

# **Secondary ICD, ICF and ACG coding of sick-leave certificates**

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# Sick-listing – overall research objectives

- Better understanding of health problem for individuals and groups of patients
- Finding better ways for predicting return to work
- Facilitate rehabilitation process

**ICD-10:** International Classification of Diseases and Health Problems. WHO 1990

**ICF:** International Classification of Functioning, Disability and Health. WHO 2001

**ACG:** Adjusted Clinical Groups Case Mix System. Johns Hopkins University

# POPULATION & METHOD

Community 50 000 inhabitants

4 weeks copies of all sick-listing certificates.

Main diagnoses ICD codes in certificates

Secondary classifying and coding of free text

## I. **433 persons sick-listed > 28 days**

Certificates: ICD + ICF

## II. **279 persons sick-listed by GP**

Certificates and medical records for one year prior to certificate:

ICD + ICF + ACG

# Preliminary Results

## Study group I

- ICD10 diagnoses: 34% psychiatric, 33% musculoskeletal
- 44 certificates (10%) no free-text description that could be classified
- 79% deviation of Body Functioning,  
e.g Mental functions (47%)
- 35% deviation of Activity/Participation
- 18% deviation of Body Structure

# Limitations

- No first hand information
- Certificates and medical records often describe only relevant impairments
- Variation of descriptions by physicians
- Overlap ICD – ICF

# Thank you

Now is time for discussion

Please do not hesitate to get in contact with me - I will attend the entire conference

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# Secondary coding of free-text information

- Prior experience of ICD-10 and ICF
- Principles discussed in advance
- ICD-10 physicians codes accepted
- ICD-10 secondary coding of free text only
- ICF short version
- ICF environmental factors not classified
- ICF only deviations classified
- ICF qualifiers not classified

# Impairments of Body functions (1)

## **Mental functions 47%**

b152 Emotional functions 34%

b130 Energy and drive functions 23%

b134 Sleep functions 16%

b140 Attention functions 12%

b144 Memory functions 3%

## **Sensory functions and pain 35%**

b280 Sensation of pain (34%)

# Impairments of Body functions (2)

## **Neuromusculoskeletal and movement-related functions 17%**

b710 Mobility of joint 11%

b730 Muscle power functions 4%

## **Cardiovascular, haematological, immunological and respiratory functions 12%**

# Body Structures

## **Structures related to movement 14%**

s760 Structure of trunc 6%

s750 Structure of lower extremity 4%

s730 Structure of upper extremity 4%

# Activity and participation

## **Mobility 19%**

d450 Walking 6%

d430 Lifting and carrying objects 5%

d415 Maintaining a body position 5%

d445 Hand and arm use 3%

## **General tasks and demands 14%**

d240 Handling stress and other psychological demands 14%

# Activity & participation

<b><i>Mobility</i></b>	<b>81</b>
d450 – walking	27
d430 – lifting and carrying objects	22
d415 - maintaining a body position	21
d445 – hand and arm use	15
d410 – changing basic body position	6
d440 – fine hand use	3
d475 – driving	2
d455 – moving around	1
<b><i>General tasks and demands</i></b>	<b>62</b>
d240 – handling stress and other demands	61
d230 – carrying out daily routine	1

