

Case Study

Hospital Universitario Marqués de Valdecilla

»The Lean methodology has allowed us not only to optimize the usage and design of surgical instrument trays, but to ensure the various groups of professionals – both health and non-health related – work well to deliver a culture of continuous improvement across all areas of the organization«

Cesar Pascual Fernández, Manager, Hospital Universitario Marqués de Valdecilla



The customer

Hospital Universitario Marqués de Valdecilla is a publicly owned institution that reports to the Regional Health Ministry of the Cantabrian Government and forms part of the Cantabrian Health Service.

The institution is a major tertiary referral hospital and one of the largest employers in Cantabria. It also plays a leading scientific, social and economic role in the Autonomous Community.

Serving a population of approximately 300,000, many of its medical/surgical specialities cover the whole of Cantabria, and a number of its services lead the way in other health areas in the north of Spain and beyond. The hospital provides a full, state-of-the-art, innovative medical service focused on promoting research and incorporating the most advanced technology in the search for effective diagnoses and treatments.

The customer

Country: Spain
Industry: Healthcare
Founded: 1929
Website: www.humv.es/



The challenge

New advances in surgical techniques and the shift from open procedures to more specific ones based on techniques such as endoscopy has created a need to redefine the surgical instruments used. However, the majority of hospitals have still to adapt the content and configurations of surgical instrument trays to the new techniques required by advances in surgery.

Hospital Universitario Marqués de Valdecilla has responded to this challenge by determining the best way to verify the condition of its instruments and match trays to surgical procedures, ensuring their suitability both in terms of levels of use and costs.

Hospital Universitario Marqués de Valdecilla began with three specialities: General Surgery, Urology and Traumatology, which represent a significant proportion of its total operations and whose techniques have undergone significant changes.

The challenge

Hospital Universitario Marqués de Valdecilla (HUMV) faced a number of challenges as part of its process to optimize and adapt materials to bring them in line with new surgical techniques:

- Redesigning surgical instrument trays
- Defining new tray models to reflect advances in surgical practice
- Reducing the variability of the intensive use of instruments
- Laying the foundations of a method for reviewing surgical instruments
- Reducing the financial cost of managing surgical instruments.

The solution

The use of the Lean methodology has made it possible to ensure staff in the surgery department have the tools and knowledge required to make informed and consensual decisions about the best set of surgical instruments to use in selected procedures. Lean techniques have allowed them to adapt a number of trays to new surgical practices.

The hospital established the following objectives:

- Optimize the use of surgical materials
- Design trays in line with the new techniques
- Reduce the variability of existing surgical practices
- Deliver a reduction in associated costs.

The benefit

- Optimization of 25% in the content of surgical instrument trays and identification of materials in good condition that can be used in other trays
- Definition of new trays in line with new surgical techniques
- Consensus among the different groups regarding the instruments to be eliminated
- Methodology to continue with the streamlining of other trays and specialities
- Improvement in communication among the various groups

The solution

Fujitsu's experience in the health sector and using the Lean methodology was a determining factor in HUMV's decision to choose the company for the optimization of its surgical instruments.

The project began with the selection of three specialities that had undergone major changes in surgical techniques before choosing specific trays that were used for a large number of operations. The following trays were chosen: Appendicitis and Laparotomy (General Surgery); Kidney tray (Urology); and the Shared Forceps tray (Traumatology).

An operational diagnostic was carried out to identify possible areas for improvement in the process by performing both quantitative and qualitative analysis of the instrument tray, based on factors such as:

- Whether the instruments were used
- Observations in the operating theatre and during sterilization
- Interviews with professional staff.

Kaizen sessions were held as part of the streamlining process based on multi-disciplinary teams including surgeons, nurses, assistants and sterilization staff. The sessions made it possible to reach a consensus on the instruments to be kept in each of the chosen trays, as well as the design, moving towards a strategy based on a basic tray and a satellite tray. Similarly, the next steps were defined in terms of reviewing and redesigning the remaining surgical specialities provided at Valdecilla.

Once the content of each of the trays was defined, Fujitsu worked with the nursing and sterilization team at the hospital to identify which surgical instruments needed to be replaced, and those that were in good condition and could be reused in other trays for the same or different specialities.

In terms of implementation planning, a schedule was agreed for the launch of the redesign of the trays with the support of Fujitsu.

Products and services

- Lean methodology

Finally, the fragile nature of endoscopic materials means they currently experience high levels of breakages and accidents, resulting in significant expenditure on replacements and repairs. Faced with this problem, Fujitsu proposed a new working method to improve the use and conservation of the materials.

This involved training nursing and sterilization staff at the hospital to raise awareness about the correct use and handling of these types of instruments. This initiative resulted in improvements to how they are handled.

The benefit

This is the first step taken by the hospital towards the continuous improvement of its processes based on the Lean methodology. It has allowed it to build fast and efficient consensus among surgeons, nurses and sterilization staff on the instruments required in the selected trays. The analysis has made it possible to eliminate 25% of items and identify a further 85% that are in good condition and can be reused in other trays for a range of specialities.

Hospital Universitario Marqués de Valdecilla has developed the knowledge required to continue with this new method of working. The methodology for analysis and continuous improvement has been used to expand the redesign program to the other trays and surgical specialities at the hospital.

New types of trays were designed for the three chosen specialities based on the new surgical practices, converting or adjusting some of those that were already in place. The relationships and communication between the various groups at the hospital improved considerably.

Conclusion

Fujitsu's way of working has allowed the Hospital Universitario Marqués de Valdecilla to begin redesigning surgical instrument trays based on new surgical techniques, building consensus among all the groups involved, delivering associated savings and reducing daily workloads.

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