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Monitoring patient progress at the healthcare farm

‘De Hoge Born’

Preliminary results from the first phase

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Overview

- Situation at the ‘Hoge Born’
- Research program: three phases
- Design of the first phase
- Preliminary results
- Future perspectives

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Situation at the ‘Hoge Born’

- Target populations:
  - Psychiatric patients (diagnostically heterogeneous group): 8
  - Mentally disabled persons: 8
- Treatment length/ length of stay: 1 year
- Psychiatric staff/ staff for mentally disabled persons
- Outpatient treatment (in future also inpatient treatment): 1 - 3 days/ week

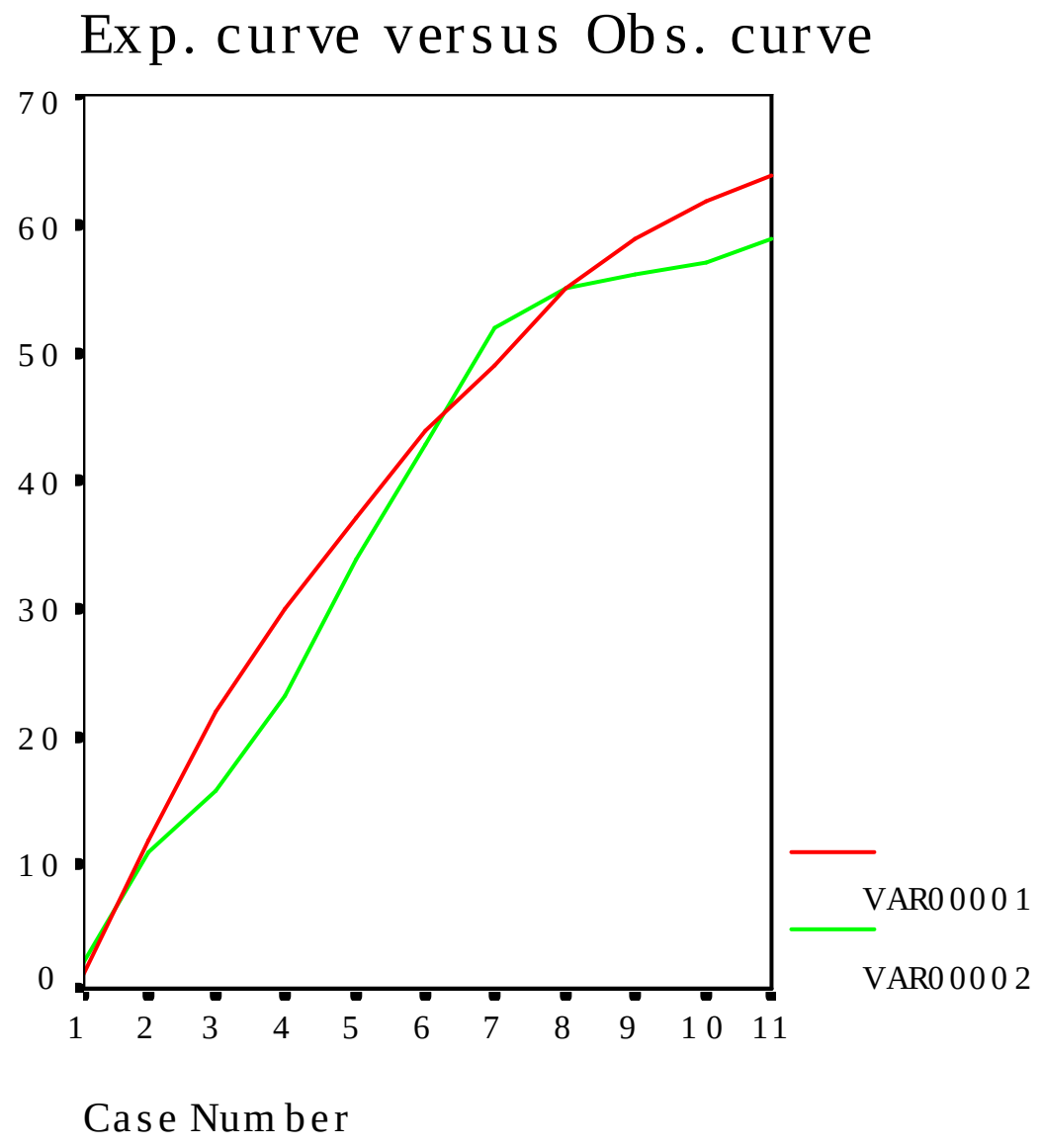
Research program: three phases

- First phase: development of a monitoring instrument to monitor individual patient progress.
- Second phase: using the monitoring instrument to collect evidence for the most promising green interventions for specific indications.
- Third phase: evidence from monitoring & hypotheses from literature and expertise > design of the best green care interventions for one or more specific indication(s) > randomized controlled trial: TAU versus best green intervention.

