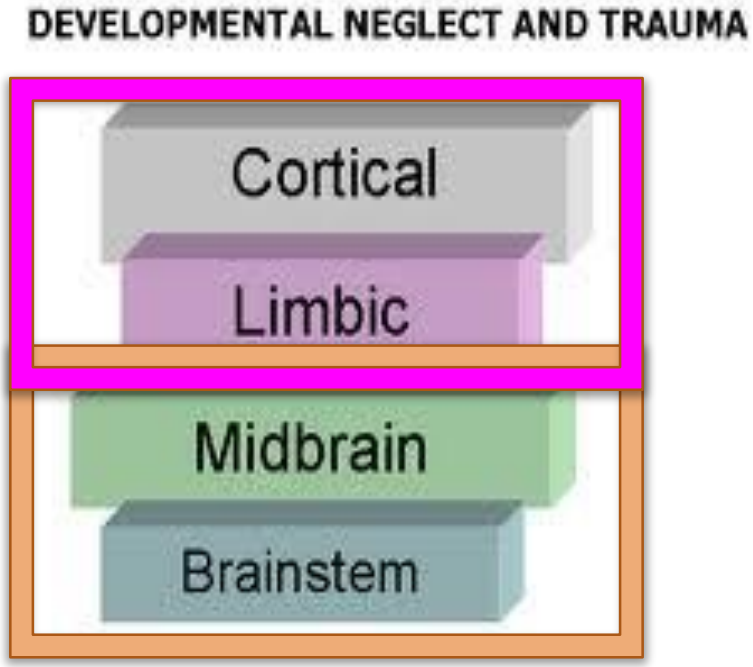
- Smart boy, overall doing well at school
- Attachment issues
- Regular emotional outbursts
- Low frustration level
- Impulsivity
- Teacher told Thomas' parents he had increased troublesome interactions with his peers over the last 6 months
- Symptoms increased when he felt stressed

Step 2:

Let’s talk influence of childhood adverse events..


Healthy Brain
This PET scan of the brain of a normal child shows regions of high (red) and low (blue and black) activity. At birth, only primitive structures such as the brain stem (center) are fully functional; in regions like the temporal lobes (top), early childhood experiences wire the circuits.
Front
Temporal lobes
Temporal lobes
An Abused Brain
This PET scan of the brain of a Romanian Orphan, who was instutionlized shortly after birth, shows the effect of extreme deprivation in infancy. The temporal lobes (top),which regulate emotions and receive input from the senses, are nearly quiescent. Such children suffer emotional and cognitive problems.
Back
MOST ACTIVE
LEAST ACTIVE



