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NEW TECH COULD EXTEND CANCER SURVIVAL RATE BY UP TO FIVE MONTHS WITH REAL-TIME SYMPTOM UPDATES

- **Two innovative Scottish projects win £100k funding from Cancer Innovation Challenge**
- **Cancer patients to give clinicians real-time symptom updates to inform decisions**

Cancer patients in Scotland could soon be able to share their symptoms with their medical team in real time using new technology after two new projects each received a £100,000 award to progress to the second phase of the prestigious **Cancer Innovation Challenge**.

Enabling cancer patients to share symptoms as they happen has been proven to improve treatment options and increase survival rates by up to five months*.

The two projects record so-called 'Patient-Reported Outcome Measures' (PROMs) and 'Patient-Reported Experience Measures' (PREMs) and integrate them with NHS technology systems. Allowing cancer patients to record symptoms such as pain, nausea or tiredness as they experience them gives doctors a more accurate understanding of their condition and how they are responding to treatment.

The tools will enhance cancer patients' experiences during treatment, potentially improve their life expectancy and also deliver longer-term insights into the effectiveness of different treatments for clinicians.

Dr Catherine Calderwood, Scotland's Chief Medical Officer, said: "Ensuring that the person receiving care is at the centre of medical decision making is crucial. Getting accurate information from patients about their symptoms at the time they are experiencing them is core to this. This is particularly pertinent for people with cancer. How they feel really matters.

"Patient-reported outcomes (PROs), using innovative tools such as these, will enable doctors to weigh-up risks and benefits of individuals' treatments. It takes the pressure off the patient having to remember how they felt a week or two ago when they are coming in for their next appointment. Using such tools has the potential to enhance the quality of life for patients while they are going through treatment. Ultimately it is about improving services, treatments and outcomes for people with cancer."

OWise is an app developed by Px HealthCare specifically for breast cancer patients. It will include a specific notification, which nudges patients to contact the Cancer Treatment Helpline in reaction to certain symptoms in a bid to address Scots' reticence to 'be a bother'. Crucially, the OWise tool, which provides clinicians with a real time view of patient reported outcomes, will be able to be integrated with TrakCare® – a patient management system widely used throughout NHS Scotland. Px is currently developing the tool in partnership with NHS Lothian and has had patient feedback via engagement with Maggie's.

My Clinical Outcomes (MCO) is a web-platform used to collect and analyse variation in patient-reported outcomes. The platform has been tailored for patients in Scotland with any cancer type, and will be piloted with haematological cancer patients at NHS Ayrshire and Arran. Using MCO, patients answer regular assessments and track the impact of their condition on their life through a personal dashboard. Clinicians can immediately access this valuable new information about the effectiveness of treatment to inform ongoing clinical decisions. The solution has been designed to

include guidance from Macmillan Cancer Support and is interoperable with Orion Healthcare, another well-established clinical portal in Scotland.

Both now have six months to further develop their prototypes and further demonstrate their benefits and roll-out potential.

Professor Andy Mount, Dean of Research, College of Science and Engineering, The University of Edinburgh and Chair, Strategic Management Board of Cancer Innovation Challenge, added: “The Board were impressed by the progress made by all five companies in Phase 1 of the PROMS PREMS call, especially when considering the tight budget and timescales. We congratulate those successful companies in the Phase 2 competition and look forward to the development of their technologies, to address the opportunity of harnessing data to drive innovation in cancer treatment in Scotland. We commiserate with those who were unsuccessful in this highly competitive call, and encourage them to engage through the Cancer Innovation Challenge’s project partners to explore progressing their technologies.”

The other projects involved phase one of the Cancer Innovation Challenge were:

‘Remote Patient Measures’	Docobo, Surrey
‘PROEMS – A flexible, future-proofed and integrated solution for PROM and PREM collection and use’	Openbrolly, Elgin
‘Digital platform for Teenage and Young Adult (TYA) cancer service in Scotland’	Sitekit Health, Isle of Skye

The Cancer Innovation Challenge aims to inspire novel data and tech innovations to help Scotland become a world leader in cancer care. It is funded by the Scottish Funding Council and delivered by three Scottish innovation centres – led by The Data Lab and supported by the Digital Health and Care Institute (DHI) and Stratified Medicine Scotland (SMS).

To find out more about the Cancer Innovation Challenge and its associated activities and funding opportunities, please visit www.cancerchallengescotland.com.

ENDS

* Digital patient reported outcome measurement is flagged as a key cancer trend in 2018 by Forbes. According to a 2017 US study: Overall Survival Results of a Trial Assessing Patient-Reported Outcomes for Symptom Monitoring During Routine Cancer Treatment <https://jamanetwork.com/journals/jama/fullarticle/2630810?alert=article>

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About the Cancer Innovation Challenge

The Cancer Innovation Challenge is a project funded by the Scottish Funding Council (SFC) to encourage Innovation Centres in Scotland to work in partnership to help Scotland become a world leading carer for people with cancer.

