

*The application of ICF- CY in the context of the  
integration of chronic ill schoolchildren in  
mainstream education in Flemish school  
health care*

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# Introduction and background

- Since 1980s: increase of prevalence of chronic diseases in children and young adults (*van de lee et al., 2007*)
  - Better treatment
  - Better outcome
- Successful educational career is outmost important
  - Active participation in society through employment
  - Better health and easier access to welfare and health facilities

( *Allensworth et al., 2011*)
- More at risk to school delay or leaving school unqualified
  - Barriers in mainstream education
  - Need for support to overcome potential barriers

( *Taras & Potts Darema, 2005; Hemmingson & Borell, 2002*)

# Introduction and background

- 2007: development of a strategy to optimize the participation of children with an chronic condition in education
- Guideline development as outlined by the VWVJ including
  - systematic literature review
  - clinical expert advice
  - focus sessions with parents
  - educational and pupil guidance professionals
  - medical doctors
  - written surveys with children with a specific chronic condition and their parents.

# State of the art

- Need for an ecologic and bio-social approach of chronic disease
  - Health, growth and development as the result of a continuous and dynamic interaction of personal features (nature) and external inhibiting or protective factors (nurture)
  - Handicap situation as a result of the interaction between personal restrictions and inhiting factors in the schoolcontext

(Fougeyrollas, 1995; Devisch *et al.*, 2000)

- To enhance participation
  - Focus on functioning and participation
  - Need for a definition that reflects in a better way a bio- social approach of functioning and participation

# State of the art

## *Special health care needs (SHCN)*

*“ a chronic physical, developmental, behavioral, or emotional condition and who also require health and related services of a type or amount beyond that required by children generally.”*

Wide range of conditions:

- Physical health conditions: diabetes, epilepsy, asthma ....
- Mental health conditions: ADHD, ASS .....

McPherson M, Arango P, Fox H, et al. A new definition of children with special health care needs. *Pediatrics*. 1998;102:137-140.

# State of the art

## SHCN:

- Wide range in severity
  - Wide range in needs in different contexts
- 
- (Hemmingson & Borell, 2002; Avramadis *et al.*, 2000; Lani 1998; Avramadis & Norwich, 2002; Mukherjee *et al.*, 1999; Mukherjee *et al.*, 2000) Lollar DJ; Simeonsson RJ. Diagnosis to function: classification of children and youths. *Dev Behav Pediatr.* 2005; 26:323-330.
  - ErhmannLC, Aeschleman SR, Svanum S. Parental reports of community activity patterns: a comparison between young children with disabilities and their nondisabled peers. *Res Dev Disabil.* 1995;16:331-343

# State of the art

## Prevalence figures vary

- Flanders health survey 2008: children and young people under 15 years: 9%
- National survey 2004 UNITED STATES: 13% of children and young people have a chronic condition that requires an intervention
- 20% of the children start at school with a development and/or health problems (Australia & USA)

On each school one or more children with a chronic condition are attending



Consideration in a school policy

US Department of Health and Human Services, Health Resources and Services Administration. The National Survey of Children with Special Health Care Needs Chartbook. Rockville, MD: USDHHS; 2004

Bethell, C., Forrest, C., Stumbo, S, et al. Factors promoting or potentially impeding school success: disparities and state variations for children with special health care needs. Maternal and Child Health Journal, 16, S35-S43.

# Conclusions

- Achieve optimal integration by breaking down barriers in the schoolcontext
  - Meeting individual educational and participation needs of children  
( Taras & Potts – Datema, 2005; Hemmingson & Borell, 2002)
  - Supporting schoolstaff and teachers  
(Mukherjee et al., 2002; Lightfoot et al., 2000; Mukherjee et al., 2000)
- Need for assessment of special educational and participation needs and translation to feasible actions in the classroom  
(Hemmingson & Borell, 2002; Avramadis *et al.*, 2000; Lani 1998; Avramadis & Norwich, 2002; Mukherjee *et al.*, 1999; Mukherjee *et al.*, 2000)



