



The Productivity Impact of the Implicit CRM Solution

Introduction

Cardiac implantable electronic devices (CIEDs), such as pacemakers and implantable cardioverter defibrillators (ICDs), are increasingly used to treat patients with cardiac diseases. Remote monitoring of CIEDs has been shown to improve patient outcomes and reduce healthcare costs. However, the excessive data generated by CIEDs poses significant challenges when monitoring and managing these patients.

With 14 transmissions and more than 20 alerts per year and per patient¹, medical staff get quickly overwhelmed by the amount of work needed to review this data² and remotely take care of their patients. With 38 transmissions per year and per patient, the growing number of insertable cardiac monitors (ICMs) keeps increasing clinicians' workload.

In a typical setup based on manufacturer websites only, the total time spent to manage transmissions varies depending on the patient profiles and team organization but is typically around one hour per patient per year for therapeutic devices (PM, ICD, and CRT) and much higher for ICM (seven hours per patient per year or more)³.

Not surprisingly, in-person clinic visits require more time (60 min per visit in the US and 35 min in Europe), but it's worth noting that about 30% of the time is spent on admin tasks (16 min out of 60 in the US and 12 min out of 35 in Europe), such as attaching the report to the EHR or sending it for billing.

Additionally, the staff time required for other patient management tasks such as calling patients, troubleshooting device connectivity issues, identifying loss to follow-up, and triaging patients or transmissions has been estimated to be 17.3 minutes per patient annually.

In a 2021 EHRA survey, a lack of staff was reported as one of the main reasons for the underutilization of remote monitoring by 46.5% of respondents⁴.

As a result, the share of patients remotely monitored remains around 20%⁵, whereas HRS recommends putting every single patient on remote monitoring⁶.



It leads to a loss of opportunity in several areas:

- Patients cannot benefit from death⁷ and hospitalization reduction⁸
- Payers bear higher health expenditures⁹
- Providers do not optimize their revenues

Medical staff shortages make the situation even more difficult. But there is a solution. AI-powered cardiac remote monitoring (CRM) solutions have been developed to address these challenges.



Break Free from Legacy Systems

Interestingly, although Vendor-Neutral Patient Management Software like Paceart has been used for a long time, many inefficiencies remain:

- Paceart's remote data reception and extraction process is not fully automated. This means that clinicians still need to spend around 18 seconds per transmission to verify that the data has been properly transferred from the manufacturer's website³.
- Compared to manufacturer websites, Paceart brings a gain of only 15% in the total staff time to review a remote transmission³.
- Paceart is able to receive in-clinic data automatically, but only for select devices. Depending on the clinic's device mix, clinicians spend about one minute per visit manually entering data or transferring data by plugging a USB flash drive into the programmer.
- Paceart does not provide any help in identifying and managing patient connectivity.

A new generation of solutions is here. Implicity provides an AI-powered CRM platform that aggregates, normalizes, and standardizes data from any implantable cardiac device across all manufacturers to support care for patients with chronic cardiac conditions.

By automating many tasks associated with remote patient monitoring, the Implicity solution aims to empower healthcare providers to monitor more patients with the same resources, thus increasing productivity. This paper evaluates the actual impact of Implicity on healthcare provider productivity.

Enhancing Your Workflow at Every Stage



Data Scraping & Raw Data Extraction

Reliable, fully automated raw data extraction for in-clinic and research use.

Data Review

Integrated communication and harmonized data on a single platform for medical staff.

Disconnected Patient Management

Digital follow-up with all non-transmitting patients.

Dynamic Revenue Automation

Integrated billing engine for optimized revenue capture.

Automated, Personalized Reporting

Visually-rich personalized reports generated automatically.

Implicit's Profound Influence on Productivity

A study was performed to assess the effect of Implicit's cardiac remote monitoring solution on clinic productivity. Data from 58 healthcare centers were analyzed to assess how many patients were remotely monitored per full-time employee (FTE) dedicated to remote monitoring before and after implementing the solution.¹⁰

The results demonstrated a statistically significant increase in productivity of 84% after two years of using Implicit.

The fact that the full-time employee (FTE) dedicated to remote monitoring has either remained stable or increased is particularly remarkable, demonstrating that productivity gains were from an increase in the number of patients remotely monitored and not a reduction in staff.

When participants were asked how they achieved this increase, they identified the platform's intuitiveness and ease of use as beneficial, allowing them to find the data they needed easily and quickly. They also noted the platform's versatility and ability to quickly adjust to their organizations' changing needs. Finally, they saw the platform's scalability as a major advantage, allowing them to increase their analytics capabilities as their organizations grew.

