



# **Medicines Optimisation Innovation Centre (MOIC)**

Annual Report

2023 – 2024



## **MEDICINES OPTIMISATION INNOVATION CENTRE (MOIC)**

### **Annual Report 2023 / 2024**

#### **Context**

The Regional Medicines Optimisation Innovation Centre (MOIC) aims to work towards better patient outcomes by initiating, developing and sharing best practice with regards to medicines use. This is achieved via the following primary activities:

1. Developing a systematic approach to finding and testing solutions for Health and Social Care (HSC).
2. Combining strengths in clinical pharmacy, pharmacy practice, research and service development, with technology and business acumen.
3. (a) Developing a medicines optimisation network, linking with the HSC and other life science networks and innovation centres in Northern Ireland (NI) and Europe.  
(b) Support knowledge sharing both with the HSC and wider networks and the development of collaborative working partnerships and joint working arrangements between participants.

#### **MOIC Work streams**

In addition, to work around infrastructure, communications and marketing, MOIC activity is split across four work streams, namely to:

- Focus on the needs of patients and the NI population.
- Accelerate the adoption of innovation into practice to improve clinical outcomes and efficiency.
- Build a culture of partnership and collaboration.
- Make a meaningful contribution to the NI economy.

This report will describe the key achievements in these areas during 2023/2024.



## **Staff, Infrastructure, Communications and Marketing**

A team of Programme Managers are key to the functioning of MOIC. During the year, a number of temporary Programme Managers were in post. These individuals were appointed to cover maternity leave of substantive post holders and to assist with additional work flowing from major research grants. These posts have now ended. During January 2024 one of the substantive post holder left her post. Permission was gained to commence a recruitment exercise to appoint a replacement.

MOIC benefited from the skills of a Communications Manager (0.6WTE) until the end of October 2023. Duties for this role included the management of the website and social media channels and the production of regular newsletters. Permission has now been gained to commence a recruitment exercise to appoint a replacement.

Where possible, the MOIC team have attended conferences and workshops to assist with the promotion of MOIC. In addition, results from specific projects have been disseminated through a variety of means including: the publication of papers; attendance and presentations at a range of conferences; website; and, Twitter. A list of publications, reports and presentations is included in Annex A.

## **Focus on needs of patients and NI population**

Staff in MOIC have continued to work on a range of projects aimed at optimising medicines use and on maximising skill mix in order to ensure the best possible outcomes from medicines use.

In primary care, we continue to work with the Strategic Planning and Performance Group (SPPG) to evaluate new services that are being developed. Details of these evaluations are below:

- The SPPG launched a pilot for the Pharmacy First Service for the management of sore throats in November 2023. Under this scheme patients presenting with a sore throat undergo a consultation with the community pharmacist. Depending on the assessment and the application of the FeverPain criteria, a rapid antigen detection test may be used. This test will indicate if the symptoms are caused by Group A beta-haemolytic Streptococcus which is the most common bacterial cause of sore throat. If indicated, the

community pharmacist can supply antibiotics. MOIC are assisting with the evaluation of this pilot.

- Within NI, transformation funding was awarded to the SPPG in order to scope and establish new models of prescribing by non-medical prescribers. MOIC led in the evaluation of projects in the areas of physiotherapy, heart failure, dietetics and mental health. During the reporting period, a paper on the dietetic component was published. A further paper has been submitted for publication to Physiotherapy Journal and is under consideration. More recently, a task and finish group has been established to oversee a pathfinder project which will permit the prescribing and supply of palliative care medicines in Foyle Hospice using HS21 prescription forms. MOIC are members of the task and finish group and will lead in the evaluation of this pilot.
- SPPG are running a service for the provision of emergency hormonal contraception through community pharmacy. MOIC are evaluating user satisfaction with this initiative. This was initially due to close on 31<sup>st</sup> January 2024, however, MOIC and SPPG have agreed that this will be extended until 30<sup>th</sup> June 2024.
- During the year it was agreed that MOIC would provide expertise and advice on the evaluation of established HSC services. In the 2024/5 year this will focus on the supply of emergency hormonal contraception via community pharmacy. Initial meetings have been held with SPPG and Community Pharmacy Northern Ireland (CPNI) to plan and scope this work.

MOIC were commissioned by the Department of Health (DH) to undertake a review of the pharmacy response to COVID-19. Three key areas have been identified for inclusion in the review:

- Phase 1: Recommendations made in the Rapid Review of Pharmacy Services in response to COVID-19 (published by MOIC in September 2020)
- Phase 2: Pharmacy input into COVID-19 vaccination services
- Phase 3: Pharmacy input into rollout of novel COVID-19 therapeutics

Phase 1 of the review was completed during August 2023 and the final report has been accepted by DH. A report relating to Phase 2 (vaccination services) has been completed by MOIC and was submitted to DH in March 2024 for approval. It is anticipated that the final report for phase 3 will be submitted to DH during May 2024.



