

APPENDIX

1. Quantitative Part/Questionnaire

(Translated from German by the first author; structure slightly adapted to account for similar scaling)

1.1. Demographics

- In which country is the hospital you are employed at located?
 - *Germany/Austria/Switzerland/no answer*
- Please state the name of the hospital you are employed at (open question)
- What is your task/occupation in this hospital?
 - *I work as physician/as care worker/in diagnostics (further medical professions)/in administration or management/in another occupation/no answer*
- Gender
 - *Female, male, no answer*
- Since when are Clinical Pathways (CPs) used in this hospital?
- Since when are you employed in this hospital?
- Since when do you work with CPs?

Scaling for all: Less than 1 year/1>5 years/5>10 years/+10 years/do not know/no answer/not at all

- In which area of the hospital are CPs used?
 - *Acute Geriatrics, Remobilization/Anesthesiology, Intensive Care/Ophthalmology/Surgery/Dermatology/Gynecology, Midwifery/Otorhinolaryngology/Inner medicine/Pediatric and adolescent surgery/Pediatrics and adolescent medicine/ Dentistry, oral and maxillofacial medicine/Oral and maxillofacial surgery/Neurosurgery/Neurology/Orthopedics and orthopedic surgery/Palliative care/Plastic surgery/Psychiatry/Pulmonology/Radio-oncology, Radiotherapy/Trauma surgery/Urology/do not know/no answer/Other specialist departments (open question)*

1.2. Criteria for the use of CPs

- Are there defined CP entry criteria regarding diagnoses?
- Are there defined CP entry criteria regarding manifestations of the disease?
- Are there defined CP entry criteria regarding comorbidities?
- Are there defined CP entry criteria regarding age?

Scaling for all: Yes, for all CPs./Yes, for some CPs./No, for none of the CPs./do not know/no answer

1.3. Cost-Benefit-Effects

The implementation of CPs can result in financial savings, for example via higher efficiency. Please state how high you expect these to be in the following areas.

- How high do you estimate the cost-benefit effects regarding medical services?
- How high do you estimate the cost-benefit effects regarding nursing services?
- How high do you estimate the cost-benefit effects regarding pharmaceuticals?
- How high do you estimate the cost-benefit effects regarding functional services?

Scaling for all: High saving/middle range saving/little saving/no saving/no answer

For each question in addition: Please state the scope of your reply

Scaling for all: Answer applies to all CPs/Answer applies to many CPs/Answer applies to a few CPs/Further comments (open question)

Note: In case at least one of the responses was little or no savings, an additional question was asked regarding the reason(s). One or more of the following response options could be chosen:

- The costs in this area were already optimized before the implementation of CPs.
- No patient related monetary benefits were generated, but immaterial ones, e.g. higher patient safety.
- No employee related monetary benefits were generated, but immaterial ones, e.g. higher employee satisfaction.
- The implementation of CPs is not yet complete. A monetary benefit thus cannot be estimated at the moment.
- Further comments (open question)

1.4. Benefits of CPs for users

- CPs help to not forget treatment measures.
- CPs facilitate the onboarding of new employees.
- Notwithstanding a shorter length of stay, optimal patient treatment is ensured.
- CPs contribute to better cooperation of physician and nursing staff.
- CPs facilitate documentation.
- CPs facilitate communication with patients.
- CPs facilitate internal communication.
- CPs optimize internal processes.
- CPs contribute to risk management.
- CPs are necessary for implementing specifications of quality management.

Scaling for all: Fully applies/rather applies/rather does not apply/does not apply/no answer

[Note: reported as agreement rates in text]

- Further/other benefits (open question)

1.5. Comments (open question)

2. Qualitative Part/Interview topics

The interviews with experts and employees had a largely similar structure. The questions were translated from German by the first author. Additional questions/elements used in the expert interviews are highlighted in italics.

Use of Clinical Pathways (CPs)

- Which CPs do exist in the hospitals?
- To what extent are they used in your daily work?
- How long have you been working with CPs?
- Were you involved in designing CPs?
- What are your tasks along the implemented CPs?

Acceptance

- What were the reasons for introducing CPs in the hospital?
- Which employees were involved in designing CPs?
- *Which expectations were prevalent regarding CPs?*
- How were the CPs implemented into the daily routine?
- Who was responsible for the implementation?
- Who was affected by the implementation? Who was not?
- How were the reactions of the employees concerned? Why?

Satisfaction

- Which changes were observed due to the implementation of CPs?
- Which benefits are observed? (*by medical doctors, nursing personnel, administration, patients, management or hospital owners*)
- Are CPs helpful in daily work?
- How are deviations from CPs dealt with? Are deviations a problem?
- Are there less challenges regarding communication and intersections due to CPs?
- In which form/For what did CPs prove to be helpful?
- In which form/For what did CPs (not) fulfill your expectations?

Problems/Suggestions

- Which criticism is raised regarding CPs? Why?
- Are existing CPs further developed/changed? If so, who participates in this process?
- Do you have suggestions for changes?
- What would you advise other hospitals regarding CPs (regarding implementation, in general, etc.)?

Closing remarks