

# **Increasing the quality of life and** **reducing the hospital costs** **for patients with implantable cardio defibrillators**

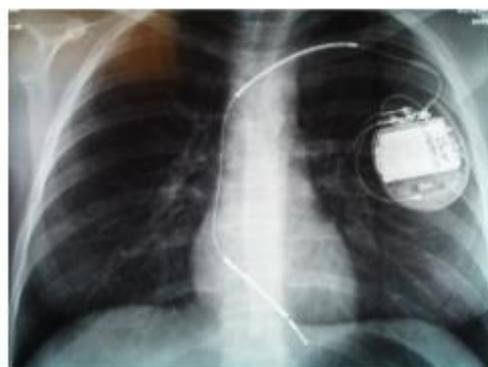
## **Unmet Need – Objective of the procurement**

The rapidly ageing population is placing relentless pressure on increasingly scarce health and social care resources. More people live with multiple co-morbidities, and there are fewer people to care for them. People with arrhythmias (irregular heart beat) are a particularly vulnerable group. They can be treated with implantable cardioverter defibrillators, a device that is inserted in the human body to give a shock that gets the heart back into rhythm and can thus prevent the risk of sudden cardiac arrest.

The hospital de la Santa Creu i Sant Pau in Barcelona provides healthcare services to approximately 400,000 patients in the Barcelona area and implants approximately 150 implantable cardioverter defibrillators per year. It identified three main challenges to be addressed in this field:

1. The need to increase of the number of implants with a reduction of the healthcare budget
2. The typical low quality of the devices and limited technical support after implant, generally caused by the approach to go for the lowest price solutions in traditional procurements
3. The need to improve the quality of services for patients, reducing the number of hospital visits while ensuring better remote care services

Each device includes various high-tech components, costs approximately €10,000 and requires periodical control in the hospital (every 3-6 months) and reprogramming (evolving technology). In recent years, the number of implants per year has been increasing in Spain – from around 3,000 in 2007 to nearly 6,000 in 2016 – while the national healthcare budget has been shrinking due to the economic crisis. It was clear that an innovative solution would be needed to optimise the costs of increasing care, by improving the quality obtained from suppliers and by replacing hospital visits by remote-checkups for patients with implantable cardioverter defibrillators. To find the best solution for this problem, the hospital joined the EU funded STOPandGO public procurement of innovative solutions (PPI) project. STOPandGO = Sustainable Technologies for Older People – Get Organised.



<http://stopandgoproject.eu>

Placement of an implantable cardioverter defibrillator

## Tacking the problem - Procurement approach

The hospital used the European Specification Template<sup>1</sup> created by the STOPandGO project, a template with public procurement requirements that promote more cost-effective commissioning of remote care services, enabling the implementation of innovative care models for elderly people through the support of digital technologies.

The hospital conducted in 2015 a preliminary market consultation that was advertised widely through a prior information notice published in TED<sup>2</sup>, to inform the industry about its needs and requirements, while also learning about quality and technical characteristics of the different solutions available on the market and collecting feedback for the preparation of the call for tenders.

As part of the preliminary market consultation, the hospital organised co-creation sessions to incentivise a collaborative problem solving process between all interested stakeholders from the innovation eco-system: from large pacemaker manufacturers to small start-ups and individual innovators developing supporting technologies, nurses and doctors with the unmet need, health insurance/quality control bodies, academia etc.

The collaborative thinking resulted in an innovative approach to make the whole ecosystem function better. Firstly, to make a shift from device-based to service-based provisioning. Secondly, to share the risks between the hospitals and the contractor. Thirdly, to make part of the payment dependant on the outcomes (3% of the total amount). The results of interaction with the market during the market consultation were documented in a public report<sup>3</sup>, so that other innovators that could not attend the co-creation sessions were given equal chances to bid later.

After the preliminary market consultation followed beginning 2016 the publication in TED of the contract notice<sup>4</sup>, which detailed all the services to be provided, ranging from the management of the stock of implantable defibrillator devices to the extractions of malfunctioning devices. The notice also introduced the innovative system of outcome-based payments, envisaging the payment of 3% of the contract value upon achievement of specific indicators, such as the reduction of hospital visits, the satisfaction of patients, or reduction in the rate of implants resulting in infections. Indicators are periodically monitored by the designated service provider, allowing to follow and discuss the progress of the procurement during dedicated technical roundtables between hospital staff and the industry. An Evaluation Framework<sup>5</sup> was also developed including consideration of criteria for contribution to integrated care and sustainability; KPIs and payment models and references the awarding criteria applied in the St Pau procurement.

The 10,4 € million contract (excluding VAT) was awarded on 18 November 2018 to UTE Medtronic Ibérica and St. Jude Medical España. A number of recent developments – such as the introduction of subcutaneous implants – make the procured devices a particularly innovative solution. Compared to intravenous implants, subcutaneous implants (placed in the subcutis layer of the skin with few blood vessels) have the advantages of having less complications, but are also more suitable for specific patient populations including pediatric patients, those with difficult or absent venous access, and those at high risk for bacteremia such as dialysis patients.