MOIC agree an annual business plan with DH. A key role for MOIC under this plan is to provide expertise and advice on a range of policy issues under development. During the year MOIC contributed to a number of areas related to workforce development within pharmacy including:

- **Consultant Pharmacist Development Task and Finish Group:** This group was established to provide advice on the strategic development and appointment of consultant pharmacists in primary and secondary care in NI, including advising the DH on the role of consultant pharmacists. The group presented their report to DH in June 2023. In 2024/5 MOIC will continue to support the development of consultant pharmacists, particularly with regards to their research and service development activity. This will include reviewing the research / service development aspects of their work plans.
- **General Practice Pharmacy Strategy Group:** This group was established to develop a strategic vision for the development of the pharmacy team within general practices in NI. The final report “GPP NI 2030 – A strategy for General Practice in Northern Ireland” was launched in February 2024. The report outlines plans for the future development of the general practice pharmacy sector including how pharmacists will contribute fully to optimising the health outcomes of our population as the clinical leads for medicines within the general practice team. In 2024/25 MOIC will continue to assist in the development of general practice-based pharmacy teams and will provide a strategic overview of the development and evaluation of the Western Health and Social Care Trust (WHSCT) pharmacy support to General Medical Services.
- **Advanced Practice Pharmacist Task and Finish Group:** This group is overseeing the strategic development of Advanced Practice Pharmacist roles across hospital, general practice, and community pharmacy sectors in NI. These roles will support and develop long-term clinical leadership within the profession. This group is due to present a report to DH in April 2024.

MOIC have been working with a number of colleagues across NI in the area of cardiovascular disease.

Funding was obtained from AstraZeneca to pilot the establishment of a cardiometabolic pharmacy service within the WHSCT. A cardiometabolic pharmacist conducted outpatient reviews for those at risk of cardiometabolic diseases. These reviews aimed to increase adherence to medicines that prevent and delay disease progression. During 2023/4 work was undertaken to prepare a paper. This has been submitted for publication.



In the Southern Health and Social Care Trust (SHSCT), funding was obtained from AstraZeneca to undertake work with the cardiology team and primary care colleagues to establish, deliver and evaluate virtual heart failure clinics. The virtual heart failure clinics were held weekly over a one year period and the final evaluation report was completed during the summer of 2023.

At the start of the pandemic, MOIC worked closely with the Business Services Organisation Procurement and Logistics Service (BSO PaLS) and became the lead for technical assessment of offers of personal protective equipment (PPE) regionally. MOIC continue to lead on technical assessments of offers/items for contracting of PPE and some medical devices for the region. This work is in conjunction with both BSOPaLS and Infection Prevention Control. A business case for recurrent funding (led by BSOPaLS) has been approved. Discussions have been held with DH regarding this work and a job description has been finalised. Recruitment and subsequent appointment is now in train.

The COMET study was led by researchers in the Netherlands and was run in the NHSCT with the support of both pharmacy and MOIC staff. The study used pseudonymised data from patients hospitalised with COVID-19 to establish if certain medications affect clinical outcomes in those with COVID-19. The effect of anticoagulants, (all) cardiovascular drugs, immunomodulatory drugs and frailty on the clinical course of COVID-19 have been investigated and a number of papers have been published. During 2022/23 data for a one year follow up of the initial patient cohort was collected in the NHSCT. This data was analysed by the COMET team and a paper has been prepared for publication.

The Pharmacy Schools Programme is a comprehensive programme covering health literacy, self-care and medication safety. This programme has been designed in conjunction with Belfast Healthy Cities for delivery in primary schools. The current programme commenced in the autumn of 2023 with training for the participating schools being delivered in November 2023. On completion of the programme in the primary schools, MOIC will assist in evaluating the programme. There is an aspiration to expand the Pharmacy Schools Programme into post-primary education in 2024/25.



## Accelerate the adoption of innovation into practice to improve clinical outcomes and efficiency

Throughout the year MOIC have held a range of discussions with commercial companies regarding potential projects which aim to improve clinical outcomes and efficiency. A number of these are described below.

MOIC are working with the NHSCT respiratory team and a commercial company (PatientMpower) on a project to support the digital transformation of outpatient care pathways for patients with Interstitial Lung Disease (ILD). This project aims to implement remote monitoring technology in patients with ILD that will enable patient-led home assessments and the patient-recorded data to be shared with clinical teams in real time. A project proposal has been drafted and distributed to team members, Information Governance approvals are being sought and Standard Operating Procedures are being developed.

MOIC worked with a local a community pharmacist on their technology development - PharmECIST. This is a cloud-based Software as a Service (SaaS) web application that utilises standardised digital ailment triage workflows to support qualified community pharmacists with clinical decision making and recommend evidence-based treatments for patients over the age of 16 years. The tool provides an audit trail of the consultation and the facility to enable the pharmacist to signpost the patient to other members of a multi-disciplinary healthcare team. MOIC advises on the PharmECIST system and on a potential pilot of the software. A final report has been produced.

