Embedding a Prescribing Pharmacist into the Cardiology MDT to Improve Safety, Efficiency, and Patient Care

Comisiwn Bevan Commission

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Background:

The pharmacy service in the cardiac centre previously followed a ward-based model, where pharmacists provided medicines reconciliation, safety checks and counselling but were not part of the MDT as prescribers. This created delays, with medication queries taking ~7.5 hours to resolve, a 22% error rate in discharge prescriptions, and patients facing unnecessary waits. Opportunities for medicines optimisation were often missed, while inefficient prescribing and lack of homecare pathways increased costs and reduced patient satisfaction.

Need for change

Embedding a pharmacist prescriber within the cardiology MDT aimed to improve prescribing safety, streamline discharge processes, optimise medicines use, reduce costs, and enhance patient experience through timely access to treatment.

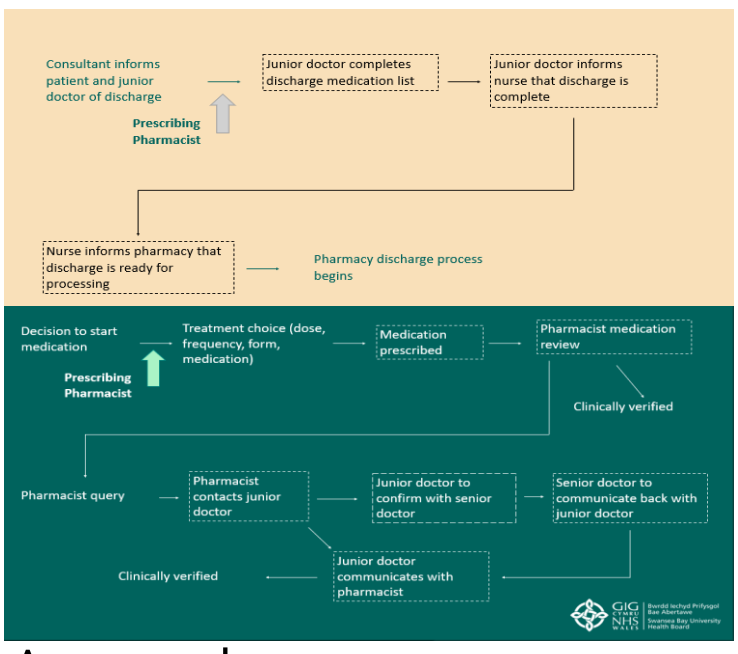
Aims and Objectives:

Overarching Aim

Embed an advanced pharmacist prescriber within the cardiology MDT to improve patient safety, optimise medicines use, reduce discharge delays, and support sustainable prescribing.

Objectives

1. Improve safety by reducing prescribing errors, aligning with cardiac guidelines, and ensuring accurate discharge prescriptions.
2. Increase efficiency by streamlining discharge processes and resolving medication queries in real time.
3. Optimise medicines through evidence-based initiation, deprescribing, and reducing polypharmacy.
4. Deliver cost-effective prescribing by minimising unnecessary use of high-cost drugs and supporting guideline-based choices.
5. Enhance patient and staff experience with timely medicines access, clear communication, and reduced pressure on doctors.
6. Support NHS Wales priorities through reduced medicines waste and alignment with the Duty of Quality.



Approach:

Design:

The project used Quality Improvement (QI) methodology, with process mapping of the cardiology inpatient journey and a driver diagram targeting earlier prescribing interventions, adherence to guidelines, and reduced discharge delays. The model was tested and refined through iterative PDSA cycles.

Delivery:

An advanced pharmacist prescriber was embedded in the cardiology ward MDT at Morriston Hospital, participating in daily ward rounds, making real-time prescribing decisions, optimising medicines, deprescribing where appropriate, and taking responsibility for discharge prescriptions. The project was delivered in collaboration with consultants, junior doctors, nurses, and pharmacy leadership, with oversight and support from specialty boards and the NICE High Cost Drugs Group.

Evaluation:

A mixed-methods approach was used:

Quantitative data included resolution time for prescribing queries, discharge error rates, medicine optimisation, drug expenditure savings, and discharge delays avoided.

Qualitative feedback from patients and MDT staff.

Outcomes:

This project successfully established a new service model by embedding an advanced pharmacist prescriber within the cardiology MDT at Morriston Hospital. This replaced the traditional ward-based pharmacy approach with real-time prescribing and medicines optimisation during daily consultant-led reviews.

Key outcomes included:

- **New role established:** A senior pharmacist with independent prescribing responsibilities became a core MDT member, supporting patients from admission to discharge.
- **Streamlined discharge process:** Pharmacist-led discharge prescribing replaced the multistep relay system, reducing delays and improving accuracy.
- **Medicines optimisation:** A structured framework was introduced for evidence-based initiation, deprescribing, and adherence to national guidance (e.g. antiplatelet use).
- **Cost-effective prescribing:** Processes were created to review high-cost drugs and switch to guideline-preferred alternatives, delivering significant savings.
- **Improved communication:** Pharmacist-led documentation of changes ensured clearer handover to GPs and community pharmacists, strengthening continuity of care.

