

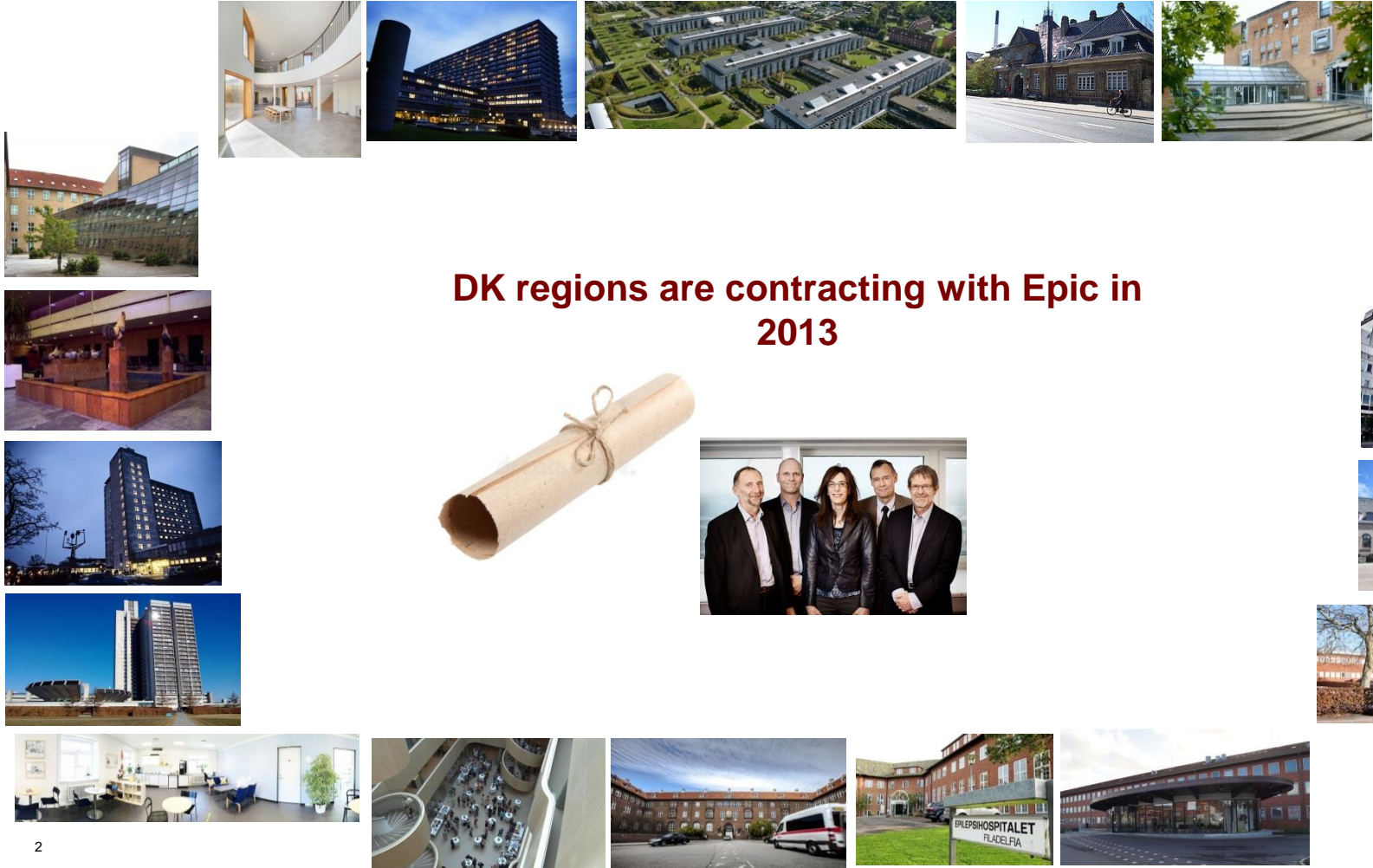
Indexing EHR content and knowledge sources with SNOMED CT for localization of Epic