In 2022/23 work was undertaken by the team at MOIC and a QUB spin out company (Continga Limited) to trial a novel system for improving medicines adherence in those with respiratory diseases. Using the system, clinicians can observe their patients as they use inhaled medication with a view to improving how such devices i.e. inhalers are used. The project found that the technology was a feasible method of assessing inhaler technique and monitoring adherence in a small group of adult asthma patients managed in an outpatient setting. During the current year, a paper was prepared and this has been submitted for publication.

During the year, MOIC held a number of meetings with the NHSCT Estates Team regarding the tagging and tracking of medical equipment. It was noted that previous work undertaken with the commercial company, Healthcare Analytics to develop the tagging and tracking solutions meant that



the hardware in place in NHSCT is fit for purpose. However, at this stage, the Estates team need to procure a new software solution. New research and service development projects related to tracking may be possible depending on the procured system and these will be considered using MOIC project adoption procedures on a case by case basis.

### **Build a culture of partnership and collaboration**

MOIC continue to work with a range of collaborators from across the world. Activity includes:

- Collaborating in order to apply for large funding grants.
- Attending conferences and events in order to promote MOIC.
- Contributing to the organisation of conferences.
- Building international partnerships to aid knowledge translation and hosting.

During the year, the iSIMPATY project was completed. In 2019 funding for this project was awarded to a collaborative group from the Scottish Government, the Health Services Executive (HSE) in Ireland and MOIC. A total of €3.5 million was awarded (€915K for NHSCT) by the Interreg programme. Interreg is a series of programs designed to stimulate cooperation between regions in the European Union, funded by the European Regional Development Fund. The project trialled the use of pharmacy led medicine use reviews in all three jurisdictions. Clinical pharmacists in the NHSCT undertook the project. During the project a total of 6481 reviews were delivered with 1905 of these delivered in NI and a training programme for wider health care professionals was developed and accredited. Some of the key findings were:

- The average age of patients reviewed was 72 (53% were female). An average of six comorbidities were recorded per patient and medicines appropriateness improved in 91% of reviews evaluated.
- The project pharmacists made an average of 11 clinical interventions per review. The majority (82%) of interventions made a significant improvement in patient care, whilst 4% (n=968) were classified as potentially preventing major organ failure, adverse drug reactions or incidents of similar clinical importance.
- Both direct medicine cost savings as well as substantive opportunity cost savings with respect to healthcare resource utilisation were achieved by minimising medication related harm.

- There was added benefit of 7.4 QALYS gained per 100 cases, and sustainability benefits via improved patient understanding and adherence to their medications thereby reducing the associated carbon footprint.
- An analysis of the economic costs and benefits associated with polypharmacy reviews undertaken as part of the iSIMPATY project determined that if comprehensive medicines reviews were provided to all patients aged 65+ (75+ in NI) taking 5+ medicines in each country, the maximum avoidable inpatient cost would be £24.7m for ROI; £11.0m for NI; and £36.0m for Scotland.

A final report has now been completed and work is being undertaken with DH to ensure that the findings from the project are incorporated into future policy decisions.

MOIC was one of the 36 partners from across Europe involved in the SHAPES Project (Smart and Healthy Ageing). The project was funded by the EU under the smart and healthy living at home (Horizon 2020) workstream. This project was led by Professor MacLachlan, Director of the Assisted Living and Learning (ALL) Institute in Maynooth and was awarded a total of €21million (€572K was awarded to the NHSCT). In NI, MOIC was the lead for the Medicines Optimisation and Control pilot. Following mock-up and user acceptability testing, ethical approval for the full pilot was obtained. Testing under the pilot was finished in June 2023. A final report on the Medicines Optimisation and Control pilot was written by MOIC and submitted to the EU Commission. This report is available on the SHAPES website. During February 2024, the European commission completed a technical review of the SHAPES programme. This resulted in a successful review outcome. MOIC participated in a European Think Tank, supported by SHAPES programme, which will be publishing a report on the advancement of integrated care in Europe and the role of person-centred digital technologies.

Some of the key results from the medicines optimisation and control pilot were:

- A range of SHAPES Digital Solutions were designed and developed using multiple cycles of feedback with service users, healthcare professionals and older people. These Digital Solutions were integrated with the SHAPES Platform for use in the pilots.
- Nine SHAPES Digital Solutions were piloted with 73 older adults for 12 weeks in four countries.
- Recruitment and retention key performance indicators were achieved in Cyprus, Czech Republic and Spain.



- All interventions made in Spain were classified as significant and resulted in improved patient care as defined using the Eadon Scale.
- User engagement and acceptance had mixed results depending on the Digital Solutions used.
- There was a high level of trust for collecting health data and willingness to share this with healthcare professionals.