# Strategy in Flanders

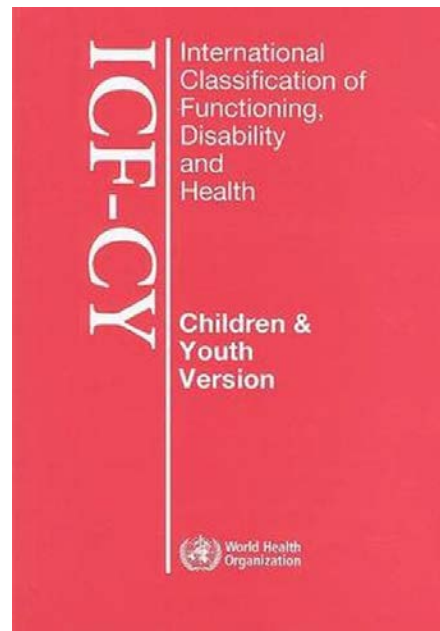
- Development of a conceptual framework for schoolhealth professionals based on the Needs Based Action Model (NBA) (Pameijer) and the International Classification of Functioning (ICF-CY)
  - Assessment of educational and participation needs
  - Enabling translation of a medical diagnosis into educational and participation needs
  - Evaluation of the factors that inhibit or enhance participation
  - Pupils, parents and schoolteam are involved through the diagnostic process
  - Results:
    - hands on information for the teacher in the classroom, parents and children

# Schoolhealth in Flanders

- Multidisciplinary pupil guidance centers
  - Youth health care physicians and nurses
  - Schoolpsychologists
  - Social workers
  - In coöperation with schools and parents
- Mission: to enable development, health and schoolcareer of children
  - Prevention to intervention
    - Eg. vaccination, monitoring of growth and development, early detection of developmental issues, enable smooth schoolcareer
  - Go between: education, health care and well fare services

# ICF-CY

- International Classification of Functioning-Children and Youth Version
- Conceptual framework
- Bio- social model



