

# Beyond bariatric surgery: a pilot aftercare programme for bariatric patients in Germany

## Overview

After observing rising health care costs linked to obesity and associated comorbidities, the Kaufmännische Krankenkasse-Allianz (KKH), one of Germany's largest statutory health insurance companies, designed a pilot project to assess the effectiveness of a new bariatric surgery care package to help patients achieve sustainable weight loss in the long-term. Working with Hamburg University Hospital, selected as the pilot site for the project, KKH designed a tailored package of services targeted to patients with a body mass index of 45 or greater for bariatric surgery followed by a six-month nutrition counselling programme. Evidence

from related studies suggested that bariatric surgery could help patients achieve significant health improvements and, although initial costs of performing the surgery were high, initiators of this work believe it could prove effective in the long-term. The pilot launched in May 2012 and 59 patients have been enrolled to-date. Following surgery, patients are given a telemetric scale and are required to weigh themselves weekly for six months; weight data is automatically transmitted to KKH. Patients in the pilot receive a weekly health report on their progress and monthly coaching and education sessions with a nutrition counsellor during the six-month period following surgery. After completion of the

programme, patients are referred back to their general practitioner for general follow-up care. Patients are weighed for a final time one-year post-surgery to assess long-term weight loss achieved. The initiative plans to collect data on 100 patients in an effort to achieve statistically significant results for cost-benefit evaluations. Patient enrollment is on-going but initial results are promising; "the weight loss is enormous and the comorbidities in terms of diabetes and hypertension are reduced." If evidence supports cost-effectiveness, initiators envision working with other hospitals to expand the initiative across Germany.

## Problem definition

A rising prevalence of obesity in Germany, increasing from 13% in 2000 to 25% in 2008, has placed pressure on services delivery to manage higher burdens of associated comorbidities, particularly type 2 diabetes and hypertension (Box 1). Despite the availability of bariatric surgery in Germany to treat obesity, a lack of standardized post-operative care guidelines to support necessary lifestyle changes has previously compromised the effectiveness of the surgery and left patients unable to maintain weight loss over the long-term.

### Box 1

What problems did the initiative seek to address?

- Rising prevalence of obesity and associated comorbidities.
- Absence of standardized post-operative care guidelines for bariatric patients.
- Lack of support for bariatric patients to adopt necessary post-operative lifestyle changes.

## Health services delivery transformations

### Timeline of transformations

In 2011, concerns were raised within KKH, one of the five largest statutory health insurance providers in Germany, over the number of comorbidities reported among obese patients as well as the stringent restrictions placed on the use of bariatric surgery as a treatment options and the limitations of standard care options to reduce obesity in the long-term.

In this context, a new model for bariatric surgery incorporating a six-month aftercare programme

with weight-loss support services was proposed. Hamburg University Hospital was selected as the pilot site to test the new service and began accepting patients for the pilot in May 2012. The pilot project is currently just over halfway towards meeting its enrollment target of 100 patients and initiators plan to conduct an evaluation of the service once the pilot is complete.

**Description of transformations**

**Selecting services.** Following bariatric surgery, patients enrolled in the pilot participate in a six-month aftercare programme to support necessary lifestyle changes. Aftercare services include weekly weight monitoring and nutritional counselling. The service primarily targets individuals with a body mass index (BMI) of 45 or greater.

**Designing care.** Patients are recruited into the pilot based on clearly defined criteria including BMI, complication risk and medical history. The surgery and aftercare programme follow a framework designed by KKH in partnership with Hamburg University Hospital.

**Organizing providers.** Patients may either be referred by their general practitioner or self-refer for an assessment to be engaged in the pilot. All surgeries are performed by specialized surgeons working at Hamburg University Hospital. After surgery, a nutrition counsellor employed by KKH follows patients and conducts monthly counselling sessions via telephone. The nutrition counsellor is also available to patients for additional consultations and support as needed. After six months, patients are referred back to their general practitioner for generalist care. Patients receive a weekly health report throughout the aftercare programme, which they may choose to share with their general practitioner.

**Managing services.** The necessary infrastructure and specialist

equipment for performing bariatric surgery was available prior to the pilot programme at Hamburg University Hospital. Additionally, a health

coaching and nutrition counselling service was already offered by KKH to insurance enrollees and only minor adjustments to this current system

**Table 1**

How was the delivery of health services transformed through the initiative?