Design of the first phase

- Background: RCT = golden standard
- However, RCT not always applicable, e.g.:
  - Small groups
  - Heterogeneous groups
  - Long treatment length
  - No manualized treatment
- Quasi-experimental designs, or
- Specific case-study methodology and statistics

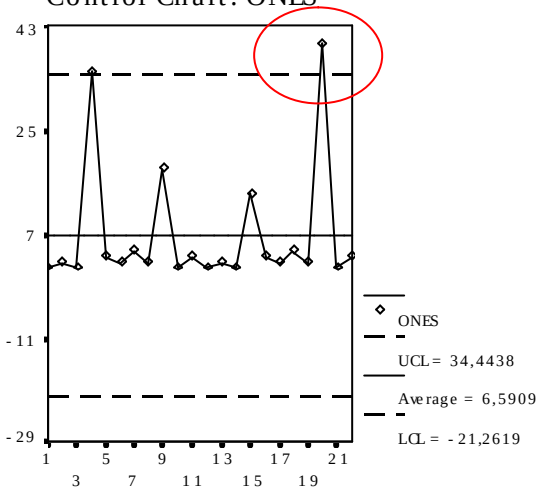
- Patient Focused Research (PFR):
  - Developed in psychotherapy research to answer the question: what is the effect of this intervention for this patient?
  - Three theoretical models:
    - Dosage model
    - Phase model: remoralization (subjective well-being), remediation (symptoms), rehabilitation (life functioning)
    - Expected Treatment Response
  - Behavioral Health Status (BHS): measuring instrument based on these theories
  - Analyses: Predicted curve versus Observed curve



- Therapeutic Causality Report (TCR):
  - ‘Long before’ versus ‘shortly after’
  - Verification of a causal chain of process steps

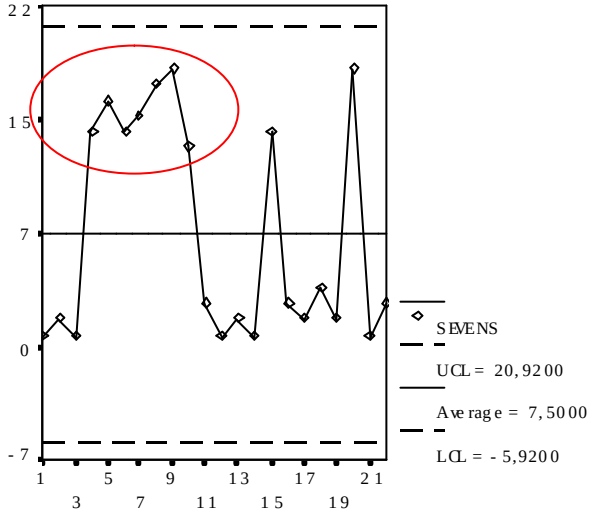
- Statistical Process Control (SPC)
  - Ones, sevens, trends

