Unidade Local de Saúde de Santo António
Gold Winner
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Revolutionizing healthcare: ULS Santo António iBird project - A technological ecosystem connecting patients, professionals, procedures, and academia

A hospital's efficiency could be hampered by inefficient use of operating rooms, gaps in practical training for medical students and professionals, as well as the prolonged patient recovery times, among others. Coupled with a growing population and increased demand for healthcare services, these challenges made it clear to Unidade Local de Saúde de Santo António (ULS SA) that innovative solutions were needed. This has paved the way for their iBird project, which is a groundbreaking integration of AI robotics, virtual reality (VR), and Internet of Things (IoT), meant to transform healthcare delivery and education.

The iBird project at USL SA underwent rigorous, well-defined stages, ensuring active involvement from management, staff, patients, and external stakeholders. During the initial planning and design, the management, clinical leaders, and IT specialists defined the project's objectives and scope.

A thorough analysis of operational data and stakeholder feedback helped pinpoint key areas for improvement. The targets included reducing the length of stay for patients by one day within the first year in order to increase hospital bed availability. Another goal was to enhance operating room efficiency and accuracy through the integration of AI-enhanced scheduling and robotic surgery. Thirdly, patient satisfaction improvement was prioritized by advancing patient care IoT to boost patient care and understanding of the care processes. Lastly, ULS SA aimed to advance medical training through the use of virtual reality simulations that provide realistic and interactive learning experiences for medical professionals.

To achieve these goals, ULS SA engaged extensively with hospital staff, administrators, and patients to ensure their needs and concerns were addressed. This was to ensure that all user levels were supportive of the project and its goal. Such commitment needed to be fostered especially for the frontline staff who will play a vital role in the successful adoption of new processes. The project team also sought funding and technical support through proposals to governmental health agencies, healthcare innovation grants, or partnerships with technology firms. Such grants were used when additional resources were needed for implementation.

A pilot test was done before the full rollout in order to assess the practicality and effectiveness of the proposed technologies. This is a crucial step, allowing for real-time

adjustments and minimizing risk by identifying potential issues early in the implementation process. Throughout all stages, maintaining clear, transparent communication and providing regular updates were prioritized to keep all stakeholders well-informed and engaged.

Through its integration of advanced technologies, the iBird project led to significant improvements in efficiency and patient care. Key targets were accomplished through streamlining processes that enhanced clinical outcomes. For one, iBird significantly decreased the average length of stay for surgical patients by a day, which reduced hospital congestion. Meanwhile, AI-enhanced scheduling and robotic surgery focused on minimizing turnover times and delays. ULS SA also saw a 20% increase in the patient satisfaction score within the project's timeframe.

In terms of clinical outcomes, the use of precise robotic tools and real-time data during surgeries resulted in a 25% reduction of post-operative complications. As for cost-efficiency, ULS SA also observed a 40% decrease in paper usage and more efficient use of surgical supplies.

All of these measurable improvements underscore iBird's efficacy and benefits to ULS SA's operations. The project not only aligns with the hospital's mission to leverage innovation for better healthcare, but also sets a benchmark in operational excellence that is recognized nationally.