SNOMED CT Expo 2017

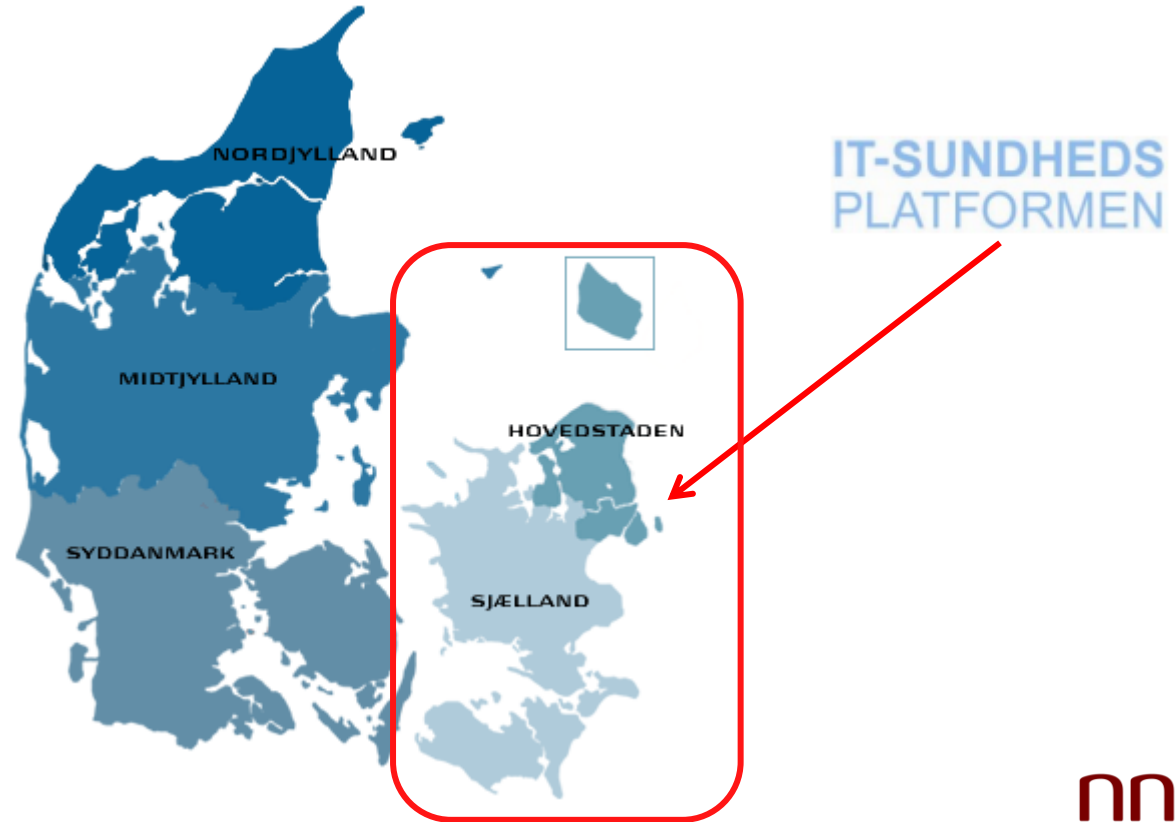
Presentation by Janni Lerche Andersen, Denmark



DK regions are contracting with Epic in 2013



Half of Denmark population covered by Epic EHR - 19 hospitals, two regions



- One patient - One record
- Coherent data
- Harmonization across hospitals and across regions
- Secure portal for patients and their families
- Patient empowerment
- Customer implementation – Epic methodology

Overall goals by implementing Epic in DK

**”Harmonization across
hospitals and across regions”**

**Focus of
today’s
lecture**

Meaning

- that clinical diagnostic procedures performed by different hospitals within same specialty get comparable results
&
- that patients within the same specialty receive the same examination and treatment options regardless of the service provider localization

Some important steps to do

- Get an overview of what are the clinical practices of the two regions
- Create a model of...
 - Collecting all formalized clinical instructions from 19 hospitals, and distribute to groups of specialists (Subject Matter Experts) to harmonize

How to attack
this?

In other words...

How to
harmonize
practice in a big
scale like this?

Coming from...

Region A

Departments/hospital



Clinical instructions – One content management system



VIP

Region B

Departments/hospital



Clinical instructions - Another content management system



D4

nnIT

No sharring of clinical information

Lot of redundancy – Local variants



Going to ...