Control Chart: ONES



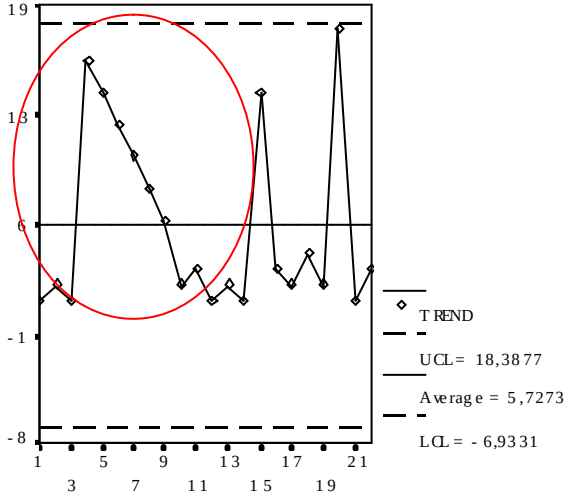
Sigma level: 3

Control Chart: SEVENS



Sigma level: 3

Control Chart: TREND



Sigma level: 3

- Measurement waves:
  - 1: Intake, start, every three months, 3 and 6 months after treatment: all
  - 2: every week: BHS
- Measuring instruments:
  - Symptoms (BHS, SCL-90, OQ-45)
  - Quality of Life (WHOQOL-short)
  - Costs (TIC-P)
  - Heart Rate Variability
- Analyses:
  - TCR: ‘Long before’ versus ‘shortly after’/ phase model verification
  - PFR: EC versus OC
  - SPC: ones, sevens, trends
  - Normal pre-posttreatment statistical analyses

Preliminary results

- Start data collection: April 2007
- 8 intake measurements (all):
  - 5 patients already treated at the ‘Hoge Born’
  - 3 new patients
- 7 time-series measurement (BHS only):
  - 2 patients: only one measurement
  - 1 patient: only two measurements
  - 4 patients: more than 4 measurements

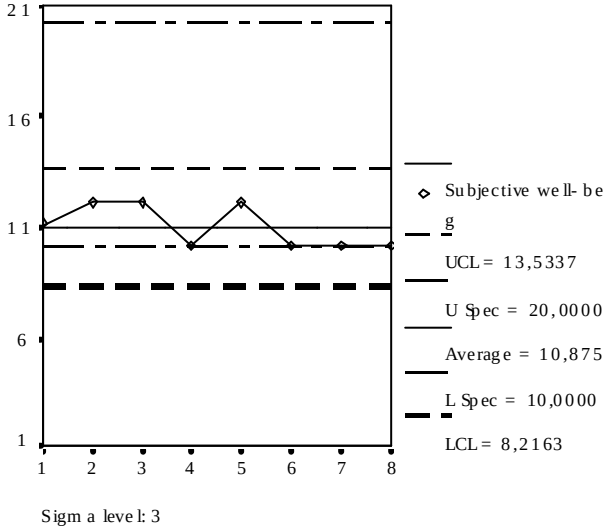
- Sexe:
  - 3 males
  - 5 females
- Age:
  - Mean: 35,5
  - Range: 30 - 50
- Work:
  - 7: not able to work
  - 1: looking for work
- History:
  - How long do problems exist:
    - > 20 years: 2
    - 10 - 20 years: 2
    - 5 - 10 years: 3
    - 1-5 years: 1
  - Previous therapy for problems?: 8

- Previous treatment:
  - More than 1 year psychotherapy: 7
  - Previous inpatient treatment: 5
    - 1x: 1
    - 2x: 2
    - > 2x: 2

- Direct and indirect costs related to disease:
  - Not able to work due to health problems: 7
  - Not able to have a paid job since:
    - Mean: 4 years
    - Range: 1 - 7 years
  - Problems with cleaning the house: 7
  - Problems with daily shopping: 7

Patient 4

Subjective well-being

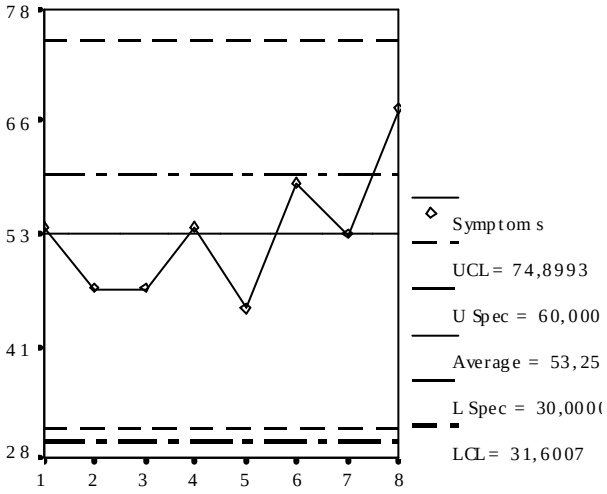


Sigma level: 3

Process Statistics
Act. % Outside SL: 0%
LSL = 10 and USL = 20.

