



Case Study

How to do more with less, by making better use of space

How large should the facility be? How to avoid either over-sizing or under-sizing? How to balance operational needs with budgetary constraints? How could clinical services be delivered differently and so transform space utilisation and the demand for new space?

These are the typical questions asked at the very early requirements stage for new or refurbished healthcare facilities. This case study explains how The Conclude Consultancy helped to answer these challenging questions.

Headline benefit: 17% space reduction leads to 300 million SEK (€31.0m) savings to the business case.

Business benefits achieved:

1. Occupancy Analytics strategies saved 6,000 m² forecast use of space in a 36,000m² facility by enabling the space impacts of operational policies to be controlled.
2. Clinicians learned how to develop operational policies aligned with space analysis.
3. A clear demonstration as to how the 'right-sizing' of the hospital is fundamentally driven by different clinical service delivery options.
4. Operational cost savings of 1.0m SEK per infant per annum could lead to overall 20-30m SEK (€2.1-€3.1m) per annum business benefit.
5. Clinicians understanding the functional benefits of zoning of space to reduce the development cost of it.

Initially the hospital's in-house planning specialist undertook the requirements analysis. This established the preliminary spatial needs for each clinical function based on forecast patient demand.

The clinical leadership team was responsible for all of the subsequent requirements development. The team comprised departmental leadership representatives, clinical process improvement lead, and data analysts. The project leader had been a senior clinician in the organisation.

The business challenge for TCC

The Conclude Consultancy (TCC) was introduced to the project at outline design stage. The client wished to leverage TCC's unique 'Occupancy Analytics'[™] as a means for reconciling the competing needs of three major stakeholders:

- a) Clinical stakeholder
- b) Financial stakeholder
- c) Energy stakeholder

TCC brought the key stakeholders together in two workshops, and supported by their Occupancy Analytics[™] datasets they were able to help the stakeholders correlate operational policies with the need for space.

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This experience led to a transformational understanding for them, expressed by the clinical stakeholder in these terms:

"In our work with planning a new women's hospital for obstetric and neonatal care, we came in contact with the Dr Bacon and his team in The Conclude Consultancy ...as we worked with Dr Bacon and his team we became more and more aware of our own patient flows and volumes and how it affects the amount of space needed to provide healthcare services...

...We started to ask new questions and became more and more interested in finding out more about our own business to be able to understand for example, how many hospital rooms and reception rooms that are reasonable to build to meet future needs. We did not want to build too much or indeed too little space. We needed to be confident in our forecasts. With Dr Bacon's Occupancy Analytics methods he gave us that confidence."

Our methodology

TCC's methods are based on an achieving an open and direct dialogue to focus the clinical leadership team over a course of many weeks. To ensure this was fully effective for all stakeholders, TCC used their proven template for the development of operational policies. Defining these policies accurately and in sufficient detail is critical to establish the principles of how clinical services could/would be delivered in each clinical function. They also align forecast clinical demand, associated staffing policy, with

key patient pathways and the associated clinical processes.

Patent Pathway Analysis and sophisticated Occupancy Analytics simulations support the development of the operational policies. TCC's unique approach enables 'what if' experimentation to take place, so the clinical leadership team understand the potential impact of different policies on space utilisation. On this project the space utilisation in key clinical functions was analysed with different operational policies. In one scenario the amount of space required to deliver a clinical service saved over 50% compared to the alternatives.

Learning outcomes for the customer

What were the key learning outcomes for the customer?

- a) An understanding of the factors that lead to peak occupancy demand on space and which impact staff effectiveness and wellbeing.
- b) How to manage those factors through experimentation with operational policies.

New understanding creates new knowledge. This in-turn leads to improved decision-making.

When managing peak occupancy demand, TCC discovered an issue with the management of peak demand on the neonatal intensive care unit. In considering the process factors, the clinical lead in neonatal unit explained that it cost 1.0m SEK per infant for each infant that could not be cared for in the unit due to a lack of cot space. With typically around 20 infants per annum having to be treated elsewhere, and the potential to treat infants from other regions by improving

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space utilisation, these process factors could generate between 20-30m SEK (€2.1-€3.1m) savings per annum. TCC responded by analysing the clinical process factors that lead to this situation and produced revised operational policies to enable these improvements to be realised.

TCC provided the clinical leadership team with powerful new knowledge derived from the hospitals own clinical information systems that translated into both operational and financial benefits .

What was the clinical leadership response to these learning outcomes?

“Dr Bacon showed to us the relationship between the alternative ways that clinical services could be operated and what the impact on space and energy consumption would be...

“...He has been very inspiring and helped us to learn so much, which has then helped us to ask ourselves new questions in the context of hospital planning and operations, a knowledge that we carry with us in both current and upcoming projects”

Mrs Anneli Falk, Clinical Project Lead,
Sahlgrenska Universitetssjukhuset,
Göteborg, Sweden.

June 2016. TCC has now been appointed to carry out further work with the client, a testament to their confidence in TCC's expertise, as well as the value that they bring to the hospital development process.