The team at MOIC have worked with a range of partners on new grant applications. These include:

- An application for the Medical Research Council's (MRC's) Applied Global Health Partnership Grant. The project, led by Ulster University (UU), focuses on multimorbidity and reaches out to other countries, especially Low and Middle Income Countries.
- An application with UU for UK Research and Innovation (UKRI) funding to enhance respiratory medicine management and strengthen antimicrobial stewardship in Ghana, Jordan and NI.
- Initial work with colleagues in NI, Ireland and the US to plan a grant application to the US-Ireland Partnership Grant scheme. The application will focus on medicines optimisation interventions made at transitions of care and will be submitted to funders during the 2024/5 year.

The WHO Global Patient Safety Challenge on medicines safety aims to reduce medicines related harm by 50% over a five year period. At a regional level MOIC sit on the newly established Transforming Medicines Safety Advisory Group. Under this initiative a Health and Social Care Quality Initiative (HSCQI) medications safety collaborative has been established to consider opioid prescribing. MOIC are working closely with HSCQI on the evaluation of this programme. There are nine projects in total with three in primary care. MOIC are also contributing to the organisation of the first All-Island Medicines Safety Conference which will be held in Dublin in November 2024.

Also linked to the WHO Global Patient Safety Challenge, MOIC is continuing to work with colleagues in the Institute for Healthcare Improvement (IHI) to consider a learning collaborative approach to medicines safety. A workshop was successfully delivered in person in Copenhagen at the International Forum in May 2023. Following on from this, discussions are progressing with stakeholders in Poland and Estonia with regards to establishing a change project related to medicines optimisation. Funding options, including those with industry partners are being explored.



Medicines safety and medicines optimisation can be impacted by medication adherence. EU COST Actions (Co-operation in Science and Technology) are interdisciplinary research networks which bring researchers and innovators together to explore a topic of interest. MOIC are members of the ENABLE COST Action (European Network to Advance Best practices & technology) on medication adherence. This action includes over 100 people from 39 countries and it aims to:

- raise awareness of adherence enhancing technological solutions;
- foster and extend multidisciplinary knowledge on medication adherence at patient, treatment and system levels;
- accelerate translation of this knowledge to useful clinical application; and,
- work collaboratively towards economically viable implementation of adherence enhancing technology across European healthcare systems.

MOIC continues to participate in the ENABLE Adherence COST Action, and is a member of the Current Practices and Adherence Technology Working groups. MOIC also participated in the ENABLE Training School in Bologna in June 2023 focusing on Technologies to support medicines adherence.

MOIC are keen supporters of knowledge translation. In previous years knowledge translation has been supported via the hosting programme. In recent years hosting visits have not been possible due to clinical pressures, however, a range of international partnerships and collaborations continue to be developed including:

### **Poland**

- Work has continued under the Memorandum of Understanding (MoU) between MOIC and the Polish Society of Clinical Pharmacy in order to share learning and drive enhanced pharmacy services throughout Europe. The Ministry of Health in Poland has established a number of working groups to progress medicines optimisation in the country. MOIC is working with colleagues in Wroclaw to assist in delivering a medicines optimisation pilot in the hospital setting. Patient recruitment is continuing in a PhD project and it is anticipated the findings from this project will support the evidence base in the Polish context to help inform wider roll out.

- MOIC co-authored a Position Paper on clinical pharmacy in Central and Eastern Europe and NI was included as an example of best practice. The paper has now been published and has generated significant interest across Europe. Further opportunities are now being explored.
- MOIC delivered a keynote presentation at the Polish Society of Clinical Pharmacy symposium in Warsaw in September 2023, together with the Chief Pharmaceutical Officer for NI and including a pre-recorded speech by the Permanent Secretary for HSC at the DH.
- MOIC is contributing to the development and planning of the European Society of Clinical Pharmacy (ESCP) Conference to be held in Krakow, Poland, in October 2024. The Polish Society of Clinical Pharmacy annual Symposium will dovetail with this event.

### **Tanzania**

- MOIC staff have been working with representatives of the Tanzanian Institute of Pharmaceutical Care. A MoU with the Bugando Medical Centre was signed and launched in November 2022 with a view to aiding the introduction of medicines optimisation initiatives, including clinical pharmacy and Antimicrobial Stewardship (AMS) in Tanzania. Work in this area is currently on hold due to resource pressures for colleagues in Bugando.
- Related to this, MOIC has worked with Northumbria Trust and Northumbria Bright Charity and their network of colleagues across Tanzania. A number of resources have been shared and collaborative working in the areas of clinical pharmacy, medication review and antimicrobial surveillance are being explored. MOIC partnered with Northumbria Trust in a Commonwealth Partnerships for Antimicrobial Stewardship (CwPAMS) funding application to improve medicines optimisation and AMS across Tanzania. The application was successful and the project commenced in May 2023. There are plans for MOIC to host a delegation from Tanzania and provide training and expertise on medicines optimisation interventions, however, this remains on hold due to hosting restrictions within NHSCT.