Patient 4

Symptoms

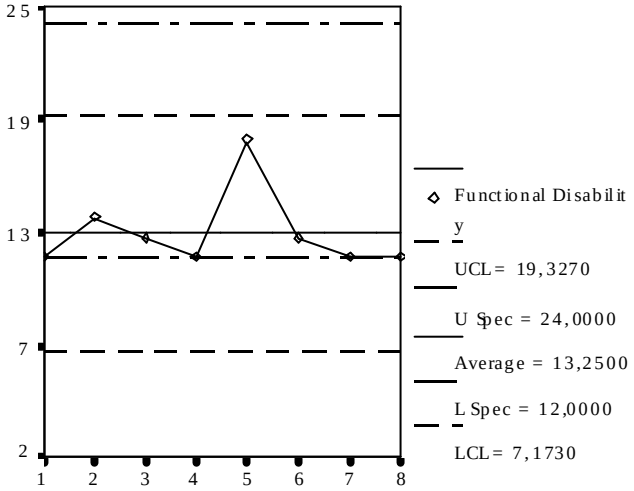


Sigma level: 3

Process Statistics
Act. % Outside SL: 12,5%
LSL = 30 and USL = 60.

Patient 4

Functional Disability

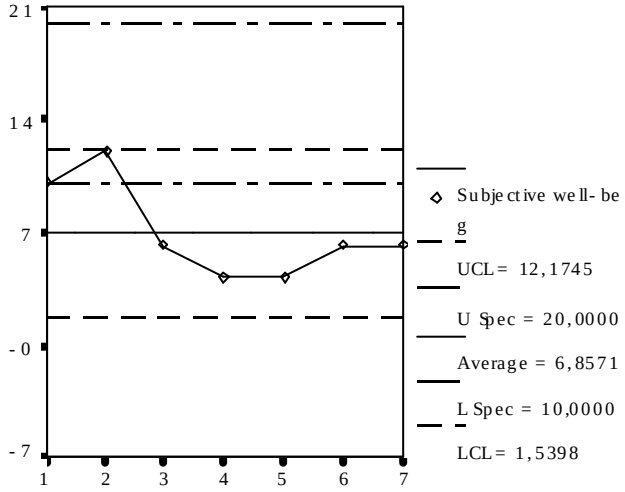


Sigma level: 3

Process Statistics
Act. % Outside SL: 0%
LSL = 12 and USL = 24.

Patient 1

Subjective well-being

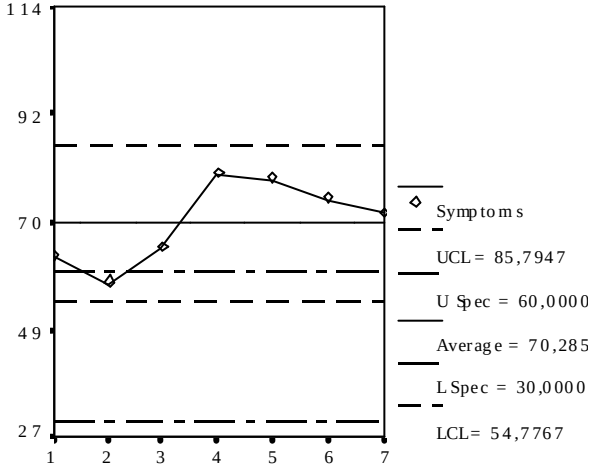


Sigma level: 3

Process Statistics
Act. % Outside SL: 71,4%
LSL = 10 and USL = 20.