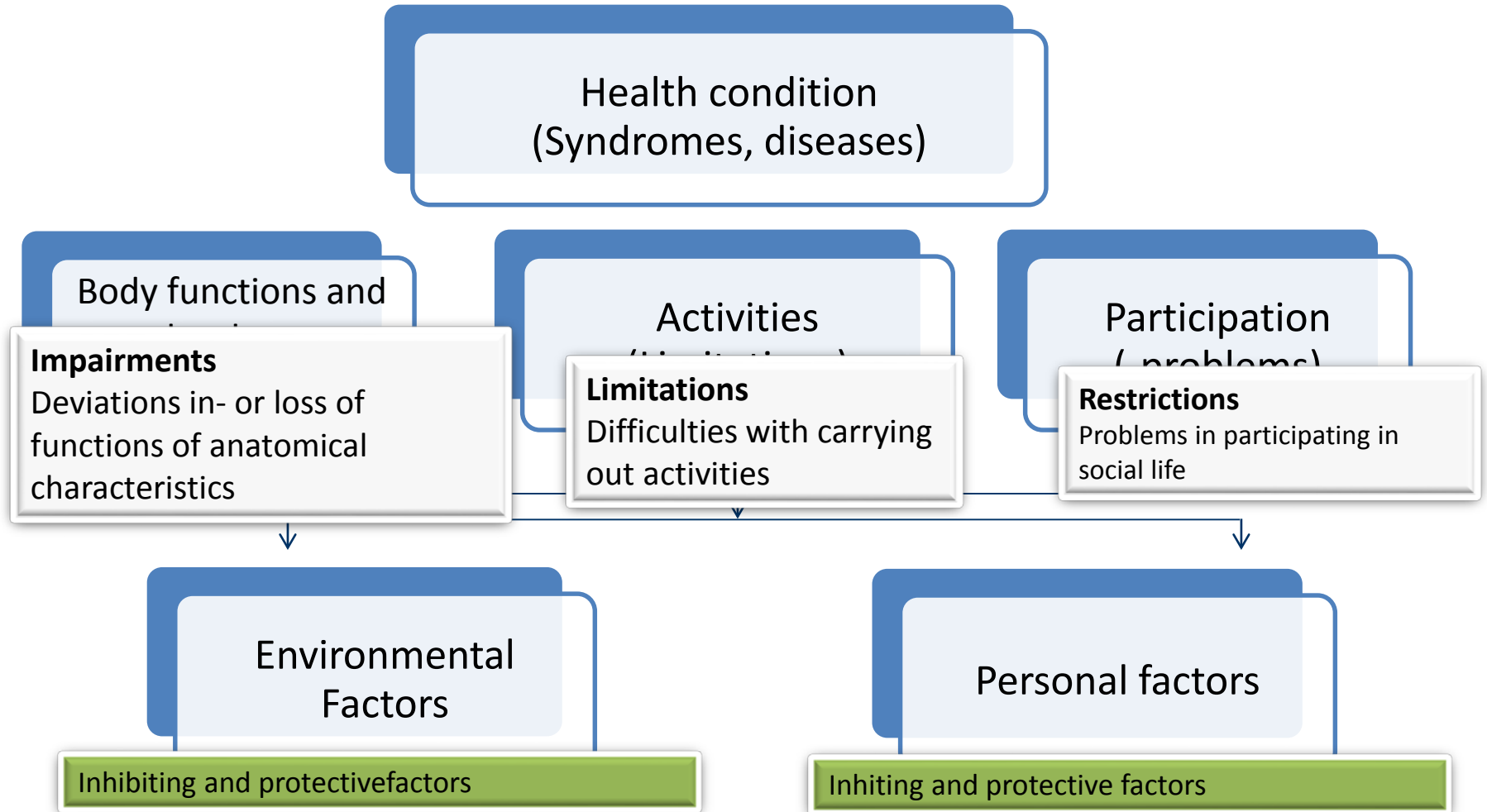
# ICF-CY

- Common and universal language to describe the health and functioning of all children and young people
- It integrates the *medical* and *social* models of disability
- It describes functioning
  - as a complex interaction between a health condition and contextual factors
  - from 3 different perspectives:
    - From the human organism = **body structures and functions**  
eg. anatomy of handbones, to hold attention
    - From human action = **activities**  
eg. writing
    - From participation in social life = **participation**  
eg. playing together