### **PhD students**

- Sonja Guntschnig from Austria first visited the NHSCT under the hosting programme in 2019. Based on her learning she is now developing AMS programmes within her hospital

and region. Linked to this, she is undertaking a PhD under the supervision and mentorship of UU and MOIC. Throughout the year, Sonja continued to present her findings at relevant conferences e.g. ESCP. A paper considering her initial work on clinical services evaluation has been accepted for publication in the European Journal of Hospital Pharmacy.

- Anita Tula, is a PhD student based at the University of Tartu in Estonia. She is examining the area of medicines use reviews with a focus on older people and polypharmacy in community pharmacy settings. A new and updated publication on her work to date has just been published.
- MOIC is working with two PhD students at the University of Oslo in Norway. The first is exploring the co-design of seamless person-centred interventions to optimise medication use across healthcare levels and is being undertaken by Malin O. Syversen. Mikas Glatkauskas is undertaking work to explore the innovation of a sustainable healthcare service for patients with multiple long-term conditions. Building on this collaboration, a presentation on the iSIMPATY project was given at the Norwegian Annual Conference in November. Initial discussions have also been held regarding the use of pharmacogenomics testing in medicines optimisation and possible collaborative projects.

During the year, MOIC established the UK and Ireland Antimicrobial Stewardship Collaboration. This is an informal network of participants from UK and Ireland with an interest in Antimicrobial Resistance and Stewardship. The purpose is to complement existing groups and explore areas of mutual interest, funding, small to medium-sized projects and to share learning and work collaboratively to mutually benefit each jurisdiction. Terms of reference have been drafted for the group and work to identify suitable projects is ongoing.

In addition to the conferences described above, MOIC also helped to organise:

- The 1<sup>st</sup> All-Ireland Conference on Antimicrobial Stewardship 'Collaborating across borders: a multidisciplinary approach to antimicrobial stewardship' which was held in Dublin during October 2023. The conference was organised with the Collaborate Analyse Research Audit (CARA) network and brought together over 120 delegates from the across Ireland. MOIC secured funding from the HSC Research and Development (R&D) Division for Dr David Farren to attend and speak on behalf of NI.



- The 10<sup>th</sup> All-Ireland Pharmacy Conference which was held in Dundalk in November 2023. In addition to key note addresses, the conference featured 24 oral presentations and over 80 posters across a number of key themes namely pharmacy education, workforce, enhancing practice and policy.

### **Make a meaningful contribution to the NI economy**

MOIC are the HSC lead in the Health and Social Care Industry Partnership (HSCIP). The partnership aims to deliver ‘triple win’ benefits to patients, the service and the economy through more rapid and consistent patient access to innovation, more effective use of HSC resources and increased cross-sector research collaboration. The first challenge to be addressed by HSCIP was the eradication of Hepatitis C in NI and MSD was selected as the industry partner for this work. Unfortunately, due to staffing changes and changes in clinical priorities, the decision was taken to withdraw from this partnership agreement.

The second call under the partnership is in the area of heart failure. Applications from potential industry partners to the challenge were received by MOIC in April 2023 and a partnership agreement was reached with AstraZeneca. Following the establishment of governance paperwork and a project plan a 12 month project commenced in September 2023. A leadership group has been formed and three task and finish groups are progressing the following priority areas:

- 1- Early Identification and Referral Pathway
- 2- Triage and Patient Prioritisation Pathway
- 3- Optimal Treatment and Discharge Pathway

MOIC continue to work, under a MoU, with the Cluster Saude de Galicia (CSG). This work builds upon previous learning expeditions. Discussions have been held with a range of CSG partners, including companies, universities and healthcare professionals on a range of areas, including artificial intelligence (AI) and pharmacogenomics. MOIC participated in the #RIES23 Event in Vigo, Galicia in November 2023 and followed up on discussions and potential opportunities for collaborative working and funding options.

Health Innovation Hub Ireland (HIHI) works across the health sector in Ireland with businesses to solve problems and improve patient care. A MoU was established with HIHI and this was formally



signed in December 2023. It is hoped that under the MoU we can work collaboratively with companies in the development of new healthcare technologies, products and services to benefit the health of the population. This will include collaboration on potential funding applications.

Peace Plus is a new funding programme which will support peace and prosperity across NI and the border counties of Ireland. MOIC have continued to work with colleagues in both regions, including those at policy level, to help inform the development of this programme. Medicines management has been identified as a key area for funding under theme 4 (Healthy and Inclusive Communities) of Peace Plus. Under this theme, MOIC worked with colleagues and have submitted an application entitled: iMPROVE- Innovation in person-centred Medication Prescribing and Review for Optimal Value and Efficacy

MOIC have also been involved in discussions relating to theme 6 (Building and Embedding Partnership and Collaborations), and contributed to a concept note submitted in May 2023 by Digital Health and Care NI (DHCNI) under Theme 2 (Delivering Socio-Economic Regeneration and Transformation). More recently (March 2024) MOIC have held early discussions with colleagues to explore the possibility of submitting an application to theme 4.2. This is linked to rural regeneration and social inclusion and will consider the presence of pharmaceuticals in waste water. The initial emphasis will be on antibiotics and will build upon the One Health Breakthrough Partnership in Scotland regarding the reduction of pharmaceutical pollution.

