Introduction
Surveys from various countries show that the quality of acute pain management is far from being satisfactory. The reasons for inadequate pain treatment are mainly deficits in organisation and personal resources, not medical problems. Regular measurement and feedback of quality indicators is recommended to overcome these deficits (1).

Therefore, a quality improvement project for postoperative pain (QUIPS) with the focus on outcome was developed (2).

Methods
A set of outcome and process parameters of postoperative pain management is obtained from a random sample of surgical patients on the first postoperative day. Outcome parameters comprise the items pain intensity and pain interference (modified Brief Pain Inventory) as well as side effects and patient satisfaction. Data are sent to a data registry for analysis. Immediate feedback and peer comparisons can be retrieved by the local multidisciplinary pain management teams for continuous quality improvement (QUIPS), and also to follow the performance of the own ward over the course of the project (internal benchmarking).

In five hospitals, maximal pain intensity decreased significantly (p < .01) after start of the project. In four of these hospitals, quality improvement was maintained until the last measurement point.

Results
During the pilot phase, 12,389 data sets were recorded, analyzed and fed back to thirty participating wards in six hospitals. An example of a web-based feedback is shown in Fig. 2. For each ward it is possible to compare its outcome with other wards of the same surgical discipline (external benchmarking), and also to follow the performance of the own ward over the course of the project (internal benchmarking).

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Conclusion
This project allows short-term on-line sub-analysis, internal, and external benchmarking. It reliably provides clinicians with information about outcome quality of postoperative pain management and can be used in daily routine. It is possible to identify effects of pharmacological and non-pharmacological interventions. However, quality improvement can only be achieved if information on outcome is transformed into changes of clinical practice. Correlation between outcome and traditionally used process parameters was poor. International cooperation could enlarge the data basis, compare nation-specific approaches in pain management, and allow to identify best clinical practice on an international level.

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