Before	After
<b>Selecting services</b>	
Bariatric surgery covered by KKH health insurance for patients with a BMI 35 or greater with presence of comorbidities or 40 or greater without comorbidities; in practice, only a limited number of patients approved for surgery.	KKH pilot focuses on increasing availability of bariatric surgery to patients with a BMI of 45 or greater; patients participating in the pilot receive a six-month aftercare programme, including weight monitoring and nutrition counselling.
<b>Designing care</b>	
Absence of standardized framework for providing bariatric surgery or post-operative aftercare.	Formal patient selection criteria established for the initiative; guiding framework for delivery of bariatric surgery and aftercare programme developed.
<b>Organizing providers</b>	
Fragmentation in the delivery of services following surgery; ad hoc follow-up with patients was provided by general practitioners and specialists as needed	Surgeons at Hamburg University Hospital provide bariatric surgery for patients enrolled in the pilot; a nutrition counsellor provides follow-up care to patients for six months post-surgery; patients referred back to general practitioners upon completion of care programme.
<b>Managing services</b>	
Necessary infrastructure and specialist equipment for bariatric surgery available at Hamburg University Hospital; KKH runs a health coaching service for insurance enrollees and maintains necessary infrastructure for this service.	Necessary infrastructure and equipment to provide bariatric surgery with nutrition counselling already in place; telemetric scales purchased and given to participating patients to enable weight monitoring and data collection.
<b>Improving performance</b>	
Variable quality of bariatric surgery across hospitals.	Hamburg University Hospital selected as pilot site based on quality criteria; specialist training provided to nutrition counsellor; optional training on new referral practices offered to physicians.

were required to extend service to bariatric patients. Telemetric scales were purchased and provided to patients to enable accurate weight recordings with automatic data transfer to KKH. Patients are required to weigh themselves once per week on the telemetric scale to enable weight monitoring.

**Improving performance.** Hamburg University Hospital was selected as the pilot site based on their performance record for delivering high-quality bariatric care. Specialized training on patients' needs post-bariatric surgery was provided to the nutritional counsellor and opportunities for all physicians to improve and standardize bariatric surgery referral practices were provided through optional trainings prior to the initiative.

**Engaging and empowering people, families and communities**

Patients receive education and nutrition counselling to empower them to make necessary lifestyle and dietary changes following bariatric surgery. During the six-month aftercare programme, patients receive seven telephone-coaching sessions with a nutrition counsellor to review and assess their weight loss, plan healthy meal options and coach further weight-loss improvements. A 17-page manual is also provided to patients to support them in understanding and managing their diet after surgery. Patients receive a weekly health report, including weight data, on their progress. Following the six-month aftercare programme, patients have primary responsibility for maintaining their weight loss over the long term using the knowledge and skills gained through the programme.

Our nutritional counsellor counsels on what nutrition is preferable, so the patient is better informed and empowered with the knowledge of what to eat because it requires a big adjustment from their traditional eating habits.

**Health system enabling factors**

This initiative is overseen and supported by the health insurance organization, KKH (Table 2). Funding agreements have been negotiated with Hamburg University Hospital to allow the facility to perform an increased number of bariatric surgery procedures as per the framework and criteria developed for the initiative: performing bariatric surgery is a profitable service but approval for such procedures is normally restricted by health insurance providers, the necessary incentives were in place to encourage participation of the Hospital.

Routine examination of health data by KKH for their enrolled population helped identify the need to address rising health costs associated with obesity. Despite the initial cost of performing bariatric surgery, it is believed that offering this service with appropriate aftercare could

prove more cost-effective in the long term than refusing this service and treating comorbidities associated with obesity. As evidence of the long-term economic benefits of bariatric surgery was lacking, senior management at KKH agreed to the pilot project as a means to determine if this approach could prove cost-effective. As a pilot initiative, emphasis has been placed on data collection to enable evaluation. A sample size of 100 patients has been set to enable statistical significance to be observable. Patients' weight data is collected weekly during the first six months following bariatric surgery and a final weight measurement is recorded one year post-surgery. To ensure accurate collection of weight data, telemetric scales were used to record and automatically transmit patients' weight data for review by KKH, avoiding potential problems associated with self-reporting weight.

**Table 2**

How has the health system supported transformations in health services delivery?