MOIC continue to work with Invest NI and are an Invest NI Knowledge Partner. During the year, MOIC held detailed discussions with Peoplewith (an SME) and the WHSCT regarding a test of the Peoplewith platform. This platform can be used by the patient and healthcare team in the management of long term conditions. The company secured funding using an innovation voucher, however, the company did not have capacity to include this within their workplan.

### **Personal and Public Involvement (PPI)**

MOIC is endeavouring to ensure that PPI is embedded across the work programme. During the year a PPI representative continued to sit on the MOIC Board.

Major grant applications have PPI and user representatives embedded within work programmes, for example, the SHAPES consortium had six partner organisations representing the user perspective.



In addition, there were three strands of activities aimed at promoting communication with older individuals, caregivers and care providers namely: a co-creation think tank, awareness campaigns and dialogue workshops.

The iSIMPATY project was focused on the delivery of patient centred reviews. The iSIMPATY Board which monitored the running of the project included a PPI representative from the Health and Social Care Alliance Scotland.

MOIC are hoping to apply to the US-Ireland Partnership Grant scheme during 2024/25. Discussions have been held with the HSC R&D division lead for PPI with a view to applying to the Public Involvement Enhancing Research (PIER) network for a PPI representative on this project.

A PPI representative from the patient group 'AMR Narrative' was one of the keynote speakers at the 1<sup>st</sup> All-Ireland Conference on Antimicrobial Stewardship 'Collaborating across borders: a multidisciplinary approach to antimicrobial stewardship' which was held in Dublin during October 2023.

### **Financial report 2023/2024**

The Medicines Optimisation and Innovation Centre has reported an overall surplus of £56k and has £858k of deferred income from commercial funding carried forward into 2024/25. An income and expenditure report is included in Annex B.

## **Annex A: MOIC publications, presentations and reports 2023.24**

### **Papers & publications**

Aldeyab, M.A., Crowe, W., Karasneh, R.A., Patterson, L., Sartaj, M., Ewing, J., Lattyak, W.J., Al-Azzam, S., Araydah, M., Darwish Elhajji, F., Kabbaha, S., [Conway, BR.](#), [Conlon-Bingham, G.](#), [Farren, D.](#) and [Scott, M.](#), 2023. The impact of the COVID-19 pandemic on antibiotic consumption and prevalence of pathogens in primary and secondary healthcare settings in Northern Ireland. *British Journal of Clinical Pharmacology*, 89(9), pp.2851-2866. <https://doi.org/10.1111/bcp.15778>

Doyle, C., Gribben, N., Madden, S., Barr-Crandles, J., Montgomery, D., McAuley, J., Martin, S., Tolan, J. and Fleming, G., 2023 Development of the Role of a Specialist Mental Health Pharmacist within a Community Mental Health Team in Northern Ireland. *PM healthcare journal, issue 5*, pp 14-21. Available at: [https://www.pmhealthcare.co.uk/uploads/Journals/PM%20Healthcare%20Journal%20-%20Summer%202023\\_FINAL\\_2.pdf](https://www.pmhealthcare.co.uk/uploads/Journals/PM%20Healthcare%20Journal%20-%20Summer%202023_FINAL_2.pdf)

Guntschnig, S., Courtenay, A., Abuelhana, A. and Scott, M.G., 2023. Clinical pharmacy interventions in an Austrian hospital: a report highlights the need for the implementation of clinical pharmacy services. *European Journal of Hospital Pharmacy*. <https://doi.org/10.1136/ejhpharm-2023-003840>

O'Neill, K., Dixon, F., Fleming, G., Scott, M., McAuley, J., Linton, A. and McLean, E., 2023. Oral nutritional supplements in care homes. *Journal of Prescribing Practice*, 5(10), pp.426-437. <https://doi.org/10.12968/jprp.2023.5.10.426>

Tadros, M.M., Boshra, M.S., Scott, M., Fleming, G., Magee, F., Hamed, M.I., Abuelhana, A., Courtenay, A., Salem, H.F. and Burnett, K., 2023. Antimicrobial prescribing in a secondary care setting during the COVID-19 pandemic. *JAC-Antimicrobial Resistance*, 5(6), p.dlad117. <https://doi.org/10.1093/jacamr/dlad117>

Urbańczyk, K., Guntschnig, S., Antoniadis, V., Falamic, S., Kovacevic, T., Kurczewska-Michalak, M., Miljković, B., Olearova, A., Sviestina, I., Szucs, A., Tachkov, K., Tiszai, Z., Volmer, D., Wiela-  
Hojeńska, A., Fialova, D., Vlcek, J., Stuhec, M., Hogg, A., Scott, M., Stewart, D., Mair, A., Ravera,  
S., Lery, F-X. and Kardas, P., 2023. Recommendations for wider adoption of clinical pharmacy in  
Central and Eastern Europe in order to optimise pharmacotherapy and improve patient outcomes.  
*Frontiers in pharmacology*, 14, p.1244151. <https://doi.org/10.3389/fphar.2023.1244151>

