Experiences at Tilburg

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Tilburg University - Elisabeth-Twee Steden Hospital

Since 2010: Collaboration with focus on clinical assessment

Patients: meningioma, low grade and high grade glioma

Data:

MRI: T1, T1 with contrast & T2, later Flair, (never all), DTI

for awake surgery: resting state, verb generation and motor task

Behavioral: Neuropsychological assessment (CNS VS)

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Since 2014: 2 research groups that work in close collaboration

Imaging group






Neuropsychological assessment group







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Project: cognitive deficits in brain tumor patients

- Systematic presurgical testing of all meningioma and LGG patients
  - Resting state
  - DTI
  - NPS
- If possible, same after 3 months.
- In subgroup (+- 70 patients), also pre- and post task fMRI (memory and attention tasks)

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Multidimensional data collection

Very rich data set (Clinical follow-up and scientific follow-up)

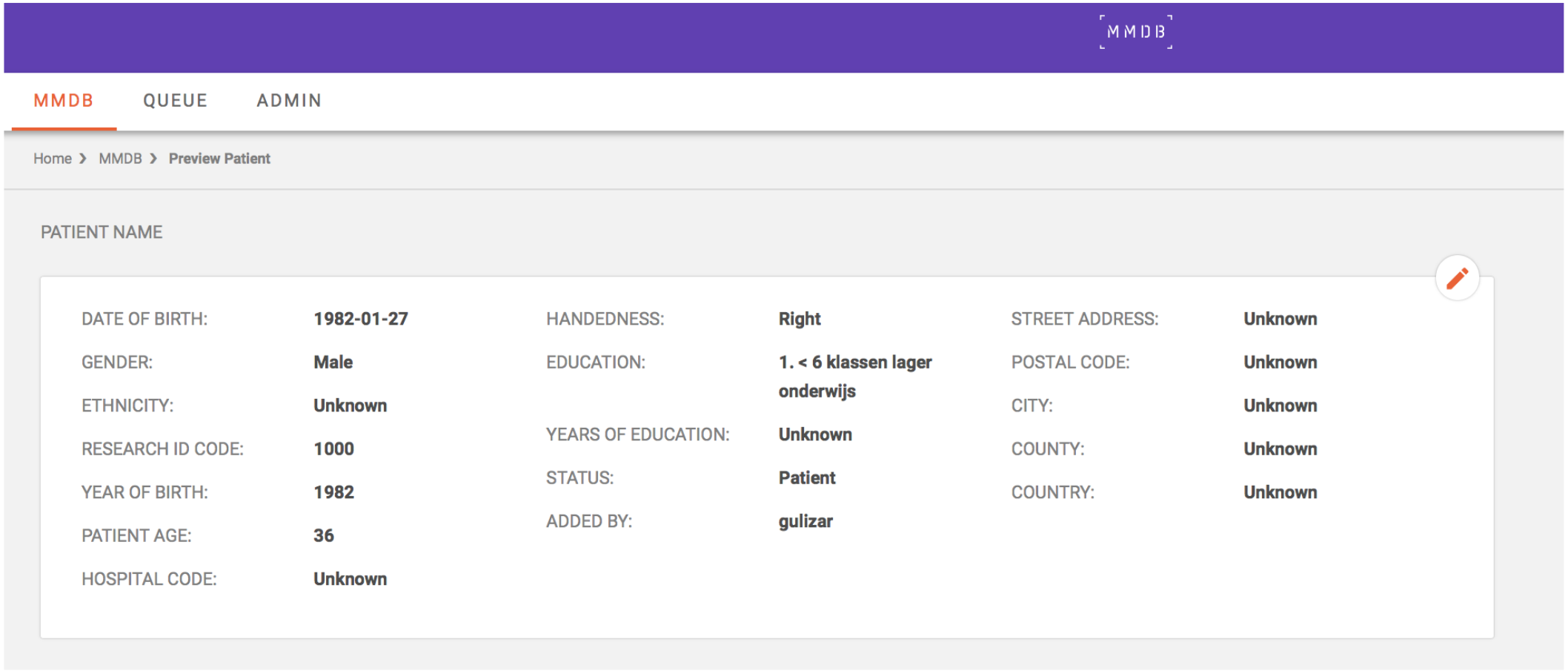
- ~ 450 patients scanned
- ~ 250 patients with resting state
- ~ 200 patients with DTI
- ~ 200 patients with verb generation
- ~ 70 patients with fMRI attention and working memory
- > 800 patients with NPS at T0 (550 at T3, 170 at T12, 60 at T24)

Development of a local brain tumor research database

Goals:

- integration of all research data (demographical, tumor related, NPS, MRI)
- Improved reliability, access as well as protection of tumor patient research data
- first module ready, which is about registering data at a basic (organisational) level
- Other modules in preparation (e.g. online running of analyses; complex searches; visualization)

Example 1



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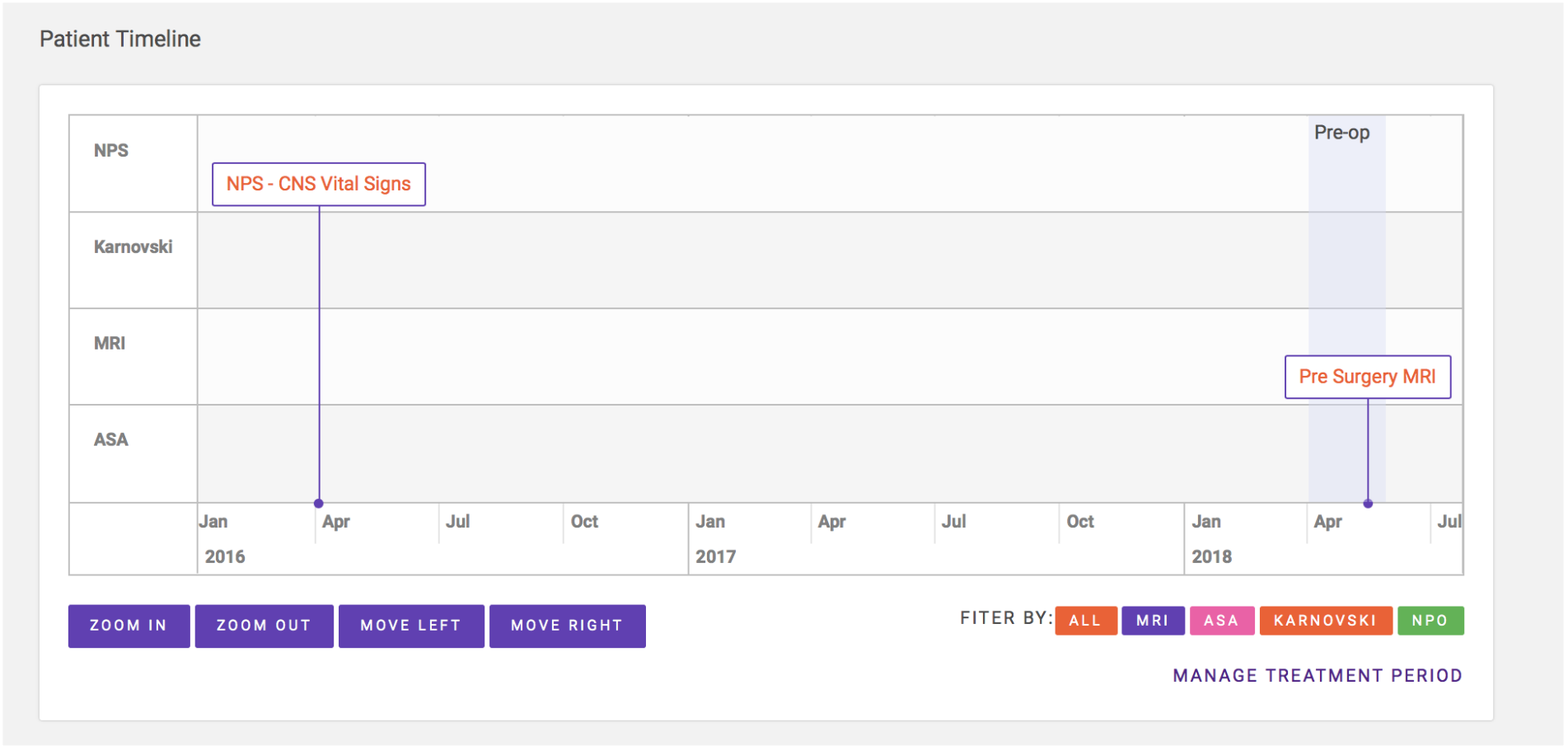
Example 2



