PILOT PROJECT

eAltra

eAltra has developed dialog technology for remote assessments of treatment-related toxicity for systemic anti-cancer therapy (SACT). eAltra uses conversational Artificial Intelligence (AI) to collect patient reported outcomes measures in oncology care. The eAltra eNurse can be used as the main channel for information exchange between patient and clinical team.

Upon initial engagement with HIHI, eAltra was a Trinity College Dublin (TCD) spin-in with the TCD ADAPT centre and recipient of an Enterprise Ireland (EI) Commercialisation Fund. The HIHI pilot data supported the eAltra transition to a TCD spin-out company and securing EI High Potential Start Up (HPSU) funding.

Denis Roche
CEO and Founder

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 get in touch with HIHI if they have an idea or solution to how something in your job might work better.


The Healthcare Challenge

Chemotherapy, part of the broader classification of systemic anti-cancer therapy (SACT), is used to treat and control cancer, however it can have mild to severe ranging side effects. These 'treatment-related toxicities' can lead to a delay in SACT. Often these are discovered by nurses during assessment on the day of scheduled treatment.

The current standard of care in Ireland is that patients undergoing SACT such as chemotherapy are reviewed by a healthcare professional on the day of treatment to ensure they are well enough to receive it. Often patients proceed without issue, however if a patient is unsuitable for treatment that day, it is rescheduled. This leads to unnecessary travel for vulnerable patients, along with the associated costs of travel / parking. It impacts day ward productivity, costs and pharmacy efficiencies.

The Healthcare Solution
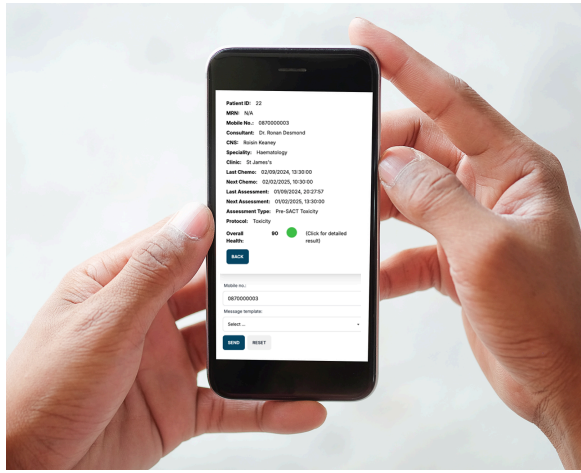
The eAltra chatbot sends out a text message to patients 24 hours prior to a scheduled appointment. This message has a link to the questionnaire on the eAltra app for patient to complete. The clinicians can review then check their suitability for treatment.

eAltra's web application follows the HL7 protocol to ensure the greatest degree of interoperability with hospital IT systems including the National Cancer Information System. It is integrated with the SMART on FHiR platform on CERNER/ ORACLE HEALTH and EPIC Electronic Patient Record systems. Delivered via cloud services (Amazon Web Services), it uses multi-factor authentication, has successfully completed a clinical risk evaluation and is GDPR compliant. eAltra takes a data minimisation approach and employs privacy by design principles.

HIHI Role

HIHI carried out a multi-site pilot of the eAltra digital tool. A chemotherapy toxicity screening application, tailored to practices carried out in Tallaght University Hospital (TUH) was created by the HIHI / eAltra project team based on consultations with clinical staff. The study compared patient responses using a conversational AI with patient responses in nurse-led interviews to investigate the usability and performance of the AI tool. HIHI identified the pilot site of TUH and provided expertise in clinical research, supported pilot design, ethics, pilot delivery and facilitated participant feedback.

Outcome Report

The impact of eAltra on the **clinical pathway** includes
- remote assessment 24 hours pre-appointment eliminates unnecessary travel and costs, if rescheduling is required.
- timed chemo production ensures treatment is ready when patient arrives eliminating wait times by up to two hours.
- average time to complete the remote assessment was achieved in under six minutes versus up to 30 mins in person.
- all participants agreed that the eAltra tool was easy to use, explained the assessment clearly and aided treatment.

The impact of eAltra the **workflow** includes
- a minimum productivity gain of 3.5 hours per treatment day was achieved, with efficiencies saving 20 minutes per patient.
- 98% agreement between the eAltra chatbot with current gold standard of nurse led chemotherapy toxicity assessments.
- Timed chemo production aligning drug preparation with patient treatment schedules optimises pharmacy workflow.

The impact of eAltra on **revenue** includes
- TUH haematology treats approx. 200 patients per annum, by optimising patient care eAltra may save up to €50k per year.

The impact of eAltra on **sustainability** includes
- remote care option results in lower carbon footprint by avoiding unnecessary travel if patient is not fit for treatment.

The Haemotology Clinical Nurse Specialist in TUH reported that "*our patients find eAltra chat bot easy to use and that there is no discrepancies between the information received via eAltra when compared to a face-to-face nursing assessment.*"

Testimonial

"The experience of partnering with Health Innovation Hub Ireland was hugely positive, particularly the contribution to achieving ethical approval for the study and the time that was saved in that process. HIHI have been invaluable in facilitating and troubleshooting clinical engagement and pilot progression.

eAltra would like to thank HIHI, Tallaght University Hospital management, Innovation Centre and clinical staff for supporting the study and making the necessary resources available. eAltra would also like to thank the patients and their families who participated in the study."

Denis Roche, eAltra CEO & Founder