Scott M., Urbanczyk K. and Stewart D., 2024. European Society of Clinical Pharmacy: Implementing  
and scaling sustainable clinical pharmacy. *International Journal of Clinical Pharmacy* 46(2) pp 355-  
356. <https://doi.org/10.1007/s11096-024-01718-w>

Tuula A., Merks P., Waszyk-Nowsaczyk M., Drozd M., Petrova G., Viola R., Bobroz V., Scott M.,  
Ooru M., and Volmer D., 2024. Evaluation of medication safety assessments tools for pharmacist-  
led medication reviews; the Eastern European pilot project. *Frontiers in Pharmacology* v15.  
<https://doi.org/10.3389/fphar.2024.1348400>

## **Reports**

Medicines Optimisation Innovation Centre (MOIC). (July 2023). SHAPES D6.4 – *Medicine Control  
and Optimisation Pilot Activities Report* [[857159 Deliverable 62 Medicine-Control-and-  
Optimisation-Pilot-Activities-Report.pdf \(shapes2020.eu\)](#)]. Produced for European Commission.

Medicines Optimisation Innovation Centre (MOIC). (August 2023). *Pharmacy response to Covid-19.  
Review 1: Update on recommendations from 2020 rapid review of pharmacy services*. Produced for  
Department of Health

Medicines Optimisation Innovation Centre (MOIC). (January 2024). *iSIMPATY Evaluation Report*  
[[iSIMPATY Evaluation report](#)]. Produced for Interreg

Medicines Optimisation Innovation Centre (MOIC). (March 2024). *Pharmacy response to Covid-19.  
Review 2: The role of pharmacy in the Covid-19 vaccination programme*. Produced for Department  
of Health



### **EVENTS organised or jointly organised by MOIC**

#### **Collaborating across borders: a multidisciplinary approach to antimicrobial stewardship, 3<sup>rd</sup> October 2023, Aisling Hotel, Dublin:**

MOIC partnered and jointly organised this event in collaboration with colleagues from Ireland and the CARA Network. This was the first all-Ireland conference focusing on antimicrobial stewardship. The aim was to support, develop and implement a collaborative approach to infection management and antimicrobial resistance (AMR). The event brought together over 120 cross-sector, multidisciplinary participants from across the Island of Ireland and featured presentations from national and international experts. Participants shared their research, proposed interventions and stewardship programmes and presented new methodologies in the area of antibiotic prescribing and infections.

#### **10<sup>th</sup> All-Ireland Pharmacy Conference, November 2023, Ballymascanlon Hotel, Dundalk**

This conference was jointly organised by a range of bodies from across Ireland, including MOIC. In addition to key note addresses, the conference featured 24 oral presentations and over 80 posters across a number of key themes namely pharmacy education, workforce, enhancing practice and policy.



**Presentations and posters**

<b>Authors/Presenter</b>	<b>Title</b>	<b>Poster or Oral</b>	<b>Conference/Meeting</b>
Hogg, A., Scott, M. and Smyth, G.	<i>Medicines Optimisation: A change package to support Medication Without Harm</i>	Oral	Institute for Healthcare Improvement (IHI) International Forum, Copenhagen 16-17 May 2023
Brown, J., Scullin, C., Hogg, A., Fleming, G. and Scott, M.	<i>The importance and added value of patient involvement in person-centred medication reviews</i>	Poster	International Conference on Integrated Care (ICIC), Antwerp, 22-24 May 2023
Hogg, A., Scullin, C., Fleming, G., Scott, M., Mair, A. and Kirke, C.	<i>iSIMPATY Shared learning model</i>	Oral presentation of poster	Eurodurg, Bologna, 28-30 June 2023
Goodfellow, N.	<i>Get in SHAPES! Medicine control and optimisation</i>	Oral presentation	Association for the Advancement of Assistive Technology in Europe (AAATE), Paris, Pre-conference symposium 29 August 2023
Colleoni, L., Dinsmore, J., Farrell, J., Fiordelmondo, V., Franke, P., Giannakopoulos, V., Guerra, B., Hörmann, V., Hogg, A., Hoogerwerf, E.J., Johansen, M.,	<i>'Time for Change' Reflecting on care for Europe: Suggestions for the future of integrated care and support services in Europe and the role of person-centred digital technologies</i>	Oral	Association for the Advancement of Assistive Technology in Europe (AAATE), Paris, 30 August - 1 September 2023