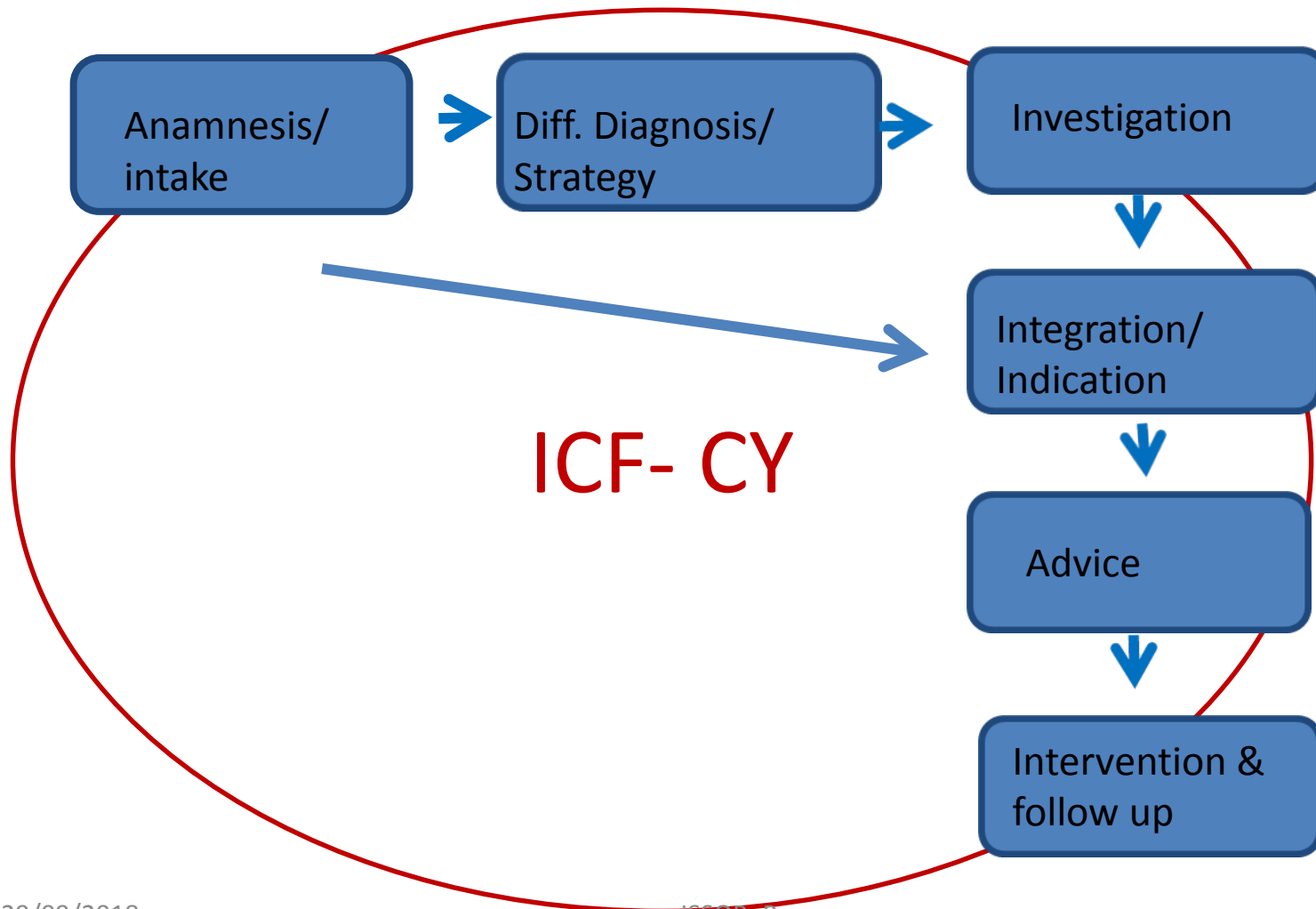
# ICF-CY

- Takes into account contextual factors
  - Environmental factors
    - Individual level: eg. close family, (in) formal level: eg.school
  - Personal factors:
    - are the particular background of an individual's life and living, and comprise features of the individual that are not part of a health condition or health states
- Neutral language
  - Inhibiting and protective factors can be mentioned!

# ICF – CY: interactional framework



# Use of ICF- CY in diagnostic cycle



# Case Jonas (11y)

- Smooth schoolcarrier
- Bicycle accident: acquired brain injury
  - Limited vision, hemianopsia
  - Motor problems: disturbed muscle tension on a body part
  - Fatigue
