



Medytrak is an mHealth remote symptom tracker designed to collect data in the period between face-to-face consultations with healthcare providers. This service provides real-time valuable data regarding the patient's conditions, symptoms, and well-being. This data is available to the medical practitioner providing specific feedback and a more informed in-clinic consultation.

It is an internet browser-based service, eliminating the need to download specific apps, facilitated by a unique near field communications (NFC) enabled card for the clinicians. This card opens a browser window straight to a set of questions and outcome measures specifically designed by their clinician. Here, patients can input their symptoms and well-being. In addition, patients can upload photos and videos, allowing the clinician a comprehensive picture of their patient's health. This data informs care and treatment pathways.

About Health Innovation Hub Ireland

Health Innovation Hub Ireland (HIHI) was established by the Department of Business, Enterprise and Innovation and the Department of Health and is supported by Enterprise Ireland (EI) and the Health Service Executive (HSE) to drive collaboration between the health service and enterprise. We offer companies the opportunity for pilot and clinical evaluation studies, and we provide the health service access to innovative products, services, and devices that they may not otherwise be exposed to. HIHI is built on the recognition that collaboration with enterprise can benefit patient care, patient pathways and outcomes. We assess all concepts for healthcare innovation from those on the

frontline – from clinician to porter. We encourage healthcare professionals to contact HIHI if they have an idea or solution to how something in your job might work better.



The Healthcare Challenge

Hospital overcrowding is an ongoing issue, with little breaks in seasonal trends as exceptionally high numbers of patients on trolleys were recorded in May 2023 (11,856 patients on trolleys). Long wait times are an accompanying and stubbornly consistent challenge in Irish healthcare.

Safe and effective discharges are required to improve patient flow and reduce overcrowding in hospitals. It is universally known that hospitals are the main area for infection transmission, therefore efficient discharge is a priority to ensure patients do not acquire infections. Hospitals are often presented with a difficult decision as patients may need to be monitored and discharge delayed. In addition, readmission rates are high and contribute to hospital overcrowding. The Health Service Executive (HSE) reported 71% of such re-admissions were deemed avoidable (Clancy et al., 2023, Shalchi et al., 2009). Remote monitoring technology has shown some benefit in reducing

readmission rates in patients with chronic obstructive pulmonary disease (COPD) (Tchalla et al., 2023).

For outpatient clinics with long wait times and long times between clinic visits (e.g., 3 months and 6-month check-ups) a number of these appointments could be effectively monitored remotely, reducing hospital wait times, traffic and infection transmission. In addition, patients may struggle to effectively remember details of their condition between consultations, or struggle to see improvements.



Inter-Review Monitoring (IRM)

Designed to collect data in the period between face-to-face consultations, this service provides valuable data regarding the patient's conditions, symptoms and well-being on a regular basis.



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Post-Procedure Monitoring (PPM)

This service is designed to monitor, for a discrete and limited period, the recovery progress of a patient who has undergone a medical procedure.



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The Healthcare Solution

Medytrak offers a robust remote monitoring service that allows clinicians to select specific feedback and outcome measures from their patients. The easily customisable browser can be designed based on the requirements of specific health care servicers and even individual clinician settings.

The service offers a unique NFC enabled card that when held to the back of an NFC enabled smartphone, it opens a browser window with a series of questions and outcome measures specifically chosen by their clinician. Patients can also send pictures and videos if requested by their clinician,

which prevents opportunities to monitor wounds and physical function post-op. This could support early discharge models allowing increased communication between clinician and patient.

All data can be easily viewed by the clinician, allowing them to easily to track their progress and allow for precise adjustments based on the individuals progress. Furthermore, it allows patients to present a comprehensive view of their condition, eliminating any difficulties remembering how they were between extended clinic visits.

HIHI Role

Health Innovation Hub Ireland (HIHI) validates product need with key health opinion leaders or focus groups in HIHI clinical evaluations. A clinical evaluation is a key stage that allows feedback from end-users that can inform product application, market approach and offers the company to build a cohort of clinical champions and supports. HIHI adds value by connecting clients with key opinion leaders

through a staged-gated framework. Medytrak aimed to explore the benefits and barriers to their platform and the procurement process. HIHI connected Medytrak with four clinical experts of orthopaedics and musculoskeletal medicine from the Mater Hospital, Cappagh Hospital, St. James's Hospital and the Beacon Hospital. This feedback proved invaluable for Medytrak.



Outcome Report

HIHI carried out four expert clinical sessions and several benefits were noted throughout the sessions, many of them being shared between our clinicians. The use of the card and an internet-browser based service negates a lot of the current over dependences on apps, usernames and passwords. Furthermore, the highly customisable nature of Medytrak is hugely beneficial allowing it to be specifically designed based on the needs of specific services and individual clinicians.

There is excellent remote monitoring potential, the ability for patients to upload pictures and videos is a unique advantage over other available platforms. This could help reduce face-to-face consultations and potentially support early discharges. These clinical sessions also provided valuable feedback to further develop their platform.

Testimonial

'The support we have received from HIHI has been invaluable. As a start-up company it can be difficult to navigate a route to experts and indeed to market, particularly in a relatively new industry such as mobile health(mHealth) technology. Through HIHI we gained access to clinical experts who shared significant insights into the challenges currently facing patients, healthcare professionals and the health system. This in turn brought clarity to the benefits medytrak, (mHealth remote symptom tracker and monitor accessible via a dashboard), can bring in terms of improving patient outcomes, refining clinician workflows and in potentially providing cost savings

to the health system. These insights have helped to shape our strategy and have encouraged and motivated us to ensure we make every effort going forward to integrate this technology into treatment pathways. Industry experts believe that by 2030 mHealth technologies will have become firmly embedded within clinical practice and within standard treatment protocols for most diseases and conditions and will be widely used in prevention care.

On behalf of the medytrak team, I would like to extend our sincere thanks and appreciation to HIHI, our journey would have been much more complex and time-consuming without your support.'



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