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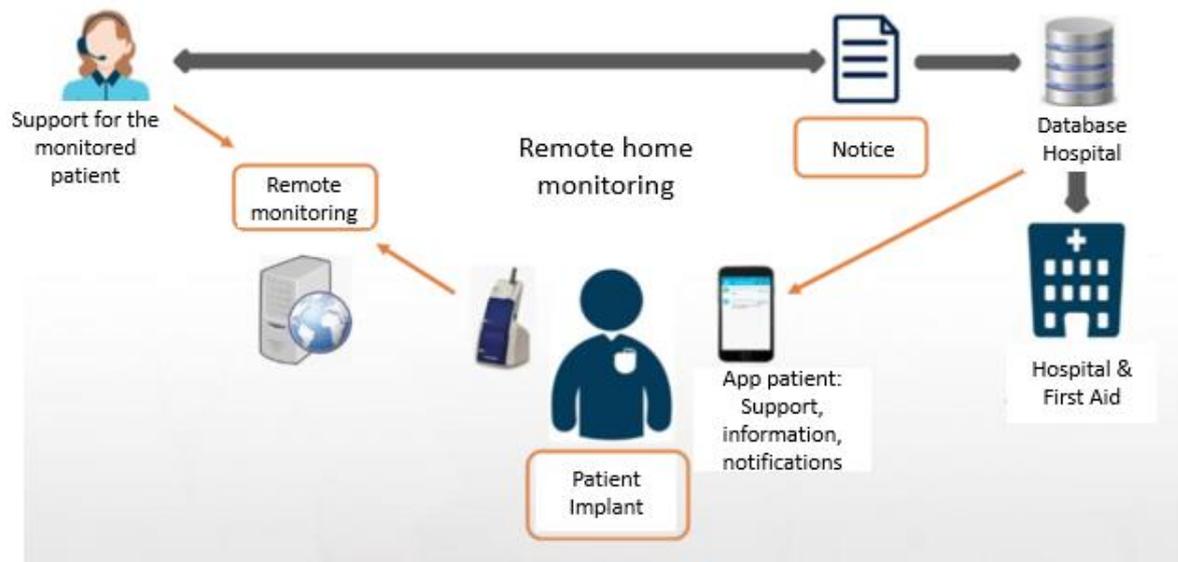
<sup>1</sup> [http://stopandgoproject.eu/wp-content/uploads/2017/04/WP2\\_STOPandGO\\_D2.2\\_Update\\_European\\_Specification\\_Template\\_v1.2.pdf](http://stopandgoproject.eu/wp-content/uploads/2017/04/WP2_STOPandGO_D2.2_Update_European_Specification_Template_v1.2.pdf)

<sup>2</sup> <https://ted.europa.eu/udl?uri=TED:NOTICE:418211-2015:TEXT:EN:HTML>

<sup>3</sup> [http://stopandgoproject.eu/wp-content/uploads/2017/04/STOPandGO\\_OMC\\_Report\\_v1.2.pdf](http://stopandgoproject.eu/wp-content/uploads/2017/04/STOPandGO_OMC_Report_v1.2.pdf)

<sup>4</sup> <https://ted.europa.eu/udl?uri=TED:NOTICE:60421-2016:TEXT:EN:HTML>

<sup>5</sup> [http://stopandgoproject.eu/wp-content/uploads/2017/04/WP6\\_STOPandGO\\_D6.1-v3.2.pdf](http://stopandgoproject.eu/wp-content/uploads/2017/04/WP6_STOPandGO_D6.1-v3.2.pdf)



## Impact of the procurement

The monitoring of intermediate results of the procurement shows a number of positive outcomes. For instance, the procurement of the remote monitoring solution allowed:

- to reduce hospital visits of patients with AICDs by 18%, with an initially set target of 5%
- to decrease the inappropriate patient discharges, resulting in avoidable shocks by 29%, exceeding the initial target of 10%
- to bring the number of implants generating infections down to zero (initial target of <3%)
- to limit to 0.4% the discrepancy between the classification of heart conditions made by remote care devices and that performed in hospital, while the objective was <10%

In addition to overachieving on its targets, the procurement is also producing a wider market impact, as various other hospitals in the Barcelona area are reportedly trying to apply the so-called “Sant Pau’s Model”, moving from the mere purchase of a device to the procurement of services and results. In particular, Vall d’Hebron University Hospital, Bellvitge University Hospital and Hospital Sant Joan de Déu – which cumulatively represent over 50% of the Catalan market for these devices – have also conducted open market consultations to implement a comprehensive treatment for patients with arrhythmias who need implantable cardiac devices.

Moreover, building upon this success, the Sant Pau hospital is also leading a group of buyers of Spanish and UK hospitals in the Ritmcore project, a EU funded PPI project that is currently procuring at larger scale innovative solutions for patients in need of an implantable cardio defibrillator. Where the market was still very sceptical at first towards the change in business model when the STOPandGO open market consultation took place, now in the Ritmcore open market consultation all large device manufacturers are eager to offer these type of solutions and also smaller SMEs are starting to offer such services. The STOPandGO procurement has had a transformative effect to move the wider market as a whole towards more value based service provisioning.

The Sant Pau case has also triggered Barcelona to start more PPI procurements on other topics in the health domain. Based on Sant Pau’s Stop&Go defibrillators experience, and within the framework of RIS3CAT, CatSalut has launched a call for proposals for SISCAT centres (the Catalan Network of Healthcare Public Services Providers) worth 16 million euros under the ERDF Operational Programme Catalonia 2014-2020 (with a funding rate of 50%). The objective is to implement PPI projects to accelerate the process of transforming the system towards more personalised, patient-

focused care models that maximise the value of public money. Eighteen projects have been selected as a result of the call for proposals.

For more information: <http://stopandgoproject.eu> and <http://www.ritmocore-ppi.eu/>

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