



Transparency and Process Improvements in Anesthesia

A Project to Improve Clinical Processes at Klinikum Esslingen

Who/What

Klinikum Esslingen
An anesthesiology and surgical intensive-care clinic

The Challenge

Transparency in perioperative process times
Concrete improvements in anesthesiology processes

The Solution

Thanks to Philips Healthcare, perioperative process times can be accurately recorded and problems hindering processes identified. At the same time, a number of improvements in anesthesia have been implemented via a plan-do-check-act procedure.

The anesthesiology and surgical intensive-care department is a central interface between the other clinics and institutes within Klinikum Esslingen, which treats more than 100,000 patients each year as the primary tertiary facility in the district. As such, the efficiency of this department has a direct impact on other departments within the system. Klinikum Esslingen chose Philips Healthcare's Clinical Transformation and Education consultants to collaborate with them in support of their efforts to achieve measurable improvements in anesthesiology processes and perioperative data.

As at many other hospitals, statistics on perioperative processes are a regular source of conflict at Klinikum Esslingen. The quality of routinely collected baseline data, which is often documented retrospectively, is often questionable. What's more, the information provided by the data collected is frequently insufficient to perform a reliable process analysis. At Klinikum Esslingen, changeover times and the frequency of an on-time start for the first cases in the morning have been used as a proxy to determine the quality of anesthesiology processes. With the usage of this proxy, the effect of factors external to anesthesia are not considered.

Philips began the project by determining their current workflow state by shadowing the clinicians on the surgery wing. This allowed Philips to observe any issues or gaps in the current processes. This process model was validated in collaboration with clinic staff.

"If you can't measure it, you can't manage it" *

* Peter F. Drucker



Head physician
PD Dr. med. Ulrich Bissinger

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Tablet-based software was then configured to enable doctors and the anesthesiology team to record all relevant times and disturbance variables with minimal effort.

Some surprising associations came to light when the data was evaluated: A large majority of the circumstances that led to delays were outside of the area of responsibility for the anesthesia department.

"We are therefore able to base our perioperative processes on concrete, detailed and reliable data."

A large number of concrete recommendations could be developed based on the analysis. The way was cleared to tap significant resources and reduce overtime.



Collaborative Partnership Leading to Long-Term Success

However, in order to ensure results could be achieved as quickly as possible, only those problems that could be solved independent of other external factors were addressed... This approach first of all ensured that project risks were minimized. What's more, the improvements seen in the department sent a clear message to other departments

that would need to be involved at a later stage, that improvements can be made if a structured and consistent approach is applied.

An initial workshop was held to gather ideas and recommendations from doctors and nursing staff. These were then evaluated and prioritized, taking cost, benefit and the

likelihood of success into account. A small database of suggestions for improvement was compiled: For each proposed improvement idea, the expected benefit, time and expenditure, risk and status, as well as details of implementation, were documented and updated regularly.

"One important outcome was the willingness of colleagues to look beyond their day-to-day "anesthetic" work."

A "Mini Project" for each Improvement

Each of the suggestions – of which there were more than 20 – was treated as an individual project with its own PDCA (Plan-Do-Check-Act) cycle. In the PDCA method, a solution is firstly developed in the "plan" stage, and is then provisionally implemented ("do"). The results are studied ("check") and, if successful, the concept is introduced as the new standard ("act").



The Plan – Do – Check – Act – process

Targeting Continuous Improvement

Previous attempts by staff to initiate process improvements were unsuccessful. However, with the help of the advisor from Philips, a much more rigorous approach was implemented. The improvements made affected almost all areas within the anesthesiology department: from the morning meeting, the organization of overlapping anesthetics, the transfer of patients from the room more quickly, hygiene improvement, to the usage of a process diagram for anesthesiological problems. "We have made improvements in all areas – from patient safety and collaboration with other departments, to quicker release and reduced overtime for employees," explains PD Dr. Bissinger, head physician at the anesthesiology and intensive-care clinic, speaking about the results achieved so far. "It has really revitalized the department," adds senior physician Dr. Marquard.

To achieve long-term sustainable change, it is essential that everyone concerned is involved throughout the entire process. "The positive effects can only be maintained and developed in the long term if the department itself drives forward the change process," explains head physician PD Dr. Bissinger.

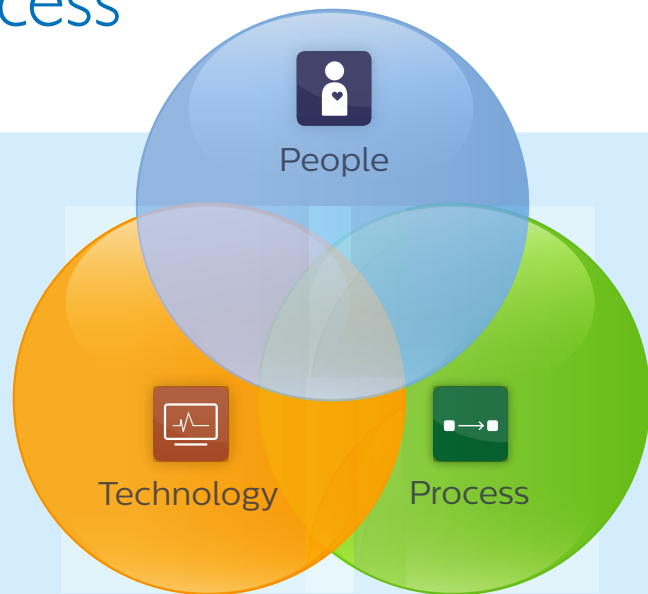
This view is also supported by a staff survey that was conducted as part of the project. The survey showed that the vast majority of medical staff agreed with the project goals. They were also happy with individual results, such as the improvement in the flow of information and streamlining of established processes. The staff survey also revealed a backlog. Improvements were needed in anesthesia care, for example.

A large number of respondents saw the improvements successfully implemented thus far as just the first step on the way to continuous optimization of all operational activities.

Head physician PD Dr. Bissinger also shares this opinion, and has an optimistic view of the future: "We haven't reached the end of our journey yet. Although we have already made improvements across the departments, we still need to address other problems in collaboration with other clinics. We are now ready to meet this challenge."

Working Together to Solve Complex Problems – with Success

Philips Healthcare's Clinical Transformation and Education partner clinic has been providing advice since 2012. The key objectives are to simplify clinical processes and improve financial results, and ultimately to save lives and promote health.



Before a high performance culture can be developed – combining in-depth knowledge with a high level of commitment in the team – all employees need consistent motivation and guidance to achieve this aim. Thanks to their many years of experience in the clinical field, Philips advisors provide the key to long-term success of the consultancy project. The interaction between processes, technology and the people involved is investigated in detail as part of a comprehensive approach. The first step focuses on the "people" and "processes" components, rather than the technological aspect. This is because although investment in the latest technology is critical

to success, it can only be used to its full potential if its users work methodically, confidently and in close cooperation with one another.

The key difference in this process is made by the use of the right methods coupled with the necessary experience.

The positive change over the course of the consultancy project at Klinikum Esslingen demonstrates the added value that external expertise can provide in the clinical environment. In this way, Philips works as a partner to achieve common goals.

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