***Learning and applying knowledge*** **4**

d166 – reading 2

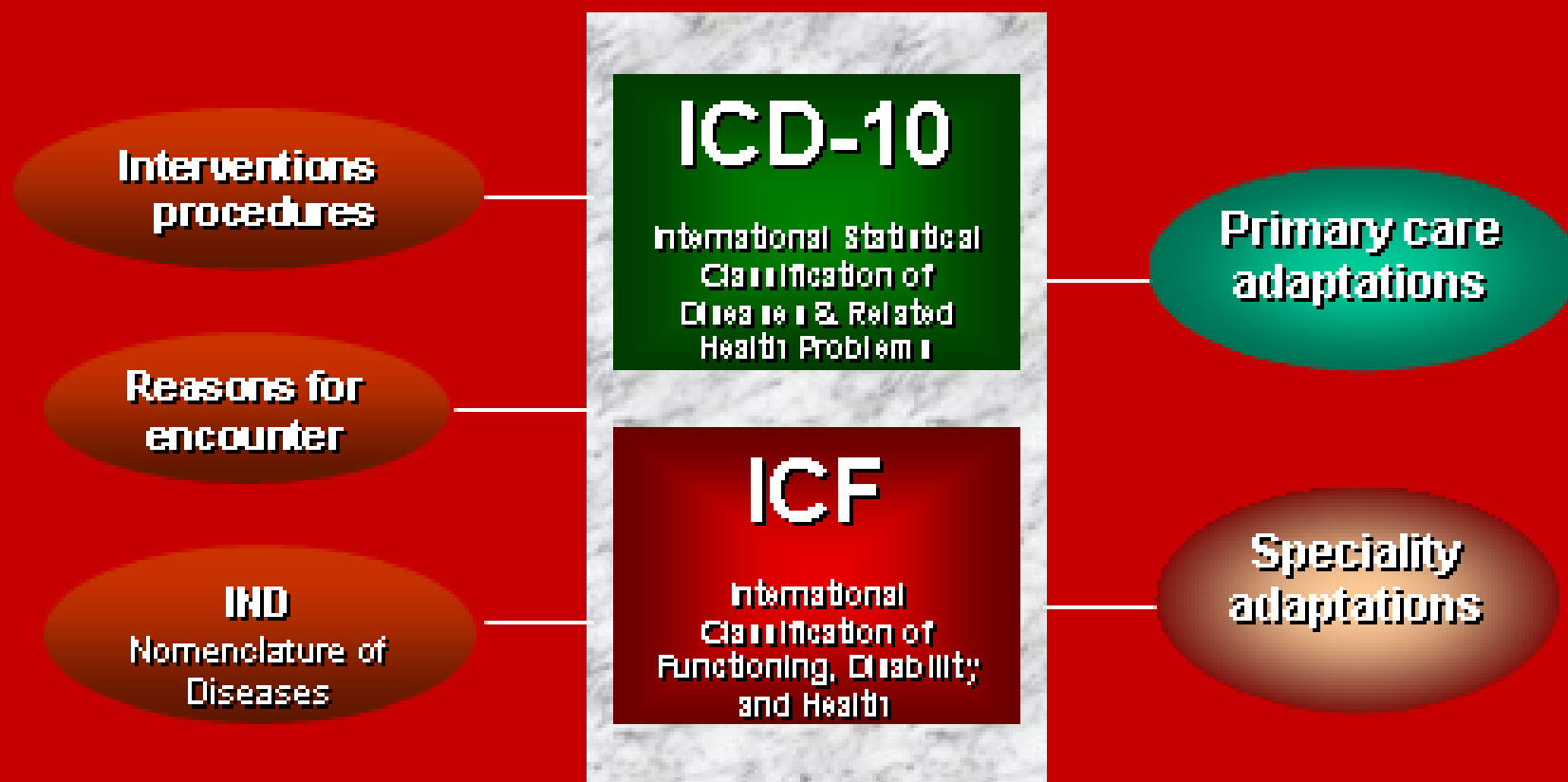
d110 – watching 1

d172 – calculating 1

***Major life areas*** **2**

d845 – acquiring, keeping and  
terminating a job 2

# WHO Family of International Classifications



*Associated Products*

*Main Classifications*

*Adaptations*



# WHO ICF

## International Classification of Functioning, Disability and Health 2001

- Concepts with descriptions
- Coding system
- Full version 9999 categories
- Short version
- Expanded version for Children ICF-CY
- Core sets

# WHO aims of ICF

- to provide a *scientific basis* for consequences of health conditions
- to establish a *common language* to improve communications
- to permit *comparison of data* across:
  - countries
  - health care disciplines
  - services
  - time
- to provide a *systematic coding scheme* for health information systems

# **ICF International Classification of Functioning, Disability and Health**

- **Body Functions & Structures**
- **Activities & Participation**
- **Environmental Factors**

## **BODY FUNCTIONS**

**Mental**

**Sensory and pain**

**Voice and speech**

**Cardiovascular, immunological  
and respiratory**

**Digestive, metabolic and endocrine**

**Genitourinary and reproductive**

**Neuromusculoskeletal and  
movement-related**

**Functions of the skin and  
related structures**

## **BODY STRUCTURES**

**Nervous system**

**The eye, ear and related structures**

**Structures involved in voice and speech**

**Cardiovascular, immunological  
and respiratory**

**Digestive, metabolic and endocrine**

**Genitourinary and reproductive**

**Movement-related**

**Skin and related structures**

# Environmental Factors

- Products and technology
- Natural environment and human-made changes to the environment
- Support and relationships
- Attitudes
- Services, systems and policies

# **Activities and Participation**

- **Learning & Applying Knowledge**
- **General Tasks and Demands**
- **Communication**
- **Movement**
- **Self Care**
- **Domestic Life Areas**
- **Interpersonal Interactions**
- **Major Life Areas**
- **Community, Social & Civic Life**

# Qualifiers

- xxx.0 = no problem 0-4%
- Xxx.1 = mild problem 5-24%
- Xxx.2 = moderate problem 25-49%
- Xxx.3 = severe problem 50-95%
- Xxx.4 = complete problem 96-100%
  
- Xxx.8 = not specified
- Xxx.9 = not applicable

Environmental factors may be positive (facilitators) or negative (barriers)

## Examples

- Outdoor air quality is a mild problem → e2601-1
- Support of friends is a very important facilitator → e320+3

# Example of coding: a person can not climb stairs:

- Component: Activity & Participation
- Chapter 4 Mobility
- Two level classification: Moving around d455
- Specific classification: Climbing d4551
- Qualifier: Complete problem xxx.4
- Complete problem climbing stairs = d4551.4

# 活動と参加 activities and participation

## 第1章 学習と知識の応用 learning and applying knowledge

- 目的をもった感覚的経験 purposeful sensory experiences ( d 110- d 129 )
- d110 注意して視ること watching
- d115 注意して聞くこと listening
- d 120 その他の目的のある感覚 other purposeful sensing
- d 129 その他の特定の，および詳細不明の，目的をもった感覚経験 purposeful sensory experiences, other specified and unspecified

## 基礎的学習 basic learning ( d 130- d 159 )

- d 130 模倣 copying
- d 135 反復 rehearsing
- d 140 読むことの学習 learning to read
- d 145 書くことの学習 learning to write
- d 150 計算の学習 learning to calculate
- d 155 技能の習得 acquiring skills
- d 159 その他特定の，および詳細不明の，基礎的学習 basic learning, other specified and unspecified