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# Requirement for quality control of surgery

OPINIONS

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## Quality assurance of surgical procedures and interventions requires suitable tools and the necessary resources.

It is not uncommon to see sensational reports in Norwegian media about the poor quality of services in certain hospital departments, sometimes related to specific surgeons. Therefore, a surgical department should have a complete overview at all times of activities, types of procedures, risk factors and outcomes (fatalities, complications, length of hospitalisation, etc.) so that the management can review adverse events. Most of this information requires structured data that currently cannot be easily acquired from patient administration systems or medical records. Nor is it possible to register all of the risk factors or complications with ICD-10 codes or national procedure codes (1). Some would like to make medical records structured (2), while others want to use artificial intelligence to extract structured data from text (3). This assumes that the data requested is described in the text.

## Time-consuming registration

This is not a new problem. Until the early 1980s, activity data was usually obtained manually from surgical records. By using the operation protocols, it was possible to gather information on the number of operations, operating

theatres, surgeons and teams, and then use this data to prepare annual reports and operation lists for candidates who needed documents, etc. Over thirty years ago, as a thoracic surgeon at Oslo University Hospital, Rikshospitalet, I took the initiative to establish an expanded register known as Datacor (4). The database contained risk factors, technical surgical data and outcomes, and healthcare personnel carried out structured registration before, during and after the surgery. In the period 1989–2016, Datacor delivered monthly activity and quality reports. In addition, data were delivered to the Norwegian Register for Cardiac Surgery (5) and the European Adult Cardiac Surgical Database (6).

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Registering data is a time-consuming process, and should therefore be limited to only what is necessary. It is hard to find motivation for registering data that will not be used. In my experience, it is best to start with a small database and then add more elements as needed. Based on the exact definition of the factors, the registration itself should be limited to a 'yes' (in a logical field) or the numeral 1 (in a numeric field). Experience shows that forcing the person doing the registration to answer 'no' in 20–30 fields does not improve on the registration. The risk factors and quality indicators chosen for inclusion will vary from discipline to discipline. The Norwegian Directorate of Health has developed and defined an excellent set of indicators for a range of disciplines (7). The database program should also automatically check for age and gender (the ninth digit in the national identity number), as well as calculate body mass index, body surface area, kidney function (creatinine clearance), risk score and, if desired, DRG code.

Many colleagues want to use simpler databases that allow them to perform analyses and create reports themselves. Hospital owners most often want centralised storage of large amounts of data (8). Good access control and secure storage are probably more important than the choice of database. Regardless of the platform, the new databases must be able to meet the EU's requirements regarding protection of personal data (9).

## Quality control should be required

Our database was developed because commercial software was not available. All departments that perform surgical procedures or interventions should have a quality database that allows treatment providers and managers to continually monitor results. The quality database can be a structured part of the medical records.

Many departments have experience with quality monitoring over a long period of time, but when these (often self-developed) systems are eventually discontinued, those experiences should be incorporated into future activities. It is not the case that if something is new, it is necessarily better. Operations and

interventions are still being performed in Norway without sufficient, ongoing quality control. Quality control should be a requirement, but it requires resources. Much of the quality-improvement work that has been done over the decades at no charge by enthusiastic health professionals will be phased out and replaced by new systems. This will be costly.

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