Patient 1

Symptoms

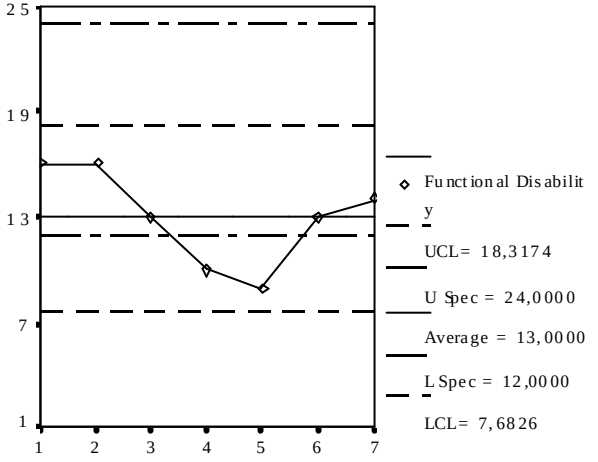


Sigma level: 3

Process Statistics
Act. % Outside SL: 85,7%
LSL = 30 and USL = 60.

Patient 1

Functional Disability



Sigma level: 3

Process Statistics
Act. % Outside SL: 28,6%
LSL = 12 and USL = 24.

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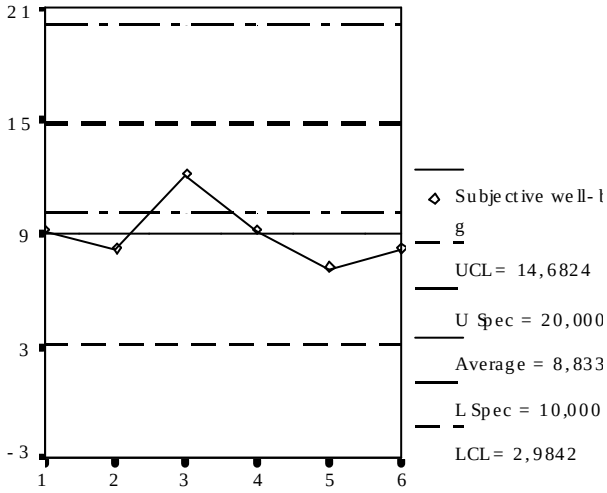
Patient 2

Subjective well-being

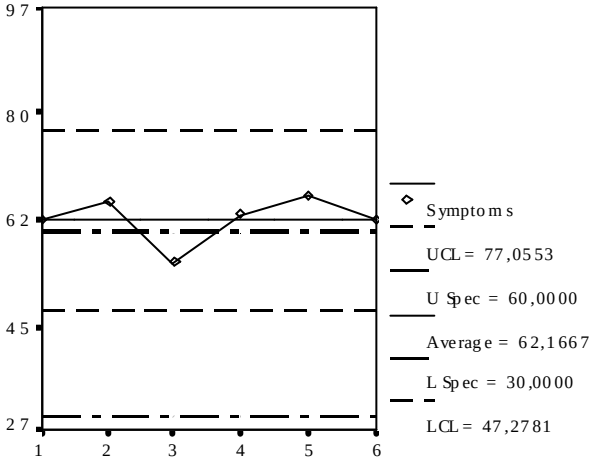


Sigma level: 3

Process Statistics
Act. % Outside SL: 83,3%
LSL = 10 and USL = 20.

Patient 2

Symptoms

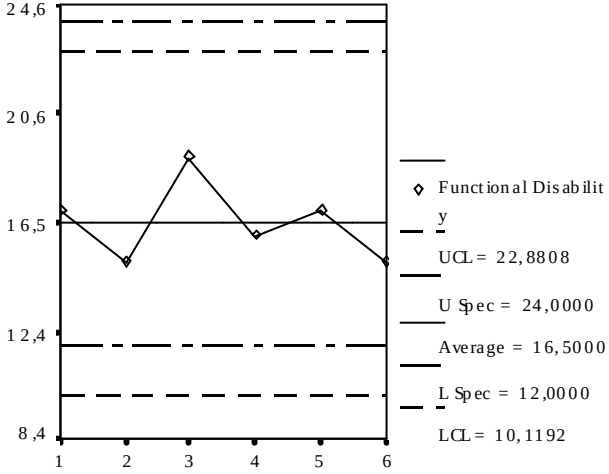


Sigma level: 3

Process Statistics
Act. % Outside SL: 83,3%
LSL = 30 and USL = 60.