"During an interview, Dr. Jay Ganji, MD, FACC, shared his experience using the Implicit platform in his cardiology clinic. When asked about the platform's efficiency, he explained, "When we started using the Implicit platform in our cardiology clinic, we immediately noticed an increase in productivity and efficiency. The automatic upload of any transmissions received on the manufacturer's portal to the Implicit platform has eliminated the worry of missing anything in the process, which has been a huge relief for us. We can now focus more on patient care and less on administrative tasks." Dr. Ganji also highlighted the benefit of only needing to access one website to retrieve all the necessary information regarding his patients' cardiac implantable electronic devices (CIED), further improving workflow efficiency in his clinic.

Both the study's results and users' experiences, including Dr. Ganji's, suggest that the Implicit platform has significant potential to enhance clinical workflow and improve efficiency in remote monitoring settings. With its user-friendly interface and automation of processes, the platform provides easy access to all necessary information in one place, streamlining workflow and improving patient care. These real-life benefits illustrate the platform's promising role as a tool for enhancing productivity and patient outcomes.

Implicit's AI-powered cardiac remote monitoring platform offers a range of benefits for clinics, including automation of administrative tasks, improved patient engagement, and better care coordination. By leveraging these capabilities, clinics can increase production and revenue while enhancing patient care.

Implicit Productivity Drivers

1

Approach

Promoting alert-based remote monitoring* enabling custom filtering of alerts

2

Ease of Use

Intuitive platform with a straightforward interface

3

Artificial Intelligence

Triaging non-actionable clinical data (e.g., reduction of 79% of false positives on Medtronic ILRs**)

4

EHR Integration

Synchronizing patient data to limit manual entry

*Pr. Niraj Varma, et al. Alert-Based ICD Follow-Up: A Model of Digitally Driven Remote Patient Monitoring. JACC. 2021

**Dr. Rosier, et al. B-PO04-037 a novel proprietary algorithm reduces the false positive rate of Medtronic Inq11 ICM devices by 79%. 2021

Conclusion

With Implicit, medical centers can significantly increase their productivity when it comes to remotely monitoring patients with cardiac implants for the benefit of the patients, the payers, and the centers.

To learn more about Implicit, email
contact@implicit.com

Reference

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²Ricci & al 2014: Manpower and outpatient clinic workload for remote monitoring of patients with cardiac implantable electronic devices: Data from the HomeGuide Registry. <https://pubmed.ncbi.nlm.nih.gov/24964380/>

³Seiler A, Biundo E, Di Bacco M, Rosemas S, Nicolle E, Lanctin D, Hennion J, de Melis M, Van Heel L
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⁴Stefan Simovic, Rui Providencia, Sergio Barra, Bratislav Kircanski, Jose M Guerra, Giulio Conte, David Duncker, Eloi Marijon, Ante Anic, Serge Boveda, The use of remote monitoring of cardiac implantable devices during the COVID-19 pandemic: an EHRA physician survey, *EP Europace*, Volume 24, Issue 3, March 2022, Pages 473–480, <https://doi.org/10.1093/europace/euab215>

⁵Internal analyses based on French public health databases and estimations from EHRA white books.

⁶HRS expert consensus statement on remote interrogation and monitoring for cardiovascular implantable electronic devices, (2015), Slotwiner & al. f <https://www.hrsonline.org/guidance/clinical-resources/2015-hrs>

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⁹Varma N, Piccini JP, Snell J, Fischer A, Dalal N and Mittal S. Relationship Between Level of Adherence to Automatic Wireless Remote Monitoring and Survival in Pacemaker and Defibrillator Patients. *J Am Coll Cardiol*. 2015. 65(24):2601- 261 <https://www.sciencedirect.com/science/article/>

¹⁰The medical center data used in the study was current as of December 31, 2022.



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About Implicit

Implicit is a MedTech software company co-founded by cardiac electrophysiologist Arnaud Rosier MD. It provides a universal cardiac remote monitoring and research platform to clinics, hospitals, and service companies – helping them deliver the best remote care to patients with connected cardiac implantable electronic devices. Implicit aggregates, normalizes, and standardizes data from any implantable cardiac device across all manufacturers to support care for patients with chronic heart failure conditions.

As the first and only cardiac implant remote monitoring company to receive FDA clearance for an AI-based algorithm, Implicit's platform provides critical health information, enabling healthcare providers to make more informed decisions for better patient outcomes. With access to the Health Data Hub*, one of the world's largest databases of heart disease patients, Implicit is able to develop its AI solutions based on more robust data. The company is protecting more than 80,000 patients in over 160 medical facilities across the US and Europe. To learn more, visit www.implicit.com

*Health Data Hub is a health data platform established by the French government to combine existing health patient databases and facilitate their usage for research and development purposes.