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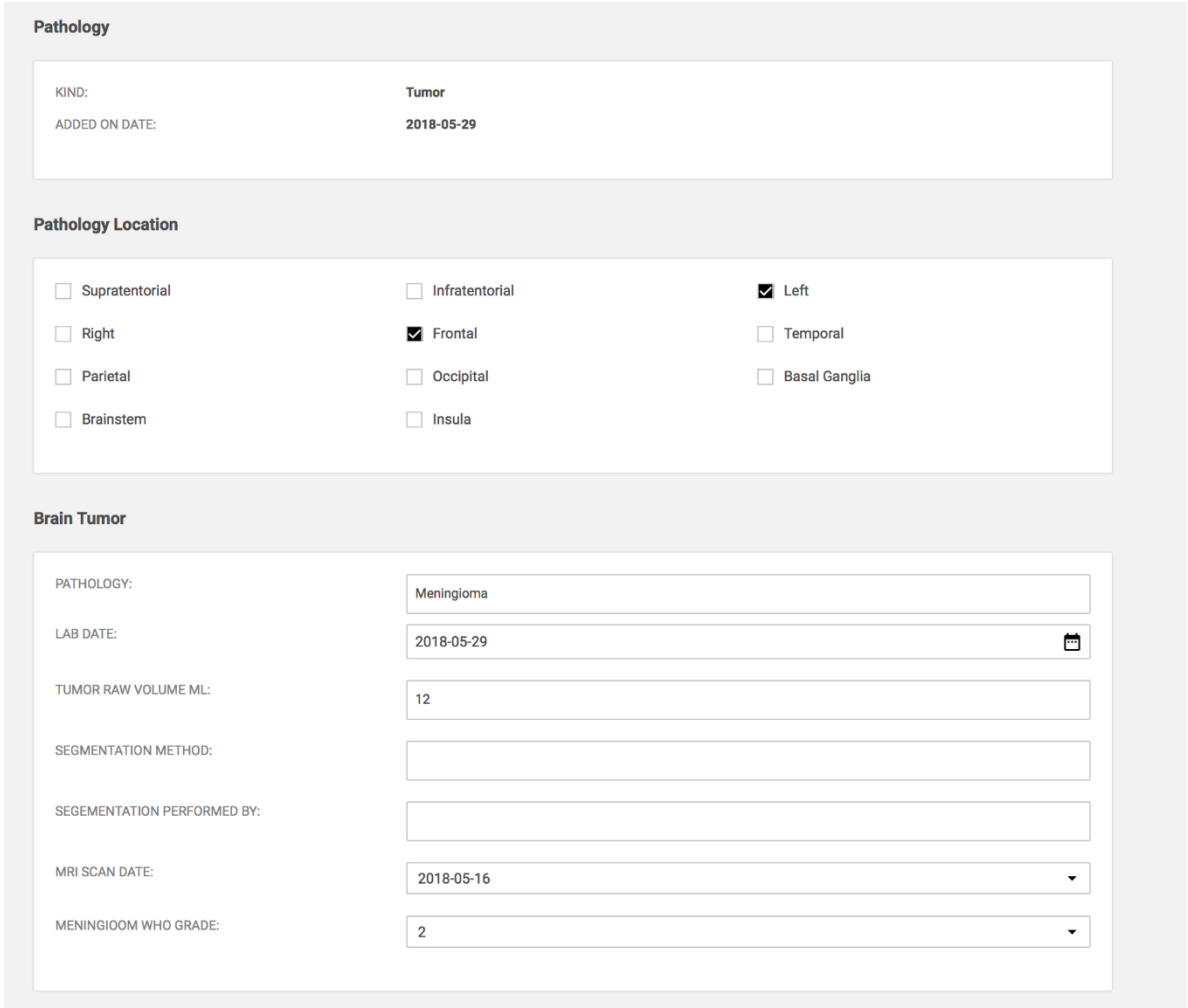
Example 3



Pathology

KIND: **Tumor**

ADDED ON DATE: **2018-05-29**

Pathology Location

- [ ] Supratentorial
- [ ] Infratentorial
- [x] Left
- [ ] Right
- [x] Frontal
- [ ] Temporal
- [ ] Parietal
- [ ] Occipital
- [ ] Basal Ganglia
- [ ] Brainstem
- [ ] Insula

Brain Tumor

PATHOLOGY:	Meningioma
LAB DATE:	2018-05-29
TUMOR RAW VOLUME ML:	12
SEGMENTATION METHOD:	
SEGEMENTATION PERFORMED BY:	
MRI SCAN DATE:	2018-05-16
MENINGIOOM WHO GRADE:	2

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Ethical and privacy issues

Prior to 2014

- imaging data collected as part of clinical protocol => no explicit consent for use of data for research
- NPS data with consent
- => unclear whether these data can be combined.

Since 2014

- consent for both imaging & NPS data for specific research questions
- => can we use this for other questions a posteriori?
- => sharing with other institutions?

Practical issues

- Demand on patients: many different studies
- Organization: little time between first contact with patients and surgery
- Segmentations
- Format of data: usable end results: preprocessed or raw

Questions?


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