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# Optimizing Hospital Resources and Staff Workflow with Telesurveillance – Early Secure Discharge of Patients After Laparoscopic Colon Surgery

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# Experiences and learnings from an innovative telesurveillance project

Remote patient monitoring (RPM) allows healthcare providers to monitor and collect medical and health data through virtual technology.

In a webinar for the World Hospital At Home Community, the Jeroen Bosch Hospital team in Den Bosch, The Netherlands, shared their experiences and learnings from their innovative telesurveillance project, aimed at extending hospital capacity and optimizing staff workflow with a secure discharge of laparoscopic colorectal surgery patients, thanks to the implementation of Masimo SafetyNet® solution allowing the management of those patients remotely.

Masimo SafetyNet is a cloud-based patient management platform featuring clinical-grade continuous and spot-checking measurements, digital care pathways, and remote patient surveillance.

### The Jeroen Bosch Experience

In his talk, Biomedical Engineer Roberto Garcia van der Westen, discussed the boundary conditions for monitoring patients outside the hospital, with a case study on **early discharge and**

**home monitoring of patients after colorectal surgery**. Astrid Peeters, Nurse and Project Leader at the Jeroen Bosch Hospital, discussed the nurses' confidence in technology to support remote clinical reasoning.

## Background

In the case study regarding early discharge and home monitoring of patients after colorectal surgery, Biomedical Engineer Roberto Garcia van der Westen, shared his insights regarding the difficulties of such surgeries (30-50% of those result in complications) and the amount of pressure that the hospital capacity receives. "A situation that is not getting better over time", Roberto explains.

**"With aging population in combination with less staff coming in, the challenge consists of offering more care with less resources."**

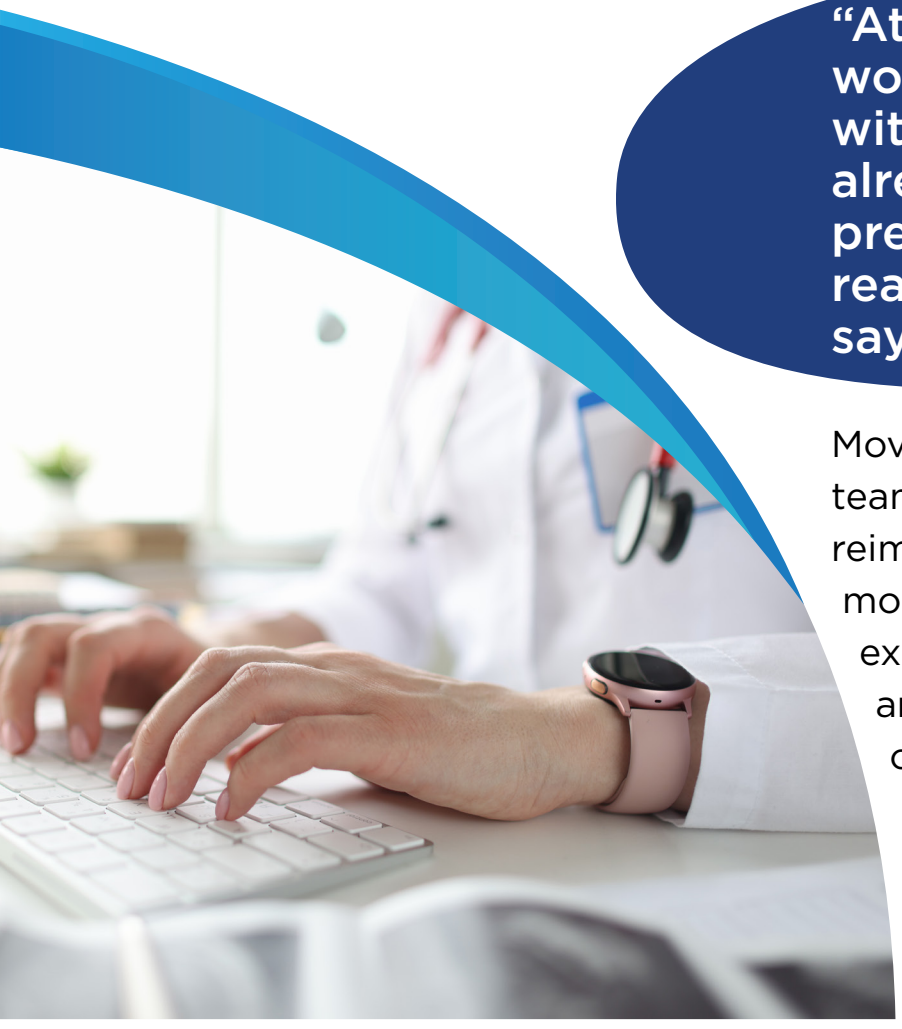
## Safe Home Monitoring

With the goal of **optimizing patient treatment, shortening waiting lists (due to optimized capacity) and allowing patients to faster regain their independence**, the Jeroen Bosch team, also composed of GI surgeon Emiel Verdaasdonk and medical intern Sophie Laurijs, started a process of selecting those patients who are eligible to recover at home and offering them an adapted treatment. This was done in order for them to **experience lower chances of hospital acquired infections, recover in a trusted environment surrounded by family/friends and benefit from better sleep (leading to a better and faster recovery)**. "The average length of stay after surgery is around 4-5 days and we looked at how to reduce that, wherever the proper conditions were met", Roberto says.

After surgery, the patients in the early discharge pathway received wearable sensors to monitor their vital signs continuously. They were checked a few hours after surgery (EWS) and received a preliminary discharge to continue their recovery and monitoring at home. In addition to the continuous vital sign monitoring, these patients also answered digital questionnaires that were specifically created to better reflect their status. The predictive algorithms measure potential patient deterioration in a timely manner and, through automatic notifications, the hospital is contacted for the patient to receive adequate support, if needed.

**Final Outlook**

**“At the moment we are working on clinical trials with 25% of all inclusions already in place and the preliminary results are really positive”, Roberto says.**



Moving forward, the Jeroen Bosch team is looking at potential reimbursement options, increased monitoring capacity and expanding to other departments and types of surgeries as well as collaborating with GP’s or other hospitals in the region/country to create a common vision towards the future of telesurveillance.

## Nurse's Perspective

### Clinical reasoning, from a distance

In her talk, “Nurses confidence in technology to support remote clinical reasoning continues to grow, patients get to go home sooner”, Jeroen Bosch Hospital nurse and project leader Astrid Peeters discussed her key takeaways in preparing the team for the implementation of telesurveillance, the implementation process itself and some interim results.

**“Having a motivated team and key personnel that is interested in this innovative approach and eager to learn new things greatly contributes to the success of the project”, Astrid says.**

Accessible, interactive group training based on knowledge-needs has been a key element for nurses to get interested, informed and prepared for the implementation process. Although the frame of reference remains the same, “it is important to be aware that there is a difference in terms of knowledge and confidence in clinical reasoning at a distance, when working with telesurveillance”, Astrid explains.

In terms of outcomes, Astrid shared that **there are patients who felt like they were monitored better at home than when they would have been in the hospital, recommending telesurveillance as an adapted treatment and offered option and defining it as a solution that feels safe**.

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