  - Concentration problems: short concentration arch
  - Low pace of information processing
  - Memory problems
  - Problems with self-image and self-confidence
  - Problems in social behavior and social skills



Impact on:

1. Gross motor development
2. Fine motor development

- limited motor skills
- weak muscle tone

3. Cognitive development

4. Attention
5. Memory

- Memory
- Concentration arch

6. Social and emotional development

7. Visual development

- Hemianopsia

8. Auditory development

9. Sexual development

10. Social development

- Poor self image

11. Sleep

- Fatigue

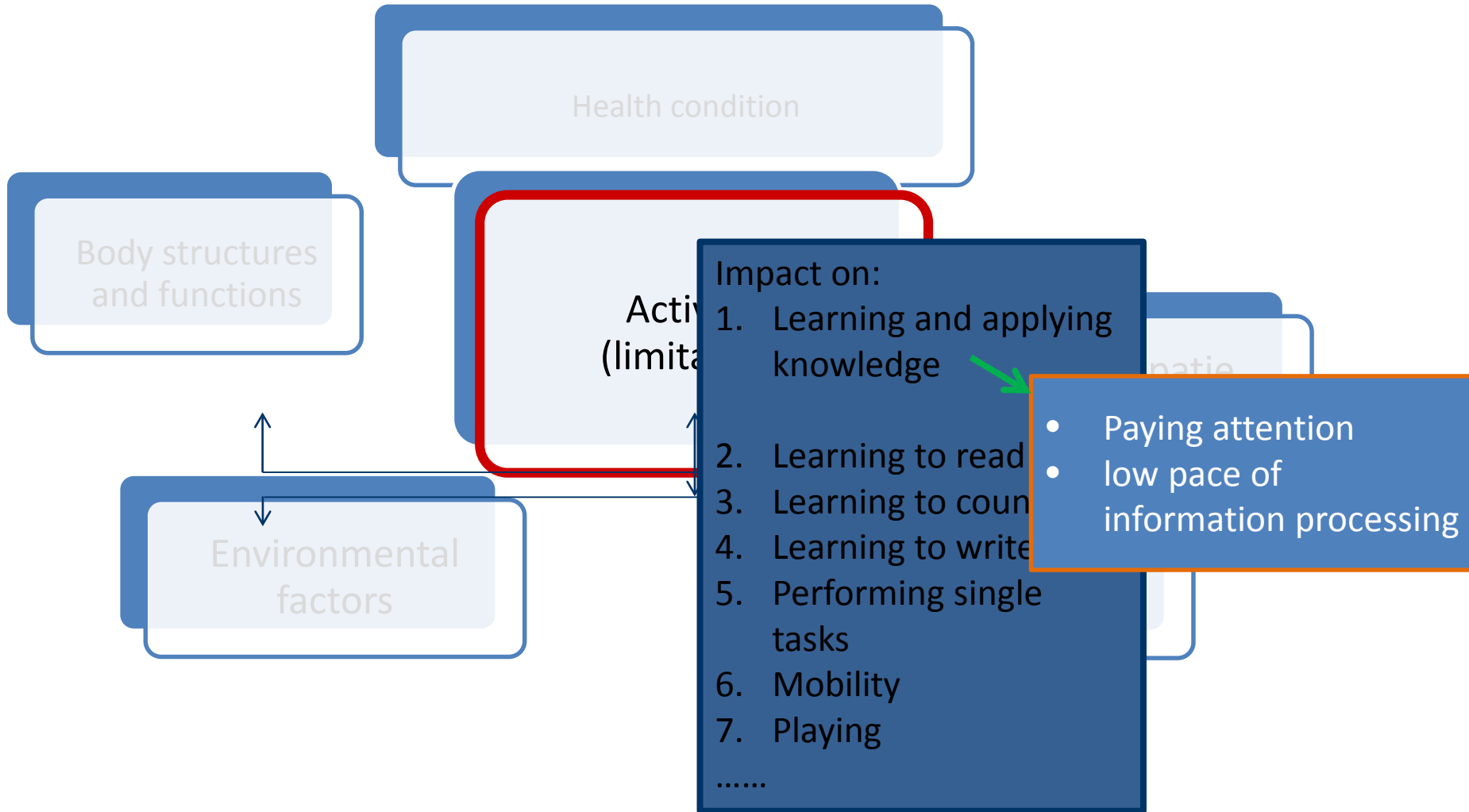
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Body structures and functions