Region A

Departments/hospital



Region B

Departments/hospital



Sharring clinical information

Clinical intructions – One content management system



VIP

**Harmonization
of instructions**

Clinical instructions - Another content management system



D4

nnIT

52.000 partly redundant instructions / references for treatments in the two regions were collected in one single spreadsheet

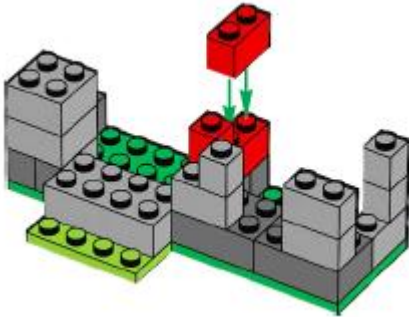
	A	B	C	D
1	Dokumenttitel	Type	Udgiver	Dokumentid
1042	Psykologisk vurdering og journalføring, Instruks 5	Regional klinisk vejledning	RegH	
1043	Psykologiske undersøgelser (SP) vers 2.0.doc	SFI	RegH	
1044	Psykomotorisk retardering, undersøgelse behandling og opfølgning af børn	Regional klinisk retningslinje	RegSj	Dokumentid: 236823
1045	Psykosocial.pleje_kir.gas.ver.2.1.doc	SFI	RegH	
1046	PTSD	Regional klinisk retningslinje	RegSj	Dokumentid: 309468
1047	Pyoderma gangrenosum	Regional klinisk vejledning	RegH	
1048	Pædagogudredning v. 1.0.doc	SFI	RegH	
1049	Rapportering og opfølgning på utilsigtede hændelser	Regional retningslinje	RegSj	217273
1050	Region Sjællands politik for ansættelse af personale	Regional retningslinje	RegSj	226393
1051	Regional kerneårsagsanalyse, igangsætning af	Regional klinisk vejledning	RegH	
1052	Regionale kliniske retningslinjer - udarbejdelse af	Regional retningslinje	RegSj	297615
1053	Regionale retningsgivende dokumenter - udarbejdelse og vedligeholdelse	Regional retningslinje	RegSj	228075
1054	Registrering i Dansk Apopleksiregister	Regional klinisk vejledning	RegH	
1055	Registreringspraksis og patientadministrative data	Regional retningslinje	RegSj	240160
1056	Rehabilitering	Regional retningslinje	RegSj	217204
1057	Rekruttering og ansættelse i Region Hovedstaden	Regional klinisk vejledning	RegH	

Next challenge – Sort & Build specialty collections

C



B



A



A method to do this...

- Index content with terminology
 - DIAGNOSIS
 - PROCEDURE
 - CLINICAL PROCESS
 - SPECIALTY

SNOMED CT – An obvious reference terminology for classification

- **A prerequisite**

That a translation of the Fully Specified Names in SNOMED CT is accessible, to make sure of semantic correct classification

(translation done by the Danish National Board of Health 2004-2008)

An example of a regional clinical instruction

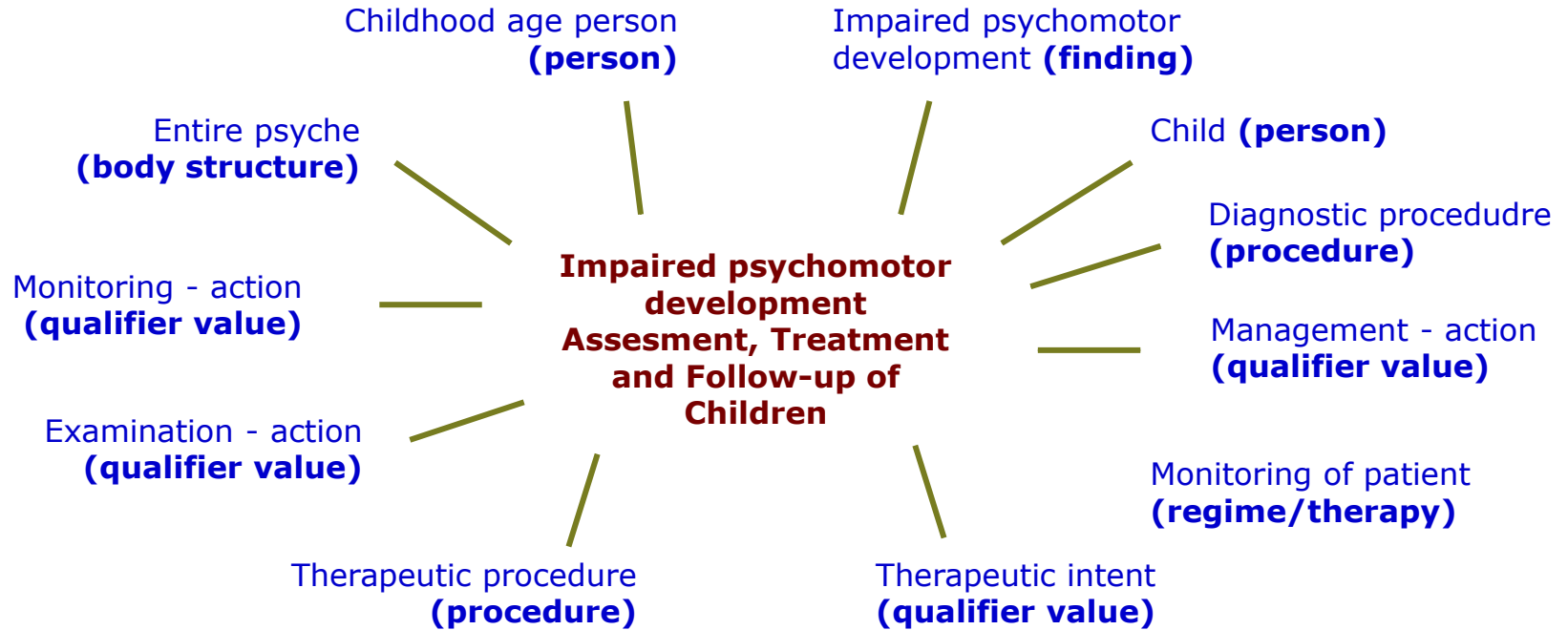
Danish:

Psykomotorisk retardering, undersøgelse, behandling og opfølgning af børn

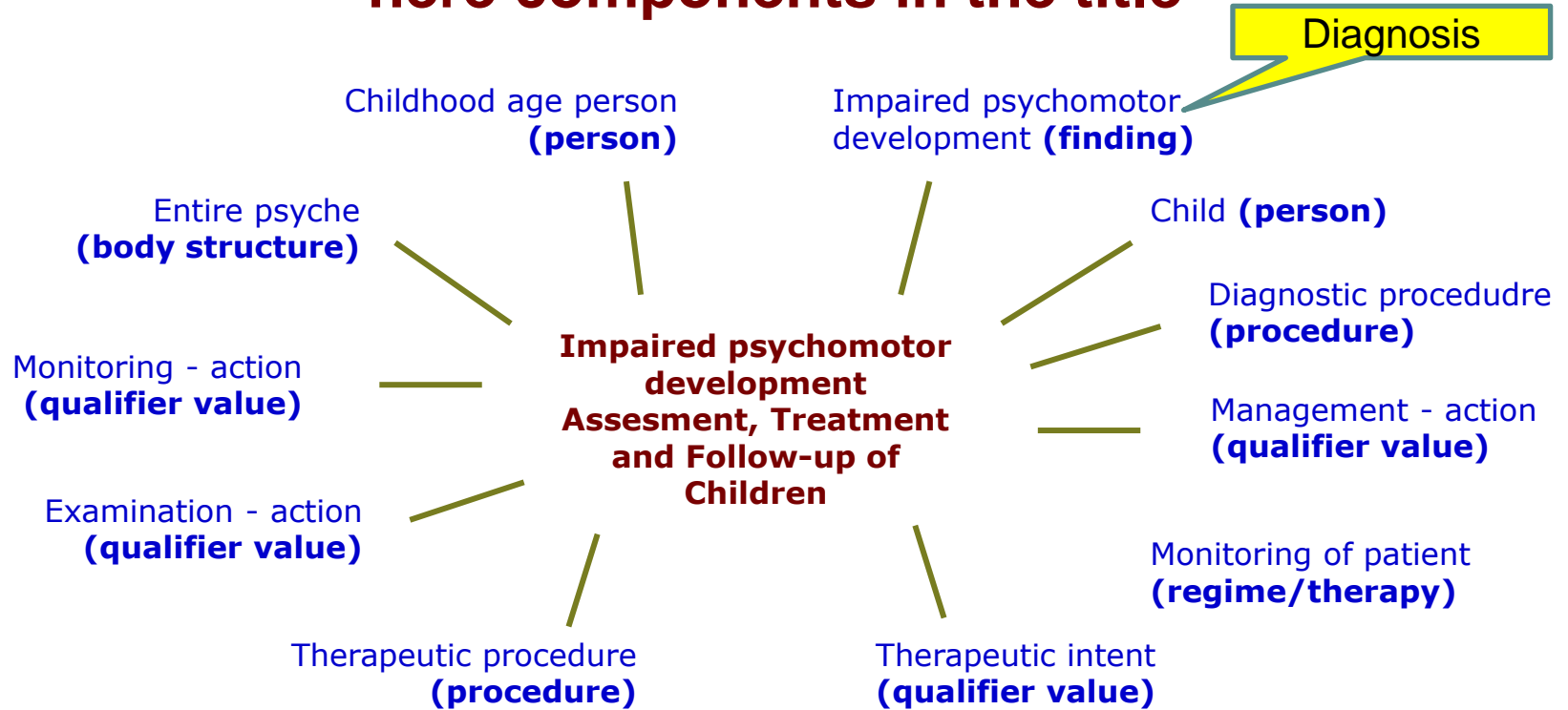
English:

Impaired psychomotor development, Assessment, Treatment and Follow-up of Children

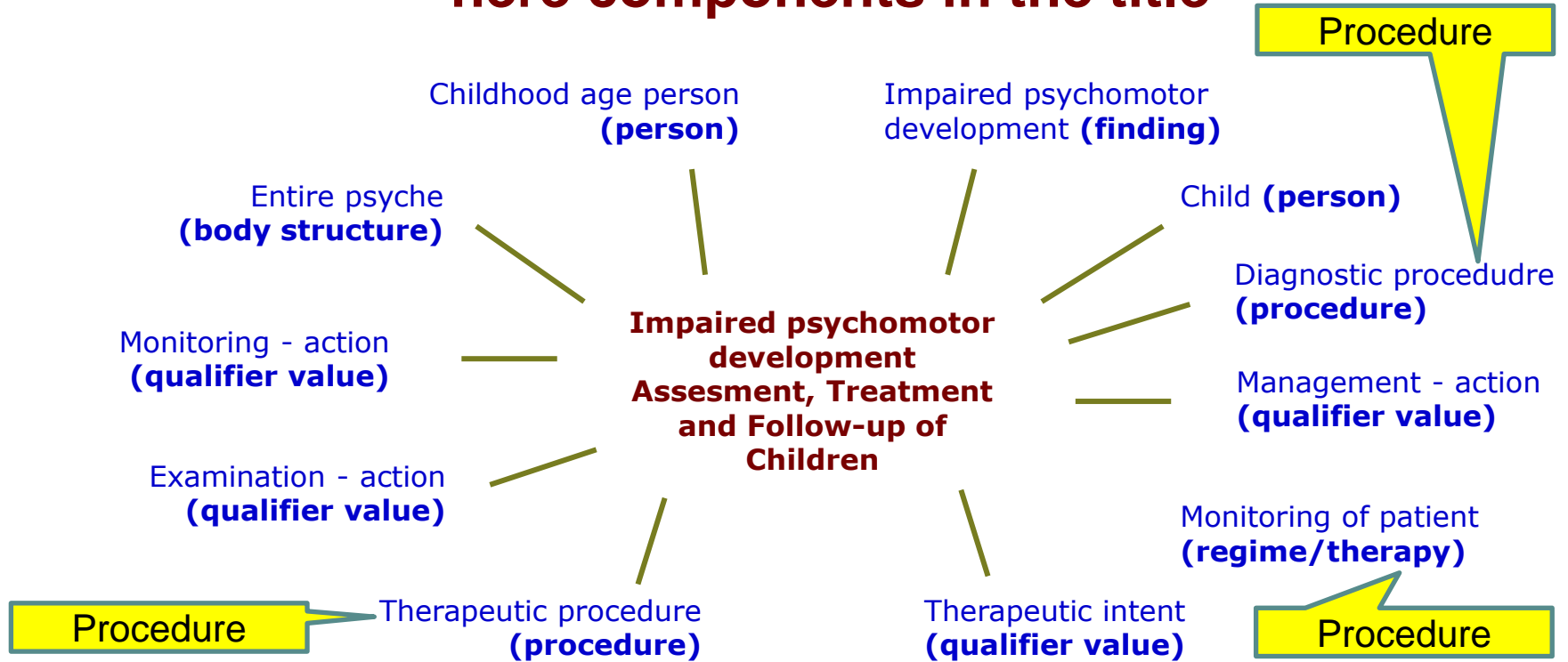
Content is tagged with SNOMED CT concepts - here components in the title



