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Short communication

Evidencing novel clinical pharmacy practices across a health system

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Introduction

The Northern Ireland (NI) Medicines Optimisation Innovation Centre (MOIC) was established by the Department of Health in 2015 to support implementation of the Medicines Optimisation Quality Framework (Hogg et al., 2024). Aligning to four strategic themes, MOIC informs policy and supports commissioners to make evidence-based decisions to optimise medicines and improve population health and wellbeing:

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

Materials and methods

MOIC is a regional centre of expertise, dedicated to developing a systematic approach to finding, testing and scaling up service and technology solutions for Health and Social Care (HSC). MOIC establishes collaborations, partnerships and agreements with academia, industry, healthcare and representative organisations and undertakes a range of projects including research, service development and quality improvement. In addition to projects agreed in an annual Business Plan with the Department of Health, MOIC participates in large EU-funded projects. Projects span clinical pharmacy and related themes, including pathway redesign, multiple long-term conditions, workforce, environmental impact and sustainability, pharmacogenomics, artificial intelligence, integrated technology solutions and companion diagnostics. MOIC is recognised widely for the robust evaluation of novel clinical pharmacy practices across the health system thus providing evidence to inform the scale and spread of best practice and inform policy.

Results and discussion

MOIC has led the evaluation of a range of novel clinical pharmacy practices across the Northern Ireland health system:

Hospital

The NI Integrated Medicines Management model, delivering clinical pharmacy services from admission through discharge, demonstrated reduced length of hospital stay and risk adjusted mortality rate and increased time to readmission (Scullin et al., 2007). The model has been scaled and spread to Sweden, Norway, Poland and Estonia and has been highlighted as an example of best practice in Central and Eastern Europe

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(Urbańczyk et al., 2023). A clinical pharmacist post discharge telephone follow-up service demonstrated a reduction in readmission rates and a high level of patient satisfaction (Odeh et al., 2019). This service has been scaled and spread and is routine practice in the Northern Health and Social Care Trust.

Evaluation of Consultant Pharmacists for Older People in Nursing Home and Intermediate Care settings demonstrated improved medicines appropriateness, reduced Emergency Department attendances and a positive return on investment, leading to scale and spread (Miller et al., 2016). NI now has a number of Consultant Pharmacists across a range of specialties. Evaluation of a Cardiometabolic Pharmacist role demonstrated improved medication appropriateness and cost-avoidance and evaluation of a virtual heart failure clinic, with multidisciplinary input, showed positive findings.

Hospital and General Practice

The Interreg VA funded iSIMPATHY project focussed on ensuring the best and most sustainable use of medicines by training pharmacists and other healthcare professionals to deliver structured person-centred medicine reviews and embedding a shared approach to managing multiple medicines (Mair et al., 2023). The iSIMPATHY, 7-STEPS medicine review has now been adopted as policy in NI by the Department of Health across settings.

General Practice

A General Practice-based Clinical Pharmacist case management project showed the Clinical Pharmacist was effective in reducing medicine related problems and reducing inappropriate medicines use in a cost-effective manner (Syafhan et al., 2021). All General Practices in NI now have a General Practice Pharmacist (GPP) and MOIC contributes to the General Practice Pharmacy Strategy Group supporting the implementation of the NI General Practice Pharmacy Strategy, including role and career development. The iMPROVE project, led by Ulster University and funded by PEACEPLUS, builds on iSIMPATHY. The project commenced in 2025 and will develop, implement and assess a new pharmacogenomics informed medicine review care pathway in primary care.

Community Pharmacy

The Pharmacy First Service facilitates patient access to advice and treatment for range of everyday health conditions in Community Pharmacy, including prescription medicines. MOIC evaluation of pilots for the management of uncomplicated urinary tract infections and sore throats informed scale and spread and these services are now routine in NI. Further areas include emergency hormonal contraception and the Stop Smoking Service. The Department of Health Community Pharmacy Strategy includes expanding the range of clinical services available through Community Pharmacies.

Conclusion

MOIC has demonstrated considerable success evidencing novel clinical pharmacy practices across the health system leading to scale and spread. This work has informed policy and is applicable to health systems globally.

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