Patient 2

Functional Disability

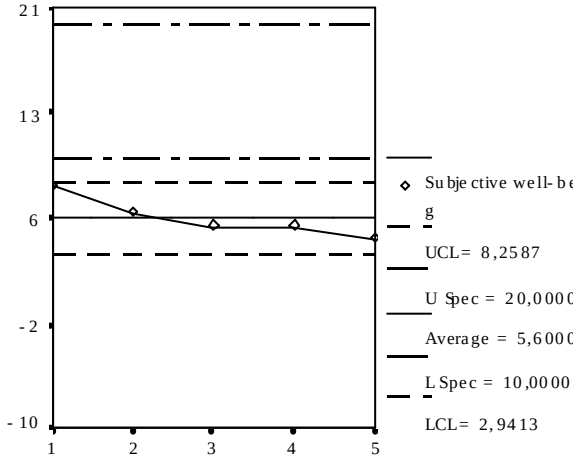


Sigma level: 3

Process Statistics
Act. % Outside SL: 0%
LSL = 12 and USL = 24.

Patient 7

Subjective well-being

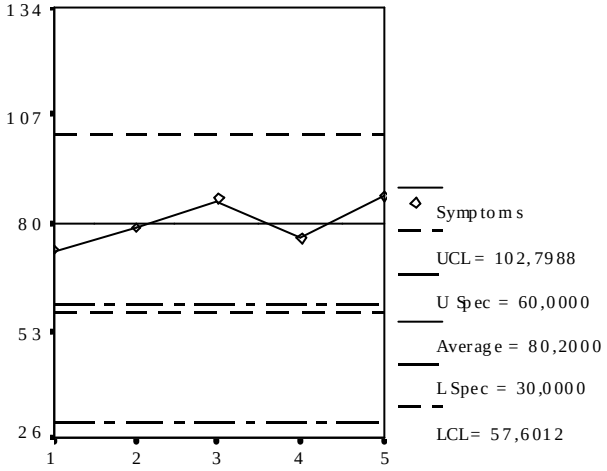


Sigma level: 3

Process Statistics
Act. % Outside SL: 85,7%
LSL = 10 and USL = 20.

Patient 7

Symptoms

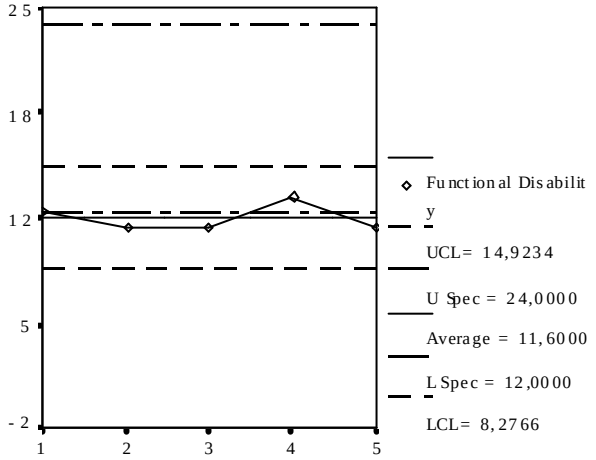


Sigma level: 3

Process Statistics
Act. % Outside SL: 100%
LSL = 30 and USL = 60.

Patient 7

Functional Disability



Sigma level: 3

Process Statistics
Act. % Outside SL: 60%
LSL = 12 and USL = 24.

Future perspectives

- More measurements ‘Hoge Born’: intake + times-series >
  - More accurate analyses ‘long before’ versus ‘shortly after’
  - Analyses of PC versus OC
  - Analyses of causal chain ‘remoralisation’ > remediation > rehabilitation
  - Analyses of ‘ones’, ‘sevens’ and ‘trends’ >
    - feedback to therapists
    - correlation to specific interventions

Future perspectives

- More measurements in other national (and international?) healthcare farms >
  - Building a large database > more accurate predictions (PC)
  - Online service to healthcare farms