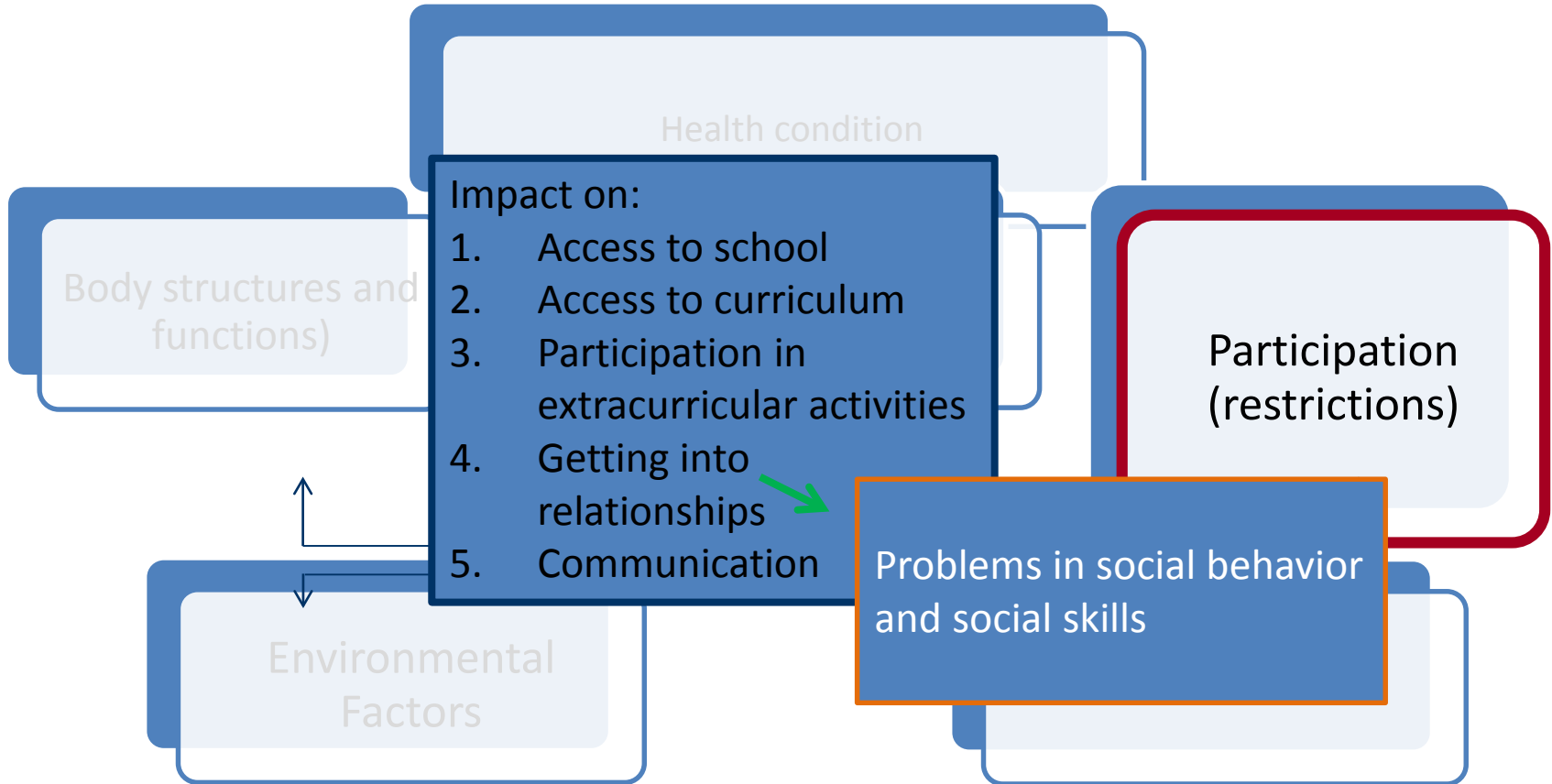


Environment factors

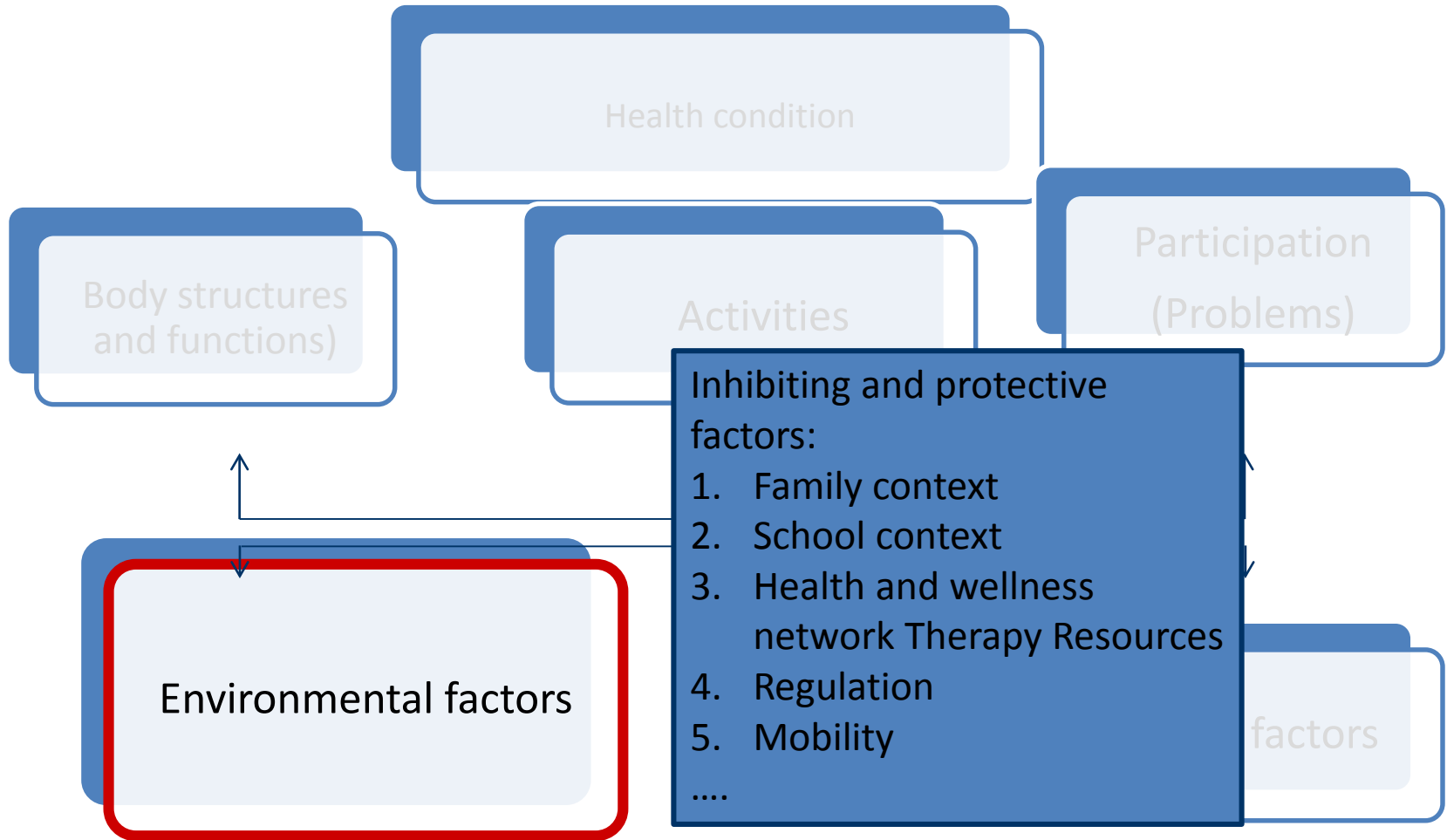
# Case Jonas



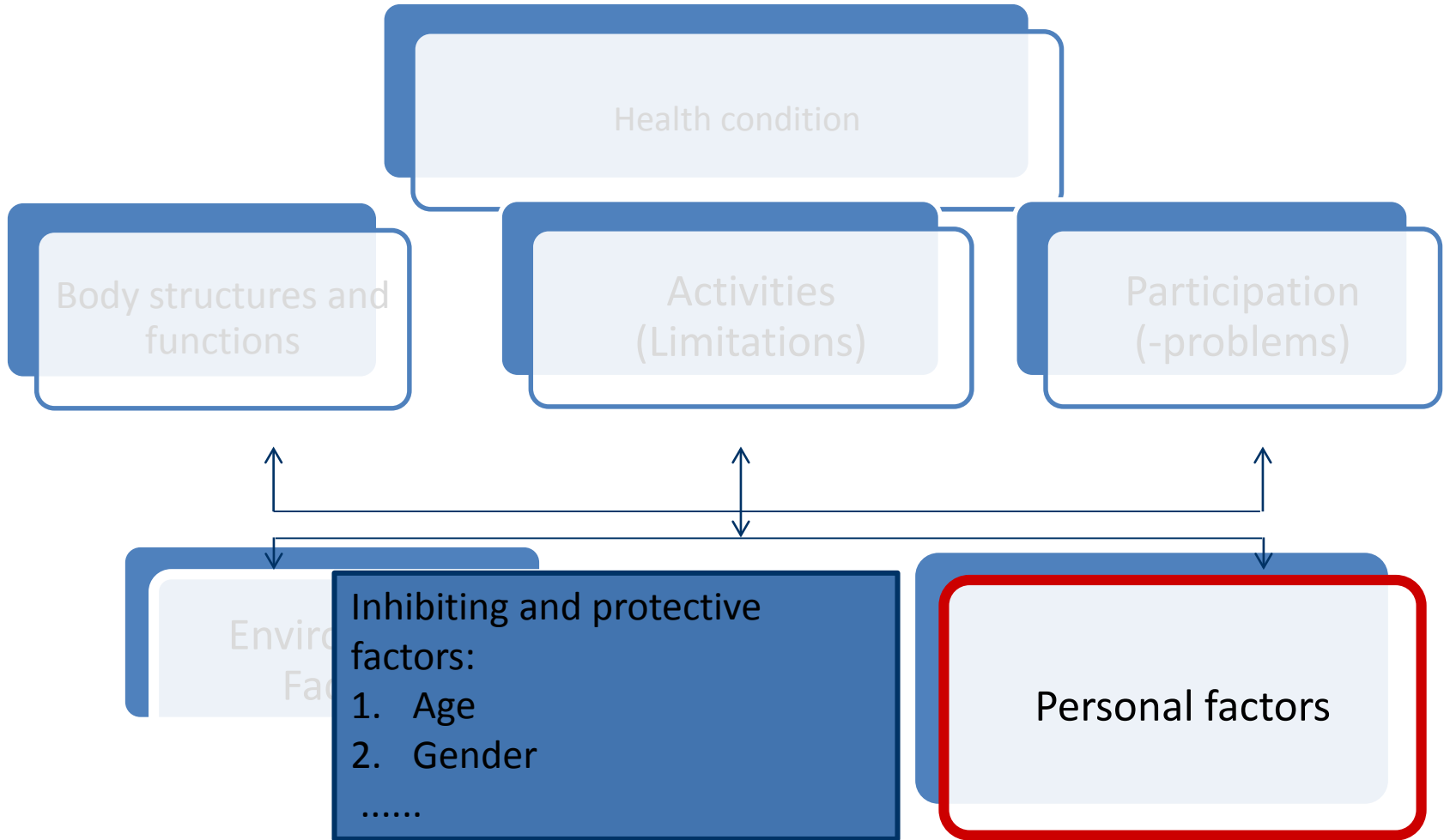
# Case Jonas




# Case Jonas



# Case Jonas



Body structures and functions	Activities and participation	Educational and participation needs
<b>How does it show?</b>		
<ul style="list-style-type: none"> <li>• Memory</li> <li>• Attention</li> <li>• Hemianopsia</li> <li>• Motor problems</li> <li>• Disturbed muscle tension one body half</li> <li>• Low self esteem</li> <li>• Fatigue</li> </ul>	<p><b>Activities:</b></p> <ul style="list-style-type: none"> <li>• Paying attention</li> <li>• low pace of information processing</li> </ul> <p><b>Participation</b></p> <ul style="list-style-type: none"> <li>• Problems in social and social skills</li> </ul>	<p>Jonas needs:</p> <ul style="list-style-type: none"> <li>• Instruction needed that....</li> <li>• Requests or tasks that ..</li> </ul>
<b>Environmental factors</b>	<b>Personal factors</b>	
	<ul style="list-style-type: none"> <li>• Male</li> <li>• Accident</li> <li>• 11 year</li> </ul>	

## Body structures and functions

## Activities and participation

### (140- b189) Specific mental functions

b140 Attention functions

b1400 Sustaining at

b144 memory func

b1442 Processing a  
memory

### (b110- b139) Globa

b126 Temperament  
functions

b130 Energy and dr

b1300 Energy level

B134 Sleep function

### (b210- b229) Seein

b210 Seeing functio

b2101 Visual field f

### (b730- b749) Musc

b730 Muscle power

b735 Muscle tone f

b7352 Tone of mus

### Applying knowledge (d160- d179)

d160 Focusing attention