System enablers	Example
Accountability	<ul style="list-style-type: none"> <li>Funding agreements hold Hamburg University Hospital accountable for performing bariatric surgery according to the framework set by KKH.</li> </ul>
Incentives	<ul style="list-style-type: none"> <li>Bariatric surgery costly for insurance companies, but a profitable service for surgeons; increased insurance funding for this procedure incentivized surgeons' participation in the pilot.</li> </ul>
Information	<ul style="list-style-type: none"> <li>Extensive health data collected on insurance enrollees for routine evaluation by KKH; analysis of this data highlighted the need to address costly comorbidities associated with obesity.</li> <li>Weekly weight data collected for patients over the six months following bariatric surgery; final weight measurement taken one year post-surgery.</li> <li>Cost-benefit analysis of the initiative is planned; pilot project plans to enrol 100 patients to enable statistical significance to be observed.</li> </ul>
Innovation	<ul style="list-style-type: none"> <li>Telemetric scales automatically transmit reliable weight data to KKH.</li> </ul>

## Outcomes

To date, 59 patients have undergone bariatric surgery as part of the initiative. While official outcomes for the pilot project are not yet available, results are promising thus far. Once information has been collected on the full cohort of 100 patients, initiative leaders hope to determine whether the initiative had a statistically significant benefit in terms of health outcomes and cost-effectiveness.

*The weight loss is enormous and the comorbidities in terms of diabetes and hypertension are reduced. ... Patients who had type 2 diabetes before don't have this after and no longer need insulin. They are in complete remission. The same goes for hypertension.*

## Change management

### Key actors

Despite initial resistance from senior management at KKH, persistent advocacy from programme initiators employed at KKH, helped gain approval for the pilot project and drive it forward (Box 2). With senior management on board, a director for the project was hired to oversee activities. Hamburg University Hospital was selected as the pilot site to conduct the bariatric surgeries due to their expertise and excellent performance record in this medical area. Surgeons and hospital management were keen to participate in the initiative and helped in the planning and design process.

### Box 2

Who were the key actors and what were their defining roles?

- **KKH.** One of the five largest nationwide statutory health insurance providers in Germany; proposed idea for the initiative and provided funds for activities; oversees data collection and analysis for the pilot project.

- **Initiative director.** Led design of the initiative in coordination with stakeholders; oversees day-to-day running of the pilot project.
- **Hamburg University Hospital.** Performs bariatric surgery for patients eligible to participate in the pilot according to criteria set by KKH.

### Initiating change

Examining health data highlighted that a new approach to treatment was needed in order to address rising costs linked to obesity and associated comorbidities within KKH's enrolled population. Evidence from other studies indicating that bariatric surgery could significantly reduce costly comorbidities associated with obesity was instrumental in securing approval for the pilot project.

*We encountered barriers inside KKH because bariatric surgery is very expensive in Germany and we had no experience with how many surgeries would be performed inside this concept. We also didn't know if it would be more economical. So even though we thought it would be, we could not make the case without definitive data.*

Selecting an appropriate pilot site was an important task and both quality of care and experience delivering this type of surgery were important factors. "We looked at the German market for bariatric surgery. We looked at which hospitals had the greatest experience of doing this kind of surgery and we picked the university hospital in Hamburg." Meetings were held with the Hospital's management and surgeons, as well as general practitioners in Hamburg, to bring providers on board with the initiative.

*The surgeons are convinced that this surgery is the best that can be*

*offered to these patients who are unable to lose weight conservatively. Of course, the advantage to the hospital is that they had the opportunity to do more inside this concept than they could do before.*

### Implementation

With support secured from the necessary stakeholders, the project quickly advanced to the implementation phase. All necessary infrastructure and resources were already in place allowing enrollment of patients in the pilot to begin quickly.

### Moving forward

Patient enrollment for the pilot is on-going. Once the target dataset for the pilot has been completed, initiative leaders plan to evaluate the cost-benefit impact of the intervention. Initiative leaders are currently optimistic that the initiative will prove effective over the long term based on results observed so far. If final evidence supports the new care approach, initiative leaders hope to extend the initiative to other hospitals, enabling more patients to benefit. "We think that this concept is economic and so our vision is to offer this to more patients."

## Highlights

- Thoughtful presentation of evidence and effective communication of observed problems was crucial for gaining managerial support for the initiative.
- Active patient participation, enabled through health education, was important for empowering patients to adopt healthy behaviours.
- Capitalizing on existing infrastructure minimized the need for additional resource investments.
- Continuation of the initiative will be determined based on a thorough analysis of data.