The project brings together three Innovation Centres, led by The Data Lab in collaboration with the Digital Health and Care Institute (DHI) and Stratified Medicine Scotland (SMS). The Innovation Centres are funded by the SFC to support transformational collaboration between universities and businesses. The Centres aim to enhance innovation and entrepreneurship across Scotland’s key economic sectors to create jobs and grow the economy.

The Challenge has two major work streams:

- 1) An open innovation funding call to identify innovative cancer data science solutions
- 2) An open innovation funding call to develop new tools for cancer patient reported outcomes and experience measures

There will be a programme of activities surrounding each work stream involving industry, the public and a variety of stakeholders in the wider health sector. The aim is to utilise NHS data to support the delivery of more effective and efficient cancer care to help derive new analytical insights into Scottish cancer data, inspire local start-ups to join in the effort, demonstrate ability to produce large scale NHS data for complex analysis under safe and secure conditions and to support informed discussion about the creation and use of synthetic data.

Organisations supporting the delivery of the challenge include:

- NHS National Services Scotland
- The Innovative Healthcare Delivery Programme (IHDP) at the Farr Institute Scotland
- The University of Edinburgh
- The Nursing, Midwifery and Allied Health Professions Research Unit at the University of Stirling
- The Health and Social Care Alliance Scotland
- Find out more here: www.cancerchallengescotland.com

Twitter: @cancerchallscot, #DataSavesLives

More info on Px HEALTHCARE

OWise for Scotland: Embedding the mobile app platform demonstrated to improve patient experience and oncology outcomes in a NHS Scotland ecosystem

To increase patients' quality of life, to improve clinical outcomes and to make cancer care more affordable, we need to accurately understand how cancer patients experience treatments. Px HealthCare (also called Px, which stands for Patient Experience) has developed the freely available app OWise, an independently validated, mobile platform supporting cancer patients during treatment. It was recently listed in the Top 25 of all health apps, OWise is a real game-changer as

- its award-winning app was shown to improve both patient experience and the patient-doctor interaction,
- while the fully anonymised, real-time Patient-Reported Outcome (PRO) data are collected and investigated using advanced data analytics to improve oncology outcomes.

This innovative project is aimed at bridging the gap between cancer patients and their healthcare providers by implementing a new prototype of the OWise platform enabling Scottish cancer patients to share real-time PRO data with healthcare providers and the clinical information system of their NHS hospital. This may have an immediate impact on how patients perceive their treatment, the management of side effects and symptoms and on personal outcomes. This novel extension of the OWise platform provides an excellent fit with Scotland's Cancer Strategy, where person-centred care plays a key role in providing patients with optimal treatment. On a larger scale, the insights into real-world PRO data may contribute to better spending of the NHS budget and facilitate policymaking.

www.owise.uk

www.pxhealthcare.com

More info on MY CLINICAL OUTCOMES

My Clinical Outcomes (MCO) is a web-based platform for collecting and using Patient Reported Outcome Measures (PROMs) in clinical care.

MCO is embedded around existing clinical pathways and allows patients to regularly submit outcomes data throughout treatment and follow-up. Results are available in real-time to help healthcare professionals to monitor clinical progress and make more informed decisions, including prioritising face-to-face reviews for

those most in need. Hospitals can use the aggregate data and analytics to understand variation in outcomes and to help improve overall quality and reduce ineffective activity.

MCO has been in use in various clinical specialties in the NHS and private sector since 2011. The Cancer Innovation Challenge project provides the opportunity to work with NHS Scotland to design enhancements tailored to the specific needs of cancer patients in Scotland. This will include a mobile application that draws on existing functionality but that has dashboards and content tailored to feedback from local patient groups. MCO will work with NHS Ayrshire and Arran to deliver a PROMs solution for use in clinical practice, and also with Orion Health to integrate into the Clinical Portal that is in use across Scotland.

We are at tipping point where internet availability and patient expectations are for the first time making it possible to use digital tools to help deliver better patient outcomes. MCO is very excited to have the opportunity to play a part in helping make this important step forward for cancer patients in Scotland.

Scottish Funding Council

The Scottish Funding Council (SFC) is helping to make Scotland the best place in the world to educate, to research and to innovate. Investing around £1.5 billion of public money each year, SFC's funding enables Scotland's colleges and universities to provide life-changing opportunities for over half a million people. Its support for university research means every one of Scotland's 19 universities is able to carry out world-leading research. www.sfc.ac.uk

The Data Lab:

The Data Lab is an innovation centre focused on helping Scottish industry to capitalise on a growing market opportunity in data science. Established with an £11.3 million grant from the Scottish Funding Council, The Data Lab enables industry, public sector and world-class university researchers to innovate and develop new data science capabilities in a collaborative environment. Its core mission is to generate significant economic, social and scientific value from data for Scotland.

www.thedatalab.com

www.datafest.global