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Sahlgrenska University Hospital looks to value-based care with help from Qlik

“We have succeeded, in a simple and structured way, in improving healthcare for our patients with the same budget as before. Better decisions for better health. With Qlik’s BI platform we spend time on the right things and we make better decisions.”

– Magnus Karlsson, Head of Orthopedics at Sahlgrenska University Hospital

Sahlgrenska University Hospital

Sahlgrenska University Hospital (SU) is northern Europe's largest hospital and one of the first hospitals to initiate value-based care, a concept which originated from Michael Porter, a Harvard Business School professor.

Value-based care means that patients are involved in their own care and the aim is to create maximum value for the patient. Sahlgrenska University Hospital's ambition is to roll out value-based care to 200 patient groups within a few years. Urology, obstetrics and orthopedics are three examples of some of the 20 departments leading the way for value-based care, to improve quality of care.

SU is one of the foremost pioneers and experts in Sweden in value-based management. The hospital puts the patient at the center and works actively with care planning in conjunction with the municipality to facilitate the patient's return home and continuing care.

The transition to value-based patient care was initiated a few years ago and has brought a paradigm shift for the orthopedic ward at SU. Through the national quality register for hip prostheses, orthopedic surgeons were already aware that patient satisfaction

was lower than the national average, while it was difficult to meet the demand for operations. It was also difficult for policy makers and health professionals to get an accurate overview when information was registered on many disparate systems. Orthopedics was in need of a new structure and automated scorecards, which would link information about the patient in detail.

The orthopedic department needed to create an overview of the data stored in different databases and to analyze data from different systems. The department decided on Qlik's platform and in less than three months created an overall scorecard. With Qlik data from many sources presented on the same platform, in-depth analyzes were created quickly and easily. When the clinic analyzes activities today, orthopedic surgeons at SU can see improvements far exceeding all expectations: more satisfied patients; involved employees and improved efficiency, i.e. faster treatment and shorter waiting lists.

Among other things patient waiting times for surgery were halved from about 100 days to about 40 days. Having the capacity to analyze every single operation in the patient care chain and after investigating what could be improved, orthopedics broke its own operating rate record and waiting times

Overview

Customer: Sahlgrenska University Hospital, Orthopedics

Industry: Healthcare

Function: Analysis and follow-up of value-based care

Geography: Sweden

Challenges:

- Deficiencies in the quality of care
- Long waits
- Long convalescence periods
- Dissatisfied patients with post surgery complications

Solution:

Sahlgrenska University Hospital has nearly 20 applications that analyze patients throughout the continuum of care. An orthopedist follows the patient from consultation to post operative and measures many relevant quality, process and cost measures. This is to continuously improve the experience of care and operational efficiency, which contributes to healthier patients and better socio-economic results

Benefits:

- Better and more efficient healthcare with continuous feedback
- More satisfied employees and patients
- Analysis of specific details provides new insights
- Single enterprise-wide view
- More time for patients as less time spent on manual data entry
- Shared improvement in the care chain

Data source:

Elvis, Operätt, Lokalt
vårdkvalitetsregister (VKR), Melior,
Labbest, Externa kvalitetsregister

Return on investment

At 3 months orthopedics had **50% shorter hospital stays**

Halved waiting times for surgery

Shortened the overall continuum of care by **1.5 months**

Surgery rates have increased **50%** for the same cost

Improved quality of care

30% fewer complications in surgeries carried out

Satisfied patients

9 out of 10 patients are now satisfied with the outcome of surgery

Lower costs

Average cost per patient has decreased by **15% - 11,000 SEK**

shortened. The average length of stay decreased from 5.5 to 3.5 days, while complications following surgery fell by a third.

Value-based care in practice

In order to succeed with value-based care, a structure and a common approach was needed. Sahlgrenska University Hospital measured data in the automated scorecards using Qlik, linking data from different quality registers and systems.

At the orthopedic clinic a working group for patients in need of hip replacement surgery was created, where healthcare workers along with patient representatives defined outputs to be measured and monitored.

"With the help of Qlik, we have been able to analyze data from two wards, which resulted in us resolving a longstanding concern within five months, about variation in length of stay" said Maziar Mohaddes, orthopedic surgeon.

At the practical level there was a change in process, which was initiated in parallel with the value-based management system being introduced. For example, physiotherapists started visiting patients two hours after surgery to quickly get patients on their legs. In this way it was possible to accelerate the mobilization of patients which is believed to improve both patient outcomes (reduced risk of postoperative complications) while contributing to shorter hospitalization.

A place of learning

Today, the orthopedic clinic is characterised by a good healthcare culture and a desire for improvement and learning.

Management kept informed by analyses is necessary to create a culture of learning and good care. Magnus

Karlsson, head of orthopedics at SU, is very proud and pleased with the improved results: "We have succeeded, in a simple and structured way, in improving healthcare for our patients with the same budget as before. An example of how this is possible is that patients with the same underlying disease are cared for by a specific team focused on early rehabilitation after surgery."

This image is also consistent with patients. The satisfaction rate rose from 86 percent in 2013 to 90 percent in 2014, according to data from the Swedish Hip Arthroplasty Register. The trend has led to a situation where the value of healthcare interventions, in a completely different way than before, can be analyzed and form the basis for improvements in healthcare.

Looking ahead, Sahlgrenska sees great potential for increasing the use of data analysis (big data analytics) on health services in real time to collect, store and analyze large and complex data from many data sources. Partly for national quality registers, but also for a variety of medical records and local care quality registers.

Qlik's partner Mindcamp is one of the foremost experts in data analysis for healthcare and has developed several applications at Sahlgrenska University Hospital. "Mindcamp has many years of experience in BI in the healthcare sector, from large hospitals to smaller primary care units. Our substantial experience enables us to package solutions with Qlik's platform such as follow-up of value-based care. The orthopedic clinic results are amazing and we are very proud to have been given the opportunity to help", says Frank Carlsson, Business Area Manager at Mindcamp.

"We have introduced a new control system where the patient experience, quality and efficiency are crucial. It is with immense pride that we manage to make our patients happier. My colleagues and I think that work has become more fun."

– Jonas Thanner, Head of Prosthetics at Sahlgrenska University Hospital