Impact:

The integration of a prescribing pharmacist into the cardiology MDT delivered measurable improvements across safety, patient experience, efficiency, costs, and sustainability.

Health outcomes

- **8810 new medicines initiated** in line with cardiac guidelines, ensuring optimal evidence-based therapy.
- **567 unnecessary medicines stopped**, reducing pill burden, improving adherence, and lowering risk of harm.
- Discharge **prescription errors reduced from 22%** (junior doctors) **to 1.4%** (pharmacist prescribers).

Patient experience & wellbeing

- Shorter waits for discharge medicines, avoiding unnecessary overnight stays.
- Improved counselling and involvement in real-time prescribing decisions increased patient confidence.

Service efficiency

- Time to resolve prescribing queries fell **from 7.48 hours to <5 minutes**.
- **437 hours of discharge delays avoided** over 4 months, improving flow and bed availability.
- Junior doctors and consultants reported reduced prescribing pressures.

Cost savings

- Antiplatelet optimisation generated **projected £71,875 annual savings** in primary care (£31,742 confirmed).
- **Secondary care savings of £14,467** delivered through the same interventions.

Wider priorities

- Deprescribing reduced packaging waste, supporting NHS Wales decarbonisation goals.
- Model has influenced wider pharmacy leadership, with potential replication in other specialties.

Environmental Impact from Deprescribing

If each medication stopped is equated to one less box of medication supplied this would equate to 284 Kg of CO_2 production avoided. Value used is 0.5kg of CO_2/box of medication. This value is conservative as antibiotics and inhalers have a higher CO_2 burden.

This is the equivalent to:

- **284,000 smartphone charges**
- **19,000 cups of tea boiled in a kettle**
- **2,840 washing-machine cycles (40 °C)**

If we were to expand these figures to Drug lifetime as the majority of these medicines will be continued to be stopped in community:

- **2,050 car miles**
- **829,280 smartphone charges**
- **55,285 cups of tea boiled in a kettle**

Treatment Optimisation:

As can be seen from the table below the top 10 most frequently prescribed are all linked to a reduction in hospitalisation/mortality for cardiology patients and for symptomatic benefit.

Medication Prescribed	Quantity
Bisoprolol	636
Ramipril	458
Aspirin	351
Dapagliflozin	317
Atorvastatin	316
Clopidogrel	307
Glyceryl Trinitrate	282
Eplerenone	272
Enoxaparin	259
Furosemide	206

Next Steps:

The focus is now on consolidating the prescribing pharmacist role in cardiology and supporting its wider adoption.

- **Sustainability:** The project has secured ongoing funding via the NICE High Cost Drugs Group, with regular evaluation and feedback to ensure it continues to meet patient and service needs.
- **Pathway expansion:** Extending pharmacist-led prescribing into cardiology clinics and post-discharge lipid management to improve continuity and reducing readmissions.
- **Replication:** Engagement has begun with other specialties (e.g. Older Persons Assessment Unit) to pilot tailored versions, supported by a standardised adoption framework.
- **Wider spread:** Sharing learning through QI forums, NHS Wales pharmacy networks, and national platforms, leveraging the Bevan Exemplar programme.
- **Strategic ambition:** National scaling of pharmacist prescribers within MDTs, embedding pharmacists at key decision points across Wales.

This project has laid the foundation for a transformational shift in clinical pharmacy, with the potential to modernise services across multiple specialties.

Key Conclusions:

Embedding an advanced pharmacist prescriber within the cardiology MDT has proven feasible, effective, and highly impactful. Shifting from a traditional ward-based model to a fully integrated prescribing role has improved safety, efficiency and patient experience while delivering cost and environmental benefits.

Patients and staff reported benefits including better education and involvement, smoother workflows and reduced pressure.

This project demonstrates a scalable model of clinical pharmacy leadership that can be replicated across specialties, supporting NHS Wales priorities for safe, effective, timely, person-centred, and sustainable care.

"Having graduated from medical school in a very different time and place, I came to the UK with a strong sense of the hierarchies of power within the health care team. As a result, I was initially (when I was training as a cardiology SpR) very sceptical, even hostile to the notion that a 'mere' pharmacist should question or amend my decisions.

I mention this background only to emphasise and highlight what a huge turnaround I underwent on this, and in a large measure due to Josh. His presence and knowledge makes my prescribing significantly safer and more accurate and patient specific. I was very sorry we did not have him with us throughout the cardiac centre, and I intensely support the development of a role that covers the totality of the ward round."

Feedback from Consultant in MDT