#### **b 140 Attention functions**

Specific mental functions of focusing on an external stimulus or internal experience for the required period of time.

Inclusions: functions of sustaining attention, shifting attention, dividing attention, sharing attention; concentration; distractibility

Exclusions: consciousness functions (b110); energy and drive functions (b130); sleep functions (b134); memory functions (b144); psychomotor functions (b147); perceptual functions (b156)

#### **b 1400 Sustaining attention**

Mental functions that produce concentration for the period of time required.

#### **b 1401 Shifting attention**

Mental functions that permit refocusing concentration from one stimulus to another.

#### **b 1402 Dividing attention**

Mental functions that permit focusing on two or more stimuli at the same time.

#### **b 1403 Sharing attention**

Mental functions that permit focusing on the same stimulus by two or more people, such as a child and a caregiver both focusing on a toy.

**How does it show?**

- Memory ?
- Attention?
- Hemianopsia?
- Motor problems ?
- Disturbed muscle tension one body half ?
- Low self esteem?
- Fatigue?

- Seeing?
- Reading?
- Writing?
- Use of hand?
- use of memory?
- Understanding tasks?
- Walking, playing, moving...?

- Working together?
- Making friends?
- Accepting authority?
- Participating in the playground?

**Environmental factors**

- Use of resources?
- Attitude of teachers, and peers?
- Tuning of revalidation therapy and schoolactivities?

**Personal factors**

- Male
- 11y
- Accident (-)
- Motivation?