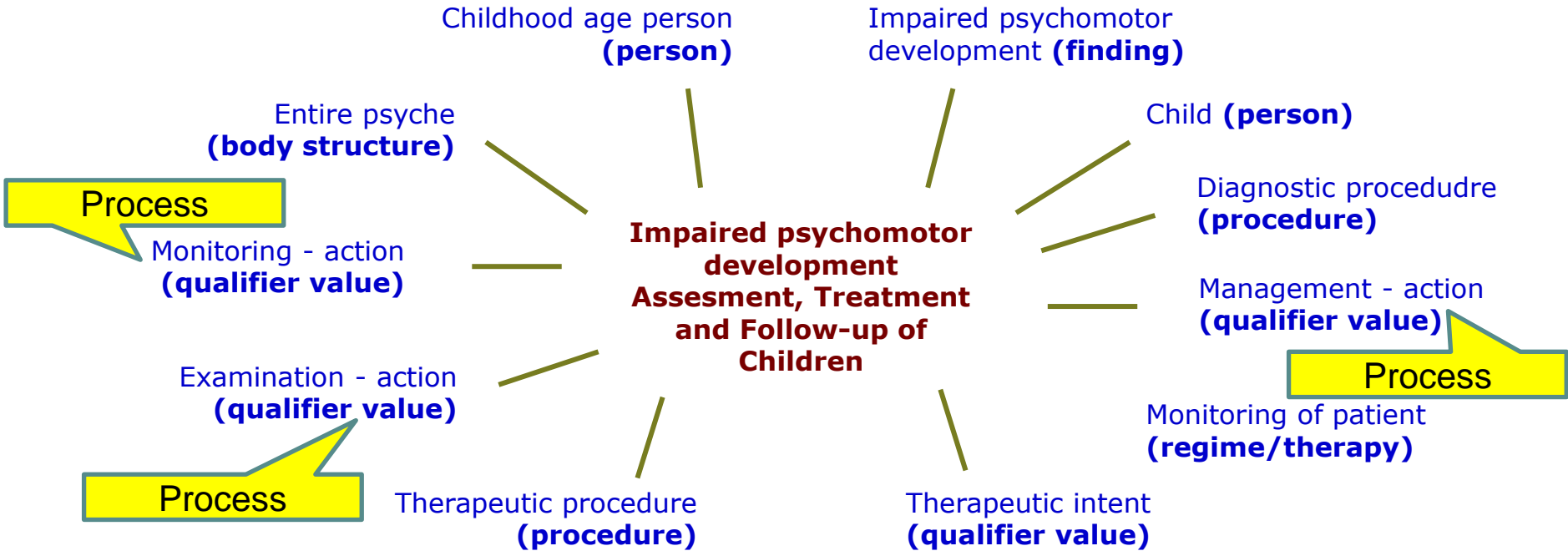
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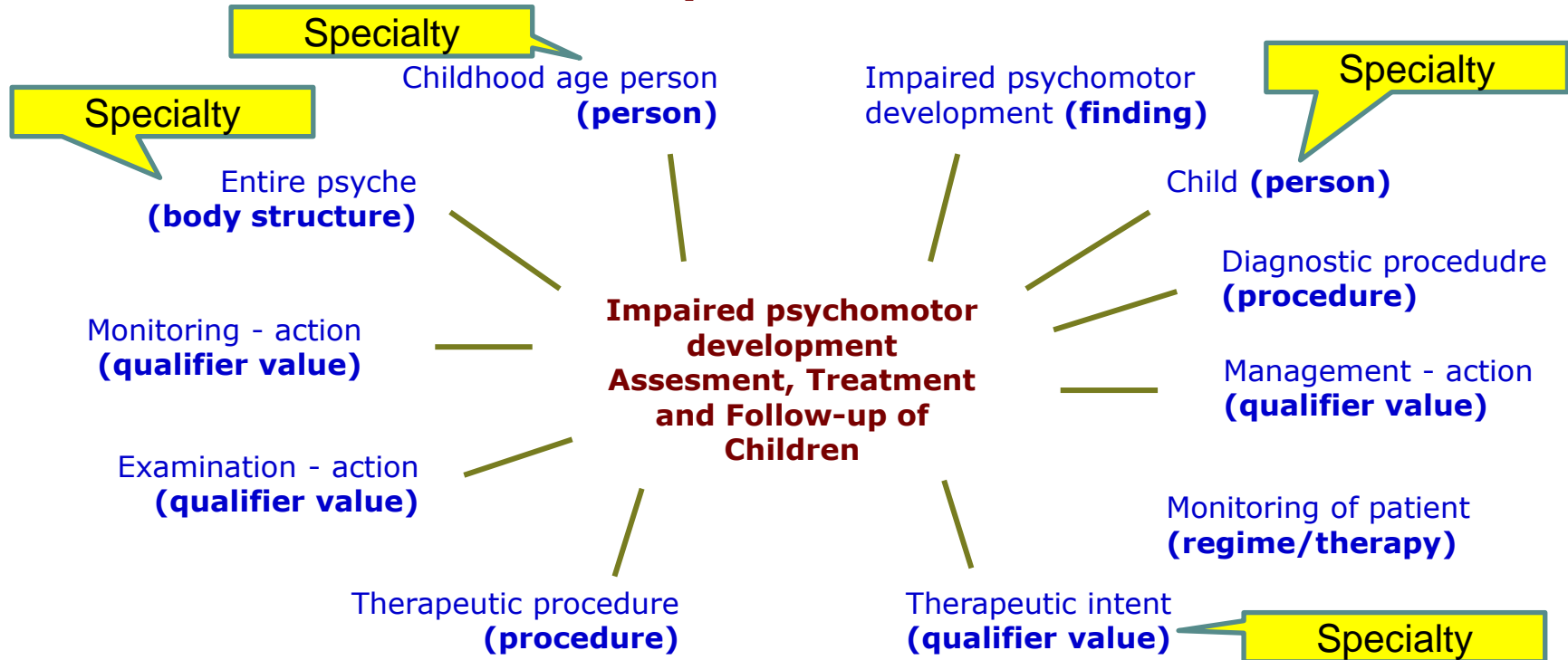
Content is tagged with SNOMED CT concepts - here components in the title