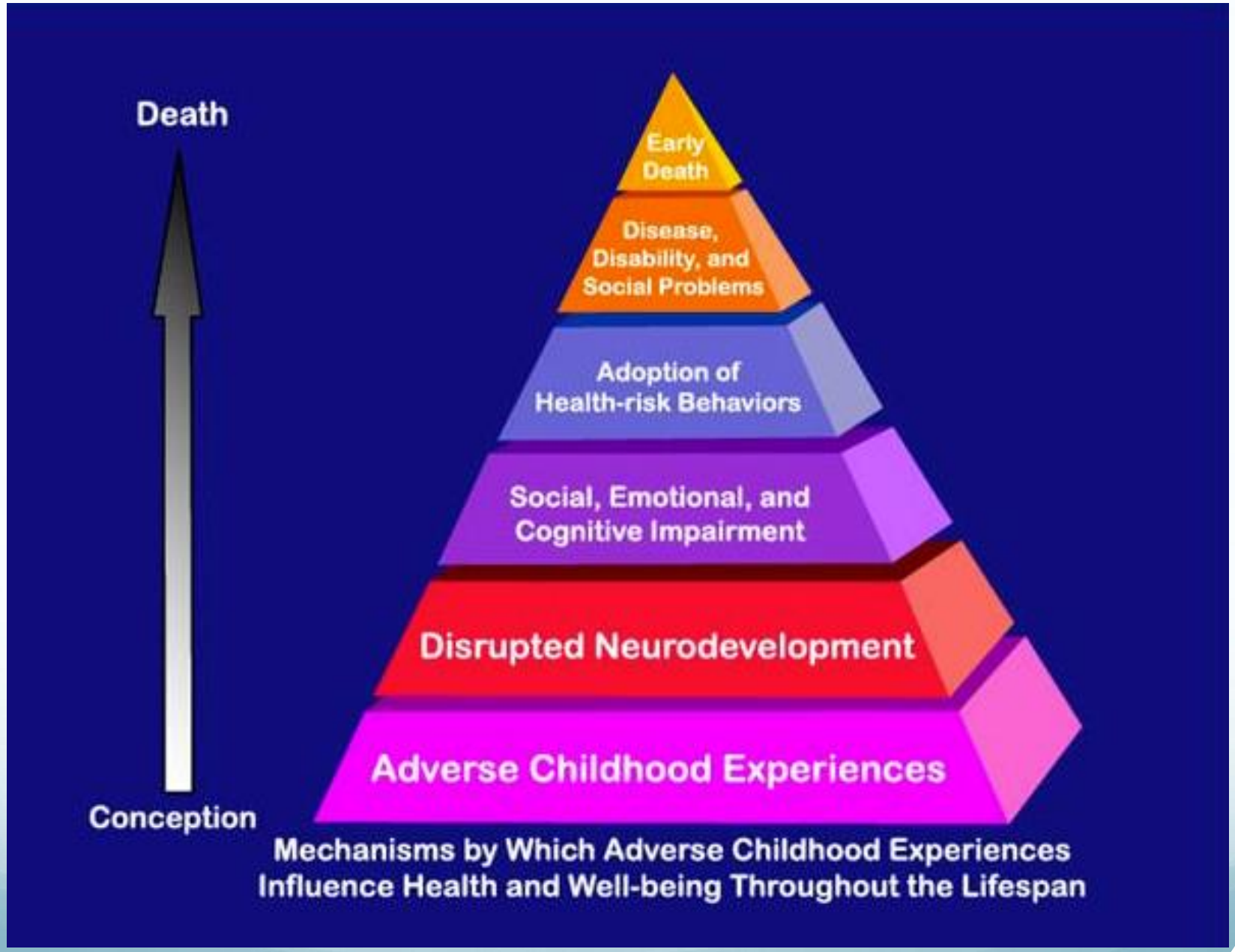


① Monitors e.g. breathing and heart rate

② Survival functions e.g. safety and responses to threats

③ Controls feelings and emotions

④ Control of executive functions e.g. reasoning, planning, anticipating, and predicting.


Death
Conception
Early Death
Disease, Disability, and Social Problems
Adoption of Health-risk Behaviors
Social, Emotional, and Cognitive Impairment
Disrupted Neurodevelopment
Adverse Childhood Experiences
Mechanisms by Which Adverse Childhood Experiences Influence Health and Well-being Throughout the Lifespan

Conclusions

- *'Wait and see'* approach
- Symptomatic treatment of gastritis
- Guidance of Thomas at school + follow-up with child psychologist
- Regular follow-up with paediatrician

After 3 months: symptoms dissapeared

④ What are integrated care **interventions**?

189 types of integrated care models

Borgermans et al. Policies, strategies and interventions on people-centred and integrated care: A systematic review. Report to the World Health Organization, Geneva Office, 2013.