MacLachlan, M., Magerl, F., Melzer, F., Müller, O., Niederländer, K., Rau, S., Sarlio- Siintola, S., Traina, I., Whitehouse, D. and de Witte, L.			
Scott, M. and Hogg, A.	<i>Integrated Medicines Management: model for providing complex clinical pharmacy services</i>	Oral	Polish Society of Clinical Pharmacy Symposium, Warsaw 28-29 September 2023
Goodfellow, N.	<i>Pilot theme 3, what worked?</i>	Oral	SHAPES Plenary Meeting, Crete, 12 October 2023
Goodfellow, N.	<i>SHAPES pilot campaign, pilot theme 3- medicine control and optimisation</i>	Oral	SHAPES Plenary Meeting, AHA EIP Reference Sites Workshop, Crete, 13 October 2023
Fleming, G.	<i>Medicines Optimisation Innovation Centre – Update for NHSCT Clinical Council</i>	Oral	NHSCT Clinical Council, online presentation, 27 October 2023
Scott, M.	<i>AI and Personalised Medicine</i>	Oral	Data value Hub Workshop, Monaghan, 27 October 2023
Brown, J., Hogg, A., Scullin, C., Fleming, G., Scott, M and Lewis, G.	<i>Sustainability of medicine changes one year post iSIMPATY medication review by a pharmacist independent prescriber</i>	Oral	ESCP, Aberdeen, 31 October - 2 November 2023

Urbanczyk, K., Miemik, K., Witkiewicz, W., Hogg, A., Scott, M. and Wiela-Hojenska, A.	<i>Poland integrated medicines management (PIMM): early results of a pilot to deliver a randomized controlled trial assessing provision of complex clinical pharmacy services in the Polish healthcare system.</i>	Oral	ESCP, Aberdeen, 31 October - 2 November 2023
Guntschnig, S., Courtenay, A., Abuelhana, A. and Scott, M.	<i>Enhancing antimicrobial use: clinical pharmacy interventions in a rural hospital</i>	Poster	ESCP, Aberdeen, 31 October - 2 November 2023
Coyle, EJ., Brown, J., iSIMPATY Consortium (NHS, MOIC, HSE)	<i>iSIMPATY (implementing Stimulating Innovation in the Management of Polypharmacy and Adherence THrough the Years) – A representation of Cross Border, Cross Country and Cross Sector Success</i>	Oral	All Ireland Pharmacy Conference, Dundalk, 7 November 2023
Brown, J., Houghton, R., Jack, I., McLean, E., McGread, C., McKenna, O., Scullin, C., Fleming, G., Scott, M. and Hogg, A.	<i>Psychology training to support enhanced pharmacy skills</i>	Poster	All Ireland Pharmacy Conference, Dundalk, 7 November 2023
iSIMPATY Consortium (NHS, MOIC, HSE)	<i>Results from iSIMPATY across the island of Ireland</i>	Poster	All Ireland Pharmacy Conference, Dundalk, 7 November 2023

Scott, M.	<i>iSIMPATY</i>	Oral	Norwegian Pharmaceutical Society Conference, Oslo (Presentation live-streamed), 10 November 2023
Goodfellow, N.	<i>Top tips for surveys</i>	Oral	HSCQI opioid programme learning set 3, Belfast, 6 February 2024
Hogg, A., Scott, M., Fleming, G. and Scullin, C.	<i>Sustainability: A person-centred, whole systems approach to medicines optimisation</i>	Poster	EAHP, Bordeaux, 20-22 March 2024



Medicines Optimisation and Innovation Centre Income & Expenditure as at 31st March 2024				
	Project	YTD As at 31st March 2024		Deferred Income
<b>Deferred Income as at 1st April 2023</b>				- 394,162
<b>2023/24</b>				
<b>SPPG</b>		- 723,186		
<b>PHA</b>	Research & Development Programme Manager	- 42,867		
<b>External Funding</b>				
	SocialScript PharmECIST			- 1,572
	Isimpathy	- 290,377		- 290,377
	IKSUS Royalties paid			4,866
	QUB			
	GALACIA			
	OMNICARE			
	Armagh City, Craigavon & Banbridge Council			
	Invest NI			
	EU Shapes	- 48,562		- 48,562
	NHS Scotland i-sympathy	- 127,343		- 127,343
	PROCEDURE KITS COMMISSION - ISKUS Health Ltd	- 2,321		- 2,321
	Transfer from Balance Sheet Isimpathy / Shapes	468,603		-
<b>Total Income as at 31st March 2024</b>		<b>- 766,053</b>		<b>- 857,899</b>
<b>Expenditure as at 31st March 2024</b>				
<b>MOIC Costs</b>				
	Staffing Costs	644,817		
	Non pay Costs	23,216		
	R&D Staffing	42,341		
<b>Total Expenditure as at 31st March 2024</b>		<b>710,374</b>		<b>-</b>
<b>Surplus</b>		<b>- 55,679</b>		<b>- 857,899</b>
<b>Deferred Income as at 31st March 2024</b>		<b>- 857,899</b>		
<b>Forecast as at 31st March 2024</b>		<b>- 55,679</b>		