- Coping strategy?



## How does it show?

## Memory:

- short assignments
- Short instruction moments
- Repeat instruction

## Hemianopsia

- **Adapted glasses**

## Motor problems

Disturbed muscle tension one body half

- **Physiotherapy**

## Low self esteem

- **Psychotherapy**

## Fatigue

- Regular breaks
- No homework

## Reading

- Learning Jonas to move the head from left to right when reading
- Use a brightly colored ruler to align the left and right sides of the pages

## Writing

- Replace writing assignments when possible by oral assignments
  - Use of laptop
- use of memory and performing tasks
- Use of road map when performing complex tasks
  - Repeat instruction individually

- Buddy to help Jonas when working in groups
- Giving success experiences by giving assignments Jonas is good at

**Body structures and functions****Activities****Participation****How does it show?****Environmental factors**

- Provide resources
- Motivating teacher
- Supporting parents and peers
- Tuning therapy and schoolactivities?

**Personal factors**

- Male
- 11y
- Accident (-)
- Strong motivated boy
- Is good at working with a computer

# Experiences in Flanders

- Since 2014 ICF- CY is implemented in Flanders In the law for inclusion of children with SEN in mainstream education
  - The assessment of special educational and participation needs
  - Indication of reasonable accommodations
- First experiences
  - Implementation is a slow process
  - Results in better hands on information for all concerned
  - Results in better IEP
  - Further research is needed

# Thank you for your attention!