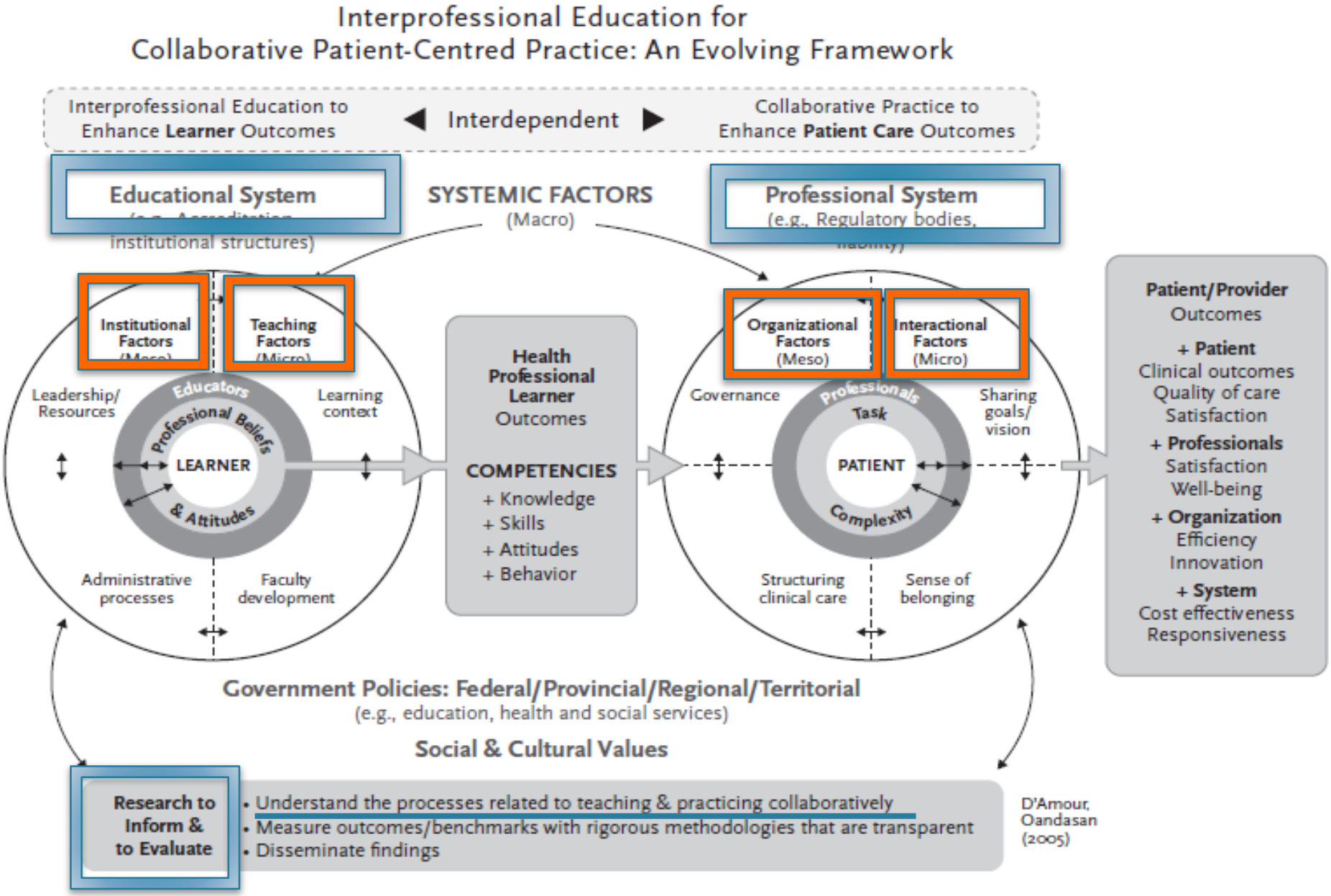
1) Multidisciplinary and comprehensive assessments
2) Multidisciplinary care plans
3) Shared-care protocols
4) Coordinated care transitions
5) Coordinated home and community health
6) Task delegation
7) Co-location of services
8) Electronic data exchange
9) Tele-monitoring and mobile e-health applications
10) Shared methods to track care outcomes
11) Cross-training of staff to ensure staff culture, attitudes, knowledge and skills are complimentary
12) Involvement of patients in decision making (shared care)
13) Patient education/self-management
14) Patient empowerment
15) Support interventions for caregivers

Borgermans et al, 2015. Systems-based collaborative care processes: A systematic review. In Press.

⑤ What are **enabling factors** to integrated care?

1) Leadership
2) Care process re-design
3) Change management strategies
4) Communication strategies
5) ICT
6) Work force
7) Financing

⑥ How to move forward with changes in the medical curriculum?



From "Interprofessionality as the field of interprofessional practice and interprofessional education: An emerging concept," by D. D'Amour and I. Oandasan, 2005, *Journal of Interprofessional Care, 19,* (Suppl. 1). Reprinted with permission.


I.
THE CASE FOR CHANGE
II.
ESTABLISHING A WORKING GROUP
III.
DEFINITION OF CONTENT
IV.
GAP ANALYSIS AND ALIGNMENT
V.
LAUNCH OF PILOT COURSES
VI.
EVALUATION

COMPETENCIES

1. Interpersonal communication
2. Collaboration and teamwork
3. Screening and assessment
4. Care coordination
5. Intervention (clinical, non-clinical)
6. Cultural competence and adaptation
7. Practice-based learning & quality improvement
8. Informatics

YEAR	THEMES	COURSES/ HOURS
1st bachelor	- Quality of care - One week training in GP practice - Scientific article on quality care - Portfolio - Group discussions	8h
2nd bachelor	- Multidisciplinary care - One week training in GP practice - Scientific article on multidisciplinary care - Portfolio - Group discussions	8h
3th bachelor	- Care actors - Integrated care - Person-centered care - Network training together with nurses	8h
3th master	- Quality of care - Interdisciplinary case discussions	4h
4th master + MaNaMa	- Quality of care and Integrated care - GIMMICS	10h

Facilitators

- Leadership at university
- Research focus on integrated care
- Political priority and pilots
- Department of family practice driving the changes in the curriculum

Barriers

- Lack of role models for students: ‘generation gap’
- Limited post-graduate training offering on integrated care
- Limited budgets for additional academic staff and ‘guest’ professors
- No follow-up after completion of medical training


When the winds of change
blow, some people
build walls and
others build windmills.
-Chinese proverb