Content is tagged with SNOMED CT concepts - here components in the title



Content is tagged with SNOMED CT concepts - here components in the title



- By tagging a large and inconceivable number of source material with SNOMED CT concepts, you can classify the sources ie obtain collections of sources
- Each collection of clinical instructions can be distributed to the Subject Matter Experts (SMEs) for priority and harmonization (avoiding spending time looking for a needle in the haystack)

Benefits of the tagging process

- Content of diagnosis and procedures in the Epic Foundation System are mapped to SNOMED CT concepts
- Epic uses SNOMED CT concept diagnosis groupers for e.g. decision support, track and report on patients' medical history, track interventions and outcomes for certain diagnoses
- Like the tagging process of clinical instructions, Epic Foundation content can be classified
- Clinical instructions which are qualified by the SMEs can be linked to a variety of places in Epic e.g. to Orders / Order-sets

**How does the
SNOMED CT
tagging
process of
clinical
guidelines
come into play
with Epic?**

Classifying content of the Epic Foundation system with SNOMED CT

- Identification of/tag content elements in the Epic Foundation System to SNOMED CT concepts (like for clinical instructions)
- Use tags for adjusting content between clinical practice and content of the Epic Foundation system e.g.
 - Workflow navigation in the system
 - Decision support
 - E.g. links to clinical instructions
 - Document support
 - E.g. Links to clinical instructions

Mapping

Clinical instructions – Epic Foundation System via SNOMED CT concept

Cross regional Clinical Instructions

Septisk shock, svær sepsis målrettet behandlingsstrategi for patienter på intensiv afdeling

Sepsis og svær sepsis og septisk shock

Sepsis – initial observation, diagnostik og behandling af onkologiske patienter

Sepsis hos børn mellem 4 uger og 18 år

SNOMED CT concept

Sepsis (disorder) [91302008]

Epic Foundation System

ED ADULT SEPSIS EVALUATION [1600000050]

GEN ADULT SEPSIS ADMISSION [3040000389]

GEN ADULT SEPSIS FOCUSED [3040000423]

GEN ADULT SEPSIS MANAGEMENT [3040000427]

NEO NEONATAL SEPSIS FOCUSED [3040000507]

Thank you for
your attention 😊

